Deltek

# Deltek Cobra 8.4®

## Help System

March 27, 2024

This edition published March 27, 2024.

# Contents

# Cobra 8.4 Help System

Welcome to the Deltek Cobra Help System.

The Deltek Cobra Help System provides help for all areas of the Cobra application.

- To access all documents available for Cobra 8.4, click https://help.deltek.com/Product/Cobra/8.4/GA.
- To access the printable version of the Cobra Help System, see Cobra Help System in Portable Document Format. Take note that some of the links in the PDF version may not work.
- To view the collection of videos that will help you work with Cobra, see Cobra Videos.

**Note:** You can access the online help using Microsoft Edge, Chrome, or Firefox..

## Cobra Videos

Use Cobra videos to assist you as you work with Cobra.

You can scroll through this topic or click one of the following links to go directly to a section of videos:

- Integration Import
- Projects
- Resources

### Integration-Import

| Video | Description |
|---|---|
| How to Link an Activity to a Work Package | View this video to learn how to identify to which work package an activity is linked, which is the first step in integrating cost and schedule. |
| Exporting the Cobra Calendar | View this video to learn how to export the Cobra calendar to ensure that Cobra and Open Plan time-phasing match. |
| Creating a Baseline for Integration | View this video to learn how to create a baseline for Cobra's integration. |
| Integration Wizard-Getting Started | View this video to begin using the Integration Wizard: This is the first in a series of videos explaining the Integration Wizard. |
| Importing the Progress Technique from the Schedule | View this video to explore the many options for choosing the progress technique while importing from the schedule. |

### Projects

| Video | Description |
|---|---|
| Creating Filters and Saving Project Views | View this video to learn how to filter the data in the Project view to better analyze. |
| Adding Data in the Project View | View this video to learn how to add control accounts, work packages, and resource assignments in the Project view. |
| Using Export/Import Assignments to Import Project Data | View this video to learn how to edit project data in Excel and then import the data for quick and easy project data entry. |
| How to Resolve Common Errors When Using Assignment Import | View this video to learn how to correct common errors when using Assignment Import. |

### Resources

| Video | Description |
|---|---|
| Adding Resources to a Resource File | View this video to learn how to add resources to a resource file. |
| Creating a New Resource File | View this video to learn how to create a new resource file. |
| Export and Import Resources and Calculations | View this video to learn how to quickly enter data into a Cobra resource file by exporting to Excel, editing in Excel, and then importing the new resources and calculations. |

## Searching Online Help

Use the online help search to find topics that contain phrases, keywords, or partial words that you enter in the search field.

When you open any help topic, the search field is in the upper right corner of the screen.

To view a short video that explains how to find words and phrases in the online help, see Help System Search Functionality.

### Searching for Phrases in Topics

Enter phrases in quotation marks in the help search field to return a list of only the topics that contain the complete phrase.

| What you want to search for | Entry in the help search field |
|---|---|
| All topics that mention the Tax Analysis report | "Tax Analysis Report" |

### Searching for Multiple Words in Topics: AND Search

To search for topics that include all the words that you enter in the search field, enter a plus sign (+) between each word. Each topic returned includes all the words that you entered in the search field, regardless of the order of the words or whether the words are adjacent to each other in each topic.

| What you want to search for | Entry in the help search field |
|---|---|
| All topics that contain both the words "approve" and "invoice" | approve + invoice |

### Searching for Multiple Words in Topics: OR Search

When you enter words in the help search field without quotes or plus signs, the search assumes an OR relationship between the words. All topics that have any of the words that you enter are returned in the search.

An OR search is helpful when you are looking for something and you are not sure of the name or term used in the help.

| What you want to search for | Entry in the help search field |
|---|---|
| All the topics that contain the word "check" or "payment" or both | check payment |

### Scope of the Search

The search field in help searches only the help topics. It does not search content from the Deltek Support Services website or the Deltek Learning Zone.

## Getting Started

Cobra is a powerful system for managing project costs, measuring earned value, and analyzing budgets, actuals, and forecasts.

It offers seamless integration with leading scheduling tools and unmatched flexibility to meet even the most exacting cost management requirements, such as the rigorous EVMS standard required by the US and other governments.

Unlike other cost management software packages, Cobra does not limit you to a set of narrowly defined options for gathering, organizing, and reporting cost/schedule data. Maximum flexibility combined with powerful functionality is the central design goal for each system feature.

As a result, Cobra provides all the tools a project manager needs to ensure compliance with traditional EVMS guidelines, yet offers the flexibility to serve a wide range of non-EVMS applications as well.

Because many basic design decisions are in the hands of the user, you can extend the capabilities of Cobra in many directions without needing custom programming. At the same time, you can easily integrate Cobra data with external systems.

# Launching Cobra

To test launching the software, click the Start menu, and locate **Deltek Cobra X.x.**

Upon starting Cobra, you must enter a user ID and password. The default user ID is **SYSADMIN** and the default password is **password**. For security reasons, you must change this password as soon as possible.

You can also set Cobra to run as an Administrator when there are restrictive User Account Control (UAC) security settings.

## Running Cobra with Command Line Parameters

You can use command line parameters that can be passed to Cobra applications and Cobra API.

### Common Parameters

This table lists the command line parameters that can be passed to Cobra applications.

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| **configfolder** | Use this parameter to launch Cobra application and specify the location of the Config.dat file and IdeaBlade.Ibconfig file if Cobra is not installed in the default installation location.<br>When you pass this parameter to Cobra or to any tool, you must specify the same location of the Config.dat file or the IdeaBlade.Ibconfig file. When you use this parameter to start Cobra, you must also use this parameter in other Cobra | Cobra | "<Cobra Installation Location>\DeltekCobra.exe" /configfolder:"<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\DeltekCobra.exe" /configfolder:C:\my cobra config |
| | | Database Upgrade Wizard | "<Cobra Installation Location>\Support\Utilities\DeltekCobra8xDatabaseUpgradeWizard.exe" /configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\Support\Utilities\DeltekCobra83DatabaseUpgradeWizard.exe" /configfolder:C:\my cobra config |

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| | applications (EXE applications) that support this parameter to make sure you are pointing to the same database.<br>By default, the Datasources.dat and the Config.dat files are found in the same location. In cases when the Datasources.dat file does not reside together with the Config.dat file, you must transfer the Datasources.dat file to the same location where the Config.dat file resides. Otherwise, you will be prompted to navigate to the location of the Datasources.dat file. This location will be saved in the Config.dat file.<br>**Attention:** For more information on these files, refer to the Config.dat and Datasources.dat topics in the Data Tool Help System. | Data Tool | "<Cobra Installation Location> \DataTool.exe" /configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files \Deltek\Cobra \DataTool.exe" /configfolder:C:\my cobra config |
| | | API | "<Cobra Installation Location> \Cobra.API.exe" configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" configfolder:C:\my cobra config |

### API-Specific Parameters

This table lists the command line parameters that you can pass to the Cobra API.

| Parameter | Description | Syntax | Example |
|---|---|---|---|
| **user** | You use this parameter to specify the Cobra user and password using this parameter . This parameter is required unless when Cobra is configured to use Windows Authentication. | "<Cobra Installation Location> \Cobra.API.exe" user:<username> \<password> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" user:SYSADMIN \password |
| **script** | You use this parameter to specify the script file that contains the processes. This parameter is required. | "<Cobra Installation Location> \Cobra.API.exe" script:<fully qualified path of the script file> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" script:C:\CobraAPIScripts\batch.txt" |
| **logfile** | You use this parameter to specify a different filename for the API log file. If omitted, the log file filename will be Batch.Api.log.<br>This parameter does not support a fully qualified path. You can specify the log filename and the file will be created in the **<Logged In User>\My Documents\Deltek \Cobra\Logs** folder of the workstation where the Cobra API is running. | "<Cobra Installation Location> \Cobra.API.exe" logfile:<log file filename> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" logfile:BatchProcess.log |
| **datasource** | You use this parameter to specify the data source to which the API would run the processes. If omitted, the API will use the last data | "<Cobra Installation Location> \Cobra.API.exe" data source:<name of data source><br>**Note:** The <name of the data source> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" data source:DB2 |

| Parameter | Description | Syntax | Example |
|---|---|---|---|
| | source that was logged onto Cobra.<br>**Note:** If you omit the quotes in the datasource parameter, the application uses the IdeaBlade.Ibconfig or Config.dat file in the application's folder. The location of the Datasources.dat file is defined inside the Config.dat file. If the location of the Datasources.dat file is not specified in the Config.dat file, you must move the Datasources.dat file within the same folder where the Config.dat file is located. | must be an existing data source. | |

**Attention:** For more information on the Config.dat and Datasources.dat files, see the Data Tool Help System.

## Cobra Login Dialog Box

Use this dialog box to enter your user credentials. Cobra uses these credentials to verify that you are an authorized user.

### Contents

| Field | Description |
|---|---|
| **User ID** | Use this field to enter the ID that your system administrator set up for your use. Cobra remembers the user ID from your last login and automatically enters that user ID in this field. If this user ID is not the one you wish to use, delete it and enter the proper one. |
| **Password** | Use this field to enter the password associated with your user ID and click **Login**.<br>If Cobra displays a message that your login information is invalid, re-enter your user ID and password, and click **Login** again. If Cobra still does not start, check |

| Field | Description |
|---|---|
| | with your system administrator. There are several possible causes for this situation, including:<br>▪ There may be an interruption of network services.<br>▪ You may not be properly registered as a valid user.<br>▪ You may have entered an incorrect password. |
| **Data Source** | Use this field to select the database connection to use when you log onto Cobra. By default, this field displays the data source defined in the DATASOURCES.DAT file. The field displays all data sources defined in the Cobra Data Tool.<br>The **Data Source** field is only available in standalone and client/server deployments. |

**Login and Authentication**

Cobra uses the following authentication modes:

- **Basic**: This mode uses the user ID and password in the Cobra database.
- **Windows**: This mode uses the Windows login credentials.

The Cobra Login dialog box does not display if the selected data source uses Windows authentication and login is successful.

If login is not successful and **Max Login Retries** in EPM Security Administrator is set to 0, Cobra displays an "Invalid Windows User" message and exits.

If login is not successful and **Max Login Retries** in EPM Security Administrator is greater than 0, the Cobra Login dialog box displays instead of an error message and switches to basic authentication.

Possible causes of unsuccessful login:

- The Windows login ID is not added to list of users in EPM SA.
- The domain name may be invalid if the **Authentication Type** is **Windows Domain\User Name <Domain\User>**.

**Attention:** For more information on authentication modes, authentication types, and **Max Login Retries**, refer to the "Authentication Options Dialog Box" topic in the EPM SA Help System.

### Display the Cobra Login Dialog Box

Use this procedure to display the Cobra Login dialog box.

**To display the Cobra Login dialog box:**

- To launch Cobra, click the Start menu and locate **Deltek Cobra X.x**.
- While logged on to Cobra, click » **Login**. This enables you to log on to Cobra using a different user ID.

## Change Password Dialog Box

Use this dialog box to change your Cobra password.

**Contents**

| Field | Description |
|---|---|
| **Old Password** | Use this field to enter your current password in this field. |
| **New Password** | Use this field to enter your new password in this field. |
| **Re-enter New Password** | Use this field to re-enter your new password in this field. |

### Display the Change Password Dialog Box

Use this procedure to display the Change Password dialog box.

**To display the Change Password dialog box:**

- Click » **Change Password**.

## Log Onto Cobra

Use this procedure to log onto Cobra.

The system administrator sets up user IDs and passwords using the EPM Security Administrator. If the administrator opts to use Windows NT authentication, you can log onto Cobra without using the Login dialog box.

**To log onto Cobra:**

1. Click the Start menu, and locate **Deltek Cobra X.x.**
2. In the **Cobra Login** dialog box, enter your **User ID** and **Password**.

   The default user ID is **SYSADMIN** and the default password is **password**.

   **Note:** Cobra remembers the user ID from your last login and automatically enters that user ID. If this user ID is not the one you wish to use, delete it and enter the proper one.
3. In the **Data Source** field, select the database connection to use when you log onto Cobra.

   The **Data Source** field is only available in standalone and client/server deployments. By default, this field displays the data source defined in the ideablade.ibconfig file.
4. Click **Login**.

## Log Onto Cobra Using a Different User ID

Use this procedure if you are logged onto Cobra but want to switch to another User ID.

**To log onto Cobra using another User ID:**

1. Click » **Login**.
2. In the **Cobra Login** dialog box, enter a different **User ID** and its corresponding **Password**.
3. In the **Data Source** field , select the database connection to use when you log onto Cobra.

   The **Data Source** field is only available in standalone and client/server deployments. By default, this field displays the data source defined in the ideablade.ibconfig file.
4. Click **Login**.

## Set Cobra to Always Run as an Administrator

Deltek recommends that you run Cobra as an Administrator when there are restrictive User Account Control (UAC) security settings.

**To set Cobra to always run as an Administrator:**

1. Navigate to the **<Cobra Installation Directory>.**
2. Right-click **DeltekCobra.exe**, and click **Properties**.
3. In the Deltek Cobra Properties dialog box, click **Compatibility**.
4. Select **Run this program as an Administrator**.
5. Click **Apply**, and click **OK**.

## Change Your Password

Use the Change Password dialog box to change your Cobra password.

**To change your password:**

1. Click » **Change Password**.
2. Use the fields in the Change Password dialog box to change your password.
3. Click **OK** to save your new password.

# Explore Cobra

Familiarize yourself with the Cobra basic layout, including the Cobra Explorer, tabs, shortcut menus, file manager, and project view.

Learn how to save and filter views, view summary data, view direct and indirect resource costs, assign resources, and update your project. Finally, see some of the powerful reporting features that Cobra offers.

| Cobra Explorer | Related Topics |
|---|---|
| The Cobra Explorer view, in conjunction with the left hand Navigation Pane, allows you to view and access all projects, related ancillary files (calendars, codes, rates, resources), and reports.<br>The view includes summary information for each project. You can right-click on a column heading to add or remove columns to view different data and drag and drop columns to reorder them.<br>You can create and maintain the project components using the links in the Navigation pane and collapse the Navigation pane to increase your viewing area. | **Learn more about...**<br>Getting Started<br>Cobra Operations<br>**How to ...**<br>Insert a Column in a view<br>Remove a Column from a View |

| Tabs | Related Topics |
|---|---|
| Tabs display commands in a series of icons.<br>▪ Use the Processes tab to perform Cobra processes.<br>▪ Use the Integration tab to import and export to/from Cobra.<br>▪ Use the Reporting tab to create reports and analyze data.<br>▪ Use the Tools tab to manage and validate data and create calculated fields.<br>▪ The Edit tab options change, depending on the view that you are in. | **Learn more about...**<br>Processes Tab<br>Integration Tab<br>Reporting Tab<br>Tools Tab<br>Calculated Fields<br>Edit Tab of the Project View<br>Edit Tab of the Calendar View<br>Edit Tab of the Code View<br>Edit Tab of the Rate View<br>Edit Tab of the Resource View |

| Shortcut Menus | Related Topics |
|---|---|
| Many of the panes and grids have shortcut menus. | **Learn more about...**<br>Batch Reports Pane Shortcut Menu<br>Calendars Pane Shortcut Menu<br>Codes Pane Shortcut Menu<br>Projects Pane Shortcut Menu<br>Rates Pane Shortcut Menu |

| Shortcut Menus | Related Topics |
|---|---|
| | Reports Pane Shortcut Menu<br>Resources Pane Shortcut Menu |

| File Manager | Related Topics |
|---|---|
| The Cobra button provides you with tools for managing your projects and their data. | **Learn more about...**<br>Cobra Button<br>Cobra Button Keyboard Shortcuts<br>Quick Access Toolbar |

| Project View | Related Topics |
|---|---|
| Double-click the project in the Cobra Explorer view to open it and view the control account, work package, and resource information.<br>**Spreadsheet Pane**<br>The Spreadsheet pane displays control accounts, work packages, and resources. Click the plus sign to display the work packages and resources associated with each control account. You can see separate lines for Budget, Actual, Earned, and Forecast. The Status Date in the top right corner displays the end of the current period.<br>When you select a control account or work package, the information in the Tabs and Time-phase panes changes to reflect the data for the selected control account or work package. The Time-phase Detail pane is blank until you select a resource in the Spreadsheet pane.<br>Right-click on a column header to add or remove columns, depending on the data that you wish to view. In addition, you can drag and drop the columns to reorder them.<br>**Tabbed Pane**<br>The Tabbed pane reflects the data for the control account or work package that you select in the Spreadsheet pane. Everything that you see on the General and Codes tabs can be added as a column to the Spreadsheet pane and you can edit the information in either location.<br>**Time-phase Pane**<br>The Time-phase pane displays the costs associated with the resource assignments. The red line indicates the end of the current period. You | **Learn more about...**<br>Projects<br>Control Accounts and Work Packages<br>Spreadsheet Pane of the Project View<br>Time-phase Pane of the Project View<br>Tabbed Pane of the Project View<br>Time-phase Detail Pane of the Project View<br>Resources<br>Calculations Tab of the Resource View<br>**How to ...**<br>Create a New Calendar<br>Adjust Budget Spread Manually<br>Add a New Control Account<br>Add a New Work Package |

| Project View | Related Topics |
| --- | --- |
| specify the length of the periods when you create your calendars.<br>**Time-phase Detail Pane**<br>When you select a resource in the Spreadsheet pane, the costs associated with that resource display in the Time-phase Detail pane. These cost calculations are set up on the Resources Calculation tab. You can click in a cell and edit the information as needed. | |

| Manage Views | Related Topics |
| --- | --- |
| **Save the View**<br>If you customize the view by, for example, adding or reordering columns, you can save the custom view so that the next time you access Cobra, you have everything set up the way you like it. You can have several different views saved. For example, you may want one that only displays the forecast costs, and you may want another that displays budget and actuals. Views are stored on your local drive. Use Manage Views dialog box to share views with others.<br>**Filter the View**<br>You can filter the view to only display certain types of information, for example, Earned Value. When you filter, only the control accounts/work packages that include that type of information display in the grid. To view all information again, use the filter to select all information types.<br>**View Summary Data**<br>The costs display at the resource level in the Time-phase pane. To see cost totals at the control account or work package level, click **Show Summary**. Click to collapse the view to see the cost totals rolled up to the control account level. All of the displayed data is summarized. You can use filters to aggregate data in different ways.<br>**View Direct and Indirect Resource Costs**<br>Direct (hours, direct dollars) and indirect (burdens) costs are calculated against the resource. You can choose to view and edit different cost units (Results), for example, Total Currency, Hours, or FTE (Full Time Equivalent), in the Time-phase | **Learn more about...**<br>Save and Share View<br>Manage Views Dialog Box<br>Filters<br>Data Entry<br>Calculations Tab of the Resource View<br>**How to...**<br>Manage Views<br>Modify an Existing View<br>Filter by Classes or Cost Sets |

| Manage Views | Related Topics |
| --- | --- |
| pane. These are based on calculations that you define on the Resources Calculations tab. | |

| Assign Resources | Related Topics |
| --- | --- |
| You can assign any of the existing resources to a control account or work package. Click **Resources** in the Cobra Navigation pane to manage resources. | **Learn more about...**<br>Resources<br>**How to...**<br>Add a Resource Assignment |

| Update your Project | Related Topics |
| --- | --- |
| When you start your project, you enter your initial budget and forecast. At the end of each reporting period there are several steps that you perform in Cobra.<br>**Start a New Reporting Period**<br>Click **Advance Calendar** on the Processes tab to close out the current period and move the status date (period end date) to the end of the next period. The status date changes to the last day of the next period and the red line on the Time-phase pane moves to the last day of the next period.<br>**Enter a Start Date**<br>After the work starts, and before you enter actuals or calculate progress, you must set the status of the work package to in-progress by entering an actual start date that represents when the work began. You do this on the work package in the Spreadsheet pane or in the General tab of the Project view.<br>**Enter Actuals**<br>Enter actual costs in the Time-phased grid.<br>**Enter Progress**<br>Update progress for the current period that ends on the status date. For some progress techniques such as Level of Effort (LOE), you do not need to enter anything since Cobra calculates the progress when you run the Calculate Progress process. For progress techniques such as % Complete, you must enter progress for each work package. You can enter progress on the General tab of the Project view. After entering progress for all work packages that have progress, run the Calculate | **Learn more about...**<br>Statusing<br>General Tab of the Project View<br>Advance Calendar<br>Progress Techniques<br>Calculate Progress<br>How Cobra Calculates Progress to Determine Earned Value<br>Calculate Forecast Wizard<br>Manual Forecasts<br>**How to...**<br>Advance the Calendar<br>Calculate Progress |

| Update your Project | Related Topics |
|---|---|
| Progress process. Cobra calculates and updates all earned value in the project.<br>**Calculate Forecast**<br>When you run the Calculate Forecast process, Cobra projects the total cost in future periods and spreads that amount across the remaining periods based on the selected forecast method. After you run the calculation, you can manually modify any forecast amounts in the grid as needed.<br>After calculating forecast, you now have all of the data you need in order to determine if you are completing work as planned, staying within budget, and projecting to complete on time. You can run various reports to analyze data and variances, and to report to internal and external stakeholders. | |

| Reports | Related Topics |
|---|---|
| Cobra features a complete set of standard cost and schedule reports. You can view reports by clicking **All Reports** in the Navigation pane. To generate a report, run the Report Wizard to select the project, criteria, and other parameters needed for the report.<br>▪ Ancillary reports display information about the ancillary data (calendar, code, rate, and resource) connected to the project and the related access control.<br>▪ Audit reports display project account information and audit transactions.<br>▪ Graphic reports display project information in a graphical format.<br>▪ Column reports display cost sets and results information in columns.<br>▪ Export reports are unformatted reports that contain the contents of the selected ancillary file. The data is displayed in a flat Excel file that can be manipulated and re-imported if desired through the Integration wizard.<br>▪ Cobra provides a format reporting utility that retrieves data from Cobra and formats | **Learn more about...**<br>Report Wizard<br>Reporting<br>Ancillary Reports<br>Audit Reports<br>Graphic Reports<br>Column Reports<br>Export Reports<br>Integration Wizard<br>Format Reports<br>Planning Reports<br>Time-phased Reports<br>**How to...**<br>Display the Report Wizard |

| Reports | Related Topics |
| --- | --- |
| data related to government standard reports.<br>▪ Planning reports display control account and work package information that you can use to analyze performance.<br>▪ Reports are categorized as time-phased when the data is organized by periods from the selected calendar set (such as monthly, quarterly, semi-annual or annual). The criteria/cost set is displayed by row and the calendar periods by column. Data is plotted at the intersection of both. | |

## Cobra Explorer

The Cobra Explorer automatically displays when you log on to Cobra.

The left Navigation pane is a menu of data and reports that are available in Cobra. Click on a menu item and see a list of contents in the right pane. For example, select **Projects** to see a list of all of the projects to which you have access.

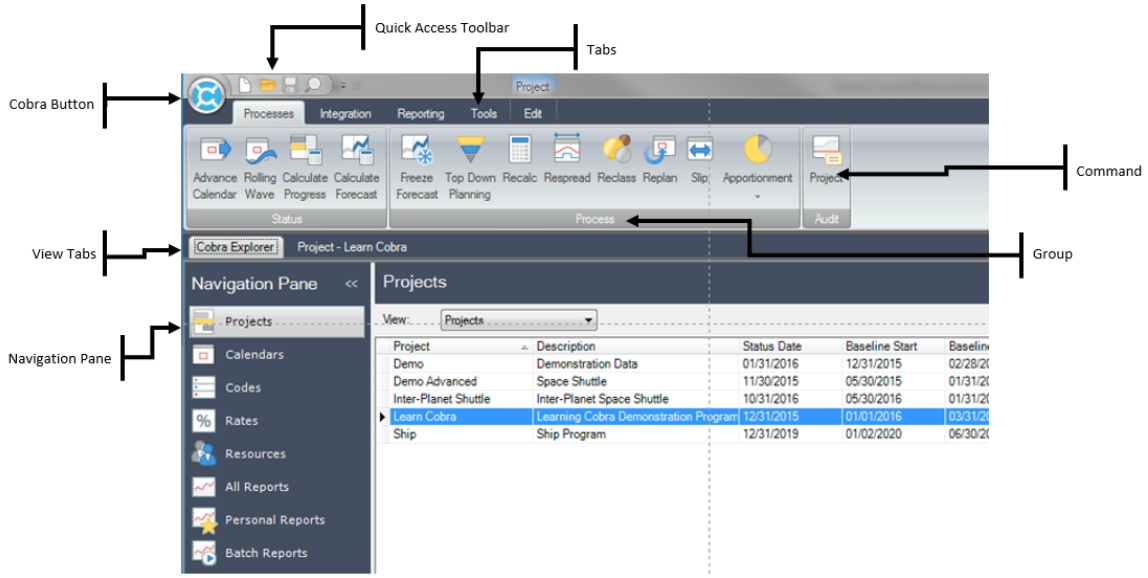
If you select **Projects**, the right pane also displays the **View** field. Use this field to choose the types of projects that you want to display. For example, if you select **Master Projects** in the **View** field, the right pane displays only master projects.

You can add options to the field by adding project-level codes on the Project Codes tab of the Application Preferences dialog box. Cobra displays the **Master Projec**t option and up to nine code prompt names.

Right-click anywhere in the right pane to display a shortcut menu containing many of the commands found on the main toolbar. The options listed on the shortcut menu vary depending on whether you are displaying projects, calendars, codes, or another type of data.

### Cobra Explorer Areas

Cobra uses the ribbon interface, which display commands in a series of icons stored on different tabs.




### Expand and Manage the Viewing Area

You can expand the viewing area by minimizing the Navigation pane. To do this, click  at the top of the Navigation pane. This will minimize the Navigation pane so that it only displays icons, providing you with a larger viewing area.

You can also change the arrangement of the displayed dialog boxes. To do this, right-click an open file tab and select one of the following options:

| Option | Description |
|---|---|
| **Tile Vertically** | Arranges the displayed dialog boxes vertically. |
| **Tile Horizontally** | Arranges the displayed dialog boxes horizontally. |
| **Cascade** | Arranges the displayed dialog boxes in layered manner, one dialog box on top of another. |

### Cobra Button

The Cobra button  provides you with tools for managing your projects and their data.

The table below provides information on the commands that you can access when you click the Cobra button.

| Command | Description |
|---|---|
| **New** | Click this command to display the New File dialog box, which you use to specify a filename, description, and other basic information to create a new Cobra file. |
| **Open** | Click this command to display the Open File dialog box, which you use to open an existing file. |
| **Save** | Click this command to save the currently selected file. This command is only enabled if the file has been changed. |
| **Save As** | Click this command to display the Save As dialog box, which you use to save a file using a different file name. This command is only enabled if the file is open. |
| **Manage** | Click this command to access the following:<br>▪ **Backup**: Click this command to display the Backup dialog box, which you use to back up projects and ancillary files.<br>▪ **Restore**: Click this command to display the Restore dialog box.<br>▪ **Owner and Access Rights**: Click this command to display the Change Ownership and Access Rights dialog box. |
| **Login** | Click this command to display the Cobra Login dialog box, which you use to log on to Cobra using a different account. |
| **Change Password** | Click this command to display the Change Password dialog box, which you use to change your password. This command is disabled if Windows Authentication is turned on. |

| Command | Description |
|---|---|
| **Help** | Click this command to access the following:<br>▪ **Deltek Cobra Help**: Click this command to launch the Cobra Help System.<br>▪ **About Deltek Cobra**: Click this command to displays the About Deltek Cobra dialog box, which provides information about Cobra.<br>▪ **Deltek Customer Care**: Click this command to launch Deltek's support page: https://support.deltek.com. |
| **Preferences** | Click this command to access the following:<br>▪ **User**: Click this command to display the User Preferences dialog box, which you use to set user-specific settings that affect various features in Cobra.<br>▪ **Application**: Click this command to display the Application Preferences dialog box, which you use to define application settings. |
| **Recent Files** | Click this command to display the most recently opened files. |

*New File Dialog Box*

This dialog box lets you create new Cobra files of the following types: project, calendar, code, resource, and rate.

When you select a file type and click **Create**, Cobra displays the corresponding wizard that leads you through the process of creating the file.

Display the New File Dialog Box

Use this procedure to display the New File dialog box.

**To display the New File dialog box:**

Take one of the following actions:

- Click » **New**.
- On the Quick Access toolbar, click .

Considerations When Creating Names in Cobra

When you create names in Cobra, you must consider certain rules.

These rules are as follows:

- Object names (such as project and ancillary files) must not contain any of the following characters: [ ] ' " : < > ? * / \ | , + =
- For database column names, you may use ASCII letters (a-z or A-Z), numbers (0-9) and underscore (_). The first character must not be a number.
- There are no invalid characters for data names (such as activities and work packages).

*Open File Dialog Box*

Use this dialog box to open an existing Cobra file such as project, code, calendar, resource, or rate.

Click a tab to display a list of files available to you. To open a file, select it from the list and click **Open**, or double-click the file name.

Display the Open File Dialog Box

Use this procedure to display the Open File dialog box.

**To display the Open File dialog box:**

Take one of the following actions:

- Click » **Open**.
- On the Quick Access toolbar, click .

*Save As Dialog Box (Projects)*

Use this dialog box to save a copy of a project using a different project name.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new project. You cannot use an existing project name in this field. |
| **Description** | Use this field to enter a description for the new project. |
| **Copy Project Data** | Select this option to copy the data in the current project into the new project that you are creating. |
| **Copy Calendar** | Select this option to copy the calendar of the current project into the new project that you are creating. |

Display the Save As Dialog Box (Projects)

Use this procedure to display the Save As dialog box for project files.

**To display the Save As dialog box for project files:**

1. Display a project.
2. Click » **Save As**.

*Save As Dialog Box (Ancillary Files)*

Use this dialog box to save a copy of a calendar, code, resource, or rate file.

Enter a new name and description for the file, and click **OK**.

Display the Save As Dialog Box (Ancillary Files)

Use this procedure to display the Save As dialog box for ancillary files.

**To display the Save As dialog box for ancillary files:**

1. Display a calendar, code, resource, or rate file.
2. Click » **Save As**.

*Manage*

The **Manage** command provides you with tools to manage files in Cobra and to change ownership and access control information for an object.

Click **Manage** to display the following commands:

- **Backup**
- **Restore**
- **Owner and Access Rights**

**Attention:** For more information, see File Management and Change Ownership and Access Rights.

Backup Dialog Box

Use this dialog box to back up files.

**Contents**

| Field | Description |
|---|---|
| **Files of Type** | Use this field to select the type of file to back up. Your options are as follows:<br>▪ Projects<br>▪ Master Projects<br>▪ Reports<br>▪ Batch Reports<br>▪ Report Filters<br>▪ Report Sorts<br>▪ Integration Configuration Definitions<br>▪ wInsight Configuration Definitions<br>▪ Acumen Configuration Definitions |
| **Include project ancillary files** | Select this option to back up the ancillary files used in the selected projects or master projects. |

Display the Backup Dialog Box

Use this field to display the Backup dialog box.

**To display the Backup dialog box:**

Take one of the following actions:

- Click » **Manage** » **Backup**.
- In the Cobra Explorer, click the **Projects** group bar, right-click a project, and select **Backup**.

Restore Dialog Box

Use this dialog box to restore backup files.

You can only back up and restore data for projects to which you have access.

**Contents**

| Field | Description |
|---|---|
| **Restore as** | Use this field to restore a backup file to a different file or new file.<br>▪ To select a different file, click to display the Lookup dialog box.<br>▪ To create a new file, enter the name of the new file in this field. |

Display the Restore Dialog Box

Display the Restore dialog box to restore backup files.

**To display the Select Files to Restore dialog box for non-project file types:**

1. Click » **Manage** » **Restore**.
2. On the Open dialog box, select any file from the **Files of type** field except **Legacy Project Backups (*.cmp)**.
3. Select the file to restore, and click **OK**.

Change Ownership and Access Rights Dialog Box

Use this dialog box to change the owner and access control of an object, if you are the owner of an object or a SYSADMIN user.

**Contents**

| Field | Description |
|---|---|
| **Owner** | By default, this field displays the current logged in user ID. Changing the value for this field updates the display in the grid to objects owned by the selected user ID.<br>You can change the user ID by clicking and selecting another user ID in the Users Lookup dialog box. |
| **Objects** | Click this field to display the object types that can be secured using this dialog box. Your options are as follows: |

| Field | Description |
|---|---|
| | ▪ All Objects<br>▪ Batch Report<br>▪ Calendar File<br>▪ Code File<br>▪ Configuration<br>▪ Master Project<br>▪ Project<br>▪ Rate File<br>▪ Report<br>▪ Resource File<br>▪ View<br>You can filter the objects displayed on the grid by selecting an object type from the drop-down list. The default is **All Objects**. Selecting **Projects** displays both master and non-master projects owned the selected user ID. |
| **Object Grid** | This grid contains columns that display information for objects owned by the selected user ID.<br>▪ **Name**: This column displays the name of the object.<br>▪ **Object**: This column displays the object type.<br>▪ **Type**: This column displays the configuration type for configurations and the report type for reports.<br>▪ **Description**: This column displays a description of the selected object.<br>Selecting an object or objects from the grid enables the Change Owner and Change Access Rights buttons. |
| **Change Owner** | Click this button to display the Change Owner dialog box, which you use to change the owner of an object. |
| **Change Access Rights** | Click this button to display the Change Access Rights dialog box, which you use to change the access control information of an object. |

Display the Change Ownership and Access Rights Dialog Box

Use this procedure to display the Change Ownership and Access Rights dialog box.

**To display the Change Ownership and Access Rights dialog box:**

- Click » **Manage** » **Owner and Access Rights**.

Change Owner Dialog Box

Use this dialog box to change the owner of the selected object in the Objects grid of the Change Ownership and Access Rights dialog box.

**Contents**

| Field | Description |
|---|---|
| **Current Owner** | This field displays the current owner of the selected object in the Objects grid of the Change Ownership and Access Rights dialog box. This field is read-only. |
| **New Owner** | Use this field to select the new owner. Click and select another user ID in the Users Lookup dialog box, which displays the list of users defined in the EPM SA. By default, this field is blank. |

Display the Change Owner Dialog Box

Use this procedure to display the Change Owner dialog box.

**To display the Change Owner dialog box:**

1. Click » **Manage** » **Owner and Access Rights**.
2. In the Change Owner and Access Rights dialog box, select object or objects in the grid, and click the **Change Owner** button.

Change Access Rights Dialog Box

Use this dialog box to change the access rights assigned to the selected object or objects in the Objects grid of the Change Ownership and Access Rights dialog box.

**Delete From Access Lists**

This section allows you to select and remove a user or group from the access control list of the selected object or objects.

The Selected Objects Access Control grid is automatically updated when you delete a user or group using the Delete From Access Lists section.

| Field | Description |
|---|---|
| **User** | Select this option, click to select a user in the Lookup dialog box, and click the **Delete** button. |

| Field | Description |
|---|---|
| **Group** | Select this option, click to select a group in the Lookup dialog box, and click the **Delete** button. |

**Note:** Clicking the **Delete** button does not trigger changes in the Selected Objects Access Control grid. Switching from **User** to **Group** and vice versa clears your selection in the Lookup dialog box.

### Selected Objects Access Control

This grid displays the users or groups that have access to the selected object or objects. Use this grid to define access rights to groups or users with specific roles.

This grid is the same as the grid on Access Control tab of the Properties dialog box for each object.

| Field | Description |
|---|---|
| **User** | This column displays the users who have access rights to the selected object or objects. Click to select a user for which you want to grant access rights to the selected object or objects. You can specify a group or a user but not both. |
| **Group** | This column displays the groups who have access rights to the selected object or objects. Click to select a group for which you want to grant access rights to the selected object or objects. You can specify a group or a user but not both. |
| **Role** | For each group or user that you want to provide with access to the object, you must specify a role by selecting one from the list. It is possible to use the Role setting to override the default role of a group or user. If not specified, the access right assumes the default role of the group or user. |
| **Read Only** | Select this option to grant Read Only access to a group or user. |
| **New** | Click this button to add a new row in the grid. |
| **Delete** | Select this button to delete an existing row in the grid. |
| **Update Access Control** | Click this button to apply the access rights defined in the Selected Objects Access Control grid to the selected object or objects.<br>▪ **Add to Access Lists**: Select this option and click the **Update Access Control** button to add the entries you made in the grid to the object's access control list. If the current access control list of the object or objects corresponds to an entry in the Selected Objects Access Control grid, the existing access right will be updated to reflect the change on the corresponding entry in the grid.<br>▪ **Replace Access Lists**: Select this option and click the **Update Access Control** button to replace the entries you made in the grid with the entries in the object's access control list. |

**Note:** When multiple objects are selected in the Change Ownership and Access Rights dialog box, only the first selected object is displayed in the grid.

Display the Change Access Rights Dialog Box

Use this procedure to display the Change Access Rights dialog box.

**To display the Change Access Rights dialog box:**

1. Click » **Manage** » **Owner and Access Rights**.
2. In the Change Owner and Access Rights dialog box, select an object or objects in the grid, and click the **Change Access Rights** button.

*Cobra Login Dialog Box*

Use this dialog box to enter your user credentials. Cobra uses these credentials to verify that you are an authorized user.

**Contents**

| Field | Description |
|---|---|
| **User ID** | Use this field to enter the ID that your system administrator set up for your use. Cobra remembers the user ID from your last login and automatically enters that user ID in this field. If this user ID is not the one you wish to use, delete it and enter the proper one. |
| **Password** | Use this field to enter the password associated with your user ID and click **Login**.<br>If Cobra displays a message that your login information is invalid, re-enter your user ID and password, and click **Login** again. If Cobra still does not start, check with your system administrator. There are several possible causes for this situation, including:<br>▪ There may be an interruption of network services.<br>▪ You may not be properly registered as a valid user.<br>▪ You may have entered an incorrect password. |
| **Data Source** | Use this field to select the database connection to use when you log onto Cobra. By default, this field displays the data source defined in the DATASOURCES.DAT file. The field displays all data sources defined in the Cobra Data Tool.<br>The **Data Source** field is only available in standalone and client/server deployments. |

**Login and Authentication**

Cobra uses the following authentication modes:

- **Basic**: This mode uses the user ID and password in the Cobra database.

- **Windows**: This mode uses the Windows login credentials.

The Cobra Login dialog box does not display if the selected data source uses Windows authentication and login is successful.

If login is not successful and **Max Login Retries** in EPM Security Administrator is set to 0, Cobra displays an "Invalid Windows User" message and exits.

If login is not successful and **Max Login Retries** in EPM Security Administrator is greater than 0, the Cobra Login dialog box displays instead of an error message and switches to basic authentication.

Possible causes of unsuccessful login:

- The Windows login ID is not added to list of users in EPM SA.
- The domain name may be invalid if the **Authentication Type** is **Windows Domain\User Name <Domain\User>**.

**Attention:** For more information on authentication modes, authentication types, and **Max Login Retries**, refer to the "Authentication Options Dialog Box" topic in the EPM SA Help System.

Display the Cobra Login Dialog Box

Use this procedure to display the Cobra Login dialog box.

**To display the Cobra Login dialog box:**

- To launch Cobra, click the Start menu and locate **Deltek Cobra X.x**.
- While logged on to Cobra, click » **Login**. This enables you to log on to Cobra using a different user ID.

*Change Password Dialog Box*

Use this dialog box to change your Cobra password.

**Contents**

| Field | Description |
|---|---|
| **Old Password** | Use this field to enter your current password in this field. |
| **New Password** | Use this field to enter your new password in this field. |
| **Re-enter New Password** | Use this field to re-enter your new password in this field. |

Display the Change Password Dialog Box

Use this procedure to display the Change Password dialog box.

**To display the Change Password dialog box:**

- Click » **Change Password**.

*Help*

The **Help** command provides you with options to launch the Cobra Help System and the Deltek's support page and to display the About Deltek Cobra dialog box.

Click **Help** to display the following commands:

- **Deltek Cobra Help**: Click this command to launch the Cobra Help System.
- **About Deltek Cobra**: Click this command to displays the About Deltek Cobra dialog box, which provides information about Cobra.
- **Deltek Customer Care**: Click this command to launch the Deltek's support page: https://support.deltek.com.

About Deltek Cobra Dialog Box

Use this dialog box to view general information about the Cobra application, including the software version you are currently using.

**Customer Experience Improvement Program**

| Field | Description |
|---|---|
| **Automatically send usage statistics to Deltek** | Select this option indicates you allow Deltek to collect information about your usage of Cobra.<br>This option is selected if you have selected the **Automatically send usage statistics to Deltek** option on the Customer Experience Improvement Program page of the Installation Wizard during installation.<br>▪ If this option is enabled, your selection is saved to the **<sendUsageStatistics>** tag in the Ideablade.ibconfig file. A value of **1** represents the selected option. A value of **0** represents the cleared option.<br>▪ If this option is disabled, your selection is determined by your selection on the Other tab of the Application Preferences dialog box and the value stored in the Ideablade.ibconfig file is ignored.<br>Deltek collects the following product usage information:<br>▪ Menu, toolbar, and other user interface clicks and selections<br>▪ Names of screens accessed<br>▪ Help topics accessed |

| Field | Description |
|---|---|
| | ▪ Number of Control Account key fields used in a project<br>▪ Names of processes run through the user interface, API, and Web services, and the execution time of a process<br>▪ Exception error descriptions<br>**Important:** No personally identifiable or other sensitive information is included with the transmitted data. |

Display the About Deltek Cobra Dialog Box

Use this procedure to display the About Deltek Cobra dialog box.

**To display the About Deltek Cobra dialog box:**

Click » **Help** » **About Deltek Cobra**.

*Preferences*

The **Preferences** command provides you with tools to view or change user preferences and systems preferences.

Click **Preferences** to display the following commands:

- User
- Application

User Preferences

You can set user-specific settings that affect various features in Cobra such as date format and Report wizard settings using the User Preferences dialog box.

User Preferences Dialog Box

Use this dialog box to set user-specific settings that affect various features in Cobra.

**General Tab**

Use this tab to set the date format for your Cobra instance. Cobra uses the date format you set in all date fields. This setting affects the following views, which display date information.

| Option | Description |
|---|---|
| **Date Format** | Date format applies to the following: |

| Option | Description |
|---|---|
| | ▪ **Exported data**: Data exported using the Reporting and wInsight Export, Assignment Export/Import, Copy View, and Copy To features.<br>▪ **Imported data**: The date format that the application requires when importing data. To avoid invalid date errors, the date format in the import file must match the date setting you select in this dialog box .This rule includes project view imports from Excel and imports using the Integration Wizard and ancillary file process.<br>If the number of digits specified for the year in user preferences differs from the number of digits for the year in the import file, the file imports successfully and does not have invalid dates. For example, if the date format in user preferences is set to dd-mm-yy and the date format in the import file is **dd-mm-yyyy**, the file imports successfully and the dates are stored in Cobra according to the date format in user preferences. |
| **Use online help when available** | Selecting this checkbox informs Cobra to launch the online help when you have internet connection and access to the online help URL. This checkbox is selected by default. If the Cobra online help is not available, Cobra will use the locally installed help files, which reside in the Help folder. |

Display the User Preferences Dialog Box

Use this procedure to display the User Preferences dialog box.

**To display the User Preferences dialog box:**

- Click » **Preferences** » **User**.

Set the Date Format

Use the User Preferences dialog box to select the data format you want to use for your Cobra instance.

**To set the date format that you want to use for your Cobra instance:**

1. Display the User Preferences dialog box.
2. Click the General tab.
3. Select the date format that you want to use.

Application Preferences

You can define system wide settings which are saved for you using the Application Preferences dialog box.

These settings include the following:

- General-terminology, template,  and milestone options
- Project level codes
- Project level notes
- Spread curves for budget and forecast data
- Data access
- Custom hooks
- Integration
- Report

Configure the Application Settings

Use the Application Preferences dialog box to define application settings.

**To configure the application preferences:**

1. Click » **Preferences** » **Application**.
2. Click a tab and enter data or select the appropriate options to define your application settings.

Application Preferences Dialog Box

Use this dialog box to define application settings.

**Warning:** When you make changes on this tab of the Application Preferences dialog box, you must exit Cobra for changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

General Tab of the Application Preferences Dialog Box

Use this tab to enter or edit earned value terminology and terminology used on project prompts.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

You can modify screens and reports to match the terminology used by your company. For example, if you use the term charge number instead of control account, you can change it on the Application Preferences dialog box, and everything within the application changes to match the term you enter.

### Project Terminology

Use this group box to enter or edit terminologies.

- Control Account
- Work Package
- Control Account Manager
- Budget
- Earned/Earned Value
- Actuals
- Budget at Complete
- Estimate at Complete

### Milestone Weighting

Use this group box to define milestone weight options.

| Field | Description |
|---|---|
| **Percentage variance of budget and milestone weight** | Use this field to enter the percentage that the milestone value can vary from the budget before Cobra displays a warning message when closing the Reconcile Milestone Weight Variance dialog box in the Project view. This helps ensure that you are able to earn value in the period during which the costs were budgeted, and not introduce false variances when the project is performing as planned. |
| **Milestone weight calculation accuracy** | Use this field to enter the level of accuracy that Cobra will use when calculating milestone weights. The default is five digits. Five digits yield the sum of milestone weights equal to 10,000. The value entered in this field also applies to the accuracy used on Steps progress technique. If **Steps** is selected as project technique for a work package, the accuracy of the calculation will be based on the value entered for milestone accuracy. You can enter values only from 3 to 10. |

### Precision Display

Use this group box to configure the number of decimal places that you want to display for some Cobra fields (for example, % Completed and Milestone Weight) in the Project view.

| Field | Description |
|---|---|
| **Precision of Percent Complete** | Use this field to enter or select the number of decimal places that you want to display for the % complete value on the General tab and the Milestones/ Steps tab of the Project view, and for the percent value in the Time-phase Detail pane of the Project view. |
| **Precision of Time-phased Data** | Use this field to enter or select the number of decimal places that you want to display for the time-phased values in the Time-phase pane or Time-phase Detail pane of the Project view. |
| **Precision of Milestone Weight** | Use this field to enter or select the number of decimal places that you want to display for the milestone weight value on the Milestones/Steps tab of the Project view. You can enter a value between **0** and **6**. By default, this field is set to **0**.<br>**Note:** Cobra imports milestone weight value with six decimal places during integration, regardless of the value specified in this field. |

| Field | Description |
|---|---|
| **Default Project Template** | Use this field to assign a project whose structure, classes, settings and others are copied to all new projects created through the New Project Wzard. Selecting a default project template copies the project template's structure into the new project.<br>Click to select a default project template. |
| **Custom Hooks Location** | Use this field to define where custom hook files are stored. Click to browse to the location. |
| **Use Cobra 4.7 terminology 'Result' and 'Alias' for 'Field Name' and 'Result'** | In Cobra 4.7, **Field Name** is called **Result** and **Result (label)** is called **Alias**. You can choose which terminology set to use in some areas of the Cobra application. When you select this option, **Field Name** is changed to **Result** and **Result** is changed to **Alias** in the following areas of Cobra:<br>▪ Results tab of the Resource File Properties dialog box<br>▪ Calculations tab of the Resource view<br>▪ Add Resource Results dialog box<br>▪ Order Resource Results dialog box<br>▪ Calculated Results dialog box<br>▪ Resources Results page of the New Resource File wizard<br>▪ Time-phase pane of the Project view<br>▪ Field Name of the Insert Column or Edit Column dialog box (when you insert or edit a column in any of the areas mentioned above) |

Project Codes Tab of the Application Preferences Dialog Box

Use this tab to manage the codes that can be attached at the project level.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

These project codes are used for filtering and sorting purposes during project reporting. Any project codes created are used system-wide and are available for all projects.

**Note:** Codes from the project level code file are assigned to the projects though the Code Assignments tab of the Project Properties dialog box.

**Contents**

| Field | Description |
|---|---|
| **Prompt** | Use this field to enter a meaningful name for the codes. The prompt is used to identify the code and is displayed during data entry, in the criteria section, and in reports. |
| **Code Field Type** | Select one of the following options from the drop-down list:<br>▪ **<none>**: Select this option if you do not want to assign code files to the selected code file.<br>▪ **Code (optional)**: Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter a text field that supports data entry of any form.<br>▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator. |
| **Code File** | Click ... to select a code file from a list of valid codes for that code field. |

Notes Tab of the Application Preferences Dialog Box

Use this tab to create different types of note categories that you can use to enter notes against individual control accounts, work packages, codes, and resources within Analyze.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

The note categories you create are used system-wide and are available for all projects. All notes must be assigned to a category. After you create a note category, you can click the Notes tab on an opened project, resource file, or code file to enter notes against a category on an individual control account, work package, resource, and code within these opened files.

### Contents

| Field | Description |
|---|---|
| **Note Type** | Use this field to filter the **Category** grid. Note categories can be created against different file types in Cobra. Select one of the following options from the drop-down list:<br>▪ **Variance Narrative**: Select this option if you want to use the note category when entering variances in the Analyze Project dialog box. Categories of this type can apply and are available only on the Analyze Project dialog box and the IPMR Format 5 report.<br>▪ **Control Account**: Select this option if you want to use the note category when entering notes at the control account level of the project. Categories of this type apply and are available only for control accounts.<br>▪ **Work Package**: Select this option if you want to use the note category when entering notes at the work package level of the project. Categories of this type apply and are available only for work packages.<br>▪ **Codes**: Select this option if you want to use the note category when entering notes on the codes in a code file. Categories of this type apply and are available only for codes.<br>▪ **Resources**: Select this option if you want to use the note category when entering notes on the resources in a resource file. Categories of this type apply and are available only for resources. |
| **Categories** | This grid displays the note category name. |
| **New** | Click this button to create a new note category. |
| **Edit** | Select a note category from the **Categories** grid and click this button to edit the category. |
| **Delete** | Select a note category from the **Categories** grid and click this button to delete the category.<br>A message displays, confirming the deletion. Click **Yes** to delete all notes associated with the category for all projects using project level notes. |

**Note:** If you delete all note categories for a particular note type from the Notes tab, you will be unable to enter notes.

New Note Category Dialog Box

Use this dialog box to enter a name for the new note category.

**Contents**

| Field | Description |
|---|---|
| **Category** | Enter the name of the new category in this field. |

Edit Note Category Dialog Box

Use this dialog box to enter a new name for the note category.

**Contents**

| Field | Description |
|---|---|
| **Category** | Enter the name of the new category in this field. |

Spread Curves Tab of the Application Preferences Dialog Box

Use this tab to customize the predefined spread curves or to create your own spread curves.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

Spread curves you create on this dialog box become a selection when entering and spreading time-phased data.

**Contents**

| Field | Description |
|---|---|
| **Name** | Cobra provides the following predefined spread curves. Select one of the following options:<br>▪ **Back Load**: Select this option to allocate most of the cost toward the end of the control account or work package.<br>▪ **Bell**: Select this option to allocate minimal cost at the beginning of the control account or work package, gradually increasing in the middle and tapering off at the end. |

| Field | Description |
|---|---|
| | ▪ **Double Peak**: Select this option to allocate most of the cost in two peaks, one near the beginning of the control account or work package and one near the end.<br>▪ **Early Peak**: Select this option to allocate most of the cost at the beginning of the control account or work package.<br>▪ **First Period**: Select this option to allocate all the cost to the first calendar period of the control account or work package.<br>▪ **Front Load**: Select this option to allocate all of the cost at the beginning of the control account or work package.<br>▪ **Last Period**: Select this option to allocate all of the cost to the last calendar period of the control account or work package.<br>▪ **Late Peak**: Select this option to allocate most of the cost at the end of the control account or work package.<br>▪ **Linear**: Select this option to interpret the cost as a total quantity and allocate the cost as evenly as possible throughout the control account or work package.<br>**Note:** Click the header column to sort the spread curves in ascending or descending order. |
| **Spread Curve graph** | The graph displays the percent distribution for each spread curve over 10 periods. You can modify the values in each period by changing the number below the graph either by entering new values or clicking the up and down arrows.<br>Changing the value in one period has no effect on the remaining periods.<br>The graph above the 10 periods graphically shows the distribution.<br>The curves are mapped to the actual number of fiscal reporting periods (baseline start and end date) being spread for the control account or work package. Cobra uses the percentage entered for the 10 periods and applies that to the fiscal range of the control account or work package.<br>Click **OK** on the error message to redistribute the values for all periods so that the new curve conforms to the adjusted value and the overall curve shape. |
| **Number of Spread Points** | Select or enter the number of spread points to use for a spread curve. You can select or enter a minimum value of **10** and maximum value of **52.** When you select or enter a value that is less than **10** or greater than **52**, Cobra changes the current value back to the original value.<br>The number of points in the spread curve graph corresponds to the value specified on this field.<br>Use the Time-phase pane or Time-phase Detail pane of the Project view to spread the time-phased values using a specific curve. The resulting time-phased spread will have the same shape as the periods defined in the spread curve. |

| Field | Description |
|---|---|
| **New** | Click this button to create a new custom spread curve.<br>**Attention:** For more information, see Add Spread Curve Dialog Box. |
| **Delete** | Use this button to delete a spread curve. Select the spread curve you want to delete and click this button.<br>A message confirming the deletion displays. Click **OK** to proceed with the deletion.<br>Any budget that was spread using the deleted spread curve remains spread as it was when the curve existed. |

Add Spread Curve Dialog Box

Use this dialog box to create a new custom spread curve.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new spread. You must give the new spread curve a unique name.<br>Click **OK** to add the new spread curve name into the grid. When a new spread curve is added, it is set as a linear spread curve by default. It shows a distribution of 10% for each of the ten periods. |

Data Access Tab of the Application Preferences Dialog Box

Use this tab to set certain application data access level options in Cobra.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

**Contents**

| Field | Description |
|---|---|
| **Use incremental deletion when deleting a project** | When Cobra deletes a project, it issues a single delete transaction for each table that contains the project's data. For tables that contain a lot of data (such as the time-phase table) a single delete transaction can result in a transaction that is too large for the database's rollback logs to accommodate.<br>This option instructs Cobra to use an incremental delete of project data, whereby Cobra will delete one control account's worth of data at a time, resulting in multiple delete statements.<br>Using this option reduces the size of each delete transaction at the cost of increasing the time it takes to delete a project. |

| Field | Description |
|---|---|
| **Debug Log** | Use this group box to control the creation and contents of Cobra's debug logs.<br>▪ **Generate processlog.xml**: Select this checkbox to send debug information to the Processlog.xml file when you run a process. Selecting this checkbox enables the **Include SQL Statements** and **Include Cobra** data checkboxes.<br>  ▪ **Include SQL Statements**: Select this checkbox to log the SQL statements to a table in the database. The SQL calls are logged in the Processlog.xml file, which is located on the application server if you have an n-tier installation setup and on the client server for other types of installation setup.<br>  ▪ If you have an n-tier installation setup and running the BOS Service as the local system account, the Processlog.xml file is stored in C:\Deltek\Cobra\Logs.<br>  ▪ If the BOS Service is running under your account, the file is stored in the My Documents\Deltek\Cobra\Logs folder.<br>  In a standalone or client/server installation, the file is created in the folder My Documents\Deltek\Cobra\Logs. In an n-tier installation, the file is created in the My Documents\Deltek\Cobra\Logs folder of the user ID used to start the service.<br>  ▪ **Include Cobra data**: Select this checkbox if you want the raw data generated by processes to be included in the log.<br>▪ **Clientdebuglog.xml** : Select the **Include SQL Statements** checkbox to log the SQL statements used by Cobra to the ClientDebugLog.xml file for stand-alone setup or to the ServerDebugLog.xml file for n-tier setup. This includes the queries for the summary time-phased data.<br>  **Note:** Selecting this option will cause most of the SQL queries used by Cobra to be logged to the ClientDebugLog.xml or to the ServerDebugLog.xml file. This will potentially affect the application's performance. Clear this option if not needed. |
| **Process Log** | Use this group box to configure Cobra to store process log messages to a text file.<br>▪ **Write process logs to a text file**: Select this checkbox to store process log information to a text file in a local folder instead of the database. All Cobra processes will store the process log files to the specified location. Selecting this checkbox enables the **Location** field.<br>▪ **Location**: Enter a valid directory or click ... to navigate to the directory where you want to store the process log files.<br>  **Note:** You can enable logging of process log messages to a text file only when running in a standalone or client/server deployment. |

| Field | Description |
|---|---|
| **Data Locking** | Use this group box to define how Cobra locks data while a global process is running.<br>▪ **Project lock setting**: Select one of the following options from the drop-down list:<br>  ▪ **Process**: Select this option to lock the entire project while a global process is running. Deltek recommends this option when there is one Cobra user who accesses a project.<br>  ▪ **Control Account**: Select this option to lock only one control account at a time while a global process is running. This allows you to work in the project while the global process is running, but it locks each control account during the process.<br>▪ **Interval to wait before retrying project lock**: Select or enter the number of seconds Cobra should wait before retrying to obtain a lock on a project or file that a process needs.<br>▪ **Maximum number of retries to open a busy file**: Select or enter the number of times Cobra should retry to open a busy file. This setting is used only if the file is being used by someone else or an error occurs in the file.<br>**Note:** You must not enter zero or negative numbers in this field. |
| **Process Server** | Use this group box to define the queue name and the shared folder location when you run a process that supports concurrency (integration of import file with multiple projects or apportionment calculations) in PM Compass.<br>▪ **Queue**: This field displays the queues defined in the **Queue** field on the Process Queue Manager screen in PM Compass. Select the dedicated Process Queue for Cobra-initiated jobs which you created in EPM Security Administrator. Cobra will send the job to this queue. Select the queue on the Process server to which Cobra will send the job. This is not a required field. By default, this is blank.<br>▪ **Shared Folder**: Use this field to specify a shared folder path (for example, **\\<server name>\<shared folder name>**) with at least a modify permission and that is accessible to:<br>  ▪ The Cobra user who will run the concurrent process, if you are in a standalone or client/server environment<br>  ▪ The n-tier server machine, if you are in an n-tier environment<br>  ▪ The Cobra Concurrency machine<br>  ▪ The machines where the Cobra Web Services are hosted |

| Field | Description |
| --- | --- |
| | ▪ The dedicated Windows Domain Account that runs the Cobra Web Service and the Gateway<br>This folder, which is maintained by Cobra, stores the temporary files executed by the Process server for each job. After a job is completed, Cobra automatically deletes the temporary files. For failed jobs, Cobra automatically deletes the temporary files that are older than 1 day.<br>▪ **Control Accounts per queue**: Use this field to specify the number of control accounts to process per batch when running a concurrent process. By default, this field is set to **100**. Possible values are between **1** and **999**.<br>If the **Queue** field is cleared, this field becomes disabled but the specified value is retained.<br>You must specify this field if you are running the concurrent processes such as apportionment calculations, progress calculations, and forecast calculations.<br>If **CALCAPPORTIONMENTBATCHSIZE** is defined in the SETTING table, Cobra will ignore it and use the value specified in this field instead.<br>**Attention:** For more information on processes that support concurrency, see Concurrency in Cobra. |

Process Lock

Cobra creates a process lock when you run certain processes. Process locks control whether multiple users can perform the same processes simultaneously.

During a process lock:

- You can start a process when another user has the program already open.
- The process gets a shared lock on the program.
- The process cannot start if there is an exclusive lock on the program, or if the project is being edited (that is, the Save and Undo buttons on the toolbar are enabled). If Project Locking is set to Control Account, the process will start even while a project is being edited.
- Cobra repeats an attempt to create a process lock up to the maximum number of retries that is defined on the Data Access tab of the Application Preferences dialog box. Between lock attempts, the application waits for the retry interval.

Cobra creates a process lock when you perform the following:

- Advancing the calendar
- Exporting ANSI EIA X12
- Performing apportionment calculations

- Calculating progress
- Copying a project
- Freezing a forecast
- Importing actual costs
- Moving a control account
- Copying a control account
- Renaming a control account
- Moving a work package
- Copying a work package
- Renaming a work package
- Turning the project audit on for the first time
- Resetting the baseline using the Project Audit wizard
- Updating transaction logs
- Reconciling project logs
- Editing the project audit log
- Turning the project audit off
- Recalculating costs
- Reclassing a class
- Performing a project replan
- Importing resource assignment
- Respreading the budget
- Running the rolling wave
- Saving to new master project
- Preparing for a schedule integration
- Slipping a project
- Performing top-down planning
- Updating EAC
- Updating totals
- Updating codes
- Performing validity check

Custom Hooks Tab of the Application Preferences Dialog Box

Use this tab to set processes that should run before a process runs or after the process completes.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

Pre-process and post-process can be set for the following Cobra processes:

- Advance Calendar
- Calculate Progress
- Calculate Forecast
- Integration Wizard
- Move Work Package
- Reclass
- Update Totals

**Note:** To know which fields to use to define custom processes for a process, refer to Customization of Processes.

**Contents**

| Field | Description |
|---|---|
| **Pre-process custom application** | Use this field to run a process before a particular Cobra process runs or to modify a specific process using a custom application. Cobra can run the custom application before the data is saved in the temporary table and imported into the Cobra tables.<br>Enter the path of the custom application you want to run. You can also click ... to display the Locate Custom Application dialog box, where you can select the process you want to run.<br>**Note:** The path you select must be on the application server and not on the local machine. |
| **Post-process custom application** | Use this field to run a custom application after a particular Cobra process runs. Cobra can run the custom application after the data is saved in the temporary table and before it is imported into the Cobra tables. The following is an example of a post-process custom application for Integration Wizard: actual costs is an allocation routine that allocates overhead costs back to specific control accounts or work packages.<br>Enter the path and file name of the custom application you want to run. You can also click ... to display the Locate Custom Application dialog box where you can select the process you want to run. |

| Field | Description |
|---|---|
| | **Note:** The path you select must be on the application server and not on the local machine. |
| **Pre-load custom application** | Use this field to run a process before running the integration. If there is a pre-load process, the integration pauses while the external application runs. After the external application finishes, the integration continues. This field applies when loading Project Data using the Integration Wizard.<br>Enter the path and file name of the pre-load custom application you want to run. You can also click ... to display the Locate Custom Application dialog box where you can select the process you want to run.<br>**Note:** The path you select must be on the application server and not on the local machine. |
| **Pre-load returns a result** | Select this option to instruct Cobra to return a **True** value if the pre-load custom application completes successfully and then continue with the integration, or to return a **False** value if the pre-load custom application completes with an error and stop the integration.<br>If this option is not selected, the integration process will continue in all cases. By default, this option is cleared. |
| **Pre-save custom application** | Use this field to specify a custom application to be run before the data is saved. This field applies when loading Project Data using the Integration Wizard.<br>Enter the path and file name of the pre-save custom application you want to run. You can also click ... to display the Locate Custom Application dialog box where you can select the process you want to run.<br>**Note:** The path you select must be on the application server and not on the local machine. |
| **Pre-save returns a result** | Select this option to instruct Cobra to return a **True** value if the pre-save custom application completes successfully and the continue with the integration, or to return a **False** value if the pre-save custom application completes with an error and stop the integration.<br>If this option is not selected, the integration process will continue in all cases. By default, this option is cleared. |
| **Post-save custom application** | Use this field to specify a custom application to be run after the data is saved.<br>Enter the path and file name of the post-save custom application you want to run. You can also click ... to display the Locate Custom Application dialog box where you can select the process you want to run. |

| Field | Description |
|---|---|
| | **Note:** The path you select must be on the application server and not on the local machine. |
| **Type** | Select the type of file you want to run. Select one of the following options from the drop-down list:<br>▪ **Script**: This is a text file with a SQL query or list of commands in VFP.<br>▪ **Executable**: An example is a compiled VB or C++ application.<br>▪ **Visual FoxPro Procedure**: This is a compiled .FXP file. |

Integration Tab of the Application Preferences Dialog Box

Use this tab to apply customized settings for debugging, custom applications, or tighter integration with Open Plan and wInsight.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

During the Cost/Schedule import process, the LINK and associated tables are saved in the Cobra temporary folder as a table that is deleted when the process completes. If you update the Open Plan Resource file or view Cobra data from an Open Plan Web window, you must publish the LINK table to the Cobra data source. If the LINK table is not published, the Update Open Plan Resources feature does not function.

**Note:** There are four options on the left pane of Integration tab of the Application Preferences dialog box, **Customize**, **Cost Data**, **Open Plan**, and **wInsight**. Each option displays its own set of fields on the right pane of the Integration tab.

**Customize**

| Field | Description |
|---|---|
| **Save Temporary Integration Tables** | When importing CSV files, saving the temporary integration tables allows you to see how the data is interpreted during the import. This can be a valuable debugging tool when problems arise. You can also use these temporary tables for creating custom applications used in the custom hooks. The temporary tables are stored in XML format in the My Documents\ Deltek\Cobra folder.<br>After validation and processing within the temporary tables, the processed data is imported into Cobra.<br>Select one of the following options:<br>▪ **Don't Save**: Select this option if you do not want to copy the temporary tables. |

| Field | Description |
|---|---|
| | ▪ **After Load Process**: Select this option to create the temporary tables after data is imported from the schedule or CSV file. The file created is My Documents\Deltek\Cobra\Logs\Integration\<date-time> Post Load.<br>▪ **After Save Process**: Select this option to create the temporary tables after the data is validated and before it is imported into the Cobra tables. The file created is My Documents\Deltek\Cobra\Logs\Integration \<date-time> Post Save.<br>▪ **After Load and Save**: Select this option to create the temporary files after data is imported and before they are saved.<br>**Note:** The temporary integration tables are stored in the **My Documents \Deltek\Cobra\Logs\Integration** directory. |
| **Publish link table to data source** | The LINK table is used by Open Plan to view Cobra data.<br>Select one of the following options:<br>▪ **Don't Publish**: Select this option if you do not want to save data to the LINK table.<br>▪ **Publish with Filtered Delete**: Select this option to publish the LINK table to the Cobra data source. The records of control accounts, work packages, or milestones that you previously published to the LINK table but are no longer being imported from the schedule remain in the LINK table.<br>▪ **Publish with Full Delete by Project**: Select this option to publish the LINK table to the Cobra data source and perform a full delete of the LINK table for the project being imported. This option affects link records that belong to the Cobra program and the project being imported. If the project being imported is a multi-project, this also includes the subprojects.<br>There are certain circumstances when the **Publish with full delete by project** option results in some records not being deleted. For example, assume that **WP1** is imported into Cobra project DEMO from a project named PROJ. Assume further that the project is renamed to PROJ1 and imported again into DEMO using the **Publish with full delete by project** option. Under this circumstance, the **WP**1 record from the first import is not deleted because it belongs to PROJ. Cobra still tries to insert another 1.1 causing a unique constraint error.<br>▪ **Publish with Full Delete**: Select this option to perform a full delete of the LINK table for the Cobra project based on only the project name. Using this option avoids the situation described above.<br>If you do not select **Publish with full delete**, duplicates can occur when you publish the LINK table. If you import the same control account/work |

| Field | Description |
| --- | --- |
| | package from two different projects, a duplicate error occurs when publishing the link table. A full delete always guarantees that you can publish the LINK table. |

### Cost Data

| Field | Description |
| --- | --- |
| **Export Other Direct Costs as ODC** | If this option is selected, Cobra will export the Other Direct Costs element of cost as **ODC**. If this option is cleared, Cobra will export the Other Direct Costs element of cost as **Other Direct Costs**. |
| **Do not Prefix Work Package ID with Control Account ID** | This option applies only when you are creating the Integrated Program Management Data Analysis Report (IPMDAR) file during the Cost Data Export process.<br>If this option is cleared, which is the default value, Cobra performs concatenation of the Control Account key field value and the Work Package ID value to obtain the new Work Package ID value. After completing the Cost Data Export process, the Work Package ID value in the generated IPMDAR file is displayed as Control Account ID + Work Package ID.<br>If this option is selected, Cobra will not perform concatenation of the Control Account and Work Package IDs. |

### Open Plan

| Field | Description |
| --- | --- |
| **Unrotated Code Field List** | Use this field to enter unrotated code fields in a comma separated list without spaces. When loading data from unrotated code fields in Open Plan, you must identify which code fields are unrotated so that these code fields are displayed in the Schedule Fields lookup dialog box of the Integration Wizard. When an Open Plan field is added as a source field in PM Compass, the field is automatically unrotated and must be identified as such in Cobra.<br>For example: C1,C2,USER_CHR01 |

### wInsight

| Field | Description |
| --- | --- |
| **Export Access Control to wInsight 8.1 or Later** | Select this option to instruct Cobra to export the project's access control information to the wInsight XML file or the Deltek Common Data Exchange (DCDE) file.<br>**Using the wInsight Wizard**<br>The **Owner** is added to the **Contracts** section of the wInsight XML file, while the **ACL** tags are added to the **ACL** section. The contract owner and access control information is generated using a single project or a |

| Field | Description |
|---|---|
| | master project for a contract and imported to wInsight through manual import and direct transfer.<br>**Using the Cost Data Wizard**<br>Cobra supports exporting of the access control information of both projects and master projects. However, when exporting master projects, only its access control information is exported. The access control information of the sub-projects is not exported. |
| **Default Version for New wInsight Configurations** | Select the default version to use for new wInsight configurations. Your options are:<br>▪ **6.5**<br>▪ **6.5.1 to 8.0.1**<br>▪ **8.1 or later**<br>By default, this field is blank. If not specified, version **6.5** is selected by default in the **wInsight version** field on thewInsight Database page of the wInsight wizard. |

Reports Tab of the Application Preferences Dialog Box

Use this tab to manage how to display the subtotal of data on the generated report.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

**Contents**

| Field | Description |
|---|---|
| **Report Template Location** | Use this field to define where the report templates are stored. Click ... to browse to the location. |
| **Create formula for Subtotals** | Select this checkbox to create Excel formula for criteria subtotals or clear this checkbox to display the criteria subtotals as numbers on the generated report. The subtotal values are defined using the selected criteria on the Sub-Totals Page of the Report Wizard. By default, this checkbox is selected.<br>**Note:** Selecting the checkbox causes Cobra to consume more memory when generating a report that contains many subtotals. |

Other Tab of the Application Preferences Dialog Box

Use this tab to configure other application settings.

**Warning:** When you make changes on this tab, you must exit Cobra for the changes to take effect. You must also stop and restart all Cobra Web Service instances, including those that are deployed in PM Compass.

**Contents**

| Field | Description |
|---|---|
| **Prevent deleting resources from the Resource File if they are assigned to a project** | Select this option to prevent a user from deleting a resource from a resource file if the resource is used as an assigned resource assignment on a project.<br>When importing resources using the **Integration Wizard** » **Ancillary Data** and selecting **Overwrite** in the **Action** field on the File Selection page to overwrite an existing resource file, the integration completes with errors and aborts. This occurs if the file you imported is missing a resource which exists as an assigned resource in the project. If new resources are also being added to the resource file in the same transaction, the resources will not be imported.<br>Example error message: "[Error] The Resource 'DRAFT' is being used by the project 'Demo Advanced' and cannot be deleted during the import." |
| **Round audit log transactions to 6 decimal places** | Select this option to round up project audit transaction amount to 6 decimals places for new and existing projects.<br>▪ You can only change this option on this tab once. When this option is selected, it becomes read-only and the checkbox is replaced with **N/A** on the Project Preferences tab of the Project Properties dialog box.<br>▪ Once the setting is selected (turned on), you can no longer clear it. Changing the value of this option displays a warning message and clicking the Apply button sets this option to read-only. Closing the dialog box or the application will not reset the value of this option.<br>▪ The application preferences value takes precedence over the project preferences value. If this option is already selected on this tab, this option becomes read-only and the checkbox is replaced with **N/A** on the Project Preferences tab of the Project Properties dialog box. |
| **Validate only the classes included in the Budget against the baseline dates** | Select this option if you want Cobra to validate only the included Budget classes against the baseline dates when adjusting time-phased resources during spread. |

**Customer Experience Improvement Program**

| Field | Description |
|---|---|
| **Automatically send usage statistics to Deltek** | Use this field to specify your preference on how Cobra collects information about your usage of Cobra.<br>▪ **Use selection from Help->About Deltek Cobra**: Selecting this option enables the **Automatically send usage statistics to Deltek** option on the About Deltek Cobra dialog box and allows each Cobra user connected to the current database to choose their own selection.<br>▪ **Always for users connected to this database**: Selecting this option disables and overrides the selection in the **Automatically send usage statistics to Deltek** option on the About Deltek Cobra dialog box. Selecting this option means Cobra will always report usage information for users connected to the current database.<br>▪ **Never for users connected to this database**: Selecting this option disables and overrides the selection in the **Automatically send usage statistics to Deltek** option on the About Deltek Cobra dialog box. Selecting this option means Cobra will never report usage information for users connected to the current database.<br>This selection is saved as an application preference in the database. If you use multiple databases in your organization and you wish to control this setting for all users, you will need to connect to each database and apply your setting. |

*Keyboard Shortcuts*

You can use keyboard shortcuts in place of commands on the Cobra button.

The table below provides information on the keyboard shortcuts that you can utilize on the Cobra button.

| Command | Keyboard Shortcut |
|---|---|
| **Cobra Button** | ALT+F or F10+F |
| **New File Dialog Box** | CTRL+N |
| **Open File Dialog Box** | CTRL+O |
| **Save** | CTRL+S |
| **Save As** | ALT+F+A or F10+F+A |
| **Manage** | ALT+F+M or F10+F+M |
| **Manage » Backup** | ALT+F+M+B or F10+F+M+B |
| **Manage » Restore** | ALT+F+M+R or F10+F+M+R |
| **Manage » Owner and Access Rights** | ALT+F+M+O or F10+F+M+O |

| Command | Keyboard Shortcut |
|---|---|
| **Login** | ALT+F+L or F10+F+L |
| **Change Password** | ALT+F+P or F10+F+P |
| **Help** | ALT+F+H or F10+F+H |
| **Help » Deltek Cobra Help** | ALT+F+H+H or F10+F+H+H |
| **Help » About Deltek Cobra** | ALT+F+H+A or F10+F+H+A |
| **Help » Deltek Customer Care** | ALT+F+H+C or F10+F+H+C |
| **Preferences** | ALT+F+F or F10+F+F |
| **Preferences » User** | ALT+F+F+U or F10+F+F+U |
| **Preferences » Application** | ALT+F+F+A or F10+F+F+A |

### Quick Access Toolbar

The Quick Access toolbar is a small, customizable toolbar that displays frequently used commands and options.

By default, the Quick Access toolbar contains the following commands:

| Command | Description |
|---|---|
|  **New** | Click this command to display the New File dialog box, which you use to specify a filename, description, and other basic information to create a new Cobra file. |
|  **Open** | Click this command to display the Open File dialog box. |
|  **Save** | Click this command to save the currently selected file. |
|  **Find** | Click this command to display the Find dialog box. |

Using the Quick Access toolbar, you can:

- **Show Above the Ribbon/Show Below the Ribbon**: Click this option to display the Quick Access toolbar above or below the ribbon.
- **Minimize the Ribbon**: Click this option to turn off the ribbon.

To add a command to the Quick Access toolbar, right- click the command and click **Add to Quick Access Toolbar**.

Any changes made to Quick Access toolbar button selections will be saved when you log out of Cobra.

### Processes Tab

The Processes tab contains processes that you can run in Cobra.

#### Status Group

| Command | Description |
|---|---|
| **Advance Calendar** | Click this command to launch the Advance Calendar Wizard, which you use to advance the project status date to the next period in the calendar. |
| **Rolling Wave** | Click this command to launch the Rolling Wave Wizard, which you use to collapse past periods and expand future periods. |
| **Calculate Progress** | Click this command to launch the Calculate Progress Wizard, which you use to calculate the earned value for a project or group of projects. |
| **Calculate Forecast** | Click this command to launch the Calculate Forecast Wizard, which you use to create the time-phased estimate to complete a project. |

#### Process Group

| Command | Description |
|---|---|
| **Freeze Forecast** | Click this command to launch the Freeze Forecast Wizard, which you use to take a snapshot of the forecast, along with the actual costs. |
| **Top Down Planning** | Click this command to launch the Top Down Planning Wizard, which you use to change budget and forecast costs for selected groups of control accounts or work packages. |
| **Recalc** | Click this command to launch the Recalc Wizard, which you use to recalculate all costs without disturbing existing spreads. |
| **Respread** | Click this command to launch the Respread Wizard, which you use to respread budget costs for an entire project at one time. |

| Command | Description |
|---|---|
| **Reclass** | Click this command to launch the Reclass Wizard, which you use to copy an existing class to a different class. |
| **Replan** | Click this command to launch the Replan Wizard, which you use to remove variances in a project. |
| **Slip** | Click this command to launch the Slip Wizard, which you use to slip all or a portion of a project to a new date. |
| **Apportionment** | ▪ **Mapping**: Click this command to display the Apportionment Mapping dialog box, which you use to link source control accounts with target control accounts.<br>▪ **Calculation**: Click this command to launch the Apportionment Calculation wizard, which you use to run apportionment calculations to create budget for apportioned resource. |

**Audit Group**

| Command | Description |
|---|---|
| **Project** | Click this command to launch the Project Audit Wizard, which you use to set up the project's baseline and audit log to record budget transactions. |

*Keyboard Shortcuts*

You can use keyboard shortcuts in place of commands on the Processes tab.

The table below provides information on the keyboard shortcuts that you can utilize on the Processes tab.

| Command | Keyboard Shortcut |
|---|---|
| **Process Tab** | ALT+P or F10+P |

| Command | Keyboard Shortcut |
|---|---|
| **Advance Calendar** | ALT+P+V or F10+P+V |
| **Rolling Wave** | ALT+P+W or F10+P+W |
| **Calculate Progress** | ALT+P+E or F10+P+E |
| **Calculate Forecast** | ALT+P+F or F10+P+F |
| **Freeze Forecast** | ALT+P+Z or F10+P+Z |
| **Top Down Planning** | ALT+P+T or F10+P+T |
| **Recalc** | ALT+P+A or F10+P+A |
| **Respread** | ALT+P+D or F10+P+D |
| **Reclass** | ALT+P+S or F10+P+S |
| **Replan** | ALT+P+P or F10+P+P |
| **Slip** | ALT+P+L or F10+P+L |
| **Apportionment** | ALT+P+N or F10+P+N |
| **Project Audit** | ALT+P+J or F10+P+J |

### Integration Tab

The Integration tab contains commands for importing to and exporting from Cobra.

#### Import Group

| Command | Description |
|---|---|
| **Open Plan** | Click this command to launch the Integration Wizard and display the Integration Configuration page, where **Open Plan** is selected in the **Where are you loading the data from?** field. |
| **MS Project** | Click this command to launch the Integration Wizard and display the Integration Configuration page, where **Microsoft Project Server** is selected in the **Where are you loading the data from?** field. |
| **Primavera** | Click this command to launch the Integration Wizard and display the Integration Configuration page, where **Primavera** is selected in the **Where are you loading the data from?** field. |
| | Click this command to launch the Integration Wizard and display the Integration Configuration page, where **Files** is selected in |

| Command | Description |
|---|---|
| **File** | the **Where are you loading the data from?** field. |
| **Actual Cost** | Click this command to launch the Integration Wizard and display the Integration Configuration page, where you can select to create a new configuration or open an existing one. |
| **Ancillary Data** | Click this command to launch the Integration Wizard and display the Integration Configuration page, where you can select to create a new configuration or open an existing one. |
| **Apportionment** | Click this command to launch the Integration Wizard and display the File Selection page. |
| **Assignments** | Click this command to launch the Assignment Import Wizard, which you use to import changes you made to the resource assignments from Excel back into your project. |
| **Configuration Security** | Click this command to launch the Configuration Security dialog box, which you use to set the security of saved configurations. |

**Export Group**

| Command | Description |
|---|---|
| **Cost Data** | Click this command to launch the Cost Data Wizard, which you use to export Cobra data for integration with Acumen or wInsight. |
| **Open Plan Resources** | Click this command to launch the Update Open Plan Resources Wizard, which you use to send updated resources assignments back to Open Plan schedule. |
| **Open Plan Calendar** | Click this command to launch the Export Calendar to Open Plan Wizard, which you use to export a Cobra calendar to Open Plan. |
| **XML/UNCEFACT** | Click this command to launch the wInsight Wizard, which you use to export Cobra data into wInsight XML or UNCEFACT XML. |

| Command | Description |
|---|---|
| **ANSI EIA X12** | Click this command to launch the ANSI EIA X12 Wizard, which you use to export project information to other applications that support specific versions of ANSI X12 Transaction Set. |
| **Assignments** | Click this command to launch the Assignment Export Wizard, which you use to export time-phased resource assignments to Excel for selected control accounts. |

**Collaboration Group**

| Command | Description |
|---|---|
| **Deltek Collaboration** | Click this command to launch Deltek Collaboration using your default browser. |

*Keyboard Shortcuts*

You can use keyboard shortcuts in place of commands on the Integration tab.

The table below provides information on the keyboard shortcuts that you can utilize on the Integration tab.

| Command | Keyboard Shortcut |
|---|---|
| **Integration Tab** | ALT+I or F10+I |
| **Open Plan** | ALT+I+O or F10+I+O |
| **MS Project** | ALT+I+M or F10+I+M |
| **Primavera** | ALT+I+P or F10+I+P |
| **File** | ALT+I+F or F10+I+F |
| **Actual Cost** | ALT+I+T or F10+I+T |
| **Ancillary Data** | ALT+I+L or F10+I+L |
| **Apportionment** | ALT+I+N or F10+I+N |
| **Assignments Import** | ALT+I+I or F10+I+I |
| **Configuration Security** | ALT+I+S or F10+I+S |
| **Open Plan Resources** | ALT+I+R or F10+I+R |
| **Open Plan Calendar** | ALT+I+C or F10+I+C |
| **wInsight/UNCEFACT** | ALT+I+W or F10+I+W |
| **ANSI EIA X12** | ALT+I+X or F10+I+X |

| Command | Keyboard Shortcut |
|---|---|
| **Assignments Export** | ALT+I+E or F10+I+E |
| **Deltek Collaboration** | ALT+I+K or F10+I+K |

### Reporting Tab

The Reporting tab contains commands that allow you to analyze data in Cobra.

#### Clipboard Group

| Command | Description |
|---|---|
|  **Copy** | Click this command to copy the content of the selected cell. |
|  **Paste** | Click this command to paste copied information. |
|  **Find** | Click this command to display the Find dialog box. |
|  **Refresh** | Click this command to refresh the information displayed in the pane. |
|  **Undo** | Click this command to revert the changes you made. |

#### Reports Group

| Command | Description |
|---|---|
|  **Run** | Click this command to launch and run the Report Wizard if you select a report. Click this command to run the batch report if you select a batch report or multiple batch reports. |
|  **Report Wizard** | Click this command to launch the Report Wizard, which you use to select parameters for the report, run the report, and save the report. |
|  | Click this command to display the most recently generated reports. |

| Command | Description |
|---|---|
| **Recent** | |
| **Delete** | Click this command to delete the selected report or batch report. |

### Tools Group

| Command | Description |
|---|---|
| **Calculated Results** | Click this command to launch the Calculated Results Wizard, which you use to display extra results on reports without storing them in the database. |

### Batch Reports Group

| Command | Description |
|---|---|
| **Add** | Click this command to display the Add Batch Report dialog box, which you use to create a batch report. |
| **Copy** | Click this command to display the Copy Batch Report dialog box, which you use to copy a batch report. |
| **Edit** | Click this command to display the Edit Batch Report dialog box, which you use to edit a batch a report. |

### Analysis Group

| Command | Description |
|---|---|
| **Analyze** | Click this command to launch the Analyze Project Wizard, which you use to analyze a project and its structures. |

### Properties Group

| Command | Description |
|---|---|
| | Click this command to display the Report Properties dialog box, which you use to view |

| Command | Description |
|---|---|
| **Properties** | and modify report parameters and access rights. |

*Keyboard Shortcuts*

You can use keyboard shortcuts in place of many menu and submenu options.

| Command | Keyboard Shortcut |
|---|---|
| **Reporting Tab** | ALT+R or F10+R |
| **Copy** | CTRL+C |
| **Paste** | CTRL+V |
| **Refresh** | F5 |
| **Undo** | CTRL+Z |
| **Find** | CTRL+F |
| **Report Wizard** | ALT+R+R or F10+R+R |
| **Delete** | CTRL+DEL |
| **Calculated Results** | ALT+R+A or F10+R+A |
| **Add Batch Report** | CTRL+A |
| **Analyze** | ALT+R+Y or F10+R+Y |
| **Properties (Report)** | ALT+R+P or F10+R+P |

## Tools Tab

The Tools tab contains commands that allow you to manage data in Cobra.

### Tools Group

| Command | Description |
|---|---|
| **Align Time-Phased Dates** | Click this command to launch the Align Time-phased Dates Wizard, which you use to adjust the time-phased resource records on the project to align with the new calendar. |
| **Zero-Out Data** | Click this command to launch the Zero-out Data Wizard, which you use to set budget and actuals time-phased resource values to zero. |
| **Update Codes** | Click this command to launch the Update Codes Wizard, which you use to update any of |

| Command | Description |
|---|---|
| | the code fields on a project with a specified value. |
| **Replace Resources** | Click this command to launch the Replace Resources Wizard, which you use to replace one resource with another. |

**Custom Fields Group**

| Command | Description |
|---|---|
| **Calculated Fields** | Click this command to display the Calculated Fields dialog box, which you use to create calculated fields for arithmetic operations. |

**Data Group**

| Command | Description |
|---|---|
| **Update Totals** | Click this command to launch the Update Totals Wizard, which you use to sum up the values from the detailed resource records. |
| **SQL Command Utility** | Click this command to launch the SQL Command Utility dialog box, which you use to run SQL commands and scripts against Cobra tables. |

**Validation Group**

| Command | Description |
|---|---|
| **Validity Check** | Click this command to launch the Validity Check Wizard, which you use to validate a wide range of project information. |
| **Process Logs** | Click this command to display the Process Logs dialog box, which you use to filter, view, or delete process log files. |

*Keyboard Shortcuts*

You can use keyboard shortcuts in place of commands on the Tools tab.

The table below provides information on the keyboard shortcuts that you can utilize on the Tools tab.

| Command | Keyboard Shortcut |
|---|---|
| **Tools Tab** | ALT+T or F10+T |
| **Align Time-Phased Dates** | ALT+T+L or F10+T+L |
| **Zero-Out Data** | ALT+T+Z or F10+T+Z |
| **Update Codes** | ALT+T+U or F10+T+U |
| **Replace Resources** | ALT+T+R or F10+T+R |
| **Calculated Fields** | ALT+T+F or F10+T+F |
| **Update Totals** | ALT+T+T or F10+T+T |
| **SQL Command Utility** | ALT+T+Q or F10+T+Q |
| **Validity Check** | ALT+T+V or F10+T+V |
| **Process Logs** | ALT+T+P or F10+T+P |

### Custom Menu Tab

The Custom Menu tab only displays if you have custom menu items defined for Cobra in the EPM Security Administrator (EPM SA).

The label of the tab depends on the menu name you define in the Custom Menu Items dialog box in the EPM SA tool.

| Group | Description |
|---|---|
|  **Executable** | This group displays the executable items you define on the Custom Menu Items dialog box in the EPM SA tool. |
|  **SQL Script** | This group displays the SQL script items you define on the Custom Menu Items dialog box in the EPM SA tool. |

*Custom Menu Items*

Cobra enables you to create and access applications and functions that you frequently need through custom menu items.

Custom menu items are secured by role in the EPM Security Administrator (EPM SA) by clicking **Custom**. Only users with administrator rights are allowed to grant access to custom menu items.

Use the Custom Menu Items dialog box in the EPM SA to create executable or SQL script items. You can access these custom menu items in Cobra through a tab. The tab label depends on the menu name you define on the Custom Menu Items dialog box in the EPM SA tool.

**Attention:** For more information on custom menu items, refer to the following topics in the EPM SA Help System:

- Custom Menu Items
- Custom Menu Items Dialog Box
- Edit Custom Menu Item Definition Dialog Box
- Create Custom Menu Items

## Cobra Views

From the Cobra Explorer, you can display data in several main views. Each view displays information about the selected file.

For example, the Project view displays project information, such as control account and work package budgets, baseline dates, earned values, estimates at complete, resource assignments, time-phased data, and milestone data.

*Display the Cobra Explorer Panes*

Display the Cobra Explorer panes to view information about the selected file such as project, calendar, code, rate, resource, report, or batch report.

**To display a pane in the Cobra Explorer:**

1. Open Cobra Explorer.
2. In the Navigation pane, click the appropriate file.

*Projects*

In Cobra, the project is where you keep the budget, actuals, and forecasts, and calculate earned value. You can enter project data manually or you can use the Integration Wizard to load data from a schedule or text file.

The New Project Wizard enables you create a new project by defining how you want to structure your data.
Certain settings and options in the EPM Security Administrator affect how you can view or modify a project and its associated files.

Projects Pane

The Projects pane displays all projects to which you have access. Use this pane to analyze multiple projects at once, or open a single project to see more Properties about it.

When a project is not performing as planned, variance and index calculated fields are highlighted. Double-click on any project to open it in Project view, where you can review and modify data. Right-click anywhere in the Projects pane to see a shortcut menu of options that are relevant to the selected project.

### View Drop-Down List

Use the **View** drop-down list at the top of the pane to select groups of projects. If you select **Master Project**, the hierarchical grid displays all master projects. You can expand a master project to see all of its subprojects. You can also group projects by product line, location, or any code file you define. Click » **Preferences** » **Application** and select the Project Codes tab to add codes. Any code added to this tab will display in the **View** drop-down list.

Display the Project Properties dialog box and select the Code Assignments tab. From here, select a code assignment from the code file. These code assignments define where the project will be displayed in the Projects pane. Every node in the code file assigned on the Project Codes tab will have summary values calculated.

Cobra assumes that all projects within a master project use the same home currency. When you view projects using a project code file, the totals are only summed if all projects share the same home currency.

Projects Pane Column Definitions

The Projects pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are shown by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the Projects pane using the Insert Column dialog box and the Edit Column dialog box.

| Column | Description | Formula |
|---|---|---|
| **% Complete** | This column displays the percentage of the work that has been completed. | (Earned/BAC * 100 ) |
| **% Spent** | This column displays the percentage of the budget spent. | (Actuals / BAC) * 100 |
| **Actual Finish** | This column displays the actual finish date of the project. | N/A |
| **Actual Rate** | This column displays the actual rate. | Actuals / Actuals Hours |
| **Actuals** | This column displays the total actual currency value of project. The Update Totals utility populates the value in the table. | N/A |
| **Address** | This column displays the address of the contractor. | N/A |
| **AUW** | This column displays the amount of any Authorized Unpriced Work (AUW) for the project. | N/A |
| **BAC** | This column displays the budget at completion or the resource total. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Baseline Finish** | This column displays the baseline finish date that defines the last date of the project. | N/A |
| **Baseline Start** | This column displays the baseline start date that defines the initial status date for the project. | N/A |
| **Baselined** | This column indicates whether the project audit log has been turned on to set the baseline for the project. | N/A |
| **Batch No.** | This column displays the batch number that is stored in the tphase and the project audit log. Each time a process is run, the batch number is incremented. | N/A |
| **Best Case EAC** | This column displays the Estimated Cost at Completion (EAC) value for best-case forecasts displayed in the header of the IPMR reports. Use the Budget tab of the Project Properties dialog box to enter this value. | N/A |
| **Budget** | This column displays the total currency budget value of project. The Update Totals utility populates the value in the table. | N/A |
| **Budget Rate** | This column displays the budget rate. | Budget / Budget Hours |
| **CA[1-3] Code File** | This column displays the code files assigned to the control account. | N/A |
| **CA[1-3] Key Term** | This column displays the prompt that represents the code field. | N/A |
| **Calendar File** | This column displays the calendar file used in the project. | N/A |
| **CAM Code Field No.** | This column displays the CAM code field number. | N/A |
| **Capture Actuals Level** | This column displays the level at which you want to capture actual costs (Control Account, Work Package, or both Control Account and Work Package). | N/A |

| Column | Description | Formula |
|---|---|---|
| **CBB** | This column displays the Contract Budget Base (CBB) for the project, which is the combined Negotiated Cost and AUW. | N/A |
| **Ceiling** | This column displays the Budgeted and Estimate at Complete Contract Ceiling amounts for the project. | N/A |
| **CCN Code File** | This column displays the code file validating the change number. | N/A |
| **CCN Use Code File** | This column indicates whether there is a file validating the change number. | N/A |
| **CCN Validation** | This column displays the validation type. | N/A |
| **Classification** | This column displays the security classification of the contract, which is displayed on the top and bottom of the IPMR reports. | N/A |
| **Complete** | This column indicates that the project is already complete. | N/A |
| **Contract Name** | This column displays the name of the contract. | N/A |
| **Contract Flag** | This column displays the contract type. | N/A |
| **Contract Number** | This column displays the contract number. | N/A |
| **Contract Phase** | This column displays the project phase. | N/A |
| **Contract Representative Name** | This column displays the name of the person assigned to the contract. | N/A |
| **Contract Representative Title** | This column displays the title of the representative assigned to the contract. | N/A |
| **Contract Type** | This column displays the contract type, such as CPFF (Cost Plus Fixed Fee). | N/A |
| **Contract Location** | This column displays the location of the contractor. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Contractor Name** | This column displays the contractor name, which is used on Cobra reports. | N/A |
| **CostProject.EvmsAcceptanceId** | This column indicates that the project passed EVMS validation. This is displayed in the header of the IPMR reports. Use the Project Properties dialog box to edit the contents of this field. | N/A |
| **CostProject.IpmrFormat2Code** | This column indicates that the IPMR Format 2 report uses an alternate code field. | N/A |
| **CostProject.ProductVisibility** | This column indicates that the project is visible in PM Compass. | N/A |
| **CPI** | This column displays the Cost Performance Index. | Earned / Actuals |
| **CPI Performance** | This column displays the CPI performance of the project. | Actuals/ Earned |
| **CTC** | This column displays the cost for the contract and all authorized changes as of a specific date. This amount usually includes any management reserves. | N/A |
| **Currency Symbol** | This column displays the currency symbol to be used to display costs in the Projects view and the Explorer view (for example, $ for dollars and € for Euros). | N/A |
| **Currency Symbol on Right?** | This column indicates whether the currency abbreviation (such as USD) is displayed to the right of any currency value. | N/A |
| **CV** | This column displays the Cost Variance. | Earned - Actuals |
| **CV %** | This column displays the Cost Variance percentage. | ((Earned - Actuals) / Earned) * 100 |
| **Definite** | This column displays the date the contract was made definite. | N/A |
| **Description** | This column displays a brief description of the project. | N/A |

| Column | Description | Formula |
|---|---|---|
| **EAC** | This column displays the total Estimate At Complete currency value of the project based on the cost set EAC. The Update Totals utility populates the value in the table. | N/A |
| **Earned** | This column displays the total earned currency value of the project. The Update Totals utility populates the value in the table. | N/A |
| **Est. Ceiling** | This column displays the estimated ceiling amount for the project. This is displayed on IPMR reports and can be edited in the Project Properties dialog box. | N/A |
| **Est. MR** | This column displays the estimated management reserve cost for the project. This is displayed on IPMR reports and can be edited in the Project Properties dialog box. | N/A |
| **Est. UB** | This column displays the estimated undistributed budget for the project. This is displayed on IPMR reports and can be edited in the Project Properties dialog box. | N/A |
| **Estimated Price** | This column displays the estimated Contract Target Price at the completion of the project. This is the sum of the Contract Budget Base and any management fees. This is displayed on IPMR reports and can be edited in the Project Properties dialog box. | N/A |
| **EVMS Acceptance Date** | This column displays the approval or disapproval date of the Earned Value Management System (EVMS) for the project. This is displayed on IPMR reports and can be edited in the Project Properties dialog box. | N/A |
| **Fee** | This column displays the management fee for the project. This is displayed on IPMR reports | N/A |

| Column | Description | Formula |
|---|---|---|
| | and can be edited in the Project Properties dialog box. | |
| **Fee Percent** | This column displays the management fee for the project, expressed as a percentage of the Contract Budget Baseline. | N/A |
| **Forecast Finish** | This column displays the latest forecast finish date of the project. | N/A |
| **Forecast Method Range 1 - 4** | This column displays the forecast methods used for the class. | N/A |
| **Hours % Complete** | This column displays the percentage of the work that has been completed. | (Earned Hours / BAC Hours) * 100 |
| **Hours % Spent** | This column displays the percentage of the budget spent. | (Actuals Hours / BAC Hours) * 100 |
| **Hours Actuals** | This column displays the total actual currency value of the project in hours. | N/A |
| **Hours BAC** | This column displays the budget to date in hours. | N/A |
| **Hours Budget** | This column displays the budget to date in hours. | N/A |
| **Hours CPI** | This column displays the Cost Performance Index in hours. | Earned Hours / Actuals Hours |
| **Hours CPI Performance** | This column displays the CPI performance of the project in hours. | Actuals Hours / Earned Hours |
| **Hours CV** | This column displays the Cost Variance in hours. | Earned Hours - Actuals Hours |
| **Hours CV %** | This column displays the Cost Variance percentage. | ((Earned Hours - Actuals Hours) / Earned Hours) * 100 |
| **Hours EAC** | This column displays the total Estimate At Complete currency value of the project in hours. | N/A |
| **Hours Earned** | This column displays the total earned currency value of project in hours. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Hours iEAC** | This column displays the independent Estimate At Complete in hours. | Actuals Hours + ((1 / CPI Hours) * (BAC Hours - Earned Hours)) |
| **Hours EAC2** | This column displays the independent Estimate At Complete in hours. | Actuals Hours + ((1 / (CPI Hours * SPI Hours)) * (BAC Hours - Earned Hours)) |
| **Hours SPI** | This column displays the Schedule Performance Index (SPI) in hours. | Earned Hours / Budget Hours |
| **Hours SV** | This column displays the Schedule Variance (SV) in hours. | Earned Hours - Budget Hours |
| **Hours SV %** | This column displays the Schedule Variance (SV) percentage. | ((Earned Hours - Budget Hours) / Budget Hours) * 100 |
| **Hours TCPI** | This column displays the To Complete Performance Index (TCPI) in hours. | (BAC Hours - Earned Hours)/ (EAC Hours - Actual Hours). |
| **Hours TCPI BAC** | This column displays the To Complete Performance Index within the project budget at complete in hours. | (BAC Hours - Earned Hours) / (BAC Hours - Actuals Hours) |
| **Hours VAC** | This column displays the Variance At Complete (VAC). | BAC Hours - EAC Hours |
| **Hours VAC %** | This column displays the Variance At Complete (VAC) percentage. | ((BAC Hours - EAC Hours) / BAC Hours) * 100 |
| **Hours Variance** | This column displays the Variance in hours. | Budget Hours - Actuals Hours |
| **iEAC** | This column displays the independent Estimate At Complete. | Actuals + ((1 / CPI) * (BAC - Earned)) |
| **iEAC2** | This column displays the independent Estimate at Complete. | Actuals + ((1 / (CPI * SPI)) * (BAC - Earned)) |
| **Last Updated** | This column displays the date and time when a record was last updated.<br>The **Last Updated** field exists on many tables in Cobra but not all. A record may be changed because of a direct change by the user against that record, or because of an indirect change.<br>**Example of a Direct Change** | N/A |

| Column | Description | Formula |
|---|---|---|
| | A user modifies the description of a control account, which causes the control account's description field to be updated on the record. As a result, the **Last Updated** field is also updated.<br>**Example of an Indirect Change**<br>A user modifies the total budget of a resource assignment on a work package. The total budget stored on the work package is updated, the total budget stored on the control account is updated, and the total budget stored on the project is updated. The work package, control account, and project records will each get an updated Last Updated value even if they were not directly edited because the total budget stored on each record was updated.<br>**Note:** In some cases, Cobra displays values that are not stored directly on the record. It may appear a record has changed values but internally, Cobra is displaying a calculated value and therefore, the record's **Last Updated** field will not change. | |
| **LRE** | This column displays the Latest Revised Estimate At Completion (LRE), which is the updated and most recent Estimate at Completion (EAC). | N/A |
| **Manager Code File** | This column displays the code file validating the manager (CAM) code. | N/A |
| **Manager Code File Type** | This column displays the code file type validating the manager CAM code. | N/A |
| **Manager Validation** | This column indicates that there is a code file validating the manager. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Master Project Flag** | This column indicates that the project is a master project. | N/A |
| **MPS CODE** | This column displays the project level in the database. | N/A |
| **MR** | This column displays the budgeted and estimated final management reserve for the project. | N/A |
| **Open Plan Project** | This column displays the Open Plan project used by the Cobra project. | N/A |
| **OTB** | This column displays the baseline which results from formal reprojecting of an overrun, used only with the approval of the customer. | N/A |
| **OTB Date** | This column displays the date when OTB was allocated to the project. | N/A |
| **OTC** | This column displays the Original Negotiated Cost value. | N/A |
| **Percent Range 1 – 3** | This column displays the range used for the forecast method. The range varies based on % Complete. | N/A |
| **Period Start Date** | This column displays the previous status date used in report headers. | N/A |
| **Project** | This column displays the name of the project. | N/A |
| **Project Code 1 - 9** | This column displays the project level codes for the project. | N/A |
| **Quantity** | This column displays the number of items to be procured for the contract. | N/A |
| **Rate File** | This column displays the rate file used for the project. | N/A |
| **Resource Code File** | This column displays the resource code file used for the project. | N/A |
| **Resource Key Term** | This column displays the resource field name. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Resource File** | This column displays the resource file used for the project. | N/A |
| **Rolling Wave Calendar** | This column displays the rolling wave calendar used for the project. | N/A |
| **Scale Caption** | This column displays the caption for the scale factor that appears in the reports. | N/A |
| **Scale Factor** | This column displays the scale factor that will be used to report currency amounts. | N/A |
| **Sequence** | This field is used internally by Cobra. | N/A |
| **Share Ratio** | This column displays the share ratio for the contract. | N/A |
| **SPI** | This column displays the Schedule Performance Index. | Earned / Budget |
| **Spread Weight Method** | This column displays the spread weight method. | N/A |
| **State** | This column displays the state where the contractor is located. | N/A |
| **Status Date** | This column displays the status date of the project. | N/A |
| **SV** | This column displays the Schedule Variance. | Earned - Budget |
| **SV %** | This column displays the Schedule Variance percentage. | ((Earned - Budget) / Budget) * 100 |
| **Target Price** | This column displays the estimated Contract Target Price at the completion of the project. This is the sum of the Contract Budget Base and any management fees. | N/A |
| **TCPI** | This column displays the To Complete Performance index. | (BAC - Earned) / (EAC - Actuals) |
| **TCPI BAC** | This column displays the To Complete Performance index within the project budget at complete. | (BAC - Earned) / (BAC - Actuals) |
| **UB** | This column displays the Undistributed Budget. Undistributed Budget. This is the | N/A |

| Column | Description | Formula |
|---|---|---|
| | budget applicable to contract effort which has not yet been identified to Contract Work Breakdown Structure (CWBS) elements at or below the lowest level of reporting to the government. | |
| **User** | This column displays the individual who is currently accessing the project. | N/A |
| **VAC** | This column displays the Variance At Complete. | BAC - EAC |
| **VAC %** | This column displays the Variance At Complete percentage. | ((BAC - EAC) / BAC) * 100 |
| **Variance** | This column displays the Variance. | Budget - Actuals |
| **Worst Case EAC** | This column displays the Estimated Cost at Completion (EAC) value for worst-case forecasts. Use the Budget tab of the Project Properties dialog box to enter this value. | N/A |
| **WP Code File** | This column displays the work package code file assigned to the project. | N/A |
| **WP Key Term** | This column displays the work package field name. | N/A |
| **Zip** | This column displays the zip code where the contractor is located. | N/A |

Shortcut Menu

Right-click the Projects pane to display the available commands and options that you can use.

| Option | Description |
|---|---|
|  **Open** | Click this option to open the selected project file. |
|  **New Project File** | Click this option to display the New Project Wizard, which you use to specify a filename, description, and other basic information to create a new project file. |

| Option | Description |
|---|---|
| **Delete** | Click this option to delete the selected project file.<br>**Note:** When you delete a project, Cobra does not delete the process logs associated with it. |
| **Rename** | Click this option to display the Rename dialog box, which you use to change the name of the selected project file.<br>**Note:** When you rename a project, Cobra does not rename the process logs associated with it. |
| **Backup** | Click this option to display the Backup dialog box, which you use to create a backup of the selected project file. |
| **Purge** | Click this option to display the Purge dialog box, which you use to delete the project file and all of the ancillary files that are associated with it. |
| **Advance Calendar** | Click this option to launch the Advance Calendar Wizard, which you use to advance the calendar for the selected project file to the next accounting period. |
| **Rolling Wave** | Click this option to launch the Rolling Wave Wizard, which you use to run the rolling wave process for the selected project file. |
| **Calculate Progress** | Click this option to launch the Calculate Progress Wizard, which you use to compute the earned value for the selected project file or selected group of projects. |
| **Calculate Forecast** | Click this option to launch the Calculate Forecast Wizard, which you use to create the time-phased forecast for the selected project file. |
| **Freeze Forecast** | Click this option to launch the Freeze Forecast Wizard, which you use to take a snapshot of the forecast, along with actual costs for the selected project file. |
| | Click this option to launch the Analyze Project Wizard. |

| Option | Description |
|---|---|
| **Analyze** | |
| **Top Down Planning** | Click this option to launch the Top Down Planning Wizard. |
| **Recalc** | Click this option to launch the Recalc Wizard, which you use to recalculate data for the selected project file. |
| **Reclass** | Click this option to launch the Reclass Wizard, which you use to change, copy, or replace an existing cost class with a different cost class for the selected project file. |
| **Replan** | Click this option to launch the Replan Wizard, which you use to remove variances from any ongoing projects. |
| **Respread** | Click this option to launch the Respread Wizard, which you use to respread project costs. |
| **Slip** | Click this option to launch the Slip wizard, which you use to move an entire project or selected control accounts within a project to new dates. |
| **Apportionment** | Click any of the following options:<br>▪ **Mapping**: Click this option to display the Apportionment Mapping dialog box, which you use to link source control accounts with target control accounts.<br>▪ **Calculation**: Click this option to launch the Apportionment Calculation Wizard, which you use to run apportionment calculations to create budget for apportioned resource. |
| | Click any of the following options: |

| Option | Description |
|---|---|
| **Assignments** | ▪ **Import**: Click this option to launch the Assignment Import Wizard, which you use to import time-phased resource assignments from Excel.<br>▪ **Export**: Click this option to launch the Assignment Export Wizard, which you use to export time-phased resource assignments to Excel for selected control accounts. |
| **Copy View to Excel** | Click this option to copy the Project view of the selected project file to Excel. |
| **Validity Check** | Click this option to launch the Validity Check Wizard, which you use to validate the project information of the selected project file. |
| **Update Totals** | Click this option to launch the Update Totals Wizard, which you use to update and save the total values for Budget, Earned, Actuals, and Forecast values for the selected project file. |
| **Copy** | Click this option to create a copy of the selected project file to store the copied information on the clipboard. |
| **Paste** | Click this option to paste the copied information. |
| **Find** | Click this option to display the Find dialog box. |
| **Properties** | Click this option to display the Project Properties dialog box for the selected project. |

Color Band

In the Projects pane of the Cobra Explorer, when a project or master project is not performing as planned, variance and index calculated fields are highlighted, through the color band.

The color band displays for the **VAC**, **CV**, **SV**, **CPI**, and **SPI** fields.

If both the actual and earned values are zero, no color band is applied to the **SPI**, **CPI**, and **CV** fields.

The color band is also used in the Spreadsheet pane of the Project view to identify control accounts and work packages that exceed pre-defined threshold settings.

The table below provides information on the Cobra fields that use the color band.

| Field | Description |
|---|---|
| **SV** | Color band ranges set for Schedule Variance, Schedule Variance Percent (SV %), Schedule Variance Hours (SV Hours), and Schedule Variance Hours Percent (SV Hours %). |
| **CV** | Color band ranges set for Cost Variance, Cost Variance Percent (CV %), Cost Variance Hours (CV Hours), and Cost Variance Hours Percent (CV Hours %). |
| **CPI** | Color band ranges set for Cost Performance Index. |
| **SPI** | Color band ranges set for Schedule Performance Index. |
| **VAC** | Color band ranges set for Variance at Completion, Variance at Completion Percent (VAC %), Variance at Completion Hours (VAC Hours), and Variance at Completion Hours Percent (VAC Hours %). |

**Attention:** For information on how these fields are calculated, see Spreadsheet Pane Column Definitions.

The table below provides information on the color band used by different fields in Cobra.

| Field | Blue | Green | Yellow | Red |
|---|---|---|---|---|
| VAC | VAC ≥ 10% | -5% ≤ VAC < 10% | -10% ≤ VAC < -5% | VAC < -10% |
| CV | CV ≥ 10% | -5% ≤ CV < 10% | -10% ≤ CV < -5% | CV < -10% |
| SV | SV ≥ 10% | -5% ≤ SV < 10% | -10% ≤ SV < -5% | SV < -10% |
| CPI | CPI ≥ 1 | 0.98 ≤ CPI < 1 | 0.95 ≤ CPI < 0.98 | CPI < 0.95 |
| SPI | SPI ≥ 1 | 0.98 ≤ SPI < 1 | 0.95 ≤ SPI < 0.98 | SPI < 0.95 |

*Calendars*

Spreading budgets, summarizing costs, and reporting depend on calendars to determine the dates and time spans of the summarized costs.

The first step is to create the primary calendar with calendar periods. The date and time spans determine how budget is spread across reporting periods, how costs are summarized, and how the information is displayed in reports.

The calendar periods can be different lengths as long as they span the entire duration of the project. When you add information to a project, it is stored in the calendar period buckets defined by the calendar. It's a best practice to extend your calendar beyond the expected finish date, to account for potential slippage.

Calendars Pane

The Calendars pane displays all calendars to which you have access. Calendars define the cut-off dates for reporting periods and how time-phased data is stored.

Double-click a calendar file to open the Calendar Periods and Calendar Sets tabs and view or modify calendar file information, calendar sets, periods, or even the rolling wave. Right-click anywhere in the Calendars pane to see a shortcut menu of options that are relevant to the selected calendar.

The table below provides information on the default columns displayed in the Calendars pane.

| Column | Description |
|---|---|
| **Calendar File** | This column displays the name of the calendar file. |
| **Description** | This column displays a brief description of the calendar file. |

Calendars Pane Column Definitions

The Calendars pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are displayed by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the Calendars pane using the Insert Column dialog box and the Edit Column dialog box.

| Column | Description |
|---|---|
| **Calendar File** | This column displays the name of the calendar file. |
| **Description** | This column displays a brief description of the calendar file. |
| **Description 00 - 19** | This column displays a brief description of the calendar set. |
| **Day of Week Hours** | This column displays the productive hours per working day. |

| Column | Description |
|---|---|
| **Last Update** | This column displays the date when the calendar file was last updated. |
| **Pattern** | This column displays the interval pattern specified in the calendar file. |
| **Sequence** | This column is used internally by Cobra. |
| **User** | This column displays the individual who is currently accessing the calendar file. |

Shortcut Menu

Right-click the Calendars pane to display the available commands and options that you can use.

| Option | Description |
|---|---|
| **Open** | Click this option to open the selected calendar file. |
| **New Calendar File** | Click this option to launch the New Calendar File Wizard, which you use to specify a filename, description, and other basic information to create a new calendar file. |
| **Delete** | Click this option to delete the selected calendar file. |
| **Rename** | Click this option to display the Rename dialog box, which you use to change the name of the selected calendar file. |
| **Copy** | Click this option to create a copy of the selected calendar file and store the copied information on the clipboard. |
| **Paste** | Click this option to paste copied information. |
| **Find** | Click this option to display the Find dialog box. |
| | Click this option to display the Calendar File Properties dialog box for the selected calendar file. |

| Option | Description |
|---|---|
| **Properties** | |

*Codes*

You can showcase project data at a summary level, a detailed level, or any level within the project by establishing a coding system and assigning codes to your project. A well-designed coding system offers lucid and succinct information.

Code files can be a flat file representing a list of managers, for example, or they can have parent-child relationships or a hierarchical structure defining a work breakdown structure (WBS). After creating a code file, you can assign that code file to your project and the codes become a pick list of valid codes during data entry. Codes are used for roll-up reporting, filtering, and processing, among others.

The table below provides information on the areas in Cobra where you can assign codes.

| Area | Number of codes that you can assign | Example |
|---|---|---|
| **Project** | 9 | Product line, division, sector |
| **Control Account** | 3 | Work Breakdown Structure (WBS), Organization Breakdown Structure (OBS) |
| **Codes assigned to a control account** | 20 | Charge number for loading actual costs, recurring versus non-recurring costs |
| **Control Account Manager** | 1 | Used in CAP and Pivot reports showing the responsibility matrix (RAM) and security for explanation of variance |
| **Work Package field** | 1 | Alternate rollup for reporting |
| **Codes assigned to a Work Package** | 20 | Change request number, location of the work, vendor, and codes from an activity in the schedule, and so on |
| **Code to use against the baseline changes and/or audit log** | 1 | Change numbers for audit log |
| **Code on codes** | 9 | Alternate codes for customer WBS, contract line item number (CLIN), Integrated Product Team (IPT) lead, and so on |

| Area | Number of codes that you can assign | Example |
|---|---|---|
| **Resource codes** | 9 | Cost centers, cost element codes, and so on |
| **Rates** | 2 | Overhead codes and so on |

**Parent-Child Relationships in Code Files**

If your code file has parent-child relationships or hierarchy, you are often allowed to select a level of the code file for reporting summaries or filters. It is helpful to create related codes at the same level. For example, the codes of cost (such as Labor, Material, and ODC) should all be at the same level of your resource file. Defining related codes at the same level allows you to easily report or filter on labor, for example. When you run a report, you can choose resources and then a level of the code file as a section criteria, or as a filter for reporting or processing your project.

Codes Pane

The Codes pane displays all code files to which you have access. Codes are used in roll-up reporting, filtering, and processing.

Double-click a code file to open it in Code view and view or edit the file. Right-click anywhere in the Codes pane to see a shortcut menu of options that are relevant to the selected code file.

The table below provides information on the default columns displayed in the Codes pane.

| Column | Description |
|---|---|
| **Code File** | This column displays the name of the code file. |
| **Description** | This column displays a brief description of the code file. |

Codes Pane Column Definitions

The Codes pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are displayed by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the Codes pane using the Insert Column dialog box and the Edit Column dialog box.

| Column | Description |
|---|---|
| **Code File** | This column displays the name of the code file. |
| **Description** | This column displays a brief description of the code file. |
| **Character** | This column displays the punctuation character used to separate the codes of the code file. |
| **Code Format** | This column displays the structure of the code file. |

| Column | Description |
|---|---|
| **Last Update** | This column displays the date when the code file was last updated. |
| **Level 1 - 20** | This column displays the level of the code structure. |
| **Maximum Code Length** | This column displays the maximum number of digit used per level in the code file. |
| **Maximum Code Level** | This column displays the maximum code level used in the code file. |
| **Sequence** | This column is used internally by Cobra. |
| **Threshold Flags** | This column displays the threshold setting options of the variances for the code file. |
| **User** | This column displays the individual who is currently accessing the code file. |

Shortcut Menu

Right-click the Codes pane to display the available commands and options that you can use in this pane.

| Option | Description |
|---|---|
|  **Open** | Click this option to open the selected code file. |
|  **New Code File** | Click this option to launch the New Code File Wizard, which you use to specify a filename, description, and other basic information to create a new code file. |
|  **Delete** | Click this option to delete the selected code file. |
|  **Rename** | Click this option to display the Rename dialog box, which you use to change the name of the selected code file. |
|  **Copy** | Click this option to create a copy of the selected code file and store copied information on the clipboard. |
|  | Click this option to paste copied information. |

| Option | Description |
|---|---|
| **Paste** | |
| **Find** | Click this option to display the Find dialog box. |
| **Properties** | Click this option to display the Code File Properties dialog box for the selected code file. |

*Rates*

Cobra uses rate sets to store multipliers that are used in generating derived costs.

Since rates may change over time, rate sets define the rate that is applicable on any given date. The principal use of rate sets in Cobra is the calculation of costs as defined by the various resources. You can also assign rate files when defining budget, actual, and forecast cost classes. A collection of rate sets is called a rate file.

Rates are used in resource calculations to define how derived costs are calculated. All projects must use a rate file to calculate the derived cost for the budget. Once a project is underway, the forecast rates often change. In addition, new scope may use the most current forecast rates. For this reason, you can assign a rate file to a class. This provides not only rate escalation, but a completely different set of rates for different costs.

Rates Pane

The Rates pane displays all rate files to which you have access. Rates are used in resource calculations to define how derived costs are calculated.

Double-click a rate file to open it in Rate view and view or edit the selected rate file. Right-click anywhere in the Rates pane to see a shortcut menu of options that are relevant to the selected rate file.

The table below provides information on the default columns displayed in the Rates pane.

| Column | Description |
|---|---|
| **Rate File** | This column displays the name of the rate file. |
| **Description** | This column displays a brief description of the rate file. |

Rates Pane Column Definitions

The Rates pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are displayed by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the Rates pane using the Insert Column dialog box and the Edit Column dialog box.

| Column | Description |
|---|---|
| **Rate File** | This column displays the name of the rate file. |
| **Description** | This column displays a brief description of the rate file. |
| **Last Update** | This column displays the date when the rate file was last updated. |
| **Sequence** | This column is used internally by Cobra. |
| **User** | This column displays the individual who is currently accessing the rate file. |

Shortcut Menu

Right-click the Rates pane to display the available commands and options that you can use.

| Option | Description |
|---|---|
| **Open** | Click this option to open the selected rate file. |
| **New Rate File** | Click this option to launch the New Rate File Wizard, which you use to specify a filename, description, and other basic information to create a new rate file. |
| **Delete** | Click this option to delete the selected rate file. |
| **Rename** | Click this option to display the Rename dialog box to change the name of the selected rate file. |
| **Copy** | Click this option to create a copy of the selected rate file and stores copied information on the clipboard. |
| **Paste** | Click this option to paste copied information. |
| **Find** | Click this option to display the Find dialog box. |

| Option | Description |
|---|---|
| **Properties** | Click this option to display the Rate File Properties dialog box for the selected rate file. |

*Resources*

Cobra project costs are entered as resource assignments. Resources are a combination of labor, material, and other direct costs associated with a project.

In most cases, a resource is defined as a skill or labor group with an average rate. Typically, estimators research past projects before defining these labor groups and standard labor rates. Common terms used by estimators are bid codes, skill categories, and labor pools. For example, resources can be Structural Engineer Grade 1, Technician, Clerical, Travel, and even Pipe. Using these skill groups as resources in Cobra is an efficient means of budgeting and controlling costs on a project.

While there are no limitations in Cobra, most implementations do not include the name of a person in the resource name. Most often, the benefit that could be gained from budgeting with this level of granularity does not outweigh the additional time it would take to maintain the system and explain variances due to changes in personnel.

In addition to using standard rates for budgeting, you need to also investigate your accounting system. When determining Estimate at Complete (EAC), it is helpful to have the actual costs use the same resource codes as the budgeting codes. Hopefully, the estimators coordinated with the accounting department a long time ago and the resource codes used in estimates are the same resource codes stored in the accounting system. If so, your resource codes in Cobra should correlate to these same codes.

Resources are typically assigned to a work package in a manner that is similar to assigning resources to an activity in a schedule. However, in Cobra, resources can also be at the control account level for planning packages, contingency amounts, and other items that do not earn value. Actual costs and forecasts are also typically resources assignments at the control account level.

Use the Resource view to edit or modify resource files. Use the New Resource File Wizard to create a new resource file. Use the Resource File Properties dialog box to view or change important information about the resource file.

**Video**

| Title | Description |
|---|---|
| Adding Resources to a Resource File | Learn how to add resources to a resource file. |
| Export and Import Resources and Calculations | Learn how to quickly enter data into a Cobra resource file by exporting to Excel, editing in Excel, and then importing the new resources and calculations. |

Resources Pane

The Resources pane displays all resource files to which you have access. Resources are a combination of labor, material, and other direct costs associated with a project.

Double-click a resource file to open it in Resource view and view or edit the selected resource file. Right-click anywhere in the Resources pane to see a shortcut menu of options that are relevant to the selected resource file.

The table below provides information on the default columns displayed in the Resources pane.

| Column | Description |
|---|---|
| **Resource File** | This column displays the name of the resource file. |
| **Description** | This column displays a brief description of the resource file. |

Resources Pane Column Definitions

The Resources pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are displayed by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the Resources pane using the Insert Column dialog box and the Edit Column dialog box.

| Column | Description |
|---|---|
| **Resource File** | This column displays the name of the resource file. |
| **Description** | This column displays a brief description of the resource file. |
| **Character** | This column displays the punctuation character used to separate the codes of the resource file. |
| **Code Type** | This column displays the structure of the code file used with the resource file. |
| **Currency Results** | This column displays the results selected as currency. |
| **Last Update** | This column displays the date when the resource file was last update. |
| **Level 1- 20** | This column displays the level of the code structure. |
| **Max Code length** | This column displays the maximum number of digit used per level in the resource file. |
| **Max Code Level** | This column displays the maximum code level used in the code file. |
| **Rate File** | This column displays the rate file used with resource file. |

| Column | Description |
|---|---|
| **Result List** | This column displays the results that you define to calculate against the resources in the resource file. |
| **Sequence** | This column is used internally by Cobra. |
| **Threshold Flags** | This column displays the threshold setting options of the variances for the resource file. |
| **User** | This column displays the individual who is currently accessing the resource file. |

Shortcut Menu

Right-click the Resources pane to display the available commands and options that you can use.

| Option | Description |
|---|---|
| **Open** | Click this option to open the selected resource file. |
| **New Resource File** | Click this option to launch the New Resource File Wizard, which you use to specify a filename, description, and other basic information to create a new resource file. |
| **Delete** | Click this option to delete the selected resource file. |
| **Rename** | Click this option to display the Rename dialog box, which you use to change the name of the selected resources file. |
| **Copy** | Click this option to create a copy of the selected resource file and store copied information on the clipboard. |
| **Paste** | Click this option to paste copied information. |
| **Find** | Click this option to display the Find dialog box. |

| Option | Description |
|---|---|
| **Properties** | Click this option to display the Resource File Properties dialog box for the selected resource file. |

*Reports*

Use the Reports feature of Cobra to generate reports that meet your firm's specific needs.

All Reports Pane

The All Reports pane displays all reports to which you have access.

To generate a report, run the Report Wizard to select the project, criteria, and other parameters needed for the report.

Right-click anywhere in the All Reports pane to see a shortcut menu of options that are relevant to the selected report. Use the Access Control tab of the Report Properties dialog box to view and modify report parameters and access rights.

The table below provides information on the default columns displayed in the All Reports pane.

| Column | Description |
|---|---|
| **Report** | This column displays the name of the report. |
| **Description** | This column displays a brief description of the report. |
| **Category** | This column displays the category to which the report belongs. |
| **Report Type** | This column displays the type of report. |

Personal Reports Pane

When you navigate through the Report Wizard, you can save your reporting selections for future use. The Personal Reports pane displays all of your saved report formats and lets you run these reports.

You save a report on the last page of the Report Wizard, and assign it any name you wish. Right-click anywhere in the Personal Reports pane to see a shortcut menu of options that are relevant to the selected report.

### Granting Access to Reports

If you are the owner of a report or a member of the SYSADMIN group, you can give other users access to a report using the Access Control page of the Report Wizard or the Access Control tab of the Report Properties dialog box. You can make the report read-only to prevent others from changing your selections.

You will see all reports to which you have access in the All Reports pane, but only see the reports that you own in the Personal Reports pane.

By default, the user SYSADMIN is the owner of all reports. When you log onto Cobra as SYSADMIN, you will see all reports in the Personal Reports pane. If you are a member of the SYSADMIN group, you can change the owner of any saved report.
The table below provides information on the default columns displayed in the Personal Reports pane.

| Column | Description |
|---|---|
| **Report** | This column displays the name of the report. |
| **Description** | This column displays a brief description of the report. |
| **Category** | This column displays the category to which the report belongs. |
| **Report Type** | This column displays the type of report. |

Reports Pane Column Definitions

The Reports pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are displayed by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the All Reports pane or Personal Reports pane using the Insert Column dialog box and the Edit Column dialog box.

| Column | Description |
|---|---|
| **Report** | This column displays the name of the report. |
| **Description** | This column displays a brief description of the report. |
| **Category** | This column displays the category to which the report belongs. |
| **Report Type** | This column displays the type of report. |
| **Information** | This column displays the information entered on the report. |
| **Last Update** | This column displays the date when the report was last updated. |
| **Owner** | This column displays the owner of the report. |
| **Report Definition** | This column displays the parameters associated with the report. |
| **Report.ReportUid** | This column displays the report ID. |
| **Saved Report** | This column indicates whether the report is saved or not. |
| **Sequence** | This column is used internally by Cobra. |
| **Table Type** | This column displays the table where data for the report is retrieved from. |

| Column | Description |
|---|---|
| **User** | This column displays the individual who is currently accessing the report. |

Shortcut Menu

Right-click the All Reports pane or the Personal Reports pane to display the available commands and options that you can use.

| Option | Description |
|---|---|
| **Report Wizard** | Click this option to launch the Report Wizard. |
| **Delete** | Click this option to delete the selected report. |
| **Copy** | Click this option to create a copy of the selected report and store the copied information on the clipboard. |
| **Paste** | Click this option to paste copied information. |
| **Find** | Click this option to display the Find dialog box. |
| **Properties** | Click this option to display the Report Properties dialog box for the selected report. |

Batch Reports Pane

Use the Batch Reports pane to create, maintain, and run batch reports. A batch report is a group of reports that you generate with a single operation.

Right-click anywhere in the Batch Reports pane to see a shortcut menu of options that are relevant to the selected report.

The Batch Reports pane is divided into two grids: Batch Reports and Included Reports.

### Contents

By default, the Batch Reports and Included Reports panes display the columns described in the tables below. However, you can change the way columns are displayed by right-clicking a column header and selecting an option on the shortcut menu.

### Batch Reports Pane

The table below provides information on the default columns displayed in the Batch Reports pane.

| Column | Description |
|---|---|
| **Batch Report** | This column displays the name of the batch report. |
| **Description** | This column displays a brief description of the batch report. |
| **Project** | This column displays the project that the batch report is run against. |
| **Output Type** | This column displays the output type for the report. |
| **Output Path** | This column displays the directory where the report is saved. |

### Included Reports Pane

The table below provides information on the default columns displayed in the Included Reports pane.

| Column | Description |
|---|---|
| **Report** | This column displays each report included in the batch report. |
| **Filter** | This column displays the any filter that is saved with the report. |
| **Sort** | This column displays any sort that is saved with the report. |
| **Access** | This column displays whether the report is personal or shared. |
| **Owner** | This column displays the owner of the report. |

Batch Reports Pane Column Definitions

The Personal Reports pane of the Cobra Explorer displays a set of standard columns.

You can change the way columns are displayed by right-clicking a column header and selecting an option from the shortcut menu. You can insert or edit a column in the Batch Reports pane using the Insert Column dialog box and the Edit Column dialog box.

### Batch Reports Pane

| Column | Description |
|---|---|
| **Batch Report** | This column displays the name of the batch report. |
| **Description** | This column displays a brief description of the batch report. |
| **Project** | This column displays the project that the batch report is run against. |
| **Output Type** | This column displays the output type for the report. |
| **Output Path** | This column displays the directory where the report is saved. |
| **BatchReport.BatchRepUid** | This column displays the batch report ID. |
| **BatchReport.IsSubFolder** | This column indicates whether the output of the included reports is stored in a sub-folder under the output path you defined or not. |
| **BatchReport.Lastupdate** | This column displays the date when the batch report was last updated. |
| **BatchReport.OutputLocation** | This column displays the directory where the batch report is saved. |
| **BatchReport.OwnerId** | This column displays the owner of the batch report. |
| **BatchReport.ProjectId** | This column displays the project used in the batch report. |
| **BatchReport.Sequence** | This column is used internally by Cobra. |
| **BatchReport.UserId** | This column displays the individual who is currently accessing the batch report. |

### Included Reports Pane

| Column | Description |
|---|---|
| **Report** | This column displays each report included in the batch report. |
| **Filter** | This column displays the any filter that is saved with the report. |
| **Sort** | This column displays any sort that is saved with the report. |
| **Batch Report** | This column displays the name of the batch report where the report is included. |

| Column | Description |
|---|---|
| **Filter Shared** | This column indicates whether the filter used in the included report is shared or not. |
| **Last Update** | This column displays the date when the included report was last updated. |
| **Line** | This column displays the report count. |
| **Access** | This column displays whether the report is personal or shared. |
| **Owner** | This column displays the owner of the report. |
| **Sequence** | This column is used internally by Cobra. |
| **Sort Shared** | This column indicates whether the sort used in the included report is shared or not. |
| **User** | This column displays the individual who is currently accessing the batch report. |

Shortcut Menu

Right-click the Batch Reports pane to display the available commands and option that you can use in this pane.

**Batch Reports Grid**

| Option | Description |
|---|---|
| **Add** | Click this option to display the Add Batch Report dialog box, which you use to create a batch report. |
| **Copy** | Click this option to display the Copy Batch Report dialog box, which you use to copy a batch report. |
| **Edit** | Click this option to display the Edit Batch Report dialog box, which you use to edit the selected batch report. |
| **Delete** | Click this option to delete the selected batch report. |
| **Run** | Click this option to run the batch report process. |

| Option | Description |
|---|---|
| **Find** | Click this option to display the Find dialog box. |

**Included Reports Grid**

| Option | Description |
|---|---|
| **Copy** | Click this option to create a copy of the selected report and store the copied information on the clipboard. |
| **Paste** | Click this option to paste copied information. |
| **Find** | Click this option to display the Find dialog box. |

### Keyboard Shortcuts

You can use keyboard shortcuts in place of many commands and options.

The table below provides information on the keyboard shortcuts that you can utilize.

| Keyboard Shortcut | Function |
|---|---|
| **CTRL+C** | Copy |
| **CTRL+V** | Paste |
| **CTRL+Z** | Undo |
| **CTRL+Down Arrow** | Go to the bottom row in the grid |
| **CTRL+Up Arrow** | Go to the top row in the grid |
| **CTRL+Right Arrow** | Go to the rightmost column |
| **CTRL+Left Arrow** | Go to the leftmost column |
| **CTRL+TAB** | Move forward through the View tabs |
| **CTRL+SHIFT+TAB** | Move backward through the View tabs |
| **SPACEBAR** | Selects or clears a box if the active option is a checkbox |
| **F1** | Displays the online help for |

| Keyboard Shortcut | Function |
|---|---|
| **ALT+SPACEBAR** | Displays the menu for the active window |
| **CTRL+HOME** | Go to the top of the list |
| **CTRL+END** | Go to the bottom of the list |
| **HOME** | Go to the first cell or column in a row |
| **END** | Go to the first cell or column in a row |
| **PAGE UP** | Same as CTRL+Up Arrow |
| **PAGE DOWN** | Same as CTRL+Down Arrow |
| **CTRL+O** | Open |
| **CTL+S** | Save |
| **CTRL+F4** | Close |

# File Management

Use the Cobra file management features to back up and restore files, change your password, and perform other file-related processes.

## File Backup

In addition to performing a normal database backup, you can also back up selected Cobra data so that it can be restored without restoring the entire database.

### Back Up Projects

Backing up your projects is an important part of the monthly cycle for a couple of reasons:

- To produce a report for a prior period, backup your data before you advance the calendar
- To revert the effects of global process, such as Replan, Recalc, or Reclass, backup before running a process

Since the calendar with the correct status date is required to produce reports, it is automatically included during backup even if you do not select the **Include project ancillary files** option on the Backup dialog box. To include the remaining ancillary files (rates, codes, and resources), you must select this option.

For more information about performance and backing up ancillary files, see Back Up Master Projects or refer to KB Article # 77099 in the Knowledge Center of the Deltek Support Center.

### Back Up Master Projects

You must back up the master project in a multi-project environment. The master project backup contains the ancillary data assigned to the master project. The ancillary data is backed up only once — not in each project. This reduces the time and disk space required to back up your project data as part of you month-end process before advancing the calendar. For example, if a rate file is used by one of the sub-projects and not in the master project, that rate file is backed up in that project.

Backing up a master project automatically creates separate project (.CMP) files for the master project and all of its subprojects. You can then restore the master project and subprojects separately. This allows you to be selective about the projects that you restore.

### Back Up Reports and Templates

You can back up saved reports or customized templates. The backup contains the report or template and the saved settings.

### Back Up Batch Reports

You can also back up a batch report, which backs up the definition of the reports included in the batch. You must still back up the reports themselves so that you can perform a full system recovery if needed.

### Back Up Sorts and Filters

You can back up the sorts and filters created in the Report wizard.

### Back Up Configurations

When you use the Integration wizard, the wInsight wizard, or the Cost Data wizard, you can save your settings for the wizard. Cobra stores these settings in the database and lets you assign access control to them. Use the Backup utility to back up a copy of your saved configurations.

## Back Up Your Data

You can back up multiple projects, reports, report sorts, filters, or configurations at a time using Cobra's backup utility.

You can only back up and restore data for projects to which you have access.

**To back up data:**

1. Display the Backup dialog box by taking one of the following actions:
   - Click  » **Manage** » **Backup**.
   - In the Cobra Explorer, click the **Projects** group bar, right-click a project, and select **Backup**.
2. On the Backup dialog box, use the **Files of Type** drop-down list to select the type of data that you want to back up.

   The grid displays all files of the type that you selected. For example, if you selected **Project** in the **Files of Type** field, the grid displays all available projects that you have permission to access.
3. Select **Include project ancillary files** to back up rate, code, and resource files used in the projects.

   This option is available only if you selected **Project** or **Master Project** in the **Files of Type** field.

4. Click **Backup** to back up the files.

### Backup Dialog Box

Use this dialog box to back up files.

**Contents**

| Field | Description |
|---|---|
| **Files of Type** | Use this field to select the type of file to back up. Your options are as follows:<br>▪ Projects<br>▪ Master Projects<br>▪ Reports<br>▪ Batch Reports<br>▪ Report Filters<br>▪ Report Sorts<br>▪ Integration Configuration Definitions<br>▪ wInsight Configuration Definitions<br>▪ Acumen Configuration Definitions |
| **Include project ancillary files** | Select this option to back up the ancillary files used in the selected projects or master projects. |

*Display the Backup Dialog Box*

Use this field to display the Backup dialog box.

**To display the Backup dialog box:**

Take one of the following actions:

- Click » **Manage** » **Backup**.
- In the Cobra Explorer, click the **Projects** group bar, right-click a project, and select **Backup**.

## File Restore

Use the Restore utility to take the data from backup files and bring it into the Cobra database. You can only restore files to which you have access.

You can only back up and restore data for projects to which you have access. You can restore any of the file types for which you can make backups using the Backup utility.

| File Type | Extension |
|---|---|
| Projects | .CMP |
| Master Projects | .CMP |
| Reports | .CRP |
| Batch Reports | .CBR |
| Report Filters | .CFT |
| Report Sorts | .CST |
| Acumen Configuration Definitions | .ACD |
| Integration Configuration Definitions | .ICD |
| wInsight Configuration Definitions | .WCD |

When you restore files using the Restore utility, the files are restored in the order they appear in the Open dialog box.

**Note:** Cobra requires an exclusive lock on a project to successfully restore backup files. If the backup files are being restored to a project that is locked by another user, Cobra will not proceed with the restore.

### Restore Data from a Backup File

Use the Restore dialog box to restore data from backup files. You can restore data to the original project, sort, and configuration, or to a new or different place.

You can only back up and restore files to which you have access.

Cobra requires an exclusive lock on a project to successfully restore backup files. If the backup files are being restored to a project that is locked by another user, Cobra will not proceed with the restoration.

**Note:** Cobra only restores backup files for versions 5.0 or higher.

**To restore from a backup file:**

1. Click » **Manage** » **Restore**.

2. On the Open dialog box, select the type of data that you want to restore from the **Files of type** drop-down.

   Cobra displays all of the files of the type you chose to which you have access.

3. Select the files that you want to restore, and click **Open**.

   You can select multiple files by clicking the files while pressing the Ctrl button on your keyboard. If you choose this option, you will not be able to restore a file to a new or different project, sort, configuration, and so on. Cobra will restore the selected backup files to their original places. Skip Step 4.

   If you are restoring a project, you can also restore calendar files, code files (including codes assigned to control account fields, codes on control accounts and work packages, codes on resources, and codes on rate files), rate files (including rate files assigned to classes), and resource files. Click **Select All** if you want to restore all files.

4. In the **Restore as** field of the Restore dialog box:

   - To select a different project, sort, and configuration to receive the restored data, click ... to display the Lookup dialog box.
   - To create a new project, sort, and configuration to receive the restored data, enter the name of the new target in this field.

     When you restore a project with a new name, you can not specify a different name for the ancillary files. If you specify a different project name, the calendar file is restored to the same name.

5. Click **Restore**. When Cobra prompts you to confirm the restore, click **Yes**.

### Restore Dialog Box

Use this dialog box to restore backup files.

You can only back up and restore data for projects to which you have access.

**Contents**

| Field | Description |
|---|---|
| **Restore as** | Use this field to restore a backup file to a different file or new file.<br>▪ To select a different file, click ... to display the Lookup dialog box.<br>▪ To create a new file, enter the name of the new file in this field. |

*Display the Restore Dialog Box*

Display the Restore dialog box to restore backup files.

**To display the Select Files to Restore dialog box for non-project file types:**

1. Click  » **Manage** » **Restore**.

2. On the Open dialog box, select any file from the **Files of type** field except **Legacy Project Backups (*.cmp)**.
3. Select the file to restore, and click **OK**.

### Select Files to Restore Dialog Box

Use this dialog box to restore the data for a project or master project.

You also have the option to restore specific ancillary files for a project instead of restoring the project with all of its ancillary files included.

You only see this dialog box if you choose **Project Backups (*.cmp)** from the **Files of type** drop-down list, meaning that you are restoring project or master project files.

You can only back up and restore data for projects to which you have access. Ancillary files that correspond to an existing Cobra file that you do not have access to overwrite are greyed-out and cannot be restored.

**Contents**

| Field | Description |
|---|---|
| **Restore Project as** | Use this field to restore the project or master project and the selected ancillary files to a different project or a new project:<br>▪ To select a different project, click ... to display the Project Lookup dialog box.<br>▪ To create a new project, enter the name of the new project in this field. |

*Display the Select Files to Restore Dialog Box*

Use this procedure to display the Select Files to Restore dialog box.

**To display the Select Files to Restore dialog box:**

1. Click » **Manage** » **Restore**.
2. In the Open dialog box, select **Project Backups (*.cmp)** from the **Files of type** field to display available project backups.
3. Select a project, and click **OK**.

## Restoring Reports and Configurations

Cobra follows a set of rules when restoring reports and configurations.

These rules and conditions are as follows:

- You cannot have two shared files with the same name, regardless of the users or groups they are shared with.
- Restoring as a SYSADMIN user uses the owner on the backup file as the OWNER of the file being restored.
- Restoring as a non-SYSADMIN user uses the currently logged-in user as the OWNER of the file being restored.
- The access control information of the backup file is always restored. You can not can restore a shared report as personal.
- If a shared report with the same name exists:
  - If the shared report belongs to a different owner, Cobra displays a message to restore the file using another name.
  - If the shared report belongs to the same owner, Cobra displays a confirmation prompt to overwrite the existing file.
- If a shared report with the same name does not exist, and a personal report which belongs to the same owner with the same name exists, Cobra displays a confirmation prompt to overwrite the existing file.
- If a personal or shared report with the same name exists and belongs to the same owner, Cobra displays a confirmation prompt to overwrite the existing file.

## Custom Project Tables

You can include custom tables as part of a Cobra project.

For example, you can create a custom table called MYCUSTOM with the following columns:

- PROGRAM
- CA1
- CA2
- CA3
- DESCRIP

You can populate the table with data from the project DEMOADV, using this SQL Command query:

```
SELECT PROGRAM, CA1, CA2, CA3, DESCRIP INTO mycustom FROM CAWP WHERE
PROGRAM = 'DEMOADV'
```

To make Cobra aware of the custom table, add a reference to USERTBLS with this query:

```
INSERT INTO usertbls (keyfield, tablename) VALUES ('PROGRAM',
'MYCUSTOM')
```

You can now back up, restore, or copy your project with your custom table data.

Cobra edits the custom table when you use it in the following processes:

- **Backup**: When you back up a project, Cobra backs up records with a name found in your custom table.
- **Restore**: When you restore the project, data in the custom table with the same name is deleted from the custom table and replaced with data from the backup. If the project is restored with a new name, the custom table is populated with the backup data, using the new project name.
- **Delete**: If a Cobra project is deleted, the data in the custom table is also deleted.
- **Save As**: When you copy a project using the Save As operation, Cobra checks the USERTBLS table and copies any user table data related to the program being copied.

### Identify a Custom Table

After you create a custom table, you must make Cobra aware of its existence.

**To identify a custom table to Cobra:**

1. Add new records to the USERTBLS table.
2. Enter the word **PROGRAM** in the **KEYFIELD** column and your custom table name in the **TABLENAME** column.

   Your custom table must include a column named **PROGRAM**, which identifies the Cobra project.

## Process Cycle

Cobra provides a set of powerful and flexible software tools for developing project management systems that can accommodate virtually any cost/schedule application, including the validation of projects for EVMS purposes.

By placing many of the basic design decisions in the hands of the user, it is possible to extend the capabilities of Cobra in a number of different directions without having the added expense and complexity of custom programming. At the same time, maintaining all data in database file format makes it a relatively simple task to integrate Cobra data into external systems.

The same goals of flexibility, convenience, and power apply to the entry, manipulation, and reporting of data in Cobra. Although Cobra defines the concepts that underlie its operations very specifically, all are based on a basic cost/schedule methodology that most project managers are familiar with.

### Cobra Components

Learn about the Cobra calendar, codes, rates, resources, and classes and cost sets.

When you first set up Cobra, you need to configure the system to reflect some of your basic business related standards such as your calendar, resources, rates, reporting and so on. After they are set up, you can associate these components with each new project you create.

In this section we describe these components in more detail so you can get a sense of how flexible they are and how they affect your project. If you really want to understand the components in detail, access the links that are included in the various component topics.

| Calendars | Related Topics |
|---|---|
| The first step is to create the primary calendar with calendar periods. The date and time spans determine how budget is spread across reporting periods, how costs are summarized, and how the information is displayed in reports.<br>The calendar periods can be different lengths as long as they span the entire duration of the project. When you add information to a project, it is stored in the calendar period buckets defined by the calendar. It's a best practice to extend your calendar beyond the expected finish date, to account for potential slippage.<br>You can create a new calendar by clicking **New** and selecting **Calendar**. Use the Calendar Edit tab options to generate calendar periods, calculate hours, and edit the calendar properties, among other things. | **Learn more about...**<br>Calendars<br>Calendar Sets<br>Edit Tab of the Calendar View<br>Calendar File Properties Dialog Box<br>**How to ...**<br>Create a New Calendar<br>Add Holidays to a Calendar<br>Add Calendar Sets |

| Codes | Related Topics |
|---|---|
| Codes are used to view information in different ways. You can use them to filter, group, and aggregate data for reporting purposes. For example, you might want to know how many contractors you have working in New York, or you might want to see the structural design costs in the Design department.<br>Some additional examples of code files might include, a list of managers, a list of charge numbers, or a hierarchical structure such as a work breakdown structure (WBS).<br>You can use codes for projects, control accounts, work packages, resource assignments, and ancillary data. After creating a code file and assigning it, the codes are included in pick lists and accessed during data entry. | **Learn more about...**<br>Codes<br>Code Files<br>Codes and the Report Wizard<br>Code File Property Dialog Box<br>Code Assignments Tab of the Project Properties Dialog Box<br>Variance Thresholds<br>Report Wizard<br>**How to ...**<br>Create a New Code File<br>Assign Codes to a Project<br>Enable a User to Access a Code File |

| Rates | Related Topics |
|---|---|
| **Rates**<br>Rates are used in resource calculations to define how costs are calculated. Since rates may change over time, you create a rate set which is a list of rates and the date each one goes into effect. The rates defined in a rate set | **Learn more about...**<br>Rates<br>Rate Sets<br>Rate Files<br>Example Rate File |

| Rates | Related Topics |
|---|---|
| can represent direct unburdened hourly rates, overhead rates, currency exchange rates, or any other type of multiplier whose value can be predicted over time.<br>Rates are always defined before resources because you need to select a rate when you create the resource.<br>**Rate File**<br>A collection of rate sets is called a rate file. Different rate files typically include the same rate sets but with different rates. You can use multiple rate files in a project. | Rate Sets<br>Rate File Properties Dialog Box<br>**How to ...**<br>Add a Rate to an Existing Rate Set |

| Resources | Related Topics |
|---|---|
| Resources are the people (labor), material, and other related costs such as travel, subcontractors, and so on, that are assigned to work and in turn produce the costs associated with the project scope.<br>The list of resources can be a flat list or it can be hierarchical to roll up for reporting purposes. The icon next to each resource indicates where resource calculations occur.<br>Most often, the list of resources does not include names. For example, it is more typical to create a resource titled Engineer than a resource titled John (who is an Engineer). This makes it easier to maintain the project without having to keep up with personnel changes. | **Learn more about...**<br>Resources<br>Define Costs for Resources<br>Calculations Tab of the Resource View<br>Resource Components<br>**How to ...**<br>Create a New Resource File<br>Add a Resource to a Resource File<br>Add Calculations to a Resource<br>Copy Calculations from Another Resource |

| Classes and Cost Sets | Related Topics |
|---|---|
| There are four types of cost sets in Cobra that you use to define different types of costs:<br>▪ Budgets<br>▪ Earned value<br>▪ Actuals<br>▪ Forecasts<br>For budgets, actuals, and forecasts, you can define different cost classes to group related costs together for reporting. For example, you can distinguish between different funding sources when budgeting, or distinguish | **Learn more about...**<br>Classes and Cost Sets<br>Class Overview<br>Custom Cost Classes<br>**How to ...**<br>Create a New Class<br>Create a New Cost Set |

| Classes and Cost Sets | Related Topics |
|---|---|
| between accounting, invoiced, or incurred actual costs.<br>Cobra also allows you to create custom budget, forecast, and actual cost classes for special-purpose cost tracking. Some examples might include items such as funding profiles, alternative forecasts, and budgets. | |

## Organize Project Information

Organizing project information in Cobra refers to the process of deciding how basic project information will be entered, stored, and made available for reporting.

Although it is possible to set up a project in Cobra without all of these data structures in place, most experienced project managers prefer to work out the implications of the project requirements in advance.

Cobra provides a number of tools for setting up these files, including the ability to copy existing files, which can be modified when necessary.

## Set Up Projects and Project Baselines

Once you have settled on the design of your project management system, you are ready to set up your projects and enter baseline information.

Organizing project information in Cobra involves deciding how basic project information will be entered, stored, and made available for reporting. It relies on a number of data structures, including code files, calendars, resources, rates, and cost classes and sets.

In Cobra, this typically consists of the following procedures:

1. Create the project.
2. Plan control accounts and work packages.
3. Import information from a schedule.
4. Set the project baseline.

| Create the Project | Related Topics |
|---|---|
| When you set up a new project in Cobra, you define all the basic information about the project, including the code files, calendar, resource, and rate files associated with the project.<br>You can also indicate: | **Learn more about ...**<br>Projects<br>Project Properties Dialog Box<br>**How to...**<br>Enter Budget Information<br>Synchronize Status Dates<br>Assign Ancillary Files to a Project<br>Select the Level at Which to Capture Actual Costs |

| Create the Project | Related Topics |
| --- | --- |
| ▪ Whether you want to capture actual costs at the control account or work package level.<br>▪ The start and finish dates for the project.<br>▪ How Cobra should handle spreading budgets for fiscal periods that contain different numbers of working days.<br><br>Once you have created a project, you can define information such as contract/budget values, links to a scheduling network, associated code files, and so on. | |

| Plan Control Accounts and Work Packages | Related Topics |
| --- | --- |
| Once you set up your project in Cobra, you can enter budget baselines for control accounts and work packages. This is a multi-step process:<br>1. Define control accounts and work packages.<br>2. Enter scheduled start and completion dates for each control account and work package. (Optionally, you can import these dates automatically from a schedule such as Open Plan, Primavera Project Planner, or Microsoft Project.)<br>3. Select an appropriate earned value management technique for each work package.<br>4. If the progress technique calls for milestones or steps for the purpose of calculating earned value, define these.<br>5. Use resources to assign a budget to each work package. | **Learn more about ...**<br>Control Accounts and Work Packages<br>Milestones/Steps<br>Validity Check<br>**How to...**<br>Add a New Control Account<br>Add a New Work Package<br>Select the Earned Value Method |

| Plan Control Accounts and Work Packages | Related Topics |
|---|---|
| 6. Spread the budget over time to obtain a time-phased budget.<br>Cobra can also perform validations before storing the information, checking that:<br>▪ Control account and work package keys are unique.<br>▪ Every work package belongs to a valid control account.<br>▪ Any keys based on code files are valid and have not resulted in a control account being the parent or child of another control account.<br>▪ The assigned resources are valid.<br>▪ If milestones have been defined, Cobra checks that the budget is spread within 5% of the milestone weights. This helps ensure that you are able to earn value in the period during which the costs were budgeted. | |

| Import Information from a Schedule | Related Topics |
|---|---|
| Cobra is designed to work without reference to a schedule. However, using the critical path method of scheduling is an effective way of establishing schedule dates and monitoring progress. Therefore, Cobra allows you to import scheduling information.<br>You can create your entire Cobra project directly from a schedule. You can transfer control accounts, work packages, and resources from the schedule and maintain the resource profile. You can also generate status and a complete forecasts from the schedule. This feature not only saves | **Learn more about ...**<br>Prepare Cobra for Schedule Integration<br>Share Cost and Schedule Information<br>File Format for Importing Status Information<br>Integration Wizard-Scheduling Tools and Files<br>Integrate Project Data Process<br>**How to...**<br>Import Data From Scheduling Tools and Files |

| Import Information from a Schedule | Related Topics |
| --- | --- |
| data entry time, it also greatly reduces the risk of data entry error. | |

| Track the Project Baseline with Project Audit Logging | Related Topics |
| --- | --- |
| Once you finish planning your control accounts and work packages, you can set the project baseline. After you verify that the initial contract values are correct, you can turn on project auditing.<br>Once auditing is turned on, it creates a baseline log file for the project. Thereafter, Cobra automatically records any movement occurring between different budget accounts as the result of budget transactions at the control account, work package, or resource level. You can also use the project auditing log to monitor funds that are transferred between accounts manually. These transactions are identified by a reference number and a comment that you enter, allowing the record to be used for change control purposes.<br>The use of project auditing is optional in Cobra. If used, however, it provides one way for project managers and clients to check on the authorization and movement of funds between different budget accounts. For example, you can use the project auditing log to view information about:<br>▪ Contract Target Cost<br>▪ Authorized Unpriced Work<br>▪ Contract Budget Baseline<br>▪ Management Reserve<br>▪ Distributed Budget<br>▪ Undistributed Budget<br>▪ Over Target Baseline | **Learn more about ...**<br>Audit Logging<br>Project Audit Logging<br>Log Significant Changes for IPMR Format 3 Reports<br>Round off Audit Log Transactions<br>**How to...**<br>Reconcile Project Logs Using the Project Audit Wizard |

| Track the Project Baseline with Project Audit Logging | Related Topics |
|---|---|
| The baseline log file contains the following information for each transaction.<br>▪ Control account/work package ID<br>▪ Resource code<br>▪ Batch reference number<br>▪ Account credited<br>▪ Amount of credit<br>▪ Account debited<br>▪ Amount of debit<br>▪ Comments entered at the time of the transaction<br>▪ Change number<br>▪ Date of the transaction<br>▪ User ID | |

## Progressing

Once you have established a project baseline, you are ready to begin entering ongoing project information and monitoring the progress of your projects. For each project you advance the calendar, roll the wave, enter status information, calculate earned value, enter actual costs, and generate revised forecasts.

In Cobra, the monthly status cycle consists of a simple sequence of steps:

- Advancing the calendar
- Rolling the wave
- Entering status information
- Calculating earned value
- Entering actual costs
- Generating revised forecasts

| Advancing the calendar | Related Topics |
|---|---|
| At the end of a period, the calendar is advanced to indicate the next status date. The Advance Calendar process is run on each period to perform a number of | ▪ Advance Calendar<br>▪ Advancing the Calendar<br>▪ Synchronize Status Dates |

| Advancing the calendar | Related Topics |
|---|---|
| operations, capture data, update current period amounts in the project, and update calendar.<br>Using the API, advancing the calendar can be automated. | |

| Rolling the wave | Related Topics |
|---|---|
| If the calendar is advanced and you are reporting earned value weekly in a rolling window, the rolling wave operation expands the monthly data into weekly periods.<br>Using the API, rolling the wave can be automated. | ▪ Rolling Wave<br>▪ Assign Rolling Wave Calendar to the Project<br>▪ Create a Rolling Wave Calendar<br>▪ Rolling Wave Process<br>▪ Rolling Wave Dialog Box of the Project Properties Dialog Box<br>▪ Run the Rolling Wave Process |

| Entering status information | Related Topics |
|---|---|
| Status information in Cobra most often refers to estimated and actual dates, although performance can also be measured through a direct estimate of physical completion or the number of units produced. It is possible to enter some or all of this type of information using any of the following methods:<br>▪ Direct manual entry<br>▪ Automatic entry from a schedule that has already been progressed<br>▪ Automatic entry from a suitably prepared transaction file<br>If you want to update the status of a project using information from a schedule, Cobra lets you transfer actual dates or update estimated dates using either early dates, late dates, or dates calculated by resource scheduling. You can also transfer information related to the physical completion of the planned work.<br>Using the Project Preferences tab of the Project Properties dialog box, you can | ▪ Data Import Using Scheduling Tools and Files<br>▪ Data Import-Status Data<br>▪ Status Page of the Integration Wizard<br>▪ Importing Status Data into Cobra<br>▪ File Format for Importing Status Information<br>▪ Integrate Project Data Process<br>▪ Project Preferences |

| Entering status information | Related Topics |
| --- | --- |
| configure rules such as allowing the removal of actual finish date for a completed control account/work package.<br>Using the API, importing status data can be automated. | |

| Calculating earned value | Related Topics |
| --- | --- |
| Progress techniques are the methods used to calculate earned value. Different methods are appropriate to different work packages, due either to the nature of the work or to the planned duration of the work package. All commonly used progress techniques are supported by Cobra.<br>The earned value calculations in Cobra examine each work package and interpret the progress technique according to the appropriate indicators of progress. For example, if the progress technique is "0-100" (all value is earned upon completion of the work package), Cobra only needs to look at the actual completion date. If the completion date is set and is prior to the current status date, the work package is complete and 100% of its original budget is earned. On the other hand, if the progress technique is the weighted milestone method, the project must do a more complex calculation based on the achievement of individual milestone dates.<br>Although Cobra offers a number of methods for calculating earned value, the default calculation generates a value for the cumulative earned value in terms of the first result. In other words, a work package that is budgeted using hours and is 30% complete earns 30% of its budgeted hours. The cumulative earned value in the various derived costs is calculated from the first result, based on the rule that the budgets must be earned at the rates applicable to the original budget. | ▪ Calculate Progress<br>▪ How Cobra Calculates Progress to Determine Earned Value<br>▪ Earned Value Methods<br>▪ Progress Techniques<br>▪ Sample Earned Value Calculation<br>▪ Add a Second Earned Value Class to Your Project<br>▪ Calculate Progress<br>▪ Earned Preferences<br>▪ Calculate Progress Process |

| Calculating earned value | Related Topics |
|---|---|
| Finally, earned values for the current period are calculated by subtracting previously recorded earned value for each resource assigned to this work package from its cumulative earned value. A single record is then posted to the project representing the value earned for the work package in the current period. (The date assigned to the current period is the current status date of the project.)<br>Using Project Preferences, you can define a number of rules on how earned value is calculated.<br>Using the API, earned value calculation can be automated. | |

| Entering actual costs | Related Topics |
|---|---|
| You cannot enter actual costs prior to entering status information because Cobra normally does not allow actual costs to be assigned to planned control accounts or work packages. (This default can be changed with a project option.) As a result, actual costs are normally entered after the calculation of earned value but before the generation of new project forecasts.<br>Cobra always stores actual costs as a current period value. If actual costs are entered as a cumulative value, current period values are calculated by subtracting previously recorded actual costs and then posting a current period value.<br>Cobra lets you enter actual costs:<br>▪ Enter actual costs at either the control account or the work package level.<br>▪ Enter actual costs as either current period or cumulative-to-date values. | ▪ Data Import-Actual Costs<br>▪ Integration Wizard-Actual Costs<br>▪ Actual Cost Preferences<br>▪ Integrate Actual Costs Process |

| Entering actual costs | Related Topics |
| --- | --- |
| ▪ Enter actual costs using the first result of the resource and have Cobra generate calculated costs, or enter some or all of the derived costs manually.<br>▪ Enter actual costs manually or automatically from a transaction file prepared by another system.<br>Cobra recognizes files in either comma separated value (CSV) or .dbf formats. These files contain either current period or cumulative-to-date values. It is also relatively easy to set up a custom facility for mapping charge account numbers to control accounts or work packages.<br>Using the API, importing of actual costs can be automated. | |

| Generating revised forecasts | Related Topics |
| --- | --- |
| Once you have calculated earned value and entered actual costs, you are ready to generate new forecasts for the project based on the updated information.<br>Cobra's forecasting tools are very flexible, allowing you to calculate at-completion costs (EAC) using either manual or statistical forecasts:<br>▪ Manual forecasts are “bottom-up” forecasts in which you update forecasts for work packages or control accounts on an individual basis. You initialize forecasts using baseline budgets at the start of the contract, then update the forecasts of specific work packages or control accounts on an exception basis. Cobra provides two manual forecasting methods: unchanged. | ▪ Forecast<br>▪ Manual Forecasts<br>▪ Forecast Preferences<br>▪ Classes Tab of the Project Properties Dialog Box<br>▪ Calculate Forecast Process |

| Generating revised forecasts | Related Topics |
| --- | --- |
| ▪ **Method M: Manual (retain ETC)**: With this method, Cobra deletes the previous period costs and leaves the remaining time-phased ETC<br>▪ **Method A: Manual (retain EAC)**: With this method, Cobra performs the same actions as in Method M but keeps the existing forecast constant by adjusting the ETC.<br>▪ Statistical forecasts let you calculate revised ETC and forecast values without manual input. Performance factors (PFs) used in the generation of statistical forecasts can be calculated using Cost Performance Index (CPI) and Schedule Performance Index (SPI) values, or can be derived from user-defined values. It is also possible to use different forecasting techniques depending on how much of the work package is complete.<br>These performance factors can be calculated at the level of the entire project, the control account, the work package, or at a specific level in a code file, allowing for more precision in using these forecasts for project management and reporting.<br>You can opt to maintain multiple forecasts for the project, each forecast based on different assumptions about future performance. You can also set up forecasts that use alternate rate sets for calculating costs under different scenarios.<br>Using the API, forecast calculation can be automated. | |

# Reporting

Cobra features a complete set of standard cost/schedule reports, a number of which were designed to comply with EVMS guidelines.

### Reporting at Different Levels

Normally, you are not required to provide earned value reports to customers at the work package level. Under most EVMS guidelines, the lowest level at which reporting is required is the control account level, one level above the work package level. In fact, you do not need to collect actual costs at the work package level as long as budgets are defined and earned value is calculated at the work package level.

Client reports often require data at a higher level than the control account level. For example, you might break a project down into just eight or ten line items that can be shown on a single page. But you can also produce lower level reports on an exception basis.

As an aid to exception reporting, Cobra lets you define hierarchical code files and specify variance thresholds, allowing you to trigger reports at each level. Typically, a project is defined so that it can be summarized at various levels in two different structures, such as the WBS and the OBS. However, Cobra supports the use of up to five different code files and nine code fields for a single project. This flexibility lets you produce exception reports from multiple project perspectives.

### Standard Reports

Standard reports include:

- Required EVMS formats, such as IPMR Formats 1 through 5 and CSSR
- Tabular reports that can be used as planning sheets, checklists, and project logs
- Lists of important data files, such as fiscal calendars, rate sets, and code files
- Graphic reports, such as histograms and trend analysis curves
- Bar charts showing control account/work package schedules
- Variance analysis worksheets
- NASA 533 formats

### Report Wizard

You can use the Report Wizard to create many of the standard Cobra reports.

The Report Wizard steps you through making decisions about the report's contents and format:

- **Criteria**: Select up to four subtotal criteria, including control account and work package keys, resources and resource assignments, user-defined code files, or code files assigned to the project.
- **Calendars**: Select which fiscal periods to report on, which calendar sets to use, and which periods are flagged.
- **Cost Sets**: Include the cost set (for example, budget, earned value, or a special-purpose user-defined reporting set in the report detail section).
- **Report Styles**: Predefine the report format, including the report header and footer.

## Special-Purpose Operations

Cobra provides multiple special-purpose features and utilities that make project management easier.

These features include:

- **Top-down Planning**: Use this feature to change existing budget and forecasting costs and prepare what-if scenarios at the project level.
- **Drill-down Analysis**: Use this feature to display cost and schedule variances based on code files.
- **Multi-project Merges**: Use this feature to merge subprojects for reporting purposes.
- **Global Operations**: Use this feature to perform global recalculations, respreading, and reclassifications for a project.
- **Security**: Use this feature to assign user passwords and read/write access to project data.

Cobra also provides system utilities for performing data file maintenance functions, such as backing up and restoring files.

## Take your Implementation a Step Further

After you are familiar with the basics, learn more about the other features that Cobra has to offer.

| Estimates | Related Topics |
|---|---|
| ▪ Back-in your hours using top-down planning to meet a total monetary amount<br>▪ Move projects easily along a timeline when priorities change or projects slip<br>▪ Reprice values quickly using new rates or rate escalation<br>▪ Define your own calculations to model your company's burden buildup<br>▪ Define rules using apportionment and add new resources based on need | Apportionment<br>Rates<br>Slip<br>Top Down Planning |

| Budgets and Forecasts | Related Topics |
|---|---|
| ▪ Organize data using control accounts and work packages | Time-phase Detail Pane of the Project View<br>Budget Planning<br>Forecasts<br>ANSI Standard for Earned Value Management Systems |

| Budgets and Forecasts | Related Topics |
|---|---|
| ▪ Improve your compliance with the EIA standard for EVMS with flexible formatting of the project hierarchy<br>▪ Summarize data for reporting purposes<br>▪ Use time-phased budgets and rate escalation to estimate future cost increases<br>▪ Use multiple foreign currencies<br>▪ Load your budget and forecast quickly from integrated products<br>▪ Maintain unlimited, time-phased forecasts<br>▪ Use forecasts to run “what-if” rate and resource scenarios | |

| Actual Costs | Related Topics |
|---|---|
| ▪ Automatically load actual cost data from accounting systems<br>▪ Integrate charge numbers from your accounting system for cost variance analysis<br>▪ Track approved actuals and accruals | Thresholds Tab of the Resource View |

| Status and Earned Value | Related Topics |
|---|---|
| ▪ Document explanation of variances, impacts, and corrective actions<br>▪ Update status automatically from a schedule<br>▪ Use earned value techniques for accurate earned value calculations<br>▪ Set thresholds to monitor work that is not progressing as planned | Variance Thresholds<br>Earned Value Management |

| Integration | Related Topics |
|---|---|
| ▪ Integrate directly with Deltek PM Compass, Open Plan, wInsight Analytics, Acumen, Microsoft Project, Microsoft Project Server, Microsoft Excel, and Primavera<br>▪ Integrate with Deltek Costpoint and other accounting systems<br>▪ View Cobra data from within the Deltek Open Plan scheduling tool<br>▪ Import resource, rate, code, and calendar data from Excel or CSV files | Integration Wizard<br>Data Import Using Files<br>CSV Import Files |

| Change Control | Related Topics |
|---|---|
| ▪ Integrate directly with Deltek PM Compass, Open Plan, wInsight Analytics, Acumen, Microsoft Project, Microsoft Project Server, Microsoft Excel, and Primavera<br>▪ Integrate with Deltek Costpoint and other accounting systems<br>▪ View Cobra data from within the Deltek Open Plan scheduling tool<br>▪ Import resource, rate, code, and calendar data from Excel or CSV files<br>▪ Simplify change request approvals with reports that show proposed and approved changes<br>▪ Use a different set of rates for each change in scope<br>▪ Track changes automatically with an integrated audit function that creates an audit trail | Audit Logging<br>Reports<br>Freeze Forecast |

| Multi-projects | Related Topics |
|---|---|
| ▪ Work with a master project and any number of subprojects as though they were a single entity | Multiproject Operations (Master and Subprojects) |

| Reports | Related Topics |
| --- | --- |
| ▪ Create and edit reports using the Report wizard with output directly into Microsoft Excel<br>▪ Create detailed time-phased reports or high-level multi-project reports<br>▪ Submit standard monthly reports in different formats and customize reports | Customization of Reports<br>Report Wizard |

# Earned Value Management

Earned Value Management (EVM) is a set of business best practices focusing on a combination of processes, people, and tools for enterprise project planning and control. Earned value (EV) is a means of putting a monetary value on project status to enable companies to measure project health.

If an agency wishes to have funding from the government, the agency and its contractors must both use a valid Earned Value Management System (EVMS), which provides a sound basis for problem identification, corrective action, and management re-planning.

The EVM process integrates scope, schedule, cost, a performance measurement baseline, and earned value. It is an industry standard way to:

- Integrate scope, schedule, and cost into a baseline against which accomplishments can be measured
- Measure the progress of a project
- Forecast the completion date and final cost of a project
- Provide schedule and budget variances along the way

Earned value for completed tasks is equal to the total budget for those tasks. Budgets are established at the task level and as work progresses, the budget for each task is earned. For activities in progress, you can use a number of methods for objectively measuring earned value. The theory behind these methods is to multiply the budget by a percentage complete to calculate the earned value. For activities not yet begun, the earned value is zero.

By putting a dollar value on project status, earned value enables companies to measure project health throughout the life cycle of a project. Low earned value can act as an early detection mechanism, giving a company time to implement effective corrective action.

## DOD's Characteristics of a Successful EVMS

The Department of Defense provides guidelines for evaluating the effectiveness of an earned value management system.

According to the October 2006 Earned Value Management implementation Guide of the Department of Defense, a functional EVMS provides contractor performance data that:

- **Relates time-phased budgets to specific contract tasks and/or statements of work**: Contract performance is measured against your time-phased budget.
- **Objectively measures work progress**: You have an unbiased snapshot of current project status.
- **Properly relates cost, schedule, and technical accomplishment**: This allows for more effective management decision-making based on accurate project performance data.
- **Is valid, timely, and able to be audited**: The project team can trust its earned value data.
- **Allows for statistical estimation of future costs**: Cost estimates are provided for both at-complete and to-complete.
- **Allows for informed decision-making and corrective action**: Problems are highlighted early, enabling prompt management response.
- **Supplies managers at all levels with status information at the appropriate level**: Earned value status reporting can be tailored to both C-level executives and to any member of the project team.
- **Is derived from the same EVMS used by the contractor to manage the contract**

### ANSI Standard for Earned Value Management Systems

The American National Standards Institute (ANSI) standard for EVMS is an excellent methodology for implementing earned value.

This standard describes each of the processes used by an EVMS, such as developing a statement of work, creating a work breakdown structure, and organizing the project and schedule. The standard even includes tips for controlling change in the project plan.

In addition to the ANSI standard for EVMS, Cobra can also use the ANSI-EIA 748 standard, which can be purchased through Global Engineering Documents.

**Attention:** For more information, visit their Web site at www.global.ihs.com.

## Projects

A project is a collection of projects usually corresponding to a contract. A project in generic terms is a set of activities directed to an overall goal.

Cobra is a project management tool that allows you to perform data entry and manage projects using the Explorer view and reports.

# Control Accounts and Work Packages

In an EVMS environment, control points refer to points at which a piece of work is defined, scheduled, budgeted, and tracked. These control points are referred to as control accounts and, at a lower level, work packages throughout Cobra.

A control account is the intersection of the project WBS and OBS, and defines the work that is to be performed and who will perform it. This terminology is not mandatory, but we will use these terms here for the sake of convenience.

### Control Accounts

How you choose to identify your control accounts in Cobra is, in many respects, the key to developing a successful reporting system. Each control account in a project must be assigned a unique ID or “key” that can consist of up to three different fields. Any field can be associated with a code file, in which case Cobra validates the field at the time that the cost account is created. Typically, control accounts are created by combining a WBS code and an OBS code, and possibly a unique charge number.

Basing the control account on one or more code files allows for reporting flexibility by rolling up information to a level in the code file. The use of a WBS as control account field allows you to summarize project information to any level of your WBS. If you want to be able to report in multiple dimensions (for example, according to both work content and organizational responsibilities), you must make sure that multiple control account fields.

Associating code files with control account fields allows Cobra to validate entries against existing code files.

Using a third control account field, such as the charge number, has the advantage of creating of multiple control accounts at any WBS/OBS intersection.

### Work Packages

Although a control account can serve as a suitable control point for the purpose of reporting to clients, it is too broad to be used effectively as a means of measuring performance. For this we need access to a lower level of detail — the work package. There are no limits to the number of work packages that can be assigned to a single control account.

Although you can plan and budget work at both the control account and work package levels (budgeted control accounts are usually referred to as “planning accounts”), Cobra calculates earned value at the level of the work package only.

A work package is defined as a brief, discrete amount of work. In practice, the duration of the work package should depend on the level of detail you plan to maintain in Cobra. In planning the duration of a work package, it is important to maintain a balance between two extremes:

- If the work package is too short, the value gained from the extra detail does not outweigh the time it takes to maintain the data. For example, you would not want to enter a work package that is shorter in duration than the time it takes you to enter, status, and report on the work package.
- If the work package is very long and needs to be statused over multiple periods, errors can be introduced in the calculation of earned value.

You may find that an appropriate duration is four to six weeks.

Guidelines for defining work packages include:

- The work package has a scheduled start and completion date.
- Performance can be objectively measured.
- The duration of the work package is relatively short, or it can be subdivided into a series of milestones that can be objectively measured.
- The work package can be assigned to a single control account.
- A work packages is typically linked to one or more activities in a schedule.

### Control Account and Work Package Dates

Both control accounts and work packages have a period of performance, for example, a start and finish date. These types of dates can be tracked for both work packages and control accounts:

- **Baseline**: The start and finish date for which budget classes are spread.
- **Actual**: The date the control account or work package actually started or finished.
- **Forecast**: The start and finish date for which the forecast class is spread.
- **Early**: If a forecast class is identified to use early dates, the start and finish for that forecast class.
- **Late**: If a forecast class is identified to use late dates, the start and finish for that forecast class.
- **Pending**: If a budget class is identified to use Pending dates, the start and finish for that budget class.

### Collecting Actual Costs

Cobra allows you to enter actual costs at either the control account or the work package level. However, most project managers prefer to enter actual costs at the control account level. This reduces the number of charge numbers in the accounting system, making it easier to ensure that the correct charge number is used. The goal of a Cobra implementation is to create an environment that is easy to maintain while still providing the information required to properly manage projects.

In a typical implementation, control accounts may have durations that vary from about six months to a year; the work packages within these control accounts may have durations of about four to six weeks. Storing costs at the cost account level makes it easy to perform the detailed budget planning that is need to calculate earned value accurately while minimizing the number of required charge numbers.

This does not mean that you cannot report to the customer at a higher level. The flexibility built into Cobra allows you to report costs at any level you choose.

## Classes and Cost Sets

User-defined classes and cost sets let you set up multiple budgets for a project, track actual costs using different criteria, and maintain information about commitments, funding, change orders, and so on, over the life of the project.

### Types of Classes

Four types of cost records are created in Cobra: budgets, earned value, actuals, and forecasts. For each of these types, other than earned value, you can define different cost classes that track specific types of information. For example, you can distinguish between different funding sources when budgeting, or distinguish between accounting, invoiced, or incurred actual costs.

You can define different characteristics for each type of class. For example, you can assign different fiscal calendars to budget classes for spreading. This allows you to spread budgets for planning using fiscal years instead of months. Classes used for budget costs can refer to different rate files to indicate, for example, change orders that involve different labor costs than those originally planned. This allows you to segregate change orders from original proposal values and ensures that rate changes are applied only when appropriate. Forecast classes can indicate which other classes they are based on, allowing, for example, the generation of different sets of forecasts depending on the selected class (or classes) of budget costs.

### Cost Sets

At a higher level of cost classification are cost sets such as Budget, Earned Value, Actual Cost, and Forecast. These cost sets allow you to group related classes together for reporting, and can include user-defined reporting sets for special purposes. Since the labels of these cost sets are user-defined, it is possible to produce reports that use the cost terminology that is most familiar to the intended audience.

It is also possible to create custom cost sets. For example, you may have a budget cost class to enter provisional funding that would not be included when reporting.

## Progress Techniques

The progress technique selected for a work package determines how earned value is calculated. Earned value is used to measure the work package's performance.

EVMS guidelines provide a number of alternative methods for measuring the earned value of an activity in progress. To measure the performance of activities in progress, you need a system of measurement that includes objective judgments.

Most projects involve at least some work that is regarded as inherently immeasurable, such as work done by a project manager or quality control inspector. This type of task is sometimes referred to as level of effort (LOE). Its earned value is assumed to be the same as the amount budgeted. Basically, as long as the task is performed, the value is earned.

For other work, EVMS guidelines offer earned value methodologies or performance measurement techniques (PMTs). Some common techniques include:

- **0/100**: This is the most common milestone-based method, although it is often seen as harsh, as you get no value at all until the task is complete, regardless of progress.

- **50/50**: This technique recognizes 50% of value when the task is started and 50% when completed. This method is sometimes abused, however, when value is given for starting a project but not necessarily achieving a goal.
- **25/75**: This technique is similar to 50/50, only with a different percentage ratio.
- **% Complete**: This technique allows for the measurement of percentage complete. This measurement is subjective unless it is tied to a weighting system.
- **Units**: This technique is related to completed units weighting, and results in a percentage complete.

Cobra offers many progress technique options.

| Field | Description |
|---|---|
| **Level of Effort (A)** | This progress technique assumes that when a work package starts, its progress will not deviate from the original budget spread. Cobra lets you apply this progress technique to any work package, but it is most suitable for only a small number of work packages whose earned value is, by nature, unmeasurable. The value earned by an open work package using this progress technique is equal to its budget to date. The value earned each period equals the budget. In other words, the work package earns its entire budget up to the status date.<br>An LOE work package should be set to **In-progress** before its baseline start date. If the work package is in a status period after the baseline start date, Cobra puts a cumulative-to-date earned value record in the current period. Similarly, if you change the budget in the previous period, Cobra puts a correcting entry in the current period. This ensures that cumulative-to-date earned value is equal to the cumulative-to-date budget.<br>**Note:** For the percent complete value, Cobra will only use a positive number between 0 and 100. |
| **Milestones (B)** | With this progress technique, milestones are defined, and relative weights are assigned to them. At any point, the value earned is the original work package budget multiplied by the combined weight of the completed milestones and divided by the total weight of all milestones. You can apply this method to any work package. It is generally the preferred method for work packages that span more than two fiscal periods.<br>If the **Allow percent complete on milestones** option is selected in the Project Preferences tab in the Project Properties dialog box, Cobra uses the percentage complete approach in calculating earned value by weighted steps. Each step can have a portion earned, rather than forcing an all-or-nothing awarding of earned value. |
| **% Complete (C)** | Use this progress technique if you want to manually enter the completion status of the work package as a percentage each status period. For example, if you enter 20 in the **Completed** field on the General tab of the Project view, 20% of the work package has been earned. |

| Field | Description |
|---|---|
| **Units Complete (D)** | Sometimes referred to as the “discrete” method, this progress technique is applicable to any work package that is made up of a predefined number of similar tasks. The value earned at any point in time is simply the work package budget multiplied by the number of these tasks completed and divided by the total number to be done. Use of this progress technique assumes that budgets are based on the units being measured. |
| **50-50 (E)** | With this progress technique, 50% of the value is earned as soon as the work package starts, and the rest is earned when it is completed. Use this progress technique only for work packages that span a maximum of two periods, since value cannot be earned in any intervening periods. For example, if you apply the 50-50 progress technique to a work package spanning 4 months, the work package cannot earn any value during the second and third months (assuming it does not finish early). |
| **0-100 (F)** | If you select this progress technique, no value is earned until the work package is completed, at which point the entire budget is earned.<br>Use this progress technique only if the work package is scheduled to start and finish in the same period. |
| **100-0 (G)** | All the value is earned as soon as the work package is started.<br>Use this method only if the work package is scheduled to start and finish in the same fiscal period. |
| **User Defined (H)** | This is a variation of the 50-50 progress technique (E). The percentage earned at the start of the work package (1 to 99%) is defined in advance by the user. The remaining percentage is earned when the work package is completed. This method should be used only for work packages whose schedule dates span a maximum of two fiscal periods. |
| **Apportioned (J)** | With this progress technique, the work package budget is earned in direct proportion to the amount earned on another related work package. You can apply this progress technique to any work package if the referenced work package does not itself use the **Apportioned** or the **Level of Effort** progress technique, and if the schedule dates are the same for both work packages.<br>This progress technique is generally used when the activity itself is difficult to measure, but it is closely related to a more readily measured work package. Quality assurance is a typical example of this type of work package.<br>**Note:** The **Apportioned** progress technique is not supported for the integration process. If you want to use this progress technique for integration, you must manually select it on the General tab of the Project view. |
| **Planning Package (K)** | When you use this progress technique, Cobra always calculates an earned value of zero for the item. |

| Field | Description |
|---|---|
| | Use this progress technique if you do not want the work package to earn any of its budget, regardless of its status. |
| **Assignment % Complete (L)** | This progress technique lets you enter a percent complete for each resource individually. This is useful when you have long work packages and your resources are not spread across the entire work package. This is not a recommended method for work packages that contain apportionment resources because Cobra will be unable to determine the status of the apportioned resources. |
| **Calculated Apportionment (M)** | This progress technique is associated with an apportioned budget. Cobra allows you to define budget items based on a percentage of other items, such as defining travel as a percentage of engineering. Work packages that use this progress technique can calculate earned value based on the same formula.<br>**Attention:** For more information, see Calculate Progress using the Calculated Apportionment Progress Technique. |
| **Steps (N)** | This progress technique lets you define the steps and weight used in calculating the percent complete of the work package. When you add a step, the work package earns a percentage of the work package's budget. This method is similar to Milestones (B) except that dates are not entered. |
| **Earned As Spent (O)** | This progress technique calculates the percent complete of a work package based on actual costs, using the formula (Actual Cost/EAC) x 100. This calculated percentage will then be applied to the BAC of the work package. If Actual Cost exceeds the EAC, the earned value will equal the budget. This method is useful for progressing material items to reduce false variances. If the EAC is zero, the Percentage will be set to 100 and all Budget will be earned.<br>When actual costs are collected at the work package level, the percent complete is calculated using the total earned ((Actuals/EAC) x 100) and BAC values at the work package level. When actual costs are collected at the control account level, the EAC and BAC are calculated using the sum of the work packages and the same percentage complete is applied to all work packages with a status of **In-progress**.<br>**Note:** To enable Cobra to calculate the Earned as Spent progress technique with the formula ACWP/BAC, refer to "KB Article # 52908" in the Knowledge Center of the Deltek Support Center. |
| **% Complete Manual Entry (P)** | This progress technique calculates earned value using the same method as **% Complete**. However, Cobra does not update work packages using this method when status is loaded from the schedule. |

## Resource Assignments

Cobra project costs are entered as resource assignments. The list of resources that you can add are defined in the resource file. The resource file used for a project is defined on the Files tab of the Project Properties dialog box.

When you add a resource assignment to either a control account or work package, you select a resource from the resource file assigned to the project. Then you choose the class. By default, you can select from either Budget or Forecast, but you can define an unlimited number of classes in Cobra.

You then choose the result you want to enter the value of. The list of results are defined in the calculation of the resource. Typically, you will enter the value in hours for labor and direct for material costs.

After entering the value, you choose a spread curve. The curve will define how the value is spread over the control account or work package dates to create time-phase data.

The time-phased data can be viewed and edited in two places:

- Time-phase pane of the Project view
- Time-phase Detail pane of the Project view

## Milestones/Steps

If you select a progress technique of milestones or steps, you can define the milestones or steps within the work package. This allows you to have longer work packages and still objectively measure the progress within the work package.

When you add a milestone or step, you also enter a weight. When you complete the milestone/step, you earn that percentage of the budget. The only difference between milestones and steps is that milestones allow you to add a date. The date on the milestone is not used in the progress calculation.

You can also select the project preferences option **Allow entering milestones regardless of Progress Technique** to enter milestones on any work package. These milestones will be ignored during calculate progress. This option is useful when entering quantifiable backup data associated with the work package.

The only difference between milestones and steps is the ability to add a date for a milestone. Steps do not have dates. Both steps and milestones use a weight to determine the progress to be earned when an actual date is entered for the step or milestone. Similarly, if you have the **Allow percent complete on milestones/steps** option selected on the Project Preferences tab of the Project Properties dialog box, you will be able to enter a % complete for the milestone or step and earn a portion of the value.

You cannot define milestones or steps for a control account because Cobra does not calculate earned value at that level. Steps do not require dates.

Although some project managers may want to define milestone/step weights as percentages that, taken together, add up to 100%, Cobra does not require this approach. Instead, Cobra sums the entered values and calculates the relative weighting factor for each milestone/step. For example, if you set up three milestones/steps and assign each a weight of 1, Cobra assumes that you want to earn a third of the work package budget each time a milestone/step is achieved. This method

of calculating weighting factors is particularly useful in cases where you want each milestone/step to represent a dollar portion of the work package budget.

To help progress calculations to equal budget when work is progressing as planned, Cobra notifies you if there is more than a 5% variance between how a work package budget has been spread and how its milestones/steps are weighted. If a variance of this size is detected, you can either reconcile your milestone/step weights to the budget or adjust the weights manually. If the milestone/step varies more than 5% from the budget, a warning message is displayed. This budget variance can be changed to any value besides 5 for the entire project.

The default milestone/step-weighting value is 3 digits, which yields the sum of the milestone/step weights equal to 100. If the value is 4 digits, it will yield the sum of the milestone/step weights equal to 1000. The default factor is 100.

**How Milestone/Step Weights Are Calculated**

When you choose to reconcile milestone/step weights, Cobra calculates the weight of each milestone/step based on the budget associated with that milestone/step.

- Cobra calculates the first milestone/step weight by taking the budget that is spread from the beginning of the work package until the first milestone/step, dividing it by the total work package budget, and multiplying the result by the milestone/step weighting factor.
- Cobra calculates subsequent milestone/step weights by taking the budget that is spread between the previous and next milestone/step, dividing it by the total work package budget, and multiplying the result by the milestone/step weighting factor.
- If two or more milestones have the same scheduled finish date, Cobra divides the final weight calculated for the first milestone by the number of milestones with the same finish date. This weight is applied to all milestones with the same scheduled finish date.

When you load a budget from a schedule or an import file, all of the baseline data for the work package is loaded and the milestone weight is calculated using the same formula as the reconciliation.

## Notes

For each control account and work package, you can assign an unlimited number of note categories.

You can manually enter data into this field, or import information from an Excel spreadsheet or CSV file. Notes can be added to the reports.

## Project View

Use the Project view to modify project data.

The Project view has four panes.

| Pane | Description |
|---|---|
| **Spreadsheet** | The Spreadsheet pane displays information about the control accounts, work packages, and resource assignments associated with the |

| Pane | Description |
|---|---|
| | project. You can edit the grid to add columns and sort them. |
| **Time-phased** | The Time-phase pane displays the resource assignments and the costs associated with it. |
| **Tabbed** | The Tabbed pane displays detailed information for a selected control account or work package and allows you to edit the information. This pane has the following tabs:<br>▪ **General Tab**: Use this tab to view or modify general information for a control account or work package.<br>▪ **Milestones/Steps Tab**: Use this tab to create and status milestones and steps for work packages that use the Milestones or Steps progress technique.<br>▪ **Codes Tab**: Use this tab to view the Control Account Manager, the Work Package Manager, and the codes associated with the selected control account, work package, or resource assignment in the Spreadsheet pane.<br>▪ **Notes Tab**: Use this tab to add a note to the selected control account or work package. |
| **Time-phase Detail** | The Time-phase Detail pane displays the time-phased details associated with the selected resource assignment. |

### Video

| Title | Description |
|---|---|
| Creating Filters and Saving Project Views | Learn how to filter the data in the Project view to better analyze the data and save the view. |
| Using Export/Import Assignments to Import Project Data | Learn how to edit project data in Excel and then import the data for quick and easy project data entry. |
| How to Resolve Common Errors When Using Assignment Import | Learn how to correct common errors when using Assignment Import. |
| Adding Data in the Project View | Learn how to add control accounts, work packages, and resource assignments in the Project view. |

## Display the Project View

Display the Project view to modify project data.

**To display the Project view:**

Take one of the following actions:

- Click  » **Open** » **Projects tab**, select the project that you want to update and click **Open**.
- In the Cobra Explorer, select the **Projects** group bar, and double-click the name of the project file in the Projects pane.

## Copy and Paste in the Project View

You can quickly update values by copying multiple cells from an Excel spreadsheet and paste the values in columns for a single row in the Project view panes.

You can perform copy and paste in the following panes of the Project view:

- Spreadsheet pane
- Time-phase pane
- Milestones/Steps tab
- Time-phase Detail pane

Cobra only pastes the values in the editable cells and ignores the values in the read-only cells if the destination cells in the Project view pane include read-only cells. Cobra displays an error message if all destination cells are read-only.

Cobra does not allow you to paste values if some of the data types of the copied values from the Excel spreadsheet do not match the data types of their destination cells.

Cobra does not allow you to paste values if the copied values from the Excel spreadsheet exceed the available destination columns in the Project view pane.

## Edit Tab of the Project View

The Edit tab of the Project view contains commands available when editing data in the Project view. When you open a project, the Edit tab is automatically selected.

### View Group

| Command | Description |
|---|---|
|  **Select** | Click this command to create, modify, and select views. This command contains the following items: |

| Command | Description |
| --- | --- |
| | ▪ **Current View** : Click this command to display the currently selected view.<br>▪ **Project Views**: Click this command to display the first 10 views in alphanumeric order that you have access to. The first view in the list is **<Default>**. If you have 11 or more views (including the **<Default>** view), **More Views...** becomes enabled. Click it to display the Select dialog box, which allows you to select from a list additional views.<br>▪ **Other**<br>▪  <br>**Save View**: Click this command to display the Save Current View As dialog box, which allows you to save modifications that you made to a view either by creating a new view or updating an existing one.<br>▪  <br>**Manage Views**: Click this command to display the Manage Views dialog box, which allows you to select an existing view and change its description and access control. |

### Clipboard Group

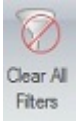
| Command | Description |
| --- | --- |
|  <br>**Copy** | ▪  <br>**Copy**: Click this command to copy the content of the selected cell. |

| Command | Description |
|---|---|
| | **Note:** You can also press CTRL+C to use this command.<br>▪ **Copy View to Excel**: Click this command to copy the content of the Spreadsheet pane in Microsoft Excel format. Only expanded data will be copied. |
| **Paste** | Click this command to paste copied information.<br>**Note:** You can also press CTRL+V to use this command. |
| **Find** | Click this command to display the Find dialog box.<br>**Note:** You can also press CTRL+F to use this command. |
| **Refresh** | Click this command to refresh the project. The project is refreshed according to the data stored in the database.<br>**Note:** You can also press F5 to use this command. |
| **Undo** | Click this command to revert the changes you made to the project.<br>**Note:** You can also press CTRL+Z to use this command. |

### Data Group

| Command | Description |
|---|---|
| **Expand** | Click this command to expand the selected master projects in the Projects pane or the selected control account or work package in the Spreadsheet pane of the Project view. |

| Command | Description |
|---|---|
| **Expand All** | Click this command to expand all of the master projects in the Projects pane or all of the control accounts or work packages, together with their resource assignments in the Spreadsheet pane of the Project view.<br>**Note:** Selecting **Expand All** will first expand the control accounts that are visible on the screen. Cobra will expand the work packages only after expanding all of the control accounts that are visible on the screen. You may have to click **Expand All** again to expand additional records. |
| **Collapse** | Click this command to collapse the selected master project in the Projects pane or the selected control account or work package in the Spreadsheet pane of the Project view. |
| **Collapse All** | Click this command to collapse all of the master projects in the Projects pane or all of the control account or work package in the Spreadsheet pane of the Project view. |
| **Show Summary** | Click this command to display or hide the time-phase summary of the selected resource assignment in the Spreadsheet pane of the Project view. |
| **Result** | Click this drop-down list to toggle the result displayed in the Time-phase pane of the Project view. You can select one of the following options:<br>▪ **Total Currency**<br>▪ **HOURS**<br>▪ **DIRECT**<br>▪ **OVERHEAD**<br>▪ **GANDA**<br>This defaults to **Total Currency** when you open a project. If you select a different value and close the Project view, Cobra remembers the selection and uses it the next time you open the project. The results displayed in the field depend on the resource results assigned to the project. |

| Command | Description |
|---|---|
|   **Clear All Filters** | Click this command to remove all filters applied to the Spreadsheet pane of the Project view.<br>**Note:** This command is enabled only if you are in the Project view and the Spreadsheet pane is filtered. |

**Tasks Group**

| Command | Description |
|---|---|
|  **Add Control Account** | Click this command to display the Add Control Account dialog box, which you use to create a new control account.<br>**Note:** You can also press CTRL+A to display this dialog box. |
|  **Add Work Package** | Click this command to display the Add Work Package dialog box, which you use to create a new work package.<br>**Note:** You can also press CTRL+W to display this dialog box. |
|  **Delete** | Click this command to delete the selected project in the Projects pane or the control account or work package in the Project view.<br>**Note:** You can also press CTRL+DEL to use this command. When you delete a project, Cobra does not delete the process logs associated with it. |
|  **Rename** | Click this command to rename the selected project in the Projects pane or the selected control account or work package in the Project view.<br>**Note:** You can also press ALT+E+N or F10+E+N to use this command. When you rename a project, Cobra does not rename the process logs associated with it. |
|  | Click this command to display the Purge dialog box, which you use to delete the project file |

| Command | Description |
|---|---|
| **Purge** | and all of the ancillary files that are associated with it. |
| **Move** | Click this command to create a new control account or work package using a copy of the selected control account or work package. Cobra deletes the selected control account or work package after the move is completed.<br>**Note:** You can also press ALT+E+M or F10+E+M to use this command. |
| **Copy To** | Click this command to display the Copy Control Account dialog box to copy the content of the selected cell in the Spreadsheet pane of the Project view.<br>**Note:** You can also press ALT+E+T or F10+E+T to display this dialog box. |
| **Update EAC** | Click this command to display the Update EAC dialog box, which you use to manually update the forecast values for a control account or work package. This command is available only if you selected **Hours**, **Currency**, or **Hours and Currency** in the **Scale retain EAC** option on the Forecast Preferences tab of the Project Properties dialog box. |

### Assignments Group

| Command | Description |
|---|---|
| **Assign Resource** | Click this command to display the Add Resource Assignment dialog box, which you use to add resource assignment to a control account or work package.<br>**Note:** You can also press CTRL+R to display this dialog box. |
| **Spread** | ▪ |

| Command | Description |
| --- | --- |
| | **Spread**: Click this command to display the Spread Curve dialog box, where you can select the spread method to use when time-phasing your resource. The spread methods available depend on the spread methods defined on the Spread Curves tab of the Application Preferences dialog box.<br>▪  <br>**Reconcile**: For budget purposes, use this command when the time-phased total (value in the Total Currency row for the TOTAL column) of a budgeted resource no longer matches the budget at complete (BAC) for that resource. Click the period where you want the reconciliation to occur and click **Reconcile**. Cobra puts the reconciled difference in the selected period.<br>For forecast purposes, use this command when the time-phased total (value in the Total Currency row for the TOTAL column) of the forecast no longer matches the estimate to complete (ETC) for that resource. Click the period where you want the reconciliation to occur and click **Reconcile**. Cobra puts the reconciled difference in the selected period.<br>▪  <br>**Fix Spread**: Click this command to adjust the time-phased spread if the time-phased spread is outside the baseline dates of the control account or work package. Time-phased values outside the baseline dates are highlighted in red in the Time-phase pane. This command is enabled only if you have update access to the class. |
| **Show Assignments** | Click this command to show or hide the resource assignments rows in the Time-phase pane for the selected control account and work |

| Command | Description |
|---|---|
| | packages in the Spreadsheet pane of the Project view. |

### Milestone/Step Group

| Command | Description |
|---|---|
| **Milestone** | ▪ **Add Milestone**: Click this command to add milestones to a work package. This command is enabled when the selected work package uses the Milestones progress technique.<br>**Note:** For work packages that use a progress technique other than Milestones or Steps, this command is enabled only if the **Allow entering milestones regardless of Progress Technique** option on the Preferences Project tab of the Project Properties dialog box is selected. You can also press CTRL+M to use this command.<br>▪ **Reconcile Weights**: Click this command to display the Reconcile Milestone Weight Variance dialog box. |
| **Step** | Click this command to add a step to a work package. This command is enabled only if the selected work package uses the Steps progress technique. |

### Ancillary Data Group

| Command | Description |
|---|---|
| **Calendar** | Click this command to display the calendar assigned to the project. |
| **Codes** | Click this command to display the codes assigned to the project key fields and code fields. |

| Command | Description |
|---|---|
| % **Rates** | Click this command to display the rates files assigned to the project. |
| **Resource** | Click this command to display the resource file assigned to the project. |

**Properties Group**

| Command | Description |
|---|---|
| **Properties** | Click this command to display the Project Properties dialog box for the selected project.<br>**Note:** You can also press ALT+E+P or F10+E+P to display this dialog box. |

## Spreadsheet Pane of the Project View

The Spreadsheet pane displays properties about the control accounts, work packages, and resource assignments associated with the project.

You can see project properties such as costs, dates, and codes at both the control account and work package levels, and limit the display of items in this pane using filters. You can drill down into specific control accounts to see the individual work packages assigned to these accounts. You can also see work packages from multiple control accounts at the same time.

### Color Band

The Spreadsheet pane uses colors to highlight the status of work packages or control accounts that exceed predefined threshold settings.

**Attention:** For more information about how Cobra uses colors to identify projects, master projects, control accounts, and work packages that exceed threshold settings, see Color Band.

### Keep Data in Sync

The Spreadsheet pane displays values stored in the CAWP table. Cobra updates these values when you perform manual data entry, or run a process by summing up the time-phased data.

These values are calculated and associated with the parent record (CAWP table), so they can, on occasion, get out of sync in a multi-user mode or when connection errors occur. If the values in the Spreadsheet pane seem incorrect, run the Update Totals utility to populate the values with detailed (time-phased) data. It makes sense to run the Update Totals utility on a regular basis to ensure that the summary values are always correct.

You can also display data based on formulas against the CAWP data by inserting calculated fields as columns in the Spreadsheet pane. Basically, you can insert any column from the CAWP

table into the Spreadsheet pane and compare its content against the individual control accounts or work packages. Right-click the Spreadsheet pane to display a shortcut menu where you can select a task to perform such as adding control accounts and work packages and updating the forecast.

When you open a project for the first time, Cobra displays the following columns by default. Most of these columns are fields from within the CAWP table.

| Column | Description |
|---|---|
| **Control Account Field 1** | This column displays the first control account key value. Cobra creates the control account key by combining the work breakdown structure (WBS) and the organizational breakdown structure (OBS). Cobra uses this field as the primary sort key.<br>The column header depends on the prompt that you assigned to the **Control Account Field 1**, using either the Fields tab of the Project Properties dialog box or the Fields page of the New Project Wizard. For example, if you specified WBS as the prompt, the column header will be WBS. |
| **Control Account Field 2** | This column displays the second control account key value. Cobra creates the control account key by combining the WBS and OBS. Cobra uses this field as the secondary sort key.<br>This column displays the second control account key value. Cobra creates the control account key by combining the WBS and OBS. Cobra uses this field as the secondary sort key.<br>The column header depends on the prompt that you assigned to the **Control Account Field 2**, using either the Fields tab of the Project Properties dialog box or the Fields page of the New Project Wizard. For example, if you specified OBS as the prompt, the column header will be OBS. |
| **Control Account Field 3** | This column displays the third control account key value, for example, the Resource Breakdown Structure (RBS). |
| **Work Package** | This column displays the work package key.<br>The column header depends on the prompt that you assigned to the **Work Package** field, using either the Fields tab of the Project Properties dialog box or the Fields page of the New Project Wizard. For example, if you |

| Column | Description |
|---|---|
| | specified WP as the prompt, the column header will be WP. |
| **Resource** | This column displays the resources assign to the selected work package. |
| **Description** | This column displays a brief description of the control account or work package. |
| **Baseline Start** | This column displays the baseline start date that defines the initial status date for the project. |
| **Baseline Finish** | This column displays the baseline finish date that defines the last date of the project. |
| **Status** | This column displays the status of the selected control account or work package.<br>▪ **Planned** means that it has not been started (the **Start** column for the **Actuals** field is empty).<br>▪ **In-Progress** means that it has been started (the **Start** column for the **Actuals** field contains a date).<br>▪ **Completed** means that it is finished (the **Finish** column for the **Actuals** field contains a date). |
| **Class** | This column displays the class associated with the resource. |

**Note:** There is always a blank row at the bottom of the Spreadsheet pane. When you add data and save your changes, a new blank row is added. Using this blank row, you can manually add a new control account or work package.

### Copy and Paste

You can quickly update values by copying multiple cells from an Excel spreadsheet and paste the values in columns for a single row in the Project view panes.

Cobra only pastes the values in the editable cells and ignores the values in the read-only cells if the destination cells in the Project view pane include read-only cells. Cobra displays an error message if all destination cells are read-only.

Cobra does not allow you to paste values if some of the data types of the copied values from the Excel spreadsheet do not match the data types of their destination cells.

Cobra does not allow you to paste values if the copied values from the Excel spreadsheet exceed the available destination columns in the Project view pane.

### Total Row

The Total row is located at the top of the Spreadsheet and Time-phase panes of the Project view. This row displays the project-level values for the following fields in the Spreadsheet pane when they are added as columns in the pane:

| | | | | |
|---|---|---|---|---|
| Actuals | Actual Finish | Hours Actuals | Actual Rate | BAC |
| BAC Hours | Baseline Finish | Baseline Start | Budget | Hours Budget |
| Budget Rate | CPI | Hours CPI | CPI Performance | Hours CPI Performance |
| CV | Hours CV | CV % | Hours CV % | Description |
| EAC | Hours EAC | Earned | Hours Earned | Forecast Finish |
| IEAC | Hours IEAC | IEAC 2 | Hours IEAC 2 | Last Update |
| % Complete | Hours % Complete | % Spent | Hours % Spent | Project |
| Sequence | SPI | Hours SPI | SV | Hours SV |
| SV % | Hours SV % | TCPI BAC | Hours TCPI BAC | TCPI EAC |
| Hours TCPI EAC | User ID | VAC | Hours VAC | Variance |
| Hours Variance | VAC % | Hours VAC % | | |

**Attention:** For more information on these fields, see Spreadsheet Pane Column Definitions.

The Total row displays project-level data based on the filter applied to the Project view.

The Total row is read-only. The Total row remains on top of the panes even if you sort a column in the Spreadsheet pane.

Columns that are not defined at the project level are displayed as blank in the Total row of the Spreadsheet pane.

The Total row will only display values for Baseline Start, Baseline Finish, Actual Finish, and Forecast Finish dates as these are the dates that you see and define on the General tab of the Project Properties dialog box. If you add Actual Start as column, for example, it will only display as blank.

The Baseline Finish, Actual Finish, and Forecast Finish dates display the latest Baseline, Actual, and Forecast Finish dates of the control accounts displayed in the Spreadsheet pane. On the other hand, the Baseline Start date displays the earliest Baseline Start date of the control accounts displayed in the Spreadsheet pane.

When you edit any of these dates, the updated dates will only display in the Total row after you save the changes.

### Shortcut Menu

Right-click the Spreadsheet pane to display the available commands and options that you can use.

| Option | Description |
|---|---|
| **Add Control Account** | Click this option to display the Add Control Account dialog box, which you use to create a new control account. |
| **Add Work Package** | Click this option to display the Add Work Package dialog box, which you use to create a new work package. |
| **Assign Resource** | Click this option to display the Add Resource Assignment dialog box, which you use to add resource assignment to a control account or work package. |
| **Delete** | Click this option to delete the selected control account or work package. |
| **Rename** | Click this option to rename the selected control account or work package. |
| **Move** | Click this option to rename the selected control account or work package. |
| **Copy To** | Click this option to create a new control account or work package using a copy of the selected control account or work package. Cobra deletes the selected control account or work package after the move is completed. |
| **Copy View to Excel** | Click this option to copy the content of the Spreadsheet pane in Microsoft Excel format. |
| **Assignments** | ▪ **Import** : Click this option to display the Assignment Import Wizard. |

| Option | Description |
|---|---|
| | ▪ **Export**: Click this option to display the Assignment Export Wizard. |
| **Update EAC** | Click this option to update the forecast for a control account or work package manually. This option is available only if you selected Hours, Currency, or Hours and Currency in the Forecast section of the Preferences tab of the Project Properties dialog box. |
| **Copy** | Click this option to copy the contents of the selected cell in the Spreadsheet pane. |
| **Paste** | Click this option to paste copied information to the selected cell in the Spreadsheet pane. |
| **Find** | Click this option to display the Find dialog box, which you use to find a control account name or description in the Spreadsheet pane. |
| **Refresh** | Click this option to refresh the project. The project is refreshed using the data stored on the database. |
| **Information** | Click this option to display the Project Properties dialog box for the project. |

### Spreadsheet Pane Column Definitions

The Spreadsheet pane of the Project view displays a set of standard columns.

Use the Insert Column dialog box and the Edit Column dialog box to change fields in the Spreadsheet pane.

| Column | Description | Formula |
|---|---|---|
| **% Complete** | This column displays the manually entered percent complete used to calculate earned value for work packages with a progress technique of Percent Complete. | N/A |

| Column | Description | Formula |
|---|---|---|
| **% Spent** | This column displays the percentage of the forecast spent. | (Actuals / BAC) * 100 |
| **Actual Finish** | This column displays the actual finish date of the control account or work package. | N/A |
| **Actual Rate** | This column displays the actual rate. | Actuals / Actuals Hours |
| **Actual Start** | This column displays the actual start date of the control account or work package. | N/A |
| **Actuals** | This column displays the total actual currency value of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **Apportioned CaWP Uid** | This column displays the UID for the work package stored in the **Apportioned to** field. | N/A |
| **Apportioned to** | This column displays the work package to which the budget for the referenced work package is apportioned. | N/A |
| **Assignment % Complete** | This column displays the percentage of work that has been completed for the Earned Value class to which the resource is assigned. | N/A |
| **BAC** | This column displays the budget at completion or the resource total. | N/A |
| **Baseline Finish** | This column displays the baseline finish date that defines the last date of the control account or work package. | N/A |
| **Baseline Start** | This column displays the baseline start date that defines the initial status date for the control account or work package. | N/A |
| **Budget** | This column displays the total currency budget value of the control account or work package. The Update Totals utility populates the value in the column. | N/A |
| **Budget Rate** | This column displays the budget rate. | Budget / Budget Hours |
| **Ca[1-3]Id** | This column displays the control account field names. | N/A |
| **Calculated % Complete** | This column displays the percentage of the work that has been completed, which is | (Earned / BAC) * 100 |

| Column | Description | Formula |
|---|---|---|
| | calculated using the formula Earned/BAC * 100. The value in the column is populated when you run the Calculate Progress process or when you manually edit or create the Earned Value class of a resource assignment and run the Update Totals process. | |
| **CAM** | This column displays the Control Account Manager (CAM) code attached to the control account. | N/A |
| **CAWPUid** | This is used internally by Cobra. | N/A |
| **CI Batch** | This is used internally by Cobra. | N/A |
| **Class** | This column displays the class associated with the resource. | N/A |
| **Class Description** | This column displays a brief description of the class associated with the resource. | N/A |
| **Control Account Codes [1-20]** | This column displays the control account codes. | N/A |
| **CPI** | This column displays the Cost Performance Index, which is an index of the contract performance. | Earned / Actuals |
| **CPI Performance** | This column displays the CPI Performance. | Actuals/ Earned |
| **Current Period Actuals** | This column displays the current period actual currency value of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **Current Period Budget** | This column displays the current period budget value of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **Current Period Hours Actuals** | This column displays the current period actuals value in hours of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **Current Period Hours Budget** | This column displays the current period budget value in hours of the control account or work package. The Update | N/A |

| Column | Description | Formula |
|---|---|---|
| | Totals utility populates the value in the table. | |
| **Current Period Hours Progress** | This column displays the current period earned value in hours of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **Current Period Progress** | This column displays the current period earned value of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **CV** | This column displays the Cost Variance in dollars. | Earned - Actuals |
| **CV %** | This column displays the Cost Variance percentage. | ((Earned - Actuals) / Earned) * 100 |
| **Description** | This column displays a brief description of the control account or work package. | N/A |
| **EAC** | This column displays the total Estimate At Complete currency value based on the cost set EAC. The Update Totals utility populates the value in the table. | N/A |
| **Early Finish** | This column displays the early finish date for the control account or work package. | N/A |
| **Early Start** | This column displays the early start date for the control account or work package. | N/A |
| **Forecast Finish** | This column displays the forecast finish date of the control account or work package. | N/A |
| **Forecast Start** | This column displays the initial status date for the control account or work package. | N/A |
| **Hours % Complete** | This column displays the percentage of the work that has been completed. | (Earned Hours / BAC Hours) * 100 |
| **Hours % Spent** | This column displays the percentage of the budget spent. | (Actuals Hours / BAC Hours) * 100 |
| **Hours Actuals** | This column displays the total actual values in hours. | N/A |
| **Hours BAC** | This column displays the budget at completion in hours. | N/A |
| **Hours Budget** | This column displays the budget values in hours. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Hours CPI** | This column displays the Cost Performance Index in hours. | Earned Hours / Actuals Hours |
| **Hours CPI Performance** | This column displays the CPI Performance in hours. | Actuals Hours/Earned Hours |
| **Hours CV** | This column displays the Cost Variance in hours. | Earned Hours - Actuals Hours |
| **Hours CV %** | This column displays the Cost Variance percentage. | ((Earned Hours - Actuals Hours) / Earned Hours) * 100 |
| **Hours EAC** | This column displays the total Estimate At Complete currency value in hours. | N/A |
| **Hours iEAC** | This column displays the independent Estimate At Complete in hours. | Actuals Hours + ((1 / CPI Hours) * (BAC Hours - Earned Hours)) |
| **Hours iEAC2** | This column displays the independent Estimate At Complete in hours. | Actuals Hours + ((1 / (CPI Hours * SPI Hours)) * (BAC Hours - Earned Hours)) |
| **Hours Progress** | This column displays the total earned currency value in hours. | N/A |
| **Hours SPI** | This column displays the Schedule Performance Index (SPI) in hours. | Earned Hours / Budget Hours |
| **Hours SV** | This column displays the Schedule Variance (SV) in hours. | Earned Hours - Budget Hours |
| **Hours SV %** | This column displays the Schedule Variance (SV) percentage. | ((Earned Hours - Budget Hours) / Budget Hours) * 100 |
| **Hours TCPIBAC** | This column displays the To Complete Performance Index for the budget at complete in hours. | (BAC Hours - Earned Hours) / (BAC Hours - Actuals Hours) |
| **Hours TCPIEAC** | This column displays the To Complete Performance Index for the projected estimate at complete in hours. | (BAC Hours - Earned Hours) / (EAC Hours - Actuals Hours) |
| **Hours VAC** | This column displays the Variance At Complete (VAC) in hours. | BAC Hours - EAC Hours |
| **Hours VAC %** | This column displays the Variance At Complete (VAC) percentage. | ((BAC Hours - EAC Hours) / BAC Hours) * 100 |

| Column | Description | Formula |
|---|---|---|
| **Hours Variance** | This column displays the Variance in hours. | Budget Hours - Actuals Hours |
| **iEAC** | This column displays the independent Estimate At Complete. | Actuals + ((1 / CPI) * (BAC - Earned)) |
| **iEAC2** | This column displays the independent Estimate at Complete. | Actuals + ((1 / (CPI * SPI)) * (BAC - Earned)) |
| **Last Update** | This column displays the date when the control account or work package details were last updated. | N/A |
| **Late Finish** | This column displays the late finish date for the control account or work package. | N/A |
| **Late Start** | This column displays the late start date for the control account or work package. | N/A |
| **Non Labor EAC** | This column displays the EAC value for resources that do not have an hours result. This field is used in the scale EAC currency option when both hours and currency are selected. | N/A |
| **OP Batch** | This is used internally Cobra. | N/A |
| **Pending Finish** | This column displays the pending finish date of the control account or work package. | N/A |
| **Pending Start** | This column displays the pending start date of the control account or work package. | N/A |
| **Performance Factor** | This column displays the performance factor value, usually based on performance to date, which is divided into the budgeted cost of work remaining to arrive at an Estimate To Complete (ETC). | N/A |
| **Progress** | This column displays the total earned currency value of the control account or work package. The Update Totals utility populates the value in the table. | N/A |
| **Progress Technique** | This column displays the progress technique assigned to the work package. | N/A |
| **Project** | This column displays the name of the project. | N/A |

| Column | Description | Formula |
|---|---|---|
| **Resource** | This column displays resource assignment for the selected cost set or class type. | N/A |
| **Resource Assignment Codes [1-9]** | This column displays resource assignment codes. | N/A |
| **Resource Description** | This column displays a brief description of the resource. | N/A |
| **Sequence** | This column is used internally by Cobra. | |
| **SPI** | This column displays the Schedule Performance Index. | Earned / Budget |
| **Spread Curve** | This column displays the spread curve name for the budget or forecast resource assignments. If there is no assigned spread curve, or if the resource assignment is manually spread or adjusted, this column displays **Manual**.<br>For other types of resource assignments, this column is blank. | N/A |
| **Start Percent** | This column displays the opening percent complete for work packages that use the user-defined progress technique. | N/A |
| **Status** | This column displays the status of the selected control account or work package. | N/A |
| **SV** | This column displays the Schedule Variance in dollars. | Earned - Budget |
| **SV %** | This column displays the Schedule Variance percentage. | ((Earned - Budget) / Budget) * 100 |
| **TCPIBAC** | This column displays the To Complete performance index for the budget at complete. | (BAC - Earned) / (BAC - Actuals) |
| **TCPIEAC** | This column displays the To Complete Performance Index for the projected estimate at complete. | (BAC - Earned) / (EAC - Actuals) |
| **Total** | This column displays the current total for each of the results over the life of the project. | N/A |
| **Uid** | This column displays the unique ID for the row. | N/A |
| **Units** | This column displays how the result is measured. For example, a unit of | N/A |

| Column | Description | Formula |
|---|---|---|
| | measurement might be dollars, or it might be tons. | |
| **Units Complete** | This column displays the number of units completed. | N/A |
| **Units To Do** | This column displays the number of units that remain to be completed, which is available only if you selected the Units Complete progress technique. | N/A |
| **User** | This column displays the individual who is currently accessing the project. | N/A |
| **User Character Fields [1-10]** | This column displays the character fields that can be used for display in the view, or can be added as tags in the reports.<br>**Note:** You must first run the required script to display **User Character Fields [6-10]**. For instructions on how to configure Cobra to use these additional fields, see Additional User Fields. | N/A |
| **User Date Fields [1-10]** | This column displays the date fields that can be used for display in the view, or can be added as tags in the reports.<br>**Note:** You must first run the required script to display **User Date Fields [6-10]**. For instructions on how to configure Cobra to use these additional fields, see Additional User Fields. | N/A |
| **User Numeric Fields [1-10]** | This column displays the numeric fields that can be used for display in the view, or can be added as tags in the reports.<br>**Note:** You must first run the required script to display **User Numeric Fields [6-10]**. For instructions on how to configure Cobra to use these additional fields, see Additional User Fields. | N/A |
| **VAC** | This column displays the Variance At Complete in dollars. | BAC - EAC |
| **VAC %** | This column displays the Variance At Complete percentage. | ((BAC - EAC) / BAC) * 100 |

| Column | Description | Formula |
|---|---|---|
| **Variance** | This column displays the Variance. | Budget - Actuals |
| **Work Package** | This column displays the work package ID. | N/A |
| **Work Package Codes [1-20]** | This column displays the work package codes assigned to the project. | N/A |
| **Work Package Manager** | This column displays the work package manager assigned to the project. | N/A |

### Filters

The filtering feature of Cobra allows you to limit the display of items in the Spreadsheet pane based on your selections.

For example, you may want to display the Spreadsheet pane that only shows LABOR resource. You can create and save your own filters for every Cobra project.

You can apply filters to the following columns:

- Control Account fields
- Control Account code fields
- Work Package IDs
- Work Package code fields
- Resource
- Progress techniques
- Status
- Classes
- Results
- Description
- Date fields
- Currency value fields like BAC and EAC
- Hours value fields like Hours Budget and Hours BAC

A  in a column indicates that a filter is applied to it.

The Filter dialog box header displays the title you assigned to the column.

*Standard Filter Dialog Box*

Use this dialog box to select values quickly for a specific column in the Spreadsheet pane of the Project view.

The Standard Filter dialog box displays a unique list of values associated with the selected column together with other fields for the column. For example, if you filter the WBS column, the Standard Filter dialog box displays the following fields:

- Code
- Description

By default, all values associated with the selected column are selected. If you do not want to include one or more values in your filter, clear the associated checkbox.

**Note:** When filtering a field associated with a code file, the Filter dialog box displays all codes in the code file rather than just those currently used by the project.

**Filtering by Classes and Cost Sets**

You can either filter by classes or filter by cost sets to display related classes. Filtering by classes or cost sets displays the resources that use the selected classes or classes included in the selected cost set respectively in the Spreadsheet pane.

To filter by classes and by cost sets, use the Advanced Filter dialog box.

Display the Standard Filter Dialog Box

Use this procedure to display the Standard Filter dialog box.

**To display the Standard Filter dialog box:**

In the Spreadsheet pane, do any of the following:

- Click in the column that you want to filter.
- Right-click the column that you want to filter.

*Advanced Filter Dialog Box*

Use this dialog box to create filter expressions.

**Contents**

| Field | Description |
|---|---|
| **Field** | You can base the filter expression on any field in the list. |
| **Operator** | Use this field to specify how Cobra should evaluate the filter expression. You can select from the following operators: |

| Field | Description |
|---|---|
| | ▪ Equals =<br>▪ Not Equals < ><br>▪ Less Than or Equals <=<br>▪ Greater Than or Equals >=<br>▪ Less Than <<br>▪ Greater Than ><br>▪ LIKE<br>▪ NOT LIKE<br>▪ Equals or Child Of |
| **Value** | Use this field to enter any value that you want, or click ... to select a value in the Lookup dialog box. |
| **And/Or** | Use this field to select a connection operator between filter expressions.<br>Select the appropriate values for each field on the lower grid section of the dialog box to create another filter expression. |

Display the Advanced Filter Dialog Box

Use this procedure to display the Advanced Filter dialog box.

**To display the Advanced Filter dialog box:**

1. Display the Standard Filter dialog box.
2. Click **Advanced Filter**.

*Procedures*

Follow the procedures in this section to manage filters in the Project view panes.

Apply a Filter to a Column in the Spreadsheet Pane

You can apply the filtering feature of Cobra to one or more columns at a time in the Spreadsheet pane. Rows that meet your selections are displayed in the Spreadsheet pane.

**To apply a filter to a column in the Spreadsheet pane:**

1. Display the Project view.
2. In the Spreadsheet pane, do any of the following:
   - Click ▼ in the column that you want to filter.
   - Right-click the column that you want to filter.

3. In the Standard Filter dialog box, select or clear the items that you want to display in the column.

Filter by Classes or Cost Sets

You can filter the Spreadsheet pane of the Project view to display classes or classes included in cost sets.

**To filter the Spreadsheet pane by classes or cost sets:**

1. Display the Project view.
2. In the Spreadsheet pane, display the Filter dialog box by taking any of the following actions:
   - Click in the Class column header.
   - Right-click the Class column and select **Filter**.
3. To filter by classes, select **Classes** in the **Filter By** field.
   - Select the classes that you want to filter and click **OK**.

     The Spreadsheet pane is filtered based on the selected classes.
4. To filter by cost sets, select **Cost Sets** in the **Filter By** field.
   - Select the cost sets that you want to filter and click **OK**.

     The Spreadsheet pane is filtered based on the classes included in the selected cost sets.

Clear the Filter

You can remove the filter in a selected column or in the Spreadsheet pane of the Project view.

**To clear the filter**

Take one of the following actions:

- To remove the filter in the selected column, click **Clear Filter** in the Standard Filter or Advanced Filter dialog box.
- To remove all filters in the Spreadsheet pane, click **Clear All Filters** in the **Data** group of the Edit tab.

## Using the Find Function

You can find records in the Spreadsheet pane without expanding all of the records.

Using the Find function highlights the row where the record is located. Clicking **Find Next** highlights the next matching row and expands the rows accordingly.

The Find function in the Spreadsheet pane works as follows:

- Cobra always starts the search from the topmost row and displays the first result from the top of the Spreadsheet pane. The results are sorted based on default sort order: Control Account key field, Work Package key field, class, and resource.
- For the **Progress Technique** and **Status** columns, you can select a value from the field instead of typing a value to search.
- When you use the Find function to search for a blank value or a space, Cobra displays the "Please specify a value to find" message.
- When you have unsaved changes and you use the Find function, Cobra prompts you to save the changes. If you select **No**, the Find function will not proceed.
- The Find function works based on what is visible and applied within the current content of the Spreadsheet pane of a specific user. If multiple users are concurrently accessing the same project, it is possible that the changes one user is performing on the project may not reflect on the view of the other user, if the changes are not yet saved, or if the other user has not yet refreshed the view. In such cases, the following may happen:
  - Cobra will not return any matching results and display the "Could not find specified value" message.
  - Cobra will expand the rows but will not highlight any specific row.
  - Cobra will highlight a specific row but will not return any matching results.

**Using the Find Function for Numeric Data**

Use the Find function to search for numeric data in the Spreadsheet pane of the Project view. The Find function for numeric data works as follows:

- Cobra searches for the actual values of the columns in the Spreadsheet pane.
- The **Match case** and **Match entire cell contents** options in the Find dialog box are always disabled.
- Cobra only returns results that **starts with** the supplied search value in the Find dialog box.

## Save and Share View

The save and share feature of Cobra allows you to save the selections for columns and order of columns, filters, sorts, **Show Summary** option, **Show Assignments** option, and resource results to a named view.

Each user can save a view, which can be accessed in **Select** » **Project Views** of the **View** group on the Edit tab. The newly added view is available to all projects.

Cobra is shipped with a **<Default>** view, which has no owner or access rights.

When you select a view, Cobra loads the selected columns, order of columns, and filter and sort selection in the Spreadsheet pane of the Project view, and the selections for the **Show Summary** option, **Show Assignments** option, and resource results on the Edit tab.

The current view selection is saved by the user for each project. When the same user opens the project, Cobra uses the last view selected.

*Select Dialog Box*

Use this dialog box to select from a list of additional views to which you have read access. The currently selected view is highlighted.

**Contents**

| Field | Description |
|---|---|
| **Name** | This column displays the name of the view. |
| **Description** | This column displays the description of the view. |
| **Owner** | This column displays the owner of the view. |
| **Last Update** | This column displays the date when the view was last updated. |

Display the Select Dialog Box

Use this procedure to display the Select dialog box.

**To display the Select dialog box:**

1. Display the Project view.
2. In the **View** group on the Edit tab, click **Select** » **More Views**.

*Save Current View As Dialog Box*

Use this dialog box to save modifications that you made to a view either by creating a new view or updating an existing one.

**Contents**

| Field | Description |
|---|---|
| **Name** | This field displays the name of the view. This field is required and may contain special characters and alphanumeric values, but may not exceed 59 characters. By default, this field displays the name of the currently selected view. When the selected view is **<Default>**, this field is empty. |
| **Description** | This field displays the description of the view. This field is optional and may not exceed 254 characters. By default, this field displays the description of the currently selected view. When the selected view is **<Default>**, this field is empty. |

If the name of the view already exists, Cobra displays a message asking if you want to overwrite it. If you have rights to modify the view, Cobra allows you to change the name, but the owner of the view is not changed.

If you do not have rights to modify the view, Cobra displays a message asking to provide a different name to the view. Cobra creates a new view and assigns you as the Owner. The view is considered "Personal" until you modify the access control using the Manage Views dialog box.

Display the Save Current View As Dialog Box

Use this procedure to display the Save Current View As dialog box.

**To display the Save Current View As dialog box:**

1. Display the Project view.
2. In the **View** group on the Edit tab, click **Save View**.

*Manage Views Dialog Box*

Use this dialog box to delete existing views or select an existing view and change its description and access control.

**Contents**

| Field | Description |
|---|---|
| **Show all users** | Select this option to display all views that you have access to. Clear this option to display only the views that you own. |
| **View** | This field displays the name of the view. |
| **Description** | This field displays the description of the view. |
| **Owner** | This field displays the user ID of the owner of the view. |
| **Delete** | Select a view that you want to delete and click the Delete button. A confirmation message displays. Click **Yes** to proceed with the deletion. You can select multiple rows for deletion by pressing CTRL+click. |

**Access Control**

| Field | Description |
|---|---|
| **Owner** | This field displays the user ID of the owner of the view. By default, this field displays the user ID of the user creating the view. You can change the ownership by clicking in the **Owner** field and selecting another user ID in the Users lookup dialog box only if you are owner of the view or part of the SYSADMIN group. |
| **User** | Users are individuals who can be given the right to the view. |
| **Group** | Groups are composed of individual users and provide a convenient way of assigning multiple user rights to the view. Typically, a group is a collection of people assigned |

| Field | Description |
|---|---|
| | to a particular view. A user can be a member of any number of groups. The SYSADMIN group is a special group that has access to administrative information.<br>Use the WORLD group to provide access to all users. For example, use this group to provide all users with read access to the view. All users you define in the EPM Security Administrator (EPM SA) automatically become members of the WORLD group in Cobra. Since this special group does not require you to maintain the users, you cannot select the WORLD group in the Group list in EPM SA. |
| **Role** | Roles define the permissions of a user in EPM SA. Each user has a primary role, such as analyst or project manager. You can override the primary role for an individual by entering a role next to a group or a user. |
| **Read Only** | When selected, this option allows the creator of the view (or any member of the SYSADMIN group) to provide a user or a group with **Read Only** access to the view.<br>You cannot assign **Read Only** access to any member of the SYSADMIN group or to the owner of the view. |

A view can be edited or deleted by the OWNER, OWNER_DELEGATE, or SYSADMIN role. A personal view becomes shared when you add access control settings to it. Cobra does not allow you to have two shared views with the same name.

Display the Manage View Dialog Box

Use this procedure to display the Manage Views dialog box.

**To display the Manage Views dialog box:**

1. Display the Project view.
2. In the **View** group on the Edit tab, click **Manage View**.

*Procedures*

Follow the procedures in this section to manage views in Cobra.

Create a View

Create a view to save the selections for columns and order of columns, filters, sorts, **Show Summary** option, **Show Assignments** option, and resource results to a named view.

**To create and save a view:**

1. Display the Save Current View As dialog box.
2. Do the following:
   - In the **Name** field, enter the name of the view.
   - In the **Description** field, enter a description of the view.
3. Click **OK**.

Modify an Existing View

Modify an existing view to change the name of the view and/or its description.

**To modify an existing view:**

1. Display the Save Current View As dialog box.
2. Update the **Name** field and the **Description** field, and click **OK**.

Manage Views

Manage views to delete existing views or modify an existing view to change its description and access control.

**To manage a view:**

1. Display the Manage Views dialog box.
2. Modify an existing view by taking one of the following actions:
   - To edit an existing view, select a view, and edit its description or access control settings.
   - To delete an existing view, select the view, and click **Delete**.

   You can edit or delete a view if you have the **OWNER**, **OWNER_DELEGATE**, or **SYSADMIN** role.
3. Modify the access control settings assigned to a view by taking one of the following actions:
   - To add a new user or group, click **New** and assign the appropriate values to the following fields:
     - **User**
     - **Group**
     - **Role**
     - **Read Only**
   - To delete an existing user or group, select the user or group, and click **Delete**.
4. To delete view, select the view that you want to delete, and click **Delete**.

## Dialog Boxes (Spreadsheet Pane of the Project View)

Some dialog boxes and procedures are used throughout the Spreadsheet pane of the Project view.

*Add Control Account Dialog Box*

Use this dialog box to add a control account to a project.

The names of the control account fields depend on the labels that you specified when you created the project in the New Project Wizard. For example, if you specified **WBS** as the label for

**Control Account Field 1 (CA1)** in the New Project Wizard, the field name displayed on the Add Control Account dialog box is **WBS**. You can also modify the control account field names on the Fields tab of the Project Properties dialog box.

The number of control account fields available on the Add Control Account dialog box depends on how many control account fields you specified when you created the project in the New Project Wizard. You can specify a maximum of three control account fields. You can also use the Fields tab of the Project Properties dialog box to modify the number of control account fields to display on the Add Control Account dialog box.

### Contents

| Field | Description |
|---|---|
| **CA1** | Use this field to enter a name for the first control account field. If you assigned a code file to this control account field when you created the project in the New Project Wizard, click to display the Code Lookup dialog box, where you can select the code value from the code file assigned the control account field. |
| **CA2** | Use this field to enter a name for the second control account field. If you assigned a code file to this control account field when you created the project in the New Project Wizard, click to display the Code Lookup dialog box, where you can select the code value from the code file assigned the control account field. |
| **CA3** | Use this field to enter a name for the third control account field. If you assigned a code file to this control account field when you created the project in the New Project Wizard, click to display the Code Lookup dialog box, where you can select the code value from the code file assigned the control account field. |
| **Description** | Use this field to enter a brief description of the new control account. |
| **Dates** | Use this group box to modify the control account dates.<br>▪ **Baseline**: Click the **Start** and **Finish** fields to display a calendar, where you can select the baseline start and finish dates for the control account.<br>You can only select a baseline start date that falls on or after the first date of the calendar used in the project. You cannot select a baseline finish date that falls after the last date of the calendar used in the project.<br>▪ **Pending**: Click the **Start** and **Finish** fields to display a calendar, where you can select the pending start and finish dates for the control account.<br>When you create a new control account, the **Pending** start and finish dates are the same as the baseline start date of the control account by default. |

| Field | Description |
|---|---|
| **CAM** | Use this field to assign a CAM value to the control account.<br>This field is available only if you specified a code file for the CAM field when you created the project using the New Project Wizard. You can also specify a code file for the **CAM** field on the Project Properties dialog box. |
| **Control Account code assignments** | Use this grid to assign codes to the control account. The code assignments are based on codes values that exist in the control account code files attached to the 20 codes on the Control Account Codes tab of the Fields tab of the Project Properties dialog box.<br>You can only define code assignments for the control account if you specified that codes will be used for that control account on the Fields page of the New Project Wizard when you were creating the project or on the Fields tab of the Project Properties dialog box after you created the project. |

**Video**

| Title | Description |
|---|---|
| Adding Data in the Project View | Learn how to add control accounts, work packages, and resource assignments in the Project view. |

Display the Add Control Account Dialog Box

Display the Add Control Account dialog box to add a control account to a project.

**To display the Add Control Account dialog box:**

1. Display the Project view.
2. Click a control account, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Add Control Account**.
   - Right-click the Spreadsheet pane and select **Add Control Account** on the shortcut menu.

*Add Work Package Dialog Box*

Use this dialog box to add a work package to a control account.

**Contents**

| Field | Description |
|---|---|
| **Work Package** | Use this field to enter a name for the new work package. If you assigned a code file to the work package field when you created the project in the New Project Wizard, click ... to display the Code Lookup dialog box. Use this dialog box to select a work package from an existing code file. |

| Field | Description |
|---|---|
| **Description** | Use this field to enter a brief description of the new work package. |
| **Dates** | Use this group box to modify the work package dates.<br>▪ **Baseline**: Click the **Start** and **Finish** fields to display a calendar, where you can select the baseline start and finish dates for the work package.<br>You can only select a baseline start date that falls on or after the first date of the calendar used in the project. You cannot select a baseline finish date that falls after the last date of the calendar used in the project.<br>▪ **Pending**: Click the **Start** and **Finish** fields to display a calendar, where you can select the pending start and finish dates for the work package.<br>When you create a new work package, the **Pending** start and finish dates are the same as the baseline start date of the work package by default. |
| **Progress Technique** | Select the progress technique that you want to use for the work package. By default, **Level of Effort** is selected. |
| **Work Package code assignments** | Use this grid to assign codes to the work package. The code assignments are based on code values that exist in the control account code files attached to the 20 codes on the Work Package Codes tab of the Fields tab of the Project Properties dialog box.<br>You can only define code assignments for the work package if you specified that codes will be used for that work package on the Fields page of the New Project Wizard when you were creating the project or on the Fields tab of the Project Properties dialog box after you created the project. |

**Video**

| Title | Description |
|---|---|
| Adding Data in the Project View | Learn how to add control accounts, work packages, and resource assignments in the Project view. |

Display the Add Work Package Dialog Box

Display the Add Work Package dialog box to add a work package to a control account.

**To display the Add Work Package dialog box:**

1. Display the Project view.
2. Click a work package, and do one of the following:

- In the **Tasks** group on the Edit tab, click **Add Work Package**.
- Right-click the Spreadsheet pane and select **Add Work Package** on the shortcut menu.

*Add Resource Assignment Dialog Box*

Use this dialog box to add new work assignments to a control account or work package.

**Contents**

| Field | Description |
|---|---|
| **Resource** | Click to display the Resource Lookup dialog box, where you can select a resource. Only those resources contained in the Resource file used by the project are available. |
| **Class** | Click to display the Class Lookup dialog box, where you can select the class that will be associated with the resource. You cannot select earned value classes.<br>If you are adding resources at the control account level, then only control account level classes are listed. If you are adding a resource at the work package level, only work package level classes are listed.<br>You cannot select frozen forecast classes or classes that are marked as read only. |
| **Result** | Use this field to select the result that Cobra will use to measure the value entered in the **Value** field. Cobra displays all result codes that have been set up for the resource. Additionally, Cobra displays an option called **Total**. Selecting **Total** will load the value against the total, and the rest of the results for the resource will back calculate from the total. |
| **Value** | Use this field to enter the total value for the resource. Cobra spreads the value in the Time-phase pane according to the baseline/forecast dates of the calendar and the spread curve. |
| **Spread Curve** | Use this field to specify the curve to be used when spreading the value in the Time-phase pane. The spread curve used is stored on the resource assignment. This field is enabled only for budget or forecast classes. |
| **Resource Assignment Code Assignments** | Use this grid to assign codes to the resource assignment. The code assignments are based on code values that exist in the resource assignment code files attached to the five fields on the Resource Assignment Codes tab of the Fields tab of the Project Properties dialog box.<br>You can only define code assignments for the resource assignments if you specified that these codes will be used for that resource assignment on the Fields page of the New Project Wizard when you are creating the project or on the Fields tab of the Project Properties dialog box after you created the project. |

### Video

| Title | Description |
|---|---|
| Adding Data in the Project View | Learn how to add control accounts, work packages, and resource assignments in the Project view. |

Display the Add Resource Assignment Dialog Box

Use this procedure to display the Add Resource Assignment dialog box.

**To display the Add Resource Assignment dialog box:**

1. Display the Project view.
2. Take one of the following actions:
   - In the **Assignments** group on the Edit tab, click **Assign Resource**.
   - In the Project view, right-click the Spreadsheet pane, and select **Assign Resource** on the shortcut menu.

*Copy Control Account Dialog Box*

Use this dialog box to create a new control account by copying an existing one.

To create a new control account, you must modify the entry in at least one field in the **Copy To** group box.

The names of the control account fields depend on the labels that you specified when you created the project in the New Project Wizard. For example, if you specified **WBS** as the label for **Control Account Field 1** in the New Project Wizard, then the field name displayed on the Copy Control Account dialog box is **WBS**. You can also modify the control account field names on the Fields Tab of the Project Properties dialog box.

### Contents

| Field | Description |
|---|---|
| **Copy From** | These fields display the project and control account containing the Properties that will be copied. You cannot modify these fields. |
| **Copy To** | Use these fields to specify the settings for the target project. |
| **Project** | Select the project to which Cobra will copy the selected control account. You can copy a control account to the same project or to a different project. |
| **WBS** | Use this field to enter a name for the first control account field. If you assigned a code file to this control account field when you created the project in the New Project Wizard, click ... to display the Code Lookup dialog box, where you can select the code to use in copying the control account field. |

| Field | Description |
|---|---|
| **OBS** | Use this field to enter a name for the second control account field. If you assigned a code file to this control account field when you created the project in the New Project Wizard, click to display the Code Lookup dialog box, where you can select the code to use in copying the control account field. |
| **RBS** | Use this field to enter a new name for the third control account field. If you assigned a code file to this control account field when you created the project in the New Project Wizard, click to display the Code Lookup dialog box, where you can select the code to use in copying the control account field. |
| **Slip By** | Use these options to move the start date of the new control account. |
| **Date** | Select this option to enter a new start date in the **New start date** field. The date can either be earlier or later than the start date of the control account being copied. |
| **New start date** | Use this field to display a calendar, where you can select the new start date. |
| **Days** | Select this option to enter a value in the **Days to Slip By** field to move the start date of the new control account by a specific number of days. |
| **Days to Slip By** | A positive value indicates the number of days to move the start date ahead, while a negative value indicates the number of days to move the start date back. |

Display the Copy Control Account Dialog Box

Display the Copy Control Account dialog box to create a new control account by copying an existing one.

**To display the Copy Control Account dialog box:**

1. Display the Project view.
2. Click a control account, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Copy To**.
   - Right-click the Spreadsheet pane and select **Copy To** on the shortcut menu.

*Copy Work Package Dialog Box*

Use this dialog box to create a new work package by copying an existing one.

**Contents**

| Field | Description |
|---|---|
| **Copy From** | This group box displays the control account and work package containing the information that will be copied. You cannot modify the fields in this group box. |
| **Copy To** | Use this group box to specify the settings for the target control account. |
| **Control Account** | Select the control account to which Cobra will copy the selected work package. click to display the Control Account Lookup dialog box, where you can select the target control account. You can copy a work package to the same control account or to a different control account. |
| **Work Package** | Use this field to enter a name for the new work package. When you created the project using the New Project Wizard and assigned a code file to the **Work Package Field**, click to display the Code Lookup dialog box, where you can select the code to use in copying the work package. |

Display the Copy Work Package Dialog Box

Display the Copy Work Package dialog box to create a new work package by copying an existing one.

**To display the Copy Work Package dialog box:**

1. Display the Project view.
2. Click a work package, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Copy To**.
   - Right-click the Spreadsheet pane and select **Copy To** on the shortcut menu.

*Move Control Account Dialog Box*

Use this dialog box to create a new control account by moving it from one location to another.

You cannot have two control accounts with the same properties in a project. To create a new control account, you must modify the entry in at least one of the control account fields in the **Copy To** group box so that you will have a unique control account field combination. If all combinations of the control account fields are already used in the project, you cannot create a unique control account.

The names of the control account fields depend on the labels that you specified when you created the project in the New Project wizard. For example, if you specified **WBS** as the label for in the New Project wizard, then the field name displayed on the Move Control Account dialog box is **WBS**. You can also modify the control account field names on the Fields tab of the Project Properties dialog box.

**Contents**

| Field | Description |
|---|---|
| **Move From** | These fields display the project and the control account containing the information that will be moved. You cannot modify these fields. |
| **Move To** | Use these fields to specify the settings for the target project. |
| **Project** | Select the project to which Cobra will move the selected control account. You can move a control account to the same project or to a different project. |
| **CA1** | Use this field to enter or select a name for the first control account field. When you created the project using the New Project Wizard and assigned a code file to this control account field , click to display the Code Lookup dialog box, where you can select the code to use in moving the control account field. |
| **CA2** | Use this field to enter or select a name for the second control account field. When you created the project using the New Project Wizard and assigned a code file to this control account field , click to display the Code Lookup dialog box, where you can select the code to use in moving the control account field. |
| **CA3** | Use this field to enter or select a name for the third control account field. When you created the project using the New Project Wizard and assigned a code file to this control account field , click to display the Code Lookup dialog box, where you can select the code to use in moving the control account field. |
| **Description** | Enter a brief description of the control account. |
| **Slip By** | Use these fields to move the start date of the new control account. |
| **Date** | Select this option to enter a new start date for the control account in the **New start date** field. The date can either be earlier or later than the start date of the control account being copied. |
| **New start date** | Use this field to display a calendar, where you can select the new start date. The new start date cannot fall before the status date or past the last date of the calendar used in the project. |
| **Days** | Select this option to enter a value in the **Days to Slip By** field to move the start date of the new control account by a specific number of days. |
| **Days to Slip By** | A positive value indicates the number of days to move the start date ahead, while a negative value indicates the number of days to move the start date back. |

Display the Move Control Account Dialog Box

Display the Move Control Account dialog box to create a new control account by moving it from one location to another.

**To display the Move Control Account dialog box:**

1. Display the Project view.
2. Click a control account, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Move**.
   - Right-click the Spreadsheet pane and select **Move** on the shortcut menu.

*Move Work Package Dialog Box*

Use this dialog box to create a new work package by moving an existing one from one location to another.

This feature is similar to copying a work package, except that when you move a work package, Cobra deletes that work package from its original location.

**Contents**

| Field | Description |
|---|---|
| **Move From** | These fields display the control account and work package containing the information that will be moved. You cannot modify these fields. |
| **Move To** | Use these fields to specify the settings for the target control account. |
| **Control Account** | Select the control account to which Cobra will copy the selected work package. Click ... to display the Control Account Lookup dialog box, where you can select the target control account.<br>You can copy a work package to the same control account or to a different control account. |
| **Work Package** | Use this field to enter a name for the new work package. When you created the project using the New Project Wizard and assigned a code file to the work package field, click ... to display the Code Lookup dialog box, where you can select the code to use in moving the work package. |

Display the Move Work Package Dialog Box

Display the Move Work Package dialog box to create a new work package by moving an existing one from one location to another using a different work package name.

**To display the Move Work Package dialog box:**

1. Display the Project view.
2. Click a work package, and do one of the following:

- In the **Tasks** group on the Edit tab, click **Move**.
- Right-click the Spreadsheet pane and select **Move** on the shortcut menu

*Rename Control Account Dialog Box*

Use this dialog box to rename a control account.

The names of the control account fields depend on the labels that you specified when you created the project in the New Project Wizard. For example, if you specified **WBS** as the label for **Control Account Field 1 (CA1)** in the New Project Wizard, then the field name displayed on the Rename Control Account dialog box is **WBS**. You can also modify the control account field names on the Fields tab of the Project Properties dialog box.

**Contents**

| Field | Description |
|---|---|
| **From** | These fields display the current names of the fields for the selected control account. You cannot modify the entries in these fields. |
| **Rename To** | Use these options to rename the fields for the selected control account. |
| **CA1** | Use this field to enter a new name for the first control account field. When you created the project using the New Project Wizard and assigned a code file to this control account field, click ... to display the Code Lookup dialog box, where you can select the code to use in renaming the control account field. |
| **CA2** | Use this field to enter a new name for the second control account field. When you created the project using the New Project Wizard and assigned a code file to this control account field, click ... to display the Code Lookup dialog box, where you can select the code to use in renaming the control account field. |
| **CA3** | Use this field to enter a new name for the third control account field. When you created the project using the New Project Wizard and assigned a code file to this control account field, click ... to display the Code Lookup dialog box, where you can select the code to use in renaming the control account field. |

Display the Rename Control Account Dialog Box

Display the Rename Control Account dialog box to rename a control account.

**To display the Rename Control Account dialog box:**

1. Display the Project view.
2. Click a control account, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Rename**.
   - Right-click the Spreadsheet pane and select **Rename** on the shortcut menu.

*Rename Work Package Dialog Box*

Use this dialog box to rename a work package.

The names of the control account fields depend on the labels that you specified when you created the project in the New Project Wizard. For example, if you specified **WBS** as the label for **Control Account Field 1** in the New Project Wizard, the field name displayed on the Rename Control Account dialog box is **WBS**. You can also modify the control account field names on the Fields tab of the Project Properties dialog box.

**Contents**

| Field | Description |
|---|---|
| **From** | This group box displays the current name of the selected work package. |
| **Rename To** | Use this group box to rename the selected work package. |
| **Work Package** | Use this field to enter a new name for the selected work package. When you created the project using the New Project Wizard and assigned a code file to the **Work Package Field**, click to display the Code Lookup dialog box, where you can select the code to use in renaming the work package. |

Display the Rename Work Package Dialog Box

Display the Rename Work Package dialog box to rename a work package.

**To display the Rename Work Package dialog box:**

1. Display the Project view.
2. Click a work package, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Rename**.
   - Right-click the Spreadsheet pane and select **Rename** on the shortcut menu.

*Update EAC Dialog Box*

Use this dialog box to manually update the forecast values for a control account or work package.

The Update EAC dialog box is only available if you set the **Scale Retain EAC** field on the Forecast Preferences tab of the Project Properties dialog box to **Hours**, **Currency**, or **Hours and Currency**.

If you set the **Scale Retain EAC** field to **Currency** or **Hours**, the Update EAC dialog box displays with a field for updating the value for **Hours** or **Currency**. If you set **Scale Retain EAC** field to **Hours and Currency**, the Update EAC dialog box displays with two fields for updating the values for both **Hours** and **Currency**.

You must have access control that is greater than read-only to use the Update EAC utility.

**Contents**

| Field | Description |
|---|---|
| **Old value** | This field displays the old value for the **Hours** or **Currency**. You cannot change the value in this field. |
| **New value** | Use this field to enter the new value for the **Hours** or **Currency**. |

Display the Update EAC Dialog Box

Display the Update EAC dialog box to manually update the forecast values for a control account or work package.

**To display the Update EAC dialog box:**

1. Display the Project view.
2. Click a control account or a work package, and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Update EAC**.
   - Right click the Spreadsheet pane, and select **Update EAC** on the shortcut menu.

## Procedures

Follow the procedures in this section to utilize the dialog boxes in the Spreadsheet pane of the Project view.

*Adding a New Control Account*

You can add a new control account in the Spreadsheet pane of the Project view by using the Add Control Account dialog box or by adding it manually.

Add a New Control Account using the Dialog Box

Use the Add Control Account dialog box to add a new control account to the project.

**To add a new control account using the dialog box:**

1. Display the Project view and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Add Control Account**.
   - Right-click the Spreadsheet pane and select **Add Control Account (Ctrl+A)** on the shortcut menu.
2. Use the fields and options in the Add Control Account dialog box to create a new control account.
3. Click **OK** to add the new control account to the project.

Add a New Control Account Manually

You can manually add a new control account in the Spreadsheet pane of the Project view.

**To manually add a new control account:**

1. Display the Project view of the project you are updating.
2. In the Spreadsheet pane, click the blank row at the bottom and take one of the following actions:
   - Type the value for the required fields in the appropriate columns.
   - Click in each column to display the Lookup dialog box and select a code for the field.

     **Note:** The Lookup dialog box only displays if you have a code file assigned to the control account fields.

   The following fields are required for a new control account:

| Field | Description |
|---|---|
| **Control Account Fields** | These must be in the validating code file. |
| **Baseline Start** | If not specified, this defaults to Project Baseline Start. |
| **Baseline Finish** | If not specified, this defaults to Project Baseline Finish. |
| **CAM** | As required |
| **Codes** | As required |

3. To save your changes, take one of the following actions:
   - Click on the Quick Access toolbar.
   - Click another row in the Spreadsheet pane. Cobra performs a validation and saves your changes.

   If a required field is not specified, Cobra displays in the column.

   After saving your changes, the control account and work package fields become disabled. Use the Rename or Move function to make additional changes.

*Adding a New Work Package*

You can add a new work package in the Spreadsheet pane of the Project view by using the Add Work Package dialog box or by adding it manually.

Add a New Work Package using the Dialog Box

Use the Add Work Package dialog box to add a new work package to the selected control account.

**To add a new work package using the dialog box:**

1. Display the Project view and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Add Work Package**.
   - Right-click the Spreadsheet pane and select **Add Work Package (Ctrl+W)** on the shortcut menu.
2. Use the fields and options in the Add Work Package dialog box to create a new work package.
3. Click **OK** to add the new work package to the selected control account.

Add a New Work Package Manually

You can manually add new work packages in the Spreadsheet pane of the Project view.

**To manually add a new work package:**

1. Display the Project view of the project you are updating.
2. In the Spreadsheet pane, click the blank row at the bottom and take one of the following actions:
   - Type the value for the required fields in the appropriate columns.

     **Note:** You can only add a work package to the last control account in the Spreadsheet pane. Otherwise, you have to filter the Spreadsheet pane to a particular control account so that the last row displays the desired control account.
   - Click in each column to display the Lookup dialog box and select a code for the field.

     **Note:** The Lookup dialog box only displays if you have a code file assigned to the control account fields. You can copy multiple control account fields from another row, paste the information into a blank row, and add a work package ID.

   The following fields are required for a new work package:

| Field | Description |
|---|---|
| **Control Account Fields** | These must be in the validating code file. |
| **Control Account Code Required** | If not specified, Cobra displays a warning message asking you to create the control account first before adding the work package. |
| **Work Package ID** | This must be included in the validating code file. |

| Field | Description |
|---|---|
| **Baseline Start** | If not specified, this defaults to Control Account Start. |
| **Baseline Finish** | If not specified, this defaults to Control Account Finish. |
| **Progress Technique** | If this field is added in the Spreadsheet pane but not specified, this defaults to Level of Effort (LOE). |

The work package field for a new control account row is editable only before you save your changes. The Resource column is always disabled. Use the Add Resource Assignment dialog box to a new resource.

3. To save your changes, take one of the following actions:
   - Click the on the Quick Access toolbar.
   - Click another row in the Spreadsheet pane. Cobra performs a validation and saves your changes.

   If a required field is not specified, Cobra displays in the column.

   If the parent control account does not exist, it will be created automatically after all required control account fields are specified. If there are required codes on the control account, it must be created before the child work packages can be added.

*Rename a Control Account*

Use the Rename Control Account dialog box to rename a control account.

**To rename a control account:**

1. Display the Project view, click a control account:
   - In the **Tasks** group on the Edit tab, click **Rename**.
   - Right-click the control account and select **Rename** on the shortcut menu.
2. In the Rename Control Account dialog box, use the fields in the **Rename To** group box to rename the fields for the selected control account.
3. Click **OK**.

   You can only rename control accounts for projects to which you have read/write access.

*Rename a Work Package*

Use the Rename Work Package dialog box to rename a work package.

**To rename a work package:**

1. Display the Project view, click a work package, and take one of the following actions:

- In the **Tasks** group on the Edit tab, click **Rename**.
- Right-click the work package and select **Rename** on the shortcut menu.

2. On the Rename Work Package dialog box, use the **Rename To** group box to rename the selected work package.
3. Click **OK**.

   You can only rename work packages for projects to which you have read/write access.

*Move a Control Account*

Use the Move Control Account dialog box to create a new control account by moving it from one location to another.

**To move a control account:**

1. Display the Project view, click a control account, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Move**.
   - Right-click the Spreadsheet pane and select **Move** on the shortcut menu.
2. Use the fields and options in the Move Control Account dialog box to create a new control account.
3. Click **OK**.

   This feature is similar to copying a control account, except that when you move a control account, Cobra deletes that control account from its original location. You can only move control accounts to projects to which you have read/write access.

*Move a Work Package*

Use the Move Work Package dialog box to create a new work package by moving an existing one from one control account to another control account or to within the same control account using a different work package name.

This feature is similar to copying a work package, except that when you move a work package, Cobra deletes that work package from its original location.

**To move a work package:**

1. Display the Project view, click a work package, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Move**.
   - Right-click the Spreadsheet pane and select **Move** on the shortcut menu.
2. Use the fields and options in the Move Work Package dialog box to create a new work package.
3. Click **OK**.

*Copy a Control Account*

Use the Copy Control Account dialog box to create a new control account by copying an existing one.

**To copy a control account:**

1. Display the Project view, click a control account, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Copy To**.
   - Right-click the Spreadsheet pane and select **Copy To** on the shortcut menu.
2. Use the fields and options in the Copy Control Account dialog box to create a new control account by copying an existing one.
3. Click **OK**.

   You can only copy control accounts to projects to which you have read/write access.

*Copy a Work Package*

Use the Copy Work Package dialog box to create a new work package by copying an existing one.

**To copy a work package:**

1. Display the Project view, click a work package, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Copy To**.
   - Right-click the Spreadsheet pane and select **Copy To** on the shortcut menu.
2. Use the fields and options in the Copy Work Package dialog box to create a new work package by copying an existing one.
3. Click **OK**.

*Add a Resource Assignment*

Use the Add Resource Assignment dialog box to add new work assignments to a control account or work package.

**To add a resource assignment:**

1. Display the Project view and take one of the following actions:
   - In the **Assignments** group on the Edit tab, click **Assign Resource**.
   - In the Project view, right-click the Spreadsheet pane and select **Assign Resource (Ctrl+R)** on the shortcut menu.
2. Use the fields and options in the Add Resource Assignment dialog box to add a new resource.
3. Click **OK**.

The spread curve used is stored on the resource assignment. Cobra spreads the value that you entered for the budget or forecast resource assignment in the Time-phase pane based on the spread curve and the calendar assigned to the class.

*Save the Contents of the Spreadsheet Pane as an Excel File*

You can save the contents of the Spreadsheet pane in Microsoft Excel format.

**To save the Spreadsheet pane in Excel format:**

1. Display the Project view and take one of the following steps:
   - In the **Tasks** group on the Edit tab, click **Copy View**.
   - Right-click the Spreadsheet pane and select **Copy View** on the shortcut menu.
2. In the Save As dialog box, use the **Save in** field to select the folder where you want to save the file.
3. Enter a name for the file in the **File name** field.
4. Select Excel file in the **Save as type** field.
5. Click **Save**.

*Update EAC*

Use the Update EAC Dialog Box to manually update the forecast values for a control account or work package.

You can use the Update EAC utility only if you selected **Hours**, **Currency**, or **Hours and Currency** in the Forecast Preferences tab of the Project Properties dialog box.

You must have access control that is greater than read-only to use the Update EAC utility.

**To manually update the forecast for a control account or work package:**

1. Display the Project view, click a control account or work package, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Update EAC**.
   - Right-click the Spreadsheet pane and select **Update EAC** on the shortcut menu.
2. Select **Update EAC** from the shortcut menu.
3. In the Update EAC dialog box, enter the new forecast value in the **New value** field.

   After you revise the EAC, you will have to calculate the forecast so that time-phased data is also updated.
4. Click **OK**.

## Time-phase Pane of the Project View

The Time-phase pane displays the time-phased costs associated with the selected resource in the Spreadsheet pane.

Use the Time-phase pane of the Project view to:

- View resources assigned to the selected control account or work package in the Spreadsheet pane
- Select specific resources to view by a single class, multiple classes, all classes, or reporting set
- Select specific resources to view by resource assignment code
- View the TOTAL value for each result type, for example, all HOURS in a control account for a particular resource
- Toggle the result displayed to view resource values in HOURS, FTE, DIRECT, or TOTAL DOLLARS
- Collapse or hide resources
- View the Total row which summarizes all project data based on the applied filter
- Display the total time-phased spread at the control account or work package level if the **Show Summary** option in the **Data** group is selected

The data displayed in the Time-phase pane depends on the following selections:

- If the **View Totals** item in the EPM SA is disabled, the **Total Currency** is not displayed in the **Result** drop-down list.
- If the **View Derived Results** item in the EPM SA is disabled, the **Result** drop-down list displays only the base results of the resource assignments and the **Show Summary** option is also disabled. The **Show Summary** option becomes enabled only if you select **Total Currency** in the **Result** field. If the result selected in the **Result** drop-down list is the base result, the Time-phase pane does not display any roll-up data.
- If the result selected in the **Result** field is not the base result of the selected resource assignment, the Time-phase pane does not display any data.

### Time-phase Pane Field Descriptions

You cannot insert or remove columns in the Time-phase pane of the Project view.

| Column | Description |
|---|---|
| **Total** | This column displays the current total for each of the results over the life of the project. |
| **Fiscal Period** | The succeeding columns after the Total column display the costs for each resource by result for each period as defined by the dates in the calendar associated with the project. A red line |

| Column | Description |
|---|---|
| | next to a column indicates that it is the starting period. |

### Data Entry in the Time-phase Pane

You can manually adjust the spread of the resources within the control account or work package dates in the Time-phase pane.

The total time-phased spread display at the control account or work package level if the **Show Summary** option in the **Data** group on the Edit tab is selected. The Total row displays the total time-phased spread at the project-level based on the filter applied to the project view.

You can spread resources within the dates of the respective control account or work package. When you enter or update data in the Time-phase pane, the Time-phase Detail pane is updated at the same time. The Time-phase pane is updated after you save your changes in the Time-phase Detail pane or navigate to another row in the Spreadsheet pane.

If you are on resource row, the **Spread** option is enabled, which allows you to select one of the following:

- **Spread**
- **Reconcile**
- **Fix Spread**

## Tabbed Pane of the Project View

The Tabbed pane displays detailed information for a selected control account or work package and allows you to edit the information.

The Tabbed pane contains the following tabs:

- General tab
- Milestones/Steps tab
- Codes tab
- Notes tab

### General Tab of the Project View

Use this tab to view or modify general information for a control account or work package.

**Contents**

| Field | Description |
|---|---|
| **Status** | This field displays the status of the selected control account or work package. The status changes depending on the dates that you enter in the **Dates** group box. |

| Field | Description |
|---|---|
| | ▪ **Planned**: The control account or work package has not been started, and there is no actual start date.<br>▪ **In-progress**: The control account or work package has been started, and an actual start date has been entered.<br>▪ **Completed**: The control account or work package has finished, meaning an actual finish date has been entered.<br>The status of the control account depends on the status of its work packages. If all work packages under the control account have a status of **Completed**, the control account's status automatically changes to **Completed**, using the actual finish date of the latest work package.<br>The status of the work package depends on the status of its milestones or steps. If all milestones or steps under the work package have a status of **Completed**, the work package's status automatically changes to **Completed**, using the actual finish date of the latest milestone or step.<br>Deleting an actual finish date automatically changes the status of the control account or work package back to **In-progress**.<br>Deleting an actual start date automatically changes the status of the control account/work package from **In-progress** to **Planned**. |
| **Description** | This field displays a description of the selected control account or work package. |
| **Dates** | Use this group box to modify project dates. You can also modify these dates in the Spreadsheet pane. All dates must be within the calendar used for the project.<br>**Attention:** To know how Cobra uses the project dates, see How Cobra Uses the Early and Late Dates.<br>▪ **Baseline**<br>Use the **Start** and **Finish** fields to enter the baseline start and finish dates.<br>When you modify the baseline dates for a control account, the new dates must be within the calendar periods defined for the project. When you modify the baseline dates for a work package, the dates must be within the control account dates.<br>▪ **Actual**<br>Use the **Start** and **Finish** fields to enter the actual start and finish dates.<br>You cannot enter an actual finish date for a control account if at least one work package under that control account has a status of **Planned** or **In-progress**. |

| Field | Description |
|---|---|
| | Selecting the **Allow removing of actual finish date for a completed Control Account/Work Package** option in the Project — Preferences tab of the Project Properties dialog box has an impact on the project status.<br>The **Finish** field for **Actuals** in the **Dates** group box is disabled when the control account or work package has a status planned. The actual start date cannot be later than the status date of the project. The actual finish date cannot be later than the status date of the project or before the actual start date.<br>▪ **Forecast**<br>Use the **Start** and **Finish** fields to enter the forecast start and finish dates.<br>When you create a new control account or work package, the **Forecast** start and finish dates are the same as the baseline start and finish dates of the control account or work package by default.<br>Entering actual start and finish dates automatically updates the **Forecast Start** and **Forecast Finish** fields with the same dates.<br>▪ **Early**<br>Use the **Start** and **Finish** fields to enter the early start and finish dates.<br>When you create a new control account or work package, the **Early** start and finish dates are the same as the baseline start and finish dates of the control account or work package by default.<br>▪ **Late**<br>Use the **Start** and **Finish** fields to enter the late start and finish dates.<br>When you create a new control account or work package, the **Late** start and finish dates are the same as the baseline start and finish dates of the control account or work package by default.<br>▪ **Pending**<br>Use the **Start** and **Finish** fields to enter the pending start and finish dates.<br>When you create a new control account or work package, the **Pending** start and finish dates are the same as the baseline start and finish dates of the control account or work package by default.<br>If you adjust any of the start or finish dates of the selected budget or forecast resource assignment, and the new dates extend or shorten the time-phase periods of that resource assignment, the Spread Curve column in the Spreadsheet pane changes to **Manual**. |
| **Progress Technique** | The progress technique determines how earned value is calculated. Select the progress technique for the work package. Depending on the progress technique selected, additional information may be required. |

| Field | Description |
|---|---|
| **% Completed** | This field is available only if you select the **% Complete** or **% Complete Manual Entry** progress technique.<br>Use this field to enter a percent complete manually for each status period. The value entered means that at the current status date of the project, this percentage of work is completed for the work package. For example, if you entered 20 in this field, 20% of the work package has been earned.<br>The **% Complete Manual Entry** progress technique works the same way as the **% Completed** progress technique except that Cobra does not update work packages using the **% Complete Manual Entry** method when the status is loaded from the schedule. |
| **Apportioned to** | This field is available only if you select the **Apportioned** progress technique.<br>Use this field to select a work package to which the budget for the referenced work package will be apportioned. Click ... to display the Work Package Lookup dialog box, where you can select a work package.<br>Cobra first calculates the percentage of the referenced work package that is already complete and applies that percentage when calculating the earned value for the apportioned work package. |
| **Resource Assignments** | This button is available only if you select the **Assignment % Complete** progress technique.<br>Use this button to display the Resource Assignment Percent Complete dialog box, where you can enter the percent complete value for each resource assignment individually. |
| **Units to do/ Units complete** | These fields are available only if you select the **Units Complete** progress technique. Use the **Units to do** field to enter the number of units that remain to be completed. Cobra calculates the earned value as the work package budget multiplied by the number of tasks completed and divided by the value in the **Units to do** field. Use this method when the work package contains a predefined number of similar tasks. |
| **Opening %** | This field is available only if you select the **User Defined** progress technique.<br>Use this field to enter an opening percentage to be marked as earned when the work package opens. The rest is earned when the work package is completed. Use this method only if the work package spans a maximum of two fiscal periods. |

*How Cobra Uses the Early and Late Dates*

When you create a class, you specify which date set is used for that class.

Cobra uses the date sets as follows:

- A budget class can use either baseline or pending dates. A forecast can use either forecast, early, or late dates.
- The forecast dates are the default set of dates for the forecast.

- The IPMR CPR Format 1 report has three sets of forecasts in the header (best case, worst case, and most likely).
- Use the early and late dates to calculate the various forecasts if needed.
- Pending dates are used for what if analysis and/or change management.

Use the Dates group box on the General tab of the Project view to modify project dates. You can also modify these dates in the Spreadsheet pane.

*Secure Baseline Dates*

There is a security option in Cobra that allows certain roles to prevent them from changing the time-phased spread values for ceratin budget classes.

This has been updated to also prevent you from modifying the baseline dates of control accounts or work packages, if you do not have rights to update budget classes included in the budget totals, as this may affect the time-phased spread values.

If you have rights to update budget classes included in the budget totals, you can update the baseline dates of control accounts or work packages, even if you do not have rights to update budget classes that are not part of the budget totals.

To secure update rights to a budget class, click **Project Data** » **Update Budget** item in the EPM Security Administrator (EPMSA) tool.

This table describes the security permissions that you can apply to the **Update Budget** option in the EPMSA tool.

| Update Budget Option | Visible? | Enabled? | Access in Cobra | Definition |
|---|---|---|---|---|
| **Included in Budget** | Yes | Yes | With update rights | Cobra allows you to update the time-phased spread values for budget classes included in the budget totals, which means that the **Included in Budget** option on the General tab of the Classes tab is selected.<br>You can update the baseline start and finish dates of control accounts and work packages. |
| | Yes | No | Without update rights | Cobra does not allow you update the time-phased spread values for budget classes included in the budget totals.<br>You cannot update the baseline start and finish dates of control accounts and work packages. |
| | No | No | | |
| **Not included in Budget** | Yes | Yes | With update rights | Cobra allows you to update the time-phased spread values for budget classes included in the budget totals, which means that the **Not Included in Budget** option on the General tab of the Classes tab is selected.<br>You can update the baseline start and finish dates of control accounts and work packages. |

| Update Budget Option | Visible? | Enabled? | Access in Cobra | Definition |
|---|---|---|---|---|
| | Yes | No | Without update rights | Cobra does not allow you update the time-phased spread values for budget classes not included in the budget totals.<br>You can update baseline start and finish dates for control accounts and work packages. |
| | No | No | Without update rights | Cobra does not allow you update the time-phased spread values for budget classes not included in the budget totals.<br>You cannot update baseline start and finish dates for control accounts and work packages. |

The following rules apply when you update the baseline dates in different areas of Cobra.

**Project View**

If you do not have update rights to an Included in Budget class:

- The **Baseline Start** and **Baseline Finish** columns in the Spreadsheet pane are disabled.
- The **Baseline Start** and **Baseline Finish** date fields on the General tab of the selected control account or work package are disabled.
- Cobra will not allow you to edit the **Baseline Start** and **Baseline Finish** date fields for both included in budget totals classes and not included in budget totals classes.

  **Note:** If you wish to edit the dates and spread for certain budget classes not included in the budget totals, you may choose to create a Pending Budget class that uses Pending Start and Pending Finish dates which are not affected by this secure baseline feature.

- If you add a new control account or a work package and you do not have update rights to edit budget classes included in the budget totals, Cobra will allow you to enter the **Baseline Start** and **Baseline Finish** dates. After saving the new control account of work package, you cannot change the baseline dates.

**Integration using Scheduling Tools (File, Open Plan, Primavera, and MS Project)**

Cobra uses the following rules when using the scheduling tools during the Integration process.

- If you do not have update rights to budget classes included in the budget totals, Cobra will not change the baseline start and finish dates of control accounts and work packages during integration.
- If you load time-phased data to budget classes not included in the budget totals, and there are time-phased spread values that fall outside of the work package baseline dates, Cobra will display a warning message, exclude these time-phased spread values, and load only the valid time-phased period values during integration.

### Assignment Import

Cobra uses the following rules during the Assignment Import process.

- If you do not have update rights to budget classes included in the budget totals, and you try to load a budget class included in the budget totals, Cobra will display a validation error message in the process log and will not proceed with the Assignment Import process.
- If you do not have update rights to budget classes included in the budget totals, and you try to load a budget class that is not included in the budget totals, Cobra will check if the baseline dates are outside of the existing baseline dates and will display a warning message in the process log.

### Reclass

If you do not have update rights to budget classes, the following rules apply to the Reclass process:

- You can select a budget class as the source class. However, the **Copy and Delete** option on the Source Class page is disabled.
- You cannot select a budget class as the target class.

If you do not have update rights to budget classes included in the budget totals but have rights to budget classes not included in the budget totals, the following rules apply to the Reclass process:

- You can select a budget class included in the budget totals as the source class. However, the **Copy and Delete** option on the Source Class page is disabled. If you select a budget class not included in the budget totals as the source class, the **Copy and Delete** option is enabled.
- You cannot select a budget class included in the budget totals as the target class. However, you can select a budget class not included in the budget totals.
- If you reclass from a source class to a budget class not included in the budget totals, and the baseline dates for the control accounts and work packages will change, Cobra will display a warning message in the process log and will skip the control accounts and work packages.
- Here are some scenarios when the work package will be skipped, or when it will be reclassed, if you do not have rights to update the baseline dates or included in budget totals class:
  - If the source class (for example, Forecast, Early, Late, Pending) start date is earlier than the target baseline start date, or the source finish date is later than the target baseline finish date, it will be skipped during the reclass process. The skipped work packages will be included in the warning log.
  - If a date range is selected, the target dates are not updated and the time-phased values will be copied from the source to the target without a warning message in the process log.
  - If the source class is a progress class, the time-phased values are copied for all work packages because the target dates are not updated.

- If the source class is an actual class, the target class cannot be a budget class. This means the security settings do not apply.
- If the **Allow reclass of completed Control Accounts/Work Packages** option on the Options page is selected, the time-phased values are copied for the completed control accounts and work packages because the baseline dates are not updated.

*Budget Pending Dates*

Cobra allows you to specify a set of start and finish dates for new and existing budget type classes that are not included in the budget.

These alternative budget dates are called pending dates. The pending date set allows you to enter budget data against different dates for budget that has not been included in the official reporting budget. This is important in the change management process where baseline dates cannot be updated until the budget is approved. Once a “pending” class is approved and added to an included budget class using Reclass, the baseline dates will be updated to encompass all related dates and resources.

You must take note of the following when using pending dates:

- If you change the Budget Date set on an existing class from budget to pending or vice versa, Cobra will ask you to respread the classes to use the new dates.
- Use Classes tab of the General tab of the Project Properties dialog box to specify the budget date set. The Budget Dates default to baseline dates, unless you specify pending dates on the Class Settings page of the New Class wizard.
- When you run the Reclass process from a class that uses pending dates to a class with the **Include in Budget** option selected, Cobra will update the baseline dates to encompass the pending dates. Cobra will also update the time-phased spread for existing records to include zero time-phased entries for new dates.
- During schedule integration, you can specify pending dates on the Date Selection page of the Integration wizard. The class dates determine the dates the time-phased records will be spread over.

*Resource Assignment Percent Complete Dialog Box*

Use the Resource Assignment Percent Complete dialog box to enter the percent complete value for each resource assignment individually.

**Contents**

| Field | Description |
|---|---|
| **Resource** | This column displays all budgeted resources for the work package. You cannot change the value in this column. |
| **Class** | This column displays the class for each resource. You cannot change the value in this column. |
| **Budget** | This column displays the total budget for each resource. You cannot change the value in this column. |

| Field | Description |
|---|---|
| **Units** | This column displays the first result for each resource. You cannot change the value in this column. |
| **% Complete** | Use this field to enter the percent complete value for each resource. |

Display the Resource Assignment Percent Complete Dialog Box

Use this procedure to display the Resource Assignment Percent Complete dialog box.

**To display the Resource Assignment Percent Complete dialog box:**

1. Display the Project view and select a resource assignment.
2. Click the General tab and select **Assignment % Complete** in the **Progress Technique** field.
3. Click **Resource Assignments**.

### Milestones/Steps Tab of the Project View

Use this tab to create milestones and steps for work packages.

You can add milestones for work packages that do not use the Milestones or Steps progress technique if the **Allow entering milestones regardless of Progress Technique** option on the Preferences — Project tab of the Project Properties dialog box is selected. However, Cobra processes will ignore milestones added to a work package that has a progress technique other than Milestones.

You cannot modify properties about a milestone if it has a status of **Completed**. Right-click the Milestones/Steps pane to display the menu items relevant to it.

**Contents**

| Field | Description |
|---|---|
| **Name** | This column displays the name of the milestone or step. |
| **Description** | This column displays a description of the milestone or step. |
| **Baseline Finish** | This column displays the baseline finish date for the milestone.<br>This column displays for work packages that use Milestones progress technique. In addition, this column displays for work packages that use any of the progress techniques other than Steps if the **Allow entering milestones regardless of Progress Technique** option on the Preferences — Project tab of the Project Properties dialog box is selected. |
| **Actual Finish** | This column displays the actual finish date for the milestone.<br>This column displays for work packages that use Milestones progress technique. In addition, this column displays for work packages that use any of |

| Field | Description |
|---|---|
| | the progress techniques other than Steps if the **Allow entering milestones regardless of Progress Technique** option on the Preferences — Project tab of the Project Properties dialog box is selected. |
| **Forecast Finish** | This column displays the forecast finish date for each milestone of the work package.<br>This column displays for work packages that use Milestones progress technique. In addition, this column displays for work packages that use any of the progress techniques other than Steps if the **Allow entering milestones regardless of Progress Technique** option on the Preferences — Project tab of the Project Properties dialog box is selected. |
| **Status** | This column displays the status of the work package. The status is either **Planned**, **In-progress**, or **Completed**. You cannot modify this value.<br>If the percent complete is 0, the status is **Planned**. If the percent complete is greater than 0 but less than 100, the status is **In-progress**. If the percent complete is 100, the status is **Completed**.<br>If you are not using percent completes for milestones, the status changes depending on the actual finish date. If the **Actual Finish** field is blank, the status is **Planned**. If you enter a date in the **Actual Finish** field, the status is **Complete**. |
| **Weight** | This column displays the weight assigned to the work package. Cobra uses the weight to indicate how much of the work package value is earned when the milestone or step has been completed.<br>For example, if three milestones are set up with a weight of 30, 30, and 40 each, each milestone will earn the same percentage of the total work package budget once the milestone has been completed.<br>**Note:** You can display the milestone weight value on this tab with up to six decimal places using the **Precision of Milestone Weight** field on the General tab of the Application Preferences dialog box. |
| **% Complete** | If you selected the **Allow percent complete on milestones/steps** option on the Project Preferences tab of the Project Properties dialog box, you can enter the percent complete for each milestone or step.<br>Entering 100% automatically gives the milestone a status of **Complete** and makes the actual finish date the same as the status date. Deleting the actual finish date resets the milestone to **In-progress** and enables the **% Complete** column. Changing the status from **In-progress** to **Planned** resets this field to 0. |

*Reconcile Milestone Weight Variance Dialog Box*

Use this dialog box to address variances that are revealed when you run the Reconcile Milestone Weight utility.

When you run the Reconcile Milestone Weight utility, Cobra runs a validation against all milestones to check that the milestone weight for the work package is within the percentage weight variance defined on the General tab of the Application Preferences dialog box.

If the milestone weight varies more than the percentage defined for the budget, Cobra provides you with three options for reconciling the variance:

- Update the milestone weights manually
- Update the milestone weights programmatically
- Ignore the variance

**Contents**

| Field | Description |
|---|---|
| **Update milestones** | Select this option to manually update the milestone weights in the Milestones grid on the Milestones/Steps tab. |
| **Reconcile milestones** | Select this option to instruct Cobra to calculate the weight of each milestone based on its associated budget.<br>**How Cobra calculates milestone weights**<br>Cobra calculates milestone weights as follows:<br>▪ After importing all of the baseline data for the work package, the milestone weight is calculated using the same formula as the reconciliation in the project properties. The Reconcile Milestone Weight Variance dialog box's **Reconcile milestones** option defines this calculation.<br>▪ Cobra calculates the first milestone weight by taking the budget that is spread from the beginning of the work package until the first milestone, dividing it by the total work package budget, and multiplying the result by the milestone weighting factor.<br>▪ Cobra calculates subsequent milestone weights by taking the budget that is spread between the previous and next milestone, dividing it by the total work package budget, and multiplying the result by the milestone-weighting factor.<br>▪ If two or more milestones have the same scheduled finish date, Cobra divides the final weight calculated for the first milestone by the number of milestones with the same finish date. This weight is then applied to all milestones with the same scheduled finish date. |

| Field | Description |
|---|---|
| | ▪ If the selected project or the template project uses the **Progress by Time** method, the milestone weight is not calculated or imported because this method does not use milestone weighting. |
| **Ignore** | Select this option to instruct Cobra to ignore the weight variance. Selecting this option can create artificial schedule variances. |

Display the Reconcile Milestone Weight Variance Dialog Box

Use this procedure to display the Reconcile Milestone Weight Variance dialog box.

**To display the Reconcile Milestone Weight Variance dialog box:**

1. Display the Project view and select a work package for which you want to reconcile milestone weights.
2. Click the Milestones/Steps and take one of the following actions:
   - In the **Milestone/Step** group on the Edit tab, click **Milestone** » **Reconcile Weights**.
   - Right-click the Milestones/Steps grid and select **Reconcile Weights** on the shortcut menu.

*Procedures*

Follow the procedures in this section to manage the Milestones/Steps tab of the Project view.

Add Milestones or Steps

Create milestones and steps for work packages to measure progress.

**To add milestones or steps to a work package:**

1. Display the Project view, select a work package in the Spreadsheet pane, and select the Milestones/Steps tab.
2. To add milestone, take one of the following actions:
   - In the Milestone/Step group on the Edit tab, click **Milestone** » **Add Milestone**.

     **Note:** You can add milestones only if the work package uses any of the progress techniques other than Steps and the **Allow entering milestones regardless of Progress Technique** option on the Preferences — Project tab of the Project Properties dialog box is selected. However, Cobra processes will ignore milestones added to a work package that has a progress technique other than Milestones. The milestones are for informational purposes only.

   - Right-click the Milestones/Steps grid and select **Add Milestone** on the shortcut menu.
3. To add a step, take one of the following actions:

- In the Milestone/Step group on the Edit tab, click **Step**.
- Right-click the Milestones/Steps grid and select **Step** on the shortcut menu.

Cobra adds a row to the Milestones/Steps grid. Use this row to add information required for a milestone or step, such as description, dates, and weight factor. You cannot modify information about a milestone or step if the work package has a status of **Completed**.

Modify Milestones or Steps

Use the Milestones/Steps grid to update a milestone or step.

**To modify milestones or steps:**

1. Display the Project view, select a work package in the Spreadsheet pane, and select the Milestones/Steps tab.
2. In the Milestones/Steps grid, select the milestone or step you want to update.
3. Update the information for the milestone or step, and click .

Delete Milestones or Steps

Use the Milestones/Steps grid to delete a milestone or step.

**To delete milestones or steps:**

1. Display the Project view, select a work package in the Spreadsheet pane, and select the Milestones/Steps tab.
2. In the Milestones/Steps grid, right-click the milestone or step that you want to delete and select **Delete**.
3. Click **Yes** when Cobra prompts you to confirm the operation.

Reconcile Milestone Weights

When you run the Reconcile Milestone Weight utility, Cobra runs a validation against all milestones to check that the milestone weight for the work package is within the percentage weight variance defined on the General tab of the Application Preferences dialog box.

If the milestone weight varies more than the percentage defined for the budget, Cobra provides you with three options for reconciling the variance: update the milestone weights manually, update the milestone weights programmatically, or ignore the variance.

**To reconcile milestone weights:**

1. Display the Project view and click a work package for which you want to reconcile milestone weights.
2. Select the Milestones/Steps tab and take one of the following actions:
   - In the **Milestone/Step** group on the Edit tab, click **Milestone** » **Reconcile Weights**.

- Right-click the Milestones/Steps grid and select **Reconcile Weights** on the shortcut menu.

3. In the Reconcile Milestone Weight Variance dialog box, select an option for reconciling milestone weights.
4. Click on the Quick Access toolbar to save your changes.

### Codes Tab of the Project View

Use this tab to view the Control Account Manager, the Work Package Manager, and the codes associated with the selected control account, work package, or resource assignment in the Spreadsheet pane.

| Field | Description |
|---|---|
| **Description** | If you selected a control account in the Spreadsheet pane, this column displays the Control Account Manager (CAM) and the control account codes defined on the Fields tab of Project Properties dialog box.<br>If you selected a work package in the Spreadsheet pane, this column displays the Work Package (WP) Manager and the work package codes defined on the Fields tab of the Project Properties dialog box.<br>If you selected a resource assignment in the Spreadsheet pane, this column displays the resource assignment codes defined on the Fields tab of the Project Properties dialog box. |
| **Value** | This column displays the value of the CAM, WP Manager, control account code, work package code, or resource assignment code. |

### Notes Tab of the Project View

Use this tab to add a note to the selected control account or work package.

**Contents**

| Field | Description |
|---|---|
| **Category** | Use this field to select a category for the note. After adding a note, click on the Quick Access toolbar to save the note.<br>You can define more note categories on the Notes tab of the Application Preferences dialog box. You can attach multiple notes to a control account or work package. However, you can attach only one note per category. You can also cut or copy text from a word processor or spreadsheet and paste it in the space provided for the note in the Project view. |

## Time-phase Detail Pane of the Project View

The Time-phase Detail pane displays full calculations details of the selected resource assignment in the Spreadsheet pane.

### Contents

| Field | Description |
|---|---|
| **Result** | This column displays the results for the selected resource assignment. |
| **Units** | This column displays the budget (the first result on the resource's calculation) units used for the results. |
| **Total** | This column displays the current total for each of the results over the life of the project.<br>The other columns in the Time-phase Detail pane display the costs for each budget or forecast resource assignment by result for each period as defined by the dates in the calendar associated with the project. When you edit any of these columns and there is already a spread curve assigned to the selected budget or forecast resource assignment, the Spread Curve column in the Spreadsheet pane changes to **Manual** if you select any of the following options on the Spread dialog box:<br>▪ **Remaining fiscal period**<br>▪ **Use existing profile**<br>▪ **Last period only** |
| **Show details** | Select this checkbox to display the Forecast Details pane below the Time-phase Detail pane that contains additional forecast class information for the selected resource assignment. This checkbox is enabled if a forecast class is selected in the Spreadsheet pane of the Project view. |
| **Fix Spread** | Click this button to adjust the time-phased spread when the time-phased spread is outside the baseline dates of the control account or work package. Time-phased values outside the baseline dates are highlighted in red in the Time-phase pane. This button is enabled only if you have update access to the class. |
| **Reconcile** | For budget purposes, use this button when the time-phased total (value in the Total Currency row for the TOTAL column) of a budgeted resource no longer matches the budget at complete (BAC) for that resource. Click the period where you want the reconciliation to occur and click **Reconcile**. Cobra puts the reconciled difference in the selected period.<br>For forecast purposes, use this button when the time phased total (value in the Total Currency row for the TOTAL column) of the forecast no longer matches the estimate to complete (ETC) for that resource. Click the period where you want the reconciliation to occur and click **Reconcile**. Cobra puts the reconciled difference in the selected period.<br>This button is enabled only if you have update access to the class. |

| Field | Description |
|---|---|
| **Spread** | Click this button to display the Spread Curve dialog box, where you can select the spread method to use when time-phasing your resource. The spread methods available depend on the spread methods defined on the Spread Curves tab of the Application Preferences dialog box. |

### Forecast Details Pane

The Forecast Details pane displays only when a forecast resource assignment is selected in the Spreadsheet pane of the Project view and you select the **Show details** option in the Time-phase Detail pane of the Project view.

This pane displays additional forecast class information for the selected resource assignment.

**Contents**

| Field | Description |
|---|---|
| **EAC** | This field displays the total Estimate At Complete currency value based on the cost set EAC. |
| **HOURS EAC** | This field displays the total Estimate At Complete currency value in hours. This field is updated when you update any of the fields in the Time-phase Details pane.<br>You can edit this field if the forecast class used a manual forecast method or the forecast class used the Coded Range forecast method and a code is assigned to a manual forecast method. |
| **HOURS Actuals** | This field displays the total actual values in hours. |
| **Forecast Start** | This field displays the forecast date (forecast, early, or late dates) used by the forecast resource assignment. |
| **Forecast Finish** | This field displays the forecast date (forecast, early, or late dates) used by the forecast resource assignment. |
| **Actual Start** | This field displays the actual start date of the control account or work package. |
| **Method** | This field displays the forecast method used for the forecast class. |
| **Description** | This field displays the description of the forecast method. |
| **Performance Factor** | This field displays the level at which Cobra calculates the CPI and SPI. |
| **Level** | This field displays the level at which Cobra performs the forecast calculation for the selected code file to calculate the forecast against. This field is always blank unless the forecast class used a statistical |

| Field | Description |
|---|---|
| | forecast method or the forecast class used the Coded Range forecast method and a code is assigned to a statistical forecast method. |

### Using Spread

Cobra provides the capability to time-phase resource assignments using predefined or customized spread curves.

You can use the pre-defined spread methods on the Spread Curves tab of the Application Preferences dialog box, or create a new custom spread curve using the Add Spread Curve dialog box.

The spread curve is stored and saved at the resource assignment level. Cobra spreads the value that you entered for the budget or forecast resource in the Time-phase pane of the Project view based on the calendar assigned to the project. Cobra uses the spread curve when running project processes such as Integration, Reclass, Respread, and Calculate Forecast.

The spread curve assigned to the resource assignments is displayed in the Spread Curve column in the Spreadsheet pane of the Project view.

How spread works in different areas of Cobra is described in the sections below.

#### Project View

When you modify the baseline dates of the selected control account or work package on the General tab, and the new dates extend or shorten the time-phase period of the budget or forecast resource assignments, the Spread Curve column in the Spreadsheet pane changes to **Manual**, which indicates that the spread has been modified manually and no longer uses a predefined curve.

When you edit any of the Total columns in the Time-phased Details pane, and there is already a spread curve assigned to the selected budget or forecast resource assignment, the Spread Curve column in the Spreadsheet pane changes to **Manual** if you select any of the following options on the Spread dialog box:

- **Remaining fiscal period**
- **Use existing profile**
- **Last period only**

#### Project Processes

When running project processes, the spread works as follows:

- When a spread curve is assigned to the resource assignment, Cobra uses it during respread. When **Manual** spread curve is assigned, or the spread curve is not specified, Cobra uses the existing profile of the resource assignment during respread. If a resource assignment is created in the target class during Reclass, Cobra uses the spread curve assigned to the source class.
- If a spread curve is deleted, it will not be set to **Manual** unless you run Respread, Calculate Forecast, or Reclass.

- If a resource assignment is created in the target class during reclass, Cobra uses the spread curve assigned to the source class, if it is a valid spread curve.

**Integration**

When importing resource assignments from files, the spread works as follows:

- Cobra uses the spread curves assigned to the resource assignments if you select the **Curve** column on the Import File Field Mapper page and the **Use curves for resource spreads** option on the Resource Assignments page.
- If there are no spread curves assigned, Cobra assigns the **Manual** spread curve to the resource assignments.
- If there are no matching spread curves, Cobra assigns the **Manual** spread curves to the resource assignments.
- If there are multiple spread curves being combined to the same resource assignment during integration, Cobra assigns the **Manual** spread curve to the resource assignments.

## Spread Dialog Box

Use this dialog box to specify how to spread the new value after you have modified the total value for a resource assignment in the Time-phase pane or Time-phase Detail pane of the Project view.

**Contents**

| Field | Description |
|---|---|
| **Spread Changes Over** | Use these options to specify how the updated budget should be spread over calendar periods. |
| **Remaining fiscal periods** | Select this option to spread the difference between the old and new budgets evenly across the control account or work package fiscal periods after the status date of the project, using the spread curve method defined for the resource.<br>You cannot select this option when the control account or work package associated with the resource has a status of **Planned**. |
| **All fiscal periods** | Select this option to spread the difference between the old and new budgets across all control account/work package fiscal periods. You can choose to use the spread curve currently defined for the resource or a different spread curve. Selecting this option enables the **Use existing spread** and **Use spread curve** fields.<br>Cobra selects the **All fiscal periods** option by default when the control account or work package associated with the resource has a status of **Planned**. |
| **Use existing profile** | Select this option to use the existing profile of the resource assignment. |

| Field | Description |
|---|---|
| **Use spread curve** | Use this field to select a different spread method (previously defined on the Spread Curves tab of the Application Preferences dialog box) for the new budget or forecast spread. |
| **Last period only** | Select this option to put the difference between the old and new budgets in the last period for the resource assignment. |

*Display the Spread Dialog Box*

Use this procedure to display the Spread dialog box.

**To display the Spread dialog box:**

1. Display the Project view and select the resource to be spread.
2. In the **Assignments** group on the Edit tab, click **Spread** » **Spread**.

### Spread Curve Dialog Box

Use this dialog box to spread budgets using the spread methods that have been previously defined on the Spread Curves tab of the Application Preferences dialog box.

Select the spread curve method that you want to use, and click **Select**. Cobra spreads the budget using the spread curve method that you selected and displays the updated information in the Time-phase pane or Time-phase Detail pane.

*Display the Spread Curve Dialog Box*

Use this procedure to display the Spread Curve dialog box.

**To display the Spread Curve dialog box:**

- Display the Project view and select the resource to be spread and do one of the following:
  - In the **Assignments** group on the Edit tab, click **Spread** » **Spread**.
  - In the Time-phase Detail pane, click the Spread button.

## Procedures

Follow the procedures in this section to adjust, spread, and reconcile budgets.

*Adjust Budget Spreads Manually*

You can adjust budget spreads manually in the Time-phase pane or Time-phase Detail pane of the Project view.

**To adjust budget spreads manually:**

1. Display the Project view of the project you are updating.
2. In the Spreadsheet pane, select a resource assignment.
3. In the Time-phase pane or Time-phase Detail pane, adjust the spread by modifying either the percentage or the value of the first result for the desired periods.
4. To reconcile the updated spread with the current budget cost, select a period containing the value or percentage to adjust, and do one of the following:
   - Click **Spread** » **Reconcile** in the **Assignments** group.
   - Click the **Reconcile** button in the Time-phase Detail pane.

   Cobra puts the reconciled difference in the selected period.

   When the total value (**TOTAL** column) for a resource assignment result changes, Cobra displays the Spread dialog box, where you can specify how the new value should be spread.

*Spread Updated Budgets for Resources*

Whenever you modify the total value (**TOTAL** column) for a resource assignment's result in the Time-phase pane or Time-phase Detail pane, Cobra displays the Spread dialog box. Use the Spread dialog box to specify how to spread a new value when you modify the total value (Total column) for a resource assignment's result in the Time-phase pane.

*Spread Budgets Using Pre-defined Spread Methods*

You can spread budgets using spread methods that have been previously defined in Cobra.

**To spread budgets using pre-defined spread methods:**

1. Display the Project view of the project you are updating and select the resource to be spread.
2. In the **Assignments** group on the Edit tab, click **Spread** » **Spread**.
3. In the Spread dialog box, select the spread curve method that you want to use.
4. Click **Select**.

   Cobra spreads the budget using the spread curve method that you selected and displays the updated information in the Time-phase pane.

*Reconcile Budgets and Forecasts*

Use the reconciliation process when the spread of the budget no longer matches the resource total (budget at completion or BAC) or when the spread of the forecast no longer matches the ETC (estimate to complete).

**To perform a reconciliation:**

1. Display the Project view and select the resource that belongs to a budget or forecast class.
2. In the **Assignments** group on the Edit tab, click **Spread** » **Reconcile**.

# Project Properties Dialog Box

Use the Project Properties dialog box to view or change information about a project.

In the upper left of the Project Properties dialog box is the **Project** field, which displays the currently selected project. Click to display the Project Lookup dialog box and select another project. If you manually enter the project name, click any of the tabs or press the TAB key to refresh your view.

If you make changes to the currently selected project, click **Apply** before you select another project. Otherwise, Cobra will display a warning message. Click **Yes** to save your changes and move to the next selected project. Click **No** to discard your changes and move to the next selected project. Click **Cancel** to retain your changes and keep the currently selected project.

The securing of items as **Visible** or **Enabled** is controlled using the roles in EPM Security Administrator (EPM SA). The Project Preferences should pass through to all users for a given project and should only be editable if the role that user is a member of has the appropriate options enabled in EPM SA.

**Attention:** For more information, refer to the following topics in the EPM SA Help System:

- "Role Details Form"
- "Define Permission to a Role"
- "Project Properties"

## General Tab of the Project Properties Dialog Box

Use this dialog box to modify the project description, enter project dates, and specify reporting options, spread weight options, and EVMS Acceptance options.

Some of the values in the fields on this tab, such as the project dates, were added when you created the project using the New Project Wizard.

### Project Information

This group box displays the name and description.

| Field | Description |
|---|---|
| **Name** | This field displays the name of the project. You cannot modify the project name. |
| **Description** | This field displays a brief description of the project. You can modify the project description in this field. |

### Project Dates

This group box displays the various dates used in the project.

| Field | Description |
|---|---|
| **Status Date** | This field displays the status date of the project. You cannot change the status date displayed on the General tab. |
| **Synchronize** | If you click **Synchronize**, Cobra synchronizes the status date with the date labeled as **TODATE** in the fiscal calendar set 18 in the project calendar. To set the date to a specific period, label the status date with **TODATE** in the calendar set 18, and click **Synchronize**. |
| **Baseline Start** | The baseline start date defines the initial status date for the project. The default for this date is the status date in the calendar. You can change the baseline start date in this field. |
| **Baseline Finish** | The baseline finish date defines the last date of the project. The default for this date is the latest date defined in the project calendar. You can change the baseline finish date in this field. |
| **Forecast Finish** | This date is used only for reporting purposes, and defaults to the latest date defined in the project calendar. Normally, you adjust this date with the latest forecast finish date of the project each time you enter the status. You can change the forecast finish date in this field. |
| **Contract Definitization** | This field refers to the date the contract was made definite. This is an optional field and is used in the IPMR Format 3 reports. |
| **Planned Completion** | This field refers to the planned completion date for the project. This is an optional field and is used in the IPMR Format 3 reports. |
| **Over Target Baseline** | A baseline which results from formal reprojecting of an overrun, used only with the approval of the customer. This is an optional field and is used in the IPMR Format 3 reports. |

### Reporting

This group box displays the fields related to reporting.

| Field | Description |
|---|---|
| **Currency Symbol** | Use this field to enter the currency symbol to be used in the project (for example, $ for dollars and € for Euros). By default, this field displays the |

| Field | Description |
|---|---|
| | currency symbol that was entered when the project was created. The currency symbol is used in Project views and reports. |
| **Show the symbol on the right** | Select this option to instruct Cobra to display the currency symbol to the right of any currency amount used in the project. By default, the currency symbol appears to the left of the currency amount. |
| **Scale Factor** | Use this field to enter the scale factor that will be used to report currency amounts. For example, if the scale factor is **1,000**, a value of 5,000 would be interpreted as 5. By default, this field displays **1,000** as the scale factor. |
| **Caption** | Use this field to enter the caption for the scale factor that appears in the reports. For example, a caption might read **All Costs in $**. By default this field displays **Thousands of $**.<br>**Note:** To assure proper data is submitted, the currency unit caption should conform to the UN/CEFACT standard terminology which is Dollars. |

### Spread Weight Options

These options are used to select how Cobra should treat working and non-working days when spreading the budget.

| Field | Description |
|---|---|
| **Linear weight** | This option places equal budget amounts into each period between the start and finish dates.<br>For example, assume that the work package schedule dates are 06/25/15-07/31/15, the work package has a budget of 200 hours, and the fiscal calendar attached to the project has 176 and 168 working hours for June and July, respectively. Using the **Linear weight** option, Cobra will enter 100 hours for June and 100 hours for July. |
| **Weight using hours** | This option weighs the budget spread according to the hours found in the calendar and the start and finish dates.<br>For example, assume that the work package schedule dates are 06/25/15-07/31/15 and the work package has a budget of 200 hours. Using the **Weight using hours** option, Cobra will enter 34.65 hours for June and 165.35 hours for July. |
| **Weight using working days** | This option takes into account how many working days fall within the start and finish dates, taking holidays into account.<br>For example, assume that the work package schedule dates are 06/25/00-07/31/00 and the work package has a budget of 200 hours. Using the **Weight using work days** option, Cobra will enter 40 hours for June and 160 hours for July. |

### EVMS Acceptance

This group box displays the fields related to EVMS.

| Field | Description |
|---|---|
| **EVMS Acceptance** | This option controls the acceptance of an Earned Value Management System (EVMS). Cobra uses this information when exporting to wInsight and in the headers of the Cost Performance Report (old format) and Integrated Program Management Report (new format) produced in Cobra.<br>▪ **Blank**: This option indicates that the project does not contain any information about EVMS acceptance.<br>▪ **No**: This option indicates that an EVMS has not been accepted for the project. Select the disapproval date in the **Approval/Disapproval Date** field.<br>▪ **Not Applicable**: This option indicates that an EVMS is not applicable to the project.<br>▪ **Yes**: This option indicates that an EVMS is accepted for the project. Select the approval date in the **Approval/Disapproval Date** field.<br>**Note: Yes** and **No** are the only allowable values for the UN/CEFACT XML. The value you set in this field is included in the Deltek Common Data Exchange (DCDE) or Integrated Program Management Data Analysis Report (IPMDAR) file when you run the Cost Data wizard. |
| **Approval/ Disapproval Date** | This option indicates the approval or disapproval date of an EVMS for the project. If the **EVMS Acceptance** field is set to blank or **Not Applicable**, this option is disabled.<br>**Note:** The value you set in this field is included in the DCDE or IPMDAR file when you run the Cost Data Wizard. |

## Procedures

Follow the procedures in this section to manage the General tab of the Project Properties dialog box.

*Synchronize Status Dates*

Use the **Synchronize** button on the General tab of the Project Properties dialog box to change the status date if **TODATE** is not properly labeled at project creation time without advancing the calendar.

**Note:** This option does not have all the functionality of advancing the calendar and should not be used as an alternative to the advance calendar function once the project is underway.

**To synchronize status dates:**

1. Display the Project Properties dialog box and select the General tab.
2. Click **Synchronize**.
3. Click **Apply** to save the changes.

*Modify the Project Description*

Use the General tab of the Project Properties dialog box to modify the project description.

You cannot change the project name on the General tab of the Project Properties dialog box after you have created the project. To change the project name, use the Rename dialog box.

**To modify the project description:**

1. Display the Project Properties dialog box and select the General tab.
2. In the **Description** field, enter a new description for the project.
3. Click **Apply** to save the changes.

*Enter Project Dates*

Use the General tab of the Project Properties dialog box to modify enter project dates.

You cannot change the date in the **Status Date** field.

**To enter project dates:**

1. Display the Project Properties dialog box and select the General tab.
2. Use the fields in the **Project Dates** group box to enter project dates.
3. After entering the project dates, click **Apply** to save the changes.

*Set Reporting Options*

Use the General tab of the Project Properties dialog box to set reporting options for the project.

**To set reporting options:**

1. Display the Project Properties dialog box and select the General tab.
2. Use the fields in the **Reporting** group box to set reporting options.
3. After setting the reporting options, click **Apply** to save the changes.

*Select EVMS Acceptance for a Project*

Use the General tab of the Project Properties dialog box to select EVMS (Earned Value Management System) acceptance options for a project. Cobra includes this information when exporting and in the headers of the IPMR reports.

**To select EVMS acceptance:**

1. Display the Project Properties dialog box and select the General tab.
2. Use the fields in the **EVMS Acceptance** group box to set the EVMS acceptance options for the project.
3. After setting the EVMS acceptance options, click **Apply** to save the changes.

## Contract Information Tab of the Project Properties Dialog Box

Use this tab to enter information related to project contract and contractor.

The information on this tab is displayed on various report headers and exports including the Integrated Program Management Report (IPMR) and Integrated Program Management Data Analysis Report (IPMDAR). The fields on this tab are required only for IPMR, IPMDAR, and UN/CEFACT

**Note:** When you create UN/CEFACT files, you must populate all fields with values to avoid validation errors.

**Contractor Information**

| Field | Description |
|---|---|
| **Name** | Use this field to enter the contractor name that will be displayed on Cobra reports. You can use any character in this field. |
| **ID Type** | Use this field to select the ID type of the contractor. Possible values are:<br>▪ <Blank><br>▪ CAGE<br>▪ DUNS<br>▪ DUNS_PLUS_4 |
| **ID Code** | Use this field to enter the ID code of the contractor. You can use any character in this field. |
| **Location** | Use this field to enter the location of the contractor. You can use any character in this field. |
| **Address** | Use this field to enter the street address of the contractor. You can use any character in this field. |

| Field | Description |
|---|---|
| **City** | Use this field to enter the city in the contractor's location. You can use any character in this field. |
| **State** | Use this field to enter the state in the contractor's location. You can use any character in this field. |
| **Zip** | Use this field to enter the zip code in the contractor's location. You can use any character in this field. |
| **Country** | Use this field to enter the country in the contractor's location. You can use any character in this field. |
| **Representative Name** | Use this field to enter the name of the representative assigned to the contract. You can use any character in this field. |
| **Representative Title** | Use this field to enter the title of the representative assigned to the contract. You can use any character in this field. |
| **Representative Phone** | Use this field to enter the phone number of the representative assigned to the contract. You can use any character in this field. |
| **Representative Email** | Use this field to enter the email of the representative assigned to the contract. You can use any character in this field. |

**Contract Information**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the contract. You can use any character in this field. |
| **Number** | Use this field to enter the contract number. You can use any character in this field. |
| **Contract Phase** | Use this field to enter the contract phase. You can use any character in this field. |
| **Contract Type** | Use this field to enter the contract type, such as CPFF (Cost Plus Fixed Fee). You can use any character in this field. |
| **Share Ratio** | Use this field to enter the share ratio for the contract. You can use any character in this field. |
| **Task Name** | Use this field to enter the task name. You can use any character in this field. |
| **Classification** | Use this field to enter the security classification of the contract. The security classification is displayed on the top and bottom of IPMR reports. You can use any character in this field. |
| **Program** | Use this field to enter the program associated with the contract. You can use any character in this field. |

| Field | Description |
|---|---|
| **Program Phase** | Use this field to select the phase of the program. Possible values are:<br>▪ Development<br>▪ LRIP<br>▪ Production<br>▪ Sustainment |
| **Quantity** | Use this field to enter the number of items to be procured for the contract. You can use numbers in this field. |
| **Proprietary Statement** | Use this field to enter the proprietary statement related to the contract. You can use any character in this field. |

### Procedures

Follow the procedures in this section to manage the Contract Information tab of the Project Properties dialog box.

*Enter Contract Information*

Use the Contract Information tab of the Project Properties dialog box to enter contract information for a project.

**To enter contract information:**

1. Display the Project Properties dialog box and select the Contract Information tab.
2. Use the fields on this tab to enter contract information for the project.
3. After entering the contract information, click **Apply** to save the changes.

## Budget Tab of the Project Properties Dialog Box

Use this tab to enter Budget and Estimate at Complete values for the project. Cobra uses this information mainly to comply with EVMS reporting requirements. Cobra also uses this information in project logs as a change control mechanism and in the IPMR reports.

Use the fields on this tab if you plan to perform Earned Value Management System reporting or use Cobra's Audit Log utility.

**Contents**

| Field | Description |
|---|---|
| **Negotiated Cost** | Use this field to enter the target cost for the budgeted contract. Cobra disables this field once the project log is turned on. |

| Field | Description |
|---|---|
| **Authorized Unpriced Work** | Use this field to enter the amount of any Authorized Unpriced Work (AUW) for the project. AUW refers to any scope change for which authorization to proceed has been given, but for which the estimated costs are not yet settled. |
| **Contract Budget Base** | This field displays the Contract Budget Base (CBB) for the project. Cobra calculates the CBB by combining the Negotiated Cost and the AUW.<br>You cannot change the value in this field. |
| **Management Reserve** | Use these fields to enter the budgeted and estimated final Management Reserve (MR) for the project. Cobra disables the **Budgeted Management Reserve** field once the project log is turned on. The **Estimate at Complete Management Reserve** field is never disabled. |
| **Undistributed Budget** | These fields display the Budgeted and Estimate at Complete Undistributed Budget for the project. Cobra disables the **Undistributed Budget** field in the Budgeted column by automatically populating this field with the cumulative undistributed amount of budget for the project. However, you can change the value in the **Undistributed Budget** field in the Estimate at Complete column. |
| **Fee %** | This is the management fee for the project, expressed as a percentage of the Contract Budget Baseline. Entering a value in this field displays the corresponding currency amount in the **Fee Amount** field. |
| **Fee Amount** | Cobra determines the amount displayed in the **Fee Amount** field based on the value you entered in the **Fee %** field. If you change the amount in this field, the value in the **Fee %** field will also change. |
| **Target Price** | This is the estimated Contract Target Price at the completion of the project. It is the sum of the Contract Budget Base and any management fees.<br>You cannot change the value in this field. |
| **Contract Ceiling** | These fields display the Budgeted and Estimate at Complete Contract Ceiling amounts for the project. |
| **Estimated Price** | This field displays the Estimated Price for the project. This field is editable, but Cobra still calculates the Estimated Price value if you make changes to the **Fee Amount** or **Most Likely** value.<br>Cobra calculates the **Estimated Price** value as follows:<br>▪ If you change the **Fee Amount** or the **Most Likely** value, Cobra recalculates the Estimated Price value.<br>▪ If you change the **Fee Amount** and **Most Likely** values and set a different **Estimated Price** value for the project, you need to edit the **Estimated Price** field and manually enter the amount. |
| **Original Negotiated Cost** | This field displays the budgeted value of the original contract's negotiated cost. Cobra uses this value in the Original Negotiated Cost block of the IPMR Format 3 report. |

| Field | Description |
|---|---|
| **Over Target Baseline Cost** | This field displays the value of budget distributed in the work package using the class OT. This is reserved for budget entered as over target baseline (OTB). Cobra automatically populates this field by summarizing the currency amounts of the OTB in the project.<br>You cannot change the value in this field. |
| **Cost Best Case** | This field displays the Estimated Cost at Completion value for best-case forecasts. The value that you enter in this field is used in the Estimated Cost at Completion section of IPMR Format reports. |
| **Cost Worst Case** | This field displays the Estimated Cost at Completion value for worst-case forecasts. The value that you enter in this field is used in the Estimated Cost at Completion section of the IPMR reports. |
| **Cost Most Likely** | This field displays the Estimated Cost at Completion value for the most likely completion estimate for the project. Cobra uses the value in this field to calculate the Estimated Price for the project. The value entered in this field is used to calculate the estimated price. |

### Procedures

Follow the procedures in this section to manage the Budget tab of the Project Properties dialog box.

*Enter Budget Information*

Use the Budget tab of the Project Properties dialog box to enter budget information for a project.

**To enter budget information:**

1. Display the Project Properties dialog box and select the Budget tab.
2. Use the fields in this tab to enter budget information for the project.
3. After entering the budget information, click **Apply** to save the changes.

## Fields Tab of the Project Properties Dialog Box

Use this tab to define the control account work package, and resource assignment structures that the project will use. The budget, actual, earned, and forecast values are loaded against these structures.

Use this tab as well to define control account manager (CAM) and the change number used for change control, and assign code files to control accounts, work packages, and resource assignments.

**Note:** You can select specific terminology on the General tab of the Application Preferences dialog box. If you chose names other than **Control Account**, **CAM**, and so on, the names that you specify display on this tab.

### Control Account and Work Package Fields Information

Use this group box to assign prompts and code files to control account and work packages fields. Cobra uses this information for reporting, filtering, validations, and so on.

If you require only one key field to define your control accounts (for example, WBS), ensure the prompts for **Control Account Field 2** and **Control Account Field 3** are blank.

| Field | Description |
|---|---|
| **Control Account Field 1** | Use this field to define **Control Account Field 1**. The prompt for this field defaults to WBS (Work Breakdown Structure). You can change this prompt to a value that suits your project.<br>Click in the **Code File** column to display the Code File Lookup dialog box, where you can select the code file to assign to **Control Account Field 1**. This field is required. |
| **Control Account Field 2** | Use this field to define **Control Account Field 2**. The prompt for this field defaults to OBS (Organizational Breakdown Structure).<br>Click in the **Code File** column to display the Code File Lookup dialog box, where you can select the code file to assign to **Control Account Field 2**. This field is optional. |
| **Control Account Field 3** | Use this field to define **Control Account Field 3**. You can enter any prompt in this field (for example, RBS for Resource Breakdown Structure).<br>Click in the **Code File** column to display the Code File Lookup dialog box, where you can select the code file to assign to **Control Account Field 3**. This field is optional. |
| **Work Package Field** | Use this field to define **Work Package Field**. The default prompt is **WP** but you can enter any prompt in this field. This field is optional.<br>Adding a work package code to this field enables you to select a work package value from the code file when setting up work packages for your project. |
| **CAM** | Use this field to define the control account manager (CAM). The code file that you use in this field must contain the CAM that you want to use for the project's control accounts. This field is optional.<br>**Attention:** For more information on the field types descriptions, see Code Field Types. |
| **Change Number** | Use this field to define the baseline change control. The code file that you use in this field must contain codes values that are assigned to control or track baseline changes. Assigning a code file instructs Cobra to associate the change with the code from the attached code file when a baseline change occurs. This field is optional.<br>**Attention:** For more information on the field types descriptions, see Code Field Types. |

### Tabs

Use these tabs to assign codes to the project.

| Field | Description |
|---|---|
| **Control Account Codes** | Use this tab to assign control account codes to the project. Cobra displays the control account codes in the Spreadsheet pane of the Project view. This is particularly useful in creating reports. You can define a maximum of 20 codes for the control account.<br>**Attention:** For more information on the fields that you can define for control account codes, see Tab Fields. |
| **Work Package Codes** | Use this tab to assign work package codes to the project. Cobra displays the work package codes in the Spreadsheet pane of the Project view. This is particularly useful in creating reports. You can define a maximum of 20 codes for the work package.<br>**Attention:** For more information on the fields that you can define for work package codes, see Tab Fields. |
| **Resource Assignment Codes** | Use this tab to assign resource assignment codes to the project. You can define a maximum of 9 codes for the resource assignment. Codes on a resource are consistent for all work packages. These codes allow you to enter a different code for each resource assignment class combination.<br>**Attention:** For more information on the fields that you can define for resource assignment codes, see Tab Fields. Resource assignment codes only recognize the **<none>**, **Code (optional)**, and **Code (required)** code field types. |

### Tab Fields

This section describes the fields that you can define for a control account, work package, or resource assignment code.

| Field | Description |
|---|---|
| **Number** | This field identifies the numerical order of the code field. The **Number** column displays the maximum number of codes that you can add for a control account, work package, or resource assignment. For example, for control accounts, this column displays up 20 rows. |
| **Prompt** | Use this field to assign a prompt that Cobra will use to represent the code field. This prompt will appear as a column header in all the grids where it is used, as well as in selection fields. You must enter a prompt for a code field if **Code Field Type** is **Code (optional)**, **Code (required)**, or **Text**. |
| **Code Field Type** | Use this field to assign a field type to the code field. |

| Field | Description |
|---|---|
| | **Attention:** For more information on the field types that you can assign to a code, see Code Field Types. |
| **Code File** | Use this field to assign a code file to the code field. Click to display the Code File Lookup dialog box, where you can select the code file that you can to use. You can only assign a code file to the code field if **Code Field Type** is **Code (optional)** or **Code (required)**. |

**Code Field Types**

Select any of the following options to assign a field type to the code field.

- **<none>** : Select this option if you do not want to use a code field.
- **Code (optional)**: Select this option to choose a valid code assignment from the validated structure/list specified in the **Code File** column . When the field type is set to **Optional**, codes assignments may be left blank. However, Cobra will validate that the assigned codes exist in the code file.
- **Code (required)**: Select this option to require that a valid code assignment be selected from the validated structure/list specified in the **Code File** column. Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously, blank or invalid assignments will not be updated automatically.
- **Text**: Select this option to enter any text in the code field.
- **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator.

## Procedures

Follow the procedures in this section to manage the Fields tab of the Project Properties dialog box.

*Assign Control Account and Work Package Structures to a Project*

Use the Fields tab of the Project Properties dialog box to assign control account and work package structures to a project.

The fields and options on this tab are identical to the fields and options on the Fields page of the New Project Wizard.

**To assign control account and work package structures to a project:**

1. Display the Project Properties dialog box and select the Fields tab.
2. Use the fields on this tab to assign control account and work package structures to the project.

3. After assigning control account and work package structures to the project, click **Apply** to save the changes.

## Files Tab of the Project Properties Dialog Box

Use this tab to assign ancillary files to a project and to specify the level at which actual costs are captured for the project.

The default ancillary files displayed in the Files tab pane are the same ancillary files that you specified when you create the project using the New Project Wizard.

**Ancillary Files**

| Field | Description |
|---|---|
| **Calendar** | Select the calendar that you want to use for the project. |
| **Rate** | This field defines the default rate file used for all classes in the project. You can define individual rate files for each class using the Classes tab of the Project Properties dialog box. |
| **Resource** | Select the resource file that you want to use for the project. |
| **Rolling Wave Calendar** | Select the rolling wave calendar that you want to use for the project.<br>This field is not required. Use this field only if you want to perform earned value calculations on a weekly basis. |
| **Rolling Wave** | Click **Rolling Wave** to display the Rolling Wave dialog box, where you can run the rolling wave process without advancing the calendar.<br>This button is available only if you select a calendar in the **Rolling Wave** field. |
| **Level at which to capture actual costs** | The **Level at which to capture actual costs** field displays the option that was selected when the project was being created in the New Project wizard. There are three options:<br>▪ **Control Account**: Select this option to enable actuals to be loaded at the control account level and disable the loading of actuals at the work package level of the project.<br>▪ **Work Package**: Select this option to enable actuals to be loaded at the work package level and disable the loading of actuals at the control account level of the project.<br>▪ **Both Control Account & Work Package**: Select this option to enable actuals to be loaded at both the control account and work package levels of the project.<br>You cannot change the level at which to capture actual costs once the project audit log is turned on. |

| Field | Description |
|---|---|
| **IPMR Format 2 Summary** | The **IPMR Format 2 Summary** option displays the code files assigned to the resource on the project.<br>**Attention:** For more information, see Code the Resources for IPMR Format 2 Reports. |

### Rolling Wave Dialog Box of the Project Properties Dialog Box

Use this dialog box to run the rolling wave process without advancing the calendar at the same time.

You can run the rolling wave process outside of the Advance Calendar utility to fix expanded date problems.

**Contents**

| Field | Description |
|---|---|
| **Periods prior to status date** | Use this field to enter the number of periods before the status date that you want to expand. |
| **Periods following status date** | Use this field to enter the number of periods after the status date that you want to expand. |
| **Update rate sets used with FTE result codes** | Select this option to expand any rate with the result code F into the sub-period rates for all the rate files in the project. Selecting this option enables accurate calculation of FTEs when looking at sub-periods versus period data.<br>If you have permission to advance the calendar, you can update the FTE rate sets even if you do not have write access to the rate file. |

### Procedures

Follow the procedures in this section to manage the Files tab of the Project Properties dialog box.

*Assign Ancillary Files to a Project*

Use the Files tab of the Project Properties dialog box to assign ancillary files to a project.

The default ancillary files displayed in the Files tab are the same files that you specified when you created the project using the New Project Wizard.

**To assign ancillary files to a project:**

1. Display the Project Properties dialog box and select the Files tab.

2. In the **Calendar**, **Rate**, and **Resource** fields, select the ancillary files that you want to use in the project. Click ... to display the file lookup dialog box for each of these fields, where you can select the calendar, rate file, and resource file to use in the project.
3. Click **Apply** to save the changes.

*Select the Level at Which to Capture Actual Costs*

Use the Files tab of the Project Properties dialog box to change the level at which actual costs are captured.

You can only make this change if the project log is not yet turned on. Turning the project log off after it has been turned on will not enable you to make this change.

The default level initially displayed in the Files tab is the same level that you specified when you created the project using the New Project Wizard.

**To select the level at which to capture actual costs:**

1. Display the Project Properties dialog box and select the Files tab.
2. Select an option in the **Level at which to capture actual costs** field.
   - **Control Account**: Select this option to enable actuals to be loaded at the control account level and disable the loading of actuals at the work package level of the project.
   - **Work Package**: Select this option to enable actuals to be loaded at the work package level and disable the loading of actuals at the control account level of the project.
   - **Both Control Account & Work Package**: Select this option to enable actuals to be loaded at both the control account and work package levels of the project.

*Run the Rolling Wave Process Without Advancing the Calendar*

You can run the Rolling Wave process from the Files tab of the Project Properties dialog box without advancing the calendar.

**To run the Rolling Wave process without advancing the calendar:**

1. Display the Project Properties dialog box, and select the Files tab.
2. In the Rolling Wave group box, select the rolling wave calendar to use.
3. Click **Rolling Wave** to display the Rolling Wave dialog box, and click **OK**.

   The options available in this dialog box are identical to the options available on the Options Page of the Advance Calendar Wizard.

## Classes Tab of the Project Properties Dialog Box

Use this tab to display classes associated with the project and to define different classes for tracking specific project information.

For example, you can use different budget classes to separate the different funding sources for the project, or you can use a different earned class to segregate the project's earned value from the replanned earned value.

The Classes tab has two sections.

- The top section displays a grid that identifies all the classes currently used in the project.
- The bottom section displays information about these classes.

### Classes Grid of the Classes Tab

This section displays all available classes used in the project.

**Note:** When you select **Budget** or **Forecast**, you have the option to recalculate only derived results by selecting the **Suppress calculation of source results** checkbox on the General tab of the Classes tab.

| Field | Description |
|---|---|
| **Budget** | This is a required budget class and cannot be deleted. However, the description, calendar set, and rate file of the class can be modified. |
| **Actual** | This is a required actual class and cannot be deleted. However, the description, rate file, and included budget classes (shown in the bottom section of the Classes tab) for this class can be modified. |
| **Earned** | This is a required earned value class and cannot be deleted. However, the description and included budget classes (shown in the bottom section of the Classes tab) for this class can be modified. |
| **OTB** | This is a required budget class specifically used for over target baseline (OTB) costs. This class cannot be deleted but the class description can be modified. |
| **Replanned** | This is a required budget class specifically used for budget costs following a replan. This class cannot be deleted. The description, calendar set, and rate file for this class can be modified. |
| **Forecast** | This is a required forecast class and cannot be deleted. However, the user can modify the description, forecast method, and the included budget and actual classes (shown in the bottom section of the Classes tab) for this class. |

### Tabs of the Classes Tab

The bottom section of the Classes tab has four tabs:

- General
- Included Earned Classes
- Included Budget Classes

- Included Actual Classes

Cobra uses Included Classes to calculate earned values and forecasts, and to analyze the cost of one class against other classes. For example, if earned class EV is associated with the budget class CB, Cobra will look at the budget for class CB when calculating earned value for class EV. Reports also show this association among classes.

The type of information displayed in any of these panes depends on the class type selected in the Classes grid. For example, if you select the **Earned** class on the Classes grid, only the General and Included Earned Classes tabs in the bottom section will be available.

### Class Overview

You can create four types of cost records in Cobra: budgets, earned value, actuals, and forecasts.

For each of these types (other than earned value), it is possible to define different cost classes that track specific types of information. Thus, it is possible, for example, to distinguish between different funding sources when budgeting, or to distinguish between accounting, invoiced, or incurred actual costs.

Each type of class allows you to define different characteristics, depending on its context. For example, budget classes can be assigned different fiscal calendars for spreading. This allows you to spread budgets for planning using fiscal years rather than months. Classes used for budget costs can refer to different rate files to indicate, for example, change orders that involve different labor costs than those originally planned. This allows for the segregation of change orders from original proposal values and ensures that rate changes are applied only when appropriate. Forecast classes can indicate which other classes they are based on, allowing, for example, for the generation of different sets of forecasts depending on the selected class (or classes) of budget costs.

### Custom Cost Classes

Cobra allows you to create custom budget, forecast, and actual cost classes for special-purpose cost tracking requirements.

Each cost class can be assigned a two-character code, a description, and a set of parameters that differ according to the type of cost involved. You can also indicate whether you want to enter these costs at the level of the control account or the work package.

The following are a few examples of how different user-defined cost classes might be used in a project:

- To spread budgets for long-term planning packages using a calendar set based on fiscal years
- To distinguish between accounting actuals, invoiced actuals, and received actuals
- To enter budgets resulting from change orders that included changes to rates
- To define customized forecasts that exclude certain types of budgeted or actual costs
- To enter budgets for work using an alternative source of funds that you do not want to affect reporting

To make a custom cost class available for reporting, you must add the class to the appropriate cost set.

**Custom Budget Cost Classes**

For budget costs, you can indicate whether the cost is at the control account or work package level, and which calendar set to use for spreading purposes. This allows you, for example, to spread some types of budget costs on a monthly basis and others on a quarterly or yearly basis, thus reducing the size of project data files.

**Note:** If you assign a calendar set to a budget cost class, you must make sure that the calendar set contains at least one flagged period prior to the first fiscal period of the project and at least one flagged period later than the latest control account or work package finish date. In addition, all flagged periods in the calendar set must use fixed ($) flags.

You can also define an alternate rate file for calculating derived costs. This is a useful feature for tracking contractual change orders that have associated rate changes or for using different rates for the same budget elements. If you do not specify an alternate rate file, Cobra defaults to the rate file assigned to the project.

You can also choose whether a custom budget cost class should be included in the project budget. Budget cost classes defined as Budget are considered part of the project budget baseline. Thus, budget costs impact the project log and are included in the budget and BAC totals displayed for baseline, actual, and forecast cost information. Budget costs are also automatically included in all performance calculations. Note, however, that defining a cost class as Budget does not automatically include the cost in forecast calculations or add the cost class to the budget cost set.

Finally, you can define the account from which a budget is to be obtained. Cobra provides the following options:

- **UB**: Undistributed Budget
- **MR** : Management Reserve
- **OT**: Over Target Baseline
- **DB**: Distributed Budget

The recommended setting is to obtain the budget from the undistributed budget. When you allocate MR, the value goes to UB. When you distribute the budget, the value is taken from UB to DB and a log entry is created for the amount distributed into the control account or work package.

When you obtain the budget from MR, you must start by entering the budget that you plan to distribute to a control account or work package to MR. Then, as you distribute the budget to the control account or work package, Cobra makes a double-entry accounting log entry debiting MR and crediting DB.

Once you distribute the budget using a class and you decide that you want to change this option, you must reconcile the baseline. This will add a debit/credit entry for all budget amounts already spread using that class.

If you do not reconcile the log, when the data is spread using that class, a double-entry accounting adjustment is added for the control account or work package for the entire budgeted amount before the entry of the change amount is added.

### Custom Forecast Cost Classes

Forecast costs in Cobra can be tabulated at either the control account or the work package level. Notice, however, that you cannot generate forecasts for work packages if you have entered actual costs for the forecast at the control account level.

For forecast cost classes, you can define an alternate rate file, making it possible to consider forecasts using a range of “what-if” scenarios.

You can also define forecast cost classes using multiple forecast dates. This feature allows you to define one forecast based on early dates, another based on late dates, and still another based on default dates.

In addition, you can indicate which budget and actual cost classes should be considered when calculating performance factors and generating forecasts. Note, however, that included budget classes must be at the same input level as the forecast.

For forecast cost classes, Cobra uses included budget classes for initializing manual forecasts or for calculating SPI for statistical forecasts. Included actual classes are used for manual forecasts based on retaining Forecast or for calculating the actual cost component of CPI for statistical forecasts.

For each forecast cost class, you must specify the forecast type as using one of the following choices:

- **Method 1**: Performance factor = 1
- **Method 2**: Performance factor = 1/CPI cumulative to date (where CPI is equal to Earned Value divided by actual cost)
- **Method 3**: Performance factor = 1/CPI for current period
- **Method 4**: Performance factor = 1/CPI for last three status periods
- **Method 5**: Performance factor = 1/CPI for last six status periods
- **Method 6**: Performance factor = user-defined value
- **Method 7**: Performance factor = 1/((a * CPI) + ( b * SPI)) (where the sum of a and b is equal to 1.0)
- **Method 8**: Performance factor = 1/(CPI * SPI) (where SPI is equal to Earned Value divided by Budget)
- **Method M**: Manual (retain ETC)
- **Method A**: Manual (retain EAC)
- **Method P**: Multiple performance factors depending on how much of the work has been completed. (Cobra determines how much work has been completed by comparing the cumulative Earned Value to the at-complete budget for all currency denominated costs.) This allows you, for example, to set up a forecast that uses a performance factor of 1 for the first half of a project and uses a performance factor based on the cumulative CPI thereafter.

For a number of these forecast methods, you must enter additional parameters as follows:

- For methods 2, 3, 4, 5, 6, and 8, you must identify the level at which the performance factor is calculated:
  - **P**: Project level

  - **C** : Control account level
  - **W** : Work package level
  - A specified level of a code file attached to the project
- For method 7, you must specify the level for performance factor calculations and indicate the relative weightings for CPI and SPI. The combined weighting of CPI and SPI must equal 1.0.
- For method P, you must specify the level for performance factor calculations and define up to four ranges over which a particular forecast method takes effect. For example, you can indicate that Cobra should use forecast method 1 for items that are 0 to 33% complete, forecast method 6 for items that are 34% to 66% complete, and forecast method 2 for items that are 67% to 100% complete.

### Custom Actual Cost Classes

For actual cost classes, you can define whether you want to enter the cost at the work package or the control account level and which rate set file to use. You can also indicate which budget costs Cobra should use when initializing actual costs or in cases where the project option that allows unbudgeted actuals has been enabled.

You can also indicate if the class should be included in the project actual cost. You are then prompted to include this class in the forecast calculations and the ACWP cost set.

### Custom Performance Cost Classes

For performance cost classes, you are restricted to the work package input level, but you are able to indicate whether or not the class is part of Earned Value.

## General Tab of the Classes Tab

This tab displays general information about the selected class.

### Contents

| Field | Description |
|---|---|
| **Description** | This field contains a description of the selected class. Cobra displays this field for all classes. You can modify the class description. |
| **Type** | This field describes the type of class. There are four types of classes:<br>▪ **Budget**<br>▪ **Actual**<br>▪ **Earned**<br>▪ **Forecast**<br>Cobra displays this field for all classes. You cannot modify the class type. |
| **Level** | This field describes the level at which costs are entered for the class. There are two levels: |

| Field | Description |
|---|---|
| | ▪ **Control Account**<br>▪ **Work Package**<br>Cobra displays this field for all classes. You cannot modify this field once the class has been created.<br>It is good practice to enter costs for the forecast and actual class types at the same level at which actual costs are captured for the project.<br>Earned class types can only be defined at the work package level since earned value is taken at the work package level. |
| **Calendar Set** | This field displays the calendar set used in spreading the costs associated with the class. You can change the calendar set by clicking and selecting another calendar set on the Calendar Set Lookup dialog box.<br>A calendar set assigned to a budget class must contain at least one flagged period prior to the first period of the project, and at least one flagged period after the latest control account or work package finish date. All periods must have fixed ($) flags.<br>Cobra displays this field only for the forecast and budget classes. |
| **Rate File** | Use this field to assign an alternate rate file when calculating costs for the class. Actual and budget classes use the rate file assigned to the project, but if a rate file is specified in this field, the class uses that file instead of the project rate file when calculating costs.<br>You can change the rate file by clicking and selecting another rate file in the Rate File lookup dialog box. The Rate File Lookup dialog box displays only the rate files that the user has permission to access.<br>Cobra displays this field only for forecast, actual, and budget classes. This is a required field for forecast classes. |
| **Forecast Dates** | Use this field to specify whether the forecast spread will be based on early, forecast, or late dates. You can choose from the following options:<br>▪ **Early**<br>▪ **Forecast**<br>▪ **Late**<br>Cobra displays this field only for the forecast class. |
| **Forecast Method** | Use this field to select the method that will be used to calculate forecasts for the forecast class. You can choose from the following forecast methods:<br>▪ PF=1<br>▪ PF=1/CPI Cum to date<br>▪ PF=1/CPI for current period<br>▪ PF=1/CPI for last 3 periods |

| Field | Description |
|---|---|
| | ▪ PF=1/CPI for last 6 periods<br>▪ PF=User input<br>▪ PF=1/(a*CPI+b*SPI)<br>▪ PF=1/(CPI*SPI)<br>▪ Manual Forecast (Retain ETC)<br>▪ Manual Forecast (Retain EAC)<br>▪ Percent Complete Ranges<br>▪ Frozen Forecast<br>▪ Coded Ranges<br>Cobra displays this field only for the forecast class. |
| **Performance Factor Level** | Use this field to specify the level at which calculations of SPI (Schedule Performance Index) and CPI (Cost Performance Index) should be made. Your options are **Levels 1 to 20**, **Control Account**, **Project**, and **Work Package**.<br>This field is only available if you selected any of the following in the **Forecast Method** field:<br>▪ PF=1/CPI Cum to date<br>▪ PF=1/CPI for current period<br>▪ PF=1/CPI for last 3 periods<br>▪ PF=1/CPI for last 6 periods<br>▪ PF=User input<br>▪ PF=1/(a*CPI+b*SPI)<br>▪ PF=1/(CPI*SPI)<br>▪ Percent Complete Ranges<br>Cobra displays this field only for the Forecast class.<br>**Note:** This field displays if you select a statistical forecast method in the **Forecast Method** field or **Coded Ranges** in the **Forecast Method** field and one of the rows in the Coded Ranges grid is mapped to a statistical forecast method. |
| **Obtain Budget From** | Use this field to specify the source of the budget. Your options are:<br>▪ **Management Reserve**<br>▪ **Undistributed Budget**<br>▪ **Over Target Baseline**<br>Cobra displays this field only for the Budget class. |

| Field | Description |
|---|---|
| | This is a required field if the Budget class is included in totals. |
| **Budget Dates** | Use this field to specify alternative budget dates for the project. Your options are:<br>▪ **Baseline**<br>▪ **Pending**<br>Cobra only displays this field for the budget class and if the **Include in Budget** option is not selected.<br>This field defaults to **Baseline**, unless you specify pending dates on the Class Settings page of the New Class Wizard. |
| **Prevent Editing Time Phased Grid** | Select this checkbox to prevent users from making changes to the selected class in the Time-phase Detail pane of the Project view. |
| **Include in Totals** | This checkbox indicates if the selected class is included in the project's actual, budget, forecast, or earned totals. You cannot change the setting of this field for the actual and budget classes after the class has been created. The setting for earned classes is determined by the classes included in the earned cost reporting set. The setting for forecast classes is determined by the classes included in the EAC cost reporting set. |
| **Suppress Calculation of Source Results** | Select this checkbox to instruct Cobra not to recalculate source results when a derived result is changed on budget and forecast classes. For example, if this checkbox is selected, Cobra will not recalculate Hours if FTE is updated. By default, this checkbox is not selected; Cobra calculates all source and derived results. |
| **Coded Ranges** | This pane, where you can map a code or progress technique to an existing forecast method, is displayed when you select **Coded Ranges** in the **Forecast Method** field.<br>▪ **Code Field**: Use this field to select a code to which you want to map an existing forecast method. This field only displays saved control account or work package codes.<br>Your options are:<br>▪ **Control Account Codes**<br>▪ **Work Package Codes**<br>▪ **Progress Technique**<br>Your selection in this field are based on the value specified in the **Level** field. If the **Level** field is set to **Control Account**, this field displays the control account codes defined in the project. If the **Level** field is set to **Work Package**, this field displays the work package codes defined in the project and the list of progress techniques. |

| Field | Description |
|---|---|
| | ▪ **Coded Ranges grid**: Use this grid to select a code and assign a forecast method to it.<br>▪ **Code Value**: Use this column to assign a value to the selected code. You can define up to three values for the selected code.<br>▪ **Forecast Method**: Use this column to assign a forecast method to the code value or other. Your options are:<br>▪ Manual Forecast (Retain EAC)<br>▪ Manual Forecast (Retain ETC)<br>▪ PF=1<br>▪ PF=1/(a*CPI+b*SPI)<br>▪ PF=1/(CPI*SPI)<br>▪ PF=1/CPI Cum to date<br>▪ PF=1/CPI Cum to date<br>▪ PF=1/CPI for current period<br>▪ PF=1/CPI for last 3 periods<br>▪ PF=1/CPI for last 6 periods<br>You must also assign a forecast method to the **Other** row. Code values that are not mapped will use this forecast method. |
| **Defined Relative Weighing** | These fields only displays if you select **Weighted Indexes** in the **Forecast Method** field or **Coded Ranges** in the **Forecast Method** field and one of the rows in the Coded Ranges grid is mapped to weighted Indexes.<br>You must enter the values for the a and b parameters in the PF=1/(a*CPI +b*SPI) method. By specifying the a and b factors, you can define a performance factor that reflects the cumulative CPI/SPI, where the relative weights of CPI and SPI are user defined. The combined relative weights of both fields must be equal to **1**. |

*Procedures*

Follow the procedures in this section to manage the General tab of the Classes tab.

Assign a Rate File to a Forecast Actual or Budget Class

Use the General tab of the Project Properties dialog box Classes tab to assign a rate file to a forecast, actual, or budget class.

**To assign a rate file to a forecast, actual, or budget class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. In the Classes grid, select a class.

You can only assign a rate file to a Forecast, Actual, or Budget class.

3. Select the General tab.
4. Click in the **Rate File** field.
5. In the Rate File Lookup dialog box, select the rate file that you want to assign to the class. Click **Select**.
6. Click **Apply** on the General tab.

Assign a Calendar Set to a Forecast or Budget Class

Use the General tab of the Project Properties dialog box's Classes tab to assign a calendar set to a forecast or budget class.

**To assign a calendar set to a forecast or budget class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. In the Classes grid, select a class.
   You can only assign a rate file to a forecast or budget class.
3. Select the General tab.
4. Click in the **Calendar Set** field.
5. In the Calendar Set Lookup dialog box, select the calendar set that you want to assign to the class. Click **Select**.
6. Click **Apply** on the General tab.

Assign a Budget Source to a Budget Class

Use the General tab of the Project Properties dialog box Classes tab to assign a budget source to a budget class.

**To assign a budget source to a budget class:**

1. Display Project Properties dialog box and select the Classes.
2. In the Classes grid, select a class.
   You can only assign a budget source to a budget class.
3. Select the General tab.
4. Select the budget source that you want to assign to the class from the **Obtain budget from** field.
5. Click **Apply**.

Assign a Forecast Method to a Forecast Class

Use the General tab of the Project Properties dialog box Classes tab to assign a forecast method to a forecast class.

**To assign a forecast method to a Forecast class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. In the Classes grid, select a class.
   You can only assign a forecast method to a forecast class.
3. Select the General tab.
4. Select a forecast method from the **Forecast method** field.
5. Click **Apply**.

### Included Earned Classes Tab of the Classes Tab

This tab displays the earned classes associated with a forecast class. Cobra uses earned classes to calculate forecasts.

Use this tab to associate existing earned classes with a specific forecast class. This tab is available only if you select a forecast class in the Classes grid of the Classes tab of the Project Properties dialog box.

*Procedures*

Follow the procedures in this section to manage the Included Earned Classes tab.

Associate an Earned Value Class with a Forecast Class

Use the Included Earned Classes tab of the Classes tab to associate existing earned value classes with a specific forecast class.

**To associate an earned class with a forecast class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. Click the Included Earned Classes tab.
   This tab is available only if you selected a forecast class in the Classes grid of the Classes Tab of the Project Properties dialog box.
3. Click **Add**.
4. In the Classes Lookup dialog box, select the earned value class that you want to associate with the selected forecast class.
   You can use  to open the Find dialog box, where you can search for earned value classes by name.
5. Click **Select** to associate the earned class with the selected forecast class.
6. Click **Apply** on the Included Earned Classes tab.

### Included Budget Classes Tab of the Classes Tab

This tab displays the budget classes associated with an actual, earned, or forecast class.

Cobra uses the budget classes to calculate forecasts and earned values, and to compare actual classes with the budget classes in reporting. Use this tab to associate existing budget classes with a specific actual, earned, or forecast class.

For forecast classes, the budget class must use the same calendar set as the forecast class. This tab is available only if you select either the actual, earned, or forecast class in the Classes grid of the Classes tab of the Project Properties dialog box.

*Procedures*

Follow the procedures in this section to manage the Included Budget Class tab.

Associate a Budget Class with a Forecast Actual or Earned Class

Use the Included Budget Classes tab of the Classes tab to associate existing budget classes with a specific actual, earned, or forecast class.

**To associate a budget class with an actual, earned, or forecast class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. Click the Included Budget Classes tab.

   This tab is available only if you selected either the actual, earned, or forecast class in the Classes grid of the Classes Tab of the Project Properties dialog box.
3. Click **Add**.
4. In the Classes Lookup dialog box, select the budget class that you want to associate with the selected actual, earned value, or forecast class.

   You can use  to open the Find dialog box, where you can search for budget classes by name.
5. Click **Select** to associate the budget class with the selected actual, earned value, or forecast class.
6. Click **Apply** on the Included Budget Classes tab.

### Included Actual Classes Tab of the Classes Tab

This tab displays the actual classes associated with a forecast class. Use this tab to associate existing budget classes with a specific forecast class.

Cobra uses budget classes to calculate forecasts. The budget classes must be at the same level as, or at a lower level than, the forecast class. This tab is available only if you select a forecast class in the Classes grid of the Classes tab of the Project Properties dialog box.

*Procedures*

Follow the procedures in this section to manage the Included Actual Classes tab.

Associate an Actual Class with a Forecast Class

Use the Included Actual Classes tab of the Classes tab to associate existing actual classes with a specific forecast class.

**To associate an actual class with a forecast class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. Click the Included Actual Classes tab.
3. Click **Add**.
4. In the Classes Lookup dialog box, select the actual class that you want to associate with the selected forecast class.
   You can use to open the Find dialog box, where you can search for actual classes by name.
5. Click **Select** to associate the actual class with the selected forecast class.
6. Click **Apply** on the Included Actual Classes tab.

## New Class Wizard

The New Class Wizard walks you through the process of creating a new cost class in Cobra.

Move through the pages of the wizard, which prompt you to make decisions and enter information about the new cost class.

*General Information Page of the New Class Wizard*

Use this page to enter the name, description, and type of a new class.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a unique name for the new class. |
| **Description** | Use this field to enter a description for the new class. This field is optional. |
| **Type** | Use this field to specify whether the new class is of the **Budget**, **Actual**, **Earned**, or **Forecast** type. By default, **Budget** is selected. |

*Class Settings Page for Actuals Class of the New Class Wizard*

Use this page to select the class level and other settings applicable to the actuals class.

**Contents**

| Field | Description |
|---|---|
| **Level** | Use this field to specify the level at which costs are entered for the class.<br>Your options are:<br>▪ Control Account<br>▪ Work Package<br>Cobra displays this field for all classes. You cannot modify this field once the class has been created.<br>It is good practice to enter costs for the forecast and actual class types at the same level at which actual costs are captured for the project.<br>Earned class types can only be defined at the work package level since earned value is taken at the work package level. |
| **Rate File** | Use this field to assign an alternate rate file when calculating costs for the class. Actual and Budget classes use the rate file assigned to the project, but if a rate file is specified in this field, the class uses that file instead of the project rate file when calculating costs.<br>You can change the rate file by clicking and selecting another rate file in the Rate File Lookup dialog box. The Rate File Lookup dialog box displays only the rate files that the user has permission to access.<br>Cobra displays this field only for Forecast, Actual, and Budget classes. This is a required field for Forecast classes. |
| **Prevent editing Time Phased Grid** | Select this checkbox to prevent users from making changes to the selected class in the Time-phase Detail pane of the Project view. You cannot change the setting for this field on the General tab of the Classes tab in the Project view after the class has been created.<br>Cobra ignores this setting for global processes such as Recalc. |
| **Include in Actuals** | Select this checkbox to include the values for the class in the project's actual totals. Selecting this option creates the Include in Totals page of the Wizard, where you can include the class in totals and add the class to specific cost sets. |

*Class Settings Page for Budget Class of the New Class Wizard*

Use this page to select the class level and other settings applicable to the budget class.

**Contents**

| Field | Description |
|---|---|
| **Level** | Use this field to specify the level at which costs are entered for the class.<br>Your options are:<br>▪ Control Account<br>▪ Work Package |
| **Calendar Set** | This field displays the calendar set used in spreading the costs associated with the class. You can change the calendar set by clicking and selecting another calendar set on the Calendar Set Lookup dialog box.<br>A calendar set assigned to a budget class must contain at least one flagged period prior to the first period of the project, and at least one flagged period after the latest control account or work package finish date. All periods must have fixed ($) flags.<br>Cobra displays this field only for the Forecast and Budget classes. |
| **Rate File** | Use this field to assign an alternate rate file when calculating costs for the class. Actual and Budget classes use the rate file assigned to the project, but if a rate file is specified in this field, the class uses that file instead of the project rate file when calculating costs.<br>You can change the rate file by clicking and selecting another rate file in the Rate File Lookup dialog box. The Rate File Lookup dialog box displays only the rate files that the user has permission to access.<br>Cobra displays this field only for Forecast, Actual, and Budget classes. This is a required field for Forecast classes. |
| **Obtain budget from** | Select the account from which Cobra will get the budget. For example, if you select **Undistributed Budget**, you are spreading the budget using available funds from the undistributed budget.<br>▪ **Undistributed Budget**: Select this option to debit the funds from an undistributed budget account.<br>▪ **Management Reserve**: Select this option to debit the funds from the management reserve account.<br>▪ **Over Target Baseline**: Select this option to debit the funds from the over target baseline account. |
| **Budget Dates** | Use this field specify alternative budget dates for the project. Your options are:<br>▪ **Baseline**<br>▪ **Pending** |

| Field | Description |
|---|---|
| | Selecting **Pending** disables the **Include in Budget** option. |
| **Prevent editing Time Phased Grid** | Select this checkbox to prevent users from making changes to the selected class in the Time-phase Detail pane of the Project view.<br>Cobra ignores this setting for global processes such as Recalculation. |
| **Include in Budget** | Select this checkbox to include the values for the class in the project's budget totals. You cannot change the setting for this field on the General tab of the Classes tab of the Project view after the class has been created. |
| **Suppress calculation of source results** | Select this checkbox to instruct Cobra not to recalculate source results when a derived result is changed on Budget and Forecast classes. For example, if this checkbox is selected, Cobra will not recalculate Hours if FTE is updated. By default, this checkbox is not selected; Cobra calculates all source and derived results. |

*Class Settings Page for Earned Class of the New Class Wizard*

Use this page to select the class level and other settings applicable for the earned class.

**Contents**

| Field | Description |
|---|---|
| **Level** | Use this field to specify the level at which costs are entered for the class.<br>Your options are:<br>▪ Control Account<br>▪ Work Package<br>**Note:** When creating an Earned class, Cobra disables this field, with the **Work Package** option selected. |
| **Include in Earned** | Select this checkbox to include the values for the class in the project's earned totals. Selecting this option displays the Include in Totals page of the Wizard, where you can include the class in totals and add the class to specific cost sets. |

*Class Settings Page for Forecast Class of the New Class Wizard*

Use this page to select the class level and other settings applicable to the forecast class.

**Contents**

| Field | Description |
|---|---|
| **Level** | Use this field to specify the level at which costs are entered for the class.<br>Your options are: |

| Field | Description |
|---|---|
| | ▪ Control Account<br>▪ Work Package |
| **Calendar Set** | This field displays the calendar set used in spreading the costs associated with the class. You can change the calendar set by clicking and selecting another calendar set on the Calendar Set Lookup dialog box. Cobra displays this field only for the Forecast and Budget classes.<br>**Note:** A calendar set assigned to a budget class must contain at least one flagged period prior to the first period of the project, and at least one flagged period after the latest control account or work package finish date. All periods must have fixed ($) flags. |
| **Rate File** | Use this field to assign an alternate rate file when calculating costs for the class. Actual and Budget classes use the rate file assigned to the project, but if a rate file is specified in this field, the class uses that file instead of the project rate file when calculating costs.<br>You can change the rate file by clicking and selecting another rate file in the Rate File Lookup dialog box. The Rate File Lookup dialog box displays only the rate files that the user has permission to access. Cobra displays this field only for Forecast, Actual, and Budget classes. This is a required field for Forecast classes. |
| **Prevent editing Time Phased Grid** | Select this checkbox to prevent users from making changes to the selected class in the Time-phase Detail pane of the Project view. |
| **Include in EAC** | Select this checkbox to include the values for the class in the project's forecast totals. You cannot change the setting for this field on the General tab of the Classes tab of the Project view after a class has been created.<br>Selecting this option displays the Include in Totals page of the Wizard, where you can include the class in totals and add the class to specific cost sets. |
| **Suppress calculation of source results** | Select this checkbox to instruct Cobra not to recalculate source results when a derived result is changed on Budget and Forecast classes. For example, if this checkbox is selected, Cobra will not recalculate Hours if FTE is updated. By default, this checkbox is not selected; Cobra calculates all source and derived results. |

*Forecast Class Page of the New Class Wizard*

Use this page to select the forecast method, forecast dates, and other settings (if applicable) for the forecast class.

**Contents**

| Field | Description |
|---|---|
| **Forecast Method** | Use this field to select the forecast method that will be used for the class.<br>**Note:** If you select PF=1, Manual Forecast (Retain ETC), Manual Forecast (Retain EAC), or Frozen Forecast, no other options are available. |
| **Forecast Dates** | Use this field to specify whether the forecast spread will be based on early, late, or default forecast dates. The early and late dates are used for best- and worst-case forecast scenarios.<br>**Note:** This field is not available if you select **Frozen Forecast** in the **Forecast Method** field. |
| **Performance Factor Level** | This field controls the level at which Cobra calculates the CPI and SPI.<br>▪ **Level 1 - 20**: The levels represent the hierarchical structure of a code file. Selecting a level instructs Cobra to perform forecast calculation at that level for the selected code file.<br>▪ **Project**<br>▪ **Control Account**<br>▪ **Work Package**<br>**Note:** This field displays when you perform one of the following actions:<br>▪ You select a statistical forecast method in the **Forecast Method** field.<br>▪ you select **Coded Ranges** in the **Forecast Method** field and one of the rows in the Coded Ranges grid is mapped to a statistical forecast method. |
| **Code File** | This field displays when you select any of the levels from 1 to 20 in the **Performance Factor Level** field. Use this field to select a code file to calculate forecasts against. |
| **Defined Relative Weighing** | These fields only display when you select Weighted Indexes in the **Forecast Method** field, or you select **Coded Ranges** in the **Forecast Method** field and one of the rows in the Coded Ranges grid is mapped to Weighted Indexes.<br>Enter the values for the a and b parameters in the PF=1/(a*CPI+b*SPI) method. By specifying the a and b factors, you can define a performance factor that reflects the cumulative CPI/SPI, where the relative weights of CPI |

| Field | Description |
|---|---|
| | and SPI are user defined. The combined relative weights of both fields must be equal to 1. |

### Coded Ranges Pane

This pane, where you can map a code or progress technique to an existing forecast method, displays when you select **Coded Ranges** in the **Forecast Method** drop-down list.

| Field | Description |
|---|---|
| **Code Field** | Use this field to select a code to which you want to map an existing forecast method. This field only displays saved control account or work package codes.<br>Your options are:<br>▪ **Control Account Codes**<br>▪ **Work Package Codes**<br>▪ **Progress Technique**<br>Your selections in this field are based on the **Forecast Level** that you select on the Class Settings page of the New Class Wizard. If **Forecast Level** is set to **Control Account**, this field displays the control account codes defined in the project. If **Forecast Level** is set to **Work Package**, this field displays the work package codes defined in the project and the list of progress techniques. |
| **Coded Ranges Grid** | Use this grid to select a code and assign a forecast method to it. |
| **Code Value** | Use this field to assign a value to the selected code. You can define up to three values for the selected code. |
| **Forecast Method** | Use this field to assign a forecast method to the code value or other.<br>Your options are:<br>▪ Manual Forecast (Retain EAC)<br>▪ Manual Forecast (Retain ETC)<br>▪ PF=1<br>▪ PF=1/(a*CPI+b*SPI)<br>▪ PF=1/(CPI*SPI)<br>▪ PF=1/CPI Cum to date<br>▪ PF=1/CPI Cum to date<br>▪ PF=1/CPI for current period<br>▪ PF=1/CPI for last 3 periods<br>▪ PF=1/CPI for last 6 periods |

| Field | Description |
|---|---|
| | You must also assign a forecast method to the "Other" row. Code values that are not mapped will use this forecast method. |

**Percent Complete Ranges Pane**

This pane displays when you select **Percent Complete Ranges** in the **Forecast Method** field.

| Field | Description |
|---|---|
| **Percent Complete Ranges** | Use this field to enter range values to instruct Cobra to calculate the performance factor according to the amount of work completed.<br>You can specify up to four ranges over which a particular forecast method takes effect. You cannot enter values directly in the first four rows of the first column of the **Percent Complete Ranges** section. Use the second column to enter the percentages. Cobra automatically adjusts the starting percentages in the first column as you enter percentages in the second column.<br>The value of the last row in the second column always equals 100%. You cannot enter a percentage value directly in this row. |
| **Range Forecast Method** | Use this field to select the statistical forecast methods that you want to use for the percent complete ranges. The performance factor (PF) level defaults to the PF level used in the forecast class if you select one of the following options in the **Range Forecast Method** drop-down list:<br>▪ PF=1/CPI Cumulative to date<br>▪ PF=1/CPI for current period<br>▪ PF=1/CPI for last 3 periods<br>▪ PF=1/CPI for last 6 periods<br>▪ PF=User input<br>▪ PF=1/(a*CPI+b*SPI)<br>▪ PF=1/(CPI*SPI)<br>▪ Percent Complete Ranges |

*Include in Budget Cost Set Page of the New Class Wizard*

Use this page to include the class in the Budget cost set, create a new cost set using the class name, or include the class in the Earned class.

**Contents**

| Field | Description |
|---|---|
| **Add class to cost set Budget** | Select this option to add the new class as an included class to the Budget cost set. |

| Field | Description |
|---|---|
| **Create a new cost set using same name and description as the class** | Select this option to instruct Cobra to create a new cost set with the same name and description as the class that you are creating. Cobra will add the new cost set to the Cost Sets tab of the Project Properties dialog box. The class will be included in the new cost set. |
| **Add as included Budget class for class Earned** | Select this option to add the new class as an included budget class in the Earned class. By adding the new budget class to the Earned class, Cobra uses the new budget class to calculate earned for the project. After creating the new class using the New Class Wizard, Cobra displays the class in the Included Budget Classes tab of the Classes tab of the Project Properties dialog box. |

*Include in Earned Cost Set Page of the New Class Wizard*

Use this page to include the class in the Earned cost set, create a new cost set using the class name, or select the associated budget classes.

**Contents**

| Field | Description |
|---|---|
| **Add class to cost set Earned** | Select this option to add the new class as an included class to the Earned cost set. |
| **Create a new cost set using same name and description as the class** | Select this option to instruct Cobra to create a new cost set with the same name and description as the class that you are creating. Cobra will add the new cost set to the Cost Sets tab of the Project Properties dialog box. The class will be included in the new cost set. |
| **Included Budget Classes tab** | Use this tab to select the Budget classes that Cobra will associate with the new Earned class. Cobra uses these Budget classes to calculate earned value.<br>Click **Add** to display the Class Lookup dialog box, where you can select the Budget classes to associate with the Earned class. The Class Lookup dialog box displays only the Budget classes at the work package level. You cannot select Budget classes for the control account level. |

*Include in Actuals Cost Set Page of the New Class Wizard*

Use this page to include the class in the Actuals cost set, create a new cost set using the class name, and select the associated budget classes.

**Contents**

| Field | Description |
|---|---|
| **Add class to cost set Actuals** | Select this option to add the new class as an included class to the Earned cost set. |
| **Create a new cost set using the same name and description as the class** | Select this option to instruct Cobra to create a new cost set with the same name and description as the class that you are creating. Cobra will add the new cost set to the Cost Sets tab of the Project Properties dialog box. The class will be included in the new cost set. |
| **Add as included Actuals class for class EAC** | Select this option to add the new class to the Actual classes that Cobra uses in forecast calculations for the project. After creating the new class using the New Class Wizard, Cobra displays the new Actual class in the Included Actuals Classes tab for all established forecast classes in the project. |
| **Included Budget Classes tab** | Use this tab to select the Budget classes that Cobra will associate with the new Actual class. Cobra compares the associated Budget classes with the Actual class during reporting.<br>Click **Add** to display the Class Lookup dialog box, where you can select the Budget classes to associate with the Actual class. |

*Include in EAC Cost Set Page of the New Class Wizard*

Use this page to include the class in the EAC cost set, create a new cost set using the class name, and select the associated Earned, Budget, and Actuals classes.

**Contents**

| Field | Description |
|---|---|
| **Add class to cost set EAC** | Select this option to add the new class as an included class to the EAC cost set. |
| **Create a new cost set using same name and description as the class** | Select this option to instruct Cobra to create a new cost set with the same name and description as the class that you are creating. Cobra will add the new cost set to the Cost Sets tab of the Project Properties dialog box. The class will be included in the new cost set. |
| **Included Budget Classes tab** | Use this tab to select the Budget classes that Cobra will associate with the new Forecast class. Cobra uses these Budget classes to calculate forecasts. |

| Field | Description |
|---|---|
| | Click **Add** to display the Class Lookup dialog box, where you can select the Budget classes to associate with the Forecast class. |
| **Included Earned Classes tab** | Use this tab to select the Earned classes that Cobra will associate with the new Forecast class. Cobra uses these Earned classes to calculate forecasts.<br>Click **Add** to display the Class Lookup dialog box, where you can select the Earned classes to associate with the Forecast class. |
| **Included Actual Classes tab** | Use this tab to select the Actual classes that Cobra will associate with the new Forecast class. Cobra uses these Actual classes to calculate the Forecast for the forecasts.<br>Click **Add** to display the Class Lookup dialog box, where you can select the Actual classes to associate with the Forecast class. |

*Confirmation Page of the New Class Wizard*

This page informs you that Cobra has all the information it needs to create the new class.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays. When you are sure that all the information is correct, click **Finish** to confirm the process.

*Procedures*

Follow the procedures in this section to utilize the New Class Wizard.

Display the New Class Wizard

Use the New Class Wizard to create a new class.

**To display the New Class Wizard:**

1. Display the Project Properties dialog box.
2. Select the Classes tab and click **New**.
3. Complete the pages of the New Class Wizard to create a new class.

Create a New Class

Use the New Class Wizard to create new classes that the project will use to collect and organize project cost data. You can create only one forecast cost class that uses the Percent Complete Range method.

**To create a new class:**

1. Display the Project Properties dialog box and select the Classes tab.
2. Click **New**.

3. Complete the pages of the New Class Wizard to create a new class for the selected project.

   The pages of the wizard vary depending on the class type and/or forecast method that you select.

### Copy Classes Dialog Box

Use this dialog box to copy one or more classes from the selected project to other projects.

The Copy Classes dialog box contains two grids. One grid displays the classes used in the selected project, while the other grid displays the projects to which the classes can be copied.

*Display the Copy Classes Dialog Box*

Use this procedure to display the Copy Classes dialog box.

**To display the Copy Classes dialog box:**

1. Display the Project Properties dialog box.
2. Select the Classes tab and click **Copy Classes**.

## Cost Sets Tab of the Project Properties Dialog Box

Use this tab to group related classes together for reporting purposes using cost sets.

**Cost Set Information**

| Field | Description |
|---|---|
| **Cost Set** | This column in the left grid of the Cost Sets tab displays the name of the cost set. |
| **Description** | This column in the left grid of the Cost Sets tab displays a description of the cost set. You can modify the cost description in this column. |

**Included classes**

This grid displays the classes that are included in the cost set that you selected in the left pane of the Cost Sets tab.

| Field | Description |
|---|---|
| **Class** | This column displays the name of the class. |
| **Description** | This column displays a brief description of the class. |
| **Copy Cost Sets** | Click this button to display the Copy Cost Sets dialog box, where you can copy cost sets to other projects. |

| Field | Description |
|---|---|
| | The Copy Cost Sets dialog box consists of two grids. The left grid displays the cost sets used in the selected project. The right grid displays the projects that the user has permission to access. |
| **New** | Click this button to add a new row to the left grid for adding a new cost set. |
| **Delete** | Click this button to delete the selected cost set. |
| **Add** | Click this button to display the Class Lookup dialog box, where you can select the classes that you want to include in the cost set that you selected in the left grid of the Cost Sets tab. |
| **Remove** | Click this button to remove the selected class from the cost set that you selected in the left grid of the Cost Sets tab. |

### Copy Cost Sets Dialog Box

Use this dialog box to copy existing cost sets to a project.

The Copy Cost Sets dialog box consists of two grids.

- The left grid displays the cost sets used in the selected project.
- The right grid displays the projects that the user has permission to access.

*Display the Copy Cost Sets Dialog Box*

Use this procedure to display the Copy Cost Sets dialog box.

**To display the Copy Cost Sets dialog box:**

1. Display the Project Properties dialog box.
2. Select the Cost Sets tab and click **Copy Cost Sets**.

### Procedures

Follow the procedures in this section to create, copy, and delete cost sets.

*Create a New Cost Set*

Use the Cost Sets tab of the Project Properties dialog box to add and delete custom cost sets and to update the description or the included classes for a standard cost set.

**To create a new cost set:**

1. Display Project Properties dialog box and select the Cost Sets tab.
2. On the Cost Sets tab, click **New** to insert a new row on the left grid.
3. Enter the name and description for the new cost set.

4. Click **OK**.

*Add a Class to a Cost Set*

Use the Cost Sets tab of the Project Properties dialog box to add a class to a cost set.

**To add a class to a cost set:**

1. Display Project Properties dialog box and select the Cost Sets tab.
2. In the left grid of the Cost Sets tab, click a cost set and click **Add**.
3. In the Class Lookup dialog box, select the classes that you want to include in the cost set, and click **Select**.
4. Click **Apply**.

*Copy Existing Cost Sets to a Project*

Use the Copy Cost Sets dialog box to copy existing cost sets to a project.

**To copy existing cost sets to a project:**

1. Display the Project Properties dialog box, select the Copy Cost Sets tab, and click **Copy Cost Sets**.
2. In the left grid of the Copy Cost Sets dialog box, select the cost sets that you want to copy.

   You can select more than one cost set.
3. In the right grid of the Copy Cost Sets dialog box, select the projects to which Cobra will copy the cost sets that you selected in the left grid.

   You can select more than one project.
4. Select the **Allow existing cost sets in project to be replaced** option to overwrite cost sets that have the same names as the cost sets that you want to copy to the selected projects.

   If you do not select this option and a cost set with the same name already exists in the target project, Cobra will not copy that cost set to the target project.
5. Click **Copy** to copy the cost sets to the projects that you selected on the right grid.

*Delete a Cost Set*

Use the Cost Sets tab of the Project Properties dialog box to delete a cost set.

**To delete a cost set:**

1. Display Project Properties dialog box and select the Cost Sets tab.
2. In the left grid of the Cost Sets tab, select a cost set.
3. Click **Delete** to delete the selected cost set.
4. Click **OK**.

## Code Assignments Tab of the Project Properties Dialog Box

This tab displays the project-level codes assigned to the project. These project-level codes are defined at a global level, making them available for all projects.

Cobra uses project codes primarily in reporting, enabling you to sort and filter data more effectively by code assignments. You can copy the codes assigned to one project to another project or to multiple projects.

The default code assignments displayed on the Code Assignments tab are the same code assignments that you specified when you created the project using the New Project Wizard. Project-level codes are defined on the Project Codes tab of the Application Preferences dialog box.

**Contents**

| Field | Description |
|---|---|
| **Description** | This column displays the prompt of the project-level code as defined on the Project Codes tab of the Application Preferences dialog box. |
| **Value** | This column displays the code value assigned to the project from the project-level code file. |
| **Copy Codes** | Click this button to display the Copy Project Codes dialog box, where you can copy code assignments to other projects. |

### Copy Project Codes Dialog Box

Use this dialog box to copy codes to another project.

The Copy Project Codes dialog box consists of two grids. The left grid displays the codes assigned to the selected project. The right grid displays the projects that the user has permission to access.

**Contents**

| Field | Description |
|---|---|
| **Select the codes to copy** | Select the codes that you want to copy to a project. |
| **Projects** | Select the checkbox for the project where you want to copy the selected codes. Click **Copy** to copy the codes. |

*Display the Copy Project Codes Dialog Box*

Use this procedure to display the Copy Project Codes dialog box.

**To display the Copy Project Codes dialog box:**

1. Display the Project Properties dialog box.

2. Select the Codes Assignments tab and click **Copy Codes**.

### Procedures

Follow the procedures in this section to assign and copy codes.

*Assign Codes to a Project*

Use the Code Assignments tab of the Project Properties dialog box to assign codes to a project.

Before you can assign codes to a project, you must assign code files at the project level on the Project Codes tab of the Application Preferences dialog box. The default codes initially displayed on the Code Assignments tab are the same codes that you specified when you created the project using the New Project Wizard.

**To assign codes to a project:**

1. Display Project Properties dialog box and select the Code Assignments tab.
2. In the Code Assignments tab, click ... to display the Code Lookup dialog box.
3. In the Code Lookup dialog box, select the code that you want to assign to the project, and click **Select**.
4. On the Code Assignments tab, click **Apply** to save the changes.

*Copy Codes to Another Project*

Use the Copy Project Codes dialog box to copy codes to another project.

**To copy codes to another project:**

1. Display the Project Properties dialog box and select the Code Assignments tab.
2. In the left grid of the Copy Project Codes dialog box, select the codes that you want to copy.

   You can select more than one code.
3. In the right grid of the Copy Project Codes dialog box, select the projects to which Cobra will copy the codes that you selected on the left grid.

   You can select more than one project.
4. Click **Copy** to copy the codes to the projects that you selected in the right grid.

## Sub-Projects Tab of the Project Properties Dialog Box

This tab displays the projects that are assigned to a master project.

This tab is available only if you displayed the Project Properties dialog box for a master project.

A master project contains no data other than the structures used to designate the sub-projects associated with it. Use this tab to assign more projects to a master project or to merge a sub-project into a new project.

**Contents**

| Field | Description |
|---|---|
| **Add** | Click this button to display the Project Lookup dialog box, where you can select the projects that you want to add as sub-projects to the master project. |
| **Remove** | Click this button to remove the selected project from the master project. |
| **Validate** | Click this button to display the Sub-Projects Validation dialog box, where you can validate project data. You can also specify which project data to validate before merging the sub-projects into a new project, and which validation errors should prevent the merging of the sub-projects. |
| **Save As** | Click this button to merge the sub-projects into a new project. You can also merge the sub-projects using an existing project name. This option merges the data contained in all sub-projects under the master project into a single project. |

### Save As Dialog Box (Merging Projects)

Use this dialog box to merge a master project's sub-projects into a new project.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new project, or use ... to display the Project Lookup dialog box, where you can select an existing project. |
| **Description** | Use this field to enter a description for the new project. |

*Display the Save As Dialog Box (Merging Projects)*

Use this procedure to display the Save As dialog box for merging projects.

**To display the Save As dialog box for merging projects:**

1. Display the Project Properties dialog box.
2. Select the Sub-Projects tab and click **Save As**.

### Sub-Projects Validation Dialog Box

Use this dialog box to validate the data for the sub-projects of a master project.

**Contents**

| Field | Description |
|---|---|
| **Validation** | On the Validation tab of the Sub-Projects Validation dialog box, select the data types that you want to validate. |

| Field | Description |
|---|---|
| | You can validate the following data types:<br>▪ **Code entries**: Cobra validates that the master project and sub-projects are using the same ancillary files and the same codes in the key fields (CA1, CA2, CA3, and WP). It also validates that the control account assignments from the key fields of the project are control account values that exist in the master project's CA key field code file.<br>▪ **Calculation entries**: Cobra validates that the resource file used in the master project has the same content as the resource files assigned to the sub-projects.<br>▪ **Rate entries**: Cobra validates that the rate file used in the master project has the same content as the rate files assigned to the sub-projects.<br>▪ **Fiscal calendar entries** : Cobra validates that the master project calendar has the same rate sets and periods as the calendars used in the sub-projects. If the calendars are not shared, then the dates in the base calendar set 18 are the same for all projects including, the master project.<br>▪ **Baseline dates**: Cobra validates that the baseline start of and finish dates of the master project and sub-projects match.<br>▪ **Status dates**: Cobra validates that the status date of the master project is the same as the status date of the sub-projects.<br>▪ **Class entries**: Cobra validates that the master project and sub-projects have the same class definitions. |
| **Errors** | On the Errors tab of the Sub-Projects Validation dialog box, select the data type validation error that will prevent the merging of the sub-projects into a new project. |

*Sub-Projects Validation Dialog Box*

Use this procedure to display the Sub-Projects Validation dialog box.

**To display the Sub-Projects Validation dialog box:**

1. Display the Project Properties dialog box.
2. Select the Sub-Projects tab and click **Validate**.

## Procedures

Follow the procedures in this section to assign, merge, validate, and remove sub-projects.

*Assign Sub-Projects to a Master Project*

Use the Sub-Projects tab of the Project Properties dialog box to assign sub-projects to a master project.

**To assign sub-projects to a master project:**

1. Display Project Properties dialog box and select the Sub-Projects tab.
2. Click **Add** to open the Project Lookup dialog box.
3. Select the projects that you want to add as sub-projects to the master project.
4. Click **Select** to add the selected projects to the master project.

*Merge Sub-Projects into a New Project*

Use the Save As Dialog Box (Merging Projects) to merge a master project's sub-projects into a new project.

All cost classes/cost sets defined in the master are defined in the new project.

The user becomes the owner of the new project. All other security options are copied from the master project.

The new project contains all data from each project assigned to the master project. If the data is in the same control account/work package combinations but within different projects, it is summarized in the new project.

**To merge sub-projects into a new project:**

1. Display the Project Properties dialog box and select the Sub-Projects tab.
2. On the Sub-Projects tab, click **Save As** to display the Save As dialog box.
3. Enter a name and description for the new project.
   You can also click ... to display the Project Lookup dialog box, where you can select a project to overwrite.
4. Click **OK** to merge the sub-projects into a new project.

*Validate Sub-Projects*

Use the Sub-Projects Validation dialog box to validate the data for the sub-projects of a master project.

**To validate sub-project data:**

1. Display the Project Properties dialog box and select the Sub-Projects tab.
2. Click **Validate** to open the Sub-Projects Validation dialog box.

3. On the Validation tab, select the data types that you want to validate.
4. On the Errors tab, select the validation error that will prevent the merging of the sub-projects into a new project, and click **OK**.

*Remove Sub-Projects from a Master Project*

Use the Sub-Projects tab of the Project Properties dialog box to remove sub-projects from a master project.

**To remove sub-projects from a master project:**

1. Display the Project Properties dialog box and select the Sub-Projects tab.
2. Select a project.
3. Click **Remove**.
4. Click **Apply**.

## Preferences Tab of the Project Properties Dialog Box

Use this dialog box to set up various settings for your project, as well as tasks that you perform on your project.

**Note:** The options in this dialog box are controlled by their corresponding options in the **Projects** » **Project Properties** » **Preferences** tab node of the EPM Security Administrator tool.

In this dialog box, you can specify your preferences for the following:

- Actual Cost Preferences
- Advance Calendar Preferences
- Analyze Preferences
- ANSI EIA X12 Preferences
- Integration Wizard Preferences
- Project Preferences
- Earned Preferences
- Forecast Preferences
- Recalc Preferences
- Reclass Preferences
- Replan Preferences

**Contents**

| Field | Description |
|---|---|
| **Copy Preferences** | Click this button to copy the existing preferences to another project or to multiple projects. |

### Using the Selected and Secure Checkboxes

Use the **Selected** and **Secure** checkboxes to manage the behavior of the corresponding option on the process wizard page.

Use the **Selected** checkbox to set the corresponding option on the process wizard page as the default option.

Use the **Secure** checkbox to prevent you from changing the value of the corresponding option on the process wizard page. Cobra uses this feature to secure certain options while you run processes against a project. If selected, you cannot modify the value of the corresponding option on the process wizard page. Selecting this checkbox ensures that all users are using the same setting when running the Cobra process.

For example, if you want to make a specific option on the process wizard selected by default and do not want other users to update it, select both the **Selected** and **Secure** checkboxes for that specific option.

### Actual Costs Preferences

Use this dialog box to select the options for loading actual costs for a project.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Allow posting actual costs to a planned Control Account or Work Package** | Selecting this option allows actual costs to be entered against a control account or work package that has a status of Planned. Planned control accounts or work packages do not have an actual start date.<br>▪ Selecting the **Secure** checkbox for this option while the **Selected** checkbox is cleared also selects the **Secure** checkbox for the **Use the status date as the actual start date when posting values** option.<br>▪ Selecting the **Secure** checkbox for this option while the **Selected** checkbox is selected does not affect the **Secure** checkbox for the **Use the status date as the actual start date when posting values** option. |

| Field | Description |
|---|---|
| | ▪ Clearing the **Selected** checkbox for this option while the **Secure** checkbox is cleared does not affect the **Secure** checkbox for the **Use the status date as the actual start date when posting values** option.<br>▪ Clearing the **Selected** checkbox for this option while the **Secure** checkbox is selected also selects the **Secure** checkbox for the **Use the status date as the actual start date when posting values** option. |
| **Use the status date as the actual start date when posting values** | Selecting this option enables Cobra to automatically set the status of planned control accounts and work packages to In-Progress during the Load Actuals process.<br>If the forecast start date is later than the status date, Cobra will change the start date to the day before the status date and open the control account or work package.<br>If the forecast start date is earlier than the status date, Cobra will change the start date to the forecast start date.<br>This option is available only if you selected the **Allow posting actual costs to a planned Control Account or Work Package** option.<br>▪ Selecting the **Secure** checkbox for this option also selects the **Secure** checkbox for the **Allow posting actual costs to a planed Control Account or Work Package** option.<br>▪ Clearing the **Allow posting actual costs to a planned Control Account or Work Package** option also clears this option, except if this option is disabled in the EPM Security Administrator (EPM SA). |
| **Allow posting actual costs to a completed Control Account or Work Package** | Selecting this option allows entry of actual costs against control accounts or work packages with a status of Complete. If this option is not selected, Cobra will load actuals for completed control accounts and work packages only if their actual finish date falls within the last period date and the current status date. Subsequently, Cobra will list the completed control accounts and work packages that have their finish date before the current period date as errors in the process log. |
| **Prevent loading historical actual cost** | Selecting this option allows you to load only the actual costs with cost date values that fall between the start and finish dates of the current status period during the Load Actuals process. By default, this option is cleared.<br>This option only applies if you selected **Period Costs** on the Included Costs page of the Integration Wizard. |

### Advance Calendar Preferences

Use this dialog box to select the options for advancing the calendar.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Automatically change the status of LOE Work Packages to in-progress** | Select this option to allow Cobra to automatically open Level of Effort (LOE) work packages in the project at the end of the advance calendar process. If selected, Cobra opens planned work packages with a forecast start date before the project status date. If a control account contains an LOE work package that was opened, the control account is also opened.<br>Cobra uses the value of this option if you run the Advance Calendar API process and do not include the **UseStatusDateAsActualStartDateForLoE** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **UseStatusDateAsActualStartDateForLoE** setting in the API script. |

### Analyze Preferences

Use this dialog box to select the options for analyzing a project and its structures.

The Analyze Preferences dialog box consists of two sections. The top section displays the options for performing project analysis. The bottom section displays the **Results used to calculate values** grid, where you can select the results to use by the Analyze utility.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Curve chart template file** | Select this option to specify an alternative chart template file to use for the Analyze curve graphs. Click in the **Select** column to display the Locate Report Template dialog box, where you can select a template file. |
| **CV-SV chart template file** | Select this option to specify an alternative chart template file to use for the Analyze CVSV graphs. Click in the **Select** column to display the Locate Report Template dialog box, where you can select a template file. |

| Field | Description |
|---|---|
| **Custom XSL document for XML output** | By default, the .xml file contains a reference to the ddactive.xsl file. You can change the .xsl document reference inserted into the .xml file by supplying a filename in this field. You can also click in the **Select** column to display the Locate Report Template dialog box, where you can select a template file. |
| **Results used to calculate values** | This option restricts the results used by the Analyze utility. The value entered for this option must be a list of one or more results, separated by commas. For example, to produce a drill-down view in terms of hours, enter HOURS in the field. To remove the G&A result, enter the other results separated by commas: DIRECT, OVERHEAD.<br>The values that you enter in the field must be results that already exist in the project. |
| **Always generate XML support files** | Selecting this option instructs Cobra to save the .xml support files in a sub-folder of the folder containing the XML file when you save Analyze reports to XML. |
| **Use selected results** | Select this option to instruct Cobra to use the selected results on **Results used to calculate values** grid. If you do not select this option, you cannot select results on the **Results used to calculate values** grid. |
| **Results used to calculate values grid** | This grid displays all the results included in the project. Select the results that you want to use in performing project analysis by selecting the appropriate checkboxes in the Selected column. |

### ANSI EIA X12 Preferences

Use this dialog box to select options for the ANSI EIA X12 Wizard, which lets you export project information to other applications that support Version 3040 or Version 3050 of the ANSI EIA X12 Transaction Set 839 Project Cost Reporting.

#### Contents

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Export wInsight extended information** | Select this option to instruct Cobra to export the extended data set. wInsight uses an extended data set for better analysis.<br>▪ Selecting the **Secure** checkbox for this option while the **Selected** checkbox is cleared also selects the **Secure** checkbox for the **Suppress exporting the CAM field** option. |

| Field | Description |
|---|---|
| | ▪ Selecting the **Secure** checkbox for this option while the **Selected** checkbox is selected does not affect the **Secure** checkbox for the **Suppress exporting the CAM field** option.<br>▪ Clearing the **Selected** checkbox for this option while the **Secure** checkbox is cleared does not affect the **Secure** checkbox for the Suppress exporting the CAM field option.<br>▪ Clearing the Selected checkbox for this option while the **Secure** checkbox is selected also selects the **Secure** checkbox for the **Suppress exporting the CAM field** option.<br>The following are exported from Cobra as extended data:<br>▪ Control account manager<br>▪ Hourly data<br>▪ Future monthly budget<br>▪ ETC |
| **Export variance narrative data** | Select this option to instruct Cobra to include the variance narrative entries on the IPMR Format 5 when exporting ANSI EIA X12 data. |
| **Export CSSR data** | Selecting this option instructs Cobra to include the CSSR information when exporting ANSI EIA X12 data. |
| **Suppress exporting the CAM field** | Select this option to instruct Cobra not to export the CAM field when exporting extended data. This option is available only if you selected the **Export wInsight extended information** option.<br>▪ Selecting the **Secure** checkbox for this option also selects the **Secure** checkbox for the **Export wInsight extended information** option.<br>▪ Clearing the **Export wInsight extended information** option also clears this option, except if this option is disabled in the EPM Security Administrator (EPM SA). |
| **Enforce consecutive forecast periods** | Select this option to instruct Cobra that if the project is using weekly earned value, the exports will be summarized into monthly periods. |
| **Use yyyymmdd dates instead of yymmdd** | Select this option to instruct Cobra to export the dates in **yyyymmdd** format. |

| Field | Description |
|---|---|
| **Filter unused WBS/OBS codes** | Select this option to instruct Cobra to exclude WBS or OBS codes that do not contain values from the export process. |
| **Export manpower in:** | This option allows you to export man power as either **FTE** (Full-Time Equivalent) or **Hours** for IPMR Format 4 reports. Selecting **Hours** creates the IPMR Format 4 using the result code **H-Hours** on the calculation of resource. |
| **Use alternate code for WBS** | This option allows you to select a number, from **1** to **9**, that represents the code position on the control account code file that will be used as the WBS. Cobra exports this control account code instead of the code selected for the **Control Account Key Field 1**. Selecting **1** means that the first code listed as an attached code on the control account is used as the alternate WBS. Selecting 0 means that the **Control Account Field 1** position is used as the WBS. |
| **Use alternate code for OBS** | This option allows you to select a number, from **1** to **9**, that represents the code position on the control account code file that will be used as the OBS. Cobra exports this control account code instead of the code selected for the **Control Account Key Field 2**. Selecting **1** means that the first code listed as an attached code on the control account is used as the alternate OBS. Selecting 0 means that the **Control Account Field 2** position is used as the OBS. |
| **WBS Project Office code** | This option allows you to select a number, from **1** to **9**, that represents the code position on the Control Account Field 1 (WBS) code file. The code position selected is used to extract the Project Officer data. Selecting **1** means that the code in the first code file position on the Control Account Field 1 code file is used. Selecting 0 means that there is no code in the WBS code file that represents the Project Officer code. |
| **OBS Project Office code** | This option allows you to select a number, from **1** through **9**, that represents the code position on the Control Account Field 2 (OBS) code file. The code position selected is used to extract the Project Officer data. Selecting **1** means that the code in the first code file position on the Control Account Field 2 code file is used. Selecting **0** means that there is no code in the OBS code file that represents the Project Officer code. |

### Integration Wizard Preferences

Use this dialog box to select the options when importing data into Cobra.

Setting and securing the options in this dialog box determine the default options for new configurations and do not affect existing saved configurations. To change the options of a saved configuration, display the Integration Wizard, select or clear the options on the appropriate Wizard page, and save the configuration. For example, if you want to update the selection for the **Allow Loading Forecast in the Current Status Period** option, open the saved configuration and update the option on the Resource Assignments page of the Integration Wizard, and save the

updated configuration. The integration uses the options saved in the configuration, not what are set in the project preferences.

**Contents**

| Field | Description |
|---|---|
| **Apply historical budget changes as an adjusting entry in the current status period** | Use this option if you are importing budget data. This option directs Cobra to maintain historical data and to summarize changes being loaded into historical periods as a single record in the status period. |
| **Apply historical forecast changes as an adjusting entry in the current status period** | Use this option if you are importing forecast data. This option directs Cobra to maintain historical data and to summarize changes being loaded into historical periods as a single record in the status period.<br>If the work package is due to start in the current period, the spread is the same as the budget and the Calculate Forecast process just moves the spread if it slips. If the work package has started, the budget is dropped during the Calculate Forecast process if the forecast uses the retain EAC method. Cobra takes the value into account for the retain EAC forecasts and runs the respread process normally.<br>Cobra assumes that before you select this option, you have already advanced the calendar but have not yet calculated the forecasts. If forecasts have been calculated after advancing the calendar before applying the historical forecast changes, you need to recalculate forecasts after selecting this option. |
| **Allow loading forecast in the current status period** | Use this option to load forecasts in current status period during integration.<br>For Cobra to adjust the entries in the current period rather than in the period after the status period, you must select this option and the **Apply historical forecast changes as an adjusting entry in the current status period** option. Otherwise, Cobra ignores the entries prior to the status date. See example below.<br>**Note:** For new projects, this option is cleared by default.<br>▪ **For new configurations**:<br>  ▪ If both the **Selected** and the **Secure** checkboxes are selected, the corresponding option on the Resource Assignments page of the Integration Wizard is selected and disabled.<br>  ▪ If the **Selected** checkbox is cleared and the **Secure** checkbox is selected, the corresponding option on the Resource |

| Field | Description |
|---|---|
| | Assignments page of the Integration Wizard is cleared and disabled.<br>▪ If the **Selected** checkbox is selected and **Secure** checkbox is cleared, the corresponding option on the Resource Assignments page of the Integration Wizard is selected and enabled.<br>▪ If both the **Selected** and **Secure** checkboxes of this option are cleared, the corresponding option on the Resource Assignments page of the Integration Wizard is cleared and enabled.<br>▪ **For existing configurations**:<br>▪ If the **Secure** checkbox is selected, the corresponding option on the Resource Assignments page of the Integration Wizard follows the selection made on this tab.<br>▪ If the **Secure** checkbox is cleared, the corresponding option on the Resource Assignments page of the Integration Wizard follows the selection in the configuration file.<br>**Attention:** For more information on this option, see Resource Assignments Page of the Integration Wizard. |
| **Force existing Work Package dates to match the schedule for** | Use this option to update the work package baseline dates to match the dates of the mapped activities to the date set selected for Baseline Dates on the Schedule Mapping page of the Integration Wizard.<br>▪ Selecting the **Secure** checkbox of this option while the **Selected** checkbox is cleared also selects the **Secure** checkbox of the **Update Control Account dates to span Work Package dates exactly** option.<br>▪ Selecting the **Secure** checkbox of this option while the **Selected** checkbox is selected does not affect the **Secure** checkbox of the **Update Control Account dates to span Work Package dates exactly** option.<br>▪ Clearing the **Selected** checkbox of this option while the **Secure** checkbox is cleared does not affect the **Secure** checkbox of the **Update Control Account dates to span Work Package dates exactly** option.<br>▪ Clearing the **Selected** checkbox of this option while the **Secure** checkbox is selected also selects the **Secure** checkbox of the **Update Control Account dates to span Work Package dates exactly** option. |

| Field | Description |
|---|---|
| **Update Control Account dates to span Work Package dates exactly** | Use this option to update the control account start and finish dates for all date sets to exactly match the earliest start and latest finish dates of all work package date sets.<br>▪ Selecting the **Secure** checkbox of this option also selects the **Secure** checkbox of the **Update existing Work Package baseline dates to match the schedule** option.<br>▪ Clearing the **Update existing Work Package baseline dates to match the schedule** option also clears this option, except if this option is disabled in the EPM Security Administrator (EPM SA). |
| **Update the description for existing Control Accounts and Work Packages** | Use this option to update the description of existing control accounts to match the description of the activity in the corresponding activity file. If the description in Cobra is blank, Cobra still updates it whether you select this checkbox or not. |
| **Recalculate existing milestone weights** | Use this option to recalculate the weight of each milestone. This option applies only if Cobra calculates milestone weights during the import process and not imported from a file field. |
| **Delete items from Cobra that are no longer in the schedule** | This option directs Cobra to delete data during the integration. This option has the following sub-options:<br>▪ **Delete Control Accounts and Work Packages no longer in the schedule**<br>▪ **Delete milestones no longer in the schedule**<br>▪ **Delete resource assignments no longer in the schedule**<br>▪ **Delete only resources with the default or selected class**<br>▪ **List deleted items in the process log**<br>Selecting the **Secure** checkbox of this option automatically selects the **Secure** checkbox of its sub-options.<br>Selecting the **Selected** checkbox of this option while the **Selected** checkbox is selected does not affect the **Secure** checkbox of its sub-options.<br>Clearing the **Selected** checkbox of this option while the **Secure** checkbox is cleared does not affect the **Secure** checkbox of this option and its sub-options.<br>Clearing the **Selected** checkbox of this option while the **Secure** checkbox is selected does not affect the **Secure** checkbox of this option and its sub-options.<br>Cobra determines what data to delete using its sub-options. |

| Field | Description |
| --- | --- |
| | **Delete Control Accounts and Work Packages no longer in the schedule**: Use this option to delete any Cobra work package that is no longer in the file you are importing.<br>▪ Selecting the **Secure** checkbox of this option also selects the **Secure** checkbox of the **Delete items from Cobra that are no longer in the schedule** option.<br>▪ Clearing the **Delete items from Cobra that are no longer in the schedule** option also clears this option, except if this option is disabled in the EPM SA.<br>**Delete milestones no longer in the schedule**: Use this option to delete existing milestones no longer found in the schedule.<br>▪ **For new configurations**:<br>▪ If both the **Selected** and the **Secure** checkboxes are selected, the corresponding option on the Change Control page of the Integration Wizard is selected and disabled.<br>▪ If the **Selected** checkbox is cleared and the **Secure** checkbox is selected, the corresponding option on the Change Control page of the Integration Wizard is cleared and disabled.<br>▪ If the **Selected** checkbox is selected and **Secure** checkbox is cleared, the corresponding option on the Change Control page of the Integration Wizard is selected and enabled.<br>▪ If both the **Selected** and **Secure** checkboxes of this option are cleared, the corresponding option on the Change Control page of the Integration Wizard is cleared and enabled.<br>▪ **For existing configurations**:<br>▪ If the **Secure** checkbox is selected, the corresponding option on the Change Control page of the Integration Wizard follows the selection made on this tab.<br>▪ If the **Secure** checkbox is cleared, the corresponding option on the Change Control page of the Integration Wizard follows the selection in the configuration file.<br>.<br>**Attention:** For more information on this option, see Change Control Page of the Integration Wizard.<br>**Delete resource assignments no longer in the schedule**: Use this option to delete all resources no longer found in the incoming resource assignment file. |

| Field | Description |
| --- | --- |
| | ▪ Selecting the **Secure** checkbox of this option also selects the **Secure** checkbox of the **Delete items from Cobra that are no longer in the schedule** option.<br>▪ Selecting the **Secure** checkbox of this option while the **Selected** checkbox is cleared also selects the **Secure** checkbox of the **Delete only resources with the default or selected class** option.<br>▪ Selecting the **Secure** checkbox of this option while the **Selected** checkbox is selected does not affect the **Secure** checkbox of the **Delete only resources with the default or selected class** option.<br>▪ Clearing the **Selected** checkbox of this option while the **Secure** checkbox is cleared does not affect the **Secure** checkbox of the **Delete only resources with the default or selected class** option.<br>▪ Clearing the **Selected** checkbox of this option while the **Secure** checkbox is selected also selects the **Secure** checkbox of the **Delete only resources with the default or selected class** option.<br>▪ Clearing the **Delete items from Cobra that are no longer in the schedule** option also clears this option, except if this option is disabled in the EPM SA.<br>**Delete only resources with the default or selected class**: Use this option to filter the deleted resources to include only those that have the default class or the filtered class defined on the Resource Assignments page of the Integration Wizard.<br>▪ Selecting the **Secure** checkbox of this option also selects the **Secure** checkbox of the **Delete resource assignment no longer in the schedule** and the **Delete items from Cobra that are no longer in the schedule** options.<br>▪ Clearing the **Delete resource assignment no longer in the schedule** or the **Delete items from Cobra that are no longer in the schedule** option also clears this option, except if this option is disabled in the EPM Security Administrator (EPM SA).<br>**List deleted items in the process log**: Select this option to list all items that are deleted from Cobra during the import process in the integration log.<br>▪ Selecting the **Secure** checkbox of this option also selects the **Secure** checkbox of the **Delete items from Cobra that are no longer in the schedule** option. |

| Field | Description |
|---|---|
| | ▪ Clearing the **Delete items from Cobra that are no longer in the schedule** option also clears this option, except if this option is disabled in the EPM SA.<br>This option controls whether the deleted items should be listed or not in the log file:<br>▪ If you select this option, Cobra lists the deleted items in the log file.<br>▪ If you clear this option, Cobra does list the deleted items in the log file. |
| **Delete only items that satisfy the selection criteria** | Use this option to delete only the items from Cobra that meet the criteria selected. This option displays only when loading into an existing project. |
| **Load only schedule activities that do not exist in Cobra** | Use this option to import only new data and ignore any existing data so that previously imported data remains the same. Selecting or clearing the **Secure** checkbox of this option also selects or clears the **Secure** checkbox of the **Load only date for Control Account that already exist in Cobra** option, except if this option is disabled in the EPM SA. |
| **Load only data for Control Accounts that already exist in Cobra** | Use this option to import only previously imported data and ignore any new schedule information. Selecting or clearing the **Secure** checkbox of this option also selects or clears the **Secure** checkbox of the **Load only schedule activities that do not exist in Cobra** option, except if this option is disabled in the EPM SA. |
| **Create Work Package that do not exist when loading forecast** | Use this option to create a new work package if it does not exist and you are loading forecast data. If this option is not selected, Cobra ignores the forecast values if the work package does not exist. |

### Example

The following example shows how entries are adjusted with different combinations of the **Apply historical forecast changes as an adjusting entry in the current status** and the **Allow loading forecast in the current status period** options.

| Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Option | Status |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 100 | 100 | 100 | 100 | 100 | | | | Apply historical forecast changes as an adjusting entry in the current status | Selected |
| | | 300 | 100 | 100 | 100 | 100 | | | Allow loading forecast in the current status period | Cleared |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | | | Apply historical forecast changes as an adjusting entry in the current status | Selected |
| | 200 | 100 | 100 | 100 | 100 | 100 | | | Allow loading forecast in the current status period | Selected |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | | | Apply historical forecast changes as an adjusting entry in the current status | Cleared |
| | 100 | 100 | 100 | 100 | 100 | 100 | | | Allow loading forecast in the current status period | Selected |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | | | Apply historical forecast changes as an adjusting entry in the current status | Cleared |
| | | 100 | 100 | 100 | 100 | 100 | | | Allow loading forecast in the current status period | Cleared |

*Behavior of the Options*

This section describes the behavior of Integration Wizard Preferences option and its corresponding option on the process wizard page.

**Allow Loading Forecast in the Current Status Period**

| Integration Wizard Preferences Tab Option | | Resource Assignments Page of the Integration Wizard Option | |
|---|---|---|---|
| **Selected** | **Secure** | **New Configuration** | **Existing Configuration** |
| Yes | No | Yes ¦ Enabled | Follows the selection in the configuration file |
| Yes | Yes | Yes ¦ Disabled | Follows the selection on Integration Wizard Preferences tab |
| No | No | No ¦ Enabled | Follows the selection on Integration Wizard Preferences tab |
| No | Yes | No ¦ Disabled | Follows the selection in the configuration file |

**Delete Milestones No Longer in the Schedule**

| Integration Wizard Preferences Tab Option | | Change Control Page of the Integration Wizard Option | |
|---|---|---|---|
| **Selected** | **Secure** | **New Configuration** | **Existing Configuration** |
| Yes | No | Yes ¦ Enabled | Follows the selection in the configuration file |
| Yes | Yes | Yes ¦ Disabled | Follows the selection on Integration Wizard Preferences tab |
| No | No | No ¦ Enabled | Follows the selection on Integration Wizard Preferences tab |
| No | Yes | No ¦ Disabled | Follows the selection in the configuration file |

**Notes**

- **Yes** indicates that the checkbox is selected.
- **No** indicates that the checkbox is cleared.

- **Enabled** means you can still select or clear the checkbox.
- **Disabled** means you can no longer select or clear the checkbox.

### Project Preferences

Use this dialog box to select the options for the budgets in the selected project.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Check Control Account field 1 structure for parent/child uniqueness** | Select this option to instruct Cobra to ensure that the code assigned to **Control Account field 1** does not result in the creation of control accounts that are parents or children of other control accounts. |
| **Check Control Account field 2 structure for parent/child uniqueness** | Select this option to instruct Cobra to ensure that the code assigned to **Control Account field 2** does not result in the creation of control accounts that are parents or children of other control accounts.<br>This option is available only if the project uses **Control Account field 2**. |
| **Check Control Account field 3 structure for parent/child uniqueness** | Select this option to instruct Cobra to ensure that the code assigned to Control Account field 3 does not result in the creation of control accounts that are parents or children of other control accounts.<br>This option is available only if the project uses **Control Account field 3**. |
| **Check Work Package structure for parent/child uniqueness** | Select this option to instruct Cobra to ensure that the code assigned to the work package does not result in the creation of work packages that are parents or children of other work packages.<br>This option is available only if the project uses a code file for selecting work packages. |
| **Allow changes to scope for an in-progress Control Account/Work Package** | Select this option to make the following scope changes for an in-progress control account or work package:<br>▪ Modify the budgets for control accounts and work packages that have a status of In-progress.<br>▪ Change the value of the **Units to Do** field when the progress technique is **Units Complete**. |

| Field | Description |
| --- | --- |
| | ▪ Delete resources from control accounts and work packages that have a status of In-progress.<br>▪ Add resource assignments to control accounts and work packages that have a status of In-progress.<br>**Note:**<br>▪ The Reclass process takes into account how this option is set. Not included in budget classes ignore this option for the selected project.<br>▪ If the control account or work package has a budget before the status date, and the **Prevent editing of historical time-phased values** option is selected, you cannot change or delete the resource.<br>Cobra uses the value of this option if you run the Respread API process and do not include the **AllowInProgress** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **AllowInProgress** setting in the API script. |
| **Prevent editing of historical time phased values** | Selecting this option prevents you from making any changes to periods on or prior to the status date of the project.<br>**Note:** This option applies to the Time-phase Detail pane of the Project view and also during schedule integration. |
| **Allow editing current period** | This option is available only if the **Prevent editing of historical time phased values** option is selected.<br>▪ You cannot update this option if the **Prevent editing of historical time phased values** option is secured in the EPM Security Administrator tool.<br>▪ Clearing the **Prevent editing of historical time phased values** option also clears this option.<br>If selected, Cobra allows you to perform the following:<br>▪ You can edit the current period for budget and progress resource assignments in the Time-phase pane and Time-phase Detail pane of the Project view.<br>▪ When you add a budget resource assignment in the Project view or through the Assignment Import Wizard, the current period will be included when spreading the time-phased values. |

| Field | Description |
|---|---|
| | ▪ When you edit the total time-phased values of a budget resource assignment in the Project view, the **All fiscal periods** option in the Spread dialog box becomes enabled if the resource assignment start date falls on the current period.<br><br>**Note:** This option applies anywhere the **Prevent editing of historical time phased values** option is applicable. |
| **Allow removal of actual finish date for a completed Control Account/ Work Package** | Select this option to clear the actual finish date for a completed control account or work package, thereby changing its status from Completed to In-Progress. This is useful when you want to add new control accounts or work packages.<br>If you select this option, the **Actual Finish Date** field for the control account is enabled to allow the user to clear the date. Once this field is cleared, the status changes from Completed to In-Progress. |
| **Allow changing of Progress Technique for an in-progress Work Package** | Select this option to change the progress technique for an in-progress work package. |
| **Allow percent complete on milestones/steps** | Select this option to use Percent Complete in calculating earned value by weighted milestones. Each milestone can have a portion earned, rather than forcing an all-or-nothing awarding of earned value.<br>Selecting this option enables the **% Complete** column on the Milestones/ Steps tab of the Project view for work packages which use any of the progress techniques other than Steps.<br>If this option is not selected, the Milestones/Steps tab of the Project view will not have a **% Complete** column for work packages which use any of the progress techniques other than Steps. The milestones earn an all-or-nothing status (0% or 100%).<br>If this option is not selected, the Milestones/Steps tab of the Project view will not have a **% Complete** column for work packages that use the Steps progress technique. |
| **Round audit log transactions to 6 decimal places** | Select this option to round up project audit transaction amount to 6 decimals places for new and existing projects.<br>▪ You can only change this option once.<br>▪ Once the setting is selected or turned on, you can no longer clear it. Changing the value of this option displays a warning message and clicking the **Apply** button sets this option to read-only. Closing the dialog box or the application will not reset this option. |

| Field | Description |
|---|---|
| | ▪ The application preferences value takes precedence over the project preferences value. If this option is already selected on the Other tab of the Application Preferences dialog box, this option becomes read-only and the checkbox is replaced with **N/A**. |
| **Allow entering milestones regardless of Progress Technique** | Select this option to add milestones to work packages that do not use the Milestones or Steps progress technique. By default, this option is cleared.<br>If this option selected and the work package uses a progress technique other than Milestones or Steps, Cobra will use the progress technique assigned to the work package and allow the entry or import of milestones.<br>The milestones are for informational purposes only if the progress technique is not Milestones or Steps and will not be considered during Calculate Progress. |

### Earned Preferences

Use this dialog box to select the options for calculating earned value.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Use an adjusting entry to remove Earned from deleted budget** | Select this option to instruct Cobra to insert a reversing entry into the current period to reconcile earned value to zero for resources that have been deleted. Otherwise, Cobra deletes the earned value for resources that do not have an adjusting entry when budget is deleted.<br>Cobra uses the value of this option if you run the Calculate Progress API process and do not include the **UseAdjustingEntry** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **UseAdjustingEntry** setting in the API script. |
| **Force the SPI of an apportioned resource to match source SPI** | Select this option to ensure that the earned value for the apportioned items receives the same SPI as the base. Cobra uses the following formula:<br>`ApportionedBCWP = ApportionedCumtoDate x (BaseCumBCWP / BaseCumtoDateBCWS)`<br>This option is useful when selecting the earned value Method of Hours SPI, where earned value is calculated such that the SPI of the hours is equal to the SPI of the dollars. |

| Field | Description |
|---|---|
| **Earned by:** | This field provides you with four options for calculating earned value. Use the drop-down list in the Selected column to select a method for calculating earned value.<br>▪ **Budget**: Select this option to instruct Cobra to summarize the budget across all periods before applying the progress technique. Earned value is calculated by moving through the time-phase table up to the time of the calculation, earning the first result and associated budget.<br>▪ **Dollars**: Select this option to instruct Cobra to calculate earned value based on total budgeted currency. The currency earned is prorated to arrive at the remainder of the resource costs.<br>▪ **Hours SPI**: Select this option to instruct Cobra to calculate earned by backing into the currency amount of earned value such that the SPI based on the hours is the same for both hours and the total currency value.<br>▪ **Time**: Select this option to instruct Cobra to calculate earned value based on a percentage of the work package's time-phased budget. For example, a work package that is 50% complete earns the portion of the budget that corresponds to the first half of the work package's duration.<br>Cobra uses the value of this option if you run the Calculate Progress API process and do not include the **EVMethodId** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **EVMethodId** setting in the API script. |
| **Use apportionment mappings defined on the subprojects** | This option is only available for master projects.<br>Select this option to instruct Cobra to use apportionment mappings available in the subprojects when calculating earned value for a master project. If this option is not selected, apportionment mappings available for the master project are used instead. |

## Forecast Preferences

Use this dialog box to select the options for doing forecast calculations.

### Contents

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Spread ETC according to** | This field provides you with two options for statistical forecast spreading:<br>▪ **Existing ETC spread**: Select this option to base the forecast spread on the existing forecast spread when performing forecast calculations.<br>▪ **Budget**: Select this option to base the forecast spread on the current budget spread when performing forecast calculations.<br>Cobra uses the value of this option if you run the Calculate Forecast API process and do not include in the **SpreadETCMethodId** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **SpreadETCMethodId** setting in the API script. |
| **Allow negative ETC** | Select this option to instruct Cobra to calculate all negative Estimate To Complete (ETC) values. Otherwise, Cobra sets all negative ETC values to zero.<br>Cobra uses the value of this option if you run the Calculate Forecast API process and do not include in the **AllowNegativeETC** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **AllowNegativeETC** setting in the API script. |
| **Scale retain EAC** | This field provides you with three options for scaling Estimate At Complete (EAC) values.<br>▪ **None**: This is the default selection. Selecting this option instructs Cobra not to scale the EAC to a particular value.<br>▪ **Currency**: Cobra uses the value stored in the **EAC** field in the control account/work package pane of the Project view to calculate the forecast further so that the total EAC currency value is equal to the **EAC** field value. When this option is selected, you can edit the EAC by selecting **Update EAC** from the shortcut menu in the Project view.<br>▪ **Hours**: Cobra uses the value stored in the **Hours.EAC** field in the control account/work package pane of the Project view to calculate the forecast further so that the total EAC hours is equal to the **Hours.EAC** field value. When this option is selected, you can edit the Hours.EAC by selecting **Update EAC** from the shortcut menu in the Project view.<br>▪ **Hours and Currency**: This option is a combination of the **Hours** and **Currency** options. As Cobra calculates the forecast, the resource assignments whose first result is Hours are scaled so that the total hours match the value stored in the **Hours.EAC** field in the control account/work package pane of the Project view. The resource assignments whose first result is not Hours use the **EAC_NONLAB** field to calculate the forecast further so that the total currency value EAC is equal to the **EAC_NONLAB** field value. When this option is selected, you can edit the |

| Field | Description |
|---|---|
| | Hours.EAC and EAC_NONLAB by selecting **Update EAC** from the shortcut menu in the Project view.<br>Cobra uses the value of this option if you run the Calculate Forecast API process and do not include in the **ScaleRetainEACId** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **ScaleRetainEACId** setting in the API script. |

### Recalc Preferences

Use this dialog box to select the options for doing recalculations.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Allow Recalc on classes not editable in the time-phase grid** | Select this option to recalculate read-only cost classes.<br>Cobra uses the value of this option if you run the Recalc API process and do not include the **AllowReadOnlyClasses** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **AllowReadOnlyClasses** setting in the API script. |
| **Use a rate of 1 instead of 0 when a rate is not found** | Select this option if you do not want the value in the time-phased database to be replaced with zero when the rate is missing. This is useful when the value in the database is more accurate than zero.<br>Cobra uses the value of this option if you run the Recalc API process and do not include the **ReplaceResults** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **ReplaceResults** setting in the API script. |
| **Allow recalculation of completed Control Accounts and Work Packages** | Select this option to run the Recalc process against control accounts and work packages that have a status of Completed.<br>Cobra uses the value of this option if you run the Recalc API process and do not include the **AllowComplete** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **AllowComplete** setting in the API script. |

### Reclass Preferences

Use this dialog box to select the options for running the Reclass Wizard, which allows you to change, copy, or replace a cost class.

The Reclass Wizard is useful when you have performed “what-if” budgeting and want to change these costs to a standard budget class such as CB. It is also possible to copy existing budget costs to either actual or forecast cost classes or to copy an actual cost class to a forecast class.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Allow reclass of completed Control Account and Work Package** | Select this option to run the Reclass process against control accounts and work packages that have a status of Completed.<br>Cobra uses the value of this option if you run the Reclass API process and do not include the **AllowComplete** setting in the API script.<br>Cobra displays an error if the **Secure** checkbox for this option is selected and the value of this setting does not match the value of the **AllowComplete** setting in the API script. |

### Replan Preferences

Use this dialog box to select the options for replanning a project or its individual components.

**Contents**

**Attention:** For information on how to use the **Selected** and **Secure** checkboxes of these options, see Using the Selected and Secure Checkboxes.

| Field | Description |
|---|---|
| **Replan by adjusting entry** | Select this option to place an adjusting entry in the budget for the current period (status date) for Budget and Earned Value. Budget, Actual Costs, and Earned Value will match cumulatively up to the status date.<br>If you do not select this option, Cobra will change only those entries that are earlier than the status date (historical). |
| **Allow planned Work Package to be replanned** | Select this option to allow replanning of work packages that have not been started. If you do not select this option, unchecked work packages with the status of Planned cannot be replanned. |
| **Allow completed Work Package to be replanned** | Select this option to replan work packages that have a status of Completed. Otherwise, you can only replan incomplete (in-progress or planned) work packages. |

| Field | Description |
|---|---|
| **Create a new Work Package for replanned Budget/Earned/Actual costs** | Select this option to create a new work package for replanned Budget/Earned Value /Actual Costs during replanning. |
| **Alternate class for replanned Earned adjustments** | If you replan a work package, the earned value of the replanned work package is stored in the class specified in this field. Use this option if you want a new class to represent the replanned earned value. |
| **Extend the Work Package finish date when replanning after the baseline finish date** | Select this option if you have selected the **Replan by adjusting entry** option and the status date is after the baseline finish date of the work package. If the status date is after the work package baseline finish date, the work package baseline finish date is changed to the status date. The adjustment of the date ensures that the replanned entry is within the work package dates. |

## Copy Preferences Dialog Box

Use this dialog box to copy project preferences to other projects.

### Contents

| Field | Description |
|---|---|
| **Project** | This column displays the projects that you can copy preferences to. Use the checkboxes to select the projects that you want to copy preferences to. |
| **Description** | This column displays a brief description of each project in the Project column. |
| **Copy** | Click **Copy** and select **Yes** to copy the preferences to the selected projects.<br>A log shows the preferences that were successfully copied and if there were any project preferences that were not copied. |
| **Close** | Click **Close** to close the Copy Preferences dialog box. |

*Display the Copy Preferences Dialog Box*

Use this procedure to display the Copy Preferences dialog box.

**To display the Copy Preferences dialog box:**

1. Display the Project Properties dialog box.
2. Select the Preferences tab and click **Copy Preferences**.

### Procedures

Follow the procedures in this section to copy project preferences.

*Copy Project Preferences*

Use the Copy Preferences dialog box to copy project preferences to other projects.

**To copy project preferences to other projects:**

1. Display the Project Properties dialog box, select the Preferences tab, and click **Copy Preferences**.
2. In the Copy Preferences dialog box, select the project or projects that you want to copy the preferences to.
3. Click **Copy**.
4. Select **Yes** to copy the preferences to the selected projects.

   A log shows the preferences that were successfully copied and if there were any project preferences that were not copied.

## Access Control Tab of the Project Properties Dialog Box

Use this tab to enable users or groups to access the selected project or to change the access control settings for users or groups that have access to the project.

Access control settings for users and groups are initially defined in the New Project Wizard when you create a project. The access control entry supports a read only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

## Open Status Tab of the Project Properties Dialog Box

Use this dialog box to see who is currently using a Cobra project without accessing EPM Security Administrator (EPM SA).

You can secure this tab, click **Projects** » **Project Information** » **Open Status** in the EPM SA tool.

**Contents**

| Field | Description |
|---|---|
| **User ID** | This column displays the ID of each user with the project open in Cobra Explorer. |
| **Machine ID** | This column displays the ID of each machine where the Cobra project is open. |

| Field | Description |
|---|---|
| **Opened On** | This column displays the date and time when each user accessed a Cobra project. |
| **User Name (Phone)** | This column displays the name and phone number of each user from the EPM SA tool. |

## Procedures

Follow the procedures in this section to display the Project Properties dialog box.

### Display the Project Properties Dialog Box from an Open Project

You can display the Project Properties dialog box from an open project.

**To display the Project Properties dialog box from an open project:**

- In the Project view, take one of the following actions:
  - In the **Properties** group on the Edit tab, click **Properties**.
  - Right-click anywhere in the Spreadsheet pane and select **Properties** on the shortcut menu.

### Display the Project Properties Dialog Box without Opening the Project

You can display the Project Properties dialog box without opening the project.

**To display the Project Properties dialog box without opening the project:**

1. In the Cobra Explorer, select the **Projects** group bar.
2. In the Projects pane, take one of the following actions:
   - Click the appropriate project and click **Properties** in the **Properties** group on the Edit tab.
   - Right-click the appropriate project and select **Properties** on the shortcut menu.

### Display the Project Properties Dialog Box Tabs from an Open Project File

You can display any tabs of the Project Properties dialog box from an open project file.

**To display a tab of the Project Properties dialog box for an open project file:**

1. In the Project view, take one of the following actions:
   - In the **Properties** group on the Edit tab, click **Properties**.
   - Right-click anywhere in the Spreadsheet pane and select **Properties** on the shortcut menu.
2. In the Project Properties dialog box, click the tab to display.

### Display the Project Properties Dialog Box Tabs without Opening a Project File

You can display any tabs of the Project Properties dialog box without opening a project file.

**To display a tab of the Project Properties dialog box without opening the project file:**

1. In the Cobra Explorer, select the **Projects** group bar.
2. In the Projects pane, take one of the following actions:
   - Click the appropriate project and click **Properties** in the **Properties** group on the Edit tab.
   - Right-click the appropriate project and select **Properties** on the shortcut menu.
3. In the Project Properties dialog box, click the tab to display.

## New Project Wizard

The New Project Wizard walks you through the process of creating a new project in Cobra.

Before creating a new project, you must set up the resource file, rate file, and calendar file that will be used by that project, as well as the control account code files that make up the control account structure.

Move through the pages of the wizard, which prompt you to make decisions and enter information about the new project.

### General Information Page of the New Project Wizard

Use this page to enter the most basic information about the project, including its name and description.

**Contents**

| Field | Description |
|---|---|
| **Name** | Enter the name for the new project.<br>**Note:** If you are creating a new project and you use a project name that already exists as a PM Compass project in the database, you can add this project as a Cobra project. If the **Copy defaults from project** option is selected and a project is specified, Cobra copies the structures of the specified project and the PM Compass project into the new project. |
| **Description** | Enter a description of the new project.<br>You can modify the project description afterwards on the General tab of the Project Properties dialog box. |
| **Copy defaults from project** | Select this option to tell Cobra to copy the structure of the new project from an existing project. The structure includes the data file structure, project option settings, class/cost set definitions, and access controls. Copying the structure |

| Field | Description |
|---|---|
| | is helpful in multi-project reporting because it ensures that projects are set up using a similar structure.<br>Click ... to display the Project Lookup dialog box, where you can select the project from which Cobra will copy information.<br>If you want to copy the data from an existing project, open that project in the Project view and select » **Save As**.<br>If the **Copy defaults from project** option is cleared and a default project template is defined, Cobra copies the structures of the default project template into the new project.<br>If the **Copy defaults from project** option is selected or a default project template is defined, Cobra copies the structures of the project specified in the **Copy defaults from project** option into the new project, and not the structures of the default project template. |
| **This is a Master Project** | Select this option to tell Cobra to create the new project as a master project. No cost data can be loaded against a master project.<br>Selecting this option enables the Sub-Projects page of the New Project wizard.<br>If you want to merge your sub-projects into a new project, display the Project Properties dialog box for the master project and choose **Save As** on the Sub-Projects tab. |

## Fields Page of the New Project Wizard

Use the upper portion of this page to set up to three code files for the control account and work package fields. Use the bottom portion to assign control account codes, work package codes, and resource assignment codes to the project.

Use this page as well to designate a code file to use for the **CAM** and **Change Number** fields. Values from the CAM code are assigned to the control account.

Values from the change number code are assigned when you make budget changes to the project. A dialog box displays asking for a change number. If a code file is assigned, you can select a change number from the file.

> **Note:** You can select specific terminology on the General tab of the Application Preferences dialog box. If you chose names other than **Control Account**, **CAM**, and so on, the names that you specify display on this page.

### Control Account and Work Package Fields Information

Use this group box to assign prompts and code files to control account and work packages fields. Cobra uses this information for reporting, filtering, validations, and so on.

If you require only one key field to define your control accounts (for example, WBS), ensure the prompts for **Control Account Field 2** and **Control Account Field 3** are blank.

| Field | Description |
|---|---|
| **Control Account Field 1** | Use this field to define **Control Account Field 1**. The prompt for this field defaults to WBS (Work Breakdown Structure). You can change this prompt to a value that suits your project.<br>Click in the **Code File** column to display the Code File Lookup dialog box, where you can select the code file to assign to **Control Account Field 1**. This field is required. |
| **Control Account Field 2** | Use this field to define **Control Account Field 2**. The prompt for this field defaults to OBS (Organizational Breakdown Structure).<br>Click in the **Code File** column to display the Code File Lookup dialog box, where you can select the code file to assign to **Control Account Field 2**. This field is optional. |
| **Control Account Field 3** | Use this field to define **Control Account Field 3**. You can enter any prompt in this field (for example, RBS for Resource Breakdown Structure).<br>Click in the **Code File** column to display the Code File Lookup dialog box, where you can select the code file to assign to **Control Account Field 3**. This field is optional. |
| **Work Package Field** | Use this field to define **Work Package Field**. The default prompt is **WP** but you can enter any prompt in this field. This field is optional.<br>Adding a work package code to this field enables you to select a work package value from the code file when setting up work packages for your project. |
| **CAM** | Use this field to define the control account manager (CAM). The code file that you use in this field must contain the CAM that you want to use for the project's control accounts. This field is optional.<br>**Attention:** For more information on the field types descriptions, see Code Field Types. |
| **Change Number** | Use this field to define the baseline change control. The code file that you use in this field must contain codes values that are assigned to control or track baseline changes. Assigning a code file instructs Cobra to associate the change with the code from the attached code file when a baseline change occurs. This field is optional.<br>**Attention:** For more information on the field types descriptions, seeCode Field Types. |

### Tabs

Use these tabs to assign codes to the project.

| Field | Description |
|---|---|
| **Control Account Codes** | Use this tab to assign control account codes to the project. Cobra displays the control account codes in the Spreadsheet pane of the Project view. This is particularly useful in creating reports. You can define a maximum of 20 codes for the control account.<br>**Attention:** For more information on the fields that you can define for control account codes, see Tab Fields. |
| **Work Package Codes** | Use this tab to assign work package codes to the project. Cobra displays the work package codes in the Spreadsheet pane of the Project view. This is particularly useful in creating reports. You can define a maximum of 20 codes for the work package.<br>**Attention:** For more information on the fields that you can define for work package codes, see Tab Fields. |
| **Resource Assignment Codes** | Use this tab to assign resource assignment codes to the project. You can define a maximum of 9 codes for the resource assignment. Codes on a resource are consistent for all work packages. These codes allow you to enter a different code for each resource assignment class combination.<br>**Attention:** For more information on the fields that you can define for resource assignment codes, see Tab Fields. Resource assignment codes only recognize the **<none>**, **Code (optional)**, and **Code (required)** code field types. |

### Tab Fields

This section describes the fields that you can define for a control account, work package, or resource assignment code.

| Field | Description |
|---|---|
| **Number** | This field identifies the numerical order of the code field. The **Number** column displays the maximum number of codes that you can add for a control account, work package, or resource assignment. For example, for control accounts, this column displays up 20 rows. |
| **Prompt** | Use this field to assign a prompt that Cobra will use to represent the code field. This prompt will appear as a column header in all the grids where it is used, as well as in selection fields. You must enter a prompt for a code field if **Code Field Type** is **Code (optional)**, **Code (required)**, or **Text**. |
| **Code Field Type** | Use this field to assign a field type to the code field.<br>**Attention:** For more information on the field types that you can assign to a code, see Code Field Types. |

| Field | Description |
|---|---|
| **Code File** | Use this field to assign a code file to the code field. Click ... to display the Code File Lookup dialog box, where you can select the code file that you can to use. You can only assign a code file to the code field if **Code Field Type** is **Code (optional)** or **Code (required)**. |

**Code Field Types**

Select any of the following options to assign a field type to the code field.

- **<none>** : Select this option if you do not want to use a code field.
- **Code (optional)**: Select this option to choose a valid code assignment from the validated structure/list specified in the **Code File** column . When the field type is set to **Optional**, codes assignments may be left blank. However, Cobra will validate that the assigned codes exist in the code file.
- **Code (required)**: Select this option to require that a valid code assignment be selected from the validated structure/list specified in the **Code File** column. Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously, blank or invalid assignments will not be updated automatically.
- **Text**: Select this option to enter any text in the code field.
- **User Field**: Select this option to choose a user for the code field from the list of users defined in EPM Security Administrator.

## Ancillary Files Page of the New Project Wizard

Use this page to select the rate, resource, calendar, and rolling wave calendar (optional) that will be used by the new project.

**Contents**

| Field | Description |
|---|---|
| **Calendar** | Click ... to display the Calendar File Lookup dialog box and select a calendar file from the list. The calendar is used for advancing the calendar, spreading costs in the project, and reporting. This is a required field. |
| **Rate** | Click ... to display the Rate File Lookup dialog box, then select a rate file from the list. This field defines the default rate file used in the project. A rate file can also be assigned to individual classes. This is a required field. |
| **Resource** | Click ... to display the Resource File Lookup dialog box and select a resource file from the list. This is a required field |
| **Rolling Wave Calendar** | Click ... to display the Calendar File Lookup dialog box and select a calendar file from the list. This is not a required field. |

| Field | Description |
|---|---|
| | The rolling wave calendar cannot be the same calendar that you specified in the **Calendar** field.<br>While Cobra can facilitate earned value management on a weekly basis for the entire project, the data generated for long projects would be overwhelming. Rolling wave processing enables you to analyze earned value data in weekly periods for a defined window of time (for example, 1 month prior and 3 months after the status date), while retaining the rest of the data in monthly periods. This reduces the amount of data that you have to review. |

## Settings Page of the New Project Wizard

Use this page to specify the level at which you want to capture actual costs, the method to use when spreading  budget costs, and the currency symbol that you want to use.

If you are copying a project from an existing project or using the default project template, the settings on this page are entered according to the existing project or default template.

### Contents

| Field | Description |
|---|---|
| **Level at which to capture actual costs** | Your options are:<br>▪ **Control Account**: Cobra loads the actual costs only at the control account level.<br>▪ **Work Package**: Cobra loads the actual costs only at the work package level.<br>▪ **Both Control Account & Work Package**: Cobra loads the actual costs at both the control account and work package levels. |

### Spread weight options

Use this group box to specify how you want to spread budget costs.

| Field | Description |
|---|---|
| **Linear weight** | Select this option to put equal budget amounts into each period between the start and finish dates.<br>For example, assume that the work package schedule dates are 06/25/14-07/31/14, the work package has a budget of 200 hours, and that the fiscal calendar attached to the project has 176 and 168 working hours for June and July, respectively. Using the **Linear weight** option instructs Cobra to enter 100 hours for June and 100 hours for July. |
| **Weight using hours** | Select this option to weigh the budget spread according to the hours found in the calendar and the start and finish dates.<br>For example, assume that the work package schedule dates are 06/25/14-07/31/14 and the work package has a budget of 200 hours. Using the |

| Field | Description |
|---|---|
| | **Weight using hours** option instructs Cobra to enter 34.65 hours for June and 165.35 hours for July. |
| **Weight using working days** | Select this option to weigh the budget spread according to the number of working days within the start and finish dates, taking holidays into account.<br>For example, assume that the work package schedules dates are 06/25/14-07/31/14 and the work package has a budget of 200 hours. Using the **Weight using work days** option instructs Cobra to enter 40 hours for June and 160 hours for July. |
| **Currency symbol** | Enter the currency symbol for the project. Cobra uses this symbol in Project views and reports. By default, the symbol appears to the left of the currency values. Select the **Show the symbol on the right** option to change the location of the currency symbol. |

## Project Dates Page of the New Project Wizard

Use this page to enter key dates for the project.

### Contents

| Field | Description |
|---|---|
| **Baseline Start** | This date is the initial status date of the project. This date defaults to the status date of the calendar assigned to the project. |
| **Baseline Finish** | This date is the last date of the project. This date defaults to latest date defined in the calendar assigned to the project. |
| **Forecast Finish** | This date is the forecasted finish date in the calendar assigned to the project. |

## Project Code Assignments Page of the New Project Wizard

Use this page to enter project-level codes for the new project.

You can enter codes on this page only if you configured Cobra to use such codes on the Project Codes tab of the Application Preferences dialog box.

### Contents

| Field | Description |
|---|---|
| **Description** | This field displays the prompt names for project level codes that you specified on the Project Codes tab of the Application Preferences dialog box. |
| **Value** | Click to display the Code Lookup dialog box, where you can select a code from the code file. |

## Sub-Projects Page of the New Project Wizard

Use this page to assign sub-projects to the master project that you are creating.

This page displays only if you selected the **This is a Master Project** option on the General Information page of the New Project Wizard.

## Access Control Page of the New Project Wizard

Use this page to enable users or groups to access the project that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Access Control tab of the Project Properties dialog box.

## Confirmation Page of the New Project Wizard

This page informs you that Cobra has all the information it needs to create a new project or master project.

If you need to double-check the information you entered on any of the previous pages of the wizard, click the **Back** button until the desired page displays.

When you are sure that all the information is correct, click **Finish** to complete the process.

## Procedures

Follow the procedures in this section to manage the New Project Wizard.

### Display the New Project Wizard

Display the New Project Wizard to create a new project in Cobra.

**To display the New Project Wizard:**

- Click  » **New** » **Project** » **Create**.
- On the Quick Access toolbar, click  , select **Project**, and click **Create**.
- In the Cobra Explorer, right-click the **Projects** group bar, and select **New Project File** on the shortcut menu.
- In the Cobra Explorer**,** select the **Projects** group bar, right-click the Projects pane, and select **New Project File** on the shortcut menu.

### Create a New Project

Use the New Project Wizard to create a new project in Cobra.

Before creating a new project, you must set up the resource file, rate file, and calendar file that will be used by that project, as well as the control account code files that make up the control account structure.

**To create a new project:**

1. Display the New Project Wizard by completing one of the following actions:
   - Click » **New** » **Project** » **Create**.
   - On the Quick Access toolbar, click , select **Project**, and click **Create**.
   - In the Cobra Explorer, right-click the **Projects** group bar, and select **New Project** on the shortcut menu.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **New Project** on the shortcut menu.
2. Complete the pages of the New Project Wizard to create a new project.

## Project Security

A project can be accessed by either a user or a group, provided that they are granted permission to do so.

### Procedures

Follow the procedures in this section to give a user or group access to a project.

### Give a User Access to a Project

Use the Access Control Page of the New Project Wizard or the Access Control tab of the Project Properties dialog box to give a user access to a project.

You can assign a user or a group to a project in a row within the grid, but you cannot assign both.

**To give a user access to a project:**

1. On the Access Control page, click **New** to add a new row to the grid.
2. In the **User** field, click to display the Users Lookup dialog box.
3. Select a user, and click **Select** to add that user to the grid. You can also double-click on a user ID to add that user to the grid.
4. In the **Role** field, click to display the Roles Lookup dialog box.

5. Select a role and click **Select** to assign that role to the user you selected. You can also double-click on a role to add that role to the grid.
6. Select the **Read Only** checkbox if you want to provide the user with read-only access to the project.

### Give a Group Access to a Project

Use the Access Control page of the New Project Wizard or the Access Control tab of the Project Properties dialog box to give a group access to a project.

You can assign a user or a group to a project in a row within the grid, but you cannot assign both.

**To give a group access to a project:**

1. On the Access Control page, click **New** to add a new row to the grid.
2. In the **Group** field, click to display the Groups Lookup dialog box.
3. Select a group and click **Select** to add that group to the grid. You can also double-click on a group ID to add that group to the grid.
4. In the **Role** field, click to display the Roles Lookup dialog box.
5. Select a role and click **Select** to assign that role to the group you selected. You can also double-click on a role to add that role to the grid.
6. Select the **Read Only** checkbox if you want to provide the group with read-only access to the project.

## Multiproject Operations (Master and Subprojects)

Multiproject operations allow you to work with a master project and any number of subprojects as though they were a single entity.

Each multiproject has the following elements:

- A single master project that does not contain data, but is used as an umbrella for subprojects
- Multiple subprojects through which you enter data for specific subsets of control accounts

The following Cobra operations allow you to use master projects:

- Advancing the calendar
- Calculating apportionment
- Calculating progress
- Calculating total budget, actual costs, and forecast
- Exporting DCDE
- Exporting IPMDAR
- Exporting XML/UNCEFACT
- Initializing forecast through the API

- Loading actual costs
- Performing ANSI EIA X12 export
- Performing analyze
- Performing recalculation
- Replacing resources
- Running batch reports
- Running reports

**Important:** Filtering by control account or work package is not currently supported.

## Multiproject Guidelines

To perform a multiproject operation, you start by creating a new project to be used as the master "shell" project. This shell project does not contain any control account or work package data.

The primary purpose of the master project is to group similar projects together for reporting and analysis, such as in the Cobra Explorer, during Reporting and using Analyze, and for processing, such as Advance Calendar, Integration, and Update Codes.

These are the guidelines you should follow for multiprojects.

- The master project cannot contain another associated master project.
- The master project and all of the sub-projects must contain the same key fields.
- Similarly, if you are creating a master project to post actual costs, you only need a master rate file and a resource file if you intend to calculate derived costs when you post actual costs.
- If you create a WBS structure with multiple top levels, you can use the project ID for the top code and share the WBS structure with all sub-projects. This allows you to use Analyze process with all projects and produce reports with each sub-project rolled up to a single line.
- If you intend to produce IPMR report or produce the IPMDAR export from the master project, make sure that the contract values that you enter for the master project are left empty. The CTC and other information found in the header of the IPMR are summarized from each of the sub-projects for a single master IPMR report or IPMDAR export. Therefore, when you set the baseline for your sub-projects, use the CTC for the portion of data contained in that sub-project.
- The options selected for the master project are used for all sub-projects when processing at the master-project level. Also, processes such as loading actual costs will use the resource file assigned to the master project.

## Merging a Master Project's Subprojects to Create a New Project

Use the merging feature to copy data from all sub-projects into the master project to create a new project. This feature is useful when sending a copy of all projects to another individual.

During the merge operation, Cobra merges the data from each sub-project into the master project. Because the data is actually stored twice (once in the sub-project and once in the master project), this option is slower and consumes more disk space than an associated master project. However, once the merge operation has been performed, the master project can be viewed, managed, and reported on as if it were a stand-alone project.

**Note:** After you merge data into a master project, the master project acts like a regular project. Cobra no longer updates the data from the sub-projects associated with the master project.

Take note of the following when merging sub-projects into a new project:

- If the resource file of a project is different from the resource file of the master project, the merge process will fail.
- Cobra checks for other inconsistencies between the sub-projects and the master project. These include inconsistencies in dates, cost sets, cost classes, rate sets, class levels, and class types. Cobra displays the errors that will result from these inconsistencies in the Save As Errors dialog box. You can choose to ignore these inconsistencies and proceed with the merge process.

## Procedures

Follow the procedures in this section to manage multiple projects in Cobra.

### Create a Master Project

Use the General Information page of the New Project Wizard to create a new project and identify it as a master project.

**To create a master project:**

1. Display the New Project wizard by completing one of the following actions:
   - Click » **New** » **Project** » **Create**.
   - On the Quick Access Toolbar, click , select **Project**, and click **Create**.
   - In the Cobra Explorer, right-click the **Projects** group bar, and select **New Project File** on the shortcut menu.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **New Project File** on the shortcut menu.
2. On the General Information page, enter a name and a description for the master project.

3. Select **Copy defaults from project** if you want to copy the structure of the new project from an existing project.

   Click ... to display the Project Lookup dialog box, where you can select the project from which Cobra will copy the information.

   The project that you select to copy should be the one that has the most features defined. For example, if one of the projects you plan to use in the multiproject operation has only one cost account key defined and another uses all three keys, you should use the project that uses all the cost account keys as your model.
4. Click **This is a Master Project** to identify the new project as a master project and click **Next**.

### Assign Sub-Projects to a Master Project

Use the Sub-Projects tab of the Project Properties dialog box to assign sub-projects to a master project.

**To assign sub-projects to a master project:**

1. Display Project Properties dialog box and select the Sub-Projects tab.
2. Click **Add** to open the Project Lookup dialog box.
3. Select the projects that you want to add as sub-projects to the master project.
4. Click **Select** to add the selected projects to the master project.

### Remove Sub-Projects from a Master Project

Use the Sub-Projects tab of the Project Properties dialog box to remove sub-projects from a master project.

**To remove sub-projects from a master project:**

1. Display the Project Properties dialog box and select the Sub-Projects tab.
2. Select a project.
3. Click **Remove**.
4. Click **Apply**.

### Merge Sub-Projects into a New Project

Use the Save As Dialog Box (Merging Projects) to merge a master project's sub-projects into a new project.

All cost classes/cost sets defined in the master are defined in the new project.

The user becomes the owner of the new project. All other security options are copied from the master project.

The new project contains all data from each project assigned to the master project. If the data is in the same control account/work package combinations but within different projects, it is summarized in the new project.

**To merge sub-projects into a new project:**

1. Display the Project Properties dialog box and select the Sub-Projects tab.
2. On the Sub-Projects tab, click **Save As** to display the Save As dialog box.
3. Enter a name and description for the new project.
   You can also click to display the Project Lookup dialog box, where you can select a project to overwrite.
4. Click **OK** to merge the sub-projects into a new project.

### Validate Sub-Projects

Use the Sub-Projects Validation dialog box to validate the data for the sub-projects of a master project.

**To validate sub-project data:**

1. Display the Project Properties dialog box and select the Sub-Projects tab.
2. Click **Validate** to open the Sub-Projects Validation dialog box.
3. On the Validation tab, select the data types that you want to validate.
4. On the Errors tab, select the validation error that will prevent the merging of the sub-projects into a new project, and click **OK**.

## Standard Dialog Boxes and Procedures

Standard dialog boxes and procedures are used throughout the Project view.

### New File Dialog Box

This dialog box lets you create new Cobra files of the following types: project, calendar, code, resource, and rate.

When you select a file type and click **Create**, Cobra displays the corresponding wizard that leads you through the process of creating the file.

### Display the New File Dialog Box

Use this procedure to display the New File dialog box.

**To display the New File dialog box:**

Take one of the following actions:

- Click » **New**.
- On the Quick Access toolbar, click .

### Considerations When Creating Names in Cobra

When you create names in Cobra, you must consider certain rules.

These rules are as follows:

- Object names (such as project and ancillary files) must not contain any of the following characters: [ ] ' " : < > ? * / \ | , + =
- For database column names, you may use ASCII letters (a-z or A-Z), numbers (0-9) and underscore (_). The first character must not be a number.
- There are no invalid characters for data names (such as activities and work packages).

## Open File Dialog Box

Use this dialog box to open an existing Cobra file such as project, code, calendar, resource, or rate.

Click a tab to display a list of files available to you. To open a file, select it from the list and click **Open**, or double-click the file name.

### Display the Open File Dialog Box

Use this procedure to display the Open File dialog box.

**To display the Open File dialog box:**

Take one of the following actions:

- Click » **Open**.
- On the Quick Access toolbar, click .

## Lookup Dialog Box

Use this dialog box to locate and select the file, code, resource, control account, work package, calendar, rate file, or any other value that you need to complete a process in Cobra.

### Display the Lookup Dialog Box

Use this procedure to display the Lookup dialog box.

**To display the Lookup dialog box:**

1. Launch a Cobra process that uses the Lookup dialog box.
2. Click for the field that uses the Lookup dialog box.

## Save As Dialog Box (Projects)

Use this dialog box to save a copy of a project using a different project name.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new project. You cannot use an existing project name in this field. |
| **Description** | Use this field to enter a description for the new project. |
| **Copy Project Data** | Select this option to copy the data in the current project into the new project that you are creating. |
| **Copy Calendar** | Select this option to copy the calendar of the current project into the new project that you are creating. |

### Display the Save As Dialog Box (Projects)

Use this procedure to display the Save As dialog box for project files.

**To display the Save As dialog box for project files:**

1. Display a project.
2. Click » **Save As**.

## Save As Dialog Box (Ancillary Files)

Use this dialog box to save a copy of a calendar, code, resource, or rate file.

Enter a new name and description for the file, and click **OK**.

### Display the Save As Dialog Box (Ancillary Files)

Use this procedure to display the Save As dialog box for ancillary files.

**To display the Save As dialog box for ancillary files:**

1. Display a calendar, code, resource, or rate file.
2. Click » **Save As**.

## Find Dialog Box

Use this dialog box to search for text in a selected column of a grid.

**Contents**

| Field | Description |
|---|---|
| **Find what** | Use this field to enter the text that you are searching for. |
| **Within** | This field displays the name of the selected column in which to perform the search. |
| **Match case** | Select this option to limit the search so that it only locates text that matches the upper and lowercase characters you enter. |
| **Match entire cell contents** | Select this option if you want to match the text you entered exactly. This option is useful if you know precisely what you want to find and want to find it quickly. |

### Display the Find Dialog Box

Use this procedure to display the Find dialog box.

**To display the Find dialog box:**

1. Display any of the panes in the Cobra Explorer or any of the Cobra views.
2. Take one of the following actions:
   - On the Quick Access toolbar, click  .
   - In the **Clipboard** group on any of the Edit tabs, click **Find**.
   - Right-click the pane or the view and select **Find** on the shortcut menu.

## Insert Column Dialog Box

Use this dialog box to insert a column and define the column's attributes.

Each file type has its own set of fields that are available to be added. For example, if you want to insert a column in a project, only project-related fields are available to be added.

**Contents**

| Field | Description |
|---|---|
| **Field Name** | Select the field that contains the information to display in the column.<br>**Note:** You cannot use the Edit Column dialog box to modify the field name. |

| Field | Description |
| --- | --- |
| **Title** | Use this field to enter the name for the column that will appear in the grid. |

### Wrap Text

| Field | Description |
| --- | --- |
| **In cells** | Select this option to wrap text within the cells of the column. You must select this option if you want to display multiple lines within a cell. |
| **In Column Heading** | Select this option to wrap text in the column headings. |

### Width

| Field | Description |
| --- | --- |
| **Best Fit** | Select this option to automatically resize the column width to allow just enough space for the longer of either the column heading or the contents of the longest row in the column. |
| **Specific** | Select this option and specify the maximum number of characters allowed in the column. |

### Formatting

| Field | Description |
| --- | --- |
| **Formatting** | The **Formatting** options control how date, duration, or numeric data in the column is displayed. If you change the formatting of a column that already contains data, Cobra displays the data in the new format.<br>The available formatting options depend on the type of field:<br>▪ If the field is a date field, the formatting options include date formats.<br>▪ If the field is a duration, the formatting options include minutes (t), hours (h), days (d), weeks (w), and months (m). Cobra displays any remainder that results from converting a smaller unit into a larger unit as a decimal. For example, a duration of 90 minutes becomes 1.5 when converted into hours. When you click a cell, the duration is displayed in the default format. You can then enter a new duration value in any format that you wish.<br>**Note:** In the Edit Column dialog box, you can modify the format only of numeric data. |
| **Decimals** | Use this field to indicate a level of precision for the display of data. |

### Display the Insert Column Dialog Box

Use this procedure to display the Insert Column dialog box.

**To display the Insert Column dialog box:**

1. Right-click a column heading in any view.
2. On the shortcut menu, select **Insert Columns**.

## Edit Column Dialog Box

Use this dialog box to define the contents and attributes of a column.

**Field Name Information**

| Field | Description |
|---|---|
| **Field Name** | Select the field that contains the information to be displayed in the column. The list of fields displays the fields available for the selected file type. For example, if you want to insert a column in a project, only the fields available for projects are listed.<br>**Note:** You cannot edit the values of the following fields: **Configuration.ConfigUid**, **Data**, **Last Update**, **Sequence**, **User**, and **DirUid**. These fields are read-only. |
| **Title** | Enter the name for the column that will appear in the grid. |

**Wrap Text**

The following options control how text wrapping is handled:

| Field | Description |
|---|---|
| **In cells** | Select this option to enable text wrapping within the cells of the column. This option must be selected if you want to display multiple lines within a cell. |
| **In Column Heading** | Select this option to enable text wrapping in the column headings. |

**Width**

The following options control the width of the column:

| Field | Description |
|---|---|
| **Best Fit** | Select this option to automatically resize the column width to allow just enough space for the longer of either the column heading or the contents of the longest row in the column. |
| **Specific** | Select this option and specify the maximum number of characters to be allowed in the column. |

| Field | Description |
|---|---|
| **Formatting** | The **Formatting** options control how date, duration, or numeric data in the column displays. If you change the formatting of a column that already contains data, Cobra displays the data in the new format.<br>The available formatting options depend on the **Field Name** field:<br>▪ If the field is a date field, the formatting options include date formats.<br>▪ If the field is a duration, the formatting options include minutes (t), hours (h), days (d), weeks (w), and months (m). Cobra displays as a decimal any remainder that results from converting a smaller unit into a larger unit. For example, a duration of 90 minutes becomes 1.5 when converted into hours. When you click a cell, the duration displays in the default format. You can then enter a new duration value in any format that you wish.<br>**Note:** You can modify the format of numeric data only. |
| **Decimals** | Use this field to indicate a level of precision for the display of data. |

### Display the Edit Column Dialog Box

Use this procedure to display the Edit Column dialog box.

**To display the Edit Column dialog box:**

1. Right-click a column heading in any view.
2. On the shortcut menu, select **Edit Column**.

## Column Width Dialog Box

Use this dialog box to adjust column widths.

**Contents**

| Field | Description |
|---|---|
| **Adjust Column Width** | Use this field to enter the width for the selected column. |
| **Adjust all columns by:** | Use this field to increase or decrease the width for all columns by a specific value. |
| **Set all columns by:** | Use this field to enter the width for all columns. |

### Display the Column Width Dialog Box

Use this procedure to display the Column Width dialog box.

**To display the Column Width dialog box:**

1. Right-click a column heading in any view.
2. On the shortcut menu, select **Column Width**.

## Rename Dialog Box

Use this dialog box to change the name of a project, master project, ancillary file, code, rate set, or resource in Cobra Explorer or in any of the Cobra views.

The type of file that you select to rename appears in the title bar for the dialog box.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter the new name in this field.<br>**Note:** When you rename a project, Cobra does not rename the process logs associated with it. |

### Display the Rename Dialog Box

Use this procedure to display the Rename dialog box.

**To display the Rename dialog box for projects, master projects, ancillary files, codes, rate sets, or resources:**

1. Display the Cobra Explorer or any of the Cobra views.
2. Take one of the following actions:
   - Right-click the project, master project, ancillary file, code, rate set, or resource that you want to rename and select **Rename**.
   - Click **Rename** in the **Tasks** group on the Edit.

## Purge Dialog Box

Use this dialog box to delete a project and all of the ancillary files that are associated with it.

If the ancillary files are shared across multiple projects, purging removes the ancillary files from the projects as long as you have more than read-only access to the files. You cannot delete files to which you do not have access or if your access is read-only.

The difference between purging and deleting a project is that purging deletes the project and all of its ancillary files while deleting deletes only the project and the fiscal calendar (if you choose to delete the calendar).

If you select multiple project files for purging, the Purge dialog box displays for each project file.

You cannot purge a file that is open.

**Contents**

| Field | Description |
|---|---|
| **Project File** | This field displays the name of the project you want to purge. |
| **Calendar File(s)** | These files include the fiscal calendar and the roll wave calendar if a roll wave calendar is associated with the project. |
| **Rate File(s)** | These files include the rate file associated with the project and any rate files associated with classes. |
| **Resource File** | This field displays the resource file associated with the project. |
| **Code File(s)** | These files include the following:<br>▪ The control account (CA1, CA2, CA3) and work package code field codes<br>▪ Code files attached to the control account and work package as codes C1-C9<br>▪ Code files attached to the CA1, CA2, CA3, and WP code files<br>▪ Code files attached to the resource file |

### Display the Purge Dialog Box

Use this procedure to display the Purge dialog box.

**To display the Purge dialog box:**

1. Display the Projects pane in the Cobra Explorer.
2. Take one of the following actions:
   - Click a project and click **Purge** in the **Tasks** group on the Edit tab.
   - Right-click a project and select **Purge** on the shortcut menu.

## Basic Procedures

Some standard procedures are used throughout Cobra

The set of instructions encompasses various tasks such as text search and view management, among other things.

## Save a Project as a Different Project

You can save a project as a different project in the Project view.

**To save a project as a different project:**

1. Display a project.
2. Click » **Save As**.
3. Use the Save As dialog box to save the selected project as a different project.
4. Click **OK**.

## Save an Ancillary File as a Different File

You can save an ancillary file as a different file in the Calendar, Rate, Resource, or Code view.

**To save an ancillary file as a different file:**

1. Display a code, rate, calendar, or resource file.
2. Click » **Save As**.
3. Use the Save As dialog box to save the selected ancillary file as a different file.
4. Click **OK**.

## Copy the Projects Pane or the Spreadsheet Pane to Excel

You can copy the Projects pane or the Spreadsheet pane of the Project view in Excel.

**To copy the Projects pane or the Spreadsheet pane of the Project view:**

1. Display the Projects pane or the Project view and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Copy** » **Copy View to Excel**..
   - Right-click the Projects pane or the Spreadsheet in the Project view and select **Copy View to Excel** on the shortcut menu.
2. Use the Save As dialog box to enter a filename and select a location for the file.

## Find Text

You can search for text in columns in Cobra Explorer or in any of the Cobra views.

**To find text:**

1. Display the appropriate view (for example, Project view).

2. Select the column in the grid where you want to search for text and take one of the following actions:
   - On the Quick Access Toolbar, click  .
   - Right-click the view and select **Find** on the shortcut menu.
3. In the Find dialog box, enter the text to look for and select the appropriate options.
4. Click **Find Next**.

   The Find dialog box remains displayed so you may continue to click **Find Next** until you find the text that you are looking for.
5. When done, click **Cancel**.

## Find Numeric Data

You can search for numeric data in columns in Cobra Explorer or in any of the Cobra views.

**To find numeric data:**

1. Display the appropriate view (for example, Project view).
2. Select the column on the grid where you want to search for numeric data and take one of the following actions:
   - On the Quick Access toolbar, click  .
   - Right-click the view and select Find on the shortcut menu.
3. In the Find dialog box, enter the value to look for and select the appropriate options.

   **Note:** Cobra only returns results that starts with the supplied search value. The **Match case** and **Match entire cell contents** options are always disabled.
4. Click **Find Next**.

   The Find dialog box remains displayed so you may continue to click **Find Next** until you find the value that you are looking for.
5. When done, click **Cancel**.

## Manage Columns

You can change the way columns are shown in Cobra by right-clicking a column header and selecting an option from the shortcut menu.

The table below lists the options available when you right-click a column header in any view.

| Option | Description |
|---|---|
| **Insert Column** | Select this option to display the Insert Column dialog box and add a new column. |

| Option | Description |
|---|---|
| **Remove Column** | Select this option to remove the selected column. |
| **Edit Column** | Select this option to display the Edit Column dialog box and change the properties of the selected column. |
| **Size Column for Best Fit** | Select this option to resize the column width and match the heading or the longest entry in the column, whichever is longer. |
| **Column Widths** | Select this option to display the Column Widths dialog box and change the width of the selected column or the widths of all columns. |
| **Freeze** | Select this option to freeze all columns to the left. The frozen columns remain in view when you horizontally scroll the grid. |
| **Find** | Select this option to display the Find dialog box and search for text in the selected column. |
| **Filter** | Select this option to display the Standard Filter dialog box or the Advanced Filter dialog box and limit the display of items in the Spreadsheet pane based on your selections. |

**Sorting Rows in a Column**

You can sort the rows in a column in ascending or descending order by clicking the column header. A ▼ displayed in the column header indicates that the rows under that column are arranged in ascending order (from low to high). A ▲ displayed in the column header indicates that the rows under that column are arranged in descending order (from high to low).

## Insert a Column in a View

You can insert columns in any of the views in Cobra.

**To insert a column in a view:**

1. Display the appropriate view.
2. Right-click the column heading at the point where you want to insert the new column.
3. On the shortcut menu, select **Insert Column**.
4. In the **Insert Column** dialog box, select the **Field Name** that contains the data that will be shown in the column.
5. Enter a new **Title** for the column or use the default title.
6. Select your options for **Wrap Text**, **Width**, and **Formatting**.
7. Click **OK**.

## Edit a Column in a View

You can edit columns in any of the views in Cobra.

**To edit a column in a view:**

1. Display the appropriate view.
2. Right-click the heading of the column you wish to edit.
3. On the shortcut menu, select **Edit Column**.
4. In the **Edit Column** dialog box, make the appropriate changes.
5. Click **OK**.

## Remove a Column from a View

You can remove columns from any of the views in Cobra.

**To remove a column from a view:**

1. Display the appropriate view.
2. Right-click the heading of the column you wish to remove.
3. On the shortcut menu, select **Remove Column**.

## Adjust Column Width

You can adjust column widths in any of the views in Cobra.

**To adjust the column width in a view:**

1. Display the appropriate view.
2. Right-click the heading of the column you wish to edit.
3. On the shortcut menu, select **Column Width**.
4. In the Column Width dialog box, make the appropriate changes.
5. Click **OK**.

## Size a Column for Best Fit

You can size columns for best fit in any of the views in Cobra.

The column width is automatically resized to allow enough space for the content of either the widest column or column heading, whichever is wider.

**To size a column for best fit:**

1. Display the appropriate view.
2. Right-click the heading of the column you wish to resize.

3. On the shortcut menu, select **Size Column for Best Fit**.

## Purge a Project

You can purge a project to delete it and all of the ancillary files associated with it.

**To purge a project:**

1. Display the Projects pane in the Cobra Explorer and take one of the following actions:
   - Click a project and click **Purge** in the **Tasks** group on Edit tab.
   - Right-click a project and select **Purge** on the shortcut menu.
2. In the Purge dialog box, click **OK**.

## Rename a Project

You can rename a project in Cobra Explorer. When you rename a project, Cobra does not rename the process logs associated with it.

**To rename a project:**

1. In the Cobra Explorer, click the **Projects** group bar.
2. Click the project that you want to rename and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Rename.**
   - Right-click the project that you want to rename and select **Rename** on the shortcut menu.
3. In the Rename dialog box, enter the new name for the file.
4. Click **OK**.

## Rename an Ancillary File

You can rename an ancillary file in Cobra Explorer. When you rename an ancillary file, any projects that reference the ancillary file change the reference to the new name.

**To rename an ancillary file:**

1. Take one of the following actions:
   - In the Cobra Explorer or in any of the Cobra views, click **Rename** in the **Tasks** group on the Edit tab.
   - In the Cobra Explorer or in any of the Cobra views, right-click the ancillary file that you want to rename and select **Rename**.
2. In the Rename dialog box, enter the new name for the file.
3. Click **OK**.

If you rename a resource file assigned to a project and check the Files tab of the Project Properties dialog box for that project, you will notice that the resource file for the project now has the new name.

### Freeze Columns in a View

While in Cobra Explorer or in any of the views, you can freeze columns so that they remain in view when you scroll horizontally across the grid. The selected column and all columns to the left of it change color to indicate that they are frozen.

**To freeze columns:**

1. Display the appropriate view.
2. Right-click the heading of the column you wish to freeze.
3. On the shortcut menu, select **Freeze**.

## Calendars

Spreading budgets, summarizing costs, and reporting depend on calendars to determine the dates and time spans of the summarized costs.

When you define a calendar, Cobra allows you to select common fiscal calendars such as end of the month or 4w, 4w, 5w calendars. You can also manually add any calendar date you want to a calendar. When you spread budget over several fiscal periods, you have options on how the budget is spread. You can select to spread data equally over all of the periods, using working (productive) hours, or using both working days and holidays. The fiscal calendar allows you to define the cutoff days, the working hours, and the holidays for the reporting calendar of the company.

When you load data, such as a budget, into a project, the data is stored in the time period buckets defined by the calendar. You should take the time in the beginning of the project to ensure the calendar is correct. Respread is a process to help you change the time-phased data to match your calendar periods. However, this procedure changes the budget spread.

While Cobra can facilitate earned value management on a weekly basis for the entire project, the data generated in long projects would be overwhelming. The rolling wave process gives you a means to analyze earned value data in weekly periods for a defined window of time while retaining the rest of the data in monthly periods. This reduces the amount of data with which you have to deal.

In addition to defining the periods for storing time-phased data, calendars are used to define and store calendar sets. Cobra uses calendar sets for the following:

- **Spreading budget**: If you want to enter budget for planning packages by fiscal period, you can designate the calendar set on the cost class. If you have planning packages that last several years, you could reduce the size of your data substantially by not saving monthly data.
- **Rolling wave**: Set 01 is used to match the monthly calendar to the weekly calendar.
- **Current period reporting**: The status date and the previous period are stored in set 18 for IPMR reporting.

- **IPMR Formats 3 and 4 reporting**: Defining the specified periods in these standard reports.

  **Attention:** For more information, see the Configure Calendar Set 19 for IPMR Reports, wInsight Integration, and Cost Data Export/DCDE Format help topic.

- **Time-phased reports**: Each calendar set allows for specification of the label (column heading in a report or the Time-phase dialog box for each period reported, and to flag the periods to be reported on, such as monthly, quarterly, or yearly).

## Calendar Periods

In a Cobra calendar, each date represents the end of a period. The periods defined by these dates can be of different lengths, provided that the periods span the entire duration of the project.

Use the Calendar Periods tab to generate calendar periods based on daily, weekly, monthly, end of month, quarterly, and yearly intervals. You can also select your own interval pattern that you can apply to specific calendar sets.

## Calendar Sets

Cobra uses calendar sets for spreading budgets, rolling wave calculation, current period reporting, and time-phased reports.

- **Spreading budget** : If you want to enter budget for planning packages by fiscal period, you can designate the calendar set on the cost class. If you have planning packages that last several years, you could reduce the size of your data substantially by not saving monthly data.
- **Rolling wave** : Set 01 is used to match the monthly calendar to the weekly calendar.
- **Current period reporting** : The status date and the previous period are stored in set 18 for IPMR reporting.
- **Time-phased reports** : Each calendar set allows for specification of the label (column heading in a report or the Time-phase dialog box for each period reported, and to flag the periods to be reported on, such as monthly, quarterly, or yearly).

### Floating and Fixed Flags

In addition, it is common to report the next 12 periods. To facilitate this, Cobra provides two types of flags: fixed ($) and floating (*). Cut-off dates with fixed flags define periods absolutely; a calendar set for reporting fiscal year data would use fixed flags to define the year-end dates. By contrast, dates with floating flags define periods that are relative to the current project status date. Cobra automatically advances floating flags to the next labeled period each time the project calendar is advanced. By using a floating flag, it is possible, for example, to single out a specified number of accounting periods for the purpose of a look-ahead report in which the months displayed in the report automatically change each time you advance the project status date.

You can specify the labels for each flagged date in a calendar set. This makes it easy to see which accounting period is being defined by a particular cut-off date.

### Calendar Sets

This table describes the calendar sets used in Cobra.

| Calendar Set | Description |
|---|---|
| **Calendar Set 00** | This set is labeled with the options selected in the New Calendar Wizard. All periods in set 00 must be labeled and flagged with $ or fixed flags. |
| **Calendar Set 01** | This set has all periods labeled and allows you to flag the most commonly reported periods. These flags can be either fixed or floating flags.<br><br>**Note:** Label the first 12 periods of Calendar set 01 with floating flags (*) for easy reporting of the next 12 periods.<br><br>For the rolling wave process, set 01 contains the labeled and flagged periods that represent the base calendar (monthly calendar) dates defined in the calendar for the program for which the rolling wave process will be performed. The set 01 is compared between the two calendars to determine what the month end date is. If these periods are not labeled the same, Cobra does not know what the month end is.<br><br>**Note:** You cannot share a rate file with projects that are not weekly because the FTE rates are updated in the rolling wave process. |
| **Calendar Set 18** | This set labels the first period of a new calendar PREVIOUS and the next period TODATE. These labels in set 18 are used to determine the status date of a project as well as what constitutes the current period (TODATE-PREVIOUS). As you advance the calendar, PREVIOUS and TODATE are moved automatically. For IPMR* and CSSR* reports, set 18 needs PREVIOUS flagged at the beginning of the month and TODATE flagged at the end of the month to get a monthly report |
| **Calendar Set 19** | This is used for IPMR Formats 3 and 4 reports. These reports are typically labeled and flagged with a combination of floating and fixed flags which match the header of the report. |

| Calendar Set | Description |
|---|---|
| | **Note:** When you create a new calendar, the default calendar sets are Set 00, Set 18, and Set 19. |

**Define Multiple Calendar Sets**

You can define multiple calendar sets for a fiscal calendar in Cobra.

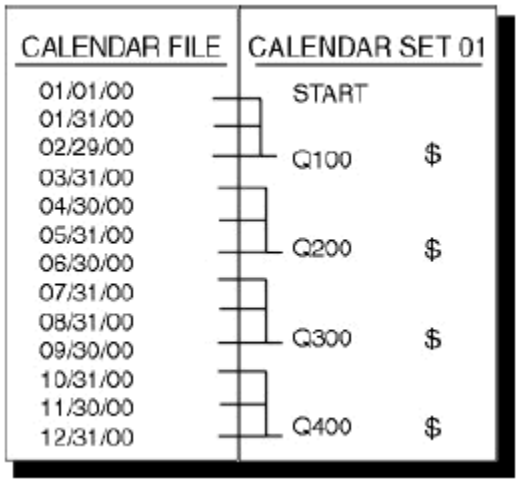
Assume that you have created a fiscal calendar file with the following set of dates:

| CALENDAR FILE |
|---|
| 01/31/00 |
| 02/29/00 |
| 03/31/00 |
| 04/30/00 |
| 05/31/00 |
| 06/30/00 |
| 07/31/00 |
| 08/31/00 |
| 09/30/00 |
| 10/31/00 |
| 11/30/00 |
| 12/31/00 |

From this list of dates, Cobra automatically creates calendar set 00, in which all dates generated for a fiscal calendar file are flagged and labeled:

| CALENDAR FILE | CALENDAR SET 00 | |
|---|---|---|
| 01/01/00 | START | $ |
| 01/31/00 | JAN00 | $ |
| 02/29/00 | FEB00 | $ |
| 03/31/00 | MAR00 | $ |
| 04/30/00 | APR00 | $ |
| 05/31/00 | MAY00 | $ |
| 06/30/00 | JUNE00 | $ |
| 07/31/00 | JULY00 | $ |
| 08/31/00 | AUG00 | $ |
| 09/30/00 | SEP00 | $ |
| 10/31/00 | OCT00 | $ |
| 11/30/00 | NOV00 | $ |
| 12/31/00 | DEC00 | $ |

In this example, calendar set 00 would allow you to spread budgets and report on project costs on a monthly basis. To track project costs on a quarterly basis, you could create another calendar set:




Notice how the flagged period **Q100** in calendar set 01 now contains all of the costs that would be stored in **JAN00**, **FEB00**, and **MAR00** of calendar set 00. This is because a flagged period always contains the costs since the last flagged period. Notice also how the selected dates in calendar set 01 have been flagged as fixed since they do not change as the project calendar is advanced. Finally, notice how the labels for calendar set 01 have been modified to reflect the accounting periods the flagged dates now define.

It would also be possible to set up another custom calendar set that aggregates costs according to fiscal years:


Notice that both the start period and end period need to be flagged in order to track the total amount for the fiscal year.

Notice that both the start period and end period need to be flagged in order to track the total amount for the fiscal year.

Each fiscal calendar file in Cobra can have multiple calendar sets that assign flags and labels to various subsets of the dates generated for the file. Calendar set 00 must have all periods labeled and flagged. Of the nine remaining sets, calendar sets 01 through 06 are completely user-defined, while sets 07, 08, and 09 are reserved for special reporting purposes.

### Using Calendar Sets in Reports

You can use the fiscal calendar in reporting.

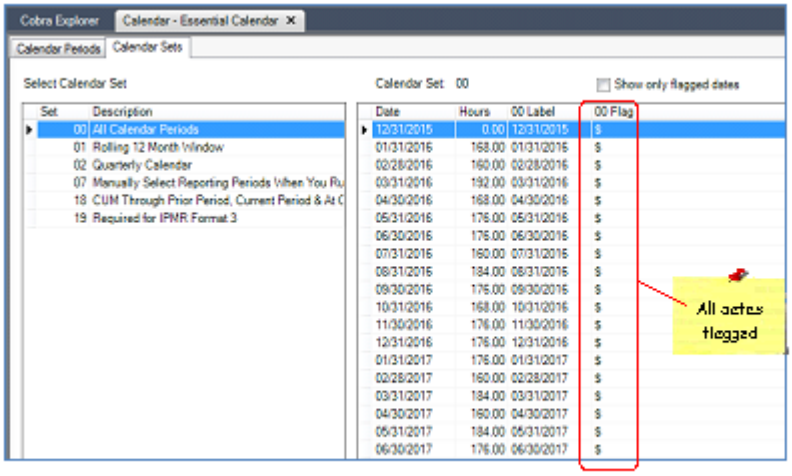
If you want to produce a report in quarters or by fiscal year, you would create a calendar set and flag each of the cutoff periods you want to appear on your report. Each calendar file contains multiple calendar sets, both system and user-defined. Each calendar set contains the user-defined dates and labels that represent the cutoff dates and flags that determine the period(s) to report on.

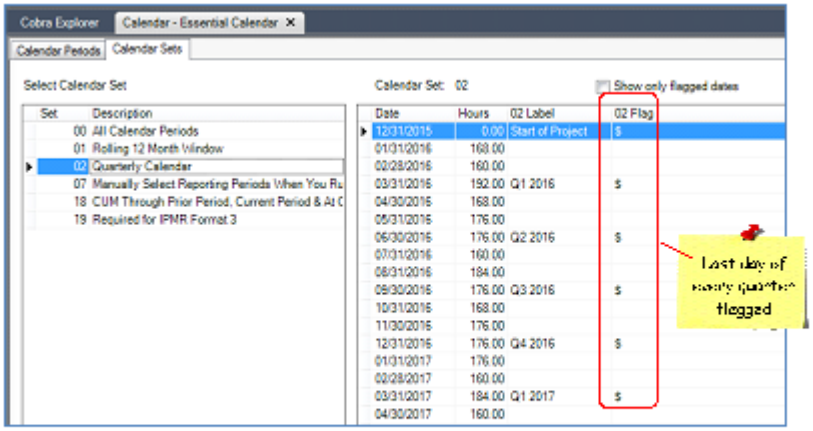
### How Calendar Sets Impact Reporting

This section provides examples that show how calendar sets impact reporting.

In this example, 00 All Calendar Periods includes a date for the last day of every month and every date has been flagged. 02 Quarterly Calendar includes the same dates; however, only the last day of every quarter has been flagged.

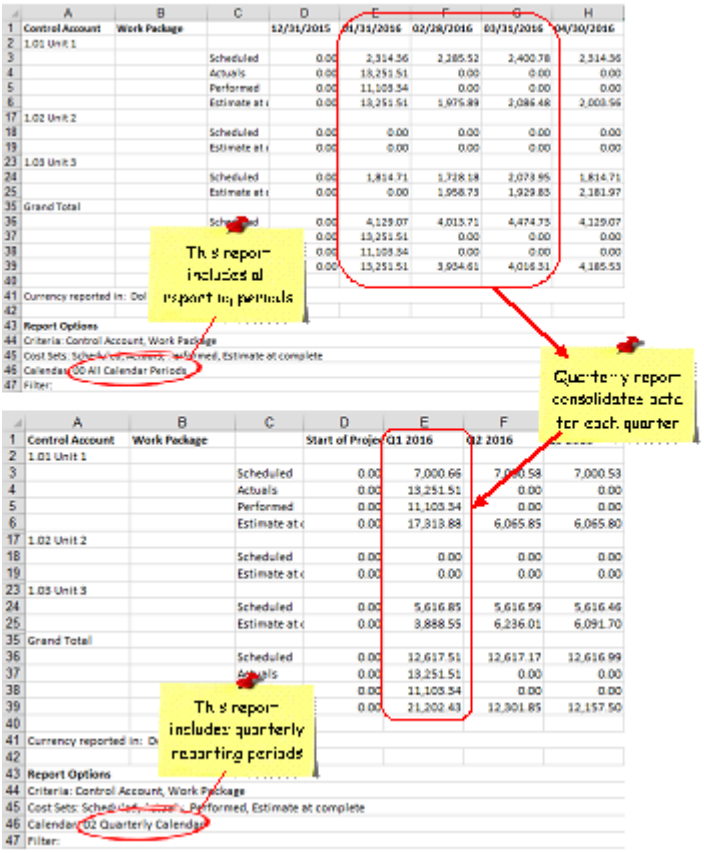
**00 All Calendar Periods**






When you run a report using 00 All Calendar Periods, the report displays by months with costs for every month. When you run a report using 02 Quarterly Calendar, the report displays by quarters with consolidated costs

**02 Quarterly Calendar**



# Configure Calendar Set 19 for IPMR Reports, wInsight Integration, and Cost Data Export/DCDE Format

Calendar set 19 is a set required by IPMR Format 3, IPMR Format 4, 533M, 533Q, Deltek Cost Data Exchange (DCDE) file.

These reports display the next six months and the specified periods. The specified periods are usually either quarter-end dates, or year-end dates based on the length of the contract. This configuration can be automated as you advance the calendar by combining both fixed and floating flags in order to provide for the various fiscal cut-off periods required by these types of report.

# Calendar View

Use the Calendar view to view or modify calendar periods, productive hours, calendar sets, rolling wave or weekly earned value periods, or to modify calendar file information.

The Calendar view consists of the following areas:

| Area | Description |
|---|---|
| **Calendar Periods Tab** | Click this tab to display the **Periods** and **Holidays** group boxes. Use this view to generate periods based on your selected interval pattern and apply it to specific calendar sets. |
| **Calendar Sets Tab** | Click this tab to display two panes. The left pane displays all the calendar sets and their descriptions. The right pane displays information about the currently selected calendar set. |

Use the New Calendar File Wizard to create a new calendar.

## Edit Tab of the Calendar View

The Edit tab of the Calendar view contains commands available when you display the Calendars pane in the Cobra Explorer or open a calendar file in the Calendar view.

### Clipboard Group

| Command | Description |
|---|---|
|  **Copy** | Click this command to copy the values for the hours, labels, or flags used for the dates from the selected calendar set or period.<br>**Note:** You can also press CTRL+C to use this command. |

| Command | Description |
|---|---|
| **Paste** | Click this command to paste the copied values for the hours, labels, or flags used for the dates to the selected calendar set or period.<br>**Note:** You can also press CTRL+V to use this command. |
| **Find** | Click this command to find a date, label, productive hour value, or flag in the selected calendar set or period.<br>**Note:** You can also press CTRL+F to use this command. |
| **Refresh** | Click this command to refresh the information displayed in the grids.<br>**Note:** You can also press F5 to use this command. |
| **Undo** | Click this command to revert the changes you made the calendar file.<br>**Note:** You can also press CTRL+Z to use this command. |

**Tasks Group**

| Command | Description |
|---|---|
| **Add** | Click this command to display the Add Calendar Set dialog box, which you use to add a new calendar set.<br>**Note:** You can also press ALT+E+A or F10+E+A to use this command. |
| **Delete** | Click this command to delete the selected calendar set or period.<br>**Note:** You can also press CTRL+DEL to use this command. |
| | Click this command to display the Rename dialog box, which you use to rename the selected calendar file. |

| Command | Description |
|---|---|
| **Rename** | **Note:** You can also press ALT+E+N or F10+E +N to use this command. |

### Calendars Group

| Command | Description |
|---|---|
| **Generate** | Click this command to display the Generate Periods dialog box, which you use to generate multiple periods. |
| **Calculate Hours** | Click this command to display the Calculate Hours dialog box, which you use to calculate the productive hours for the periods. |
| **Edit Set** | Click this command to display the Edit Calendar Set dialog box, which you use to edit the selected calendar set. |
| **Flag Periods** | Click this command to display the Flag Periods dialog box, which you use to define subsets of the base calendar by flagging selected dates. |
| **Set Date** | Click this command to move the TODATE label in calendar sets 18 and 19 to the selected date. |

### Properties Group

| Command | Description |
|---|---|
| **Properties** | Click this command to display the Calendar File Properties dialog box for the selected calendar file.<br>**Note:** You can also press ALT+E+P or F10+E +P to display this dialog box. |

## Shortcut Menu

Some of the panes and data grids in the Calendar view have shortcut menus, which you can display by right-clicking the panes or data grids.

### Calendar Periods Tab-Periods

Right-click the Periods pane to display the shortcut menu available in ghe pane.

| Option | Description |
|---|---|
| **Add Period** | Click this option to add a new period to the Date column. |
| **Delete Period** | Click this option to delete the selected period in the Date column. |
| **Generate** | Click this option to display the Generate Periods dialog box to generate multiple periods. |
| **Calculate Hours** | Click this option to display the Calculate Hours dialog box to calculate the productive hours for the periods. |
| **Copy** | Click this option to copy the date or the value for the productive hours from the selected period. |
| **Paste** | Click this option to paste the date or the value for the productive hours to the selected period. |
| **Find** | Click this option to display the Find dialog box, which you use to find a date or a value for the productive hours. |

### Calendar Periods Tab-Holidays Pane

Right-click the Holidays pane to display the shortcut menu available in the pane.

| Option | Description |
|---|---|
| **Delete** | Click this option to delete the selected date. |

| Option | Description |
|---|---|
| **Copy** | Click this option to copy the selected date. |
| **Paste** | Click this option to paste copied information. |
| **Find** | Click this option to display the Find dialog box, which you use to find a date. |

**Calendar Sets Tab**

Right-click the Calendar Sets pane to display the shortcut menu with the following options:

| Option | Description |
|---|---|
| **Add** | Click this option to display the Add Calendar Set dialog box, which you use to add new calendar set. |
| **Edit Set** | Click this option to display the Edit Calendar Set dialog box, which you use to edit the selected calendar set. |
| **Delete** | Click this option to delete the selected calendar set. |
| **Flag Periods** | Click this option to display the Flag Periods dialog box, which you use to define subsets of the base calendar by flagging selected dates. |
| **Set Date** | Click this option to move the TODATE label in calendar sets 18 and 19 to the selected date. |
| **Copy** | Click this option to copy the values for the hours, labels, or flags used for the dates from the selected calendar set. |
| **Paste** | Click this option to paste the values for the hours, labels, or flags used for the dates to the selected calendar set. |

| Option | Description |
| --- | --- |
|  **Find** | Click this option to display the Find dialog box, which you use to find a date, label, productive hour value, or flag in the selected calendar set. |

## Procedures

Follow the procedures in this section to display the Calendar view and the Calendar view tabs.

### Display the Calendar View using the Calendars Group Bar

Use the Calendars group bar to display the Calendar view.

**To display the Calendar view:**

1. In the Cobra Explorer, select the **Calendars** group bar.
2. In the Calendars pane, double-click the calendar file that you want to display.
3. In the Calendar view, select the tab to display.

### Display the Calendar View using the Cobra Button

Use the Cobra button to display the Calendar view.

**To display the Calendar view using the Cobra button:**

1. Click  » **Open**.
2. In the Open File dialog box, click the Calendars tab and select a calendar file.
3. Click **Open** to display the selected calendar file.
4. In the Calendar view, select the tab to display.

## Calendar Periods Tab of the Calendar View

Use the Calendar Periods tab to generate calendar periods based on daily, weekly, monthly, end of month, quarterly, and yearly intervals. You can also select your own interval pattern that you can apply to specific calendar sets.

In a Cobra calendar, each date represents the end of a period. The periods defined by these dates can be of different lengths, provided that the periods span the entire duration of the project.

Right-clicking the Calendar Periods tab displays the Calendar Periods tab shortcut menu, where you can perform tasks such as adding new periods, generating multiple periods, and calculating productive hours. The Calendar Periods tab consists of the **Periods** and **Holidays** panes.

### Periods

The **Periods** pane displays the Date and Hours columns.

| Column | Description |
|---|---|
| **Date** | In this column, each date represents the end of a period, except the first date entry, which represents the project start date. The periods defined by these dates can be of different lengths, provided that the periods span the entire duration of the project. You can generate periods using the Generate Periods dialog box. |
| **Hours** | This column displays the number of productive hours for each period. You can calculate the number of productive hours for each day in the period using the Calculate Hours dialog box. |

### Holidays

Use the **Holidays** pane to add holidays to your calendar.

| Field | Description |
|---|---|
| **Date** | Use this field to enter the date that you want to include as a holiday in the calendar. |
| **Repeat Yearly?** | Select this option to instruct Cobra to mark the selected date as a holiday in the succeeding years. |
| **Add** | Click **Add** to add the selected date to the list of holidays in the calendar. |
| **Automatically recalculate productive hours?** | Select this option and click the Save button to instruct Cobra to:<br>▪ Recalculate the productive hours for each period based on the holidays added to the calendar<br>▪ Update the productive hours for each period based on the actual calendar |

## Generate Periods Dialog Box

Use this dialog box to generate multiple periods in a calendar and to select a pattern for the periods, such as daily, weekly, or monthly.

Oftentimes, a company calendar follows a pattern with small deviations. For example, if your organization uses a 4w, 4w, 5w calendar pattern but the calendar always ends at the end of the year, you can use the **Generate Periods** option to create the calendar and manually add a date using the **Add Period** option to create an end date for the year period.

**Note:** While this dialog box is intended primarily for generating dates when a calendar is first created, it can also be used for extending an existing calendar. This dialog box is identical to the Periods page of the New Calendar Wizard.

*Display the Generate Periods Dialog Box*

Use this procedure to display the Generate Periods dialog box.

**To display the Generate Periods dialog box:**

1. Display the Calendar view of the selected calendar file.
2. Click the Calendar Periods tab and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Generate**.
   - Right-click the Periods pane and select **Generate** on the shortcut menu.

## Calculate Hours Dialog Box

Use this dialog box to specify the number of working hours on each day of the week. Cobra uses this information to calculate the number of working hours in each period.

The calculated hour definitions are stored in the calendar file and are reflected in all calendar sets. You can later modify the calculated working hours to indicate accounting periods impacted by events such as company-wide holidays or plant shutdowns.

Each value that you enter on this dialog box must be between 0 and 24.

- If you enter a negative value, Cobra changes your entry to **0**.
- If you enter a value greater than 24, Cobra automatically changes your entry to **24**.
- If the previous value is less than 24 and you enter a value greater than 24, the previous value is displayed, not **24**.

*Display the Calculate Hours Dialog Box*

Use this procedure to display the Calculate Hours dialog box.

**To display the Calculate Hours dialog box:**

1. Display the Calendar view of the selected calendar file.
2. Click the Calendar Periods tab and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Calculate Hours**.
   - Right-click the Periods pane and select **Calculate Hours** on the shortcut menu.

## Procedures

Follow the procedures in this section to set up calendar periods.

*Generate Calendar Periods*

You can generate multiple periods in a calendar using the Generate Periods dialog box, which also enables you to select a pattern for the periods, such as daily, weekly, or monthly.

**To generate calendar periods:**

1. Display the Calendar view of the calendar file that you want to generate periods for and click the Calendar Periods tab.
2. Display the Generate Periods dialog box by taking one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Generate**.
   - Right-click the Periods pane and select **Generate** on the shortcut menu.
3. On the Generate Periods dialog box, specify the interval settings for the periods you want to generate.
4. Click **OK** to save the period interval settings you specified.

*Add Calendar Periods*

Use the **Generate Periods** option to create the calendar and add a date manually using the **Add Period** option to create an end date for the year period.

**To add a calendar period:**

1. Display the Calendar view of the calendar file that you want to update, click the Calendar Periods tab, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Add**.
   - Right-click the Periods pane and select **Add Period** on the shortcut menu.
2. Enter the new date.

   **Note:** Clicking the drop-down arrow in a date field displays a pop-up calendar that you can use to quickly select the date you want.

*Delete Calendar Periods*

You can delete periods from a calendar in the Calendar view.

**To delete a calendar period:**

1. Display the Calendar view of the calendar file and click the Calendar Periods tab.
2. Select the calendar period that you want to delete and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Delete**.

- Right-click the calendar period and select **Delete Period** on the shortcut menu.

> **Note:** Press the **Shift** key or the **Ctrl** key while selecting calendar periods on the Periods pane to select multiple calendar periods for deletion.

*Add Holidays to a Calendar*

You can add holidays to a calendar on the Calendar Periods tab of the Calendar view.

**To add a holiday to a calendar:**

1. Display the Calendar view of the calendar that you want to update.
2. Select the Calendar Periods tab.
3. In the Holidays group box, click the **Date** field to display a pop-up calendar, and select a date.
4. Select the **Repeat Yearly?** option if you want mark the selected date as a holiday in the succeeding years.
5. Click **Add** to add the selected date as a holiday in the calendar.
6. Select **Automatically recalculate productive hours?** to recalculate the productive hours based on any changes to the holidays.
   Cobra recalculates the productive hours when you click on the Quick Access toolbar or when you leave the Calendar Periods tab.

*Delete an Existing Holiday from the Calendar*

Use the Calendar Periods tab of the Calendar view to delete a holiday from a calendar.

**To delete a holiday from a calendar:**

1. Display the Calendar view of the calendar file that you want to update.
2. In the Calendar view, select the Calendar Periods tab.
3. In the Date grid on the Holidays pane, select a date and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Delete**.
   - Right-click the date and select **Delete** on the shortcut menu.

*Calculate Hours for a Calendar*

Use the Calculate Hours dialog box specify the number of working hours for each day of the week.

**To calculate hours for a calendar:**

1. Display the Calendar view of the calendar file that you want to calculate hours for.

2. In the Calendar view, select the Calendar Periods tab and take one of the following actions:
   - In the **Calendars** group on the Calendar Edit tab, click **Calculate Hours**.
   - Right-click the Calendar Periods pane and select **Calculate Hours** on the shortcut menu.
3. In the Calculate Hours dialog box, enter the number of working hours for each workday.
   - If you enter a negative value, Cobra changes your entry to **0**.
   - If you enter a value greater than 24, Cobra automatically changes your entry to **24**.
   - If the previous value is less than 24 and you enter a value greater than 24, the previous value is displayed, not **24**.
4. Click **OK**.

   Cobra automatically displays the working hours for each period on the Calendar Periods pane.

## Calendar Sets Tab of the Calendar View

Cobra uses calendar sets for reporting and storing data time-phased. Once you have the base calendar set defined, you can define subsets of the base calendar by flagging selected dates.

Costs can then be aggregated or summarized, for each of the flagged dates; thus, your base calendar might be monthly. You create a calendar set for quarterly or yearly reporting or storing of time-phased data.

The Calendar Sets tab consists of two grids. The Select Calendar Set grid (left grid) and the Calendar Set grid (right grid). The Select Calendar Set grid displays the different calendar sets available. The Calendar Set grid displays the dates, hours, labels, and flags for the calendar set that you selected in the left grid.

**Note:** Right-clicking the Calendar Set grid displays the Calendar Sets tab shortcut menu where you can perform tasks such as adding calendar sets, flagging selected dates, and moving the TODATE label.

### Select Calendar Set

This grid displays the calendar sets defined for the calendar, as well as a brief description of each set. Cobra uses the following default calendar sets:

- **Calendar set 00**: This set is labeled with the options selected in the New Calendar wizard.  All periods in set 00 must be labeled and flagged with $ or fixed flags.
- **Calendar set 01**: This set has all periods labeled and allows you to flag the most commonly reported periods. These flags can be either fixed or floating flags.

**Note:** Label the first 12 periods of Calendar set 01 with floating flags (*) for easy reporting of the next 12 periods.

- **Calendar set 18**: This set labels the first period of a new calendar PREVIOUS and the next period TODATE. These labels in set 18 are used to determine the status date of a

project as well as what constitutes the current period (TODATE - PREVIOUS). As you advance the calendar, PREVIOUS and TODATE are moved automatically.

- **Calendar set 19**: This is used for IPMR Formats 3 and 4 reports. These reports are typically labeled and flagged with a combination of floating and fixed flags which match the header of the report.

### Calendar Set

This grid displays the Date, Hours, Label, and Flag columns for the selected calendar set.

| Column | Description |
|---|---|
| **Date** | This column displays all the periods in the calendar. |
| **Hours** | This column displays the number of productive hours for each period. |
| **Flag** | This column displays the flags assigned to the periods. You can define subsets of the base calendar by flagging selected dates. Costs can be aggregated or summarized for each of the flagged dates; thus, your base calendar might be monthly. You create a calendar set for quarterly or yearly reporting, or for storing of time-phased data.<br>In addition, it is common to report the next 12 periods. To facilitate this, Cobra provides two types of flags:<br>▪ **Fixed flags**: Fixed flags ($) define “fixed” periods (such as the end of fiscal years) that do not change as you advance the project status date.<br>▪ **Floating flags**: Floating flags (*) define “floating” periods that are relative to the current project status date. Floating flags advances to the next labeled period each time the calendar advances. For example, you can define the 12 periods following the current date as floating periods for planning reports.<br>By using a floating flag, it is possible, for example, to single out a specified number of accounting periods for the purpose of a look-ahead report in which the months displayed in the report automatically change each time you advance the project status date. |

| Column | Description |
|---|---|
| | You can specify the labels for each flagged date in a calendar set. This makes it easy to see which accounting period is being defined by a particular cut-off date. |

### Add Calendar Set Dialog Box

Use this dialog box to add a calendar set to a calendar.

**Contents**

| Field | Description |
|---|---|
| **Description** | This field provides a brief description for the new calendar set. |
| **Set Labels** | Select a label format from the drop-down list. If you select the **Counter (1, 2, 3)** option, Cobra will increment the periods by **1**.<br>Text may be combined with any format by surrounding it is quotes. For example, Fiscal Period Counter would render the following list:<br>▪ Fiscal Period 1<br>▪ Fiscal Period 2<br>▪ Fiscal Period 3<br>▪ Fiscal Period 4 |
| **Copy labels from calendar set** | Select this option to copy labels from an existing calendar set. |
| **No Labels** | Select this option to add a new calendar set with no labels. |

*Display the Add Calendar Set Dialog Box*

Use this procedure to display the Add Calendar Set dialog box.

**To display the Add Calendar Set dialog box:**

1. Display the Calendar view of the calendar file that you want to update.
2. In the Calendar view, select the Calendar Sets tab and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Add**.
   - Right-click the Calendar Set pane and select **Add** on the shortcut menu.

## Edit Calendar Set Dialog Box

Use this dialog box to edit a calendar set.

### Contents

| Field | Description |
|---|---|
| **Description** | A brief description for the new calendar set. |
| **Set Labels** | Select a label format from the drop-down list. If you select **Counter (1, 2, 3)**, Cobra increments the periods by **1**.<br>Text may be combined with any format by surrounding it is quotes. For example, Fiscal Period Counter would render the following list:<br>▪ Fiscal Period 1<br>▪ Fiscal Period 2<br>▪ Fiscal Period 3<br>▪ Fiscal Period 4 |
| **Copy labels from calendar set** | Select this option to copy labels from an existing calendar set. |
| **No Labels** | Select this option to add a new calendar set with no labels. |

*Display the Edit Calendar Set Dialog Box*

Use this procedure to display the Edit Calendar Set dialog box.

**To display the Edit Calendar Set dialog box:**

1. Display the Calendar view of the calendar file that you want to update.
2. In the Calendar view, select the Calendar Sets tab and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Edit Calendar Set**.
   - Right-click the Calendar Set pane and select **Edit Calendar Set** on the shortcut menu.

## Flag Periods Dialog Box

Use this dialog box to define subsets of the base calendar by flagging selected dates. Costs can then be aggregated, or summarized, for each of the flagged dates.

### Selection

| Field | Description |
|---|---|
| **Flag all periods** | Select this option to flag all periods in the calendar. |
| **Flag selected period** | Select this option to flag only those periods that you selected. |

### Flag Type

| Field | Description |
|---|---|
| **Fixed flags** | Fixed flags ($) define fixed periods (such as the end of fiscal years) that do not change as you advance the project status date. |
| **Floating flags** | Floating flags (*) define floating periods that are relative to the current project status date. Floating flags are advanced to the next labeled period each time the calendar is advanced. For example, you might define the 12 periods following the current date as floating periods for planning reports. |

*Display the Flag Periods Dialog Box*

Use this procedure to display the Flag Periods dialog box.

**To display the Flag Periods dialog box:**

1. Display the Calendar view of the calendar file you want to update.
2. In the Calendar view, select the Calendar Sets tab and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Flag Periods**.
   - Right-click the Calendar Set pane and select **Flag Periods** on the shortcut menu.

## Procedures

Follow the procedures in this section to set up calendar sets.

*Add Calendar Sets*

Use the Calendar Sets tab of the Calendar view to add calendar sets to a calendar file.

**To add a calendar set:**

1. Display the Calendar view of the calendar file that you want to update.
2. In the Calendar view, select the Calendar Sets tab and take one of the following actions:

- In the **Tasks** group on the Edit tab, click **Add**.
- Right-click the Calendar Set pane and select **Add** on the shortcut menu.

3. In the Add Calendar Set dialog box, enter a description and specify the label format for the new calendar set and click **OK**.

*Set the TODATE Period*

Cobra uses the date labeled as TODATE in calendar set 18 to determine the project status date when you set up a project.

As the project advances, you must advance the calendar for each date in the base fiscal calendar until the project concludes. You can change the status date in a calendar by assign the TODATE label to a specific period. You must update the labels and flags simultaneously.

**To set the TODATE period:**

1. Display the Calendar view of the calendar file that you want to update and select the Calendar Sets tab.
2. In the Select Calendar Set pane, select **Calendar Set 18**.
3. In the Calendar Set pane, select the period that you want to tag as the TODATE period and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Set Todate**.
   - Right-click the period and select **Set Todate** on the shortcut menu.

   A message displays asking if you want make the selected period the TODATE period.
4. Click **Yes** and on the Quick Access Toolbar to save your changes.

*Extend the Calendar Periods*

When extending the calendar periods, you must update the labels and flags simultaneously.

**To extend the calendar periods:**

1. Display the Calendar view of the calendar file that you want to update and select the Calendar Sets tab.
2. In the Select Calendar Set pane, select **Calendar Set 18**.
3. In the Calendar Set pane, delete the **At Complete** label and the ***** flag next to the currently tagged period.
4. Select the new period that you want to tag and add the **At Complete** label and the ***** flag.
5. In the Select Calendar Set pane, select **Calendar Set 18** and repeat steps 3 and 4.
6. Click **Close** and save your changes.
7. On the General tab of the Project Properties dialog box, update the **Baseline Finish** field.

*Flag Periods*

Once you have the base calendar set defined, you can define subsets of the base calendar by flagging selected dates.

**To flag a period:**

1. Display the Calendar view of the calendar file you want to update.
2. In the Calendar view, select the Calendar Sets tab and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Flag Periods**.
   - Right-click the Calendar Set pane and select **Flag Periods** on the shortcut menu.
3. On the Flag Periods dialog box, specify if you want to flag all periods or selected periods only, and if you want to use a fixed or a floating flag and click **OK**.

   After flagging dates, costs can be aggregated or summarized for each of the flagged dates. Thus, your base calendar might be monthly. You can create a calendar set for quarterly or yearly reporting or storing of time-phased data. In addition, it is common to report the next 12 periods.

*Edit Calendar Sets*

Use the Edit Calendar Set dialog box to edit calendar sets in the Calendar view.

**To edit a calendar set:**

1. Display the Calendar view of the calendar file that you want to update.
2. In the Calendar view, select the Calendar Sets tab and take one of the following actions:
   - In the **Calendars** group on the Edit tab, click **Edit Calendar Set**.
   - Right-click the Calendar Set pane and select **Edit Calendar Set** on the shortcut menu.
3. In the Edit Calendar Set dialog box, change the description and label date format for the selected calendar file and click **OK**.

*Delete Calendar Sets*

Use the Calendar Sets tab of the Calendar view to delete calendar sets from a calendar file.

**To delete a calendar set:**

1. Display the Calendar view of the calendar file that you want to update.
2. In the Calendar view, select the Calendar Sets tab, click the calendar set that you want to delete, and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Delete**.
   - Right-click the calendar set and select **Delete** on the shortcut menu.

# New Calendar File Wizard

Calendar files are used to define fiscal periods for grouping of time-phased data such as Budget and Forecast. The New Calendar File Wizard guides you through creating a calendar file.

Calendar sets can also be created within the calendar file to specify how data will be reported.

The wizard enables you to define the information required by the calendar, including calendar name and description, periods, productive hours, default period labels, and access control. The calendar can be assigned to projects to define the periods used to spread budgets and forecasts and report on time phased project data.

## General Information Page of the New Calendar File Wizard

Use this page to enter information for the new calendar file.

Calendar files are used to define fiscal periods for grouping of time-phased data, such as budgets and forecasts. In addition, calendar sets can be created within the calendar file to specify how data will be reported. This wizard guides you through creating a calendar file.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new calendar file that you want to create. This field defaults to New Calendar 1. If this name is in use by an existing calendar, the number increments. |
| **Description** | Use this field to enter the description for the new calendar file. You can modify this information after you have created a calendar file on the General tab of the Calendar File Properties dialog box. |

## Periods Page of the New Calendar File Wizard

Use this page to define the base period interval to use in your new calendar.

**Period Interval**

Use this group box to select the pattern you want to use when creating calendar periods.

| Field | Description |
|---|---|
| **Daily** | Period for every day within the range. |
| **Weekly** | Period for every week within the range based on the weekday of the start date. |
| **Monthly** | Period for every month based on the date of the start date. If a month does not contain this date, for example, the 31st, the last day of the month is used. |
| **End of Month** | Period for every month on the last day of the month. |

| Field | Description |
|---|---|
| **Quarterly** | Period for every third month based on the date of the start date. If a month does not contain this date, for example, the 31st, the last day of the month is used. |
| **Yearly** | Period for every year based on the date of the start date. |
| **Pattern** | If you select **Pattern**, the text field becomes enabled allowing you to enter an interval pattern. You can only use positive numbers and the following values when specifying patterns:<br>▪ **D**: Daily intervals<br>▪ **W**: Weekly intervals<br>▪ **M**: Monthly intervals based on the start date<br>▪ **E**: Monthly intervals based on end-of-month dates<br>▪ **Q**: Quarterly intervals<br>▪ **Y**: Yearly intervals<br>For example, you could define the following custom patterns for generating calendar dates:<br>▪ **2W**: Biweekly intervals<br>▪ **3E**: Trimonthly intervals using end-of-month dates<br>▪ **4W,4W,5W**: A 4-week interval, followed by a 4-week interval, followed by a 5-week interval<br>▪ **3M,2Q**: A trimonthly interval, followed by a biquarterly interval |

You can also define a pattern that generates a date on the last day of your choice for each month. For example, you might want to generate a date on the last Friday of each month. To generate this type of pattern, specify **LAST<day>** where **<day>** is a day of the week. So, to generate a date on the last Friday of each month, you would enter **LAST FRI** in the **Pattern** field.

### Range

Use the **Range** group box to specify the length of the calendar.

| Field | Description |
|---|---|
| **Starting** | Use this field to enter a start date for the calendar. |
| **Ending** | Use this field to enter an end date for the calendar. |
| **Interval** | You can enter an interval rather than an ending date, which tells Cobra the number of times to repeat the period interval specified. |

Standard date formats are supported using m, d, and y as month, day, and year indicators or day followed by 3 letter month followed by year (01Jan07).

- 31dec is interpreted as 31Dec07 if 2007 is the current year.

- 13/12/07 is always interpreted as December 13, 2007 because 13 cannot be interpreted as a month.
- If you enter a date that is all numeric (10/01/07), the order of the month and year from the Windows system is used.

**Note:** You can also use the Integration wizard to import a calendar.

## Productive Hours Page of the New Calendar File Wizard

Use this page to specify the number of working hours for each day of the week. Cobra uses this information to calculate the number of working hours in each period.

Each value that you enter must be between 0 and 24 with no more than two decimal places.

## Period Labels Page of the New Calendar File Wizard

Use this page to define the default labels used for the default calendar sets when the calendar is created. You can select a label type from the list of enter text directly into the field.

You can define labels from the list of label formats, copy them from an existing calendar set, or add a new set with no labels. Any combination of d, m, and y can be used.

**Contents**

| Field | Description |
|---|---|
| **Sample** | The format you select is displayed in the sample box using the date 01/01/06. |
| **Label Format** | Select a label format from the drop-down list.<br>If you select **Counter (1, 2, 3)**, Cobra increments the periods by 1. Lower case c is the reserved value for counter.<br>You can enter text by using quotes. For example, Fiscal Period c generates the following list:<br>▪ Fiscal Period 1<br>▪ Fiscal Period 2<br>▪ Fiscal Period 3<br>**Note:** You can change the labels afterwards on the Calendar Sets tab of the Calendar view. |

## Access Control Page of the New Calendar File Wizard

Use this page to enable users or groups to access the new calendar file.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Access Control tab of the Calendar File Properties dialog box.

## Confirmation Page of the New Calendar File Wizard

This page informs you that Cobra has all the information it needs to create a new calendar file.

If you need to double check the information you entered on any of the previous pages, click **Back** until that page displays. After verifying that all the information is correct, click **Finish** to create the calendar file.

## Procedures

Follow the procedures in this section to utilize the New Calendar File Wizard.

### Create a New Calendar

Use the New Calendar File Wizard to create a new calendar and define the information required by the calendar, such as periods, dates, and calendar sets.

**To create a new calendar:**

1. Display the New Calendar File Wizard by completing one of the following actions:
   - Click » **New** » **Calendar** » **Create**.
   - On the Quick Access toolbar, click , select **Calendar**, and click **Create**.
   - In the Cobra Explorer, right-click the **Calendars** group bar, and click **New Calendar File** on the shortcut menu.
   - In the Cobra Explorer, select the **Calendars** group bar, right-click the Calendars pane, and click **New Calendar File** on the shortcut menu.
2. Complete the New Calendar File Wizard pages to create a new calendar file.

### Display the New Calendar File Wizard

You can display the New Calendar File Wizard in four different ways.

**To display the New Calendar File Wizard, take one of the following actions:**

- Click » **New** » **Calendar** » **Create**.
- On the Quick Access toolbar, click , select **Calendar**, and click **Create**.
- In the Cobra Explorer, right-click the **Calendars** group bar, and select **New Calendar File** on the shortcut menu.
- In the Cobra Explorer**,** select the **Calendars** group bar, right-click the Calendars pane, and select **New Calendar File** on the shortcut menu.

## Calendar File Properties Dialog Box

Use this dialog box to view or change information about a calendar, such as the calendar name, description, and access control settings.

### Procedures

Follow the procedures in this section to utilize the Calendar File Properties dialog box.

#### Display the Calendar File Properties Dialog Box Tabs without Opening a Calendar File

You can display the General or Access Control tab of the Calendar File Properties dialog box without opening a calendar file.

**To display a tab of the Calendar File Properties dialog box without opening the calendar file:**

1. In the Cobra Explorer, select the **Calendars** group bar.
2. In the Calendars pane, take one of the following actions:
   - Click the appropriate calendar file and click **Properties** in the **Properties** group on the Edit tab.
   - Right-click the appropriate calendar file and select **Properties** on the shortcut menu.
3. In the Calendar File Properties dialog box, select the tab to display.

### Display the Calendar File Properties Dialog Box Tabs from an Open Calendar File

You can display the General or Access Control tab of the Calendar File Properties dialog box from an open calendar file.

**To display a tab of the Calendar File Properties dialog box for an open calendar file:**

1. In the Calendar view, take one of the following actions:
   - In the **Properties** group on the Edit tab, click **Properties**.
   - Right-click anywhere in the Calendar view and select **Properties** on the shortcut menu.
2. In the Calendar File Properties dialog box, click the tab to display.

## General Tab of the Calendar File Properties Dialog Box

The General tab displays the name of the selected calendar file and allows you to edit the calendar's description.

**Note:** After making the necessary changes to the **Description** field on this tab, click **Apply** to save the new calendar file description.

**Contents**

| Field | Description |
|---|---|
| **Name** | This field displays the name of the selected calendar file. You cannot change the calendar file name in this field. |
| **Description** | This field displays a brief description of the selected calendar file. You can change the calendar file description in this field. |

## Access Control Tab of the Calendar File Properties Dialog Box

Use this tab to enable users or groups to access the calendar file.

Access control settings for users and groups are initially defined in the New Calendar File Wizard when you are creating the calendar file. The access control entry supports a read only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

# Calendar File Security

A calendar file can be accessed by either a user or a group, provided that they are granted permission to do so.

## Procedures

Follow the procedures in this section to grant users or groups access to a calendar file.

### Enable a User to Access a Calendar File

You can enable users to access a calendar file using the Access Control page of the New Calendar File wizard or the Access Control tab of the Calendar File Properties dialog box.

**To enable a user to access the calendar file:**

1. On the Access Control page/tab, click **New**.
   Cobra adds a new row to the grid.
2. In the **User** field, click ....
3. In the Users Lookup dialog box, select a user and click **Select** to add that user to the grid.
   You can also double-click a user ID to add that user to the grid.
4. In the **Role** field, click ....
5. In the Roles Lookup dialog box, select a role and click **Select** to assign that role to the user you selected.
   You can also double-click a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the user with read-only access to the calendar file.

   **Note:** You can assign a user or a group to a calendar file in a row within the grid, but you cannot assign both.

### Enable a Group to Access a Calendar File

You can enable groups to access a calendar file using the Access Control page of the New Calendar File Wizard or the Access Control tab of the Calendar File Properties dialog box.

**To enable a group to access the calendar file:**

1. On the Access Control page/tab, click **New**.
   Cobra adds a new row to the grid.
2. In the **User** field, click ....
3. In the Groups Lookup dialog box, select a group and click **Select** to add that group to the grid.
   You can also double-click on a group ID to add that group to the grid.

4. In the **Role** field, click ...
5. In the Roles Lookup dialog box, select a role and click **Select** to assign that role to the group you selected.

   You can also double-click on a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the group with read-only access to the calendar file.

   **Note:** You can assign a user or a group to a calendar file in a row within the grid, but you cannot assign both.

## Assign a Calendar to a Project

You can assign a calendar or a rolling wave calendar to a project by using the New Project Wizard when creating a new project or by using the Files tab of the Project Properties dialog box.

### Use Calendars in a Multi-project Environment

In a multi-project environment, you can share the same calendar with all of the subprojects and advance at the master project level, or you can have each subproject use a different calendar.

If you intend to produce the IPMR Format 3 report, the master project and all subprojects must share a calendar. When you advance the calendar, you must also select the master project for which you intend to produce the IPMR Format 3 eport. This will save the beginning period at the master project so you can report at that level and advances the calendar for each of the subprojects.

## Rolling Wave Process or Weekly Earned Value

Projects with high risk and require greater analysis can take advantage of weekly earned value without overburdening the system using a process called rolling wave.

Rolling Wave allows you to budget monthly and then to define a window (usually one month back and three months forward) where the budget and forecast will automatically be expanded into weekly periods. As you move forward in time and advance the calendar to different periods, the historical period data is consolidated back to monthly values and a new set of future periods is expanded. Weekly earned value using this process has the benefit of providing early warning indicators in time to apply effective correction action - because often the end of the month is too late to fix the problem. It also reduces the size of the database, enabling it to process reports faster. In addition, this process simplifies the baseline creation.

The rolling wave process splits the monthly data into weekly data for future periods and consolidates data in past periods. While running this process is only necessary at month end, it is a good practice to perform this operation each time you advance the calendar.

**Note:** You can perform the rolling wave without advancing the calendar. This is useful when fixing expanded date problems.

Rolling Wave does not have to be weekly earned value reporting. It can also be setup to perform bi-weekly reporting or even quarterly or monthly budgeting.

**Note:** Rolling wave is a common term and is sometimes used to refer to a budgeting method that makes extensive use of planning packages. The rolling wave process in Cobra is not related to this method.

Each time you advance the calendar, you should also run the rolling wave process even though rolling wave is only necessary at month end. Rolling the wave allows you to analyze earned value in weekly periods for a defined span of time and to retain the rest of the projects data in monthly periods. This process reduces the amount of data you have to deal with especially when working with long projects.

## When Calendar Dates Change

When the calendar the calendar dates change, you must run either the Align Time-phased Dates process or the Respread process.

When there is a change in the project dates (defined on the General tab of the Project view), you must run the Align Time-phased Dates process. The Align Time-phased Dates Wizard will adjust the time-phased resource records on the project and align them with the new calendar dates.

When there is a change in the fiscal calendar of the project (for example, changing the calendar from a monthly to a weekly calendar), you must run the Respread process.

Since Respread is going to change the budget, you should backup your project before running this process. In addition, you should run a time-phased report of your budget before running the Respread process.

For example, if the period changes from Dec 31, 2010, to Dec 24, 2010, some of the time-phased budget data stored in the December period needs to be moved to the next period, which is January. The value to be moved is based on the spreading option selected and corresponds to the value that was budgeted in the in the last week of the year. Since this changes the fiscal year budget of your project, you should always take care when running Respread.

**Note:** If your company is changing the period date and no work is being performed within the organization during that week, consider just changing the date in the heading of the report and not running the Respread process.

# Codes

You can showcase project data at a summary level, a detailed level, or any level within the project by establishing a coding system and assigning codes to your project. A well-designed coding system offers lucid and succinct information.

Code files can be a flat file representing a list of managers, for example, or they can have parent-child relationships or a hierarchical structure defining a work breakdown structure (WBS). After creating a code file, you can assign that code file to your project and the codes become a pick list of valid codes during data entry. Codes are used for roll-up reporting, filtering, and processing, among others.

The table below provides information on the areas in Cobra where you can assign codes.

| Area | Number of codes that you can assign | Example |
|---|---|---|
| **Project** | 9 | Product line, division, sector |
| **Control Account** | 3 | Work Breakdown Structure (WBS), Organization Breakdown Structure (OBS) |
| **Codes assigned to a control account** | 20 | Charge number for loading actual costs, recurring versus non-recurring costs |
| **Control Account Manager** | 1 | Used in CAP and Pivot reports showing the responsibility matrix (RAM) and security for explanation of variance |
| **Work Package field** | 1 | Alternate rollup for reporting |
| **Codes assigned to a Work Package** | 20 | Change request number, location of the work, vendor, and codes from an activity in the schedule, and so on |
| **Code to use against the baseline changes and/or audit log** | 1 | Change numbers for audit log |
| **Code on codes** | 9 | Alternate codes for customer WBS, contract line item number (CLIN), Integrated Product Team (IPT) lead, and so on |
| **Resource codes** | 9 | Cost centers, cost element codes, and so on |
| **Rates** | 2 | Overhead codes and so on |

### Parent-Child Relationships in Code Files

If your code file has parent-child relationships or hierarchy, you are often allowed to select a level of the code file for reporting summaries or filters. It is helpful to create related codes at the same level. For example, the codes of cost (such as Labor, Material, and ODC) should all be at the same level of your resource file. Defining related codes at the same level allows you to easily report or filter on labor, for example. When you run a report, you can choose resources and then a level of the code file as a section criteria, or as a filter for reporting or processing your project.

## Code Usage in Cobra

Cobra uses codes in different ways.

- When you run a report, the code and the level of the structure are a section criterion or a summarization of the data.

- You can create a filter for a report using a code or a level of the code file and including all of the children codes that roll up to the selected code.
- When you process data, you can filter the data based on codes or a level of codes.
- In the Project view, you can filter data displayed in the Spreadsheet pane based on control account fields.
- The control account manager (CAM) field is used to secure the explanation of variance in the Drill Down Analysis utility.
- Codes on codes are only available for reporting criteria and filters.

## Code Files

The initial step that a project manager usually takes is to establish the project's scope.

In Cobra, this is achieved by utilizing hierarchical coding systems that are intended for reporting at various levels of detail. These coding systems are referred to as code files.

Codes in a code file are sometimes referred to as being at a certain "level" and as having a "parent" and "child" relationship. Each level can have up to 35,937 codes, and each of those codes can be a parent of 35,937 child codes.

Additionally, each child code can also have up to 35,937 child codes. By extension, the children of the children of a code may be called grandchildren, and all the lower-level codes that are directly or indirectly related to a particular code may be called descendants of that code.

To display the hierarchical relationships between different codes in a code file, Cobra uses an outline format.

When you define the codes in a code file, Cobra ensures that all codes beneath the top level have valid parents. This validated structure plays a key role in reporting because information associated with any code or with any of its descendants is summarized, or "rolled up," into a single set of data.

### Types of Code Files

The most common code file is a description of the various products (or deliverables) of a project. This type of code file is commonly referred to as a Work Breakdown Structure (WBS) and may be the only way in which project information needs to be rolled up.

Often, there is a requirement for another code file that is based on who is doing the work or where it is being performed. This Organizational Breakdown Structure (OBS) might be limited to the organizational chart of the contractor, or it might be expanded to include subcontractors or different sites.

In Cobra, code files can also be used for rolling up budget elements that define the calculation of direct and derived costs. This type of code file lets you enter costs at different levels of detail and consolidate the results during the reporting process. Using this feature, different management systems (for example, Cost, Schedule, or Finance) can track cost detail at the level of summarization most appropriate to their needs.

### Coding Systems

Cobra supports the use of up to five different code files and nine code fields for a single project.

Cobra makes few assumptions about how you define the coding system for a code file, or how the code file is used in the project. Three basic varieties of coding systems are allowed:

- **Punctuated Significant**: Each code (with the exception of the code at the top of the structure) is formed from the name of its parent, followed by a user-selected punctuation mark and one or more additional digits.
- **Fixed-form Significant**: This is similar to punctuated significant except that the number of characters that relate to each level is predefined and fixed, eliminating the need for a punctuation character.
- **Non-Significant**: There is no significance built into the code itself. Thus, you cannot look at the code to determine the level of the code or which code in the structure represents its parent. In a non-significant coding structure, for example, the codes “Engineers” and “Projectmgrs” might be children of the code “Labor.”

### Code Files and Project Data

Up to 34 code files can be associated directly with a project in Cobra. Each of these code files can use a different type of coding system. For example, you can use punctuated significant codes for your WBS and non-significant codes for your OBS.

You can also use the same code files for different levels of project information so that, for example, work package identifiers are based on a lower level of the WBS used by control accounts.

Through these associated code files, all control accounts, work packages, and resource data can be summarized and reported at the appropriate level.

### Variance Thresholds

Most project managers have found that the most efficient way to manage a large contract is to concentrate on areas that exceed predefined thresholds. With Cobra, this can be accomplished by using code files as the basis for a variance threshold reporting system.

For each code in a code file, it is possible to specify either a positive or a negative threshold for cost and schedule variances. It is also possible to specify whether the threshold is based on a fixed value or a percentage.

These thresholds can be analyzed during the reporting process, triggering exception reports when the predefined values are exceeded. For example, assume that an unfavorable threshold of 10% is defined for a specific WBS code. Then, if the costs associated with that WBS code exceed the budget by 10% or more, Cobra triggers an exception report.

## Types of Code Files

Typically, a project has two code file structures: one for the Work Breakdown Structure (WBS) codes and another for the Organizational Breakdown Structure (OBS) codes.

### Work Breakdown Structure (WBS)

The WBS is a product-oriented code file consisting of hardware, software, services and project-unique tasks that organize and define the product to be produced. In addition, the WBS identifies the scope of work to be accomplished. A WBS code may be an identifiable product, a set of data, or a service.

**Note:** Creating a standard WBS used across all projects enables cross-project reporting and provides a method for obtaining data from previous projects to help determine trends that can improve your project estimating/bidding process.

### Organizational Breakdown Structure (OBS)

An OBS is a functionally oriented structure indicating organizational relationships. The OBS serves as the framework for the assignment of work responsibilities. The organizational structure is progressively detailed downward to the lowest levels of management.

**Note:** In Cobra, the OBS is typically a field used to identify a control account.

### Resource Breakdown Structure (RBS)

Cobra uses the RBS to define the resource roll-up.

In Cobra, the RBS is the parent code of the resource file. Typically, the lowest-level codes in the RBS have calculations defined and are used to add budget, actual costs, and forecasts to your project.

### Cost Breakdown Structure (CBS)

The CBS is another term used to describe the RBS.

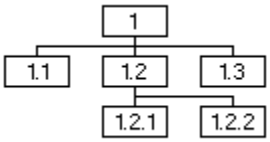
## Code File Structures

Cobra uses three types of code file structures to define the parent-child relationships for codes.

### Punctuated Significant

With this structure, Cobra uses a punctuation character to separate the codes of the code file that correspond to the different levels of the structure. Each code (with the exception of the code at the top of the hierarchy) is formed from the name of its parent, followed by a user-selected punctuation mark and one or more additional digits.

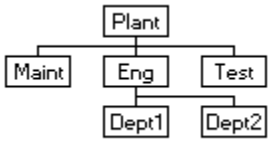
In the following illustration, 1.2.1 and 1.2.2 are level 3 codes and are children of 1.2.




**Note:** Choose this structure type if you have a flat code file, such as a list of managers.

### Non Significant

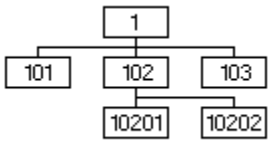
With non-significant codes, there is no way to tell from an inspection of the code itself which level it represents. Thus, in the figure below, Dept1 might be a level 3 code and the child of Eng.




**Note:** A maximum of 20 levels can be defined for a Non-Significant structure.

### Fixed Form Significant

Fixed Form Significant codes rely on the length of the code to represent the structure level. In the figure below, 10201 and 10202 are level 3 codes and are children of 102.




**Note:** You can define the code file structure in the Code File Structure page of the New Code File wizard.

## Use a Code File in Multiple Projects

Although a project typically has multiple breakdown structures associated with it, a specific code file can also be used with more than one project.

This might be the case, for example, if a number of projects were being performed by the same organization and could therefore share the same organizational code file. As a result, Cobra does not force you to define code files that are project-specific. Instead, you can define the code files independent of a particular project and indicate how the structures are to be associated with project data at the time the project is created. Many project managers have found that creating a single work breakdown structure that uses the project ID as the top level of the structure and that includes all their projects has benefits when performing multi-project operations. This strategy allows them to use the work breakdown structure as a basis for drill-down and reporting operations.

In addition to associating code files to control account keys, work package keys, or resource keys, it is possible to assign as many as nine different code files to the project at both the control account and the work package level for a total of 18 files. In this capacity, code files serve the same function as the code files.

### Multi Project Considerations for Code Files

Multiple projects can share a single code file. To run reports from a master project, you need to validate the same field with the same code file. In other words, you must setup the information on the Project Properties dialog box for code files using the same fields.

**Note:** When creating a new project, you have the option to copy default information from an existing project as the default. This option ensures the code fields are defined the same way.

## Validate Code Assignments — Solve Roll-Up Issues

The Validity Check utility has an option for validating codes. This option checks for code assignments that are no longer in the code file.

If you assign a code to your project and produce a report at summary-level code in the code file, Cobra summarizes the values. However, if you add the code assignment, delete that code from the code file and produce the same report, the data with that code assignment is not summarized to the parent code. This is normally discovered when you run a report using a control account — the values in the report are different from the values in the report that is based on a work breakdown structure (WBS). This is because the code assignment is no longer found in the code file and is not included in the roll-up report using the WBS.

## Codes and the Integration Wizard

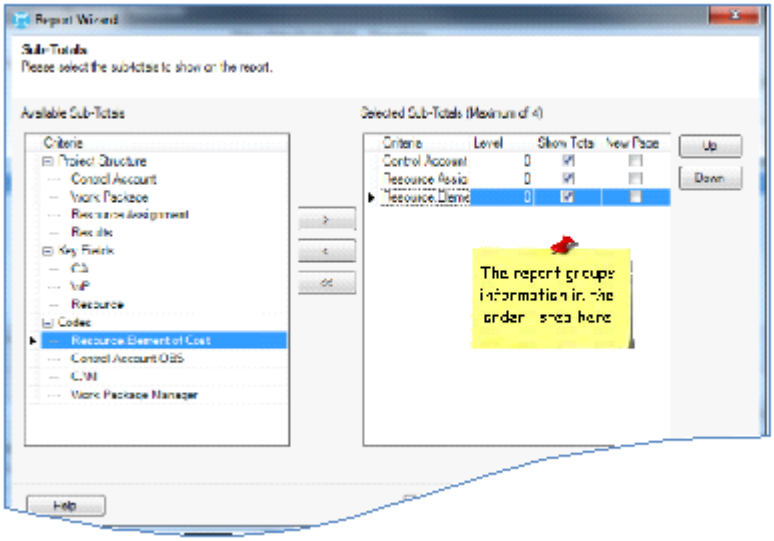
You can add code files and code assignments to your project using the Integration Wizard.

They can come from a .CSV file or from your schedule. Even codes on the control account or work package can be loaded from an external source. When loading actual costs, you can choose any key field or code on the control account or work package to identify the charge number.

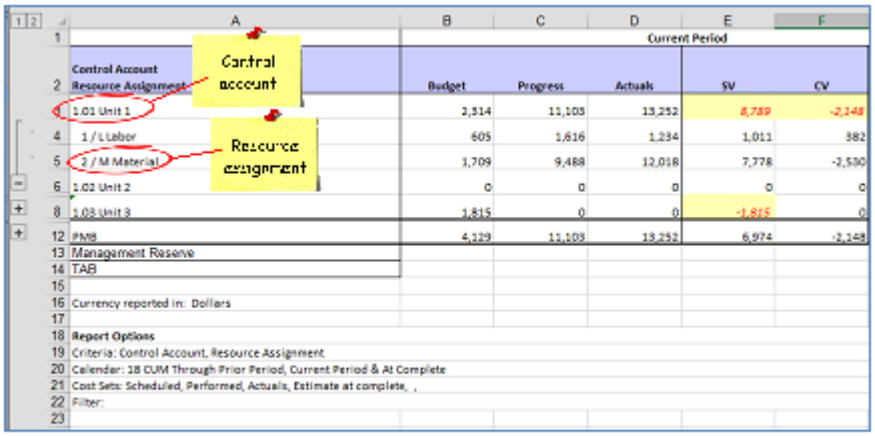
## Codes and the Report Wizard

When you use the Report Wizard to run a report, you can select the codes that you want the system to use.

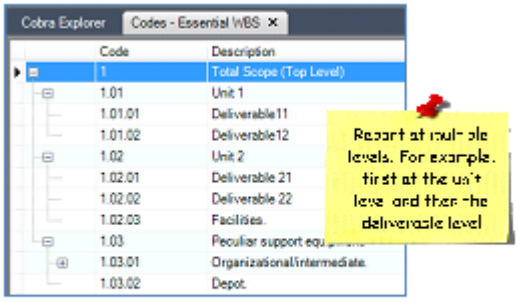
The report groups and sub-totals the information in the order in which you list the codes.




In the example below, the report lists the information by control account and then by resource assignment:




When you run a report using a hierarchical code such as the WBS, you can report at multiple levels.




**Example of a Report with Multiple Levels**

| CA (1) | CA (2) | HOURS Scheduled |
|---|---|---|
| 1 Total Scope (Top Level) | | 6,449 |
| | 1.01 Unit 1 | 690 |
| | 1.02 Unit 2 | 516 |
| | 1.03 Peculiar support equipment. | 5,242 |
| Grand Total | | 6,449 |
| | | |
| Currency reported in: Dollars | | |

## Variance Thresholds

Management by exception, concentrating on areas that exceed predefined thresholds, is an efficient way to manage a large project.

For each code in a code or resource file, it is possible to specify either a positive or a negative threshold for cost and schedule variances. It is also possible to specify whether the threshold is based on a fixed value or a percentage.

These thresholds can be analyzed in the following:

- Analyze utility
- IPMR Format 5 and EVM report

When the variance calculated exceeds the predefined threshold defined for the code, Cobra triggers an exception and highlights the value with a color. For example, assume that an unfavorable threshold of 10% is defined for a specific WBS element. If the costs associated with that WBS element exceed the budget by 10% or more, Cobra highlights the unfavorable cost variance.

To enable a code or resource file to have variance thresholds, use the Thresholds page of the New Resource File Wizard or the Thresholds page of the New Code File Wizard. After creating the files, you can modify the variance thresholds in the Thresholds tab of the Resource View or the Thresholds tab of the Code View.

# Code View

When you create a project, you have the option to validate a number of code fields against a code file. Utilize the Code view to create the valid list of codes.

By setting up a coding system and assigning codes to your project, you can display project data at a summary level, a detailed level, or any level between. A good coding system provides clear and concise information. You can also use codes to filter data that is being displayed or processed.

The Code view consists of the following areas:

| Area | Description |
|---|---|
| **Codes Grid** | This area displays the codes in the code file. |
| **Details Tab** | This area displays the name and description of the selected code or child code. |
| **Notes Tab** | Use the Notes tab to add a note to a code. |
| **Thresholds Tab** | Use the Thresholds tab to set the threshold values for a code or child code. |

## Edit Tab of the Code View

The Edit tab of the Code view contains commands available when you display the Codes pane in the Cobra Explorer or open a code file in the Code view.

### Clipboard Group

| Command | Description |
|---|---|
|  **Copy** | Click this command to copy the content of the selected cell in the Codes grid.<br>**Note:** You can also press CTRL+C to use this command. |
|  **Paste** | Click this command to paste copied information to the selected cell in the Codes grid.<br>**Note:** You can also press CTRL+V to use this command. |
|  **Find** | Click this command to display the Find dialog box to find a code in the Codes grid.<br>**Note:** You can also press CTRL+F to use this command. |

| Command | Description |
|---|---|
| **Refresh** | Click this command to refresh the information displayed in the Codes grid.<br>**Note:** You can also press F5 to use this command. |
| **Undo** | Click this command to revert the changes you made to the code file.<br>**Note:** You can also press CTRL+Z to use this command. |

### Data Group

| Command | Description |
|---|---|
| **Expand** | Click this command to expand the selected code. |
| **Expand All** | Click this command to expand all of the codes. |
| **Collapse** | Click this command to collapse the selected code. |
| **Collapse All** | Click this command to collapse all of the codes. |

### Tasks Group

| Command | Description |
|---|---|
| **Add Code** | Click this command to add a new code.<br>**Note:** You can also press ALT+E+A or F10+E+A to use this command. |
| **Add Child Code** | Click this command to add a new child code. |

| Command | Description |
| --- | --- |
| | **Note:** You can also use CTRL+I to use this command. |
| **Delete** | Click this command to delete the selected code or child code.<br>**Note:** You can also press CTRL+DEL to use this command. |
| **Reorder** | Click this command to display the Reorder Codes dialog box, which you use to change the order of the codes. |
| **Rename** | Click this command to display the Rename dialog box, which you use to rename the selected code file or code.<br>**Note:** You can also press ALT+E+N or F10+E+N to use this command. |

**Codes Group**

| Command | Description |
| --- | --- |
| **Copy Children** | Click this command to display the Copy Children dialog box, which you use to copy child codes to another code within the same code file.<br>**Note:** You can also press ALT+E+I or F10+E+I to use this command. |
| **Copy Down Codes** | Click this command to display the Copy Down Codes dialog box, which you use to copy the code assignments attached to a parent code to its child codes.<br>**Note:** You can also press ALT+E+D or F10+E+D to use this command. |
| **Copy Thresholds** | Click this command to display the Copy Down Thresholds dialog box, which you use to copy threshold values of a selected code to its child codes. |

| Command | Description |
| --- | --- |
| | **Note:** You can also press ALT+E+T or F10+E +T to use this command. |

**Properties Group**

| Command | Description |
| --- | --- |
| **Properties** | Click this command to display the Code File Properties dialog box for the selected code file.<br>**Note:** You can also press ALT+E+P or F10+E +P to display this dialog box. |

## Shortcut Menu

Some of the panes and data grids in the Code view have shortcut menus, which you can display by right-clicking the panes or data grids.

| Option | Description |
| --- | --- |
| **Add Code** | Click this option to add a new code. |
| **Add Child Code** | Click this option to add a new child code to the selected parent code. |
| **Delete** | Click this option to delete the selected code or child code. |
| **Rename** | Click this option to rename the selected code or child code. Renaming a code or child code does not change the project data. |
| **Copy Children** | Click this option to copy child codes to another code within the same code file. |
| **Copy Down Codes** | Click this option to copy the code assignments attached to a parent code to its child codes. |

| Option | Description |
|---|---|
| **Copy Thresholds** | Click this option to copy the threshold values of a selected code to its child codes. |
| **Reorder** | Click this option to change the order of codes within a selected level of the code file. |
| **Copy** | Click this option to copy the content of the selected cell in the Codes grid. |
| **Paste** | Click this option to paste copied information to the selected cell in the Codes grid. |
| **Find** | Click this option to find a code in the Codes grid. |
| **Refresh** | Click this option to refresh the information displayed in the Codes grid. |
| **Properties** | Click this option to display the Code File Properties dialog box. |

## Procedures

Follow the procedures in this section to utilize the Codes view.

### Display the Code View using the Codes Group Bar

Use the Codes group bar to display the Code view.

**To display the Code view:**

1. In the Cobra Explorer, select the **Codes** group bar.
2. In the Codes pane, double-click the code file that you want to display.
3. In the Code view, select the tab to display.

### Display the Code View using the Cobra Button

Use the Cobra button to display the Code view.

**To display the Code view from using the Cobra button:**

1. Click » **Open**.
2. In the Open File dialog box, select a code file.
3. Click **Open** to display the selected code file.
4. In the Code view, select the tab to display.

## Codes Grid of the Code View

The Codes grid in the Code view displays the codes in the code file. If there are child codes defined for a code, you can view these child codes by expanding that code in the Codes grid.

**Contents**

| Column | Description |
|---|---|
| **Code** | This column displays the name of the code or child code. |
| **Description** | This column displays a brief description of the code or child code. |

**Note:** Right-clicking the Codes grid displays the Codes Grid shortcut menu, where you can perform tasks such as adding a code, adding a child code and so on.

### Copy Children Dialog Box

Use the Copy Children dialog box to copy child resources/codes to another resource/code within the same resource/code file.

**Contents**

| Field | Description |
|---|---|
| **Copy child codes from resource/code** | This field displays the resource or code that you right-clicked. Cobra copies child resources/codes from this resource/code to the resource/code that you selected in the **To resource/code** field. |
| **To resource/code** | Use this field to enter or select the resource/code to which Cobra will copy the child resources/codes.<br>Click **OK**. |

*Display the Copy Children Dialog Box*

Use this procedure to display the Copy Children dialog box.

**To display the Copy Children dialog box:**

1. Display the Resource view/Code view for the resource/code file that you want to update.
2. In the Resource view /Code view, select the resource/code whose child resources/codes you want to copy to another resource/code and do one of the following steps:
   - In the **Codes** group on the Edit tab, click **Copy Children**.
   - Right-click the code whose child resources/child codes you want to copy to another resource/code and select **Copy Children** on the shortcut menu.

## Copy Down Codes Dialog Box

Use the Copy Down Codes dialog box to copy the code assignments attached to a parent resource or parent code to its child resources or child codes.

The Copy Down Codes dialog box displays a grid listing all the code assignments attached to the selected resource. You can select as many of these codes as needed. When you generate a report using a code on a parent resource, all of the child resources must contain the same code as the parent.

**Contents**

| Field | Description |
|---|---|
| **Only replace blank code assignments on child codes** | Select this option if you want to copy codes only to those child resources/codes that do not have code assignments.<br>If you do not select this option, Cobra overwrites all existing code assignments for the child resources/codes. |

*Display the Copy Down Codes Dialog Box*

Use this procedure to display the Copy Down Codes dialog box.

**To display the Copy Down Codes dialog box:**

1. Display the Resource/Code view for the resource/code file that you want to update.
2. In the Resource/Code view, click on a parent resource/code and do one of the following steps:
   - In the **Codes** group on the Edit tab, click **Copy Down Codes**.
   - Right-click the parent resource/code and select **Copy Children** on the shortcut menu.

### Reorder Resources/Codes Dialog Box

Use **Move Up** and **Move Down** on the Reorder Resources/Codes dialog box to change the order of resources/codes within a selected level of the resource/code file.

Changing the order of resources/codes in a resource/code file does not change the resource/code IDs.

You can reorder resources for each level in the resource file structure. For example, if you select a resource at the second level of the structure, you can only reorder the child resources at that level.

Changing the order of resources in a resource file does not renumber the resources, as the numbers that are displayed are resource IDs. You can, however, rename the resource file resources if you wish. The order in which the resources are displayed on this dialog box is reflected in the reports.

*Display the Reorder Resources/Codes Dialog Box*

Use this procedure to display the Reorder Resources/Codes dialog box.

**To display the Reorder Resources/Codes dialog box:**

1. Display the Resource/Code view for the resource/code file that you want to update.
2. In the Resource view/Code view, take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Reorder**.
   - Right-click anywhere in the Resources grid/Codes grid and select **Reorder** on the shortcut menu.

### Procedures

Follow the procedures in this section manage codes.

*Add a Code to a Code File*

Use the Code view to add codes to a code file.

**To add a code to a code file:**

1. Display the Code view for the code file that you want to update.
2. In the **Tasks** group on the Edit tab, click **Add Code**.

   You can also right-click anywhere on the Codes grid and select **Add Code** on the shortcut menu.
3. Enter a name and description for the new code in the **Code** and **Description** fields.
4. Click on the Quick Access toolbar to save the new code.

*Add a Child Code to a Code*

Use the Code view to add child codes to a code.

**To add a child code to a code:**

1. Display the Code view for the code file that you want to update.
2. In the Code view, select a code on the Codes grid.
   This code will be the parent code of the child code that you are adding.
3. In the **Tasks** group on the Edit tab, click **Add Child Code**.
   Cobra adds a new row on the grid for adding a child code.

   **Note:** You can also right-click the parent code and select **Add Child Code** on the shortcut menu.
4. Enter a name and description for the new child code in the **Code** and **Description** fields.
5. Click on the Quick Access toolbar to save the new child code.

   Repeat this procedure to add more child codes to the parent code as needed.

*Delete a Code*

Use the Code view to delete a code from a code file.

**Note:** Deleting a parent code will also delete its child codes.

**To delete a code:**

1. Display the Code view for the code file that you want to update.
2. In the Code view, select the code that you want to delete.
3. In the **Tasks** group on the Edit tab, click **Delete** to delete the selected code.
   A message box displays asking you if you want to delete the selected code.

   **Note:** You can also right-click the code that you want to delete and select **Delete** on the shortcut menu.
4. Click **Yes** to delete the code.
5. Click on the Quick Access toolbar to save the changes.

*Copy Child Codes to a Code*

Use the Copy Children dialog box to copy child codes to another code within the same code file. However, you cannot use this feature if the code file has a non-significant structure.

**To copy child codes to an existing code:**

1. Display the Code view for the code file that you want to update.
2. Click the code whose child codes you want to copy to another code.
3. In the **Codes** group on the Edit tab, click **Copy Children**.

   **Note:** You can also right-click the code whose child codes you want to copy to another code and select **Copy Children** on the shortcut menu.

   The **Copy child codes from code** field in the Copy Children dialog box displays the code that you right-clicked. Cobra will copy child codes from this code to the code that you will select in the **To code** field.
4. In the **To code** field, enter, or use to select, the code to which Cobra will copy the child codes.
5. Click **OK** in the Copy Children dialog box.

   Cobra copies the child codes to the selected code.

   **Note:** You can only copy child codes to a code that does not have its own child codes.

*Copy Down Code Assignments to Child Codes*

Use the Copy Down Codes dialog box to copy the code assignments attached to a parent code to its child codes.

**To copy down code assignments to child codes:**

1. Display the Code view for the code file that you want to update.
2. In the Code view, right-click a parent code and select Copy Down Codes on the shortcut menu.

   The Copy Down Codes dialog box displays all available code fields for the selected code. These fields are shown in the **Prompt** column.
3. Select the checkboxes for the code fields that you want to copy to the child codes.

   If you want to copy codes only to those child codes that do not have code assignments, select the **Only replace blank code assignments on child codes** option. If you do not select this option, Cobra overwrites all existing code assignments for the child codes.
4. Click **OK**.

   Cobra assigns the codes associated with the code fields that you selected to the child codes.
5. Click on the Quick Access toolbar to save the new code assignments.

When you produce a report using a code on a parent code, all of the child codes must contain the same code as the parent.

*Copy Down Threshold Values to Child Codes*

Use the Copy Thresholds dialog box to copy the threshold values of a selected code to its child codes.

**To copy down threshold values to child codes:**

1. Display the Code view for the code file that you want to update.
2. Click the code whose threshold values you want to copy to the child codes and do one of the following:
   - In the **Codes** group on the Edit tab, click **Copy Thresholds**.
   - Right-click the code and select **Copy Thresholds** on the shortcut menu.
3. Click **Yes** to copy the threshold values of the parent code to its child codes.

   If your code file has more than two levels, applying the Copy Thresholds utility to the top-most code copies the threshold values for that code to all the codes in the lower levels.

*Reorder Codes*

Use the Reorder Codes dialog box to change the order of codes within a selected level of the code file. Changing the order of codes in a code file does not change the code IDs.

You can reorder codes for each level in the code file structure. For example, if you select a code at the second level of the structure, you can only reorder the child codes at that level.

**To reorder codes:**

1. Display the Code view for the code file that you want to update.
2. In the Code view, take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Reorder**.
   - Right-click anywhere in the Codes grid and select **Reorder** on the shortcut menu.
3. In the Reorder Codes dialog box, use **Move Up** and **Move Down** to change the order of the codes.
4. Click **OK** to save the new code order.

   **Note:** Changing the order of codes in a code file does not renumber the codes, as the numbers that are displayed are code IDs. You can, however, rename the codes. The order in which the codes are placed on this dialog box is reflected in the reports.

## Details Tab of the Code View

The Details tab of the Code view displays the name and description of the selected code or child code. Use this tab to modify the description of the selected code or child code.

**Note:** You can also modify the code description in the Codes grid of the Code view.

## Notes Tab of the Code View

Use the Notes tab to add a note to a code.

### Contents

| Field | Description |
|---|---|
| **Category** | Use this field to select a category for the note.<br>Your options are:<br>▪ **Statement of Work**: Use this to enter notes that describe the work content of the selected code. This field appears on Cobra reports.<br>▪ **Basis of Estimate**: Use this category to enter information about how the budget was prepared for the selected code. This field appears on Cobra reports.<br>▪ **<Default>**: Use this option to enter a note for a default category.<br>After adding a note, click on the Quick Access Toolbar to save the note.<br>**Note:** You can also cut or copy text from a word processor or spreadsheet and paste it in the space provided for the note in the Code view. |

## Thresholds Tab of the Code View

Use the Thresholds tab to set the threshold values for a code or child code.

You can only set threshold values on this tab if you defined the code file to have thresholds on the Thresholds tab of the Code File Properties dialog box or on the Thresholds page of the New Code File Wizard.

### Schedule Variance

A schedule variance is a metric for the schedule performance of a project. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition while a negative value is unfavorable.

| Field | Description |
|---|---|
| **Current period** | This field refers to the schedule variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative schedule variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Value** | Use this field to enter the favorable and unfavorable tolerance values in the **Value** fields.<br>**Note:** This field is available only if you selected the **Value** or **Both** option in the **Schedule Variance** group box on the Thresholds tab of the Code File Properties dialog box. |
| **%** | Use this field to enter the favorable and unfavorable tolerance percentage values in the **%** fields.<br>**Note:** This field is available only if you selected the **Percent** or **Both** option in the **Schedule Variance** group box on the Thresholds tab of the Code File Properties dialog box. |

### Cost Variance

A cost variance is a metric for the cost performance of a project. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost.) A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

| Field | Description |
|---|---|
| **Current period** | This field refers to the cost variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative cost variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **At complete** | This field refers to the cost variance at project completion. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Value** | Use this field to enter the favorable and unfavorable tolerance values in the **Value** fields.<br>**Note:** This field is available only if you selected the **Value** or **Both** option in the **Cost Variance** group box on the Thresholds tab of the Code File Properties dialog box. |

| Field | Description |
|---|---|
| **%** | Enter the favorable and unfavorable tolerance percentage values in the **%** fields.<br>**Note:** This field is available only if you selected the **Percent** or **Both** option in the **Cost Variance** group box on the Thresholds tab of the Code File Properties dialog box.<br>Click on the Quick Access tolbar to save the threshold values. |

## Procedures

Follow the procedures in this section to utilize the Code view tabs.

### Add a Note to a Code

Use the Notes tab of the Codes view to add a note to a code.

**To add a note to a code:**

1. Display the Code view.
2. In the Code view, select a code in the Codes grid and click the Notes tab.
3. Use the **Category** field to select a category for the note.
   - **Statement of Work** : Select this category to enter notes that describe the work content of the selected code. This field appears on Cobra reports.
   - **Basis of Estimate** : Select this category to enter information about how the budget was prepared for the selected code. This field appears on Cobra reports.
   - **<Default>** : Select this category to enter a note for a default category.
4. Enter your note in the space provided.
5. Click on the Quick Access toolbar to save the note.

   **Note:** You can also cut or copy text from a word processor or spreadsheet and paste it in the space provided for the note in the Code view.

### Set Threshold Values for a Code

Use the Thresholds tab of the Code view to set the threshold values for a code or child code.

You can only set threshold values in this pane if you defined the code file to have thresholds on the Code File Properties dialog box or on the Thresholds page of the New Code File Wizard.

**To set threshold values for a code:**

1. Display the Code view.

2. In the Codes grid, select a code or child code.
3. Click the Thresholds tab to display the Thresholds tabbed pane.
4. Enter the appropriate threshold values in the available fields in the **Schedule Variance** and **Cost Variance** group boxes.
5. Click on the Quick Access toolbar to save the threshold values.

# New Code File Wizard

Use the New Code File Wizard to create code files.

## General Information Page of the New Code File Wizard

Use the General Information page to enter information for the new code file.

Cobra uses code files to facilitate the summarization of project data to appropriate reporting levels. Codes are defined as either hierarchal punctuated significant, non-significant, or fixed form significant structures. In addition, thresholds, codes assignments, and notes can be assigned to the code file to assist in the reporting of project data. This wizard enables you to create a code file.

### Contents

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new code file. This field defaults to New Code File 1. If this name is in use by an existing code or resource, the number increments. |
| **Description** | Use this field to enter a description for the new code file.<br>**Note:** You can change the description afterwards on the General tab of the Code File Properties dialog box. |

## Code File Structure Page of the New Code File Wizard

Use the Code File Structure page to define the type of structure you want to use for the new code file.

### Contents

| Field | Description |
|---|---|
| **Type** | Use this field to set up the code file structure.<br>Your options are: |

| Field | Description |
|---|---|
| | ▪ **Punctuated Significant**: Selecting this option displays the **Punctuation character** field. Use the **Punctuation character** field to enter a character that Cobra will use to separate the codes of the code file that correspond to the different levels of the structure.<br>▪ **Non Significant**: With non-significant codes, there is no way to tell from an inspection of the code itself which level it represents. You can define a non-significant structure up to a maximum of 20 levels.<br>▪ **Fixed Form Significant**: Fixed form significant codes rely on the length of the code to represent the structure level. Selecting the **Fixed Form Significant** option enables the following options:<br>  ▪ **Pad character** : Use this field to add characters to the end of the code value at each level. When you enter codes, the pad is automatically added to equal the maximum character length. The Pad character is used to pad every code to the same length. You can use any character, but only one character can be entered.<br>  ▪ **Maximum length** : The value in this field automatically reflects the values you enter in the **Number of digits per level** grid.<br>  ▪ **Number of digits per level** : This grid defines the cumulative code value length at each level of the code structure. For example, if you enter 1 character for level 1 and 2 characters for level 2, then level 2 of the code structure must always have 2 characters, and level 1 must always have 1 character. |

## Thresholds Page of the New Code File Wizard

Use the Thresholds page to define acceptable cost and schedule variances.

When a cost variance or schedule variance exceeds the predefined threshold, they are highlighted in either red for unfavorable (negative) or green for favorable (positive). These thresholds, or tolerances, define how large cost variances (Earned Value - Actual Cost) and/or schedule variances (Earned Value - Budget) must be before Cobra triggers exception reporting mechanisms.

**Note:** Using thresholds is known as management by exception and is an efficient way to manage a project. Instead of micro-managing the entire project, you only focus on areas that exceed the predefined threshold.

### Schedule Variance

A schedule variance is a metric for the schedule performance of a project. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition while a negative value is unfavorable.

| Field | Description |
|---|---|
| **Current period** | This field refers to the schedule variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative schedule variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

### Cost Variance

A cost variance is a metric for the cost performance of a project. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost). A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

| Field | Description |
|---|---|
| **Current period** | This field refers to the cost variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative cost variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **At complete** | This field refers to the cost variance at project completion. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

### Threshold Options

Use the following options to define the threshold settings for the **Schedule Variance** and **Cost Variance** fields.

| Value | Description |
|---|---|
| **None** | The code file does not use thresholds or tolerances. |
| **Percent** | Cobra defines the schedule variance as a percentage amount. |
| **Value** | Cobra defines the schedule variance as an absolute amount. |
| **Both** | Cobra defines the schedule variance using both the percentage amount and the absolute value. |

**Note:** You can modify the threshold settings afterwards on the Thresholds tab of the Code File Properties dialog box.

## Code Fields Page of the New Code File Wizard

Use this page to assign code files to the code file that you are creating (code on code). This is particularly useful in creating reports.

**Note:** You can define a maximum of nine code files. Assigning code files to a code file is optional.

### Codes

| Field | Description |
|---|---|
| **Number** | This field displays the numbers of the code fields in the code file that you are creating. |
| **Prompt** | Use this field to assign a label that Cobra will use as a prompt for the code field. This prompt appears as a column header in all the grids where it is used. You must enter a label in this field if you selected **Code (optional)**, **Code (required)**, **Text**, or **User Field** in the **Code Field Type** field. |
| **Code Field Type** | Use this field to select the code field type.<br>Your options are:<br>▪ **<none>**: Select this option if you do not want to assign code files to the code file that you are creating.<br>▪ **Code (optional)**: Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter any text in the code field.<br>▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator. |
| **Code File** | Use this column to assign code files to the code file that you are creating. Click ... to open the Code File Lookup dialog box, where you can select the code file that you want to use. You can only select a code file in this field if you selected the **Code (optional)** or **Code (required)** option in the **Code Field Type** field. |

| Field | Description |
| --- | --- |
| | **Note:** You can modify the code field assignments afterwards on the Code Fields tab of the Code File Properties dialog box. |

## Access Control Page of the New Code File Wizard

Use this page to enable users or groups to access the code file that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Access Control tab of the Code File Properties dialog box.

## Confirmation Page of the New Code File Wizard

This page informs you that Cobra has all the information it needs to create a new code file.

If you need to double check the information you entered on any of the previous pages, click **Back** until that page displays. After verifying that all the information is correct, click **Finish** to create the code file.

## Procedures

Follow the procedures in this section to utilize the New Code File Wizard.

### Display the New Code File Wizard

You can display the New Code File Wizard in several ways.

**To display the New Code File Wizard:**

Take one of the following actions:

- Click » **New** » **Code** » **Create**.
- On the Quick Access Toolbar, click , select **Code**, and click **Create**.
- In the Cobra Explorer, right-click the **Codes** group bar, and select **New Code File**.
- In the Cobra Explorer, select the **Codes** group bar, right-click the Codes pane, and select **New Code File** on the shortcut menu.

### Create a New Code File

Use the New Code File Wizard to create a new code file.

**To create a new code file:**

1. Open the New Code File Wizard by completing one of the following steps:
   - Click » **New** » **Code** » **Create**.
   - On the Quick Access toolbar, click , select **Code**, and click **Create**.
   - In the Cobra Explorer, right-click the **Codes** group bar, and select **New Code File** on the shortcut menu.
   - In the Cobra Explorer, select the **Codes** group bar, right-click the Codes pane, and select **New Code File** on the shortcut menu.
2. Complete the New Code File Wizard pages to create a new code file.

## Code File Properties Dialog Box

Use the Code File Properties dialog box to view or modify code file information.

### General Tab of the Code File Properties Dialog Box

The General tab displays the name of the selected code file and enables you to edit the file's description.

This tab displays the information that you specified on the General Information Page of the New Code File wizard when you were creating the code file.

**Contents**

| Field | Description |
|---|---|
| **Name** | This field displays the name of the selected code file. You cannot change the code file name in this field. |
| **Description** | This field displays a brief description of the selected code file. You can change the code file description in this field. |

## Structure Tab of the Code File Properties Dialog Box

The Structure tab displays the structure type and related information of the selected code file. The structure type is defined in the New Code File Wizard when creating the code file.

### Contents

| Field | Description |
|---|---|
| **Type** | This field displays the option that you selected on the Code File Structure Page of the New Code File Wizard when you were creating the code file. |
| **Pad character** | Use this field to enter the number of characters you want to add to the end of the code value at each level. When you enter code elements, the pad is automatically added to equal the maximum character length. The pad character is used to pad every code to the same length.<br>This field is enabled when the **Type** field has the value **Fixed From Significant**. |
| **Punctuation character** | Use this field to enter the character you want to use to separate the parts of the code that correspond to the different levels of the structure.<br>This field is enabled when the **Type** field has the value **Punctuated Significant**. |
| **Maximum length** | This field displays the maximum length of the cumulative code value length. This field is disabled.<br>This field is enabled when the **Type** field has the value **Fixed From Significant**. |
| **Number of digits per level** | Use this field to enter values for levels with a value of zero. Adding levels to an established code file will not destroy its existing structure. |
| **Sort in alpha/ numeric order** | Select this checkbox if you want to sort the entire structure in alpha/ numeric order. Click **Rebuild Hierarchy** after you select this checkbox.<br>**Note:** If you want to reorder only a few items within the code file, open the code file, select the code, right click on it then select **Reorder** from the shortcut menu. |
| **Rebuild Hierarchy** | Use this button to rebuild (tag) the code file by automatically re-tagging all values in the file and re-indexing the file. This feature generates tags that Cobra uses to keep track of the level occupied by each code value in the code file. |

**Note:** You cannot modify this information after creating the code file.

## Code Fields Tab of the Code File Properties Dialog Box

This tab displays the code assignments for the selected code file (code on code).

Code assignments are initially defined in the New Code File wizard when you are creating a code file. You can use this pane to change code assignments for the selected code file.

**Note:** Assigning code files to a code file is optional.

### Contents

| Field | Description |
|---|---|
| **Number** | This field displays the number of code files assigned to the selected code file. |
| **Prompt** | Use this field to assign the label that Cobra uses as a prompt for the code field or to change the existing label. This prompt appears as a column header on all the grids where it is used. You must enter a label in this field if you selected **Code (optional)**, **Code (required)**, or **Text** in the **Code Field Type** field. |
| **Code Field Type** | Use this field to select the code field type.<br>Your options are:<br>▪ **<none>**: Select this option if you do not want to assign code files to the selected code file.<br>▪ **Code (optional)**: Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter any text in the code field.<br>▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator. |
| **Code File** | Use this field to assign code files to the selected code file. Click to open the Code File Lookup dialog box, where you can select the code that you want to use. You can only select a code file in this field if you selected the **Code (optional)** or **Code (required)** option in the **Code Field Type** field. |

## Thresholds Tab of the Code File Properties Dialog Box

Use the Thresholds tab to define acceptable cost and schedule variances.

This tab controls which variances Cobra tracks for the selected code file. If you change the threshold settings on this tab, the threshold settings that you specified in the New Code File Wizard when you were creating the code file will also change. When a cost variance or schedule variance exceeds the predefined threshold, they are highlighted in either red for unfavorable (negative) or green for favorable (positive). These thresholds, or tolerances, define how large cost variances (Earned Value - Actual Cost) and/or schedule variances (Earned Value - Budget) must be before Cobra triggers exception reporting mechanisms.

**Note:** Using thresholds is known as management by exception and is an efficient way to manage a project. Instead of micro-managing the entire project, you only focus on areas that exceed the predefined threshold.

### Contents

#### Schedule Variance

A schedule variance is a metric for the schedule performance of a project. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition while a negative value is unfavorable.

| Field | Description |
|---|---|
| **Current period** | This field refers to the schedule variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative schedule variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

#### Cost Variance

A cost variance is a metric for the cost performance of a project. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost). A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

| Field | Description |
|---|---|
| **Current period** | This field refers to the cost variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative cost variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **At complete** | This field refers to the cost variance at project completion. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

### Threshold Options

Use the following options to define the threshold settings for the **Schedule Variance** and **Cost Variance** fields.

| Value | Description |
|---|---|
| **None** | The code file will not use thresholds or tolerances. |
| **Percent** | Cobra will define the schedule variance as a percentage amount. |
| **Value** | Cobra will define the schedule variance as an absolute amount. |
| **Both** | Cobra will define the schedule variance using both the percentage amount and the absolute value. |

## Access Control Tab of the Code File Properties Dialog Box

Use this tab to enable users or groups to access the selected code file or to change the access control settings for users or groups that have access to the file.

Access control settings for users and groups are initially defined in the New Code File Wizard when you are creating the code file. The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click Apply to save the new access control settings.

## Procedures

Follow the procedures in this section to utilize the Code File Properties dialog box.

### Display the Code File Properties Dialog Box Tabs without Opening a Code File

You can display the General, Structure, Code Fields, Thresholds, or Access Control tab of the Code File Properties dialog box without opening a code file.

**To display a tab of the Code File Properties dialog box without opening the code file:**

1. In the Cobra Explorer, select the **Codes** group bar
2. In the Codes pane, take one of the following actions:
   - Click the appropriate code file and click **Properties** in the **Properties** group bar on the Edit tab.
   - Right-click the appropriate code file and select **Properties** on the shortcut menu.
3. In the Code File Properties dialog box, select the tab to display.

### Display the Code File Properties Dialog Box Tabs from an Open Code File

You can display the General, Structure, Code Fields, Thresholds, Results, or Access Control tab of the Code  File Properties dialog box from an open code file.

**To display a tab of the Code File Properties dialog box for an open code file:**

1. In the Code view, take one of the following actions:
   - In the **Properties** group on the Edit tab, click **Properties**.
   - Right-click anywhere in the Code view and select **Properties** on the shortcut menu.
2. In the Code File Properties dialog box, click the tab to display.

## Code File Security

A code file can be accessed by either a user or a group, provided that they are granted permission to do so.

### Enable a User to Access a Code File

Use the Access Control page of the New Code File Wizard or the Access Control tab of the Code File Properties dialog box to enable users to access a code file.

**To enable a user to access the code file:**

1. On the Access Control page or tab, click **New**.

   Cobra adds a new row to the grid.
2. In the **User** field, click ...
3. In the Users Lookup dialog box, select a user, and click **Select** to add that user to the grid.

   You can also double-click a user ID to add that user to the grid.
4. In the **Role** field, click ...
5. In the Roles Lookup dialog box, select a role, and click **Select** to assign that role to the user you selected.

   You can also double-click a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the user with read-only access to the code file.

   **Note:** You can assign a user or a group to a code file in a row within the grid, but you cannot assign both.

### Enable a Group to Access a Code File

Use the Access Control page of the New Code File Wizard or the Access Control tab of the Code File Properties dialog box to enable groups to access a code file.

**To enable a group to access the code file:**

1. On the Access Control page or tab, click **New**.
   Cobra adds a new row to the grid.
2. In the **Group** field, click .
3. In the Groups Lookup dialog box, select a group, and click **Select** to add that group to the grid.
   You can also double-click on a group ID to add that group to the grid.
4. In the **Role** field, click .
5. In the Roles Lookup dialog box, select a role, and click **Select** to assign that role to the group you selected.
   You can also double-click on a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the group with read-only access to the code file.

   **Note:** You can assign a user or a group to a code file in a row within the grid, but you cannot assign both.

# Rates

Cobra uses rate sets to store multipliers that are used in generating derived costs.

Since rates may change over time, rate sets define the rate that is applicable on any given date. The principal use of rate sets in Cobra is the calculation of costs as defined by the various resources. You can also assign rate files when defining budget, actual, and forecast cost classes. A collection of rate sets is called a rate file.

Rates are used in resource calculations to define how derived costs are calculated. All projects must use a rate file to calculate the derived cost for the budget. Once a project is underway, the forecast rates often change. In addition, new scope may use the most current forecast rates. For this reason, you can assign a rate file to a class. This provides not only rate escalation, but a completely different set of rates for different costs.

## Rate Files

A rate file contains all the rate sets used in a resource file. Rate sets define the rate that is applicable on any given date.

In Cobra, you want to have a single resource file for your project with multiple rate files. For example, when you plan your project, the budgeted rate and the forecast rates are the same. Once the project is underway, the forecast rates may change. At this point you copy your budget

rate file to a new file and give it a name similar name (for example, use FY22Forecast to indicate that the forecast rate is for fiscal year 2022.) Now change the rates in the new rate file.

Select your forecast class on the Classes tab of the Project Properties dialog box and assign a new rate file to the forecast class. Assigning a new rate file does not recalculate the forecast — you now need to run the Recalculate process to change the forecasted costs based on the new rate file.

Once you have new forecasted rates, you may want to modify the budget (for example, new scope) to use the new rates. To have two different budgeted rates (original and modified), you need to create a new budget class using the Project Properties dialog box. You can use the same forecast rate file, or you can create a new rate file. For example: you can copy the Budget rate file and give it the name Modification. The Modified rates are used to calculate costs for new scope. You then add the new rate file to the new budget class. When you get to assign budget to the work package, you choose which class: either Budget or Modified. Cobra then applies the correct rate file when spreading the budget.

You should never change the rate file on the project or the class without running the Recalculate process. You should always create a new class if the new scope should have new rates. In this way, the existing budget has the original rate file and the new scope has the new class and the correct rates.

## Example Rate File

This topic provides additional details on an example rate file.

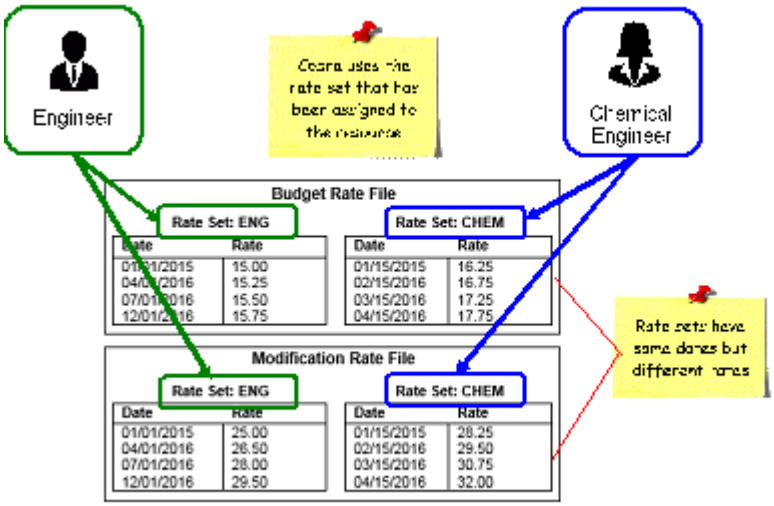
Both rate files include two rate sets: **ENG** and **CHEM**. The **ENG** rate sets in both rate files have the same dates but different rates, as do the **CHEM** rate sets.

When you create the resources, you specify that the Engineer resource should use the **ENG** rate set, and the Chemical Engineer should use the **CHEM** rate set.

When Cobra needs to perform budget calculations for the Engineer, the system looks for the **ENG** rate set in the Budget Rate file. When Cobra needs to perform calculations for new scope, the system looks for the **ENG** rate set in the Modification Rate file. The same applies for the Chemical Engineer.

When you create the resources, you specify that the Engineer resource should use the **ENG** rate set, and the Chemical Engineer should use the **CHEM** rate set. When you add the resource to a work package, you indicate the class (for example, Modifications.)

When Cobra needs to perform budget calculations for the Engineer, the system looks for the **ENG** rate set in the Budget Rate file. When Cobra needs to perform calculations for new scope, the system looks for the ENG rate set in the Modification Rate file. The same applies for the Chemical Engineer.




## Rate Sets

Cobra uses rate sets to store multipliers that are used in generating derived costs. Since rates may change over time, rate sets define the rate that is applicable on any given date.

The rates defined in a rate set can represent hourly wages, overhead rates, currency exchange rates, or any other type of multiplier whose value can be predicted over time. The date attached to each rate indicates when that rate becomes effective.

For example, assume that you want to define two types of rates for a project: hourly wage rates and overhead rates. Assuming that the project starts some time after January 1, 2010, the following rate sets might apply:

**TECH**

| Date | Rate |
|---|---|
| 01/01/2010 | 15.00 |
| 04/01/2010 | 15.25 |
| 07/01/2010 | 15.50 |
| 10/01/2010 | 15.75 |
| 01/01/2011 | 16.00 |
| 04/01/2011 | 16.25 |
| 07/01/2011 | 16.50 |
| 10/01/2011 | 16.75 |
| 01/01/2012 | 17.00 |

**OVERHEAD**

| Date | Rate |
|---|---|
| 01/01/2010 | 0.1500 |

Notice that the **OVERHEAD** rate set consists of a single rate that does not change over the life of the project. The **TECH** labor rate, however, changes on a quarterly basis, with the records in the rate set indicating each date a new rate becomes effective.

There is no need to specify rate changes at any particular interval; you can indicate as few or as many rate changes in a rate set as necessary. Nor are you limited to specifying rates according to a regular pattern such as monthly, quarterly, yearly, and so on. In fact, as the previous example demonstrates, there need be only one entry in the rate set if a rate never changes.

Cobra also allows you to generate a rate set that calculates rates for full-time equivalent (FTE) personnel based on a calendar that you specify. For example, assume that there are 184 hours in a calendar period. Cobra divides one FTE by 184 to generate a rate of .005435. Once you have generated this rate set, you can use FTE as a result in your resource calculations.

The only restriction for rate sets in Cobra is that the first date in the set must precede the earliest date in the project to which the rate set is assigned. For any calculated costs, there must be a rate with an effective date equal to or earlier than the start date of the control account or work package start date. This rate is effective until the date of another rate in the rate set. It is acceptable to have rates start long before the project starts.

## Rate View

Rate sets are used to store multipliers that are used in generating derived costs. Since rates may change over time, rate sets define the rate that is applicable on any given date.

The Rate view is comprised of the following sections.

| Area | Description |
|---|---|
| **Rate Sets Grid** | This area displays the rate sets defined in the rate file, as well as the code files assigned to the rate set. |
| **Rates Grid** | This area displays the rates defined for the selected rate set and the effective dates for the rates. |
| **Details Tab** | This tab displays the name and description of the selected rate set. |

Use the New Rate File Wizard to create a rate file.

### Rate Sets Grid

The Rate Sets grid in the Rate view displays the rate sets defined in the rate file, as well as the code files assigned to the rate set.

If you set up the rate file to use code fields on the Code Fields page of the New Rate File wizard or on the Code Fields tab of the Rate File Properties dialog box. Cobra displays those fields as additional columns in the Rate Sets grid.

Selecting a rate set in this grid displays the rates defined for the rate set in the Rates grid.

**Contents**

| Column | Description |
|---|---|
| **Rate Set** | This column displays the name of the rate set. |

| Column | Description |
|---|---|
| **Description** | This column displays a brief description of the rate set. |

**Note:** Right-clicking the Rates grid displays the Rate Sets grid shortcut menu, where you can perform tasks such as adding a rate set, deleting a rate set, and so on.

### Add Rate Set Wizard

Use the Add Rate Set Wizard to create a new rate set.

*General Information Page of the Add Rate Set Wizard*

Use this page to enter information for the new rate set.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new rate set. You can modify the name later in the Rates view. |
| **Description** | Use this field to enter a description for the new rate set. You can modify the description later in the Rates view. |

*Rate Set Options Page of the Add Rate Set Wizard*

Use this page to select the method that Cobra will use to generate rates for the rate set.

**Contents**

| Field | Description |
|---|---|
| **Manually set entry** | Select this option if you want to manually set the rates for the rate set in the Rates view. This option is not available if you display this page from the Generate Rates Wizard. |
| **Fixed value change per time period** | Select this option to generate rates automatically based on a fixed incremental value.<br>If you select this option, you need to specify additional options on the Fixed Value Change Per Time Period page of the Add Rate Set Wizard. |
| **Fixed percentage change per time period** | Select this option to generate rates automatically based on an incremental percentage.<br>If you select this option, you need to specify additional options on the Fixed Percentage Change Per Time Period page of the Add Rate Set Wizard. |

| Field | Description |
|---|---|
| **Full time equivalent from calendar hours** | Select this option to create a rate set that calculates rates for full-time-equivalent (FTE) personnel based on the hours defined in the calendar that you specified. For example, if there are 184 hours in the June 2009 calendar period, Cobra divides one FTE by 184 to generate a rate of .005435 for that calendar period.<br>If you select this option, you need to specify a calendar on the Full Time Equivalent from Calendar Hours page of the Add Rate Set Wizard. |
| **Copy another rate set** | Select this option to copy rates from another rate set in the rate file. This option is available only if there is an existing rate set in the rate file.<br>If you select this option, you need to specify the rate set to copy the rates from on the Copy Another Rate Set page of the Add Rate Set Wizard. |
| **Copy another rate set, and apply a fixed value adjustment** | Select this option to copy another rate set from the rate file, and then apply a fixed increment. This option is available only if there is an existing rate set in the rate file.<br>If you select this option, you need to specify the rate set to copy the rates from and the incremental value that will apply to the rates on the Copy Another Rate Set, and Apply a Fixed Value Adjustment page of the Add Rate Set Wizard. |
| **Copy another rate set, apply % adjustment** | Select this option to copy another rate set from the rate file, and then apply a fixed incremental percentage. This option is available only if there is an existing rate set in the rate file.<br>If you select this option, you need to specify the rate set to copy the rates from and the incremental percentage that will apply to the rates on the Copy Another Set, Apply % Adjustment page of the Add Rate Set Wizard. |

*Fixed Value Change Per Time Period Page of the Add Rate Set Wizard*

This page displays only if you select the **Fixed value change per time period** option on the Rate Set Options page of the Add Rate Set Wizard.

**Contents**

| Field | Description |
|---|---|
| **Calendar** | Use this field to select the calendar used to generate periods for the rates within the rate set. |
| **Start date** | Use this field to enter the date when the rate set becomes effective. You can enter a start date that is prior to the start date of the calendar.<br>▪ If you have a start date that is prior to the start date of the calendar and you selected the **Fiscal Period** option in the **Apply change each** field, Cobra will use the periods after the start date of the selected calendar. For example, assume that you entered a start date of 1/1/2004, selected |

| Field | Description |
| --- | --- |
| | the **Fiscal Period** option in the **Apply change each** field, and selected a calendar that does not start until 1/1/2007. The rate file will have entries for 1/1/2004, 1/1/2007, and subsequent periods. Cobra will not include the periods between 1/1/2004 and 1/1/2007 in the rate file since those dates do not exist in the calendar. The date entry for the first rate will be 1/1/2004 and the date entry for the second rate will be 1/1/2007.<br>▪ If you have a start date that is prior to the start date of the calendar and you selected the **Year** or **Quarter** option in the **Apply change each** field, Cobra will not use the selected calendar to generate periods for the rate set. Cobra will use the actual date that you entered in the **Start Date** field to generate rate periods and make increments either yearly or quarterly. For example, assume that you entered a start date of 1/1/2000, selected the **Year** or **Quarter** option in the **Apply change each** field, and selected a calendar that does not start until 1/1/2002. Cobra will generate a rate set with dates of 1/1/2000, 1/1/2001, 1/1/2002, 1/1/2003, and so on until the end of the selected calendar. |
| **Start value** | Enter the initial rate for the rate set. |
| **Amount of change per period** | Use this field to enter the amount of change per period. You can enter a negative amount in this field. If you enter a negative amount in this field, the rate decreases every period. |
| **Apply change each** | Use this field to indicate how often you want implement the rate change.<br>Your options are:<br>▪ **Year**: Cobra applies the rate change on a yearly basis, on the same day and month as specified in the **Start Date** field. Cobra does not use the selected calendar to create the dates for the rate changes.<br>▪ **Quarter**: Cobra applies the rate change on a quarterly basis, starting on the date specified in **Start Date** field. Cobra does not use the selected calendar to create the dates for the rate changes.<br>▪ **Fiscal Period**: Cobra applies the rate change after each period cut-off date, beginning with the second date in the selected calendar. |

*Fixed Percentage Change Per Time Period Page of the Add Rate Set Wizard*

This page displays only if you select the **Fixed percentage change per time period** option on the Rate Set Options page of the Add Rate Set Wizard.

**Contents**

| Field | Description |
|---|---|
| **Calendar** | Use this field to select the calendar used to generate periods for the rates within the rate set. |
| **Start date** | Use this field to enter the date when the rate set becomes effective. You can enter a start date that is prior to the start date of the calendar.<br>▪ If you have a start date that is prior to the start date of the calendar and you selected the **Fiscal Period** option in the **Apply change each** field, Cobra will use the periods after the start date of the selected calendar. For example, assume that you entered a start date of 1/1/2004, selected the **Fiscal Period** option in the **Apply change each** field, and selected a calendar that does not start until 1/1/2007. The rate file will have entries for 1/1/2004, 1/1/2007, and subsequent periods. Cobra will not include the periods between 1/1/2004 and 1/1/2007 in the rate file since those dates do not exist in the calendar. The date entry for the first rate will be 1/1/2004 and the date entry for the second rate will be 1/1/2007.<br>▪ If you have a start date that is prior to the start date of the calendar and you selected the **Year** or **Quarter** option in the **Apply change each** field, Cobra will not use the selected calendar to generate periods for the rate set. Cobra will use the actual date that you entered in the **Start Date** field to generate rate periods and make increments either yearly or quarterly. For example, assume that you entered a start date of 1/1/2000, selected the **Year** or **Quarter** option in the **Apply change each** field, and selected a calendar that does not start until 1/1/2002. Cobra will generate a rate set with dates of 1/1/2000, 1/1/2001, 1/1/2002, 1/1/2003, and so on until the end of the selected calendar. |
| **Start value** | Enter the initial rate for the rate set. |
| **Percent change per period** | Use this field to enter the amount of change per period in percent. You can enter a negative percentage value in this field. If you enter a negative percentage value in this field, the rate decreases every period. |
| **Apply change each** | Use this field to indicate how often you want implement the rate change.<br>Your options are:<br>▪ **Year**: Cobra applies the rate change on a yearly basis, on the same day and month as specified in the **Start Date** field. Cobra does not use the selected calendar to create the dates for the rate changes. |

| Field | Description |
|---|---|
| | ▪ **Quarter**: Cobra applies the rate change on a quarterly basis, starting on the date specified in **Start Date** field. Cobra does not use the selected calendar to create the dates for the rate changes.<br>▪ **Fiscal Period**: Cobra applies the rate change after each period cut-off date, beginning with the second date in the selected calendar. |

*Full Time Equivalent from Calendar Hours Page of the Add Rate Set Wizard*

Use this page to generate a rate set that computes rates for full-time equivalent (FTE) staff, based on the hours specified in the calendar you have selected.

This page is available only if you selected the **Full time equivalent from calendar hours** option on the Rate Set Options page of the Add Rate Set Wizard.

Once you have generated a rate set using this page, you can use FTE as a result in your resource calculations. For example, assume that there are 184 hours in the June 2009 calendar period. Cobra will divide one FTE by 184 to generate a rate of .005435 for calendar period June 2007.

**Contents**

| Field | Description |
|---|---|
| **Calendar** | Use this field to select the calendar used to calculate the rates for the rate set. |

*Copy Another Rate Set Page of the Add Rate Set Wizard*

Use this page to copy rate entries from another rate set in the rate file. Cobra copies all calendar periods and rates per period from the existing rate set.

This page is available only if you selected the **Copy another rate set** option on the Rate Set Options page of the Add Rate Set Wizard.

**Contents**

| Field | Description |
|---|---|
| **Copy from rate set** | Use this field to select the rate set from which you want to copy rate entries. |

*Copy Another Rate Set and Apply a Fixed Value Adjustment Page of the Add Rate Set Wizard*

Use this page to copy another rate set in the rate file, and apply a fixed increment.

This page is available only if you selected the **Copy another rate set, and apply fixed value adjustment** option on the Rate Set Options page of the Add Rate Set Wizard.

**Contents**

| Field | Description |
|---|---|
| **Copy from rate set** | Use this field to select the rate set from which you want to copy rate entries. |
| **Value to adjust each rate by** | Use this field to enter the amount of change per period. You can enter a negative amount in this field. If you enter a negative amount in this field, the rate decreases every period. |

*Copy Another Set Apply % Adjustment Page of the Add Rate Set Wizard*

Use this page to copy another rate set in the rate file, and apply an incremental percentage.

This page is available only if you selected the **Copy another rate set, apply % adjustment** option on the Rate Set Options page of the Add Rate Set Wizard.

**Contents**

| Field | Description |
|---|---|
| **Copy from rate set** | Use this field to select the rate set from which you want to copy rate entries. |
| **Percent to adjust each rate by** | Use this field to enter the amount of change per period in percent. You can enter a negative percentage value in this field. If you enter a negative percentage value in this field, the rate decreases every period. |

*Confirmation Page of the Add Rate Set Wizard*

This page informs you that Cobra has all the information it needs to create a new rate set.

If you need to double check the information you entered on any of the previous pages, click **Back** until that page displays. After verifying that all the information is correct, click **Finish** to create the rate set.

*Procedures*

Follow the procedures in this section to add a rate set to a rate file.

Display the Add Rate Set Wizard

You can display the Add Rate Set Wizard using either the Cobra button or the **Rates** group bar.

**To display the Add Rate Set Wizard:**

1. Display the Rate view.
2. In the Rate view, do one of the following:
   - In the **Tasks** group on the Edit tab, click **Add Rate Set**.

- Right-click the Rate Sets grid and select **Add Rate Set** on the shortcut menu.

Add a Rate Set to a Rate File

Use the Add Rate Set Wizard to add rate sets to a rate file.

**To add a rate set to a rate file:**

1. Display the Rate view for the rate file that you want to update.
2. In the Rate view, do one of the following:
   - In the **Tasks** group on the Edit tab, click **Add Rate Set**.
   - Right-click the Rate Sets grid and select **Add Rate Set** on the shortcut menu.
3. Complete the pages of the Add Rate Set Wizard to add a new rate set to the selected rate file.
4. Click **Finish** on the Confirmation page to add the new rate set.

## Rates Grid

The Rates grid in the Rate view displays the rates defined for the selected rate set and the effective dates for the rates.

**Contents**

| Field | Description |
|---|---|
| **Date** | This field displays the date upon which the rate set becomes effective. |
| **Value** | This field displays the value that Cobra uses at the start of the effective date for the selected rate set. |

**Note:** Right-clicking the Rates grid displays the Rates grid shortcut menu, where you can perform tasks such as adding a rate set, generating rates, and so on.

### Procedures

Follow the procedures in this section to utilize the Rates grid.

*Add a Rate to an Existing Rate Set*

Use the Rate view to add rates to an existing rate set.

**To add a rate to an existing rate set:**

1. Display the rate file containing the rate set that you want to update.
2. Select the rate set that you want to update and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Add Rate**.

- Right-click the Rates grid and select **Add Rate** on the shortcut menu.

3. Enter a date and value for the new rate.
4. Click on the Quick Access toolbar to save the changes.

*Delete a Rate From a Rate Set*

Use the Rate view to delete rates from an existing rate set.

**To delete a rate from a rate set:**

1. Display the rate file containing the rate set that you want to update.
2. Select the row containing the rate set you want to update.
3. In the Rates grid, click the rate that you want to delete and do one of the following:
   - In the **Tasks** group on the Edit group, click **Delete**.
   - Right-click the rate that you want to delete and select **Delete** on the shortcut menu.
4. When asked to confirm the deletion of the rate set, click **Yes** to continue.
5. Click on the Quick Access toolbar to save the changes.

*Generate Rates for an Existing Rate Set*

Use the Generate Rates Wizard to generate rates for an existing rate set.

**To generate rates for existing rate set:**

1. Display the rate file containing the rate set that you want to update.
2. Select the rate set that you want to update and do one of the following:
   - In the **Rates** group on the Edit tab, click **Generate**.
   - In the Rates grid, right-click a rate and select **Generate** on the shortcut menu.
3. Complete the pages of the Generate Rates Wizard to generate rates for the selected rate set.

   The pages of the Generate Rates Wizard are identical to the pages of the Add Rate Set Wizard.

   If the dates that Cobra generated using the Generate Rates Wizard are identical to the dates in the existing rate set, Cobra overwrites the dates in that rate set with the new dates together with their corresponding rates. Otherwise, Cobra just adds the new dates to the existing dates in the rate set, together with the corresponding rates.

## Details Tab of the Rate View

The Details tab in the Rate view presents the name and description of the chosen rate set. You can utilize this tab to edit the description of the selected rate set.

**Note:** You can also modify the rate set description in the Rate Sets grid of the Rate view.

### Display the Details Tab of the Rate View

You can display the Details tab of the Rate view using either the Cobra button or the **Rates** group bar.

**To display Details tab of the Rate view:**

1. Display the Rate view by completing one of the following steps:
   - Click » **Open** » **Rates tab**, select the rate file the you want to update and click **Open**.
   - In the Cobra Explorer, select the **Rates** group bar, and double-click the name of the rate file in the Rates pane that you want to update.
2. In the Rate view, click the Details tab.

## Edit Tab of the Rate View

The Edit tab of the Rate view contains commands available when you display the Rates pane in the Cobra Explorer or open a project in the Rate view.

**Clipboard Group**

| Command | Description |
|---|---|
| **Copy** | Click this command to copy the content of the selected cell in the Rate Sets or Rates grid.<br>**Note:** You can also press CTRL+C to use this command. |
| **Paste** | Click this command to paste copied information to the selected cell in the Rate Sets or Rates grid.<br>**Note:** You can also press CTRL+V to use this command. |

| Command | Description |
|---|---|
| **Find** | Click this command to display the Find dialog box, which you use to find a rate set name or description in the Rate Sets or Rates grid.<br>**Note:** You can also press CTRL+F to use this command. |
| **Refresh** | Click this command to refresh the information in the grids.<br>**Note:** You can also press F5 to use this command. |
| **Undo** | Click this command to revert the changes you made to the rate file.<br>**Note:** You can also press CTRL+Z to use this command. |

**Tasks Group**

| Command | Description |
|---|---|
| **Add Rate Set** | Click this command to launch the Add Rate Set Wizard, which you use to add a new rate set. |
| **Add Rate** | Click this command to add a rate to the rate set you selected in the Rate Sets grid.<br>**Note:** You can also press ALT+E+A or F10+E+A to use this command. |
| **Delete** | Click this command to delete the selected rate set.<br>**Note:** You can also press CTRL+DEL to use this command. |
| **Rename** | Click this command to display the Rename dialog box, which you use to rename the selected rate file or rate set.<br>**Note:** You can also press ALT+E+N or F10+E+N to use this command. |

### Rates Group

| Command | Description |
|---|---|
| **Generate** | Click this command to launch the Generate Rates Wizard, which you use to generate rates. |

### Properties Group

| Command | Description |
|---|---|
| **Properties** | Click this command to displays the Rate File Properties dialog box for the selected rate file.<br>**Note:** You can also press ALT+E+P or F10+E+P to display this dialog box. |

## Shortcut Menu

Some of the panes and data grids in the Rate view have shortcut menus, which you can display by right-clicking the panes or data grids.

### Rate Sets Grid Shortcut Menu

Right-clicking the Rate Sets grid displays a shortcut menu with the following options:

| Option | Description |
|---|---|
| **Add Rate Set** | Click this option to launch the Add Rate Set Wizard, which you use to add a new rate set. |
| **Delete** | Click this option to delete the selected rate set and its associated rates. |
| **Rename** | Click this option to rename the selected rate set. Renaming a rate set does not change the project data. |
| **Copy** | Click this option to copy the content of the selected cell in the Rate Sets grid. |
| | Click this option to paste copied information to the selected cell in the Rate Sets grid. |

| Option | Description |
|---|---|
| **Paste** | |
| **Find** | Click this option to find a rate set name, description, or code file in the Rate Sets grid. |
| **Refresh** | Click this option to refresh the information displayed in the grid. |
| **Properties** | Click this option to display the Rate File Properties dialog box. |

**Rates Grid Shortcut Menu**

Right-clicking the Rates grid displays a shortcut menu with the following options:

| Option | Description |
|---|---|
| **Add Rate** | Click this option to add a rate to the rate set that you selected in the Rate Sets grid. |
| **Delete Rate** | Click this option to delete the selected rate. |
| **Generate** | Click this option to displays the Generate Rates Wizard. |
| **Copy** | Click this option to copy the content of the selected cell in the Rates grid. |
| **Paste** | Click this option to paste copied information to the selected cell in the Rates grid. |
| **Find** | Click this option to find a date or rate in the Rates grid. |
| | Click this option to refresh the information displayed in the grid. |

| Option | Description |
| --- | --- |
| **Refresh** | |
| **Properties** | Click this option to display the Rate File Properties dialog box. |

## Procedures

Follow the procedures in this section to utilize the Rate view.

### Display the Rate View using the Cobra Button

Use the Cobra button to display the Rate view.

**To display the Rate view using the Cobra button:**

1. Click » **Open**.
2. In the Open File dialog box, click the Rates tab and select a rate file.
3. Click **Open** to display the selected rate file.

### Display the Rate View using the Rates Group Bar

Use the **Rates** group bar to display the Rate view.

**To display the Rate view:**

1. In the Cobra Explorer, select the **Rates** group bar.
2. In the Rates pane, double-click the rate file that you want to display.

### Delete a Rate Set

Use the Rate view to delete a rate set.

**To delete a rate set:**

1. Display the rate file containing the rate set that you want to delete.
2. Select the row containing the rate you want to delete.
3. Complete one of the following steps to delete the rate set:
   - In the **Tasks** group on the Edit tab, click **Delete**.
   - Right-click the rate set that you want to delete and select **Delete** on the shortcut menu.
4. Click **Yes** to confirm the deletion of the rate set.

5. Click on the Quick Access toolbar to save the changes.

### Rename a Rate Set

You can rename a rate set in the Rate Sets grid of the Rate view.

**To rename a rate set:**

1. Display the rate file containing the rate set that you want to rename.
2. Click the rate set that you want to rename and do one of the following:
   - In the **Tasks** group on the Edit tab, click **Rename**.
   - Right-click the rate file and select **Rename** on the shortcut menu.
3. In the Rename dialog box, enter the new name for the selected rate set.
4. Click **OK**.
5. Click on the Quick Access toolbar to save the changes.

# New Rate File Wizard

Use the New Rate File Wizard to create a new rate file.

## General Information Page of the New Rate File Wizard

Use this page to enter general information for the rate file.

Cobra uses rate files to define the calculation of costs as defined by the various resources. In addition, since rates may change over time, rate sets define the rate that is applicable on any given date. This wizard enables you to create a rate file.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new rate file. This field defaults to New Rate File 1. If this name is in use by an existing rate file, the number increments. |
| **Description** | Use this field to enter a description for the new rate file.<br>**Note:** You can modify the rate file description afterwards on the General tab of the Rate File Properties dialog box. |

## Code Fields Page of the New Rate File Wizard

Use this page to assign code files to the new rate file.

Assigning codes to a rate file is optional. You can skip this page if you do not want to assign codes files to the rate file that you are creating.

**Contents**

| Field | Description |
|---|---|
| **Number** | This field displays the number of code files assigned to the rate file that you are creating. You can assign a maximum of two codes to the rate file. |
| **Prompt** | Use this field to assign a label that Cobra will use as a prompt for the code field. This prompt appears as a column header in all the grids where it is used. You must enter a label in this field if you selected **Code (optional)**, **Code (required)**, or **Text** in the **Code Field Type** field. |
| **Code Field Type** | Use this field to select the code field type.<br>Your options are:<br>▪ **<none>**: Select this option if you do not want to assign code files to the rate file that you are creating.<br>▪ **Code (optional)** — Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter any text in the code field.<br>▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator. |
| **Code File** | Use this field to assign code files to the rate file that you are creating. Click to open the Code File Lookup dialog box, where you can select the code file that you want to use. You can only select a code file in this field if you selected the **Code (optional)** or **Code (required)** option in the **Code Field Type** field.<br>**Note:** You can modify code field assignments afterwards on the Code Fields Tab of the Rate File Properties dialog box. |

## Access Control Page of the New Rate File Wizard

Use this page to enable users or groups to access the rate file that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Access Control tab of the Rate File Properties dialog box.

## Confirmation Page of the New Rate File Wizard

This page informs you that Cobra has all the information it needs to create a new rate file.

If you need to double check the information you entered on any of the previous pages, click **Back** until that page displays. After verifying that all the information is correct, click **Finish** to create the rate file.

**Note:** Cobra automatically displays the Add Rate Set Wizard after creating a rate file.

## Procedures

Follow the procedures in this section to utilize the New Rate File Wizard.

### Display the New Rate File Wizard

You can display the New Rate File Wizard in several ways.

**To display the New Rate File Wizard:**

Take one of the following actions:

- Click » **New** » **Rate** » **Create**.
- In the Cobra Explorer, right-click the **Rates** group bar, and select **New Rate File** on the shortcut menu.
- In the Cobra Explorer, right-click the **Rates** group bar, and select **New Rate File** on the shortcut menu.
- In the Cobra Explorer**,** select the **Rates** group bar, right-click the Rates pane, and select **New Rate File** on the shortcut menu.

### Create a New Rate File

Use the New Rate File Wizard to create a new rate file. The wizard consists of several pages where you define the information required by the rate file.

**To create a new rate file:**

1. Display the New Rate File Wizard by taking one of the following actions:
   - Click » **New** » **Rate** » **Create**.

- On the Quick Access toolbar, click , select **Rate**, and click **Create**.
- In the Cobra Explorer, right-click the **Rates** group bar, and click **New Rate File** on the shortcut menu.
- In the Cobra Explorer, select the **Rates** group bar, right-click the Rates pane, and click **New Rate File** on the shortcut menu.

2. Complete the New Rate File Wizard pages to create a new rate file.

## Rate File Properties Dialog Box

Use the Rate File Properties dialog box to view and update rate file information.

### General Tab of the Rate File Properties Dialog Box

This tab displays the name of the selected rate file and enables you to edit the file's description.

This tab also displays the information that you specified in the New Rate File Wizard when you were creating the rate file.

**Contents**

| Field | Description |
|---|---|
| **Name** | This field displays the name of the selected rate file. You cannot modify the name displayed in this field. |
| **Description** | This field contains a brief description of the selected rate file. You can modify the rate file description in this field. |

### Code Fields Tab of the Rate File Properties Dialog Box

The tab displays the code assignments for the selected rate file.

Code assignments are initially defined in the New Rate File Wizard when you were creating the rate file. You can use this tab to change code assignments for the selected rate file.

Assigning code files to a rate file is optional.

**Contents**

| Field | Description |
|---|---|
| **Number** | This field displays the number of code files assigned to the rate file. You can assign a maximum of two codes to the rate file. |
| **Prompt** | Use this field to assign a label that Cobra will use as a prompt for the code field. This prompt will appear as a column header on all the grids where it is used. You must enter a label in this field if you selected **Code (optional)**, **Code (required)**, or **Text** in the **Code Field Type** field. |

| Field | Description |
|---|---|
| **Code Field Type** | Use this field to select a code field type.<br>Your options are:<br>▪ **<none>**: Select this option if you do not want to assign code files to the rate file that you are creating.<br>▪ **Code (optional)**: Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter any text in the code field.<br>▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator. |
| **Code File** | Use this field to assign code files to the rate file. Click ... to open the Code File Lookup dialog box, where you can select the code file that you want to use. You can only select a code file in this field if you selected the **Code (optional)** or **Code (required)** option in the **Code Field Type** field. |

## Access Control Tab of the Rate File Properties Dialog Box

Use this tab to enable users or groups to access the rate file.

Access control settings for users and groups are initially defined in the New Rate File Wizard when you are creating the calendar file. The access control entry supports a read only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

## Procedures

Follow the procedures to utilize the Rate File Properties dialog box.

### Display the Rate File Properties Dialog Box Tabs from an Open Rate File

You can display the General, Code Fields, or Access Control tab of the Rate File Properties dialog box from an open rate file.

**To display a tab of the Rate File Properties dialog box for an open rate file:**

1. In the Rate view, take one of the following actions:
   - In the **Properties** group on the Edit tab, click **Properties**.
   - Right-click anywhere in the Rate view and select **Properties** on the shortcut menu.
2. In the Rate File Properties dialog box, click the tab to display.

### Display the Rate File Properties Dialog Box Tabs without Opening a Rate File

You can display the General, Code Fields, or Access Control tab of the Rate File Properties dialog box without first opening a rate file.

**To display a tab of the Rate File Properties dialog box without opening the rate file:**

1. In the Cobra Explorer, select the **Rates** group bar.
2. In the Rates Pane, take one of the following actions:
   - Click the appropriate rate file and click **Properties** in the **Properties** group on the Edit tab.
   - Right-click the appropriate rate file and select **Properties** on the shortcut menu.
3. In the Rate File Properties dialog box, select the tab to display.

# Rate File Security

A rate file can be accessed by either a user or a group, provided that they are granted permission to do so.

## Procedures

Follow the procedures in this section to enable a user or a group to access a rate file.

### Enable a User to Access a Rate File

You can enable users to access a rate file using the Access Control page of the New Rate File Wizard or the Access Control tab of the Rate File Properties dialog box.

**To enable a user to access the rate file:**

1. On the Access Control tab of the Rate File Properties dialog box, click **New**.

Cobra adds a new row to the grid.

2. In the **User** field, click ...
3. In the Users lookup dialog box, select a user, and click **Select** to add that user to the grid.
   You can also double-click a user ID to add that user to the grid.
4. In the **Role** field, click ...
5. In the Roles Lookup dialog box, select a role, and click **Select** to assign that role to the user you selected.
   You can also double-click a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the user with read-only access to the rate file.

   **Note:** You can assign a user or a group to a rate file in a row within the grid, but you cannot assign both.

### Enable a Group to Access a Rate File

You can enable groups to access a rate file using the Access Control page of the New Rate File Wizard or the Access Control tab of the Rate File Properties dialog box.

**To enable a group to access the rate file:**

1. On the Access Control page or tab, click **New**.
   Cobra adds a new row to the grid.
2. In the **Group** field, click ...
3. In the Groups Lookup dialog box, select a group, and click **Select** to add that group to the grid.
   You can also double-click a group ID to add that group to the grid.
4. In the **Role** field, click ...
5. In the Roles lookup dialog box, select a role and click **Select** to assign that role to the group you selected.
   You can also double-click a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the group with read-only access to the rate file.

   **Note:** You can assign a user or a group to a rate file in a row within the grid, but you cannot assign both.

# Resources

Cobra project costs are entered as resource assignments. Resources are a combination of labor, material, and other direct costs associated with a project.

In most cases, a resource is defined as a skill or labor group with an average rate. Typically, estimators research past projects before defining these labor groups and standard labor rates. Common terms used by estimators are bid codes, skill categories, and labor pools. For example, resources can be Structural Engineer Grade 1, Technician, Clerical, Travel, and even Pipe. Using these skill groups as resources in Cobra is an efficient means of budgeting and controlling costs on a project.

While there are no limitations in Cobra, most implementations do not include the name of a person in the resource name. Most often, the benefit that could be gained from budgeting with this level of granularity does not outweigh the additional time it would take to maintain the system and explain variances due to changes in personnel.

In addition to using standard rates for budgeting, you need to also investigate your accounting system. When determining Estimate at Complete (EAC), it is helpful to have the actual costs use the same resource codes as the budgeting codes. Hopefully, the estimators coordinated with the accounting department a long time ago and the resource codes used in estimates are the same resource codes stored in the accounting system. If so, your resource codes in Cobra should correlate to these same codes.

Resources are typically assigned to a work package in a manner that is similar to assigning resources to an activity in a schedule. However, in Cobra, resources can also be at the control account level for planning packages, contingency amounts, and other items that do not earn value. Actual costs and forecasts are also typically resources assignments at the control account level.

Use the Resource view to edit or modify resource files. Use the New Resource File Wizard to create a new resource file. Use the Resource File Properties dialog box to view or change important information about the resource file.

### Video

| Title | Description |
|---|---|
| Adding Resources to a Resource File | Learn how to add resources to a resource file. |
| Export and Import Resources and Calculations | Learn how to quickly enter data into a Cobra resource file by exporting to Excel, editing in Excel, and then importing the new resources and calculations. |

## Resource Components

Resources are made up of several distinct components.

### Resource Hierarchy

When creating a resource file, you typically define a hierarchical structure of resources for roll-up reporting purposes, and to aid in selecting the resource when adding an assignment to a work package. The most common resource roll-up is to have the elements of cost at the top level:

Labor, Material, and Other Direct Costs (ODC). However, there is no limit to how you structure your resource hierarchy. By using different levels or the codes on the codes, you can also roll up the resource information by subcontractor, division, and more.

This type of roll-up is useful when analyzing cost variances to determine the cause of the variance. For example, if your organization is divided into functional groups, you should build your resource hierarchy to group the resources into functional groups. You will then be able to produce reports at a level of the resource hierarchy and analyze the rate or efficiency variances of the different functional groups.

You can use this resource structure to roll up resource codes at the name level in the schedule to a skill level using standard rates in Cobra when loading data from the schedule. This is done by creating the resource structure down to the name level used in the schedule, then defining the calculations at the skill level in the resource file in Cobra.

### Codes on the Resource Hierarchy

Similar to supporting codes on codes, Cobra supports codes on the resource codes. The first code is a dedicated code to store the Element of Cost. The Elements of Cost are: Labor, Material, Other Direct Costs, and Subcontractor. The Element of Cost are used for Earned Value Analysis System (EVAS) which is passed using the Cost Data Export.

You can also have 9 other codes on the resource codes allow you to enter and report on other information such as location and vendor name.

### Notes

The notes on the resources allow you to enter text information associated with documenting the resource codes. Examples could be the specifications of a material item or more detail associated with the standard rate calculation associated with the resource.

### First Result

The first result is the base unit for the resource calculation. For example, the Engineer resource might have a first result of hours. The first result can be anything (for example, hours, dollars, linear feet, or tons.)

If you are integrating Cobra with a resource-loaded schedule, the first result uses the same units as the resources in the schedule (typically hours).

### Rate Files

The rate file contains the group of rates used in calculating derived costs. Cobra allows multiple rate files within a project by allowing you to assign a different rate file for each cost class. This allows you to have a completely different set of rates for budgets and forecasts, for example.

### Rate Sets

Rate sets supply Cobra with the rates to generate derived costs. For example, 20 labor hours (first result) times $25/hr (labor rate) equals a derived cost of $500.

Rates may have rate escalation. In other words, the rate may vary over time. Thus, the group of rates and their dates are called a Rate Set.

### Calculations

At any level of the resource structure, you define how each derived cost is calculated for that resource and what rate set is to be used. This information for the resource is entered on the calculation tab. When viewing the resource structure, codes that have a calculation defined have an icon of a person next to the code.

### Derived Results

The first result is a special result because the total value is stored on the assignment record, allowing that result to be respread. Derived results are calculated using the rate and a source result. Common derived results are overhead and General and Administrative (G&A) costs.

Some industries call derived costs burden costs. However, this term typically only pertains to overhead, G&A, and cost of money. Cobra allows a flexible definition of derived results to allow you to calculate other items such as Full Time Equivalents (FTE), the cost in foreign currencies based on exchange rates, and much more.

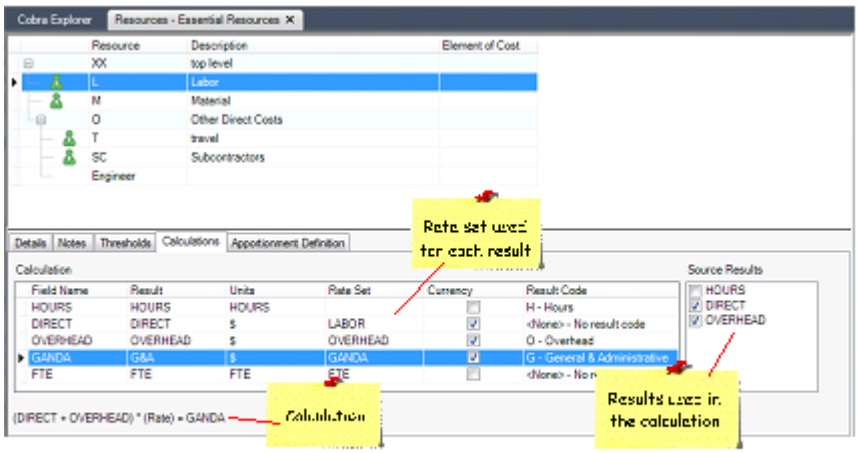
Because each resource can have many derived costs, you can exactly model the business of your company and calculate a variety of results.

## Define Costs for Resources

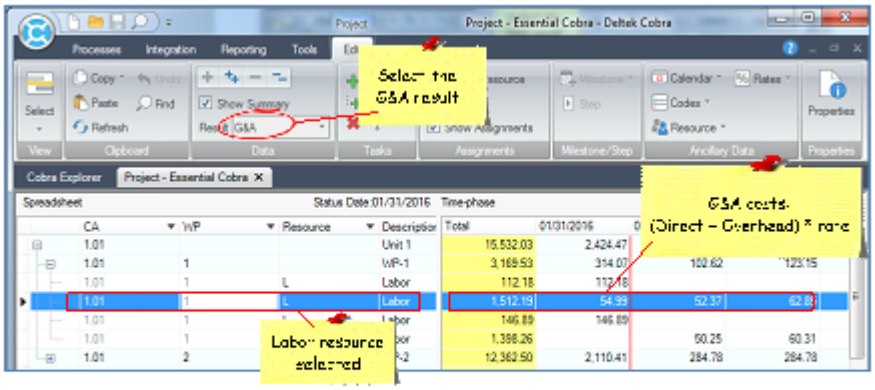
To assign a resource to your project, you need to define how the costs are calculated for that resource, the rate set that should be used, and the way you want the costs to be displayed.

Cobra calls the different types of calculations “results” because the data that you see in the Time-phase panes is the result of a calculation.

In the example below, the G&A (General & Admin) cost for the selected Labor resource is calculated by summing DIRECT + OVERHEAD and multiplying the result by the rate in the GANDA (General and Admin) rate set for that resource.




In the Project view, when you select to view the G&A result on the Data group on the Edit tab, the costs that you see in the Time-phase pane are the result of the calculation that you see defined on the Resource Calculation tab.




## Examples of Resources

Cobra resources define how costs are calculated, by associating a rate set with a particular cost definition.

For example, assume that you want to define hours as the first result and direct dollars, overhead, and G&A as derived results. You create a rate file containing three different rate sets: LABRATE1, LABRATE2, and LABRATE3. These rate sets define hourly rates for different types of labor, as well as rates for overhead and G&A costs.

| Resource | Rate Set | Field Name | Result |
|---|---|---|---|
| SYSAN | LABRATE1<br>OVERHEAD<br>G&A | HOURS<br>DIRECT<br>OVERHEAD<br>G&A | LAB1HOURS<br>LAB1DIRECT<br>OVERHEAD<br>G&A |
| PROG | LABRATE2<br>OVERHEAD<br>G&A | HOURS<br>DIRECT<br>OVERHEAD<br>G&A | LAB2HOURS<br>LAB2DIRECT<br>OVERHEAD<br>G&A |
| TECH | LABRATE3<br>OVERHEAD<br>G&A | HOURS<br>DIRECT<br>OVERHEAD<br>G&A | LAB3HOURS<br>LAB3DIRECT<br>OVERHEAD<br>G&A |

Although each result name must be unique within a given resource, a resource file may contain multiple instances of the same field name. You can, however, assign result for each field name appearing in a resource. For example, you might want to use results for the three types of labor costs described above:

| Resource | Rate Set | Field Name | Result |
|---|---|---|---|
| SYSAN | LABRATE1<br>OVERHEAD<br>G&A | HOURS<br>DIRECT<br>OVERHEAD<br>G&A | LAB1HOURS<br>LAB1DIRECT<br>OVERHEAD<br>G&A |
| PROG | LABRATE2<br>OVERHEAD<br>G&A | HOURS<br>DIRECT<br>OVERHEAD<br>G&A | LAB2HOURS<br>LAB2DIRECT<br>OVERHEAD<br>G&A |
| TECH | LABRATE3<br>OVERHEAD<br>G&A | HOURS<br>DIRECT<br>OVERHEAD<br>G&A | LAB3HOURS<br>LAB3DIRECT<br>OVERHEAD<br>G&A |

By using results, you can distinguish between eight different categories of cost information using only four field names.

In another example, assume that you set up a number of resources under the result name QTY. The purpose of these resources is to capture quantities of various types of dissimilar materials. Using results, you could then distinguish between tons, cubic feet, and so on for the purposes of data entry, while maintaining a compact file structure for your project detail files.

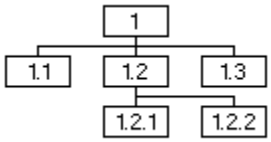
## Resource File Structure

Cobra uses three types of code file structures to define the parent-child relationships for resources.

### Punctuated Significant

With this structure, Cobra uses a punctuation character to separate the codes of the resource that correspond to the different levels of the structure. Each resource (with the exception of the resource at the top of the hierarchy) is formed from the name of its parent, followed by a user-selected punctuation mark and one or more additional digits.

In the following illustration, 1.2.1 and 1.2.2 are level 3 codes and are children of 1.2.




### Non Significant

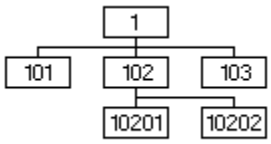
With non-significant codes, there is no way to tell from an inspection of the code itself which level it represents. With this structure, the parent information is not included at the lowest level of the structure. Thus, the resources themselves will also not contain parent information. This is useful

when loading actual costs because most accounting systems do not use the parent codes in their naming conventions.

A maximum of 20 levels can be defined for a non-significant structure.

**Fixed Form Significant**

Fixed Form Significant codes rely on the length of the code to represent the structure level. In the figure below, 10201 and 10202 are level 3 codes and are children of 102.




## Element of Cost

To classify costs for reporting purposes, you can use the element of cost.

Use the Resources grid or the Details tab of the Resource view to assign an element of cost (EOC) for each resource.

The available elements of cost are:

- **<Blank>**
- **Labor**
- **Material**
- **Other Direct Costs**
- **Subcontractor**

You can export the element of cost using the Cost Data Wizard or the wInsight Wizard.

The element of cost values can also be selected as a criteria when you run the Report Wizard.

## Plan Resource Information

Planning the development of your resources is crucial to ensure that you are using them effectively and efficiently.

Planning the development of your resources allows you to:

- Establish the list of resource names
- Determine the similar calculations/results
- Create rate sets
- Create budget elements

It is important to define resources so that they can express any type of cost you intend to track in Cobra. However, since results use both disk space and processing resources, it is also important

that the names of results be conserved as much as possible. As a rule of thumb, it is usually advantageous to use as few result names as possible to maintain a compact project database.

Cobra allows for a limited number of results in a single project. However, most project costs can be expressed using only a few result names.

For example, the result **Direct** should be used as the calculated direct labor cost on all resources. In addition, it will be used as the base for material items that will use a direct input for costs.

While this might cause the field names to be inappropriate in some cases, you can differentiate between different types of costs by using the Result field in the budget calculation. The result prompt is what appears on the data entry screens.

You must consider your reporting requirements when creating the result names. Since reporting by hours is a valuable tool, you do not want to use the generic **Quantity** result for hours.

Results are often used to identify different currencies for a project. Examples of results are USD, GBP and EUR. If your projects contain hundreds of currencies, you should consider using generic result names such as **Direct** for the home currency and Controlling, and **Company** for other currencies used for multi-project reporting.

## Additional Information in Resources

In addition to defining a series of source/result relationships for each cost calculation, Cobra resources also include other fields of information. You can use the Results tab of the Resource File Properties dialog box to define these fields.

You can use the Results tab of the Resource File Properties dialog box to define these fields.

| Field | Description |
|---|---|
| Result | For data entry purposes, you can assign a result for each field name appearing on a resource. This allows you to distinguish between different types of costs stored under a single generic result name. The result is what appears on the data entry screen. |
| Units | You can enter a description of the unit in which the cost is expressed (for example, **Hours**, **Dollars**, or **Cubic Yards**). |
| Currency | Select this option to indicate whether the cost represents a monetary amount. Cobra uses the **Currency** field to decide whether to include or exclude a particular cost when reporting values such as Earned Value and Actual Cost. Cobra also refers to the **Currency** field when updating project budget accounts in the project log. This field should be set to **T** for all monetary costs, such as direct dollars and overhead dollars, and left blank for other non-monetary costs such as hours, tons, or costs in other currencies. By setting this flag correctly, you can prevent Cobra from adding monetary |

| Field | Description |
|---|---|
| | costs (such as dollars) to costs expressed in other units.<br>It is important that all of a project's costs that are identified as currency amounts use the same currency units. For example, you should not set the **Currency** field to **T** for both costs denominated in US dollars and costs denominated in another currency.<br>**Note:** Result names used for multiple resources must share the same **Currency** field setting. |
| Sort Code | Cobra uses result codes for reporting, exporting wInsight XML files, and exporting data in ANSI EIA X12 format.<br>▪ **H**: Identifies the result as a unit measured in hours.<br>▪ **F**: Identifies the result as a FTE.<br>▪ **D**: Identifies the result as Direct Cost.<br>▪ **G**: Instructs Cobra that the result is General and Administrative (G&A), and needs to be dropped to the bottom line of the IPMR reports.<br>▪ **O**: Instructs Cobra that the result is Overhead, and needs to be dropped to the bottom line of ICSR reports.<br>▪ **C**: Indicates a result related to Cost of Money (COM).<br>▪ **N**: Instructs Cobra not to divide the value by a scale factor. A typical result that uses this is linear feet of pipe.<br>Cobra uses result codes for reporting, exporting wInsight XML files, and exporting data in ANSI EIA X12 format.<br>Aside from these restrictions, this field is available for any custom-reporting requirement. The result code is used in reports like the IPMR report, which drops G&A and COM to the bottom line, and in the wInsight Export. |
| Rate Set | You can assign a specific rate set to each result in a resource. Note, however, that when |

| Field | Description |
|---|---|
| | calculating costs, Cobra interprets the name of the rate set as the rate set currently assigned to the relevant cost class rather than the resource file.<br>**Note:** By default, rate set files assigned to cost classes default to the project rate set file. |

## Results or Field Names

Cobra enables you to define multiple results in a calculation. Results relate to a field name that becomes a column in the database.

You can improve the performance of your system by limiting the number of field names you use for all projects in the database. You should try to create generic field names such as **Quantity** and use the **Units** field to specify the units. Another example is to use **Direct** to represent both the direct entered value for material items and the labor costs that are calculated by multiplying the hours by the labor rate.

You must consider your reporting requirements when creating the result names. Since reporting by hours is a valuable tool, you do not want to use the generic Quantity result for hours.

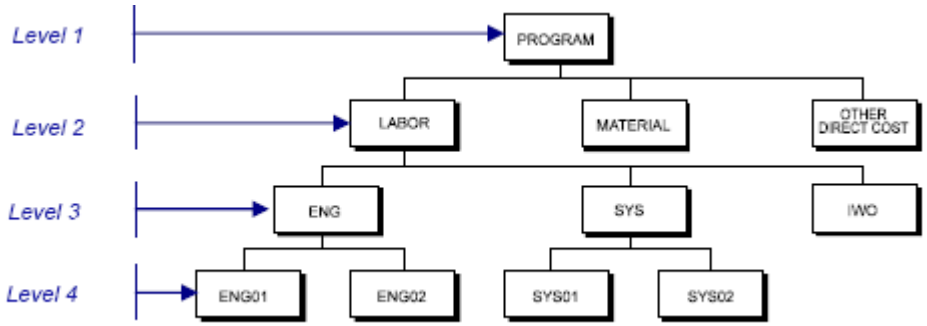
Results are often used to identify different currencies for a project. Examples of results are USD, GBP and EUR. If your projects contain hundreds of currencies, you should consider using generic result names such as **Direct** for the home currency and Controlling, and **Company** for other currencies used for multi project reporting.

## Resources and Code Files

Cobra enables you to associate resources with codes in a code file.

Associating a resource with a code file not only allows you to validate codes as you enter them but permits the roll up of cost information for reporting purposes.

For example, assume that you have associated resource calculations with the following code file structure:




You can enter actual costs at Level 4, and create one set of reports at Level 3 and another at Level 2.

## Loading Resource Files from Open Plan

You can import a resource code file from Open Plan into Cobra. In Open Plan, you can use a punctuated significant breakdown structure for resource codes, while in Cobra, you can use a non-significant breakdown structure for resource assignments.

When you load code files from the schedule, Cobra compares the resource code with the format of the breakdown structure validating the resource assignments in Cobra. If a punctuated-significant format was used in the Open Plan resource code and a non-significant format is used in Cobra, Cobra removes the parent information from the resource code. Thus, a resource with an ID of LABOR.ENG.ENG01 appears in Cobra as the resource assignment ENG01.

## Resource-Loaded Schedule

Cobra uses the value in the **Resource Assignment Level** field from the schedule as the value for the base or first result when linking with a resource-loaded schedule.

If a curve is not used on the assignment, the level is multiplied by the duration. If you plan to later update the Open Plan project with information from Cobra, use spread curves rather than offsets and periods as this information does not transfer back.

When you load budget from Open Plan, you can load from a baseline or the schedule. Cobra reads the time-phased spread information from the usage file. If you are loading from a baseline and you want the spread in Cobra to match, you must use a reporting calendar and perform resource scheduling before the baseline is created. Cobra does not support loading from early or late dates in Open Plan.

If you want to load from early or late dates, you must create a baseline in Open Plan based on these dates and then load from that baseline into Cobra. If you select the **Update early and late dates** option on the Status page of the Integration Wizard when integrating with Open Plan, Cobra informs you that it is not supported.

Depending on the detail at which you resource load your schedule, you might want to take advantage of one of the following options:

- If you resource load at the name level, you should set a baseline at the pool level. If necessary, you can schedule the individual resources in six-month blocks of time. This prevents you from having to explain a variance caused by the replacement of one resource with another.
- Roll up resource information by defining the resource assignment calculations for a higher-level resource. Do not use the roll-up feature if you intend to update Open Plan resources from Cobra.
- In Open Plan, select the **Roll up for Scheduling** option on the General tab of the Resource Details dialog box.

## Variance Thresholds

Management by exception, concentrating on areas that exceed predefined thresholds, is an efficient way to manage a large project.

For each code in a code or resource file, it is possible to specify either a positive or a negative threshold for cost and schedule variances. It is also possible to specify whether the threshold is based on a fixed value or a percentage.

These thresholds can be analyzed in the following:

- Analyze utility
- IPMR Format 5 and EVM report

When the variance calculated exceeds the predefined threshold defined for the code, Cobra triggers an exception and highlights the value with a color. For example, assume that an unfavorable threshold of 10% is defined for a specific WBS element. If the costs associated with that WBS element exceed the budget by 10% or more, Cobra highlights the unfavorable cost variance.

To enable a code or resource file to have variance thresholds, use the Thresholds page of the New Resource File Wizard or the Thresholds page of the New Code File Wizard. After creating the files, you can modify the variance thresholds in the Thresholds tab of the Resource View or the Thresholds tab of the Code View.

## Code the Resources for IPMR Format 2 Reports

To break out materials, major subcontractors, and major vendors on the IPMR Format 2 report, you can select a code on the resource file and use it for coding IPMR Format 2 Summary on the resource assignments.

While this code may be used for other reporting, this will be used for the purpose of breaking out material, major vendors, and subcontractors once identified. All resources that will be rolled-up and broken out on the IPMR Format 2 should be coded.

To designate which code file on the resource file should be used when summarizing data on the IPMR Format 2 report, use the Files tab of the Project Properties dialog box.

When you add the IPMR Format 2 Summary code on the resource file, it is important to consider the following information:

- The code file must contain the values used to display materials, major vendors, and major subcontractors on the IPMR Format 2.
- Add the new code file to any of the nine code fields on the resource file.
- Select **Code (optional)** or **Code (required)** on the Code Fields tab of the Resource File Properties dialog box. You must set the Code Field Type to any of these two options so that the code files assigned to the resource on the project will appear in the **IPMR Format 2 Summary** list on the Files tab of the Project Properties dialog box.
- The IPMR Format 2 Summary code can be selected for each project, from one of the nine code fields on the resource file. The code is selected using the **IPMR Format 2 Summary** option on the Files tab of the Project Properties dialog box.

- All sub-projects within a master project must use the same code field position in order to report the IPMR Format 2 Summary correctly at the master project level.
- Code the resources using codes from the Code File Lookup dialog box.
- Elements should be coded to match the resources with calculations which will be directly assigned to projects. Coding of parent elements is not supported.
- Code all materials, major subcontractor, and major vendor elements whose costs should be broken out at the bottom of the IPMR Format 2 report.
- Only code resources whose costs should be broken out at the bottom of the IPMR Format 2 report.

## Resource View

Use the Resource view to modify resource files.

The areas in the Resource view are described in the following table.

| Area | Description |
|---|---|
| **Resources Grid** | This area displays the resources in the resource file. |
| **Details Tab** | This tab displays the name and description of the selected resource or child resource, and the element of cost assigned to it. |
| **Notes Tab** | Use this tab to add a note to a resource. |
| **Thresholds Tab** | Use this tab to set the threshold values for a resource or child resource. |
| **Calculations Tab** | Use this tab to add results and calculations to a resource or child resource. |
| **Apportionment Definition Tab** | Use this tab to specify how apportioned resources are calculated. |

**Video**

| Title | Description |
|---|---|
| Adding Resources to a Resource File | Learn how to add resources to a resource file. |
| Creating a New Resource File | Learn how to create a new resource file. |
| Export and Import Resources and Calculations | Learn how to quickly enter data into a Cobra resource file by exporting to Excel, editing in Excel, and then importing the new resources and calculations. |

## Procedures

Follow the procedures in this section to display the Resource view.

### Display the Resource View using the Cobra Button

Use the Cobra button to display the Resource view.

**To display the Resource view using the Cobra button:**

1. Click  » **Open**.
2. In the Open File dialog box, click the Resources tab, and select a resource file.
3. Click **Open** to display the selected resource file.
4. In the Resource view, select the tab to display.

### Display the Resource View using the Resources Group Bar

Use the Resources group bar to display the Resource view.

**To display the Resource view:**

1. In the Cobra Explorer, select the **Resources** group bar.
2. In the Resources pane, double-click the resource file that you want to display.
3. In the Resource view, select the tab to display.

## Edit Tab of the Resource View

The Edit tab of the Resource view contains commands available when you display the Resources pane in the Cobra Explorer or open a resource file in the Resource view.

**Clipboard Group**

| Command | Description |
|---|---|
|  **Copy** | Click this command to copy the content of the selected cell in the Resources grid.<br>**Note:** You can also press CTRL+C to use this command. |
|  **Paste** | Click this command to paste copied information to the selected cell in the Resources grid.<br>**Note:** You can also press CTRL+V to use this command. |

| Command | Description |
|---|---|
| **Find** | Click this command to display the Find dialog box, which you use to find a resource in the Resources grid.<br>**Note:** You can also press CTRL+F to use this command. |
| **Refresh** | Click this command to refresh the information displayed in the Resources grid.<br>**Note:** You can also press F5 to use this command. |
| **Undo** | Click this command to revert the changes you made to the resource file.<br>**Note:** You can also press CTRL+Z to use this command. |

### Data Group

| Command | Description |
|---|---|
| **Expand** | Click this command to expand the selected resource. |
| **Expand All** | Click this command to expand all of the resources. |
| **Collapse** | Click this command to collapse the selected resource. |
| **Collapse All** | Click this command to collapse all of the resources. |

### Tasks Group

| Command | Description |
|---|---|
| | Click this command to add a new resource. |

| Command | Description |
|---|---|
| **Add Resource** | |
| **Add Child Resource** | Click this command to add a new child resource. |
| **Delete** | Click this command to delete the selected resource or child resource.<br>**Note:** You can also press CTRL+DEL to use this command. |
| **Reorder** | Click this command to display the Reorder Resources dialog box to change the order of the resources. |
| **Rename** | Click this command to display the Rename dialog box, which you use to rename the selected resource file or resource.<br>**Note:** You can also press ALT+E+N or F10+E+N to use this command. |

### Resources Group

| Command | Description |
|---|---|
| **Add Results** | Click this command to display the Add Resource Results dialog box to select the results that you want to add to a resource or child resource. |
| **Delete Results** | Click this command to delete a result. |
| **Copy Calculations** | Click this command to display the Copy Resource Calculation dialog box, which you use to select the resource from which you want to copy the calculations. |

### Codes Group

| Command | Description |
|---|---|
| | Click this command to copy child resources to another resource within the same resource file. |

| Command | Description |
|---|---|
| **Copy Children** | **Note:** You can also press ALT+E+I or F10+E +I to use this command. |
| **Copy Down Codes** | Click this command to copy the threshold values of a selected resource to its child resources.<br>**Note:** You can also press ALT+E+D or F10+E +D to use this command. |
| **Copy Thresholds** | Click this command to copy the threshold values of a selected resource to its child resources.<br>**Note:** You can also press ALT+E+T or F10+E +T to use this command. |
| **Copy Element of Cost** | Click this command to copy the element of cost value of the parent down to the child resources. This command is enabled only for resources with child resources.<br>**Note:** You can also press ALT+E+E or F10+E +E to use this command. |

**Properties**

| Command | Description |
|---|---|
| **Properties** | Click this command to display the Resource File Properties dialog box for the selected resource file.<br>**Note:** You can also press ALT+E+P or F10+E +P to display this dialog box. |

## Shortcut Menu

Some of the panes and data grids in the Resource view have shortcut menus, which you can display by right-clicking the panes or data grids.

### Resources Grid Shortcut Menu

Right-clicking the Resources grid displays a shortcut menu with the following options:

| Option | Description |
|---|---|
| **Add Resource** | Click this option to add a new resource. |
| **Add Child Resource** | Click this option to add a new child resource. |
| **Delete** | Click this option to delete the selected resource or child resource. |
| **Rename** | Click this option to rename the selected resource or child resource. Renaming a resource or child resource does not change the project data. |
| **Copy Children** | Click this option to copy child resources to another resource within the same resource file. |
| **Copy Down Codes** | Click this option to copy the threshold values of a selected resource to its child resources. |
| **Copy Thresholds** | Click this option to copy threshold values of a selected resource to its child resources. |
| **Copy Element of Cost** | Click this option to copy the element of cost value of the parent down to the child resources. This option is enabled only for resources with child resources. |
| **Reorder** | Click this option to change the order of resources within a selected level of the resource file. |
| **Copy** | Click this option to copy the content of the selected cell in the Resources grid. |
| **Paste** | Click this option to paste copied information to the selected cell in the Resources grid. |

| Option | Description |
|---|---|
| **Find** | Click this option to find a resource name or description in the Resources grid. |
| **Refresh** | Click this option to refresh the information displayed in the grid. |
| **Properties** | Click this option to display the Resource File Properties dialog box for the selected resource file. |

### Calculations Tab Shortcut Menu

Right-clicking the Calculations tab pane displays a shortcut menu with the following options:

| Option | Description |
|---|---|
| **Copy Calculations** | Click this option to copy resource calculations. |
| **Add Results** | Click this option to add a new child resource to the selected parent resource. |
| **Delete Results** | Click this option to delete calculation results. |
| **Rename** | Click this option to rename the selected resource or child resource. Renaming a resource or child resource does not change the project data. |
| **Copy** | Click this option to copy the content of the selected cell in the Calculations tab pane. |
| **Paste** | Click this option to paste copied information to the selected cell in the Calculations tab pane. |
| **Find** | Click this option to display the Find dialog box. |

## Resources Grid of the Resource View

The Resources grid in the Resource view displays the resources in the resource file.

### Contents

| Column | Description |
|---|---|
| **Resource** | This column displays the name of the resource or child resource. If there are child resources defined for a resource, you can view them by expanding that resource in the Resources grid. |
| **Resource Description** | This column displays a brief description of the resource or child resource. |
| **Element of Cost** | This column displays the element of cost assigned to the resource. By default, this column is blank for new or existing resource. Possible values are:<br>▪ **<Blank>**<br>▪ **Labor**<br>▪ **Material**<br>▪ **Other Direct Costs**<br>▪ **Subcontractor** |

### Copy Children Dialog Box

Use the Copy Children dialog box to copy child resources/codes to another resource/code within the same resource/code file.

### Contents

| Field | Description |
|---|---|
| **Copy child codes from resource/code** | This field displays the resource or code that you right-clicked. Cobra copies child resources/codes from this resource/code to the resource/code that you selected in the **To resource/code** field. |
| **To resource/code** | Use this field to enter or select the resource/code to which Cobra will copy the child resources/codes.<br>Click **OK**. |

*Display the Copy Children Dialog Box*

Use this procedure to display the Copy Children dialog box.

**To display the Copy Children dialog box:**

1. Display the Resource view/Code view for the resource/code file that you want to update.
2. In the Resource view /Code view, select the resource/code whose child resources/codes you want to copy to another resource/code and do one of the following steps:
   - In the **Codes** group on the Edit tab, click **Copy Children**.
   - Right-click the code whose child resources/child codes you want to copy to another resource/code and select **Copy Children** on the shortcut menu.

## Copy Down Codes Dialog Box

Use the Copy Down Codes dialog box to copy the code assignments attached to a parent resource or parent code to its child resources or child codes.

The Copy Down Codes dialog box displays a grid listing all the code assignments attached to the selected resource. You can select as many of these codes as needed. When you generate a report using a code on a parent resource, all of the child resources must contain the same code as the parent.

**Contents**

| Field | Description |
|---|---|
| **Only replace blank code assignments on child codes** | Select this option if you want to copy codes only to those child resources/codes that do not have code assignments.<br>If you do not select this option, Cobra overwrites all existing code assignments for the child resources/codes. |

*Display the Copy Down Codes Dialog Box*

Use this procedure to display the Copy Down Codes dialog box.

**To display the Copy Down Codes dialog box:**

1. Display the Resource/Code view for the resource/code file that you want to update.
2. In the Resource/Code view, click on a parent resource/code and do one of the following steps:
   - In the **Codes** group on the Edit tab, click **Copy Down Codes**.
   - Right-click the parent resource/code and select **Copy Children** on the shortcut menu.

## Reorder Resources/Codes Dialog Box

Use **Move Up** and **Move Down** on the Reorder Resources/Codes dialog box to change the order of resources/codes within a selected level of the resource/code file.

Changing the order of resources/codes in a resource/code file does not change the resource/code IDs.

You can reorder resources for each level in the resource file structure. For example, if you select a resource at the second level of the structure, you can only reorder the child resources at that level.

Changing the order of resources in a resource file does not renumber the resources, as the numbers that are displayed are resource IDs. You can, however, rename the resource file resources if you wish. The order in which the resources are displayed on this dialog box is reflected in the reports.

*Display the Reorder Resources/Codes Dialog Box*

Use this procedure to display the Reorder Resources/Codes dialog box.

**To display the Reorder Resources/Codes dialog box:**

1. Display the Resource/Code view for the resource/code file that you want to update.
2. In the Resource view/Code view, take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Reorder**.
   - Right-click anywhere in the Resources grid/Codes grid and select **Reorder** on the shortcut menu.

## Procedures

Follow the procedures in this section to view and modify resource files.

*Add a Resource to a Resource File*

Use the Resource view to add a resource to a resource file.

**To add a resource to a resource file:**

1. Display the Resource view for the resource file that you want to update and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Add Resource**.
   - Right-click the Resources grid and select **Add Resource** on the shortcut menu.

   Cobra inserts a new row on the grid for adding a resource.
2. Enter a name and description for the new resource in the **Resource** and **Resource Description** fields.
3. Click on the Quick Access toolbar to save the new resource.

**Video**

| Title | Description |
|---|---|
| Adding Resources to a Resource File | Learn how to add resources to a resource file. |
| Export and Import Resources and Calculations | Learn how to quickly enter data into a Cobra resource file by exporting to Excel, editing in Excel, and then importing the new resources and calculations. |

*Add a Child Resource to a Resource*

Use the Resource view to add child resources to a resource.

**To add a child resource to a resource:**

1. Display the Resource view for the resource file that you want to update and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Add Child Resource**.
   - Right-click the Resources grid and select **Add Child Resource** on the shortcut menu.

   Cobra inserts a new row on the grid for adding a child resource.
2. Enter a name and description for the new child resource in the **Resource** and **Resource Description** fields.
3. Click on the Quick Access toolbar to save the new child resource.

*Delete a Resource from a Resource File*

Use the Resource view to delete resources.

**To delete a resource from a resource file:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resources grid, select the resource or child resource that you want to delete and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Delete**.
   - Right-click the resource or child resource and select **Delete** on the shortcut menu.

   To select multiple resources, press the SHIFT key or the CTRL key while selecting resources.
3. Click **Yes** to delete the resource or child resource.
4. Click on the Quick Access toolbar to save the changes.

*Copy Child Resources to a Resource*

Use the Copy Children dialog box to copy child resources to another resource within the same resource file.

**To copy child resources to an existing resource:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resource view, click resource whose child resources you want to copy to another resource and take one of the following actions:
   - In the **Codes** group on the Edit tab, click **Copy Children**.
   - Right-click the resource and select **Copy Children** on the shortcut menu.

   The **Copy child resources from resource** field displays the resource that you right-clicked. Cobra will copy child resources from this resource to the resource that you will select in the **To resource** field.

   > **Note:** You cannot use this feature if the resource file has a non-significant structure. You can only copy child resources to a resource that does not have its own child resources.
3. In the **To resource** field, enter, or use to select, the resource to which Cobra will copy the child resources.
4. Click **OK**. Cobra copies the child resources to the selected resource.

*Copy Down Code Assignments to Child Resources*

Use this procedure to copy the code assignments attached to a parent resource to its child resources.

**To copy down code assignments to child resources:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resource view, click a parent resource and take one of the following actions:
   - In the **Codes** group on the Edit tab, click **Copy Down Codes**.
   - Right-click the Resources grid and select **Copy Down Codes**.

   The Copy Down Codes dialog box displays all available code fields for the selected resource. These fields are shown in the **Prompt** column.
3. Select the checkboxes for the code fields that you want to copy to the child resources. If you want to copy codes only to those child resources that do not have code assignments, select the **Only replace blank code assignments on child codes** option. If you do not select this option, Cobra overwrites all existing code assignments for the child resources.
4. Click **OK**. Cobra assigns the codes associated with the code fields you selected to the child resources.
5. Click on the Quick Access toolbar to save the new code assignments.

*Copy Down Threshold Values to Child Resources*

Use the Copy Down Thresholds utility to copy the threshold values of a selected resource to its child resources.

**To copy down threshold values to child resources:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resource view, click the resource whose threshold values you want to copy to the child resources and take one of the following actions:
   - In the **Codes** group on the Edit tab, click **Copy Thresholds**.
   - Right-click the Resources grid and select **Copy Thresholds**.

   The **Copy Down Thresholds** option is available if you select a parent resource that has child resources and defined threshold values.
3. Click **Yes** to copy the threshold values of the parent resource to its child resources.

   If your resource file has more than two levels, applying the Copy Down Thresholds feature to the top-most resource will copy the threshold values for that resource to all the resources in the lower levels.

*Reorder Resources*

Use the Reorder Resources dialog box to change the order of resources within a selected level of the resources file. Changing the order of resources in a resource file does not change the resource IDs.

**To reorder resources:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resource view, click a resource and take one of the following actions:
   - In the **Tasks** group on the Edit tab, click **Reorder**.
   - Right-click the Resources grid and select **Reorder** on the shortcut menu.
3. On the Reorder Resources dialog box, use **Move Up** and **Move Down** to change the order of the resources.
4. Click **OK** to save the new order.

*Assign Element of Cost to a Resource*

Assign element of cost to a resource for reporting purposes.

**To assign an element of cost to a resource:**

1. Display the Resource view.
2. Select a resource and do any of the following:
   - Click the field in the corresponding **Element of Cost** column and select a value.

- On the Details tab, select a value in the **Element of Cost** field.

3. Click to save your changes.

*Copy Element of Cost Value to Child Resources*

Use this procedure to copy the element of cost value attached to a parent resource to its child resources.

**To copy element of cost value to child resources:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resource view, click a parent resource and take one of the following actions:
   - In the **Codes** group on the Edit tab, click **Copy Element of Cost**.
   - Right-click the Resources grid and select **Copy Element of Cost**.

   **Note:** The **Copy Element of Cost** option is enabled only for resources with child resources.

3. Click **Yes** when the confirmation message displays.
4. Click to save your changes.

## Details Tab of the Resource View

This tab displays the name and description of the selected resource or child resource, and the element of cost assigned to it. Use this tab to modify the description of the selected resource or child resource.

| Field | Description |
|---|---|
| **Resource** | This field displays the name of the resource. |
| **Description** | This field displays the description of the resource. |
| **Element of Cost** | This field displays the element of cost (EOC) assigned to the resource. By default, this column is blank for new or existing resource. You can assign an element of cost to a resource using any of the following values:<br>▪ **<Blank>**<br>▪ **Labor**<br>▪ **Material**<br>▪ **Other Direct Costs**<br>▪ **Subcontractor** |

You can also modify the resource description in the Resources grid of the Resource view. On the Resources view toolbar, click on the Quick Access toolbar to save the new description.

## Notes Tab of the Resource View

Use this tab to add a note to a resource.

### Contents

| Field | Description |
|---|---|
| **Category** | Use this field to select a category for the note.<br>Your options are:<br>▪ **Statement of Work**: Use this category to enter notes that describe the work content of the selected resource. This field appears on Cobra reports.<br>▪ **Basis of Estimate**: Use this category to enter information about how the budget was prepared for the selected resource. This field appears on Cobra reports.<br>▪ **<Default>**: Use this option to enter a note for a default category.<br>After adding a note, click on the Quick Access toolbar to save the note. You can also cut or copy text from a word processor or spreadsheet and paste it on the space provided for the note in the Resources view. |

## Thresholds Tab of the Resource View

Use this tab to set the threshold values for a resource or child resource.

You can only set threshold values on this pane if you defined the resource file to have thresholds on the Thresholds tab of the Resource File Properties dialog box or on the Thresholds page of the New Resource File Wizard.

### Schedule Variance

A schedule variance is a metric for the schedule performance of a project. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition, while a negative value is unfavorable.

| Field | Description |
|---|---|
| **Current period** | This field refers to the schedule variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative schedule variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

| Field | Description |
|---|---|
| **Value** | Use this field to nter the favorable and unfavorable tolerance values in the **Value** fields. This field is available only if you selected the **Value** or **Both** option in the **Schedule Variance** group box on the Thresholds Tab of the Resource File Properties dialog box. |
| **%** | Use this field to enter the favorable and unfavorable tolerance percentage values in the **%** fields. This field is available only if you selected the **Percent** or **Both** option in the **Schedule Variance** group box on the Thresholds Tab of the Resource File Properties dialog box. |

**Cost Variance**

A cost variance is a metric for the cost performance of a project. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost.) A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

| Field | Description |
|---|---|
| **Current period** | This field refers to the cost variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative cost variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **At complete** | This field refers to the cost variance at project completion. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Value** | Use this field to enter the favorable and unfavorable tolerance values in the **Value** fields. This field is available only if you selected the **Value** or **Both** option in the **Cost Variance** group box on the Thresholds Tab of the Resource File Properties Dialog Box. |
| **%** | Use this field to enter the favorable and unfavorable tolerance percentage values in the **%** fields. This field is available only if you selected the **Percent** or **Both** option in the **Cost Variance** group box on the Thresholds Tab of the Resource File Properties dialog box.<br><br>Click on the Quick Access toolbar to save the threshold values. |

## Calculations Tab of the Resource View

Use this tab to add results and calculations to a resource or child resource.

This tab consists of two panes: the left pane (Calculation pane) displays the results available for the resource, and the right pane (Source Results pane) displays the source results used in the calculations. Selecting a result in the left pane displays the calculation formula for that resource at the bottom of the Resource view. A result is limited to ten sources for calculations. If you select

more than ten sources in the Source Results pane on the Calculations tab, Cobra displays a warning.

Use the Calculations tab to:

- Add results to a resource
- Add calculations to a resource
- Copy calculations from another resource
- Delete a result from a resource
- Assign a rate set to a result

**Contents**

| Field | Description |
|---|---|
| **Field Name** | This field displays the name of the result. |
| **Result** | This field defaults to the entry in the **Name** field. You can modify the entry in this field. |
| **Units** | Use this field to specify how the result is measured. For example, a unit of measurement might be dollars, or it might be tons. |
| **Rate Set** | This field specifies the rate set to be used as a multiplier in the calculation. |
| **Currency** | Select this option to nstruct Cobra to total the dollars on the reports. This prevents different types of units, such as hours and dollars, from being added together.<br>**Note:** Any result coded as a currency field must be used as a currency field for all resources within the resource file. |
| **Result Code** | The result code is used in reporting to identify specific results in a generic manner. |
| **Source Results** | This list displays all the results that you can include in the calculation. To create a calculation, select one or more results from the Source Results pane. The results you selected are added together and multiplied by the rate that you selected in the **Rate Set** field.<br>Right-clicking the Calculations pane displays the Calculations tab shortcut menu, where you can perform tasks such as copying resource calculations, adding results, and so on. |

## Add Resource Results Dialog Box

Use this dialog box to add results to a resource or child resource.

### Contents

| Field | Description |
|---|---|
| **Field Name** | This field displays the field name of the result. |
| **Result** | This field defaults to the entry in the **Field Name** column. You can modify the entry in this field. |
| **Units** | Use this field to specify how the result is measured. For example, a unit of measurement might be dollars, or it might be tons. |
| **Rate Set** | Use this field to specify the rate set to be used as a multiplier in the calculation. |
| **Currency** | Selecting this option instructs Cobra to include this result in the totals of the Project view, the Project Audit, and the report totals. Typically, all results that are in the same currency as the currency defined in the Currency Symbol field of the General tab of the Project Properties dialog box are marked as a currency result. However, if majority of your reports do not include a result such as Fee, you have the option not to mark that result as a currency result. To report on Fee, you can create a calculated result that does have the currency flag. IPMR Format 3 reporting includes values found in the Project Audit log. To exclude Fee from the body of the IPMR Format 3, do not mark Fee as a currency result.<br>**Note:** Any result coded as a currency field must be used as a currency field for all resources within the resource file. |
| **Result Code** | The result code is used in reporting to identify specific results in a generic manner. |

*Display the Add Resource Results Dialog Box*

Use this procedure to display the Add Resource Results dialog box.

**To display the Add Resource Results dialog box:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resources grid of the Resource view, select a resource or child resource.
3. Click the Calculations tab and display the Add Resource Results dialog box by completing one of the following steps:
   - In the **Resources** group on the Edit tab, click **Add Results**.
   - Right-click the Calculation pane and select **Add Results** on the shortcut menu.

### Order Resource Results Dialog Box

This dialog box displays if you selected more than one result in the Add Resource Results dialog box.

Use **Move Up** and **Move Down** to change the order of the results. Click **Cancel** to add the results to the resource using the default order.

*Display the Add Resource Results Dialog Box*

Use this procedure to display the Add Resource Results dialog box.

**To display the Add Resource Results dialog box:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resources grid of the Resource view, select a resource or child resource.
3. Click the Calculations tab and display the Add Resource Results dialog box by completing one of the following steps:
   - In the **Resources** group on the Edit tab, click **Add Results**.
   - Right-click the Calculation pane and select **Add Results** on the shortcut menu.

### Copy Resource Calculations Dialog Box

Use this dialog box to copy resource calculations from another resource.

**Contents**

| Field | Description |
|---|---|
| **Copy calculation from resource** | Use this field to select the resource to copy calculations from.<br>After selecting a resource, click **Select** to copy that resource's calculations. |

*Display the Copy Resource Calculations Dialog Box*

Use this procedure to display the Copy Resource Calculations dialog box.

**To display the Copy Resource Calculations dialog box:**

1. Display the Resources view of the resource file that you want to update.
2. In the Resources grid of the Resource view, select the resource to which Cobra will copy the calculations. You must select a resource that does not have a result assignment.

   **Note:** Resources that already have result assignments are denoted by  .

3. Display the Copy Resource Calculation dialog box by completing one of the following steps:

- In the **Resources** group on the Edit tab, click **Copy Calculations**.
- Right-click the Calculation pane on the Calculations tab and select **Copy Calculations** on the shortcut menu.

## Procedures

Follow the procedures in this section to utilize the Calculations tab.

*Add Results to a Resource*

Use the Calculations tab of the Resource view to add results to a resource or child resource.

**To add a result to a resource:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resources grid of the Resource view, select a resource or child resource.
3. Click the Calculations tab and take one of the following actions:
   - In the **Resources** group on the Edit tab, click **Add Results**.
   - Right-click the Calculation pane and select **Add Results** on the shortcut menu.
4. In the Add Resource Results dialog box, select the results that you want to add to the resource or child resource that you selected on the Resources grid.
5. Click **Select**. If you selected more than one result, clicking **Select** displays the Order Resource Results dialog box.
6. In the Order Resource Results dialog box, specify the order of the results using **Move Up** and **Move Down**.

   The order of the results has an impact on how you set up the calculations for a resource. For example, if you want to calculate the G&A (General and Administrative) result as a function of the DIRECT and OVERHEAD results, you must instruct Cobra to list the DIRECT and OVERHEAD results on the grid first, followed by the G&A result.
7. Click **OK** to add the selected results to the resource.
8. Click  on the Quick Access toolbar to save the changes.

   After adding results to a resource or child resource, you need to set up how Cobra calculates each result. The Source Results pane displays all the results that you can include in the calculation. To create a calculation, select one or more results from the Source Results pane. The results you selected are added together and multiplied by the rate that you selected in the **Rate Set** field.

   You can also modify the **Result** and **Units** labels in the Calculation pane of the Calculations tab. Use the Data Tool to add a result to a project.

*Add Calculations to a Resource*

Use the Calculations tab of the Resource view to add calculations to a resource or child resource.

**To add a calculation to a resource:**

1. Display the Resource view of the resource file that you want to update.
2. In the Resources grid of the Resource view, select a resource or child resource.
   You must select a resource that has a result assignment.

   **Note:** Resources that already have result assignments are denoted by .

3. Select the Calculations tab.
4. In the Calculation pane of the Calculations tab, select the result for which you want to set up a calculation.
5. In the Source Results pane, select the results that you want to use in the calculation.
   For example, if you selected G&A on the Calculation grid, you can calculate the G&A (General and Administrative) result as a function of the DIRECT and OVERHEAD results.
   G&A = (DIRECT + OVERHEAD) x G&A rate
6. Click on the Quick Access toolbar to save the changes.

*Copy Calculations from Another Resource*

Use the Calculations tab of the Resource view to copy calculations from a resource to another resource.

**To copy calculations from another resource:**

1. Display the Resources view.
2. On the Resources grid of the Resource view, select the resource to which Cobra will copy the calculations. You must select a resource that does not have a result assignment.

   **Note:** Resources that already have result assignments are denoted by .

3. Select the Calculations tab.
4. Display the Copy Resource Calculation dialog box by completing one of the following steps:
   - In the **Resources** group on the Edit tab, click **Copy Calculations**.
   - Right-click the Calculation pane on the Calculations tab and select **Copy Calculations** on the shortcut menu.
5. In the Copy Resource Calculation dialog box, click to select the resource from which you want to copy the calculations.

6. Click **OK**.
   Cobra copies the calculations to the resource that you selected on the Resources grid.
7. Click on the Quick Access toolbar to save the changes.

*Delete a Result from a Resource*

Use the Calculations tab of the Resource view to delete results from a resource.

**To delete a result from a resource:**

1. Display the Resource view for the resource file that you want to update.
2. In the Resources grid of Resource view, select the resource or child resource from which you want to delete a result.

   **Note:** Resources that already have result assignments are denoted by .

3. Select the Calculations tab.
4. In the Calculation pane of the Calculations tab, right-click the result that you want to delete and select **Delete Results** on the shortcut menu.
5. Click **Yes** to delete the resource.
6. Click on the Quick Access toolbar to save the changes.

*Assign a Rate Set to a Result*

Use the Calculation pane of the Calculations tab in the Resource view to assign a rate set to a result.

**To assign a rate set to a result:**

1. Display the Resource view for the resource file that you want to update.
2. In the Resources grid of the Resource view, select the resource or child resource containing the result that you want to add a rate set to.

   **Note:** Resources that already have result assignments are denoted by .

3. Select the Calculations tab.
4. In the Calculation pane of the Calculations tab, select a result.
5. In the Rate Set column, click to select the rate set that you want to assign to the result.
   You can only choose from the rate sets contained in the rate file that is assigned to the resource file.

**Note:** You can change the rate file assigned to the resource file on the General tab of the Resource File Properties dialog box.

6. Click on the Quick Access Toolbar to save the changes.

## Apportionment Definition Tab of the Resource View

Apportionment is used to create budget, earned value, and a forecast for work that is based on other work.

For example, if you budget IT Support as a percentage of Engineering, the apportionment will help you develop your budget, earn value, and forecast for your IT Support.

Apportionment definition is the step where you specify how apportioned resources are calculated, which result to use in the calculation, and what resources the apportionment is based on. For example, if the IT Support resource is based on Engineering DIRECT dollars, you create an apportionment definition for the IT Support resource and select that the calculation is based on DIRECT. Then select the Engineering resource as the source resource.

**Note:** The Apportionment Definition is secured by role in the EPM Security Administrator. If a user's role does not provide access to apportionment definitions, the content of this is not displayed.

### Contents

| Field | Description |
|---|---|
| **Resource budgeted by apportionment** | Select this option to start the apportionment definition process. When selected, this option indicates that the selected resource is being apportioned. If you do not select this option, the fields and options on the Apportionment Definition tab will remain unavailable. |
| **Source Result** | Select a result from this drop-down list. This list contains all results defined for the resource file. |
| **Source Resources** | This field displays all source resources defined for the apportioned resource. If no source resource is defined for the apportioned resource, this field is blank. |
| **Add** | Click this button to display the Resource Lookup dialog box, where you can select the source resource. You can only select resources that have the same source result. |
| **Order** | The order number indicates the order by which the selected resource is calculated with respect to other resources. |

### Define Resource Apportionment

Use the Apportionment Definition tab of the Resource view to define resource apportionment.

**To define resource apportionment:**

1. Display the Resource view.
2. In the Resource view, select a resource or child resource from the grid.
   This is the resource that Cobra will apportion.
3. Select the Apportionment Definition tab.
4. On the Apportionment Definition tab pane, select the **Resource budgeted by apportionment** option.

   **Note:** If you do not select this option, the fields and options on the Apportionment Definition tab will remain unavailable.

5. Use the **Source Result** drop-down list to result that you want to associate with the apportioned resource.
6. Click **Add** to display the Resource Lookup dialog box, where you can select the resource that you want to use as the source for the apportioned resource.
   You can select multiple resources or child resources.
7. Click **Select** to add the selected base resource to the **Source Resources** field.
8. Click on the Quick Access toolbar to save the apportioned resource.

   **Note:** The order number indicates the order by which the selected resource is calculated with respect to other resources. Each apportioned resource can be calculated from one or multiple resources within the same resource file.

## New Resource File Wizard

Use the New Resource File Wizard to create resource files.

### General Information Page of the New Resource File Wizard

Use this page to enter general information for the new resource file.

Resource files are used to define resources that will be used on projects. The file defines how derived costs and rates are applied to each resource as well as the apportionment definition for resources whose Budget is based on other resources. Calculated results can be created for enhanced reporting capability. Additionally, information such as thresholds and codes can be defined for each resource within the file. The New Resource File Wizard guides you through creating a resource file.

### Contents

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new resource file that is meaningful for the organization or project. This field defaults to New Resource File 1. If this name is in use by an existing resource file, the number increments. |
| **Description** | Use this field to enter a description for the new resource file. You can modify the resource file description afterwards on the General tab of the Resource File Properties dialog box. |

### Video

| Title | Description |
|---|---|
| Creating a New Resource File | Learn how to create a new resource file. |

## Resource File Structure Page of the New Resource File Wizard

Use this page to define the type of structure you want to use for the new resource file.

### Contents

| Field | Description |
|---|---|
| **Type** | Use this field to select the resource file structure.<br>Your options are:<br>▪ **Punctuated Significant**: Selecting this option displays the **Punctuation character** field. Use the **Punctuation character** field to enter a character that Cobra will use to separate the codes of the resource that correspond to the different levels of the structure.<br>Each resource (with the exception of the resource at the top of the hierarchy) is formed from the name of its parent, followed by a user-selected punctuation mark and one or more additional digits.<br>▪ **Non Significant**: This means the parent information is not included at the lowest level of the structure. Thus, the resources themselves will also not contain parent information. This is useful when loading actual costs because most accounting systems do not use the parent codes in their naming conventions. A maximum of 20 levels can be defined for a Non-Significant structure.<br>▪ **Fixed Form Significant**: Fixed Form Significant resources rely on the length of the resource to represent the structure level. Selecting the **Fixed Form Significant** option enables the following options:<br>▪ Use the **Pad Character** field to add characters to the end of the resource value at each level. When you enter resource codes, the pad is automatically |

| Field | Description |
|---|---|
| | added to equal the maximum character length. The Pad character is used to pad every resource to the same length. You can use any character, but only one character can be entered.<br>▪ The value in the **Maximum length** field automatically reflects the values that you enter in the **Number of digits per level** grid.<br>▪ The **Number of digits per level** grid defines the cumulative resource value length at each level of the resource structure. For example, if you enter 1 character for level 1 and 2 characters for level 2, then level 2 of the resource structure must always have 2 characters, and level 1 must always have 1 character.<br>You can only define 20 levels, and if you specify a digit for a level, the maximum length for the field is 1-59 characters, including the pad character. This information cannot be changed after creating the resource file. |

## Thresholds Page of the New Resource File Wizard

Use this page to define acceptable cost and schedule variances.

When a cost variance or schedule variance exceeds the predefined threshold, they are highlighted in either red for unfavorable (negative) or green for favorable (positive. These thresholds, or tolerances, define how large cost variances (Earned Value - Actual Cost) and/or schedule variances (Earned Value - Budget) must be before Cobra triggers exception reporting mechanisms.

Using thresholds is known as management by exception and is an efficient way to manage a project. Instead of micro-managing the entire project, you only focus on areas that exceed the predefined threshold.

### Schedule Variance

A schedule variance is a metric for the schedule performance of a project. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition while a negative value is unfavorable.

| Field | Description |
|---|---|
| **Current period** | This field refers to the schedule variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative schedule variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

### Cost Variance

A cost variance is a metric for the cost performance of a project. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost). A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

| Field | Description |
|---|---|
| **Current period** | This field refers to the cost variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative cost variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **At complete** | This field refers to the cost variance at project completion. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

### Threshold Options

Use the following options to define the threshold settings for the **Schedule Variance** and **Cost Variance** fields.

| Value | Definition |
|---|---|
| **None** | The code file will not use thresholds or tolerances. |
| **Percent** | Cobra will define the schedule variance as a percentage amount. |
| **Value** | Cobra will define the schedule variance as an absolute amount. |
| **Both** | Cobra will define the schedule variance using both the percentage amount and the absolute value. |

You can modify the threshold settings afterwards on the Thresholds tab of the Resource File Properties dialog box. To specify threshold values for a resource, use the Thresholds tab of the Resource view.

## Code Fields Page of the New Resource File Wizard

Use this page to assign code files to the resource file that you are creating (code on code). This is particularly useful in creating reports.

### Contents

| Field | Description |
|---|---|
| **Number** | This field displays the number of code files assigned to the resource file that you are creating. |
| **Prompt** | Use this field to assign a label that Cobra will use as a prompt for the code field. This prompt appears as a column header in all the grids where it is used. You must enter a label in this field if you selected **Code (optional)**, **Code (required)**, or **Text** in the **Code Field Type** field. |

| Field | Description |
|---|---|
| **Code Field Type** | Use this field to select a code field type.<br>Your options are:<br>▪ **<none>**: Select this option if you do not want to assign code files to the resource file that you are creating.<br>▪ **Code (optional)**: Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter any text in the code field.<br>▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator. |
| **Code File** | Use this field to assign code files to the resource file that you are creating. Click ... to open the Code File Lookup dialog box, where you can select the code file that you want to use. You can only select a code file in this field if you selected the **Code (optional)** or **Code (required)** option in the **Code Field Type** field. |

**Note:** You can modify the code field assignments afterwards on the Code Fields tab of the Resource File Properties dialog box.

## Default Rates Page of the New Resource File Wizard

Use this page to select the rate file that Cobra will use in defining how results are calculated.

### Contents

| Field | Description |
|---|---|
| **Rate File** | Use this field to display the Rate File Lookup dialog box and select a rate file.<br>This field displays the default rate file used to assist in data entry. When you actually assign a resource to a project, you are prompted for the class. Cobra uses the rate file assigned to the class to calculate the values.<br>You can specify a different default rate file afterwards on the General tab of the Resource File Properties dialog box. |

## Resource Results Page of the New Resource File Wizard

Use this page to select the results that you want to calculate against the resources in the file.

The results that you selected on this page will be available on the Calculations tab of the Resource view when you want to add results to a resource.

### Contents

| Field | Description |
|---|---|
| **Selected** | This field allows you to specify the results that you wish to include in the resource file that you are creating. |
| **Field Name** | This field displays the field names of the results as they appear in the Cobra database. You cannot modify the field names in this column. |
| **Result** | This field displays the names of the results available in Cobra. You can modify the names in this column if you want to differentiate them from their database field names. Cobra uses the value in this field in projects and reports. This is a required field. |
| **Unit** | Use this field to define the unit type for each result. For example, for the **DIRECT** result you can enter **$** in the Unit column to indicate that this particular result is computed in terms of monetary currency. This is a required field. |
| **Default Rate Set** | Use this field to select the rate set that you want to use in a selected result. You can select from the rate sets that are available in the default rate file that you selected in the Default Rates page. This is an optional field. |
| **Currency** | This field displays a checkbox if the result selected is a currency. Results that are flagged as currency are summed together to give total values in the Project dialog box. Cobra uses this flag to prevent the addition of hours and currency values, and to prevent the addition of two different currency values. For example, US dollars and Euros are both currency, but only the currency defined for the project should be flagged as currency to prevent the addition of US dollars and Euros. |
| **Result Code** | Use this field to define a result code. The following options are available:<br>▪ **<None>**: No result code<br>▪ **C** : Cost of Money<br>▪ **D**: Direct<br>▪ **E** : Fee<br>▪ **F**: Full Time Equivalents<br>▪ **G**: General & Administrative<br>▪ **H**: Hours<br>▪ **N**: No scale factor |

| Field | Description |
|---|---|
| | ▪ **O**: Overhead<br>You can also enter your own code.<br>Cobra uses result codes to drop G&A to the bottom line, calculate direct labor rates by dividing hours by direct result, and perform full-time equivalent calculations during the rolling wave process. You can modify the resource result assignments afterwards on the Results tab of the Resource File Properties dialog box. |

### Access Control Page of the New Resource File Wizard

Use this page to enable users or groups to access the resource file that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Access Control tab of the Resource File Properties dialog box.

### Confirmation Page of the New Resource File Wizard

This page informs you that Cobra has all the information it needs to create a new resource file.

If you need to double check the information you entered on any of the previous pages, click **Back** until that page displays. After verifying that all the information is correct, click **Finish** to create the resource file.

## Procedures

Follow the procedures in this section to utilize the New Resource File Wizard.

### Create a New Resource File

Use the New Resource File Wizard to create a new resource file.

**To create a new resource file:**

1. Display the New Resource File Wizard by completing one of the following steps:
   - Click » **New** » **Resource** » **Create**.
   - On the Quick Access toolbar, click , select **Resource**, and click **Create**.
   - In the Cobra Explorer, right-click the **Resources** group bar, and click **New Resource File** on the shortcut menu.

- In the Cobra Explorer, select the **Resources** group bar, right-click the Resources pane, and select **New Resource File** on the shortcut menu.

2. Complete the New Resource File Wizard pages to create a new resource file.

**Video**

| Title | Description |
|---|---|
| Creating a New Resource File | Learn how to create a new resource file. |

### Display the New Resource File Wizard

You can display the New Resource File Wizard in several ways.

**To display the New Resource File Wizard:**

Take one of the following actions:

- On the Quick Access toolbar, click , select **Resource**, and click **Create**.
- In the Cobra Explorer, right-click the **Resources** group bar, and select **New Resource File** on the shortcut menu.
- n the Cobra Explorer, right-click the **Resources** group bar, and select **New Resource File** on the shortcut menu.
- In the Cobra Explorer**,** select the **Resources** group bar, right-click the Resources pane, and select **New Resource File** on the shortcut menu

## Resource File Properties Dialog Box

Use the Resource File Properties dialog box to view and change information about your resource files.

### Procedures

Follow the procedures in this section to display the Resource File Properties dialog box.

#### Display the Resource File Properties Dialog Box Tabs from an Open Resource File

You can display the General, Structure, Code Fields, Thresholds, Results, or Access Control tab of the Resource File Properties dialog box from an open resource file.

**To display a tab of the Resource File Properties dialog box for an open code file:**

1. In the Resource view, take one of the following actions:
   - In the **Properties** group on the Edit tab, click **Properties**.
   - Right-click anywhere in the Resource view and select **Properties** on the shortcut menu.
2. In the Resource File Properties dialog box, click the tab to display.

### Display the Resource File Properties Dialog Box Tabs without Opening a Resource File

You can display the General, Structure, Code Fields, Thresholds, Results, or Access Control tab of the Resource File Properties dialog box without opening a resource file.

**To display a tab of the Resource File Properties dialog box without opening the resource file:**

1. In the Cobra Explorer, select the **Resources** group bar.
2. In the Resources pane, take one of the following actions:
   - Click the appropriate resource file and click **Properties** in the **Properties** group bar on the Edit tab.
   - Right-click the appropriate resource file and select **Properties** on the shortcut menu.
3. In the Resource File Properties dialog box, select the tab to display.

## General Tab of the Resource File Properties Dialog Box

This tab displays the information that you specified in the New Resource File Wizard.

Additionally, the selected resource file's name is displayed on this tab, and you can edit the file's description.

**Contents**

| Field | Description |
|---|---|
| **Name** | This field displays the name of the selected resource file. You cannot change the resource file name. |
| **Description** | This field displays a brief description of the selected resource file. You can change the resource file description in this field. |
| **Default Rate File** | This field displays the default rate file for the selected resource file. Click ... to select another rate file. |

## Structure Tab of the Resource File Properties Dialog Box

This tab displays the selected resource file's structure type and related information. The structure type is initially defined in the New Resource File Wizard when you are creating the resource file.

**Contents**

| Field | Description |
|---|---|
| **Type** | This field displays the structure type that you selected in the New Resource File Wizard when you were creating the resource file. You cannot change the structure type after creating the resource file. |

| Field | Description |
|---|---|
| **Rebuild Hierarchy** | Use this button to rebuild (tag) the resource file by automatically re-tagging all values in the file and re-indexing the file. This feature generates tags that Cobra uses to keep track of the level occupied by each resource in the resource file. |

**Note:** This information cannot be changed after creating a new resource file.

## Code Fields Tab of the Resource File Properties Dialog Box

Use this tab to change code assignments for the selected resource file.

Code assignments are initially defined in the New Resource File wizard when you are creating the resource file. Assigning code files to a resource file is optional.

### Contents

| Field | Description |
|---|---|
| **Number** | This field displays the number of code files assigned to the selected resource file. |
| **Prompt** | Use this field to assign a label that Cobra uses as a prompt for the code field or to change the existing label. This prompt appears as a column header on all the grids where it is used. You must enter a label in this field if you selected **Code (optional)**, **Code (required)**, or **Text** in the **Code Field Type** field. |
| **Code Field Type** | Use this field to select the code field type.<br>Your options are:<br>▪ **<none>**: Select this option if you do not want to assign code files to the selected resource file.<br>▪ **Code (optional)**: Select this option to choose a valid code assignment from the code file specified in the **Code File** column or to leave the code assignments blank. Codes assignments may be left blank. However, when assigning codes, Cobra will validate that the assigned codes exist in the code file.<br>▪ **Code (required)**: Select this option to require that a valid code assignment be selected from the code file specified in the **Code File** column. When assigning codes, Cobra will validate if the assigned codes exist in the code file. This option only allows you to assign valid codes from a code file and does not allow blank code assignments. Cobra does not validate existing assignments until individual records are selected. Previously blank or invalid assignments will not be updated automatically.<br>▪ **Text**: Select this option to enter any text in the code field. |

| Field | Description |
|---|---|
| | ▪ **User Field**: Select this option to choose a user for the code field from the list of users defined in the EPM Security Administrator.<br>If you want to use this code field for the IPMR Format 2 Summary, you must set this field to **Code (optional)** or **Code (required)**. |
| **Code File** | Use this field to assign code files to the selected resource file. Click to open the Code File Lookup dialog box, where you can select the code that you want to use. You can only select a code file in this field if you selected the **Code (optional)** or **Code (required)** option in the **Code Field Type** field. |

## Thresholds Tab of the Resource File Properties Dialog Box

Use this tab to define acceptable cost and schedule variances.

When a cost variance or schedule variance exceeds the predefined threshold, they are highlighted in either red for unfavorable (negative) or green for favorable (positive). These thresholds, or tolerances, define how large cost variances (Earned Value - Actual Cost) and/or schedule variances (Earned Value - Budget) must be before Cobra triggers exception reporting mechanisms.

Using thresholds is known as management by exception and is an efficient way to manage a project. Instead of micro-managing the entire project, you only focus on areas that exceed the predefined thresholds.

This tab controls which variances Cobra tracks for the selected resource file. If you change the threshold settings on this tab, the threshold settings that you specified in the New Resource File Wizard when you were creating the resource file will also change.

### Schedule Variance

A schedule variance is a metric for the schedule performance of a project. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition while a negative value is unfavorable.

| Field | Description |
|---|---|
| **Current period** | This field refers to the schedule variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative schedule variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

### Cost Variance

A cost variance is a metric for the cost performance of a project. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost). A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

| Field | Description |
|---|---|
| **Current period** | This field refers to the cost variance for the current period. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **Cumulative** | This field refers to the cumulative cost variance. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |
| **At complete** | This field refers to the cost variance at project completion. Use the **Favorable** and **Unfavorable** drop-down lists to define tolerances for this field. Your options are discussed in detail below. |

**Threshold Options**

Use the following options to define the threshold settings for the **Schedule Variance** and **Cost Variance** fields.

| Value | Description |
|---|---|
| **None** | The code file does not use thresholds or tolerances. |
| **Percent** | Cobra defines the schedule variance as a percentage amount. |
| **Value** | Cobra defines the schedule variance as an absolute amount. |
| **Both** | Cobra defines the schedule variance using both the percentage amount and the absolute value. |

## Results Tab of the Resource File Properties Dialog Box

Use this tab to select the results that Cobra will use in resource calculations.

Some of the most commonly used results in Cobra are as follows:

- **HOURS**: Hours are frequently used as the first result or basis for calculation.
- **DIRECT**: Direct cost is usually calculated by multiplying the hours by an applicable rate.
- **OVERHEAD**: Overhead is usually calculated by multiplying the direct cost by an overhead rate.
- **GANDA**: General and administration (G&A) is usually calculated by adding the direct cost and overhead and multiplying the sum by the G&A rate.

**Note:** Use the Cobra Data Tool to add results that Cobra can use in resource calculations.

**Contents**

| Field | Description |
|---|---|
| **Selected** | Use the checkboxes in this column to select the results that you want to use in the calculations for the resource file. |
| **Field Name** | This column displays the name of the result. You cannot change the field name. The naming of results has important implications for the subsequent operation of Cobra. The name of each result in a resource becomes a data field on the project detail file, which stores all time-phased cost data. It is for this reason that all result names must conform to naming conventions for databases. For example, names cannot contain spaces. |
| **Result** | This column displays the same entry as in the **Field Name** field. You can modify the result name in this field. The result name is what displays on the data entry screens. |
| **Unit** | This column defines the unit type of each result; for example, Hours. |
| **Default Rate Set** | This column displays the rate set assigned to the result. To select a new rate set, click ... to display the Rate Set Lookup dialog box. |
| **Currency** | The column displays a checkbox if the result is a home currency type result. The results marked as currency are summarized in the project view and project audit, and as default values in reports. |
| **Result Code** | Cobra uses result codes for reporting, exporting wInsight XML files, and exporting data in ANSI EIA X12 and IPMDAR formats. You can select any of the following codes:<br>▪ **<None>**: This selection indicates no result code.<br>▪ **C**: This code indicates a result related to Cost of Money.<br>▪ **D**: This code identifies the result as Direct Cost.<br>▪ **E**: This code identifies the result as a Fee.<br>▪ **F**: This code identifies the result as a FTE (Full Time Equivalent).<br>▪ **G**: This code instructs Cobra that the result is General and Administration (G&A), and needs to be dropped to the bottom line of the IPMR reports.<br>▪ **H**: This code identifies the result as a unit measured in Hours.<br>▪ **N**: This code indicates no scale factor.<br>▪ **O**: This code Instructs Cobra that the result is Overhead, and needs to be dropped to the bottom line of ICSR reports. |

### Access Control Tab of the Resource File Properties Dialog Box

Use this tab to enable users or groups to access the selected resource file or to change the access control settings for users or groups that have access to the file.

Access control settings for users and groups are initially defined in the New Resource File Wizard when you are creating the calendar file. The access control entry supports a read only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

## Resource File Security

A resource file can be accessed by either a user or a group, provided that they are granted permission to do so.

### Procedures

Follow the procedures in this section to enable a user or a group to access a resource file.

#### Enable a User to Access a Resource File

You can enable users to access a rate file using the Access Control page of the New Resource File Wizard or the Access Control tab of the Resource File Properties dialog box.

**To enable a user to access the resource file:**

1. On the Access Control page or tab, click **New**.

   Cobra adds a new row to the grid.
2. In the **User** field, click ...
3. In the Users Lookup dialog box, select a user, and click **Select** to add that user to the grid.

   You can also double-click a user ID to add that user to the grid.
4. In the **Role** field, click ...
5. In the Roles Lookup dialog box, select a role and click **Select** to assign that role to the user you selected.

   You can also double-click a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the user with read-only access to the resource file.

   > **Note:** You can assign a user or a group to a resource file in a row within the grid, but you cannot assign both.

### Enable a Group to Access a Resource File

You can enable groups to access a resource file using the Access Control page of the New Resource File Wizard or the Access Control tab of the Resource File Properties dialog box.

**To enable a group to access the resource file:**

1. On the Access Control page or tab, click **New**.
   Cobra adds a new row to the grid.
2. In the **Group** field, click ...
3. In the Groups Lookup dialog box, select a group, and click **Select** to add that group to the grid.
   You can also double-click a group ID to add that group to the grid.
4. In the **Role** field, click ...
5. In the Roles Lookup dialog box, select a role, and click **Select** to assign that role to the group you selected.
   You can also double-click a role to add that role to the grid.
6. Select the **Read Only** option if you want to provide the group with read-only access to the resource file.

   **Note:** You can assign a user or a group to a resource file in a row within the grid, but you cannot assign both.

# Reports

Use the Reports feature of Cobra to generate reports that meet your firm's specific needs.

Use the Reports feature to:

- View and modify report parameters and access rights
- Select parameters for the report, run the report, and save the report
- Generate reports based on different report categories
- Customize reports to include or exclude data that is specific to your needs
- Define a group of reports that you can display or print with a single operation

You can see various reports with their description, category, and type when you click **All Reports** in the navigation pane's group bar and view the **All Reports** pane.

## Report Properties Dialog Box

Use the Report Properties dialog box to view and modify report parameters and access rights.

If you have access to the Report Properties dialog box, you can change the report settings. You do not need permissions for the report. However, you must have access rights to modify a report's parameters.

## General Tab of the Report Properties Dialog Box

Use this tab to view or modify information for the report you selected. The contents of this dialog box control how data is queried from the database, the options provided in the Report Wizard, and the data displayed on the report.

Some options, such as the report name, description, or information, can be changed. However, most of the options on this dialog box should only be changed by someone with detailed knowledge of the reporting engine. Changing the options on this dialog box may cause the report or the Report Wizard to function improperly.

### Contents

| Field | Description |
|---|---|
| **Report name** | This field displays the name of the report. This field is displayed on all the tabs. After a report is created, its name cannot be edited.<br>**Note:** If you want to change a report's name, create a copy of the report by running the current report and providing a new name on the Save and Run page of the Report Wizard. |
| **Description** | Use this field to enter a description for the report. You can also edit a report's description on the Save and Run page of the Report Wizard. |
| **Category** | This field displays the report's category. You can use categories to organize reports with similar attributes.. By entering a category, you can filter the reports displayed on the Report page of the wizard.<br>Select one of the following default categories:<br>▪ Ancillary<br>▪ Audit<br>▪ Column<br>▪ Export<br>▪ Format<br>▪ Graphic<br>▪ Planning<br>You can also create a new category. Enter the name of the new category in the field. The category is saved as a new category and the new category is associated with the selected report. |
| **Report Type** | This field displays the report type. The report type indicates the file type to prompt for on the Report page of the Report Wizard (that is, Project, Calendar, Rate, and others). The report type that you select also determines the allowed criteria on the Sub-Totals page of the Report Wizard, and the filter and sort fields that are available on the Filter/Sort page of the Report Wizard. Select one of the following report types: |

| Field | Description |
| --- | --- |
| | ▪ Access<br>▪ Change Management<br>▪ CPR<br>▪ CPR 3<br>▪ Crosstab<br>▪ Crosstab Criteria<br>▪ Graph<br>▪ Model<br>▪ Pivot Table<br>▪ Project Planning Statistics<br>▪ Summary |
| **Table Type** | This field displays the table from which data for the report is retrieved.<br>Select one of the following tables:<br>▪ Apportionment Mapping Target<br>▪ Audit<br>▪ Calendar<br>▪ Calendar Holiday<br>▪ Class<br>▪ Code<br>▪ Control Account/Work Package<br>▪ Cost Set<br>▪ Detail<br>▪ Rate<br>▪ Report<br>▪ Resource |
| **Saved Report** | Select this checkbox to indicate that the report can run without user input. You can only include saved reports in batch reports. |

## Information Tab of the Report Properties Dialog Box

Use this tab to help you determine which report to select.

When you use the Report Wizard to change report selections, and save the report with a new name, you can enter your own report information with the following details:

- The saved reports that you selected
- The information that will be displayed on the report
- When you will use the report, such as when you analyze the viability of a forecast
- How to interpret the information on the report

Use this tab to view or modify the information entered on the report. You can view this information on the Report and Save and Run pages of the Report Wizard when a report is saved. You can edit the information by adding or deleting text.

You can enter up to 400 characters. The following options are available on the shortcut menu:

- Undo
- Cut
- Copy
- Paste
- Delete
- Select All

Click **OK** or **Apply** to save the changes you made.

## Report Definition Tab of the Report Properties Dialog Box

Use this tab to view or modify report parameters. These parameters determine the wizard pages that are displayed, the available fields on the wizard pages, and the default selections assigned to these fields.

In addition, you can use these parameters with the report's template tags to define the style and output of the report. The saved information is displayed in XML format.

The following options are available on the shortcut menu:

- Undo
- Cut
- Copy
- Paste
- Delete
- Select All

## Access Control Tab of the Report Properties Dialog Box

Use this tab to view and modify the security access set for the report. You can filter the reports on the Report page of the Report Wizard by access control: shared, personal, or all.

Access control settings for users and groups are initially defined in the Report Wizard when you are creating the report. The access control entry supports a read only flag. The owner (or

member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

> **Note:** If you are viewing a personal report with the same name as an existing shared report that you do not own, this page displays a message informing you that the report you are viewing cannot be shared, instead of the Access Control grid with the **New** and **Delete** buttons.

### Procedures

Follow the procedures in this section to utilize the Report Properties dialog box.

#### Display the Report Properties Dialog Box

Display the Report Properties dialog box to view and modify report parameters and access rights.

**To display the Report Properties dialog box:**

Take one of the following actions:

- In the **Properties** group on the Reporting tab, click **Properties**.
- In the Cobra Explorer, select the **All Reports** group, right-click the All Reports pane, and select **Properties** on the shortcut menu.
- In the Cobra Explorer, select the **Personal Reports** group, right-click the Personal Reports pane, and select **Properties** on the shortcut menu.

## Report Parameters

Report parameters can be used to control which pages are displayed on the Report Wizard, the available fields on the Report Wizard pages, and the default selections assigned to these fields.

Additionally, these parameters can be used with report template tags to define the style and output of the report.

Use the Report Definition tab of the Report Properties dialog box to pass a number of parameters to the report engine. The report displays some of the parameters, such as **AggregationResults** and **DisplayDataWorksheets**, which control a number of aspects in reporting. **ApplyCellFormat** is an example of a parameter that controls how much data is displayed in the template.

The types of parameters are:

- **Report Content Parameters**: These parameters control the appearance and contents of the report.
- **Report Criterion Parameters**: These parameters specify the selections when a page in the Report Wizard is disabled.
- **Report Options**: These parameters control whether report criteria are printed at the bottom of a report.

- **Report Wizard Parameters**: These parameters control the behavior of the Report Wizard.

Copy the contents displayed on the Report Definition tab to Notepad and make your edits. Using Notepad, you can search for the parameters, control the word wrap, and so on. Then, copy and paste the contents back into the Report Definition tab.

**Note:** Boolean values are represented as **0** (false) and **1** (true) in the parameters of the XML document.

## Report Content Parameters

Use the Report Definition tab of the Report Properties dialog box to pass a number of options to the report engine.

Some of the tags, such as **AggregationResults** and **DisplayDataWorksheets**, control what data is displayed in the report. Some of the tags, such as **ApplyCellFormat**, indicate how much data is displayed in the template.

You can use the table below to obtain information on the definition and valid settings for each report content parameter tag found in the Report Properties dialog box.

**Note:** The Report Types column indicates the type of report to which a specific parameter is applicable.

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| AggregationResults | List | Aggregated | This is the comma-separated list of results that are included in the report when **Results** is not selected as a criterion.<br>You can pass the value **ALL** to the parameter to include all currency results. For example, to produce a report in hours without selecting the result HOURS, you can change this parameter to HOURS. Alternatively, you can include a non-currency result such as FEE to a report by listing all of the results: DIRECT, OVERHEAD, GANDA, and FEE. |
| ApplyCellFormat | Boolean | All | This parameter indicates if the report layout engine should apply cell formatting to cells containing date and currency values. If this option is enabled, the date and currency formats will be obtained from the **CellFormatDatePattern** and **CellFormatCurrencyPattern** parameters respectively.<br>The cell will be formatted using the date or currency format as follows: |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | Any tag that evaluates to a currency or date value can be used to set the cell's format.<br>▪ A tag that evaluates to a currency value will cause the currency format to be applied to the cell (for example, ControlAccount.Bac).<br>▪ A tag that evaluates to a date value will cause the date format to be applied to the cell (for example, ControlAccount.BaselineStart).<br>▪ If a cell contains multiple tags that include both currency and date values then only one of the cell formats will be applied. The default selected tag is arbitrary but a specific tag can be nominated (details below).<br>A **Cell[]** tag that references a cell where the cell format has been applied can also be used to set the cell format.<br>**Attention:** For more information on the conditions under which a Cell[] tag can be used to determine a cell's format, see the description of the {ApplyCellFormat} tag in Other Tags.<br>If the format cannot be obtained from one of the cell's tags, the cell's format will be copied from the template.<br>There will be cases where it is necessary to override the default cell formatting for an individual cell. For example:<br>▪ The cell contains a formula that includes a currency tag but the formula result is not a currency value.<br>▪ The cell contains a formula that includes both date and currency tag values and you need to indicate which one (if any) will be used to represent the result.<br>The **{ApplyCellFormat}** and **{NoCellFormat}** tags can be entered into an individual cell to provide additional control over which tags are used to format an individual cell. |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | **Attention:** For more information on the description of the **{ApplyCellFormat}** and **{NoCellFormat}** tags see Other Tags. |
| ApplyThresholdFilter | Boolean | Aggregated | This parameter indicates if the report is filtered to include only the items that exceed threshold limits. This option is useful to limit the pages in a CPR Format 5 report to only the criteria that exceed the threshold. Only reports that highlight the exceptions support this parameter.<br>If the value variance is not 0 and the percent variance cannot be calculated because the denominator value used in % calculation is 0, the percent variance is deemed to be exceeded if the value variance is also exceeded or is not defined. |
| CalculateFTEFromCalendar | Boolean | Aggregated | This parameter indicates if the **FTE** result in the report will be calculated from the calendar hours.<br>If the report type is CPR, the FTE values will be calculated for monthly periods and then summed into their respective reporting periods. For all other report types, the FTE values will be calculated with respect to the total hours and calendar hours for the reporting periods.<br>If this setting is false, the report will display the FTE values that are stored in the project instead of calculating them.<br>The **Hours** and **FTE** results are identified by the sort codes **H** and **F**, respectively. |
| CalendarPeriods | List | Aggregated | This is the comma-separated list of manually selected calendar periods.<br>This parameter is used if **UseSelectedCalendarPeriods =1**.<br>The calendar period labels (not dates) are stored in this parameter.<br>This parameter can be set on the Calendar page of the Report Wizard. |
| CalendarSet | String | Aggregated | This parameter is the calendar set ID. This parameter can be set on the Calendar page of the Report Wizard. |
| CellFormatCurrencyPattern | String | All | This parameter is the format applied to cells that contain a currency value. This parameter is used only if **ApplyCellFormat=1** . |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | **Attention:** For more information< refer to the **ApplyCellFormat** parameter.<br>This value should not contain any currency symbols. The currency symbol and its position are obtained from the project's settings.<br>This value must contain a valid pattern that is supported by Excel. It can contain positive and negative patterns, such as **#,##0**; and **-#,##0**.<br>If this value is not provided, a default pattern is determined based on the server's local settings. |
| CellFormatDatePattern | String | All | This parameter is the format applied to cells that contain a date value. This setting is used only if **ApplyCellFormat=1**.<br>**Attention:** For more information, refer to the **ApplyCellFormat** parameter.<br>This value must contain a valid pattern that is supported by Excel.<br>If this value is not provided, the default date format style is applied. |
| CostSets | List | Aggregated | This is the comma-separated, ordered list of cost sets to be included in the report. Some reports such as the CPR Format reports do not allow you to select the cost sets because the formulas in the report rely on the cost sets being defined in this list in a particular order. After selecting cost sets on the Cost Sets page of the Report Wizard, the saved settings are stored in this parameter. |
| CreateBlankNotes | Boolean | Aggregated | This parameter indicates if notes must be present in all note categories defined in the **IncludeNoteCategories** parameter by creating blank notes where notes are not entered. |
| DisplayDataWorksheets | Integer | Aggregated | Use this parameter to select the basic worksheets that will be created in the Excel file.<br>The following report worksheets can be created: Report and Template.<br>The following data worksheets can be created: Data, Calendar, Narrative, Notes, and Thresholds. |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | **Note:** This parameter does not control any of the extended data worksheets, which are configured using the **DisplayExtendedDataWorksheets** parameter.<br>The following values are valid:<br>▪ **0**: Use this value to create only the report worksheets.<br>▪ **1**: Use this value to create all available worksheets.<br>▪ **2**: Use this value to create only the data worksheets. This value will not create the Notes worksheet. |
| DisplayExtendedDataWorksheets | List | Aggregated | Use this parameter to include any combination of the Control Accounts and Work Packages, Resource file, and Rate file worksheets in the Excel file.<br>When you use this parameter, you must specify all of the required worksheets in a list. For example: “RATE,RESOURCE”.<br>The following values are valid:<br>▪ **CAWP**: Use this value to create the Control Accounts and Work Packages worksheet.<br>▪ **RATE**: Use this value to create the rate file worksheet.<br>▪ **RESOURCE**: Use this value to create the resource file worksheet.<br>**Note:**<br>▪ Cobra will only include data from resource and rate files to which the logged-in user has at least read access rights.<br>▪ When a master project is selected, Cobra will only include the resource and rate files that are attached to the master project.<br>▪ When multiple projects are selected, Cobra will only include the resource and rate files that are attached to the default project. |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| DisplayDataWorksheetsCriteriaDescription | Boolean | Aggregated | This parameter indicates whether to display the criteria description with the ID (always displayed) in the Criteria column of the Data worksheet. The Pivot report requires this setting to display the descriptions in the report.<br>You can enable the Data worksheet with the **DisplayDataWorksheets** parameter. |
| DisplayReportOptions | Boolean | All | This parameter indicates if the selected report options are displayed in the report output.<br>The report template determines what is displayed based on the value of this parameter. The template references the **DisplayReportOptions** tag.<br>This is usually used in the following context: **{PRINTIF(DisplayReportOptions, True)}**.<br>This parameter can be set on the Save and Run page of the Report Wizard. |
| ExcludeIPMRFormat2SummaryFromBody | List | CPR | This is the comma separated list of Resource codes for which the data values will not be included in the body of the report.<br>**Attention:** For more information on how to code the resources, see Coding the Resources for IPMR Format 2 Reports.<br>You may also refer **IncludeIPMRFormat2SummaryInBottomLine**, which lists the result codes that will be displayed on the bottom line. If a result code is excluded from the body and not included in the bottom line, the results will not be included anywhere in the report. |
| ExcludeSortCodesFromBody | List | CPR | This is the comma-separated list of sort codes for which the result values are not included in the report body.<br>This parameter is used only if **IncludeSortCode =1**.<br>The report template must include a sort code total row for each excluded sort code (with the **{SortCode<Code>} tag)**; otherwise, the results are not included anywhere in the report. |
| FirstCalendarPeriodCumulative | Boolean | Aggregated | This parameter indicates if the first selected calendar period includes data from previous periods.<br>This parameter can be set on the Calendar page of the Report Wizard. |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| HighlightVariances | Boolean | Aggregated | This parameter indicates if values that exceed threshold variances are highlighted in the report.<br>The report template must implement the highlighting by using the **{HIGHLIGHT}** tag. |
| IncludeBlankCodeAssignments | Boolean | Aggregated | This parameter indicates if empty code assignments for the selected criteria that are associated with a code file are included in the report.<br>This parameter can be set on the Sub-Totals page of the Report Wzard. |
| IncludeHistoryCostSets | Boolean | Aggregated | This parameter indicates if the virtual HISTBAC and HISTEAC cost sets are included. They are referred to as virtual because they are not defined in the project. However, these cost sets contain the historical BAC and EAC data, which can be used in TCPI calculations.<br>**Note:** When you run a TCPI report against multiple projects, the generated report excludes historical cost sets. |
| IncludeIPMRFormat2SummaryInBottomLine | List | CPR | This is the comma-separated list of IPMR Format 2 Summary codes for which the data values will be displayed in the bottom line of the report.<br>**Attention:** For a list the codes that will be excluded from the body of the report, see **ExcludeIPMRFormat2SummaryFromBody**.<br>IPMR Format 2 Summary codes that are not excluded from the body of the report will be treated as non-add items in the bottom line of the report.<br>**Attention:** For more information, see the **{IPMRFormat2Summary}** tag, which determines the location of the summary rows in the report. |
| IncludeNarrativeCategories | List | CPR | This is the list of Narrative categories included in the report.<br>This parameter is automatically updated by the report layout engine based on the report template. Manually updating this parameter does not have any effect. |
| IncludeNoteCategories | List | Aggregated | This is the list of note categories included in the report. You can pass a value **ALL** to denote all note categories. |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | This parameter is automatically updated by the report layout engine based on the report template. Manually updating this parameter does not have any effect. |
| IncludeOnlyNonZeroCostSets | Boolean | Aggregated | This parameter indicates if empty (zero) values are created for cost sets that do not have data.<br>This parameter can be set on the Cost Sets page of the Report Wizard. |
| IncludeOnlyNonZeroPeriods | Boolean | Change Management<br>Project Audit | **For a Change Management report**<br>This parameter indicates if a PeriodDate header row is displayed for all periods or only for periods with log transactions.<br>**For a Project Audit report**<br>This parameter indicates if a Calendar Period Date criteria row is displayed for all periods or only for periods with log transactions. This setting is applicable only if **Calendar Period Date** is selected as the first criteria. |
| IncludeOnlyNonZeroResults | Boolean | Aggregated | This parameter indicates if empty (zero) values are created for results that do not have data. This parameter is useful when producing curve or graphic reports. If non-zero results are included, the line color for each cost set will remain consistent throughout the report. It is also useful when adding a calculation row to a time-phased report such as Earned/Actual costs to ensure the rows in the calculation exist.<br>This parameter can be set on the Results page of the Report Wizard. |
| IncludeSortCode | Boolean | CPR | This parameter indicates if results are split by sort code. |
| IsIPMR | Boolean | CPR3 | This parameter indicates if IPMR processing is required for CPR3 report.<br>This setting is currently only effective for the IPMR CPR Format 3 report. This setting has no effect on the other IPMR reports.<br>If this parameter is set to **1**, Cobra uses the time-phased data logging for the project. If this parameter is set to **0**, the standard CPR3 report is generated. |
| Results | List | Aggregated | This parameter is the comma-separated, ordered list of results to include in the report when **Results** is selected as a criterion. |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | This parameter can be set on the Results page of the Report Wizard. |
| RollupResults | Boolean | | This parameter indicates if the **Results** criterion values are summarized for all criteria levels.<br>If this parameter is set to 1, you must select **Results** as the last criterion. |
| ScaleFactor | Integer | | This parameter is the scale factor to apply to currency values. For example, a value of 1000 in this parameter means dividing all currency values by 1000.<br>This parameter can be set on the Style page of the Report Wizard. |
| ScaleFactorCaption | String | | This parameter is the caption displayed to indicate scaling in the report. For example, Thousands of Dollars.<br>This parameter can be set on the Style page of the Report Wizard. |
| TemplateFile | String | | This parameter is the name of the template file (including the extension) used for the report layout.<br>This parameter can be set on the Style page of the Report Wizard. |
| ThresholdFilterCompareType | String | Aggregated | This parameter indicates how exception reporting is triggered.<br>▪ **AND**: This setting causes the cost variance or schedule variance to be highlighted if both the Percent and Value options exceed the predefined threshold values.<br>▪ **OR**: This setting causes the cost variance or schedule variance to be highlighted if either the Percent or Value option exceeds the predefined threshold values. |
| UseSelectedCalendarPeriods | Boolean | Aggregated | This parameter indicates if the report uses manually selected calendar periods instead of periods in a calendar set.<br>This parameter can be set on the Calendar page of the Report Wizard.<br>If this parameter is set to **1**, the **CalendarPeriods** parameter must also be set. |

## Report Criterion Parameters

With the exception of **Fields**, all properties of report criteria parameters can be set on the Sub-Totals page of the Report Wizard.

You can use these criteria to display and calculate the subtotal of data on a project report. You must repeat report criteria parameters for each selected criteria.

The Report Types column indicates the type of report to which a specific parameter is applicable.

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| Fields | List | Aggregated | These are comma-separated list of additional fields that are displayed for this criterion.<br>This parameter is automatically updated by the report layout engine based on the report template. Manually updating this parameter does not have any effect. |
| Id | String | Aggregated | This parameter identifies the criterion.<br>Some criteria have predefined names and others have names derived from the underlying database structures. The safest way to determine a criterion ID is to select it using the Report Wizard. |
| Level | Integer | Aggregated | This parameter indicates the hierarchical level to roll up to.<br>This is applicable only for hierarchical structures such as code and resource files. |
| NewPage | Boolean | Aggregated | Use this parameter to insert a page break into the report each time the criteria value changes. |
| Subtotal | Boolean | CAP | This parameter indicates whether to display a subtotal line for this criterion. |

## Report Options

The Report Wizard provides an option to print the report criteria that you used to run a report. The criteria appear at the bottom of the report. Use Report Options tags to select the criteria to print.

### Report Options

You can use the table below to obtain information on the report options that are available for use.

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| ReportOptions.CalendarSet | HeaderReport, FooterReport | Aggregate | This is the selected calendar set. |
| ReportOptions.CostSets | HeaderReport, FooterReport | Aggregate | This is the selected cost sets, separated by commas. |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| ReportOptions.Criteria | HeaderReport, FooterReport | Aggregate | This is the selected criteria, separated by commas. |
| ReportOptions.Filter | HeaderReport, FooterReport | All | This is the selected filter. |
| ReportOptions.Sort | HeaderReport, FooterReport | All | This is the selected sort. |
| ReportSetting.ScaleFactor | HeaderReport, FooterReport | All | This is the report's scale factor. |
| ReportSetting.ScaleCaption | HeaderReport, FooterReport | All | This is the report's scale caption. |
| ReportSetting.AggregationResults | All | Aggregated | This is the report's AggregationResults setting. |

**PRINTIF Statement**

A **PRINTIF** statement at the bottom of the template controls what is shown on the report. The following statements should be included at the bottom of a report:

```
<Footer>{Report}{PRINTIF(DisplayReportOptions,True)}
<Footer>{Report}{PRINTIF(DisplayReportOptions,True)}Report Options
<Footer>{Report}{PRINTIF(DisplayReportOptions,True)}Criteria:
{ReportOptions.Criteria}
<Footer>{Report}{PRINTIF(DisplayReportOptions,True)}Cost Sets:
{ReportOptions.CostSets}
<Footer>{Report}{PRINTIF(DisplayReportOptions,True)}Calendar:
{ReportOptions.CalendarSet}
<Footer>{Report}{PRINTIF(DisplayReportOptions,True)}Filter:
{ReportOptions.Filter}
```

The **PRINTIF** statement executes the footer row if the option parameter is selected.

## Report Wizard Parameters

These parameters control the behavior of the Report Wizard.

The Report Types column indicates the type of report to which a specific parameter is applicable.

> **Attention:** For more information about report types, see Report Types.

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| AllowSelectCalendarSet | Boolean | Aggregated | This parameter indicates if the Report Wizard displays the Calendar page. You |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | can use this parameter to prevent users from changing a pre-selected calendar set. |
| AllowSelectCostSets | Boolean | Aggregated | This parameter indicates if the Report Wizard displays the Cost Sets page. You can use this parameter to prevent users from changing pre-selected cost sets. |
| AllowSelectCriteria | Boolean | Aggregated | This parameter indicates if the Report Wizard displays the Sub-Totals page. You can use this parameter to prevent users from changing pre-selected criteria if the report template is designed to use a specific selection. |
| AllowSelectFilter | Boolean | Aggregated, Model | This parameter indicates if you can select a filter.<br>If the **AllowSelectFilter** and **AllowSelectSort** parameters are both set to **0**, the Report Wizard does not display the Filter and Sort page. |
| AllowSelectResults | Boolean | Aggregated | This parameter indicates if you can select the **Results** criterion. |
| AllowSelectSort | Boolean | Model | This parameter indicates if you can select a sort.<br>If the **AllowSelectFilter** and **AllowSelectSort** parameters are both |

| Parameter | Data Type | Report Types | Description |
|---|---|---|---|
| | | | set to **0**, the Report Wizard does not display the Filter and Sort page. |
| AllowSelectIPMRFormat2Summary | Boolean | Aggregated | This parameter indicates if the IPMR Format 2 Summary page displays in the Report Wizard.<br>The IPMR Format 2 Summary page displays only if there is an **IPMR Format 2 Summary** code selected for the project. |
| MaxNumberOfCostSets | Integer | Aggregated | This parameter specifies the maximum number of cost sets that you can select. |
| MaxNumberOfCriteria | Integer | Aggregated | This parameter specifies the maximum number of criteria that you can select. |
| MinNumberOfCostSets | Integer | Aggregated | This parameter specifies the minimum number of cost sets that you can select. |
| MinNumberOfCriteria | Integer | Aggregated | This parameter specifies the minimum number of criteria that you can select. |

## Reduce Memory Consumption for Very Large Reports

Cobra has an option to generate the CAP and Time-phased reports using a subset of the standard reporting features.

This option allows Cobra to allocate memory more efficiently when generating reports. If the report you want to generate is very large (for example, it contains lots of rows and columns), Cobra may encounter an Out of Memory error while it is generating it. Use this option to overcome this issue.

The main differences between the standard CAP and Time-phased reports and the low-memory reports are as follows:

- Subtotal rows are displayed in the criteria footer instead of in the header.
- Most of the style and formatting attributes in the report template are not applied to cells in the detail section of the report. However, Cobra will apply style and formatting attributes in the report and page header and footer sections.

You can use the low-memory version of a report by choosing the corresponding template file that has the suffix -low memory. For example, cap-low memory.xlsx or time-phased-low memory.xlsx.

**Note:** When you first open a report in Excel, formulas need to be calculated. You can choose to either configure Excel to calculate formulas automatically or calculate them manually using F9.

### Features not Supported

The following features that are available for standard reports are not supported (or fully supported) by the low-memory reports:

- The cell styles and row and column attributes in the detail section of the report will not be copied from the template. However the styles in the report and page header and footer sections will be copied in the same way as for a standard report.

  The Normal style will be applied to all cells the detail section of the report. You can configure the font attributes for the Normal style in the template.
- Merged cells anywhere within the report template will not be copied to the report.
- The **ApplyCellFormat** parameter can be used to format date and currency values. However, Cobra will ignore any **{ApplyCellFormat(<tag>)}** tags, where the **<tag>** parameter is a cell reference.
- The following tags are not supported: **{AutoFit}**, **{Group}**, **{Highlight}**, **{RowLabel}**, and **{VarColor}**.
- The **<Header>{CriteriaN.CostSetN}** section tag is not supported. Use the **<Footer>{CriteriaN.CostSetN}** section tag instead.
- Formulas in the report template must not contain Excel cell references because Cobra will not adjust them to reflect their position in the report. Including a formula in the report template will likely result in incorrect or invalid formula being included in the report.

  **Note:** The Cell [ ] tag can be used instead of an Excel cell reference.
- It is recommended that you do not include an Excel formula in any cell that will contain a subtotal when displayed for a summary criteria. If the cell contains a formula, Cobra will not be able to calculate the subtotal value, which it needs to do in either of the following circumstances:
  - The **Create formula for Subtotals** option on the Report tab of the Application Preferences dialog box is cleared.
  - The **Create formula for Subtotals** option is selected and the subtotal formula exceeds Excel's limits because it is too long or contains too many cell references.
- The **New Page** option for criteria on the Sub-Totals page of the Report Wizard will be ignored.

- The report's print area range will not be set.
- The xlsx output type must be selected. The xls type is not supported.

# Report Wizard

Use the Report Wizard to select parameters for a report, run the report, and save the report.

The Report Wizard guides you through the process of defining various report parameters — criteria for calculating subtotals, calendar sets, report formats, and others. The wizard pages that you see depend on the report you select.

Each report has properties that are used as defaults when you run a report using the wizard.

Some reports have no parameters to be defined, aside from selecting the structure (file) and report. These types of reports are already predefined to look at a specific set of criteria.

Cobra has two types of reports:

- Reports that give you direct control over the appearance and contents of the report, such as the CrossTab and 533 reports
- Reports that have predefined parameters, such as the Access Report, Class, and BB_Log

After the report finishes processing, Cobra displays the report in Excel.

## Report Page of the Report Wizard

Use this page to select the type of report to run and the file to run the report on.

**Contents**

| Field | Description |
|---|---|
| **Show Reports** | Use this field to filter the list of displayed reports. Select one of the following options:<br>▪ **All**: Select this option to display all of the reports you have permission to see. These include your personal reports and the reports shared with you. At a minimum, you must have read permission to a report.<br>▪ **Personal**: Select this option to filter the list of reports displayed to only the reports that you own.<br>▪ **Shared**: Select this option to filter the list of reports displayed to only the reports that you do not own but have permission to see. |
| **Category** | All reports in Cobra belong to categories. These categories help you organize reports in a meaningful way. Select a category to filter the list of reports in the grid:<br>▪ All<br>▪ Ancillary |

| Field | Description |
|---|---|
| | ▪ Audit<br>▪ Column<br>▪ Export<br>▪ Format<br>▪ Graphic<br>▪ Planning<br>▪ Time-phased<br><br>**Note:** Reports with no assigned category can be found in the **All** category. |
| **Report** | Use this field to select a report to run. You cannot run more than one report at a time. |
| **Description** | This column displays the report description. |
| **Info** | Report information displays below the grid. |
| **File** | Click to select a valid Cobra file to run the report against. This field is required.<br>You can select only files that are valid for the selected report. The list of options in the **File** field depends on the report you select from the **Reports** grid. For example, if you select a Calendar report, the **File** field displays a list of calendar files.<br>For project reports such as the Crosstab, you can select either a single project or a master project.<br>Cobra selects the default value in the **File** field according to the following rules:<br>▪ When the active view is in the file list that is valid for the selected report (for example, Project, Calendar, or Rates), this field displays the currently selected file as the default value.<br>▪ When the active view is an opened file (for example, Project, Calendar, or Rates), this field displays the currently opened file as the default value.<br>▪ In all other cases, this field displays the most recently opened file that is valid for the selected report as the default value. If you have not opened any files that are valid for the selected report, this field displays the last file you selected in the Report Wizard that is valid for the selected report. |
| **Include multiple** | Select this checkbox to allow you to select multiple projects to run the report against.<br>This checkbox is disabled if: |

| Field | Description |
|---|---|
| **projects on report** | ▪ The selected report is a non-aggregated report.<br>▪ The report type of the selected report is CPR3, Project Audit, CPR, or CrossTabCriteria.<br>▪ The **File** field contains a master project.<br>**Note:** If this checkbox is selected, the Projects Selection page displays after you click **Next**. |
| **Finish** | This button is enabled only if the selected report is a saved report, meaning that it has all of the criteria needed to run. Click **Next** or **Finish** to run the report. |

## Projects Selection Page of the Report Wizard

Use this page to select additional projects to include on the report. This page displays only if the **Include multiple projects on report** checkbox on the Report page is selected.

### Contents

| Field | Description |
|---|---|
| **Default Project** | This displays project selected in the **File** field on the Report page. |

### Projects Selection Grid

Use this grid to select additional projects to include on the report. You must select at least one project to include on the report to proceed to the next wizard page.

| Field | Description |
|---|---|
| **Project** | This column displays the name of the project. |
| **Description** | This column displays the description of the project. |
| **Status Date** | This column displays the status date of the project. |
| **Add** | Click this button to display the Project Lookup dialog box where you can select additional projects to include on the report. |
| **Remove** | Click this button to remove the selected project in the grid. |

## Filter and Sort Page of the Report Wizard

Use this dialog box to define the filters and sorts to use on the report you selected.

**Note:** The **Sort** field and **Manage Sorts** button are enabled only when an ancillary data report is selected.

The following are the ancillary reports: Codes, Rates, Resource Calculations, and Resource codes. If you select a recently generated report from the Report menu, Cobra will set the default values for the filter and sort fields to the ones that were selected when you last generated the report.

### Contents

| Field | Description |
|---|---|
| **Filter** | Filters limit the data on the report to a file type that you select - rate, code, resource, calendar, or project. Click to select a filter for the report. |
| **Manage Filters** | Click this button to create, edit, copy, or delete a filter. |
| **Sort** | Sorts determine the sequence in which the data displays, in either ascending or descending order. Click to select a sort for the report. |
| **Manage Sorts** | Click this button to create, edit, copy, or delete a sort. |

### Manage Filters Dialog Box of the Report Wizard

Use this dialog box to create, edit, copy, or delete a filter.

### Show Filters

Use these options to display filters based on certain criteria. Select one of the following options:

| Field | Description |
|---|---|
| **All** | Select this option to display all the filters that you have permissions to use. |
| **Personal** | Select this option to display only the filters that you own. |
| **Shared** | Select this option to display only filters that you do not own but have permissions to use. |

### Filter Options

| Field | Description |
|---|---|
| **File Type** | This field displays the table from which data for the report filter is retrieved. Only the table that applies to the selected report is listed. |
| **Filter grid** | Use this grid to select a filter. |
| **New** | Click this button to create a new filter.<br>**Attention:** For more information, see New Filter Dialog Box of the Report Wizard and New Filter Expression Dialog Box of the Report Wizard. |
| **Copy** | Click this button to copy a filter. This button is enabled only if you select a filter.<br>**Attention:** For more information, see Copy Filter Dialog Box of the Report Wizard. |
| **Edit** | Click this button to edit information for a filter. This button is enabled only if you select a filter.<br>**Attention:** For more information, see Edit Filter Expression Dialog Box of the Report Wizard. |
| **Delete** | A confirmation message displays when you click this button. This button is enabled only if you select a filter. Click **Yes** to delete the filter. Click **No** to cancel the deletion of the filter.<br>**Note:** Only the owner or system administrator can delete shared filters. |

*New Filter Dialog Box of the Report Wizard*

Use this dialog box to enter a name for the new filter.

### Contents

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new filter. This field has a value of **New Filter 1** by default. If the name **New Filter 1** already exists, the default value becomes **New Filter 2** and so on. The filter name can be up to 59 characters.<br>A personal filter can have the same name as another personal filter, but it must not have the same name as a shared filter. |

*New Filter Expression Dialog Box of the Report Wizard*

Use this dialog box to create a new filter expression and to share a filter.

**General Filter Expression Properties**

| Field | Description |
|---|---|
| **Name** | This field refers to the name of the filter for which a filter expression is being created. This field is read-only. |
| **Owner** | Click to select a user who is the owner of the filter being created. The user currently logged on is the default owner. |
| **Brackets** | Click the bracket button to add or remove brackets in a row. Use brackets to group expressions within the filter. |

**Filter Grid**

| Field | Description |
|---|---|
| **Logic** | Select the connection between two or more expressions using these guidelines:<br>▪ **<None>** is the default logic selected for the first row of a filter.<br>▪ You cannot select **<None>** from the drop-down list. It is used only in the first row of a filter.<br>▪ You cannot make the first row an **Or** or an **And** logic.<br>▪ Use **Or** to select multiple values from the same field or criteria.<br>For example, if you select the **Control Account** field and you want to select multiple control accounts, you must use **Or** as the logic between the control accounts to have both control accounts returned in the report.<br>▪ Use **And** to select values from different fields or criteria.<br>For example, if you select the **WBS** field and you also want to select a control account, you must use the **And** logic between the two. When the report runs, the selected WBS and control account are returned. |
| **(** | The bracket column displays when an opening bracket is used for that row of the filter expression. Click the bracket buttons to set or clear brackets from the selected row.<br>You can enter an expression even without an opening bracket. |
| **Field** | This field includes only the criteria associated with the report that is run. Click to select a filter criteria. |
| **Level** | This field includes all levels in the hierarchy for the selected code structure. This field is enabled if you select any of the following in the **Field** column and if the selected structure is hierarchical:<br>▪ Fields in the **Control Account** , **Work Package**, and/or **CAM** |

| Field | Description |
|---|---|
| | ▪ Codes assigned to the **Control Account** and/or **Work Package**<br>▪ Resource |
| **Operator** | Use this column to enter an operator that Cobra uses to evaluate whether a criterion meets the requirements of the filter selection. Select one of the following operators:<br>▪ **=**: Select the equal sign if you want the value returned when running the report to equal the value selected in the **Value** column.<br>▪ **<>**: Select the not equal sign if you want the value returned when running the report to not equal the value selected in the **Value** column.<br>▪ **<=**: Select the less than or equal to sign if you want the value returned when running the report to be less than and/or the same value as that selected in the **Value** column.<br>▪ **=>**: Select the greater than or equal sign if you want the value returned when running the report to be greater than and/or the same value as that selected in the **Value** column.<br>▪ **<**: Select the less than sign if you want the values returned when running the reports to be less than the value selected in **Value** column.<br>▪ **>**: Select the greater than sign if you want the values returned to be greater than the value selected in the **Value** column.<br>▪ **LIKE**: Use the LIKE operator when selecting a level of a hierarchal structure. Select it if you want the values returned when running the report to at least match that selected in the **Value** column.<br>For example, assume the value is **1.1.1**, which is the third level of a structure. When the report runs, it returns all values that contain 1.1.1 in the third level of their structures. The returned values can include 1.1.1.2 and 1.1.1.2.2.<br>▪ **NOTLIKE**: Use the NOTLIKE operator when selecting a level of a hierarchical structure. Select it if you want the values returned when running the report to not contain the values selected in the **Value** column.<br>For example, assume the value is **1.1.1**, which is the third level of a structure. When the report runs, it returns all values except for values that contain 1.1.1 in the third level of their structures. The returned values can be **1.1.2.1** and **1.1.2.3**.<br>▪ **Equals or Child Of**: Use this sign in hierarchical queries to return the selected value and any children of that value.<br>For example, if LABOR is selected using **Equals or Child Of** as the operator, the filter returns Labor and all of the child codes under Labor such as ENGINEER, ASTRO, QUALITY and others.<br>▪ **Value**: Click to select a value. The list of values you can select from depends on the field selected in the **Field** column.<br>If you select **Date** in the **Field** column, clicking in the **Value** column displays the Date Lookup dialog box. |

| Field | Description |
|---|---|
| ) | The bracket column displays when a closing bracket is used for that row of the filter expression. Click the bracket buttons to set or clear brackets from the selected row.<br>You can enter an expression even without the right bracket. |

### Filter Sharing

| Field | Description |
|---|---|
| **Share this filter with the following group** | Use this field to enter the name of the group with whom you want to share the filter. You can also click ... to select a group.<br>If you leave this field blank, the filter is considered personal. |

*Edit Filter Expression Dialog Box of the Report Wizard*

Use this dialog box to create a new filter expression and to share a filter.

**Note:** Only the filter owner can edit the filter properties.

### General Filter Expression Properties

| Field | Description |
|---|---|
| **Name** | This field refers to the name of the filter for which a filter expression is being created. This field is read-only. |
| **Owner** | Click ... to select a user who is the owner of the filter being created. The user currently logged on is the default owner. |
| **Brackets** | Click the bracket button to add or remove brackets in a row. Use brackets to group expressions within the filter. |

### Filter Grid

| Field | Description |
|---|---|
| **Logic** | Select the connection between two or more expressions using these guidelines:<br>▪ **<None>** is the default logic selected for the first row of a filter.<br>▪ You cannot select **<None>** from the drop-down list. It is used only in the first row of a filter.<br>▪ You cannot make the first row an **Or** or an **And** logic.<br>▪ Use **Or** to select multiple values from the same field or criteria.<br>For example, if you select the **Control Account** field and you want to select multiple control accounts, you must use **Or** as the logic between the control accounts to have both control accounts returned in the report. |

| Field | Description |
|---|---|
| | ▪ Use **And** to select values from different fields or criteria.<br>For example, if you select the **WBS** field and you also want to select a control account, you must use the **And** logic between the two. When the report runs, the selected WBS and control account are returned. |
| **(** | The bracket column displays when an opening bracket is used for that row of the filter expression. Click the bracket buttons to set or clear brackets from the selected row.<br>You can enter an expression even without an opening bracket. |
| **Field** | This field includes only the criteria associated with the report that is run. Click to select a filter criteria. |
| **Level** | This field includes all levels in the hierarchy for the selected code structure. This field is enabled if you select any of the following in the **Field** column and if the selected structure is hierarchical:<br>▪ Fields in the **Control Account** , **Work Package**, and/or **CAM**<br>▪ Codes assigned to the **Control Account** and/or **Work Package**<br>▪ Resource |
| **Operator** | Use this column to enter an operator that Cobra uses to evaluate whether a criterion meets the requirements of the filter selection. Select one of the following operators:<br>▪ **=**: Select the equal sign if you want the value returned when running the report to equal the value selected in the **Value** column.<br>▪ **<>**: Select the not equal sign if you want the value returned when running the report to not equal the value selected in the **Value** column.<br>▪ **<=**: Select the less than or equal to sign if you want the value returned when running the report to be less than and/or the same value as that selected in the **Value** column.<br>▪ **=>**: Select the greater than or equal sign if you want the value returned when running the report to be greater than and/or the same value as that selected in the **Value** column.<br>▪ **<**: Select the less than sign if you want the values returned when running the reports to be less than the value selected in **Value** column.<br>▪ **>**: Select the greater than sign if you want the values returned to be greater than the value selected in the **Value** column.<br>▪ **LIKE**: Use the LIKE operator when selecting a level of a hierarchal structure. Select it if you want the values returned when running the report to at least match that selected in the **Value** column.<br>For example, assume the value is **1.1.1**, which is the third level of a structure. When the report runs, it returns all values that contain 1.1.1 in the third level of their structures. The returned values can include 1.1.1.2 and 1.1.1.2.2. |

| Field | Description |
|---|---|
| | ▪ **NOTLIKE**: Use the NOTLIKE operator when selecting a level of a hierarchical structure. Select it if you want the values returned when running the report to not contain the values selected in the **Value** column.<br>For example, assume the value is **1.1.1**, which is the third level of a structure. When the report runs, it returns all values except for values that contain 1.1.1 in the third level of their structures. The returned values can be **1.1.2.1** and **1.1.2.3**.<br>▪ **Equals or Child Of**: Use this sign in hierarchical queries to return the selected value and any children of that value.<br>For example, if LABOR is selected using **Equals or Child Of** as the operator, the filter returns Labor and all of the child codes under Labor such as ENGINEER, ASTRO, QUALITY and others.<br>▪ **Value**: Click ... to select a value. The list of values you can select from depends on the field selected in the **Field** column.<br>If you select **Date** in the **Field** column, clicking ... in the **Value** column displays the Date Lookup dialog box. |
| **)** | The bracket column displays when a closing bracket is used for that row of the filter expression. Click the bracket buttons to set or clear brackets from the selected row.<br>You can enter an expression even without the right bracket. |

### Filter Sharing

| Field | Description |
|---|---|
| **Share this filter with the following group** | Use this field to enter the name of the group with whom you want to share the filter. You can also click ... to select a group.<br>If you leave this field blank, the filter is considered personal. |

*Copy Filter Dialog Box of the Report Wizard*

Use this dialog box to create a copy of an existing filter.

To copy a filter, you must select a filter and click the Copy button in the Manage Filters dialog box.

### Contents

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new filter. The filter name can be up to 59 characters. A personal filter can have the same name as another personal filter, but it must not have the same name as a shared filter.<br>Items copied include all filter sequences.<br>The user who created the copy becomes the owner of the newly copied filter. |

## Manage Sorts Dialog Box of the Report Wizard

Use this dialog box to create, edit, copy, or delete a sort.

### Show Sorts

Use these options to filter the list of sorts displayed.

| Field | Description |
|---|---|
| **All** | Select this option to display all of the sorts that you have permissions to use. |
| **Personal** | Select this option to display only the sorts that you own. |
| **Shared** | Select this option to display only sorts that you do not own but have permissions to use. |

### Sort Options

| Field | Description |
|---|---|
| **File Type** | Use this field to select the table that contains the sort definition. Select one of the following options from the drop-down list:<br>▪ Rate<br>▪ Code<br>▪ Resource<br>▪ Calendar<br>▪ Project<br>After you select a table, the **Sorts** grid displays all of the sort definitions created for the table. Only the tables that apply to the selected report are listed. By default, the correct data table for the selected report is displayed. |
| **Sort grid** | Use this grid to select a sort. |
| **New** | Click this button to create a new sort.<br>**Attention:** For more information, see New Sort Dialog Box of the Report Wizard. |
| **Copy** | Click this button to copy a sort. This button is enabled only if you select a sort. |
| **Edit** | Click this button to edit information for a sort. This button is enabled only if you select a sort. |
| **Delete** | A confirmation message displays when you click this button. Click **Yes** to delete the sort or click **No** to cancel the deletion of the sort. This button is enabled only if you select a sort. |

| Field | Description |
|---|---|
| | **Note:** Only the owner or system administrator can delete shared sorts. |

*New Sort Dialog Box of the Report Wizard*

Use this dialog box to enter a name for the new sort.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new sort. This field has a value of **New Sort 1** by default. If the name **New Sort 1** already exists, the default value becomes **New Sort 2** and so on.<br>The sort name can be up to 59 characters.<br>A personal sort can have the same name as another personal sort, but it must not have the same name as a shared sort. |

*New Sort Expression Dialog Box of the Report Wizard*

Use this dialog box to create a new sort expression and to share a sort.

**General Sort Properties**

| Field | Description |
|---|---|
| **Name** | This field refers to the name of the sort for which a sort expression is being created. This field is read-only. |
| **Owner** | Click ... to select a user who is the owner of the sort being created. The user currently logged on is the default owner. |

**Sort grid**

| Field | Description |
|---|---|
| **Sort** | Use this column to control the order in which the data is sorted. |
| **Field** | Use this field to control the fields where the data is sorted. |

**Sort Options**

| Field | Description |
|---|---|
| **Sort Order** | Select one of the following options: |

| Field | Description |
|---|---|
| | ▪ **Ascending**: Select this option to sort the data in ascending order.<br>▪ **Descending**: Select this option to sort the data in descending order. |
| **Share this sort with the following group** | Use this field to enter the name of the group with whom you want to share the sort. You can also click to select a group.<br>**Note:** If you leave this field blank, the sort is considered personal. |

*Edit Sort Expression Dialog Box of the Report Wizard*

Use this dialog box to edit the information for a sort.

**Note:** Only the sort owner can edit the sort.

### General Sort Properties

| Field | Description |
|---|---|
| **Name** | This field refers to the name of the sort for which a sort expression is being created. This field is read-only. |
| **Owner** | Click to select a user who is the owner of the sort being created. The user currently logged on is the default owner. |

### Sort grid

| Field | Description |
|---|---|
| **Sort** | Use this column to control the order in which the data is sorted. |
| **Field** | Use this field to control the fields where the data is sorted. |

### Sort Options

| Field | Description |
|---|---|
| **Sort Order** | Select one of the following options:<br>▪ **Ascending**: Select this option to sort the data in ascending order.<br>▪ **Descending**: Select this option to sort the data in descending order. |

| Field | Description |
|---|---|
| **Share this sort with the following group** | Use this field to enter the name of the group with whom you want to share the sort. You can also click to select a group.<br>**Note:** If you leave this field blank, the sort is considered personal. |

*Copy Sort Dialog Box of the Report Wizard*

Use this dialog box to create a copy of an existing sort.

To copy a sort, you must select a sort to copy and click the **Copy** button on the Manage Sorts dialog box.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter the name of the new sort. The sort name can be up to 59 characters. A personal sort can have the same name as another personal sort, but it must not have the same name as a shared sort.<br>Items copied include all sort sequences. The user who created the copy becomes the owner of the newly copied sort. |

## Sub-Totals Page of the Report Wizard

Use this page to define how subtotals are calculated and displayed on a project report.

**Note:** This page displays when you run a report that displays project data.

**Available Sub-Totals**

This grid displays the available criteria fields for a particular report.

| Field | Description |
|---|---|
| **Criteria** | The **Criteria** tree displays the criteria available for the selected file. This tree contains the following top levels:<br>▪ **Project Structure**: This level contains the following lower-level options:<br>▪ **Project**: This option is available only if you selected the **Include multiple projects on report** checkbox on the Report page. Selecting this option includes the project level totals for each of the selected projects in the generated report. |

| Field | Description |
| --- | --- |
| | ▪ **Control Account**: Select this option to display the combined control account key fields defined as control accounts in the project view.<br>▪ **Work Package**: Select this option to display the combined control account key fields and work package fields defined in the project view.<br>▪ **Resource Assignment**: Select this option to display the combined control account key fields, work package field, and resources defined for the control account and work package in the project view.<br>▪ **Results**: Select this option to display the Results page as the next page of the wizard. Selecting specific results allows you to summarize the report by specific results rather than a total, which includes all results on the resource. The report displays values according to the results selected and computes the sub-total on the selected result or calculated result.<br>On the Results page, you can specify the order by which results are displayed and whether or not the report should include only non-zero results. Including only non-zero results prevents lines with zero results from being displayed on the report. You can also create a calculated result to summarize and combine the values of two or more existing results.<br>▪ **Key Fields**: This level lists all the key field prompt names and the resources attached to the project. Select this option to display a sub-total of the selected key field's contents on the report. The prompt names for the control account and work package key fields are displayed. The following are the key fields:<br>▪ CA1 prompt name<br>▪ CA2 prompt name<br>▪ CA3 prompt name<br>▪ WP prompt name<br>▪ Resource<br>▪ WBS<br>▪ OBS<br>The following key fields are only displayed for the Project Audit report type:<br>▪ Period Date<br>▪ Transaction Date<br>▪ Contract Change Number |

| Field | Description |
| --- | --- |
| | ▪ Comment<br>▪ Log Transaction<br>▪ Contract Change Number + Comment<br>The report displays the values for the key field you select. If you select **Resource**, all resource values defined in the project that are assigned from the project's resource file are displayed on the report.<br>▪ **Codes**: This level contains all code files attached to key fields, CAM (Cost Account Manager) codes, codes attached to control accounts and work packages, and codes attached to the resource file. The project codes are also displayed only if a master project is selected to run the report against. If you select a project that has project level codes, these project level codes are not included as codes for the report to run against.<br>The following codes are displayed:<br>▪ Control account codes<br>▪ Work package codes<br>▪ CAM codes<br>▪ Codes in the CA1 key field code<br>▪ Codes in the CA2 key field code<br>▪ Codes in the CA3 key field code<br>▪ Codes in the WP key field code<br>▪ Codes on the resource file<br>▪ Codes on resource assignments<br>▪ CAM<br>▪ Work Package Manager<br>▪ Resource.Element of Cost<br>If you select a master project, the prompt of the project code becomes an option to run the report against.<br>If the code is attached to a control account or work package, the names for the control account and work package are displayed before the code file prompt name with a period in between (for example, **CA.Manager**, **ControlAccount.Manager**).<br>If the code file is attached to the key field code, the key field prompt name is displayed before the code prompt name (for example **WBS.IPT LEADER**, **OBS.LOCATION**).<br>Selecting a code file displays its values that are defined in the project on a control account, work package, or project level when a project level code is selected. |

| Field | Description |
| --- | --- |
| **Selected Sub-Total Criteria** | You must select criteria in a specific order to get a sensible report. The order must be from the largest to the smallest criteria set. The following rules are implemented on this page:<br>▪ You cannot select work package above a control account.<br>▪ You cannot select control account above control account key fields.<br>▪ Some reports require results to be the last selected sub-total. |

**Selected Sub-Totals Grid**

This grid displays the selected criteria. At least one criterion must be displayed in this grid to proceed to the next page.

| Field | Description |
| --- | --- |
| **>** | Click this button to move a criterion from the **Available Sub-Totals** list to the **Selected Sub-Totals** list. You can select only one criterion at a time. The **Selected Sub - Totals** lists displays the criteria in the order in which you select them. |
| **<** | Click this button to move the selected criterion from the **Selected Sub-Totals** list to the **Available Sub-Totals** list. |
| **<<** | Click this button to move all criteria from the **Selected Sub-Totals** list to the **Available Sub-Totals** list. |
| **Up** | Click this button to move the selected criterion in the **Selected Sub-Totals** list up one position in the order. |
| **Down** | Click this button to move the selected criterion in the **Selected Sub-Totals** list down one position in the order. The maximum number of selected criteria allowed is displayed above the **Selected Sub-Totals** list. An error occurs if you add more criteria than this. |
| **Level** | This field represents the structure level that should be displayed on the report. The criteria on the report are summarized to the level you specify. You can edit this field if the selected criterion (file) is hierarchical in nature, such as a WBS file.<br>▪ If the file is hierarchical, you can enter or select another value for this field.<br>▪ If the file is not hierarchal, the cell contains the number **0**, and the field is disabled.<br>You cannot select a level lower than **0** or greater than **20**.<br>If the criteria you select is hierarchal, the criteria can be selected twice as a sub-total as long as the level is different for each of the duplications. |
| **Show Total** | Select this checkbox to create a subtotal on the report for the top criteria/cost set selected in the Selected Sub-Totals list. The checkbox is available only if the report supports the calculation of subtotals. |

| Field | Description |
|---|---|
| | A subtotal is never calculated for the last criteria listed, even if the **Show Total** checkbox is selected. For example, if you select **Control Account** and **Work Package**, and choose to calculate subtotals for both, the subtotals only display for the **Control Account**.<br>If the **Create formula for subtotals** option on the Report tab of the Application Preferences dialog box is selected, Cobra creates an Excel formula for each subtotal value. Otherwise, Cobra displays the subtotal values as numbers. |
| **New Page** | Select this checkbox to create a page break for each criterion. For example, if you select the **New Page** checkbox for **Control Account** and **Work Package**, the control account and its related work packages and subtotals are on a separate page from other control accounts and work packages. |
| **Include empty code assignments** | Select this checkbox to include empty code assignments for the selected criteria that are associated with a code file in the report. This option is disabled when running Project Audit and IPMR Format 3 reports as records with empty code assignments are always included in these reports. |
| **Include Control Accounts/Work Packages with no data** | Select this checkbox to include control accounts and work packages with no time-phased data for the selected cost sets on the generated report.<br>If you select this checkbox and you are also including multiple projects on the report (the **Include multiple projects on report** checkbox on the Report page is selected), control accounts and work packages with no time-phased data for all selected projects will be included on the generated report.<br>This checkbox is enabled if:<br>▪ The selected report on the Report page is a Cross Tab report.<br>▪ **Control Account** or **Work Package** is selected as a **Criteria**.<br>If both **Control Account** and **Work Package** are selected, **Work Package** must be listed after **Control Account**.<br>Only the following criteria can precede **Control Account** or **Work Package**:<br>▪ **Control Account Key Fields 1 to 3**<br>▪ **Control Account Codes**<br>▪ **Project Codes**<br>▪ **Project**<br>When any of these criteria precede **Control Account** or **Work Package**, the existing behavior of aggregation at these levels will be followed. For example, if WBS is selected, the WBS element must have at least a time-phase record for it to be included in the WBS level aggregation and for its control account and work package with no data to be included on the generated report. |

| Field | Description |
|---|---|
| | **Note:** This option only supports control account or work package filter. If you use an unsupported filter and then select this checkbox, a warning message displays in the process log. |

## Results Page of the Report Wizard

Use this page to select and specify the order of the results to be displayed on the report. In addition, you can display the Calculated Results dialog box to create a new calculated result on this page.

This page displays only when **Results** is selected as a criterion on the Sub-Totals page.

### Available Results

This grid displays all results included in the project resource file. A newly created result is displayed as an available result in the **Available Results** grid.

### Selected Results

This grid displays the selected results from the **Available Results** grid.

| Field | Description |
|---|---|
| **>** | Click this button to move a result from the **Available Results** list to the **Selected Results** list. You can select only one result at a time. The **Selected Results** list displays the results in the order in which you select them. |
| **<** | Click this button to move the selected result from the **Selected Results** list to the **Available Results** list. |
| **<<** | Click this button to move all results from the Selected Results list to the **Available Results** list. |
| **Up** | Click this button to move the selected result in the **Selected Results** list up one position in the order. |
| **Down** | Click this button to move the selected result in the **Selected Results** list down one position in the order. |

### Results Options

| Field | Description |
|---|---|
| **Include only non - zero results** | Use this checkbox to specify whether results with zero values should be displayed with the selected sub-total criteria. Select this checkbox to exclude zero results from the report.<br>If you do not select this checkbox, there will be a line under each sub-total, even if the value is zero. |

| Field | Description |
|---|---|
| **New Calculated Result** | Click this button to display the Calculated Results dialog box of the Report Wizard, where you can create a new calculated result. |

## Calculated Results

You can create a calculated result for a reporting operation that summarizes specified results. After you create a calculated result, the result becomes available in the Calculated Results Wizard in the same way as any result defined in a resource calculation.

You can use the Calculated Results feature to:

- Create calculations using the results defined on the resources.
- Build expressions using the results and apply these results to resources for display on reports.
- Calculate the totals of the results and multiply them by a constant and view the calculated result in a report.

### Open Dialog Box of the Calculated Results Wizard

Use this dialog box to select a project for which to create a calculated result.

#### Contents

| Field | Description |
|---|---|
| **Project** | Use this field to enter the name of the project where the calculated result will apply, or click ... to select a project.<br>You can select only one project, and you cannot select a master project. |

### Calculated Results Dialog Box

Use this dialog box to calculate and display extra results on reports without storing them in the database.

You can perform basic mathematical operations, such as multiplying a result by a value. For example, you can create a calculated result called **Fee** that multiplies the sum of various results by a value entered on the Calculated Results dialog box.

#### Calculated Results Pane

| Field | Description |
|---|---|
| **Result** | This list displays the available calculated results for the selected project. |

| Field | Description |
|---|---|
| **Result Code** | Cobra uses this field when reporting to identify specific results generically. Cobra reserves the following sort codes for special purposes:<br>▪ **<NONE>**: No result code<br>▪ **C (Cost of Money)**: This sort code instructs Cobra that the result is **Cost of Money**.<br>▪ **D (Direct)**: This sort code instructs Cobra that the result is **Direct**.<br>▪ **Fee**: This sort code instructs Cobra that the result is **Fee**.<br>▪ **F (Full Time Equivalent)**: This sort code instructs Cobra that the result is **Full Time Equivalents**.<br>▪ **G (General and Administrative)**: This sort code instructs Cobra that the result is **General and Administration** and needs to be dropped to the bottom line of IPMR reports.<br>▪ **H (Hours)**: This sort code identifies the result as a unit measured in **Hours**.<br>▪ **N ( No Scale Factor)**: This sort code instructs Cobra not to divide the value by a scale factor.<br>▪ **O (Overhead)**: This sort code instructs Cobra that the result is **Overhead** and needs to be dropped to the bottom line of ICSR reports. |
| **Currency** | Select this checkbox to include this result in the totals of the Project view, the Project Audit, and the report totals. This prevents different types of units, such as hours and dollars, from being added together. All results that are in the same currency as the currency defined on the General tab of the Project Properties dialog box are usually marked as a currency result. However, if the majority of your reports do not include a result such as **Fee**, you do not have to mark that result as a currency result. To report on **Fee**, you can create a calculated result that has the currency flag. IPMR Format 3 reports include values found in the Project Audit log. To exclude **Fee** from the body of the IPMR Format 3 report, you must not mark **Fee** as a currency result.<br>You can perform the following actions:<br>▪ **Add**: Click this button to add a new calculated result.<br>**Attention:** For more information, see Add Calculated Result Dialog Box of the Calculated Results Wizard.<br>▪ **Copy**: Select a calculated result you want to copy and click the **Copy** button. An error occurs when you try to copy a calculated result that has been modified or added without being saved.<br>**Attention:** For more information, see Copy Calculated Result Dialog Box of the Calculated Results Wizard. |

| Field | Description |
|---|---|
| | ▪ **Delete**: Select a result you want to delete and click the **Delete** button. A confirmation message displays. Click **Yes** to proceed with the deletion. |

### Results Pane

This pane displays all of the results in the grid. This pane is not enabled until you have added a result on the Calculated Results pane. After adding the result, you must select the result to be used in the Results pane.

| Field | Description |
|---|---|
| **Result** | This column displays the valid results available for the selected project. |
| **Field Name** | This column identifies the actual field name for the result. |
| **Add** | Click this button to add a result to the Expression pane. You can also add a field to the Expression pane by double-clicking the field. |

### Expression Pane

This pane displays the expression used for defining a calculated result. You can combine results to form the definition of the calculated result using any of the following operators:

- Add (+)
- Subtract (-)
- Multiply (*)
- Divide (/)
- Group (( ))

Mathematical operators are evaluated according to the normal rules of precedence:

- Cobra performs grouping operations before multiplication and division operations.
- Cobra performs multiplication and division operations before addition and subtraction operations.

An error message displays if you enter an invalid expression.

## Add Calculated Result Dialog Box of the Calculated Results Wizard

Use this dialog box to add a new calculated result.

### Contents

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the new calculated result. The name must be unique and must not be a reserved name. |

### Copy Calculated Result Dialog Box of the Calculated Results Wizard

Use this dialog box to copy an existing calculated result.

**Naming Options**

| Field | Description |
|---|---|
| **Copy As** | By default, this field displays the name of the calculated result. You can enter a different name for the copied calculated result.<br>Using the same name for the copied calculated result does not create an error since the calculated result is saved with a project. |

**Copy to Projects**

This grid displays a list of projects where you can copy the calculated result. Select the checkbox for the project where you want to copy the calculated result. You can select multiple projects.

A warning message displays if the calculated result you are copying already exists in the project.

### Procedures

Follow the procedures in this section to utilize the Calculated Results Wizard.

*Create a Calculated Result*

Use the Calculated Results feature to create a calculated result using the results defined in the resources.

**To create a calculated result:**

1. In the **Tools** group on the Reporting tab, click **Calculated Results**.
2. Select a project in the **Project** field and click **OK**.
3. Use the Calculated Results dialog box to add, copy, or delete calculate results using the results defined in the resources.

*Display the Calculated Results Wizard*

Display the Calculated Results Wizard to review calculated results.

**To display the Calculated Results Wizard:**

Take one of the following actions:

- In the **Tools** group on the Reporting tab, click **Calculated Results**.
- On the Results page of the Report Wizard, click **New Calculated Result**.

## Calendar Page of the Report Wizard

Use this page to define the calendar set to use in displaying the reporting periods for the data in the report. You can choose an existing calendar or select periods manually.

**Note:** This page displays only if you select a project file to run the report against and if the wizard supports the selection of a calendar set. Some reports use a predefined calendar set that does not require you to make a calendar selection. If you select periods manually, you cannot save the report.

**Contents**

| Field | Description |
|---|---|
| **Select Calendar Set** | Click ... to select a calendar set. You can choose from a list of all calendar sets defined in the project's fiscal calendar file. If you select a master project, the list displays sets from the calendar file associated with the master project.<br>The report's calendar periods are based on the periods defined in this set.<br>**Attention:** For more information, see the Configure Calendar Set 19 for IPMR Reports, wInsight Integration and Cost Data Export/DCDE Format help topic. |
| **Select periods Manually** | Select this option to select dates from a list. The periods displayed in the list are determined by the periods defined and labeled in the base calendar set 00.<br>You must select at least one date to proceed to the next page. You can select more than one date. |
| **First period includes cumulative data** | Select this checkbox to specify whether the first period in the calendar set or the manual selection should include data for only that period or cumulative data from the beginning of the project. |

## IPMR Format 2 Summary Page of the Report Wizard

Use this page to select the IPMR Format 2 Summary codes that you want to include in the report.

This page displays only if you selected the IPMR Format 2 Summary code for the project for which you are running the report and if the wizard supports the selection of an IPMR Format 2 Summary code.

**Attention:** For more information, see Coding the Resources for IPMR Format 2 Reports.

**Contents**

| Field | Description |
|---|---|
| **Code** | This column displays the name of the codes in the code file assigned as the IPMR Format 2 Summary on the project information. |
| **Description** | This column displays the description of the codes from the code file. |
| **Body** | This column displays a checkbox for each code. Select the checkbox for the code(s) that you want to include in the body of the IPMR Format 2 report. When the checkbox for a code is cleared, resources with the assigned code are excluded from the body of the Performance Data section in the report.<br>By default, all codes are selected. When you clear the checkbox, the code is added to the {ExcludeIPMRFormat2SummaryFromBody} parameter. See the help about report content parameters for more information. |
| **Bottom-Line** | This column displays a checkbox for each code. Select the checkbox for the codes that you want to display in summary rows at the bottom of the IPMR Format 2 report. When you select the checkbox, the code is added to the **{IncludeIPMRFormat2SummaryInBottomLine}** parameter.<br>**Attention:** For more information, see Report Content Parameters.<br>IPMR Format 2 Summary codes that are not excluded from the body of the report will be treated as non-add items in the bottom line of the report. |

## Cost Sets Page of the Report Wizard

Use this page to define the cost sets to display on the report. Cost sets group classes together for the purpose of reporting.

The data that is displayed on the report is organized by the selected cost sets. You can select either a single cost set or multiple cost sets (pre-defined group of classes).

**Note:** This page displays only if you select a project file to run the report against and if the report definition is set to allow the selection of a cost set. Reports that contain formulae such as CV and SV use predefined cost sets that do not allow you to make cost set selections. However, you can change one cost set to another in the report definition.

**Attention:** For more information, see Report Content Parameters.

### Available Cost Sets

This list displays all of the cost sets defined in the Cost Sets tab of the Project Properties dialog box for the project or master project you select. You can select more than one cost set. The maximum number of cost sets you can select is displayed above this list. An error occurs if you select more than this number of cost sets.

If you are including multiple projects on the report (the **Include multiple projects on report** checkbox on the Report page is selected), all cost sets from the selected projects are displayed in the Available Cost Sets pane.

If a cost set exists in more than one of the selected projects, Cobra follows these rules to determine the cost set descriptions displayed on the Cost Sets page of the Report Wizard and in the generated report:

- If the cost set exists in the default project, Cobra uses the cost set's description in the default project.
- If the cost set does not exist in the default project, Cobra uses the cost set's description from the first selected project (with projects sorted by ID) where the cost set exists.

### Selected cost sets

This list displays the selected cost sets from the **Available cost sets** list.

| Field | Description |
|---|---|
| **>** | Click this button to move a cost set from the **Available cost sets** list to the **Selected cost sets** list. You can select only one result at a time. The **Selected cost sets** list displays the cost sets in the order in which you select them.<br>You can also move a cost set to the **Selected cost sets** list by double-clicking the cost set in the **Available cost sets** list. |
| **<** | Click this button to move the selected cost set from the **Selected cost sets** list to the **Available cost sets** list. |
| **<<** | Click this button to move all cost sets from the **Selected cost sets** list to the **Available cost sets** list. |
| **Up** | Click this button to move the selected cost set in the **Selected cost sets** list up one position in the order. |
| **Down** | Click this button to move the selected cost set in the **Selected cost sets** list down one position in the order. |

### Report Options

| Field | Description |
|---|---|
| **Include only non-zero cost sets** | Use this checkbox to specify whether or not cost sets with zero values should be displayed with the selected sub-total criteria. Select this checkbox to exclude zero results from the report.<br>This option affects the individual sub-total criteria. For example, a control account that does not have actual cost does not display the actual line, but a different control account that has actual cost does.<br>If you do not select this checkbox, there is a line under each sub-total even if the values are zero. This option is useful in Curve reports where the red line always indicates the actual costs. This option is also useful when subtracting one cost set from another. If you do not select this option, it takes longer for the report to run. |

## Style Page of the Report Wizard

Use this page to define the scale factor, color band, and template to use for the report.

### Contents

| Field | Description |
|---|---|
| **Scale Factor** | By default, this field displays the value set on the Report Definition tab of the Report Properties dialog box. The scale factor controls the scale to report on currency amounts. The currency value in the report is divided by the scale factor.<br>If this field is set to **0**, Cobra uses the default values assigned on the General tab of the Project Properties dialog box for the selected project.<br>This field is enabled only for project-based reports that include currency data. |
| **Scale Factor Caption** | By default, this field displays the value set on the Report Definition tab of the Report Properties dialog box. This field pertains to the caption for the scale factor, which is printed at the bottom of each project-based report that includes currency data.<br>This field is enabled only for project-based reports that include currency data. |
| **Report Templates** | All reports have a default template. Click to select a different template for the report. The template contains tags that specify the type of data that must be retrieved from Cobra to populate the report body, and the header and footer of the report. The location of the report templates is defined on the General tab of the Application Preferences dialog box. |

## Save and Run Page of the Report Wizard

Use this page to select whether to save the report, immediately run the report, or both.

### Contents

| Field | Description |
|---|---|
| **Run Report** | Select this checkbox to create and display the report when you click the **Finish** button. The report will also be included in the list of recently generated reports on the Report menu. |
| **Display Report Options** | Select this option to display report criteria at the bottom of the report. |
| **Save Report** | Select this checkbox if you want to save the report settings you defined. All of the options that you select when you save the report are saved in the Report Properties for the report. Enter the following information about the saved report: |

| Field | Description |
| --- | --- |
| | ▪ **Report Name**: Use this field to enter a different name for the report if you want to save it. You then become the owner of the new report.<br>Enter a unique name for the report. If you enter the name of an existing report, a message displays when you click the **Finish** button. Click **Yes** to overwrite the existing report.<br>**Note:** Only the owner or members of the SYSADMIN role can save a report with the same name as the original.<br>If you enter a name similar to an existing shared report, you will be prompted to save the report as personal, which cannot be shared with anyone.<br>Multiple users can have personal reports with same name, but only one of these reports can be shared with anyone.<br>▪ **Description**: Use this field to enter a description for the report you want to save.<br>▪ **Category**: Use this field to select a category to classify the report.<br>▪ **Information**: This field displays information about the report.<br>**Note:** All of the options you select when you save the report are saved in the Report Properties for the report. |

## Access Control Page of the Report Wizard

Use this page to enable users or groups to access the report that you are creating.

You can assign multiple users, groups, or roles to a report.

This page only displays if you select the **Save Report** option on the Save and Run page and you:

- Enter a report name that is not the same as an existing shared report on the Save and Run page.
- Select a shared report on the Report page and keep the existing report name on the Save and Run page if you are a SYSADMIN user.
- Select a shared report that you own on the Report page and keep the existing report name on the Save and Run if you are a non-SYSADMIN user.

**Attention:** For more information, see Restoring Reports and Configurations.

When you run and save a new report, the access control list is cleared by default. If you open an existing report and save it using the same report name, the new report uses the access control list assigned to the original report. If you open an existing report and save it using a different name, the access control list of the report is cleared.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Access Control tab of the Report Properties dialog box.

## Confirmation Page of the Report Wizard

This page informs you that Cobra has all the information it needs to run the report.

If you need to return to the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays.

When you are sure that all the information is correct, click **Finish** to complete the process.

The Confirmation page displays after the Save and Run page if the **Save Report** option is not selected.

- The Confirmation page displays after the Access Control page if you select the **Save Report** option on the Save and Run page and you:
- Enter a report name that is not the same as an existing shared report on the Save and Run page.
- Select a shared report on the Report page and keep the existing report name on the Save and Run page if you are a SYSADMIN user.
- Select a shared report that you own on the Report page and keep the existing report name on the Save and Run page if you are a non-SYSADMIN user.

## Process Running Page of the Report Wizard

This page displays the progress status while Cobra generates the report.

## Process Complete Page of the Report Wizard

This page displays information about the status of the report that ran.

Click the **View Log** button to display processing information and any error messages.

## Procedures

Follow the procedures in this section to utilize the Report Wizard.

### Display the Report Wizard

Display the Report Wizard to run and save a report.

**To display the Report Wizard:**

Take one of the following actions:

- In the **Reports** group on the Reporting tab, click **Report Wizard**.

- In the Cobra Explorer, select the **All Reports** group bar, right-click the All Reports pane, and select **Report Wizard**.
- In the Cobra Explorer, select the **Personal Reports** group bar, right-click the Personal Reports pane, and select **Report Wizard** on the shortcut menu.

### Generate a Report

Use the Report Wizard to generate a report.

**To generate a report:**

1. Display the Report Wizard by taking one of the following actions:
   - In the **Reports** group on the Reporting tab, click **Report Wizard**.
   - In the Cobra Explorer, select the **All Reports** group bar, right-click the All Reports pane, and select **Report Wizard**.
   - In the Cobra Explorer, select the **Personal Reports** group bar, right-click the Personal Reports pane, and select **Report Wizard** on the shortcut menu.
2. On the Report page, select the Cobra report to run and click **Next** to continue with the next pages.
3. On the Style page, click ... in the **Report Templates** field and select the new report template from the list.
4. On the Save and Run page, select the **Save Report** option and update the **Report Name** and **Description** fields.

## Report Categories

Cobra features a complete set of standard cost/schedule reports, some of which comply with EVMS guidelines.

Standard reports include the following types:

- Required EVMS formats such as IPMR Formats 1 through 5 and CSSR
- Tabular reports that can be used as planning sheets, checklists, and project logs
- Listings of important data files such as fiscal calendars, rate sets, and code files
- Graphic reports such as histograms and trend analysis curves
- Bar charts showing cost account/work package schedules
- Variance analysis worksheets
- NASA 533 formats

The Report Wizard provides the mechanism for you to have Cobra data displayed on standardized EVMS reports. Some values can be retrieved directly from data stored in the Cobra tables, while other data values are calculated in the report. The report retrieves stored values from Cobra, performs some basic calculations, and then processes the report.

There are several ways to choose the report you want to see:

- **Use the Report Wizard**: Select a report to display the information about the report just below the grid.
- **Use the Report Properties dialog box**: Click the Information tab to view or modify the information entered on the report.

  **Attention:** For more information, see Information Tab of the Report Properties Dialog Box.

- **Use the Report List report**: The Report List shows all of the reports to which the user has access. The list shows each report's description, category, type, owner, and access control.

## Ancillary Reports

Ancillary reports display data about the ancillary files connected to the project and the access controls on these files.

You can generate these Ancillary reports:

- **Calendar**: Use this report to view a list of the periods, sets, and flags in the calendar file. Use this report to verify the calendar sets, periods, and flags. This report uses vertical grouping.
- **Rates**: Use this report to view a list of rate names, rate dates, and values for the selected rate file. Use this report to verify the rates used in the calculations. You must run the report for all rate sets assigned to classes on a project to properly verify all the rates used. Horizontal grouping is enabled on this report.
- **Codes**: Use this report to view a list of codes, thresholds, and codes assigned to the codes for the selected code file. Use this report to verify that the code's thresholds and codes are correctly entered. Codes on the codes are in the vertical grouping. If you do not have codes assigned to the codes, no extra data is displayed when you expand.
- **Resource Calculations**: Use this report to view a list of resources and the calculations defined for each resource. Use this report to verify the resource calculations, rate sets, and source results. To see the calculations, expand the vertical grouping.
- **Resource Codes**: Use this report to view a list of resources, thresholds, and codes assigned to a resource. Use this report to verify the resource thresholds and codes. To display the thresholds, expand the horizontal grouping.
- **Classes**: Use this report to view a list of the classes assigned to the project. Use this report to verify the various settings for each class such the class type, level, forecast method, calendar, rate file, and included classes (the other related classes).
- **Cost Sets and Classes**: Use this report to view a list of cost sets on the project, as well as the included classes on each cost set. Since you choose the cost sets at report time, this report helps you verify the classes included in each cost set on the report.
- **Access**: Use this report to view the access control for the selected project and the ancillary data assigned to the project. This report is useful for identifying all validating code files, calendars, and resource files along with the access control to these files. This

report has grouping by file type. The report displays all access controls on the following types of files:

| File | Access Controls |
|---|---|
| Project file | (none) |
| Rate file | Rate File on project<br>Rate files on classes |
| Calendar File | Calendar File on project<br>Roll Wave Calendar on project<br>Calendar files on the classes |
| Resource File on project | (none) |
| Code File | Code Files on control account (CA1, CA2, CA3)<br>Code File on work package<br>CAM code file<br>Codes on control account (C1-C9)<br>Codes on work package (C1-C9)<br>Codes on code files associated to project (D1-D9)<br>Codes on resource file (D1-D9)<br>Codes on rate file<br>Codes attached to project |

- **Report List**: Use the report list report to view all reports in the database, including their attributes such as name, description, and access controls.

## Audit Reports

Audit reports display project account information and audit transactions.

You can generate these Audit reports:

- **Change Management**: Use the Change Management report to view project account information with log comments and change numbers. This report is grouped by change number.
- **Log**: Use the Log report to view audit transactions containing the modified control account, work package or assignment, change number, and comment.
- **Project Planning Statistics**: Use the Project Planning Statistics report to view statistics about the project, including the mean and median duration and the values of control accounts and work packages. For work packages, the statistics are displayed by progress technique.
- **Work Authorization Document (WAD)/Control Account Information**: Use the WAD/Control Account Information report to view the control account dates, budget information summarized by labor and other direct costs, and the notes entered in the control account.

- **Project Audit**: Use the Project Audit report to reconcile the values on the Budget tab of the Project Properties dialog box with those calculated by the Project Audit log. This report is an aggregated report, which supports selecting various criteria for the Sub-totals page of the Report Wizard.
- **Project Reconciliation**: Use the Project Reconciliation report to reconcile the values on the Budget tab of the Project Properties dialog box with those calculated by the Project Audit log. This report supports filtering.

## Graphic Reports

Graphic reports provide important information about the project in graphs.

You can generate the following Graphic reports:

- **SV-CV**: Use this report to view the schedule and cost variances by criteria for the project. This report also displays a graph where the schedule variance (SV) and cost variance (CV) values are plotted by time-phased period.
- **Curve**: Use this report to view the budget, actual, earned, forecast, and ETC by the selected criteria for the project. This report also displays a graph where these cost set values are plotted by time-phased period. In addition, you can add or substitute other cost sets in this report by selecting different cost sets.
- **SV vs CV**: Use this report to view the SV and CV values time-phased by the selected criteria for the project. This report also contains a graph where these variances are plotted by time-phased period. The graph plots the intersection of the schedule variance and cost variance. The Schedule variance is represented on the Y axis and the Cost variance is represented on the X axis. The intersection of them both creates the plot mark on the scatter graph.
- **TCPI**: Use this report to view the performance indicators by time-phased period. This report also displays a graph where the Cost Performance Index (CPI), Schedule Performance Index (SPI), To Complete Performance Index Estimate-at-Completion (TCPIeac), and To Complete Performance Index Budget-at-Completion (TCPIbac) values are plotted by time-phased period.

  **Note:** When you run a TCPI report against multiple projects, the generated report excludes historical cost sets.

- **SPI-CPI**: Use this report to view the schedule and cost indices by criteria for the project. This report also displays a graph where the SPI and CPI values are plotted by time-phased period.
- **Histogram**: Use this report to view both the incremental budget and cumulative budget, actual, earned, forecast, and Estimate-to-Complete (ETC) by the selected criteria for the project. This report also displays a graph where these cost set values are plotted by time-phased period on two vertical axes, with one axis representing period incremental values and the other representing cumulative values. In addition, other cost sets can be added or substituted to this report by selecting different cost sets.

> **Note:** The histogram report is the same as a curve report except that the histogram report also displays both cumulative and by-period data.

## Column Reports

Column reports display cost sets and results information in column.

You can generate these Column reports:

- **Project Cost Set**: Use this report to select criteria and cost sets, which are displayed in columns. You can use this report for analyzing the total value found in each cost set.
- **Project Cost Set Result**: Use this report to select criteria, with results as the final criterion selected. You can use this report for analyzing both the hours and direct values found in each cost set. This report is similar to the Project Cost Set report except that it displays the data by result for each cost set.
- **Column**: Use this report to view information on cost sets and results in columns. The total value for each cost set is displayed for each criterion. The total value by result is also displayed for each cost set. You can use this report to analyze the result totals found in each cost set.
- **Earned Value**: Use this report to view project data such as current and cumulative period budget, actual, and earned costs for each criterion. You can use this report in analyzing the status of a control account and work package.

## Export Reports

Export reports are unformatted reports that contain the contents of the selected ancillary file. The data displays in a flat Excel file that can be manipulated and re-imported if desired through the Integration Wizard.

Export reports are a type of ancillary report.
You can generate these Export reports:

- **Export Appn. Mapping**: Use this report to export mapping rules.
- **Export Appn Definition**: Use this report to export apportionment definition.
- **Export Calculations**: Use this report to export resource calculations relevant to the resources.
- **Export Calendar**: Use this report to export all calendar data.
- **Export Code**: Use this report to export all code data that is relevant to you.
- **Export Holidays**: Use this report to export all calendar holidays.
- **Export Rates**: Use this report to export all rate data.
- **Export Resources**: Use this report to export all resource data for the selected resource file.

**Note:** Export reports are a type of ancillary report.

## Format Reports

To satisfy EVMS reporting requirements and comply with government earned value management and analysis requirements, Cobra provides a reporting utility that retrieves data from Cobra and formats this data on government standardized reports.

You can generate these EVMS standardized government reports:

- **CPR Format 1**: Use this report to view data that measures cost and schedule performance by WBS (Work Breakdown Structure) elements. You can select as many as four criteria.
- **CPR Format 2**: Use this report to view data that measures cost and schedule performance by OBS (Organizational Breakdown Structure) codes. You can select as many as four criteria.
- **CPR Format 3**: Use this report to view the budget baseline plan against which performance is measured. The report displays the forecast of monthly changes to the budget, management reserve, and undistributed budget for the entire project.
- **CPR Format 4**: Use this report to view staffing forecasts for correlation with budget plan and cost estimates. The report displays a forecast of persons (FTE) by organization. You can select as many as two criteria.

  By default, the report will display the values for the FTE result, which will be correct if they were calculated using monthly FTE rates. If the FTE rate set does not contain monthly FTE rates for all periods, you can configure the report to calculate the monthly FTEs by dividing the hours result by the hours in the calendar.

  **Note:** If you are using a rolling wave calendar and have selected the **Update the rate sets used with FTE result codes** option on the Options page of the Rolling Wave Wizard, the FTE rate set will not contain monthly FTE rates for all periods. You need to configure the report to calculate the monthly FTEs.

  To configure the report to calculate the monthly FTEs, set the following report parameters on the Report Definition tab of the Report Information dialog box:

  ```
  AggregationResults="HOURS,FTE"
  CalculateFTEFromCalendar=1
  ExcludeSortCodesFromBody="H"
  ```

- **CPR Format 5**: Use this report to view a narrative report that explains significant cost and schedule variances and other identified contract problems and topics.
- **NASA 533M**: Use this report to project costs and hours to ensure that dollar and labor resources are realistic, to evaluate actual costs and fees, and to plan, control, and monitor project resources. This report is based on monthly periods. You can select as many as two criteria.

- **NASA 533Q**: Use this report to project costs and hours to ensure that dollar and labor resources are realistic, to evaluate actual costs and fees, and to plan, control, and monitor project resources. This report is based on quarterly periods. You can select as many as three criteria.
- **CSSR**: Use this report to view cost and schedule summary information about the project. You can select as many as four criteria.
- **CFSR**: Use this report to view funding information about the project. You can select as many as two criteria.

  You must establish the required costs sets in the project to display the correct data on his report.
- **CPR Format 4 Hours**: Use this report to view staffing forecasts for correlation with the budget plan and cost estimates. The report displays a forecast of persons (hours) by organization.
- **IPMR CPR Format 1**: This report is an enhancement of CPR Format 1 and supports changes to the Integrated Program Management Report (IPMR) CPR Contract Performance Reporting (CPR) Data Item Description (DID).
- **IPMR CPR Format 2**: This report is an enhancement of CPR Format 2 and supports changes to the IPMR CPR DID.
- **IPMR CPR Format 3**: This report is an enhancement of CPR Format 3 and supports changes to the IPMR CPR DID.
- **IPMR CPR Format 4**: This report is an enhancement of CPR Format 4 and supports changes to the IPMR CPR DID.
- **IPMR CPR Format 4 Hrs**: This report is an enhancement of CPR Format 4 Hours and supports changes to the IPMR CPR DID.
- **IPMR CPR Format 5**: This report is an enhancement of CPR Format 5 and supports changes to the IPMR CPR DID.

## Planning Reports

Planning reports display control account and work package information that you can use to analyze performance.

You can generate the following Planning reports:

- **Project Data**: Use this report to view control account and work package information such as dates, progress techniques, summarized totals on budget, actual, and earned. This report also displays information on performance indicators on the criteria.
- **Apportionment Mapping**: Use this report to view source and target rules for apportionment set in the project under Apportionment Mapping. This report is blank if apportionment is not established in the project.
- **Pivot**: Use this report to select various criteria that you want to load in a pivot table. The pivot table displays the criteria by column and row. You can use the pivot table to arrange the criteria that are displayed by column and row.

- **CAP**: Use this report to view information on both the control account/work package and the time-phased data against each control account/work package. The time-phased information displays only 12 periods regardless of the calendar you select from the Report Wizard.

### Time-phased Reports

Reports are categorized as time-phased when the data is organized by periods from the selected calendar set. The criteria/cost set is displayed by row and the calendar periods by column. Data is plotted at the intersection of both.

You can select as many as four criteria for these reports.

You can generate these Time-phased reports:

- **Time-phased**: Use this report to view the project data time-phased by cost set. The report displays the time-phased incremental value for the criteria by cost set.
- **Time-phased Repeat Sub**: Use this report to view project data time-phased by cost set. This report is similar to the Time-phased Report except that the Time-phased Repeat Sub report requires the criteria **Result** to be selected. Each result shows its incremental values time-phased across all periods for the criteria. You must select at least one result as the last criteria.
- **ROI**: Use this report to view the profit and return on investment (ROI) by criteria for the project. The report displays the time-phased incremental value for the criteria by cost set. In addition, a calculated ROI and profit line displays for each criteria.
- **Budget-Actual**: Use this report to view the time-phased variance between budget and actual costs for each criterion. This report displays the incremental time-phased values by the actual and budget cost set. It also displays a variance line, which is the difference between the budget and actual costs.
- **Trend**: Use this report to view the time-phased budget, actual, earned, variance, and cost performance data. This report displays the budget, earned, and actual incremental costs by period. In addition, it displays four calculated rows of CV (cost variance), SV (schedule variance), SPI (Schedule Performance Index), and CPI (Cost Performance Index).
- **Time-phased FTE**: Use this report to display FTEs for reporting periods other than calendar set 00. This report uses the hours in the project for the selected period, then divides by the hours in the calendar to calculate the FTEs for each selected period on the report.

## Report Types

The two main report types are model reports and aggregated reports. Model reports display data from a single table. Aggregated reports display data from multiple related tables and can roll up data based on a code.

Examples of model reports are Calendar, Rates, and Project Data. Examples of aggregated reports are CPR Format 1, Time-phased, and Project Cost Set.

The applicable/available tags and parameters vary among the report types.

When you click **All Reports** in the Navigation pane's group bar to view the All Reports pane, you can see various reports and their types.

This table lists the available report types and provides a general description of each one. A **Yes** in the Aggregated column indicates that the time-phased data is summarized based on the report criteria before the report is generated. To run an aggregated report, you must select one or more criteria and one or more cost sets. A **Yes** in the Include Multiple Projects on Report column indicates that you can run the Report Wizard against multiple projects (not against a master project) to include on a single report.

| Report Type | Aggregated | Description | Include Multiple Projects on Report |
|---|---|---|---|
| Access | No | Dedicated report type for the File Access report. | No |
| Change Management | No | Dedicated report type for the Change Management and Project Reconciliation reports. | No |
| CPR | Yes | CPR reporting. Time-phased data; rows grouped by criteria; columns grouped by cost sets. Sort Code and subtotal options available in report footer. | No |
| CPR3 | Yes | CPR3 reporting. Baseline data. | No |
| CrossTab | Yes | CAP reporting. Time-phased data; rows grouped by criteria and cost sets. | Yes |
| CrossTabCriteria | Yes | Time-phased data; rows grouped by criteriaN-1; columns grouped by CriteriaN.<br>Used for 1921-1 report. | No |
| Graph | Yes | Graphic reports. Time-phased data; rows grouped by criteria and cost sets. | Yes |
| Model | No | Reports based directly on underlying data structures (for example, control accounts, code files, and so on.) The Report Table Type indicates the main table. | No |
| Pivot Table | Yes | Pivot table reports. Time-phased data is grouped by criteria and cost sets on the Data worksheet. It is presented on the Report worksheet in a pivot table.<br>If exactly two criteria are selected, the pivot table is initialized as follows; otherwise, an empty pivot table is displayed:<br>▪ **Row Label 1**: Criteria 1, No Subtotals<br>▪ **Row Label 2**: Cost Set, Summed Subtotals | Yes |

| Report Type | Aggregated | Description | Include Multiple Projects on Report |
|---|---|---|---|
| | | ▪ **Column Label 1**: Criteria 2<br>▪ **Values**: Summed Value | |
| Project Audit | Yes | Project log reporting. Rows are grouped by criteria. | No |
| Project Planning Statistics | No | Dedicated report type for the Project Planning Statistics report. | No |
| Summary | Yes | Time-phased data; rows grouped by criteria; columns grouped by cost sets. | Yes |

## Customization of Reports

You can customize reports when you have specific reporting requirements that cannot be satisfied using the Report Wizard.

**Attention:** Access the Deltek Support Center site for more information about custom reports. Several knowledge base articles provide examples to help you get started.

Consider the following points when you customize your reports:

- Choose the type of report that you want to customize. Find a report type that closely matches your desired report output and confirm that the selected report type supports all the necessary data.

  For example, the Project Data report only displays information that can be added to the Spreadsheet pane of the Project view. This is because Project Data is a model report and only displays data from a single table. If you want to display a specific result such as Direct, you must customize an aggregated report such as Project Cost Set Result.
- Save the selection criteria to a new name in the Report Wizard. You can customize each row in the report to meet your specific needs as long as you know what each row displays.
- Copy the original report template before you make any edits and select the new template in the Report Wizard. The default location of the report templates is C:\Program Files \Deltek\Cobra\ReportTemplates.
- Stop the Report Wizard from prompting selection criteria by modifying the information entered in the report using the Information tab of the Report Properties dialog box.
- Use Excel to modify a report template. Use the standard Excel commands in formatting the report.

## Report Templates

Each report in Cobra has an associated template file that works with the report's definition and reporting engine to retrieve the data from Cobra that is used to populate the report.

You cannot run a report unless it has a template file. Standard Cobra reports come with default template files. Use the Style page of the Report Wizard to associate a different template file with a shipped report or to select a template for a new report.

Use the template file to:

- Specify the type of data that Cobra retrieves and uses to populate the report
- Define the report's header and footer, chart, and detailed format
- Identify the parameters and text to use in the report

Template files contain tags, which are parameters surrounded by brackets, in the format {<tag>}. You can use Excel to modify a template file. The report template is saved with the report and is included in the report's backup.

**Note:** Beginning with Cobra 8.4 Cumulative 08 onwards, you can freeze multiple rows and columns in a report template file. When you run the Report Wizard, the changes you made to the report template file are applied to the generated report.

## Report Template Location

The default location of the report templates is C:\Program Files\Deltek\Cobra\ReportTemplates on the application server.

You can change the location of the report template on the Reports tab of the Application Preferences dialog box.

**Note:** The application server is not the local machine in an n-tier configuration.

## Report Template Format

The report template defines the layout of the report. The template contains tags, which are interpreted by the report engine to display and format data.

A worksheet named Report in the final Excel file displays the generated report. The template is included, for reference, as a worksheet in the final Excel file and is named Template.

**Note:** If a tag displays on a report, it is an invalid tag.

### Worksheet Header and Footer

Define the header and footer on the **File** » **Page Setup** » **Header/Footer** tab of Excel.

The headers and footers on all shipped reports are in a standard format. The left section of the custom header displays a parameter tag to retrieve the report name, description, and filter name

for the selected report. The right section of the header displays a parameter tag to retrieve the file name and description. If the file is a project, it also displays the status date of the project.

The left section of the custom footer displays the Deltek name. The middle section displays the page number and a tag to retrieve the scale factor caption. The scale factor caption is printed only if the report contains currency project data. You can define the scale factor caption printed on the report footer on the Style page of the Report Wizard. The right section of the footer displays the date the report is printed.

**Worksheet**

The worksheet defines the layout of the report. It contains tags and fixed text that are copied directly into the report.

Enclose tags in curly brackets, in the format {<tag>}.

The **N** in the tags represents the order in which a field comes as you selected in the Sub-Totals page of the Report Wizard. Instead of entering **CriteriaN**, you can also enter the actual order in which the field comes. For example, **Criteria1** represents the first criteria you selected; **Criteria2** the second criteria; and so on.

Section tags display in the first column of the report template. They define the report sections (for example, Page header, Report header, grouping, and so on). Tags/content that are included in the remaining columns on the same row are included in the section. These tags are necessary for the report to run.

The remaining columns define the actual Cobra data display on the report. The following are examples of tags that retrieve Cobra data:

| Sample Tag | Description |
|---|---|
| {CriteriaN.Title}{Right}{Insert} | This tag retrieves the criteria **Title**, selected from the Sub-totals page of the Report Wizard, and displays it on each page of the report. Examples are **Control Account**, **WBS**, **OBS**, or **Work Package**.<br>Data displays on each page only if the tag in the first column has **<Header>{Page}**.<br>**N.Title** prints the criteria names from the selected Sub-totals page of the Wizard for the number of criteria you select. If you indicate **Criteria1.Title**, Cobra prints only the title from the first criteria selected on the Sub-totals page of the Report Wizard. |
| {PeriodN.Title}{Right}{Insert} | This tag retrieves the periods from the calendar you selected on the Report Wizard and displays them on the report.<br>The {**Right}{Insert}** tag indicates the insertion of data before the column to its right. |
| {CriteriaN.Id}{CriteriaN.Description} | This tag retrieves the criteria name and description. Examples are **1.1.1.1/1400 Frame Design** if **Control Account** is the selected |

| Sample Tag | Description |
|---|---|
| | criteria, or **01 Fuselage** if **Work Package** is the selected criteria. |
| {CostSetN.Description} | This tag retrieves the description of the cost set. For each criteria, the cost set descriptions display. |
| {CostSetN.PeriodN.Value} | This tag retrieves the value for each cost set by calendar period. |
| {SUM(CostSetN.PeriodN.Value)} | This tag displays the sum of all periods. |
| {=Cell[R-2,C]-Cell[R-1,C]} | This is an example of a formula tag. This means that the value in the row preceding the current row of the same column is subtracted from the value two rows before the current row. |

Formulas are entered in the same format as any Excel formula.

**Attention:** For more information, see Projects Pane.

### Chart

The only way the report can plot against a chart is if the template contains a chart. You must create a chart in the template using Excel and the layout tags. The chart must have a layout tag such as **<Header>{CriteriaN}** in column **A** of the template for many criteria or **<Header>{Criteria.1}** for only one criteria.

Dummy sample data must be placed in the template so that the chart can plot. When the report runs, it is plotted against the real data. The format used in the template is the same format that is used in the actual report. This includes font, color, borders, and chart style. Formulas are also translated from the template to the report.

### Report Header

All reports contain a header section in the report body. Some reports include column headers containing both the text and tags used to label the column. Other reports, such as CPRs, include a header section that follows specific standard formatting. Headers in formatted reports such as the CPR contain both the text and the tags to retrieve Cobra data.

### Report Footer

Most reports contain a footer section in the report body. Use the footer section to indicate the bottom of the report.

Most reports contain the following footers at the bottom of the report. These footers are used to print selections made through the wizard, such as the calendar set and sub-total criteria. The footer also displays the options for set criteria in the report's definition. For example. the 533 report does not allow you to select cost sets, but data from cost sets are used to populate the report. The cost sets used to populate the report display as report options under Cost Sets even though the cost sets are not actually selected through the wizard.

| | |
|---|---|
| <Footer> {Report} {PRINTIF} (DisplayReportOptions,True)} | |
| <Footer> {Report} {PRINTIF} (DisplayReportOptions,True)} | **Report Options** |
| <Footer> {Report} {PRINTIF} (DisplayReportOptions,True)} | Criteria: {ReportOptions.Criteria} |
| <Footer> {Report} {PRINTIF} (DisplayReportOptions,True)} | Calendar Set:{ReportOptions.CalendarSet} |
| <Footer> {Report} {PRINTIF} (DisplayReportOptions,True)} | Cost Sets:{ReportOptions.CostSets} |
| <Footer> {Report} {PRINTIF} (DisplayReportOptions,True)} | Filter:{ReportOptions.Filter} |

For these options to print at the bottom of the report, you must select the **Display Report Options** checkbox on the Save and Run page of the Report Wizard. The parameter **<Property Name="DisplayReportOptions" DataType="Boolean" ReadOnly="0">1</Property>** in the report definition must also be set to **1**.

The types of display report options available depend on the report. If a report does not support a calendar set, the report footer does not contain a tag to display the calendar set.

## Report Template Tags

Use the predefined tags to create or modify a report template.

Use the following types of tags:

- Section Tags
- Formula Tags
- Property Tags
- Report Options
- Other Tags
- Information Tags

Report tags are case-sensitive. Refer to the templates that come with standard Cobra reports to use the tags.

### Section Tags

Section tags define the logical sections (header, footer, and others) in the report. Section tags are placed in the first column of the report template.

In model type reports, the full table name is displayed. In report types such as CPR, CrossTab, and Summary, the table indicator is the selected criteria for the heading section, such as Criteria1, Criteria2, and so on.

For example, in a row with the Section tag of <Header>{Criteria1}, the property tag will be {Criteria1.Id} {Criteria1.Description} to print the ID and the description of the first selection criteria in the Report Wizard. If WBS is selected, the report displays 1.1.1.1 Frame Design. Using the criteria number for the tag enables the report to be compatible with any selection criteria.

Most of the report templates supplied with Cobra use a property tag with N, such {CriteriaN.Id}. This allows the report to expand and add rows based on the number of selected criteria. If you plan to customize a report to add property tags that are specific to a table, the first step is to create a saved report where the criteria is no longer variable. Then, copy the rows of the report template to specify the selection row.

**Example**

For example, the time-phased report has this criteria: <Header>{CriteriaN}{Group} {CriteriaN.ID}

To add the progress technique to the time-phased report, save the report with the criteria of Control Account and Work Package. Then change the heading row to two fixed header criteria:

- <Header>{Criteria1}{Group}{Criteria1.ID}
- <Header>{Criteria2}{Group}{Criteria2.ID}

It is now clear that the second row in the report is the work package level.

The time-phased report has a tag in the header that inserts columns based on the number of criteria: {CriteriaN.Title}{Right}{Insert}

Remove the {Right}{Insert} tags from the <Header>{Page} row so new columns are not automatically added for each criteria. Then manually insert a column in the report and modify the criteria 2 row to include the following EVT property tag:

- Header>{Criteria2}{Group}{Criteria2.ID} {Criteria2.EVT}

| Section | Tag | Report Types | Description | |
|---|---|---|---|---|
| **HeaderSheet** | N/A | All | Worksheet page header. Displayed on the page header of every page. The content of this section is defined in the Excel worksheet page header. | |
| **FooterSheet** | N/A | All | Worksheet page footer. Displayed on the page footer of every page. The content of this section is defined in the Excel worksheet page footer. | |

| Section | Tag | Report Types | Description | |
|---|---|---|---|---|
| **HeaderPage** | <Header>{Page} | All | Page header. These rows are repeated on every page. | |
| **HeaderReport** | <Header>{Report} | All | Report header. Displayed at the beginning of the report. | |
| **FooterReport** | <Footer>{Report} | All | Report footer. Displayed at the end of the report. | |
| **HeaderGroup** | <Header>{CriteriaN} | Aggregated | Criteria header. Displayed once at the beginning of each criteria/record. | |
| | <Header>{CriteriaN.CostSetN} | Aggregated | Cost Set header. Displayed once at the beginning of each cost set/record. | |
| | <Header>{<Entity>} | Non-Aggregated | Entity header. Displayed once for each <Entity> entity.<br>Examples of entities: **ControlAccount** and **Code**.<br>Entities can be referenced hierarchically.<br>For example,<br>ControlAccount.WorkPackage and ControlAccount.NoteAsg | |
| **FooterGroup** | <Footer>{CriteriaN} | Aggregated | Criteria footer. Displayed once at the end of each criteria/record. | |
| | <Footer>{CriteriaN.CostSetN} | CAP | Cost Set footer. Displayed once at the end of each Cost Set / record. | |

| Section | Tag | Report Types | Description | |
|---|---|---|---|---|
| | | | This section is only available in conjunction with the {UseLowMemoryOutput} tag. | |
| | Footer >{<Entity>} | Non-Aggregated | Entity footer. Displayed once for each entity. | |
| **HeaderGrandTotal** | <Header>{GrandTotal} | CAP | Grand total section that you use to override the default grand total section of a report. Displayed after the last Criteria footer. | |

### Formula Tags

Formulas are entered in the same format as any Excel formula.

**Attention:** For more information on formulas, see Project Pane Column Descriptions.

The table below provides information on formulas based on relative cell references.

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| **{=SUM(WorkPackage.Bac)}** | HeaderGroup | CAP, CPR | Replaces the entity tag with a range. |
| **{=Cell[R,C-2] - Cell[R,C-1]}** | HeaderGroup | All | Formulas based on relative cell references. This indicates taking the value in the cell two columns to the left and on the same row as the current cell (where the formula is) and subtracting the value in a cell on a column to the left and on the same row as the current cell. |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| **{=IF(Cell[R-6,C]=0,"N/A",Cell[R-5,C]/Cell[R-6,C])}** | HeaderGroup | All | Mixed Excel, cell formulas |
| **{Column.Total}** | HeaderGroup | CPR | Places the formula **=SUM(range)** for the column. |
| **{=Cell[<RowLabel>, C]}** | HeaderGroup | All | Formulas based on a row label. You can specify a row label that has been defined using the **{RowLabel:<RowLabel>}** tag instead of **R** for the first parameter.<br>Row labels must be unique. If the same row label is defined on more than one row, then only the first one will be recognized.<br>Do not specify a row label in a section defined using **{CriteriaN}** notation because this will cause the same row label to be generated for each criteria.<br>**<RowLabel>-1** is supported but other offsets are not.<br>A row label from a different entity or criterion can be referenced. |

### Other Tags

The table below provides information on the Other tags that can be used to create or modify a report template.

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| **{ApplyCellFormat(<tag>)}** | HeaderGroup | All | This tag accepts a single parameter that specifies which tag or |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| | | | cell reference will determine the cell's format.<br>If a tag is specified, then that tag must also be present in the cell.<br>If a cell reference is specified, then it can be any cell, provided that it meets the following conditions:<br>▪ The referenced cell must be in the same report section as the referring cell.<br>▪ The referenced cell must not also contain Cell[] references.<br>▪ Only relative cell references are supported, for example. Cell[R, C-1]. Cell references to a Row Label cannot be used to set the cell's format.<br>For example:<br>{=IF(CostSet1.PeriodN.Date <= CostProject.StatusDate,CostSet1.PeriodN.Value,0)} {ApplyCellFormat(CostSet1.PeriodN.Value)}<br>This tag does not have any effect unless the following report parameter is enabled: **ApplyCellFormat=1**. |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| **{AutoFit}** | HeaderPage, HeaderReport | All | This tag sets the column contents to auto fit when you place it on a page or report level header or footer.This tag should be placed in the first column. |
| **{Cumulative}** | HeaderGroup | Graph, CAP | This tag makes a CAP report cumulative-based without adding an extra cumulative line. |
| **{CumulativeLine}** | HeaderGroup | CAP | This tag makes a CAP report cumulative-based by adding an extra cumulative line. |
| **{Down}** | HeaderReport | CPR | N tag expansion direction. Options are **Right** or **Down**. |
| **{Group}** | HeaderGroup | Aggregated, Model<br>Except: Model (Log), Model (Report) | This tag adds Excel grouping (expand/collapse). When using grouping in hierarchical reports such as CAP, an extra blank footer row must be present for each grouped entity section. This allows the reporting engine to correctly place the + signs for grouping. This tag should be placed in the first column. |
| **{HIGHLIGHT(Cell[R,C-3],C,P,J43,V,ValuePercentBoth)}** | HeaderGroup | CPR | Use this tag to indicate the threshold highlighting. The parameters in the sample highlight tag are described as follows: |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| | | | **<Cell[R,C-3]>** parameter indicates the cell reference of:<br>If the current cell contains the percent variance, the reference cell contains the value variance.<br>If the current cell contains the value variance, the reference cell contains:<br>▪ The Budget value if data type is Schedule.<br>▪ The Earned value if data type is Cost for Period or Cumulative.<br>▪ The BAC value if data type is Cost for At Complete.<br>The **<C>** parameter indicates if the cell contains cost (**C**) or schedule (**S**) data.<br>The **<P>** parameter indicates period. Possible values are: **A** (At complete), **P** (Period), and **C** (Cumulative).<br>The **<J43>** parameter is the cell reference where formatting is specified.<br>The **<V>** parameter indicates if the cell contains value or percent data. Possible |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| | | | values are: **V** (Value cell) and **P** (Percent cell). **V** is both the default and optional value.<br>The **<ValuePercentBoth>** parameter indicates the highlighting value to apply. Possible values are:<br>▪ **ValueBoth** — Shows highlight if value or both value and percent exceed threshold.<br>▪ **PercentBoth** — Shows highlight if percent or both value and percent exceed threshold.<br>▪ **ValuePercent Both** — Shows highlight if value, percent, or both value and percent exceed threshold. This value is both default and optional. |
| **{Insert}** | HeaderPage | CAP, Summary | N tag expansion function. Options are Replace or Insert. The Insert function expands the N tag by inserting new rows or columns. |
| **{NewPage}** | | All | Use this tag to add a new page. This tag |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| | | | should be placed in the first column. |
| **{NoCellFormat}** | HeaderGroup | All | Use this tag to ignore the **ApplyCellFormat** parameter for this cell. This cell's format will be copied from the template. |
| **PRINTIFOTHERWISE** | HeaderGroup | All | Use this tag to display the row only if one or more **PRINTIF** tags are defined within the same section and none of them is displayed for the current data element. |
| **{PRINTIF(<Expression>, <Value>)}** | FooterReport, HeaderGroup | All | Use this tag to display only the row if the **<Expression>** expression has the value **<Value>**. The expression for **<Expression>** must evaluate to an entity property. This tag should be placed in the first column. |
| **{=REMAININGPERIODS(expression)}** | HeaderGroup | Aggregated | Use this tag to expand the expression into a sum expression based on the number of periods in the calendar.<br>For example, if the calendar has 13 periods and the expression is CostSet1.Period1.Value, the tag will be expanded to =CostSet1.Period1.Value+ CostSet1.Period2.Value+.+ |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| | | | CostSet1.Period13.Value. |
| **{Replace}** | HeaderReport | CPR | N tag expansion function. Options are **Replace** or **Insert**. The Replace function expands the N tag by overwriting any cells without inserting new rows or columns. |
| **{Right}** | HeaderPage | CAP, Summary | N tag expansion direction. Options are **Right** or **Down**. |
| **{RowLabel:<RowLabel>}** | HeaderGroup | All | This tag provides a reference to a row based on its label. The label can be referenced in a Cell formula.<br>**Attention:** For more information, see the Formula Tags help topic. |
| **{SortCode<Code>}** | FooterReport | CPR | Total for Sort Code **<Code>**. |
| **{SubTotal}** | FooterReport | CPR | This tag indicates where the subtotal value displays on the footer of a CPR report. |
| **{UseLowMemoryOutput}** | Cell A1 | CAP | Use this tag to generate the report using features that significantly reduce Cobra's memory requirements. This tag must be specified in cell A1 of the report template and is only supported for some reports.<br>**Attention:** For more information, see the |

| Tag | Sections | Report Types | Description |
|---|---|---|---|
| | | | Reduce Memory Consumption for Very Large Reports help topic. |
| **{VARCOLOR(VAC, Cell[R,C-2])}** | HeaderGroup | CPR, Model (Project) | This tag indicates the variance coloring function. {VARCOLOR(CPI)}, {VARCOLOR(SPI)}, {VARCOLOR(CV, Cell[R,C-3])}, {VARCOLOR(SV, Cell[R,C-3])}. |
| **{XSeries}** | HeaderGroup | Graph | Use this tag to specify an alternative row for the chart reports to use as the X-axis data series. If this tag is missing, the default period labels are used as the X-axis data series. |
| **{XSeriesEnd(StatusDate)}** | HeaderGroup | Graph | Use this tag to specify how far the X-axis data series needs to be mapped to the chart. The parameter StatusDate specifies here that the X-axis data series must be mapped up to the Status Date. |
| **{YSeries1}** | HeaderGroup | Graph | Use this tag to specify an alternative row to be used for the first Y-axis data series. By changing the number at the end of the tag, other data series can also be specified. |

**Example**

The following is an example, using one of the tags indicated in the table:

| Tag | Example Result | Description |
|---|---|---|
| **<Footer>{Report} {PRINTIF(DisplayReportOptions, True)}** | | Use this tag to display the row only if the parameter **DisplayReportOptions= 1**. |
| **<Header>{Criteria2} {PrintIf(Criteria2.Index,First)}** | | Use this tag to display the row if iterating a Criteria2 collection and it is the first element of the collection. Acceptable values for the second parameter are First, Last, and non-zero numerical values. |

### Property Tags

Property tags indicate a field on a table. These tags are commonly added to a report template to print extra information, such as dates and code assignments.

A property tag is composed of two parts: the table indicator and the field indicator, which are separated by a period. For instance, in the **WorkPackage.EVT** field, **WorkPackage** represents the table and **EVT** represents the field. The tag is enclosed by curly brackets { } in the report. In the spreadsheet cell, **{WorkPackage.EVT}** is displayed.

The table below provides information on the Property tags that can be used in reports.

| Tags | Sections | Report Types | Description |
|---|---|---|---|
| **{CriteriaN.Id}** | HeaderGroup | Aggregated | Use this tag to display the ID of the current data row that meets the specified criteria. |
| **{CriteriaN.Description}** | HeaderGroup | Aggregated | Use this tag to display the description of the current data row that meets the specified criteria. |
| **{CriteriaN.HasSubtotal}** | HeaderGroup<br>FooterGroup | Aggregated | Use this tag to display the subtotal for the specified summary criteria, if available. This will be true if the criteria level is a summary row and the **Show Total** option on the Sub-Totals page of the Report Wizard is selected for the specified criteria. |

| Tags | Sections | Report Types | Description |
|---|---|---|---|
| **{CriteriaN.Title}** | HeaderPage | Aggregated | Use this tag to display the title of the current data row that meets the specified criteria. |
| **{CostSetN.Id}** | HeaderPage | Aggregated | Use this tag to display the ID of the current cost set data row. |
| **{CostSetN.Description}** | HeaderGroup | Aggregated | Use this tag to display the description of the current cost set data row. |
| **{ResultN.Id}** | HeaderGroup | CAP (RollupResult=1), Summary | Use this tag to display the ID of the current result data row. |
| **{<entity>.<property>}** | HeaderGroup | Model | Use this tag to display the value of an entity property. Substitute a valid entity for **<entity>** and property for **<property>**. |
| **{<entity>.<property>.Title}** | HeaderPage | Model | Use this tag to display the title of an entity property. Substitute a valid entity for **<entity>** and property for **<property>**. |
| **{<entity>.<property>.Id}** | HeaderGroup | Model | Use this tag to display the ID of an entity property. This tag applies to properties with an enumerated type such as **WorkPackage.EVT**.<br>Substitute a valid entity for **<entity>** and an enumerated type for **<property>**. |
| **{CriteriaN.CodeAsg[N]}** | HeaderGroup | Aggregated | Use this tag to display the value of a code assignment. Substitute a valid code assignment for **<CodeAsg[N]>**. |

| Tags | Sections | Report Types | Description |
|---|---|---|---|
| **{CriteriaN.CodeAsg[N].Description}** | HeaderGroup | Aggregated | Use this tag to display the description of a code assignment. Substitute a valid code assignment for <CodeAsg[N]>.<br>▪ If the code field is type **Text**, a blank value is displayed.<br>▪ If the code field is type **User Field**, the user's first and last name is displayed. |
| **{CriteriaN.CodeAsg[N1].CodeAsg[N2]}** | HeaderGroup | Aggregated | Use this tag to display the code of a code assignment. Substitute valid code assignments for **<CodeAsg[N1]>** and **<CodeAsg[N2]>**. |
| **{CriteriaN.CodeAsg[N].Prompt}** | HeaderPage | Aggregated | Use this tag to display the prompt of a code assignment. Substitute a valid code assignment for **<CodeAsg[N]>**. |
| **{<entity>.CodeAsg[N]}** | HeaderGroup | Model | Use this tag to display the value of a code assignment. Substitute a valid code assignment for **<CodeAsg[N]>**. |
| **{<entity>.CodeAsg[N].Prompt}** | HeaderPage | Model | Use this tag to display the prompt of a code assignment. Substitute a valid entity for <entity> and code assignment for **<CodeAsg[N]>**. |
| **{<entity>.CodeAsg[N]}** | HeaderGroup | Model | All codes attached to the entity (project, |

| Tags | Sections | Report Types | Description |
|---|---|---|---|
| | | | code file, resource file, and rate file) are expanded to a separate column for **CodeAsg1**, **CodeAsg2**, and others. The **CodeAsg** values are inserted in the cells. Substitute a valid entity for **<entity>**. |
| **{<entity>.CodeAsg[N].Prompt} {Right} {Insert}** | HeaderPage | Model | All codes attached to the entity (project, code file, resource file, and rate file) are expanded to a separate column for **CodeAsg1**, **CodeAsg2**, and others. The **CodeAsg** prompts are inserted in the cells. Substitute a valid entity for **<entity>**. |
| **{Term.<Term Name>}** | HeaderPage | Aggregated | Application preferences allows you specify your terms. Using the tags **{Term.Budget}**, **{Term.Actual}**, **{Term.Earned}**, **{Term.BAC}**, or **{Term.EAC}** will display the term entered. |
| **{Report.Id}** | All | All | Use this tag to display the report name. |
| **{Report.Description}** | All | All | Use this tag to display the report description. |
| **{Narrative.<Category>}** | HeaderGroup | CPR | The default categories are:<br>▪ Corrective Action |

| Tags | Sections | Report Types | Description |
|---|---|---|---|
| | | | ▪ Explanation<br>▪ Impact<br>▪ Monthly Summary<br>Substitute a valid Variance Narrative category for **<Category>**. |
| **{CriteriaN.SortCode}** | HeaderGroup | CAP, Summary | Use this tag to display the Sort Code of the current criteria data row.<br>Sort codes are only applicable to the **Results** criteria. |
| **{Result[N].SortCode}** | HeaderGroup | CAP (RollupResult=1), Summary | Use this tag to display the Sort Code for the current Result data row. |
| **{CriteriaN.ManagerId. Description}** | HeaderGroup | Aggregated | Use this tag to display the CAM Description when the CAM uses a code or a user field, or the WP Manager Description when the WP manager uses a user field. This tag supports the **Control Account** and **Work Package** criteria on the Sub-Totals page of the Report Wizard. |

**Note:** You can reference codes by using the property **CodeAsg<n>** where **<n>** is the code file number.

### Examples

The following are examples of using the special tags:

| Tag | Sample Result | Description |
|---|---|---|
| **{CriteriaN.Id}** | 1.1.1.1 / 1400 | ID for the selected criteria such as control account. |

| Tag | Sample Result | Description |
|---|---|---|
| **{CriteriaN.Description}** | Frame Design | Description for the selected criteria such as control account. |
| **{CriteriaN.Title}** | Control Account | Title for the selected criteria such as control account. |
| **{CostSetN.Id}** | BCWS | ID for a cost set. |
| **CostSetN.Description** | Scheduled | Description for a cost set. |
| **{ControlAccount.FullId}** | 1.1 / 2.2 | Control account ID. |
| **{ControlAccount.FullId.Title}** | Control Account | Control account title. This is the same as **Term.ControlAccount**. |
| **{Result[N].Id}** | HOURS | The result name. |
| **{WorkPackage.FullId}** | 1.1 / 2.2 / 01 | Work package ID. |
| **{WorkPackage.FullId.Title}** | Work Package | Work package title. This is the same as **Term.WorkPackage**. |
| **{WorkPackage.WpId}** | 01 | Work package ID. |
| **{WorkPackage.WpId.Title}** | WP | Work package field name. |
| **{WorkPackage.Evt}** | Percent Complete | The long description for the work package EVT. |
| **{WorkPackage.Evt.Id}** | C | The code for the EVT. |
| **{WorkPackage.Status}** | Planned | Work package status. |
| **{WorkingDays[CostProject.StatusDate, Month]}** | 20 | The number of working days in the monthly calendar period that contains the project's Status Date.<br>If the project has a rolling wave calendar, it will be used to determine the monthly calendar periods. Otherwise, the monthly calendar periods will be defined by calendar set 00 in the project's calendar file. |
| **{Code.CodeAsg1.Prompt}** | Code on Code Prompt | Prompt for Code 1 on Code. |
| **{ControlAccount.CodeAsg5}** | HOUSTON | The value in the control account assignment code 5. |
| **{ControlAccount.CodeAsg5.Title}** | Control Account Code Field 5 | The generic title for Control Account Code 5. |
| **{ControlAccount.CodeAsg5.Prompt}** | Location | User prompt for the control account code. |
| **{ControlAccount.CodeAsg[N]}** | | The code assignment (or value in the code) for the control account code N. |

| Tag | Sample Result | Description |
|---|---|---|
| | | The N indicates repetition until all code assignments are used. |
| **{ControlAccount.CodeAsg[N].Prompt} {Right}{Insert}** | Charge Number | The prompt for control account code N. The N indicates repetition until all code assignments are used. The tag to insert right signifies to insert a column to the right for the new code assignments. |
| **{RateSet.Description}** | Astronomer | The rate set description. |
| **{Rate.RateSet.RateFile.Id}** | Demo Rate | Tag that references a parent entity property, or the rate file name. |
| **{Resource.CodeAsg1.Prompt}** | Code on Resource Prompt | User prompt for Code 1 on the resource. |
| **{Term.ControlAccount}** | Control Account | |
| **{Term.Cam}** | CAM | |
| **{CriteriaN.ManagerId.Description}** | Samuel Jones | Shows the description of the Code used as CAM or the First Name and Last Name of the user if the CAM or WP Manager uses a user field. |

### IPMRFormat2Summary Tags

The following are examples of IPMRFormat2Summary tags:

| Tag | Description |
|---|---|
| **IPMRFormat2Summary.Id** | The ID of the IPMRFormat2Summary code. |
| **IPMRFormat2Summary.Description** | The description of the IPMRFormat2Summary code. |
| **IPMRFormat2Summary.IsNonAdd** | A Boolean value that indicates whether this summary code is Add (for example, is added to the subtotal of the report) or non-Add. The value will be False if the code has been excluded from the body of the report by specifying it in the ExcludeIPMRFormat2SummaryFromBody parameter.<br>This tag would typically be used in a formula such as:<br>{=IF(IPMRFormat2Summary.IsNonAdd, "N", "")} |

*Apportionment Mapping Tags*

The table below provides information on the Apportionment Mapping tags that can be used in reports.

| Entity Property | Description |
|---|---|
| AppnMapSource.Lastupdate | Last Update |
| AppnMapSource.ProjectId | Project |
| AppnMapSource.ResourceId | Resource |
| AppnMapSource.Sequence | Sequence |
| AppnMapSource.SourceCaWpId | Source CAWP |
| AppnMapSource.SourceCaWpUid | Source CAWPUid |
| AppnMapSource.SourceProjectId | Source Project |
| AppnMapSource.TargetCaWpUid | Target CAWPUid |
| AppnMapSource.TargetProjectId | Target Project |
| AppnMapSource.UserId | User |
| AppnMapTarget.Lastupdate | Last Update |
| AppnMapTarget.ProjectId | Project |
| AppnMapTarget.RateSetId | Rate Set |
| AppnMapTarget.ResourceId | Resource |
| AppnMapTarget.Sequence | Sequence |
| AppnMapTarget.TargetCaWpId | Target CAWP |
| AppnMapTarget.TargetCaWpUid | Target CAWPUid |
| AppnMapTarget.TargetProjectId | Target Project |
| AppnMapTarget.UserId | User |
| AppnResource.CalculationOrder | Calculation Order |
| AppnResource.Lastupdate | Last Update |
| AppnResource.ResourceFileId | Resource File |
| AppnResource.ResourceId | Resource |
| AppnResource.ResultId | Result |
| AppnResource.Sequence | Sequence |
| AppnResource.UserId | User |
| AppnResourceSource.Lastupdate | Last Update |
| AppnResourceSource.ResourceFileId | Resource File |

| Entity Property | Description |
|---|---|
| AppnResourceSource.ResourceId | Resource |
| AppnResourceSource.Sequence | Sequence |
| AppnResourceSource.SourceResourceId | Source Resource |
| AppnResourceSource.UserId | User |

*Baseline Tags*

The table below provides information on the Baseline tags that can be used in reports.

| Entity Property | Description |
|---|---|
| Baseline.Auw | Authorized Unpriced Work |
| Baseline.Comment | Comment |
| Baseline.Ctc | Contract Target Cost |
| Baseline.Date | Date |
| Baseline.Db | Distributed Budget |
| Baseline.Eac | Forecast |
| Baseline.Fee | Fee |
| Baseline.Label | Label |
| Baseline.Mr | Management Reserve |
| Baseline.ProjectId | Project |
| Baseline.Refno | Reference No. |
| Baseline.Ub | Undistributed Budget |
| BaselineDetail.Amount | Amount |
| BaselineDetail.Hours | Hours |
| BaselineDetail.PeriodDate | Period Date |
| BaselineDetail.ProjectId | Project |
| BaselineDetail.Refno | Reference No. |
| BaselineHistory.Acwp | ACWP |
| BaselineHistory.AcwpHours | ACWPHours |
| BaselineHistory.Bac | BAC |
| BaselineHistory.BacHours | BACHours |
| BaselineHistory.Bcwp | BCWP |
| BaselineHistory.BcwpHours | BCWPHours |

| Entity Property | Description |
|---|---|
| BaselineHistory.Bcws | BCWS |
| BaselineHistory.BcwsHours | BCWSHours |
| BaselineHistory.CaWpUid | CAWP Uid |
| BaselineHistory.Eac | Forecast |
| BaselineHistory.EacHours | EACHours |
| BaselineHistory.PeriodDate | Period Date |
| BaselineHistory.ProjectId | Project |
| BaselineLog.Amount | Amount |
| BaselineLog.Ca1Id | CA1Id |
| BaselineLog.Ca2Id | CA2Id |
| BaselineLog.Ca3Id | CA3Id |
| BaselineLog.Ccn | Contract Change Number |
| BaselineLog.Comment | Comment |
| BaselineLog.ControlAccountFormatted | Control Account Id |
| BaselineLog.Cpr3 | CPR 3 |
| BaselineLog.Credit | Credit |
| BaselineLog.Debit | Debit |
| BaselineLog.PeriodDate | Period Date |
| BaselineLog.ProjectId | Project |
| BaselineLog.Refno | Reference No. |
| BaselineLog.ResourceId | Resource |
| BaselineLog.TransactionDate | The date the change was made. |
| BaselineLog.Tstamp | Time Stamp |
| BaselineLog.Significant | Indicates that the log entry was a significant change for the IPMR CPR Format 3 report. |
| BaselineLog.UserId | User |
| BaselineLog.WpId | WPId |

*Calendar File Information Tags*

The table below provides information on the Calendar File Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CalendarFile.CalendarFileId | Calendar File |
| CalendarFile.Description00 | 00 Description |
| CalendarFile.Description01 | 01 Description |
| CalendarFile.Description02 | 02 Description |
| CalendarFile.Description03 | 03 Description |
| CalendarFile.Description04 | 04 Description |
| CalendarFile.Description05 | 05 Description |
| CalendarFile.Description06 | 06 Description |
| CalendarFile.Description07 | 07 Description |
| CalendarFile.Description08 | 08 Description |
| CalendarFile.Description09 | 09 Description |
| CalendarFile.Description10 | 10 Description |
| CalendarFile.Description11 | 11 Description |
| CalendarFile.Description12 | 12 Description |
| CalendarFile.Description13 | 13 Description |
| CalendarFile.Description14 | 14 Description |
| CalendarFile.Description15 | 15 Description |
| CalendarFile.Description16 | 16 Description |
| CalendarFile.Description17 | 17 Description |
| CalendarFile.Description18 | 18 Description |
| CalendarFile.Description19 | 19 Description |
| CalendarFile.DowHours | Day of Week Hours |
| CalendarFile.Lastupdate | Last Update |
| CalendarFile.PeriodPattern | Pattern |
| CalendarFile.Sequence | Sequence |
| CalendarFile.UserId | User |
| CalendarFileDir.Description | Description |
| CalendarFileDir.Id | Name |

| Entity Property | Description |
|---|---|
| CalendarFileDir.Lastupdate | Last Update |
| CalendarFileDir.Openmode | Open Mode |
| CalendarFileDir.OwnerId | Owner |
| CalendarFileDir.Sequence | Sequence |
| CalendarFileDir.Uid | Uid |
| CalendarFileDir.UsrId | User |

*Calendar Holiday Tags*

The table below provides information on the Calendar Holiday tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CalendarHoliday.CalendarFileId | Calendar File |
| CalendarHoliday.HolidayDate | Date |
| CalendarPeriod.CalendarFileId | Calendar File |

*Calendar Period Tags*

The table below provides information on the Calendar Period tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CalendarPeriod.Flag00 | 00 Flag |
| CalendarPeriod.Flag01 | 01 Flag |
| CalendarPeriod.Flag02 | 02 Flag |
| CalendarPeriod.Flag03 | 03 Flag |
| CalendarPeriod.Flag04 | 04 Flag |
| CalendarPeriod.Flag05 | 05 Flag |
| CalendarPeriod.Flag06 | 06 Flag |
| CalendarPeriod.Flag07 | 07 Flag |
| CalendarPeriod.Flag08 | 08 Flag |
| CalendarPeriod.Flag09 | 09 Flag |
| CalendarPeriod.Flag10 | 10 Flag |
| CalendarPeriod.Flag11 | 11 Flag |
| CalendarPeriod.Flag12 | 12 Flag |
| CalendarPeriod.Flag13 | 13 Flag |

| Entity Property | Description |
|---|---|
| CalendarPeriod.Flag14 | 14 Flag |
| CalendarPeriod.Flag15 | 15 Flag |
| CalendarPeriod.Flag16 | 16 Flag |
| CalendarPeriod.Flag17 | 17 Flag |
| CalendarPeriod.Flag18 | 18 Flag |
| CalendarPeriod.Flag19 | 19 Flag |
| CalendarPeriod.Hours | Hours |
| CalendarPeriod.Label00 | 00 Label |
| CalendarPeriod.Label01 | 01 Label |
| CalendarPeriod.Label02 | 02 Label |
| CalendarPeriod.Label03 | 03 Label |
| CalendarPeriod.Label04 | 04 Label |
| CalendarPeriod.Label05 | 05 Label |
| CalendarPeriod.Label06 | 06 Label |
| CalendarPeriod.Label07 | 07 Label |
| CalendarPeriod.Label08 | 08 Label |
| CalendarPeriod.Label09 | 09 Label |
| CalendarPeriod.Label10 | 10 Label |
| CalendarPeriod.Label11 | 11 Label |
| CalendarPeriod.Label12 | 12 Label |
| CalendarPeriod.Label13 | 13 Label |
| CalendarPeriod.Label14 | 14 Label |
| CalendarPeriod.Label15 | 15 Label |
| CalendarPeriod.Label16 | 16 Label |
| CalendarPeriod.Label17 | 17 Label |
| CalendarPeriod.Label18 | 18 Label |
| CalendarPeriod.Label19 | 19 Label |
| CalendarPeriod.PeriodDate | Date |

*Change Management Tags*

The table below provides information on the Change Management tags that can be used in reports.

| Entity Property | Description |
|---|---|
| ChangeManagement.Amount | Amount |
| ChangeManagement.Auw | Authorized Unpriced Work |
| ChangeManagement.Cbb | Contract Budget Base |
| ChangeManagement.Ccn | Contract Change Number |
| ChangeManagement.Comment | Comment |
| ChangeManagement.Credit | Credit budget source (for example, DB or UB) |
| ChangeManagement.Ctc | Contract Target Cost |
| ChangeManagement.Db | Distributed Budget |
| ChangeManagement.Debit | Debit budget source (for example, DB or UB) |
| ChangeManagement.FullId | Control Account Id or Work Package Id |
| ChangeManagement.IsCcnTotal | Boolean value that indicates if the current row represents a group for a Contract Change Number.<br>Use this property in a **PrintIf** condition to display a group header. |
| ChangeManagement.IsPeriodDateTotal | Boolean value that indicates if the current row represents a group for a Period Date.<br>Use this property in a **PrintIf** condition to display a group header. |
| ChangeManagement.IsTotal | Boolean value that indicates if the current row represents a group for a Contract Change Number.<br>This property has been superseded by the IsCcnTotal property. It is still supported but new reports should use the IsCcnTotal property. |
| ChangeManagement.Mr | Management Reserve |
| ChangeManagement.Ot | Over Target Baseline |
| ChangeManagement.PeriodDate | Period Date |
| ChangeManagement.Refno | Reference Number |
| ChangeManagement.Tstamp | Time Stamp |
| ChangeManagement.Ub | Undistributed Budget |
| ChangeManagement.UserId | User |

*Class Information Tags*

The table below provides information on the Class Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CostClass.CalendarSetId | Calendar Set |
| CostClass.ClassTypeId | Class Type |
| CostClass.Description | Description |
| CostClass.ForecastDateSetId | Forecast Date Set |
| CostClass.ForecastMethodId | Forecast Method |
| CostClass.Id | Class |
| CostClass.IsPartOfActual | Is Part Of Actuals |
| CostClass.IsPartOfBudget | Is Part Of Budget |
| CostClass.Lastupdate | Last Update |
| CostClass.LevelId | Level |
| CostClass.MinusMinus | MinusMinus |
| CostClass.MinusPlus | MinusPlus |
| CostClass.PfCodeFileId | Performance Factor Code File |
| CostClass.PfFactorA | Performance Factor A |
| CostClass.PfFactorB | Performance Factor B |
| CostClass.PfLevelId | Performance Factor Level |
| CostClass.PlusMinus | PlusMinus |
| CostClass.PlusPlus | PlusPlus |
| CostClass.ProjectId | Project |
| CostClass.RateFileId | Rate File |
| CostClass.Readonly | Read Only |
| CostClass.Required | Required |
| CostClass.Sequence | Sequence |
| CostClass.UserId | User |
| CostClassLink.ClassId | Class |
| CostClassLink.ContainedClassId | Contained Class |
| CostClassLink.ProjectId | Project |

*Code File Information Tags*

The table below provides information on the Code File Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CodeCodeField.CodeFileId | Code File |
| CodeCodeField.FieldCodeFileId | Code File |
| CodeCodeField.FieldId | Field Id |
| CodeCodeField.FieldNumber | Number |
| CodeCodeField.Label | Prompt |
| CodeCodeField.Lastupdate | Last Update |
| CodeCodeField.Sequence | Sequence |
| CodeCodeField.TableType | Table Type |
| CodeCodeField.UsrId | User |
| CodeCodeField.ValidationId | Code Field Type |
| CodeFile.CodeChar | Character |
| CodeFile.CodeFileId | Code File |
| CodeFile.CodeFormatId | Code Format |
| CodeFile.Lastupdate | Last Update |
| CodeFile.Level1 | Level 1 |
| CodeFile.Level2 | Level 2 |
| CodeFile.Level3 | Level 3 |
| CodeFile.Level4 | Level 4 |
| CodeFile.Level5 | Level 5 |
| CodeFile.Level6 | Level 6 |
| CodeFile.Level7 | Level 7 |
| CodeFile.Level8 | Level 8 |
| CodeFile.Level9 | Level 9 |
| CodeFile.Level10 | Level 10 |
| CodeFile.Level11 | Level 11 |
| CodeFile.Level12 | Level 12 |
| CodeFile.Level13 | Level 13 |
| CodeFile.Level14 | Level 14 |

| Entity Property | Description |
|---|---|
| CodeFile.Level15 | Level 15 |
| CodeFile.Level16 | Level 16 |
| CodeFile.Level17 | Level 17 |
| CodeFile.Level18 | Level 18 |
| CodeFile.Level19 | Level 19 |
| CodeFile.Level20 | Level 20 |
| CodeFile.MaxCodeLength | Maximum Code Length |
| CodeFile.MaxCodeLevel | Maximum Code Level |
| CodeFile.Sequence | Sequence |
| CodeFile.ThFlags | Threshold Flags |
| CodeFile.UserId | User |
| CodeFileDir.Description | Description |
| CodeFileDir.Id | Code File |
| CodeFileDir.Lastupdate | Last Update |
| CodeFileDir.Openmode | Openmode |
| CodeFileDir.OwnerId | Owner |
| CodeFileDir.Sequence | Sequence |
| CodeFileDir.Uid | Uid |
| CodeFileDir.UsrId | User |

*Code Tags*

The table below provides information on the Code tags that can be used in reports.

| Entity Property | Description |
|---|---|
| Code.ChildCodeCount | Number of Children |
| Code.CodeAsg1 | Code Assignment 1 |
| Code.CodeAsg2 | Code Assignment 2 |
| Code.CodeAsg3 | Code Assignment 3 |
| Code.CodeAsg4 | Code Assignment 4 |
| Code.CodeAsg5 | Code Assignment 5 |
| Code.CodeAsg6 | Code Assignment 6 |
| Code.CodeAsg7 | Code Assignment 7 |

| Entity Property | Description |
|---|---|
| Code.CodeAsg8 | Code Assignment 8 |
| Code.CodeAsg9 | Code Assignment 9 |
| Code.CodeAsg1.Prompt | Code 1 Prompt |
| Code.CodeAsg2.Prompt | Code 2 Prompt |
| Code.CodeAsg3.Prompt | Code 3 Prompt |
| Code.CodeAsg4.Prompt | Code 4 Prompt |
| Code.CodeAsg5.Prompt | Code 5 Prompt |
| Code.CodeAsg6.Prompt | Code 6 Prompt |
| Code.CodeAsg7.Prompt | Code 7 Prompt |
| Code.CodeAsg8.Prompt | Code 8 Prompt |
| Code.CodeAsg9.Prompt | Code 9 Prompt |
| Code.CodeFileId | Code File |
| Code.Description | Description |
| Code.Id | Code |
| Code.Lastupdate | Last Update |
| Code.Level | Level |
| Code.OldTag | Old Tag |
| Code.ParentCodeId | Parent |
| Code.Sequence | Sequence |
| Code.Tag | Hierarchy |
| Code.ThCapf | Threshold CV % At Complete Favorable |
| Code.ThCapu | Threshold CV % At Complete Unfavorable |
| Code.ThCavf | Threshold CV Value At Complete Favorable |
| Code.ThCavu | Threshold CV Value At Complete Unfavorable |
| Code.ThCcpf | Threshold CV % Cumulative Favorable |
| Code.ThCcpu | Threshold CV % Cumulative Unfavorable |
| Code.ThCcvf | Threshold CV Value Cumulative Favorable |
| Code.ThCcvu | Threshold CV Value Cumulative Unfavorable |
| Code.ThCppf | Threshold CV % Current Period Favorable |
| Code.ThCppu | Threshold CV % Current Period Unfavorable |
| Code.ThCpvf | Threshold CV Value Current Period Favorable |

| Entity Property | Description |
|---|---|
| Code.ThCpvu | Threshold CV Value Current Period Unfavorable |
| Code.ThScpf | Threshold SV % Cumulative Favorable |
| Code.ThScpu | Threshold SV % Cumulative Unfavorable |
| Code.ThScvf | Threshold SV Value Cumulative Favorable |
| Code.ThScvu | Threshold SV Value Cumulative Unfavorable |
| Code.ThSppf | Threshold SV % Current Period Favorable |
| Code.ThSppu | Threshold SV % Current Period Unfavorable |
| Code.ThSpvf | Threshold SV Value Current Period Favorable |
| Code.ThSpvu | Threshold SV Value Current Period Unfavorable |
| Code.UserId | User |

*Control Account and Work Package Note Tags*

The table below provides information on the Control Account and Work Package Note tags that can be used in reports.

| Entity Property | Description |
|---|---|
| NoteAsg.CategoryUid | Category |
| NoteAsg.CawpUid | CAWPUid |
| NoteAsg.Lastupdate | Last Update |
| NoteAsg.NoteText | Note Text |
| NoteAsg.ProjectId | Project |
| NoteAsg.Sequence | Sequence |
| NoteAsg.UserId | User |

*Control Account Tags*

The table below provides information on the Control Account tags that can be used in reports.

| Entity Property | Description |
|---|---|
| ControlAccount.Actual | Actuals |
| ControlAccount.ActualCurrPd | Current Period Actuals |
| ControlAccount.ActualCurrPdHrs | Current Period Hours Actuals |
| ControlAccount.ActualDateFinish | Actual Date Finish |

| Entity Property | Description |
|---|---|
| ControlAccount.ActualDateStart | Actual Date Start |
| ControlAccount.ActualFinish | Actual Finish |
| ControlAccount.ActualHours | Hours Actuals |
| ControlAccount.ActualRate | Actual Rate |
| ControlAccount.ActualStart | Actual Start |
| ControlAccount.ApportionedCaWpId | Apportioned to |
| ControlAccount.ApportionedCaWpUid | Apportioned CAWP Uid |
| ControlAccount.Bac | Budget |
| ControlAccount.BacHours | Hours Budget |
| ControlAccount.BaselineFinish | Baseline Finish |
| ControlAccount.Baseline | Baseline Start |
| ControlAccount.Budget | Budget to Date |
| ControlAccount.BudgetCurrPd | Current Period Budget |
| ControlAccount.BudgetCurrPdHrs | Current Period Hours Budget |
| ControlAccount.BudgetHours | Hours Budget to Date |
| ControlAccount.BudgetRate | Budget Rate |
| ControlAccount.Ca1Id | CA1Id |
| ControlAccount.Ca2Id | CA2Id |
| ControlAccount.Ca3Id | CA3Id |
| ControlAccount.ClBatch | Cl Batch |
| ControlAccount.CodeAsg1 | Code Assignment 1 |
| ControlAccount.CodeAsg2 | Code Assignment 2 |
| ControlAccount.CodeAsg3 | Code Assignment 3 |
| ControlAccount.CodeAsg4 | Code Assignment 4 |
| ControlAccount.CodeAsg5 | Code Assignment 5 |
| ControlAccount.CodeAsg6 | Code Assignment 6 |
| ControlAccount.CodeAsg7 | Code Assignment 7 |
| ControlAccount.CodeAsg8 | Code Assignment 8 |
| ControlAccount.CodeAsg9 | Code Assignment 9 |
| ControlAccount.CodeAsg10 | Code Assignment 10 |
| ControlAccount.CodeAsg11 | Code Assignment 11 |
| ControlAccount.CodeAsg12 | Code Assignment 12 |

| Entity Property | Description |
|---|---|
| ControlAccount.CodeAsg13 | Code Assignment 13 |
| ControlAccount.CodeAsg14 | Code Assignment 14 |
| ControlAccount.CodeAsg15 | Code Assignment 15 |
| ControlAccount.CodeAsg16 | Code Assignment 16 |
| ControlAccount.CodeAsg17 | Code Assignment 17 |
| ControlAccount.CodeAsg18 | Code Assignment 18 |
| ControlAccount.CodeAsg19 | Code Assignment 19 |
| ControlAccount.CodeAsg20 | Code Assignment 20 |
| ControlAccount.CodeAsg1.Prompt | Code 1 Prompt |
| ControlAccount.CodeAsg2.Prompt | Code 2 Prompt |
| ControlAccount.CodeAsg3.Prompt | Code 3 Prompt |
| ControlAccount.CodeAsg4.Prompt | Code 4 Prompt |
| ControlAccount.CodeAsg5.Prompt | Code 5 Prompt |
| ControlAccount.CodeAsg6.Prompt | Code 6 Prompt |
| ControlAccount.CodeAsg7.Prompt | Code 7 Prompt |
| ControlAccount.CodeAsg8.Prompt | Code 8 Prompt |
| ControlAccount.CodeAsg9.Prompt | Code 9 Prompt |
| ControlAccount.CodeAsg10.Prompt | Code 10 Prompt |
| ControlAccount.CodeAsg11.Prompt | Code 11 Prompt |
| ControlAccount.CodeAsg12.Prompt | Code 12 Prompt |
| ControlAccount.CodeAsg13.Prompt | Code 13 Prompt |
| ControlAccount.CodeAsg14.Prompt | Code 14 Prompt |
| ControlAccount.CodeAsg15.Prompt | Code 15 Prompt |
| ControlAccount.CodeAsg16.Prompt | Code 16 Prompt |
| ControlAccount.CodeAsg17.Prompt | Code 17 Prompt |
| ControlAccount.CodeAsg18.Prompt | Code 18 Prompt |
| ControlAccount.CodeAsg19.Prompt | Code 19 Prompt |
| ControlAccount.CodeAsg20.Prompt | Code 20 Prompt |
| ControlAccount.Cpi | CPI |
| ControlAccount.CpiHours | Hours CPI |
| ControlAccount.CpiPerformance | CPI Performance |
| ControlAccount.CpiPerformanceHours | Hours CPI Performance |

| Entity Property | Description |
|---|---|
| ControlAccount.CV | CV |
| ControlAccount.CvHours | Hours CV |
| ControlAccount.CVPercentage | CV % |
| ControlAccount.CvPercentageHours | Hours CV % |
| ControlAccount.Description | Description |
| ControlAccount.Eac | Forecast |
| ControlAccount.EacHours | Hours Forecast |
| ControlAccount.EacNonLabor | Forecast Non-Labor |
| ControlAccount.EarlyFinish | Early Finish |
| ControlAccount.EarlyStart | Early Start |
| ControlAccount.Earned | Earned |
| ControlAccount.EarnedCurrPd | Current Period Earned |
| ControlAccount.EarnedCurrPdHrs | Current Period Hours Earned |
| ControlAccount.EarnedHours | Hours Earned |
| ControlAccount.ForecastFinish | Forecast Finish |
| ControlAccount.ForecastStart | Forecast Start |
| ControlAccount.Ieac | iEAC |
| ControlAccount.Ieac2 | iEAC2 |
| ControlAccount.Ieac2Hours | Hours iEAC2 |
| ControlAccount.IeacHours | Hours iEAC |
| ControlAccount.Lastupdate | Last Update |
| ControlAccount.LateFinish | Late Finish |
| ControlAccount.LateStart | Late Start |
| ControlAccount.ManagerId | Manager Term |
| ControlAccount.OpBatch | Op Batch |
| ControlAccount.PercentComplete | % Complete |
| ControlAccount.PercentCompleteHours | Hours % Complete |
| ControlAccount.PercentSpent | % Spent |
| ControlAccount.PercentSpentHours | Hours % Spent |
| ControlAccount.ProjectId | Project |
| ControlAccount.Sequence | Sequence |
| ControlAccount.Spi | SPI |

| Entity Property | Description |
|---|---|
| ControlAccount.SpiHours | Hours SPI |
| ControlAccount.Status | Status – words |
| ControlAccount.StatusId | Status – what is stored in the database |
| ControlAccount.SV | SV |
| ControlAccount.SvHours | Hours SV |
| ControlAccount.SVPercentage | SV % |
| ControlAccount.SvPercentageHours | Hours SV % |
| ControlAccount.TcpiBac | TCPIBAC |
| ControlAccount.TcpiBacHours | Hours TCPIBAC |
| ControlAccount.TcpiEac | TCPIEAC |
| ControlAccount.TcpiEacHours | Hours TCPIEAC |
| ControlAccount.Uid | Uid |
| ControlAccount.UserChr01 | User Character Field 1 |
| ControlAccount.UserChr02 | User Character Field 2 |
| ControlAccount.UserChr03 | User Character Field 3 |
| ControlAccount.UserChr04 | User Character Field 4 |
| ControlAccount.UserChr05 | User Character Field 5 |
| ControlAccount.UserChr06 | User Character Field 6 |
| ControlAccount.UserChr07 | User Character Field 7 |
| ControlAccount.UserChr08 | User Character Field 8 |
| ControlAccount.UserChr09 | User Character Field 9 |
| ControlAccount.UserChr10 | User Character Field 10 |
| ControlAccount.UserDate01 | User Date Field 1 |
| ControlAccount.UserDate02 | User Date Field 2 |
| ControlAccount.UserDate03 | User Date Field 3 |
| ControlAccount.UserDate04 | User Date Field 4 |
| ControlAccount.UserDate05 | User Date Field 5 |
| ControlAccount.UserDate06 | User Date Field 6 |
| ControlAccount.UserDate07 | User Date Field 7 |
| ControlAccount.UserDate08 | User Date Field 8 |
| ControlAccount.UserDate09 | User Date Field 9 |
| ControlAccount.UserDate10 | User Date Field 10 |

| Entity Property | Description |
|---|---|
| ControlAccount.UserId | User |
| ControlAccount.UserNum01 | User Numeric Field 1 |
| ControlAccount.UserNum02 | User Numeric Field 2 |
| ControlAccount.UserNum03 | User Numeric Field 3 |
| ControlAccount.UserNum04 | User Numeric Field 4 |
| ControlAccount.UserNum05 | User Numeric Field 5 |
| ControlAccount.UserNum06 | User Numeric Field 6 |
| ControlAccount.UserNum07 | User Numeric Field 7 |
| ControlAccount.UserNum08 | User Numeric Field 8 |
| ControlAccount.UserNum09 | User Numeric Field 9 |
| ControlAccount.UserNum10 | User Numeric Field 10 |
| ControlAccount.Vac | VAC |
| ControlAccount.VacHours | Hours VAC |
| ControlAccount.Variance | Variance |
| ControlAccount.VarianceHours | Hours Variance |
| ControlAccount.VariancePercentage | VAC % |
| ControlAccount.VariancePercentageHours | Hours VAC % |
| ControlAccount.WpId | Work Package Term |

**Note:** You must first run the required script to display **User Character Fields [6-10]**, **User Numeric Fields [6-10]**, or **User Date Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields.

*Cost Set Information Tags*

The table below provides information on the Cost Set Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CostSet.Id | Name |
| CostSet.Lastupdate | Last Update |
| CostSet.ProjectId | Project |
| CostSet.Required | Required |
| CostSet.Sequence | Sequence |

| Entity Property | Description |
|---|---|
| CostSet.UserId | User |
| CostSetClass.ClassId | Class |
| CostSetClass.CostSetId | Cost Set |
| CostSetClass.ProjectId | Project |

*Explanation of Variance Narrative Tags*

The table below provides information on the Explanation of Variance Narrative tags that can be used in reports.

| Entity Property | Description |
|---|---|
| NarrativeCategory.Description | Description |
| NarrativeCategory.Sequence | Sequence |
| NarrativeCategory.Uid | Uid |
| NarrativeText.CategoryUid | Category |
| NarrativeText.CaWpUid | CAWPUid |
| NarrativeText.CodeId | Code |
| NarrativeText.KeyType | Key Type |
| NarrativeText.Lastupdate | Last Update |
| NarrativeText.Narrative | Narrative |
| NarrativeText.ProjectId | Project |
| NarrativeText.Sequence | Sequence |
| NarrativeText.StatusDate | Status Date |
| NarrativeText.UserId | User |

*Milestone Tags*

The table below provides information on the Milestone tags that can be used in reports.

| Entity Property | Description |
|---|---|
| Milestone.ActualFinish | Actual Finish |
| Milestone.ActualFinishDate | Actual Finish |
| Milestone.BaselineFinish | Baseline Finish |
| Milestone.CaWpUid | CAWPUid |
| Milestone.Completed | Completed |

| Entity Property | Description |
|---|---|
| Milestone.Description | Description |
| Milestone.ForecastFinishDate | Forecast Finish |
| Milestone.Id | Name |
| Milestone.Lastupdate | Last Update |
| Milestone.PctComplete | % Complete |
| Milestone.ProjectId | Project |
| Milestone.Sequence | Sequence |
| Milestone.Status | Status |
| Milestone.UserId | User |
| Milestone.Weight | Weight |

*Note Information Tags*

The table below provides information on the Note Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| NoteCategory.Id | Category |
| NoteCategory.Lastupdate | Last Update |
| NoteCategory.Sequence | Sequence |
| NoteCategory.Uid | Uid |
| NoteCategory.UserId | User |

*Project Information Tags*

The table below provides information on the Project Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| CostProject.Actual | Actual |
| CostProject.ActualFinish | Actual Finish |
| CostProject.ActualHours | Hours Actual |
| CostProject.ActualRate | Actual Rate |
| CostProject.Address | Address |
| CostProject.Auw | AUW |
| CostProject.Bac | BAC |
| CostProject.BacHours | Hours BAC |

| Entity Property | Description |
|---|---|
| CostProject.Baselined | Baselined |
| CostProject.BaselineFinish | Baseline Finish |
| CostProject.BaselineStart | Baseline Start |
| CostProject.Batchno | Batch No. |
| CostProject.Budget | Budget |
| CostProject.BudgetHours | Hours Budget |
| CostProject.BudgetRate | Budget Rate |
| CostProject.Ca1CodeFileId | CA1 Code File |
| CostProject.Ca1KeyTerm | CA1 Key Term |
| CostProject.Ca2CodeFileId | CA2 Code File |
| CostProject.Ca2KeyTerm | CA2 Key Term |
| CostProject.Ca3CodeFileId | CA3 Code File |
| CostProject.Ca3KeyTerm | CA3 Key Term |
| CostProject.CalendarFileId | Calendar File |
| CostProject.CamCodeFieldNumber | CAM Code Field No. |
| CostProject.CaptureActualsLevel | Capture Actuals Level |
| CostProject.CaTerm | Cost Account Term |
| CostProject.Cbb | CBB |
| CostProject.CcnCodeFileId | CCN Code File |
| CostProject.CcnUseCodeFile | CCN Use Code File |
| CostProject.CcnValidation | CCN Validation |
| CostProject.Ceiling | Ceiling |
| CostProject.Classification | Classification |
| CostProject.CodeAsg1 | Project Code Assignment 1 |
| CostProject.CodeAsg2 | Project Code Assignment 2 |
| CostProject.CodeAsg3 | Project Code Assignment 3 |
| CostProject.CodeAsg4 | Project Code Assignment 4 |
| CostProject.CodeAsg5 | Project Code Assignment 5 |
| CostProject.CodeAsg6 | Project Code Assignment 6 |
| CostProject.CodeAsg7 | Project Code Assignment 7 |
| CostProject.CodeAsg8 | Project Code Assignment 8 |
| CostProject.CodeAsg9 | Project Code Assignment 9 |

| Entity Property | Description |
|---|---|
| CostProject.CodeAsg1.Prompt | Project Code 1 Prompt |
| CostProject.CodeAsg2.Prompt | Project Code 2 Prompt |
| CostProject.CodeAsg3.Prompt | Project Code 3 Prompt |
| CostProject.CodeAsg4.Prompt | Project Code 4 Prompt |
| CostProject.CodeAsg5.Prompt | Project Code 5 Prompt |
| CostProject.CodeAsg6.Prompt | Project Code 6 Prompt |
| CostProject.CodeAsg7.Prompt | Project Code 7 Prompt |
| CostProject.CodeAsg8.Prompt | Project Code 8 Prompt |
| CostProject.CodeAsg9.Prompt | Project Code 9 Prompt |
| CostProject.Complete | Complete |
| CostProject.ContractFlag | Contract Flag |
| CostProject.ContractName | Contract Name |
| CostProject.ContractNumber | Contract Number |
| CostProject.ContractorLocation | Contractor Location |
| CostProject.ContractorName | Contractor Name |
| CostProject.ContractPhase | Contract Phase |
| CostProject.ContractRepName | Contract Representative Name |
| CostProject.ContractRepTitle | Contract Representative Title |
| CostProject.ContractType | Contract Type |
| CostProject.CostAccountTerm | Cost Account Term |
| CostProject.Cpi | CPI |
| CostProject.CpiHours | Hours CPI |
| CostProject.CpiPerformance | CPI Performance |
| CostProject.CpiPerformanceHours | Hours CPI Performance |
| CostProject.Ctc | CTC |
| CostProject.CurrencySymbol | Currency Symbol |
| CostProject.CurrencySymbolAlignment | Currency Symbol on Right? |
| CostProject.Cv | CV |
| CostProject.CvHours | Hours CV |
| CostProject.CVPercentage | CV % |
| CostProject.CVPercentageHours | Hours CV % |
| CostProject.Definite | Definite |

| Entity Property | Description |
|---|---|
| CostProject.Eac | Forecast |
| CostProject.EacBestCase | Forecast Best Case |
| CostProject.EacHours | Hours Forecast |
| CostProject.EacWorstCase | Forecast Worst Case |
| CostProject.Earned | Earned |
| CostProject.EarnedHours | Hours Earned |
| CostProject.EstCeiling | Est. Ceiling |
| CostProject.EstimatedPrice | Estimated Price |
| CostProject.EstMr | Est. MR |
| CostProject.EstUb | Est. UB |
| CostProject.EvmsAcceptance | EVMS Acceptance |
| CostProject.EvmsAcceptanceDate | EVMS Acceptance Date |
| CostProject.Fee | Fee |
| CostProject.FeePct | Fee Percent |
| CostProject.ForecastFinish | Forecast Finish |
| CostProject.ForecastMethodRange1 | Forecast Method Range 1 |
| CostProject.ForecastMethodRange2 | Forecast Method Range 2 |
| CostProject.ForecastMethodRange3 | Forecast Method Range 3 |
| CostProject.ForecastMethodRange4 | Forecast Method Range 4 |
| CostProject.Ieac | iEAC |
| CostProject.Ieac2 | iEAC2 |
| CostProject.Ieac2Hours | Hours iEAC2 |
| CostProject.IeacHours | Hours iEAC |
| CostProject.IsMaster | Master Project Flag |
| CostProject.Lastupdate | Last Updated |
| CostProject.LogLevel | Log Level |
| CostProject.Lre | LRE |
| CostProject.ManagerCodeFileId | Manager Code File |
| CostProject.ManagerCodeFileType | Manager Code File Type |
| CostProject.ManagerValidation | Manager Validation |
| CostProject.MpsCode | MPS CODE |
| CostProject.Mr | MR |

| Entity Property | Description |
|---|---|
| CostProject.OppProj | Open Plan Project |
| CostProject.Otb | OTB |
| CostProject.OtbDate | OTB Date |
| CostProject.Otc | OTC |
| CostProject.PctRange1 | Percent Range1 |
| CostProject.PctRange2 | Percent Range2 |
| CostProject.PctRange3 | Percent Range3 |
| CostProject.PercentComplete | % Complete |
| CostProject.PercentCompleteHours | Hours % Complete |
| CostProject.PercentSpent | % Spent |
| CostProject.PercentSpentHours | Hours % Spent |
| CostProject.PeriodStartDate | Period Start Date |
| CostProject.ProjectId | Project |
| CostProject.Quantity | Quantity |
| CostProject.RateFileId | Rate File |
| CostProject.ResourceCodeFileId | Resource Code File |
| CostProject.ResourceFileId | Resource File |
| CostProject.ResourceKeyTerm | Resource Key Term |
| CostProject.ResourceTerm | Resource Term |
| CostProject.RollingWaveCalendarFileId | Rolling Wave Calendar |
| CostProject.ScaleCaption | Scale Caption |
| CostProject.ScaleFactor | Scale Factor |
| CostProject.Sequence | Sequence |
| CostProject.ShareRate | Share Ratio |
| CostProject.Spi | SPI |
| CostProject.SpiHours | Hours SPI |
| CostProject.SpreadWeightMethod | Spread Weight Method |
| CostProject.State | State |
| CostProject.StatusDate | Status Date |
| CostProject.Sv | SV |
| CostProject.SvHours | Hours SV |
| CostProject.SVPercentage | SV % |

| Entity Property | Description |
|---|---|
| CostProject.SVPercentageHours | Hours SV % |
| CostProject.TargetPrice | Target Price |
| CostProject.TcpiBac | TCPI BAC |
| CostProject.TcpiBacHours | Hours TCPI BAC |
| CostProject.TcpiEac | TCPI Forecast |
| CostProject.TcpiEacHours | Hours TCPI Forecast |
| CostProject.TotalCurrency_Eac | Forecast |
| CostProject.TotalHours_Eac | Hours Forecast |
| CostProject.Ub | UB |
| CostProject.UserId | User |
| CostProject.Vac | VAC |
| CostProject.VacHours | Hours VAC |
| CostProject.Variance | Variance |
| CostProject.VarianceHours | Hours Variance |
| CostProject.VariancePercentage | VAC % |
| CostProject.VariancePercentageHours | Hours VAC % |
| CostProject.WorkPackageTerm | Work Package Term |
| CostProject.WpCodeFileId | WP Code File |
| CostProject.WpKeyTerm | WP Key Term |
| CostProject.WpTerm | WP Term |
| CostProject.Zip | Zip |
| CostSet.Description | Description |

*Rate File Information Tags*

The table below provides information on the Rate File Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| RateFile.Lastupdate | Last Update |
| RateFile.RateFileId | Rate File |
| RateFile.Sequence | Sequence |
| RateFile.UserId | User |
| RateFileDir.Description | Description |

| Entity Property | Description |
|---|---|
| RateFileDir.Id | Name |
| RateFileDir.Lastupdate | Last Update |
| RateFileDir.OpenMode | Open Mode |
| RateFileDir.OwnerId | Owner |
| RateFileDir.Sequence | Sequence |
| RateFileDir.Uid | Uid |
| RateFileDir.UserId | User |

*Rate Set Tags*

The table below provides information on the Rate Set tags that can be used in reports.

| Entity Property | Description |
|---|---|
| RateSet.CodeAsg1 | Code Assignment 1 |
| RateSet.CodeAsg2 | Code Assignment 2 |
| RateSet.CodeAsg1.Prompt | Code 1 Prompt |
| RateSet.CodeAsg2.Prompt | Code 2 Prompt |
| RateSet.Description | Description |
| RateSet.Id | Rate Set |
| RateSet.Lastupdate | Last Update |
| RateSet.RateFileId | Rate File |
| RateSet.Sequence | Sequence |
| RateSet.UserId | User |
| RateSetCodeField.FieldCodeFileId | Code File |
| RateSetCodeField.FieldId | FieldId |
| RateSetCodeField.FieldNumber | Number |
| RateSetCodeField.Label | Prompt |
| RateSetCodeField.Lastupdate | Last Update |
| RateSetCodeField.RateFileId | Rate File |
| RateSetCodeField.Sequence | Sequence |
| RateSetCodeField.TableType | Table Type |
| RateSetCodeField.UsrId | User |
| RateSetCodeField.ValidationId | Code Field Type |

*Rate Tags*

The table below provides information on the Rate tags that can be used in reports.

| Entity Property | Description |
|---|---|
| Rate.Date | Date |
| Rate.Lastupdate | Last Update |
| Rate.RateFileId | Rate File |
| Rate.RateSet | Rate Set |
| Rate.RateSetId | Rate Set |
| Rate.Sequence | Sequence |
| Rate.UserId | User |
| Rate.Value | Value |

*Report Filter Information Tags*

The table below provides information on the Report Filter Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| ReportFilter.AccessType | Access |
| ReportFilter.Id | Filter |
| ReportSort.AccessType | Access |
| ReportSort.Id | Name |
| Resource.ChildResourceCount | Number of Children |

*Report Information Tags*

The table below provides information on the Report Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| Report.Category | Category |
| Report.Description | Description |
| Report.GroupId | Group |
| Report.Id | Report |
| Report.Information | Information |
| Report.Lastupdate | Last Update |
| Report.OwnerId | Owner |

| Entity Property | Description |
|---|---|
| Report.Parameters | Report Definition |
| Report.Readonly | Read Only |
| Report.ReportTableType | Table Type |
| Report.ReportTableTypeId | Table Type |
| Report.ReportType | Report Type |
| Report.ReportTypeId | Report Type |
| Report.SavedReport | Saved Report |
| Report.Sequence | Sequence |
| Report.Shared | Shared |
| Report.UserId | User |

*Resource Assignment Tags*

The table below provides information on the Resource Assignment tags that can be used in reports.

| Entity Property | Description |
|---|---|
| ResourceAsg.CaWpUid | CAWPUid |
| ResourceAsg.ClassDescription | Class Description |
| ResourceAsg.ClassId | Class |
| ResourceAsg.ControlAccount.Ca1Id | Control Account Field 1 |
| ResourceAsg.ControlAccount.Ca2Id | Control Account Field 2 |
| ResourceAsg.ControlAccount.Ca3Id | Control Account Field 3 |
| ResourceAsg.EacCurrency | Forecast Currency |
| ResourceAsg.EacHours | Forecast Hours |
| ResourceAsg.Lastupdate | Last Update |
| ResourceAsg.Pct | % Complete |
| ResourceAsg.PerformanceFactor | Performance Factor |
| ResourceAsg.ProjectId | Project |
| ResourceAsg.ResourceId | Resource |
| ResourceAsg.Sequence | Sequence |
| ResourceAsg.Total | Total |
| ResourceAsg.Units | Units |
| ResourceAsg.UserId | User |

| Entity Property | Description |
|---|---|
| ResourceAsg.WorkPackage.WpId | Work Package Field |

**Note:** To filter this report to only display budget data, use the **PRINTIF** tag in the header section tag: <Header>{ControlAccount.WorkPackage.ResourceAsg} {PRINTIF(ResourceAsg.ClassId,Budget)}.

*Resource Calculation Tags*

The table below provides information on the Resource Calculation tags that can be used in reports.

| Entity Property | Description |
|---|---|
| ResourceCalc.Resource.CodeAsg1 | Resource Code Assignment 1 |
| ResourceCalc.Resource.CodeAsg2 | Resource Code Assignment 2 |
| ResourceCalc.Resource.CodeAsg3 | Resource Code Assignment 3 |
| ResourceCalc.Resource.CodeAsg4 | Resource Code Assignment 4 |
| ResourceCalc.Resource.CodeAsg5 | Resource Code Assignment 5 |
| ResourceCalc.Resource.CodeAsg6 | Resource Code Assignment 6 |
| ResourceCalc.Resource.CodeAsg7 | Resource Code Assignment 7 |
| ResourceCalc.Resource.CodeAsg8 | Resource Code Assignment 8 |
| ResourceCalc.Resource.CodeAsg9 | Resource Code Assignment 9 |
| ResourceCalc.CodeAsg1.Prompt | Code 1 Prompt |
| ResourceCalc.CodeAsg2.Prompt | Code 2 Prompt |
| ResourceCalc.CodeAsg3.Prompt | Code 3 Prompt |
| ResourceCalc.CodeAsg4.Prompt | Code 4 Prompt |
| ResourceCalc.CodeAsg5.Prompt | Code 5 Prompt |
| ResourceCalc.CodeAsg6.Prompt | Code 6 Prompt |
| ResourceCalc.CodeAsg7.Prompt | Code 7 Prompt |
| ResourceCalc.CodeAsg8.Prompt | Code 8 Prompt |
| ResourceCalc.CodeAsg9.Prompt | Code 9 Prompt |
| ResourceCalc.CurrencyFlag | Currency |
| ResourceCalc.FieldId | Field Name |
| ResourceCalc.Id | Result |
| ResourceCalc.IsCurrency | Currency |

| Entity Property | Description |
|---|---|
| ResourceCalc.Lastupdate | Last Update |
| ResourceCalc.Line | Line |
| ResourceCalc.RateSetId | Rate Set |
| ResourceCalc.ResourceFileId | Resource File |
| ResourceCalc.ResourceId | Resource |
| ResourceCalc.Sequence | Sequence |
| ResourceCalc.SortCodeId | Result Code |
| ResourceCalc.SourceResultId1 | Source 1 |
| ResourceCalc.SourceResultId10 | Source 10 |
| ResourceCalc.SourceResultId2 | Source 2 |
| ResourceCalc.SourceResultId3 | Source 3 |
| ResourceCalc.SourceResultId4 | Source 4 |
| ResourceCalc.SourceResultId5 | Source 5 |
| ResourceCalc.SourceResultId6 | Source 6 |
| ResourceCalc.SourceResultId7 | Source 7 |
| ResourceCalc.SourceResultId8 | Source 8 |
| ResourceCalc.SourceResultId9 | Source 9 |
| ResourceCalc.Units | Units |
| ResourceCalc.UserId | User |

*Resource File Information Tags*

The table below provides information on the Resource File Information tags that can be used in reports.

| Entity Property | Description |
|---|---|
| ResourceCodeField.FieldCodeFileId | Code File |
| ResourceCodeField.FieldId | Field ID |
| ResourceCodeField.FieldNumber | Number |
| ResourceCodeField.Label | Prompt |
| ResourceCodeField.Lastupdate | Last Update |
| ResourceCodeField.ResourceFileId | Resource File |
| ResourceCodeField.Sequence | Sequence |
| ResourceCodeField.TableType | Table Type |

| Entity Property | Description |
|---|---|
| ResourceCodeField.UsrId | User |
| ResourceCodeField.ValidationId | Code Field Type |
| ResourceFile.CodeChar | Character |
| ResourceFile.CodeFormatId | Code Type |
| ResourceFile.CurrencyResultIdList | Currency Results |
| ResourceFile.Lastupdate | Last Update |
| ResourceFile.Level1 | Level 1 |
| ResourceFile.Level10 | Level 10 |
| ResourceFile.Level11 | Level 11 |
| ResourceFile.Level12 | Level 12 |
| ResourceFile.Level13 | Level 13 |
| ResourceFile.Level14 | Level 14 |
| ResourceFile.Level15 | Level 15 |
| ResourceFile.Level16 | Level 16 |
| ResourceFile.Level17 | Level 17 |
| ResourceFile.Level18 | Level 18 |
| ResourceFile.Level19 | Level 19 |
| ResourceFile.Level2 | Level 2 |
| ResourceFile.Level20 | Level 20 |
| ResourceFile.Level3 | Level 3 |
| ResourceFile.Level4 | Level 4 |
| ResourceFile.Level5 | Level 5 |
| ResourceFile.Level6 | Level 6 |
| ResourceFile.Level7 | Level 7 |
| ResourceFile.Level8 | Level 8 |
| ResourceFile.Level9 | Level 9 |
| ResourceFile.MaxCodelength | Max Code length |
| ResourceFile.MaxCodeLevel | Max Code Level |
| ResourceFile.RateFileId | Rate File |
| ResourceFile.ResourceFileId | Resource File |
| ResourceFile.ResultIdList | Result List |
| ResourceFile.Sequence | Sequence |

| Entity Property | Description |
|---|---|
| ResourceFile.ThFlags | Threshold Flags |
| ResourceFile.UserId | User |
| ResourceFileDir.Description | Description |
| ResourceFileDir.Id | Resource File |
| ResourceFileDir.Lastupdate | Last Update |
| ResourceFileDir.Openmode | Open mode |
| ResourceFileDir.OwnerId | Owner |
| ResourceFileDir.Sequence | Sequence |
| ResourceFileDir.Uid | Uid |
| ResourceFileDir.UsrId | User |
| ResourceResult.Allow | Allow |
| ResourceResult.FieldId | Field Name |
| ResourceResult.Id | Result |
| ResourceResult.IsCurrency | Currency |
| ResourceResult.Lastupdate | Last Update |
| ResourceResult.RateSetId | Default Rate Set |
| ResourceResult.ResourceFileId | Resource File |
| ResourceResult.Sequence | Sequence |
| ResourceResult.SortCodeId | Result Code |
| ResourceResult.Units | Unit |

*Resource Tags*

The table below provides information on the Resource tags that can be used in reports.

| Entity Property | Description |
|---|---|
| Resource.CodeAsg1 | Code Assignment 1 |
| Resource.CodeAsg2 | Code Assignment 2 |
| Resource.CodeAsg3 | Code Assignment 3 |
| Resource.CodeAsg4 | Code Assignment 4 |
| Resource.CodeAsg5 | Code Assignment 5 |
| Resource.CodeAsg6 | Code Assignment 6 |
| Resource.CodeAsg7 | Code Assignment 7 |

| Entity Property | Description |
|---|---|
| Resource.CodeAsg8 | Code Assignment 8 |
| Resource.CodeAsg9 | Code Assignment 9 |
| Resource.CodeAsg1.Prompt | Code 1 Prompt |
| Resource.CodeAsg2.Prompt | Code 2 Prompt |
| Resource.CodeAsg3.Prompt | Code 3 Prompt |
| Resource.CodeAsg4.Prompt | Code 4 Prompt |
| Resource.CodeAsg5.Prompt | Code 5 Prompt |
| Resource.CodeAsg6.Prompt | Code 6 Prompt |
| Resource.CodeAsg7.Prompt | Code 7 Prompt |
| Resource.CodeAsg8.Prompt | Code 8 Prompt |
| Resource.CodeAsg9.Prompt | Code 9 Prompt |
| Resource.Description | Description |
| Resource.Id | Resource |
| Resource.Lastupdate | Last Update |
| Resource.Level | Level |
| Resource.Oldtag | Old Tag |
| Resource.Order | Apportionment Order |
| Resource.ParentId | Parent |
| Resource.ResourceFileId | Resource File |
| Resource.Sequence | Sequence |
| Resource.Tag | Hierarchy |
| Resource.ThCapf | Threshold CV % At Complete Favorable |
| Resource.ThCapu | Threshold CV % At Complete Unfavorable |
| Resource.ThCavf | Threshold CV Value At Complete Favorable |
| Resource.ThCavu | Threshold CV Value At Complete Unfavorable |
| Resource.ThCcpf | Threshold CV % Cumulative Favorable |
| Resource.ThCcpu | Threshold CV % Cumulative Unfavorable |
| Resource.ThCcvf | Threshold CV Value Cumulative Favorable |
| Resource.ThCcvu | Threshold CV Value Cumulative Unfavorable |
| Resource.ThCppf | Threshold CV % Current Period Favorable |
| Resource.ThCppu | Threshold CV % Current Period Unfavorable |
| Resource.ThCpvf | Threshold CV Value Current Period Favorable |

| Entity Property | Description |
|---|---|
| Resource.ThCpvu | Threshold CV Value Current Period Unfavorable |
| Resource.ThScpf | Threshold SV % Cumulative Favorable |
| Resource.ThScpu | Threshold SV % Cumulative Unfavorable |
| Resource.ThScvf | Threshold SV Value Cumulative Favorable |
| Resource.ThScvu | Threshold SV Value Cumulative Unfavorable |
| Resource.ThSppf | Threshold SV % Current Period Favorable |
| Resource.ThSppu | Threshold SV % Current Period Unfavorable |
| Resource.ThSpvf | Threshold SV Value Current Period Favorable |
| Resource.ThSpvu | Threshold SV Value Current Period Unfavorable |
| Resource.UserId | User |

*Work Package Tags*

The table below provides information on the Work Package tags that can be used in reports.

| Entity Property | Description |
|---|---|
| WorkPackage.Actual | Actuals |
| WorkPackage.ActualDateFinish | Actual Date Finish |
| WorkPackage.ActualDateStart | Actual Date Start |
| WorkPackage.ActualFinish | Actual Finish |
| WorkPackage.ActualHours | Hours Actuals |
| WorkPackage.ActualRate | Actual Rate |
| WorkPackage.ActualStart | Actual Start |
| WorkPackage.ActualCurrPd | Current Period Actuals |
| WorkPackage.ActualCurrPdHrs | Current Period Hours Actuals |
| WorkPackage.ApportionedCaWpId | Apportioned to |
| WorkPackage.ApportionedCaWpUid | Apportioned CAWP Uid |
| WorkPackage.Bac | Budget |
| WorkPackage.BacHours | Hours Budget |

| Entity Property | Description |
|---|---|
| WorkPackage.BaselineFinish | Baseline Finish |
| WorkPackage.BaselineStart | Baseline Start |
| WorkPackage.Budget | Budget to Date |
| WorkPackage.BudgetCurrPd | Current Period Budget |
| WorkPackage.BudgetCurrPdHrs | Current Period Hours Budget |
| WorkPackage.BudgetHours | Hours Budget to Date |
| WorkPackage.BudgetRate | Budget Rate |
| WorkPackage.Ca1Id | CA1Id |
| WorkPackage.Ca2Id | CA2Id |
| WorkPackage.Ca3Id | CA3Id |
| WorkPackage.ClBatch | Cl Batch |
| WorkPackage.CodeAsg1 | Code Assignment 1 |
| WorkPackage.CodeAsg2 | Code Assignment 2 |
| WorkPackage.CodeAsg3 | Code Assignment 3 |
| WorkPackage.CodeAsg4 | Code Assignment 4 |
| WorkPackage.CodeAsg5 | Code Assignment 5 |
| WorkPackage.CodeAsg6 | Code Assignment 6 |
| WorkPackage.CodeAsg7 | Code Assignment 7 |
| WorkPackage.CodeAsg8 | Code Assignment 8 |
| WorkPackage.CodeAsg9 | Code Assignment 9 |
| WorkPackage.CodeAsg10 | Code Assignment 10 |
| WorkPackage.CodeAsg11 | Code Assignment 11 |
| WorkPackage.CodeAsg12 | Code Assignment 12 |
| WorkPackage.CodeAsg13 | Code Assignment 13 |
| WorkPackage.CodeAsg14 | Code Assignment 14 |
| WorkPackage.CodeAsg15 | Code Assignment 15 |
| WorkPackage.CodeAsg16 | Code Assignment 16 |
| WorkPackage.CodeAsg17 | Code Assignment 17 |
| WorkPackage.CodeAsg18 | Code Assignment 18 |
| WorkPackage.CodeAsg19 | Code Assignment 19 |
| WorkPackage.CodeAsg20 | Code Assignment 20 |

| Entity Property | Description |
|---|---|
| WorkPackage.CodeAsg1.Prompt | Code 1 Prompt |
| WorkPackage.CodeAsg2.Prompt | Code 2 Prompt |
| WorkPackage.CodeAsg3.Prompt | Code 3 Prompt |
| WorkPackage.CodeAsg4.Prompt | Code 4 Prompt |
| WorkPackage.CodeAsg5.Prompt | Code 5 Prompt |
| WorkPackage.CodeAsg6.Prompt | Code 6 Prompt |
| WorkPackage.CodeAsg7.Prompt | Code 7 Prompt |
| WorkPackage.CodeAsg8.Prompt | Code 8 Prompt |
| WorkPackage.CodeAsg9.Prompt | Code 9 Prompt |
| WorkPackage.CodeAsg10.Prompt | Code 10 Prompt |
| WorkPackage.CodeAsg11.Prompt | Code 11 Prompt |
| WorkPackage.CodeAsg12.Prompt | Code 12 Prompt |
| WorkPackage.CodeAsg13.Prompt | Code 13 Prompt |
| WorkPackage.CodeAsg14.Prompt | Code 14 Prompt |
| WorkPackage.CodeAsg15.Prompt | Code 15 Prompt |
| WorkPackage.CodeAsg16.Prompt | Code 16 Prompt |
| WorkPackage.CodeAsg17.Prompt | Code 17 Prompt |
| WorkPackage.CodeAsg18.Prompt | Code 18 Prompt |
| WorkPackage.CodeAsg19.Prompt | Code 19 Prompt |

| Entity Property | Description |
|---|---|
| WorkPackage.CodeAsg20.Prompt | Code 20 Prompt |
| WorkPackage.Cpi | CPI |
| WorkPackage.CpiHours | Hours CPI |
| WorkPackage.CpiPerformance | CPI Performance |
| WorkPackage.CpiPerformanceHours | Hours CPI Performance |
| WorkPackage.CV | CV |
| WorkPackage.CvHours | Hours CV |
| WorkPackage.CVPercentage | CV % |
| WorkPackage.CvPercentageHours | Hours CV % |
| WorkPackage.Description | Description |
| WorkPackage.Eac | Forecast |
| WorkPackage.EacHours | Hours Forecast |
| WorkPackage.EacNonLabor | Forecast Non-Labor |
| WorkPackage.EarlyFinish | Early Finish |
| WorkPackage.EarlyStart | Early Start |
| WorkPackage.Earned | Earned |
| WorkPackage.EarnedCurrPd | Current Period Earned |
| WorkPackage.EarnedCurrPdHrs | Current Period Hours Earned |
| WorkPackage.EarnedHours | Hours Earned |
| WorkPackage.Evt | EVT |
| WorkPackage.EvtId | EVT |
| WorkPackage.ForecastFinish | Forecast Finish |
| WorkPackage.ForecastStart | Forecast Start |
| WorkPackage.Ieac | iEAC |
| WorkPackage.Ieac2 | iEAC2 |
| WorkPackage.Ieac2Hours | Hours iEAC2 |
| WorkPackage.IeacHours | Hours iEAC |
| WorkPackage.Lastupdate | Last Update |
| WorkPackage.LateFinish | Late Finish |

| Entity Property | Description |
|---|---|
| WorkPackage.LateStart | Late Start |
| WorkPackage.ManagerId | Manager Term |
| WorkPackage.OpBatch | Op Batch |
| WorkPackage.PctComplete | The % complete for work packages with an EVT of % Complete |
| WorkPackage.PercentComplete | The percent complete that is calculated at the work package and control account levels during earned value calculations |
| WorkPackage.PercentCompleteHours | Hours % Complete |
| WorkPackage.PercentSpent | % Spent |
| WorkPackage.PercentSpentHours | Hours % Spent |
| WorkPackage.ProjectId | Project |
| WorkPackage.Sequence | Sequence |
| WorkPackage.Spi | SPI |
| WorkPackage.SpiHours | Hours SPI |
| WorkPackage.StartPct | Start Percent |
| WorkPackage.Status | Status |
| WorkPackage.StatusId | Status |
| WorkPackage.SV | SV |
| WorkPackage.SvHours | Hours SV |
| WorkPackage.SVPercentage | SV % |
| WorkPackage.SvPercentageHours | Hours SV % |
| WorkPackage.TcpiBac | TCPIBAC |
| WorkPackage.TcpiBacHours | Hours TCPIBAC |
| WorkPackage.TcpiEac | TCPIeac |
| WorkPackage.TcpiEacHours | Hours TCPIEAC |
| WorkPackage.Uid | Uid |
| WorkPackage.UnitsComplete | Units Complete |
| WorkPackage.UnitsToDo | Units To Do |
| WorkPackage.UserChr01 | User Character Field 1 |
| WorkPackage.UserChr02 | User Character Field 2 |
| WorkPackage.UserChr03 | User Character Field 3 |

| Entity Property | Description |
|---|---|
| WorkPackage.UserChr04 | User Character Field 4 |
| WorkPackage.UserChr05 | User Character Field 5 |
| WorkPackage.UserChr06 | User Character Field 6 |
| WorkPackage.UserChr07 | User Character Field 7 |
| WorkPackage.UserChr08 | User Character Field 8 |
| WorkPackage.UserChr09 | User Character Field 9 |
| WorkPackage.UserChr10 | User Character Field 10 |
| WorkPackage.UserDate01 | User Date Field 1 |
| WorkPackage.UserDate02 | User Date Field 2 |
| WorkPackage.UserDate03 | User Date Field 3 |
| WorkPackage.UserDate04 | User Date Field 4 |
| WorkPackage.UserDate05 | User Date Field 5 |
| WorkPackage.UserDate06 | User Date Field 6 |
| WorkPackage.UserDate07 | User Date Field 7 |
| WorkPackage.UserDate08 | User Date Field 8 |
| WorkPackage.UserDate09 | User Date Field 9 |
| WorkPackage.UserDate10 | User Date Field 10 |
| WorkPackage.UserId | User |
| WorkPackage.UserNum01 | User Numeric Field 1 |
| WorkPackage.UserNum02 | User Numeric Field 2 |
| WorkPackage.UserNum03 | User Numeric Field 3 |
| WorkPackage.UserNum04 | User Numeric Field 4 |
| WorkPackage.UserNum05 | User Numeric Field 5 |
| WorkPackage.UserNum06 | User Numeric Field 6 |
| WorkPackage.UserNum07 | User Numeric Field 7 |
| WorkPackage.UserNum08 | User Numeric Field 8 |
| WorkPackage.UserNum09 | User Numeric Field 9 |
| WorkPackage.UserNum10 | User Numeric Field 10 |
| WorkPackage.Vac | VAC |
| WorkPackage.VacHours | Hours VAC |
| WorkPackage.Variance | Variance |
| WorkPackage.VarianceHours | Hours Variance |

| Entity Property | Description |
|---|---|
| WorkPackage.VariancePercentage | VAC % |
| WorkPackage.VariancePercentageHours | Hours VAC % |
| WorkPackage.WpId | Work Package Term |

**Note:** You must first run the required script to display **User Character Fields [6-10]**, **User Numeric Fields [6-10]**, or **User Date Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields.

# Batch Reports

Use the batch reports feature to generate a number of reports for a project, as a group.

For example, you can generate all required reports for a project, or create multiple spreadsheets filtered by Control Account Manager.

You can define the reports that are included in the group, the filter or sort order for these reports, the project on which you are reporting, the output type, and a location for the report output.

You can also run multiple batch reports at once.

## Batch Reports Dialog Box

Use the Batch Reports dialog box to manage batch reports.

### Batch Reports

Use this grid to define batches. Select the checkbox for the batch report that you want to process.

The table below provides information on the options are available on the shortcut menu.

| Field | Description |
|---|---|
| **Add Batch Report** | Select this option to add a new batch report . |
| **Copy Batch Report** | Select this option to copy an existing batch report. This option is disabled if there are no existing batch reports. |
| **Delete** | Select this option to delete a batch report. This option is disabled if you do not select a batch report, if you have read-only permissions for the batch report you select, or of there are no existing batch reports. |
| **Edit Batch Report** | Select this option to edit an existing batch report. This option is disabled if you do not select a batch report, if you have read-only permissions for the batch report you select, or of there are no existing batch reports. |

| Field | Description |
|---|---|
| **Run Selected Reports** | Select this option to run the batch report. Multiple users can run the same batch report as long as they have access to the batch report. This option is disabled if you do not select a batch report or if no batch reports are displayed on the grid.<br>**Note:** The report runs with the current visible settings and included reports. You must click the **Refresh** button before running the batch report to ensure that the reports have the latest information stored in the database. Otherwise, the batch report can contain settings or included reports that are not updated. |
| **Find** | Select this option to search for a batch report. |

**Included Reports**

This grid displays the reports included in the selected batch report. You can select additional reports.

This grid does not have a shortcut menu.

# Add Batch Report Dialog Box

Use the Add Batch Report dialog box to create a batch report.

## General Tab of the Add Batch Report Dialog Box

Use this tab to create a batch report.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a name for the batch report. This field has a value of **New Batch Report 1** by default. If this name already exists, the number is incremented (for example, **New Batch Report 2** and so on). You must enter a unique name.<br>You can use alphanumeric characters and spaces. |
| **Description** | Use this field to enter a description for the batch report. |
| **Project** | Click ... to select the project that the batch report will be run against, or enter the project's name in the field. All included reports in the batch report run against this project.<br>You can select only one project. You can select a master project. |
| **Output Type** | Use this field to select the output type for the report. Select one of the following options: |

| Field | Description |
|---|---|
| | ▪ **Excel Macro-Enabled Workbook (*.xlsm)**: Select this option to generate the included reports as Excel files with embedded macros. Each included report is in a separate Excel file.<br>▪ **Excel Workbook (*.xlsx)**: Select this option to generate the included reports as Excel 2007 files. Each included report is in a separate Excel file.<br>▪ **Printer**: Select this option to generate the included reports on the default printer for your computer.<br>▪ **CSV (Comma Delimited) (*.csv)**: Select this option to generate the included reports as CSV files. Each included report is in a separate CSV file.<br>▪ **Adobe PDF Files (*.pdf)**: Select this option to generate the included reports in a PDF file.<br>▪ **Web Page (*.html)**: Select this option to generate the included reports in HTML format. |
| **Output Path** | Use this field to enter the directory where you want to save the report. You can also click to navigate to a path. The saved report has the following file name format:<br>[saved report name] + [filter name (if one is selected)] + "." + [file extension]<br>If an output path is defined on the Batch Reports dialog box, the new batch report is saved in the location you specified. |
| **Create sub-folder based on calendar period label** | Select this checkbox if you want the output of the included reports to be stored in a sub-folder under the output path you defined. The sub-folder's name is the same as the current period's label, as defined in the Basic Calendar Set. Subfolders help you organize reports based on the dates on which they are run. |

## Included Reports Tab of the Add Batch Report Dialog Box

Use this tab to select the reports to include in a batch report.

Select the checkbox in the header row to select all reports or to clear all selections.

### Contents

| Field | Description |
|---|---|
| **Report** | This column displays the name of the report. This field is read-only. |
| **Filter** | This column displays any filter that is saved with the report. This filter is used when the report is run. Only personal or shared filters are displayed.<br>Click to select a filter to use with the report. |

| Field | Description |
|---|---|
| | If you change the filter for a report here, and the report already has a filter defined, you will override the report filter only during batch processing. The selected filter will not be saved with the report.<br>If you clear this field, the report is not filtered. |
| **Sort** | This column displays any sort that is saved with the report. This sort is used when the report is run. Only personal or shared sorts are displayed.<br>Click to select a sort to use with the report.<br>If you change the sort for a report here, and the report already has a sort defined, you will override the report sort only during batch processing. The selected sort will not be saved with the report.<br>If you clear this field, the report is not sorted. |
| **Access** | This column displays the whether the report is personal or shared. |
| **Owner** | This column displays the owner of the report. |
| **Add** | Click this button to display the Report Lookup dialog box. Only shared and personal project-based reports that are saved reports are displayed. Reports that do not run off a project are not available for selection.<br>To select more than one report, press **CTRL**+ click on the selected row then click **Select**.<br>You cannot select the same report twice for a single batch. |
| **Remove** | Click this button to remove a report from the batch.<br>To select more than one report for removal, select the row (**CTRL**+click) and press **Delete**.<br>This button is disabled if there is no included report. |

## Access Control Tab of the Add Batch Report Dialog Box

Use this tab to set the security settings of the batch report. You can assign multiple users, groups, or roles to a batch report.

Access control settings for users and groups are initially defined in the Report Wizard when you are creating the report. The access control entry supports a read only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

# Edit Batch Report Dialog Box

Use the Edit Batch Report dialog box to edit a batch report.

## General Tab of the Edit Batch Report Dialog Box

Use this dialog box to edit a batch report.

**Contents**

| Field | Description |
|---|---|
| **Name** | This field displays the name for the batch report. |
| **Description** | Use this field to enter a description for the batch report that you are creating. |
| **Project** | Click to select the project that the batch report will run against, or enter the project's name in the field. All reports in the batch report run against this project.<br>You can select only one project. You can select a master project. |
| **Output Type** | Select the output type for the report. Select one of the following options from the drop-down list:<br>▪ **Excel Macro-Enabled Workbook (*.xlsm)**: Select this option to generate the included reports as Excel files with embedded macros. Each included report is in a separate Excel file.<br>▪ **Excel Workbook (*.xlsx)**: Select this option to generate the included reports as Excel 2007 files. Each included report is in a separate Excel file.<br>▪ **Printer**: Select this option to generate the included reports on your default printer.<br>▪ **CSV (Comma Delimited) (*.csv)**: Select this option to generate the included reports as CSV files. Each included report is in a separate CSV file.<br>▪ **Adobe PDF Files (*.pdf)**: Select this option to generate the included reports in a PDF file.<br>▪ **Web Page (*.html)**: Select this option to generate the included reports in HTML format. |
| **Output Path** | Use this field to enter the directory where you want to save the report. You can also click to navigate to a path. The saved report has the following file name format:<br>[saved report name] + [filter name (if one is selected)] + "."+ [file extension]<br>If an output path is defined on the Batch Reports dialog box, the new batch report is saved in the location you specified. |

| Field | Description |
|---|---|
| **Create sub-folder based on calendar period label** | Select this checkbox if you want the output of the included reports to be stored in a sub-folder under the output path you defined. The sub-folder's name is the same as the current period's label, as defined in the Basic Calendar Set. Subfolders help you organize reports based on the dates on which they are run. |

## Included Reports Tab of the Edit Batch Report Dialog Box

Use this tab to change the reports included in a batch report.

Select the checkbox in the header row to select all reports or to clear all selections.

### Contents

| Field | Description |
|---|---|
| **Report** | This column displays the name of the report. This field is read-only. |
| **Filter** | This column displays any filter that is saved with the report. This filter is used when the report is run. Only personal or shared filters display.<br>Click to select a filter to use with the report.<br>If you change the filter for a report here, and the report already has a filter defined, you will override the report filter only during batch processing. The selected filter will not be saved with the report.<br>If you clear this field, the report is not filtered. |
| **Sort** | This column displays any sort that is saved with the report. This sort is used when the report is run. Only personal or shared sorts are displayed. Click to select a sort to use with the report.<br>If you change the sort for a report here, and the report already has a sort defined, you will override the report sort only during batch processing. The selected sort will not be saved with the report.<br>If you clear this field, the report is not sorted. |
| **Access** | This column displays whether the report is personal or shared. |
| **Owner** | This column displays the owner of the report. |
| **Add** | Click this button to display the Report Lookup dialog box. Only shared and personal project-based reports that are saved reports are displayed. Reports that do not run off a project are not available for selection.<br>To select more than one report, press **CTRL**+ click on the selected row and click **Select**.<br>You cannot select the same report twice for a single batch. |

| Field | Description |
|---|---|
| **Remove** | Click this button to remove a report from the batch.<br>To select more than one report for removal, select the row (**CTRL**+click) and press **Delete**.<br>This button is disabled if there is no included report. |

### Access Control Tab of the Edit Batch Report Dialog Box

Use this tab to change the security settings of the batch report.

Access control settings for users and groups are initially defined in the Report Wizard when you are creating the report. The access control entry supports a read only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. After making the necessary changes to the information on this tab, click **Apply** to save the new access control settings.

## Copy Batch Report Dialog Box

Use the Copy Batch Report dialog box to copy a batch report to create a new batch report.

**Contents**

| Field | Description |
|---|---|
| **Name** | Use this field to enter a unique name for the new batch report. This field is required. |
| **Description** | Use this field to enter a description for the new batch report. This field is not required.<br>The copied batch report has the same attributes as the batch report that you selected to copy, except for the name and description.<br>Click **OK** to display the Edit Batch Report dialog box with the attributes of the copied batch report displayed. |

## Procedures

Follow the procedures in this section to utilize the Batch Reports dialog box.

### Run Batch Reports

When you run a batch report, Cobra processes all the reports that are selected for that batch in the Included Reports grid.

**To run a batch report:**

1. In the Cobra Explorer, select the **Batch Reports** group bar.

2. Select a batch report and take one of the following actions:
   - Right-click the selected report and select **Run** on the shortcut menu.
   - In the **Reports** group on the Reporting tab, click **Run**.
3. To run multiple batch reports at the same time, select their checkboxes in the **Batch Reports** grid.

## Display the Add Batch Report Dialog Box

Display the Add Batch Report dialog box to add a new batch report.

**To display the Add Batch Report dialog box:**

1. In the Cobra Explorer, select the **Batch Reports** group bar.
2. Take one of the following actions:
   - In the **Batch Reports** group on the Reporting tab, click **Add**.
   - Right-click the **Batch Reports** grid and select **Add** on the shortcut menu.

## Display the Edit Batch Report Dialog Box

Display the Edit Batch Report dialog box to edit a batch report.

**To display the Edit Batch Report dialog box:**

1. In the Cobra Explorer, select the **Batch Reports** group bar.
2. Take one of the following actions:
   - In the **Batch Reports** group on the Reporting tab, click **Edit**.
   - Right-click the **Batch Reports** grid and select **Edit** on the shortcut menu.

## Display the Copy Batch Report Dialog Box

Display the Copy Batch Report dialog box to copy a batch report.

**To display the Copy Batch Report dialog box:**

1. In the Cobra Explorer, select the **Batch Reports** group bar.
2. Take one of the following actions:
   - In the **Batch Reports** group on the Reporting tab, click **Copy**.
   - Right-click the **Batch Reports** grid and select **Copy** on the shortcut menu.

# Project Processes

Use processes such as advancing the calendar, calculating earned value, and respreading budgeted costs to maintain and analyze your project data.

Cobra provides wizards for many of these processes. The wizards step you through a process, screen by screen.

The Processes tab in the Cobra Explorer is divided into three groups:

- **Status**: This group contains processes that you run each period.
- **Process**: This group contains processes that manipulate the data and are run occasionally.
- **Audit**: This group contains the Project Audit process that you use to track changes to the budget.

## Status

Once you have established a project baseline, you are ready to begin entering ongoing project information and monitoring the progress of your projects. For each project you advance the calendar, roll the wave, enter status information, calculate earned value, enter actual costs, and generate revised forecasts.

### Advance Calendar

Advancing the calendar is very similar to the month-end closeout process in accounting. After all of your reports are completed and you are ready to start statusing the next month or week, you advance the calendar to the next reporting period.

Use the Advance Calendar Preferences dialog box to select the options for advancing the calendar. Use the Advance Calendar Wizard to advance the calendar.

At the time that the calendar is advanced, the following processes occur:

- The beginning period budget value is captured for the first line in the IPMR Format 3-Baseline report. This creates a snapshot of the time-phased baseline at the beginning of the period, which is written over each time you advance the calendar. This is only performed at month-end in a rolling wave calendar.
- A snapshot of the data displayed in the Control Account pane of the Project view is stored in the baseline history table. These values are stored for each month throughout the life of the project and are used to see how the variances, BAC, and Forecast change over time. This process is only performed at month-end in a rolling wave calendar.
- In calendar set 18 (Previous, TODATE, At Completion), the labels and flags identifying the previous period and the current status date are advanced to the next period.
- Any floating flags on other calendar sets need to be moved forward to the next labeled period.
- The status date in the Project Properties dialog box is updated.
- The cumulative Budget to Date displayed in the Spreadsheet pane of the Project view is updated.

- At the end-of-a-month period in a rolling wave project, the data for the previous period is consolidated and future period data is expanded to match the window of expanded data specified.
- If FTEs are used with a rolling wave calendar, the rates for FTEs are updated based on the productive hours in the rolling wave calendar.

You can also run the Advance Calendar process through the API and the Cobra Web Service.

### Advance Calendar Wizard

To advance the calendar for a selected project to the next accounting period, you must complete the information required on each page of the Advance Calendar Wizard.

*Project Selection Page of the Advance Calendar Wizard*

Use this page to select the project whose calendar you want to advance.

The Advance Calendar feature is used to advance the project status date to the next period in the calendar. If you have a rolling wave calendar assigned to a project, advancing the calendar will also collapse past periods and expand future periods.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>Click **Next** to go to the next page of the Advance Calendar Wizard. If you select a master project containing one or more sub-projects whose status dates are not synchronized with the master project's status date, clicking **Next** displays the Synchronize Status page instead of the Periods page. |

*Synchronize Status Date Page of the Advance Calendar Wizard*

Use this page to update the status date to match the status date of the calendar assigned to the project.

This page is not displayed if the project status date matches the status date in calendar set 18.

**Contents**

| Field | Description |
|---|---|
| **Project Status Date** | This field displays the current project status date. You cannot change the date displayed in this field. |
| **Calendar TODATE date** | This field displays the Calendar TODATE date. You cannot change the date displayed in this field.<br>Click **Next** to display the next page of the Advance Calendar Wizard. |

| Field | Description |
|---|---|
| **The project status date does not match the calendar TODATE** | Select any of the following options to update the status date:<br>▪ **Update the calendar TODATE to match the project status date**: Select this option to update the TODATE label in Calendar Set 18 to match the project status date.<br>▪ **Update the project status date to match the calendar TODATE**: Select this option to update the project status date to match the TODATE label in Calendar Set 18. |

*Advance to Period Page of the Advance Calendar Wizard*

Use this page to display the current status date of the project and the date that will become the new status date when Cobra advances the calendar.

*Options Page of the Advance Calendar Wizard*

Use this page to select the options for advancing the calendar assigned to a project.

**Contents**

| Field | Description |
|---|---|
| **Automatically change the status of LOE Work Package to in-progress** | The default option for this checkbox depends on whether the corresponding option is selected on the Preferences tab of the Project Properties dialog box.<br>If this option is marked as **Secure** on the Preferences tab of the Project Properties dialog box, Cobra disables this checkbox for users who do not have access rights to the preferences for this project.<br>If this option is not selected, Cobra ignores the status date and the actual start date for the work package will not change. |
| **Skip rolling wave processing** | Select this option to advance the calendar without running the rolling wave process. By default, this option is cleared.<br>This option is disabled if there is no rolling wave calendar assigned to the project. |
| **Expanded Data Window** | Cobra disables the **Expanded Data Window** group box on this page if:<br>▪ There is no rolling wave calendar assigned to the project.<br>▪ The user does not have the authority to run the rolling wave process.<br>▪ The calendar is not advancing across period end dates.<br>**Rolling Wave Calendar**<br>The following options are available when a rolling wave calendar is assigned to the project: |

| Field | Description |
| --- | --- |
| | ▪ **Periods prior to status date**: Use this option to enter the number of periods prior to the status date that you want to expand. The default value is 1 period prior to the status date.<br>▪ **Periods following status date**: Use this option to enter the number of periods following the status date that you want to expand. The default value is 3 periods after the status date.<br>▪ **Update the rate sets used with FTE result codes**: Use this option to update rate sets used with the result code F. This allows full-time equivalents (FTEs) to be calculated correctly when looking at sub-periods versus period data.<br>You can update FTE rate sets even if you do not have write access to the rate file as long as you have permission to advance the calendar. |

*Confirmation Page of the Advance Calendar Wizard*

This page informs you that Cobra has all the information it needs to advance the calendar.

If you need to double-check the information that you entered on any of the previous pages, click **Back** until that page is displays. When all the information is correct, click **Finish** to advance the calendar.

Click **Finish** when the Synchronize page displays to synchronize the status date with the status date of the calendar assigned to the project. If the **Scale retain EAC** field of the project is not set to **None**, Cobra prompts you to choose whether to update the Estimate At Complete (EAC) values or not.

*Process Running Page of the Advance Calendar Wizard*

This page displays the progress status while Cobra advances the calendar.

*Process Complete Page of the Advance Calendar Wizard*

This page informs you that the process of advancing the calendar has been completed.

Click **View Log** to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Advance Calendar process.

*Advance the Calendar*

Use the Advance Calendar Wizard to advance the calendar for a selected project to the next accounting period.

**To advance the calendar:**

1. Display the Advance Calendar Wizard by completing one of the following actions:
   - In the **Status** group on the Processes tab, click **Advance Calendar**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Advance Calendar** on the shortcut menu.
2. Use the pages of the Advance Calendar Wizard to advance the calendar for a project.

## Rolling Wave

The Rolling Wave process lets you budget monthly, then define a window (usually one month back and three months forward) in which the budget and forecast will automatically be expanded into weekly periods.

As you move forward in time and advance the calendar to different periods, the historical period data is consolidated back to monthly values and a new set of future periods is expanded.

Benefits of using the Rolling Wave process include:

- Because you can see earned value on a weekly basis, you are aware of problems early enough to apply corrective action. Often, waiting until the end of the month is too late to fix the problem.
- Using the Rolling Wave process reduces the size of the database, so Cobra processes reports faster
- Creating a baseline is simpler.

The New Calendar File Wizard lets you define the calendar, including setting up a calendar name and description, periods, productive hours, default period labels, and access control.

The calendar can be assigned to projects to define the periods used to spread budgets and forecasts and report on time phased project data.

The rolling wave process works best with 4 week/4 week/5 week periods, because the monthly dates will always contain a full week. However, at the end of the last month, you may end up with more fiscal periods than expected, because the end of the week might be one day before the end of the month. This will cause an extra fiscal period of only one day. If your fiscal calendar is month end, you will need to manually generate the weeks within the month end date to make sure that the week end date is the same as the month end date.

You can also run the Rolling Wave process through the API and the Cobra Web Service.

### Calendar Definition

You define the weekly calendar that will be used for rolling the wave separately from the project.

The calendar contains a minimum of two calendar sets:

- Calendar set 00 contains weekly periods covering the duration of the project. This set should be all weekly periods flagged with fixed flags and labeled.
- Calendar set 01 contains the labeled and flagged periods that represent the base calendar (monthly calendar) dates defined in the calendar for the project. This set should match the labels and flags of the monthly calendar, so that only month-end dates are flagged.

  In addition, set 01 is compared between the two calendars to determine what the month end date is. If these periods are not labeled in the same way, Cobra cannot determine what the month end is.

The rolling wave process inserts the periods from the weekly calendar set 00 into the monthly calendar set 00. It uses the weekly set 01 to maintain the month end periods so that it knows when and how to expand and collapse during the rolling wave process.

**Attention:** You cannot share a rate file with projects that are not weekly because the FTE rates are updated in this process. For more information about, see the Calendar Sets help topic.

For IPMR and CSSR reports, Calendar Set 18 needs PREVIOUS flagged at the beginning of the month and TODATE flagged at the end of the month to get a monthly report.

### Effect of Running the Process

Cobra first validates that the status date for the project exists in the rolling wave calendar file when you run the rolling wave process.

Cobra confirms that the dates represented by the number of periods before and after the status date in calendar set 01 of the rolling wave calendar exist in the project calendar. The process removes the weekly periods from the project calendar which occur before the rolling wave start date, and adds any dates required to the rolling wave finish date.

The spread from monthly to weekly is a linear spread which follows the spread settings for the project (for example, **Linear Spread**, **Spread using hours**, or **Spread using working days**). Since weekly earned value requires close integration with the schedule, the **Spread using working days** option is recommended. This option makes the weekly spread of Cobra data more closely match the schedule. The holidays in the Cobra calendar need to match the holidays found in the schedule calendar for consistent spreading between the two applications.

## Rolling Wave Wizard

To split monthly data into weekly data, you must complete the information required on each page of the Rolling Wave Wizard.

*Project Selection Page of the Rolling Wave Wizard*

Use this page to select the project to which you want to apply the rolling wave process.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter select a project. |

*Options Page of the Rolling Wave Wizard*

Use this page to select the options for running the rolling wave process.

**Contents**

| Field | Description |
|---|---|
| **Rolling Wave Calendar** | This field displays the rolling wave calendar assigned to the project. |
| **Periods prior to status date** | Use this field to enter the number of periods prior to the status date that you want expand. The default value is one period prior to the status date. |
| **Periods following status date** | Use this field to enter the number of periods following the status date that you wish to expand. The default value is three periods after the status date. |
| **Update the rate sets used with FTE result codes** | Select this option to update rate sets used with the result code F. This allows full-time equivalents (FTEs) to be calculated correctly when looking at sub-periods versus period data.<br>You can update FTE rate sets even if you do not have write access to the rate file as long as you have permission to advance the calendar. |

*Confirmation Page of the Rolling Wave Wizard*

This page informs you that Cobra has all the information it needs to run the rolling wave process.

If you need to double-check the information you entered on any of the previous pages, click **Back** until that page displays. When all the information is correct, click **Finish** to run the rolling wave process.

*Process Running Page of the Rolling Wave Wizard*

This page displays the progress status while Cobra runs the rolling wave process.

*Process Complete Page of the Rolling Wave Wizard*

This page informs you that the process of rolling the calendar has been completed.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Rolling Wave process.

*Create a Rolling Wave Calendar*

Use the New Calendar File Wizard to create a rolling wave calendar.

**To create a rolling wave calendar:**

1. Create the calendar.
2. If the calendar does not have the calendar set 01, use the Calendar Sets tab of the Calendar view to create set 01.
3. Use the Flag Periods dialog box to label and flag all periods in set 01 with the **$(Fixed)** flag type.
4. Use the Generate Periods dialog box to generate multiple periods in a calendar and to select a pattern for the periods, such as daily, weekly, or monthly.

*Assign a Rolling Wave Calendar to the Project*

Use the Project Properties dialog box to assign a rolling wave calendar to the project.

**To assign rolling wave calendar to a project:**

1. Display the Project Properties dialog box, and select the Files tab.
2. In the **Rolling Wave** group box, select the rolling wave calendar in the **Calendar** field.
3. Click **Apply**, and **OK**.

*Run the Rolling Wave Process*

The rolling wave process splits monthly data into weekly data for future periods and consolidates data in past periods.

You need to advance the calendar and roll the wave at the end of each month. While it is only necessary to roll the wave at month end, it is a good practice to run it each time you advance the calendar.

Rolling wave processing can also be done through the API.

**To run the rolling wave process:**

1. Display the Rolling Wave Wizard by taking one of the following actions:
   - In the **Status** group on the Processes tab, click **Rolling Wave**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Rolling Wave** on the shortcut menu.
2. Use the pages of the Rolling Wave Wizard to collapse past periods or expand future periods of the calendar for a selected project.

*Run the Rolling Wave Process Without Advancing the Calendar*

You can run the Rolling Wave process from the Files tab of the Project Properties dialog box without advancing the calendar.

**To run the Rolling Wave process without advancing the calendar:**

1. Display the Project Properties dialog box, and select the Files tab.
2. In the Rolling Wave group box, select the rolling wave calendar to use.
3. Click **Rolling Wave** to display the Rolling Wave dialog box, and click **OK**.

   The options available in this dialog box are identical to the options available on the Options Page of the Advance Calendar Wizard.

## Calculate Progress

Calculate progress is a mean of calculating monetary value based on the progress entered so you can measure the project's health.

Earned value is calculated at the work package level in Cobra, and applied to all resource assignments in the work package.

Earned value for completed work packages is equal to the total budget for those work packages. For activities not yet started, the earned value is zero.

For work packages in progress, there are a number of progress techniques used to objectively measure earned value. The basic theory behind these progress techniques is to multiply the budget by a percentage complete to calculate the earned value. Earned value never exceeds the work package budget.

Similar to how Cobra supports multiple budgets, it can also support multiple earned value classes. This is useful, for example, when you are tracking professional services. For example, assume the following:

- You have budget using the billing rate and would like to use earned value to determine progress payments.
- You have budget using internal rates and would like to see the earned value based on the internal rates.

In this example, you would need two earned value classes to properly represent the earned value for both budgets.

Use the Calculate Progress Wizard to calculate the earned value for a project or group of projects.

You can also run the Calculate Progress process through the API and the Cobra Web Service.

## Guidelines for Accurate Earned Value Management

To ensure that management decisions are based on accurate information, it is important that there is a sound representation of the value of the work earned. It is also important to reduce the subjective nature of statusing long work packages.

You can avoid problems by properly planning the budget baseline, considering multiple different factors.

### Work Package Duration

By definition, a work package is a short, well-defined amount of work. The word short however, is open to interpretation and depends on the level of detail that you intend to maintain in your system. A good rule of thumb is four to six weeks. If the work package is too short, the value gained from the extra detail does not outweigh the time it takes to maintain the data. For example, you would not want to enter a work package that is shorter in duration than the time it takes you to enter, status, and report on the work package. Conversely, if the work package is very long, the subjective nature of statusing the work package over multiple periods can cause errors in the earned value.

By keeping the work package short, you can help ensure the accuracy of the earned value calculation. For example, assume that an error was made in entering the status of a work package during one period. Since a work package with a short duration would actually be completed during the next period, the earned value would equal the budget at that point. This would, in effect, correct any inaccuracy that was previously entered.

In addition, short work packages typically use the 50-50 or the user-defined percentage progress technique. These progress techniques can be used to eliminate the subjective nature of estimating the percent complete of a work package. When using the progress technique of 50-50, only the activity start and finish dates are used in calculating earned value.

### Collecting Actual Costs at the Control Account Level

It is important to remember that Cobra allows you to collect actual costs and forecast at a level higher than the work package level. This approach allows for accurate earned value calculation without the extra overhead of having multiple charge numbers. You can then manage the schedule variance at the work package level and the cost variance at the higher, control account, level. However, you can actually use this level as the charge number level and then use a code on the control account or a level of the work breakdown structure (WBS) to represent the level at which you submit your variance analysis, which is the control account level.

If you choose to use a code to represent the control account, use the General tab of the Application Preferences dialog box to rename the term control account to control account or charge number to avoid confusion. Users can then select the control account code in the filter pane to see all of the control accounts associated with the selected control account.

### Homogeneous Resource Spread

Most progress techniques derive a percent complete for the work package and calculate earned value for each resource. For this reason, unless the budget spread for each resource is homogeneous, the earned value calculations can yield unexpected results.

For example, assume that the following three tasks are required in building a house:

- **Pour the slab**: Performed by the concrete expert
- **Frame the house**: Performed by a carpenter
- **Build the roof**: Performed by a roofer

Further assume that each of these tasks must be completed before the next task can begin.

The rules of earned value state that status is determined at the work package level. Thus, if all of these tasks are summarized into a single work package, and the house is 50% complete, then 50% of the budget of each of the resources is also earned. In other words, 50% of the concrete expert's budget is earned, 50% of the carpenter's budget is earned, and 50% of the roofer's budget is earned. When you analyze the earned value by resource, it is difficult to understand why, for example, 50% of the budget for the roofer is earned when no work on the roof has actually begun.

In the same example, using three short work packages instead of a longer work package provides the following advantages:

- The earned value is more accurate because estimating the percentage complete of the entire house being built is more difficult than estimating the percentage complete of a single task, such as the slab being poured.
- When 50% of the slab is poured, 50% of the work assigned solely to the concrete expert is earned.
- The subjective nature of estimating status can be removed by using progress techniques such as 50-50 for the shorter work package.

In addition, because Cobra supports the collection of actual costs at the control account level, it is possible to have short work packages without the proliferation of unnecessary charge numbers.

For some projects, you may want to use the Resource %Comp progress technique. This progress technique allows you to enter the percent complete status for each resource. By statusing at the resource level, you can accurately report the exact amount of work that has been accomplished by each resource.

## Progress Techniques

The progress technique selected for a work package determines how earned value is calculated. Earned value is used to measure the work package's performance.

EVMS guidelines provide a number of alternative methods for measuring the earned value of an activity in progress. To measure the performance of activities in progress, you need a system of measurement that includes objective judgments.

Most projects involve at least some work that is regarded as inherently immeasurable, such as work done by a project manager or quality control inspector. This type of task is sometimes referred to as level of effort (LOE). Its earned value is assumed to be the same as the amount budgeted. Basically, as long as the task is performed, the value is earned.

For other work, EVMS guidelines offer earned value methodologies or performance measurement techniques (PMTs). Some common techniques include:

- **0/100**: This is the most common milestone-based method, although it is often seen as harsh, as you get no value at all until the task is complete, regardless of progress.
- **50/50**: This technique recognizes 50% of value when the task is started and 50% when completed. This method is sometimes abused, however, when value is given for starting a project but not necessarily achieving a goal.
- **25/75**: This technique is similar to 50/50, only with a different percentage ratio.
- **% Complete**: This technique allows for the measurement of percentage complete. This measurement is subjective unless it is tied to a weighting system.
- **Units**: This technique is related to completed units weighting, and results in a percentage complete.

Cobra offers many progress technique options.

| Field | Description |
|---|---|
| **Level of Effort (A)** | This progress technique assumes that when a work package starts, its progress will not deviate from the original budget spread. Cobra lets you apply this progress technique to any work package, but it is most suitable for only a small number of work packages whose earned value is, by nature, unmeasurable. The value earned by an open work package using this progress technique is equal to its budget to date. The value earned each period equals the budget. In other words, the work package earns its entire budget up to the status date.<br>An LOE work package should be set to **In-progress** before its baseline start date. If the work package is in a status period after the baseline start date, Cobra puts a cumulative-to-date earned value record in the current period. Similarly, if you change the budget in the previous period, Cobra puts a correcting entry in the current period. This ensures that cumulative-to-date earned value is equal to the cumulative-to-date budget.<br>**Note:** For the percent complete value, Cobra will only use a positive number between 0 and 100. |
| **Milestones (B)** | With this progress technique, milestones are defined, and relative weights are assigned to them. At any point, the value earned is the original work package budget multiplied by the combined weight of the completed milestones and divided by the total weight of all milestones. You can apply this method to any work package. It is generally the preferred method for work packages that span more than two fiscal periods.<br>If the **Allow percent complete on milestones** option is selected in the Project Preferences tab in the Project Properties dialog box, Cobra uses the percentage complete approach in calculating earned value by weighted steps. Each step can have a portion earned, rather than forcing an all-or-nothing awarding of earned value. |

| Field | Description |
|---|---|
| **% Complete (C)** | Use this progress technique if you want to manually enter the completion status of the work package as a percentage each status period. For example, if you enter 20 in the **Completed** field on the General tab of the Project view, 20% of the work package has been earned. |
| **Units Complete (D)** | Sometimes referred to as the “discrete” method, this progress technique is applicable to any work package that is made up of a predefined number of similar tasks. The value earned at any point in time is simply the work package budget multiplied by the number of these tasks completed and divided by the total number to be done. Use of this progress technique assumes that budgets are based on the units being measured. |
| **50-50 (E)** | With this progress technique, 50% of the value is earned as soon as the work package starts, and the rest is earned when it is completed. Use this progress technique only for work packages that span a maximum of two periods, since value cannot be earned in any intervening periods. For example, if you apply the 50-50 progress technique to a work package spanning 4 months, the work package cannot earn any value during the second and third months (assuming it does not finish early). |
| **0-100 (F)** | If you select this progress technique, no value is earned until the work package is completed, at which point the entire budget is earned.<br>Use this progress technique only if the work package is scheduled to start and finish in the same period. |
| **100-0 (G)** | All the value is earned as soon as the work package is started.<br>Use this method only if the work package is scheduled to start and finish in the same fiscal period. |
| **User Defined (H)** | This is a variation of the 50-50 progress technique (E). The percentage earned at the start of the work package (1 to 99%) is defined in advance by the user. The remaining percentage is earned when the work package is completed. This method should be used only for work packages whose schedule dates span a maximum of two fiscal periods. |
| **Apportioned (J)** | With this progress technique, the work package budget is earned in direct proportion to the amount earned on another related work package. You can apply this progress technique to any work package if the referenced work package does not itself use the **Apportioned** or the **Level of Effort** progress technique, and if the schedule dates are the same for both work packages.<br>This progress technique is generally used when the activity itself is difficult to measure, but it is closely related to a more readily measured work package. Quality assurance is a typical example of this type of work package.<br>**Note:** The **Apportioned** progress technique is not supported for the integration process. If you want to use this progress technique for |

| Field | Description |
|---|---|
| | integration, you must manually select it on the General tab of the Project view. |
| **Planning Package (K)** | When you use this progress technique, Cobra always calculates an earned value of zero for the item.<br>Use this progress technique if you do not want the work package to earn any of its budget, regardless of its status. |
| **Assignment % Complete (L)** | This progress technique lets you enter a percent complete for each resource individually. This is useful when you have long work packages and your resources are not spread across the entire work package. This is not a recommended method for work packages that contain apportionment resources because Cobra will be unable to determine the status of the apportioned resources. |
| **Calculated Apportionment (M)** | This progress technique is associated with an apportioned budget. Cobra allows you to define budget items based on a percentage of other items, such as defining travel as a percentage of engineering. Work packages that use this progress technique can calculate earned value based on the same formula.<br>**Attention:** For more information, see Calculate Progress using the Calculated Apportionment Progress Technique. |
| **Steps (N)** | This progress technique lets you define the steps and weight used in calculating the percent complete of the work package. When you add a step, the work package earns a percentage of the work package's budget. This method is similar to Milestones (B) except that dates are not entered. |
| **Earned As Spent (O)** | This progress technique calculates the percent complete of a work package based on actual costs, using the formula (Actual Cost/EAC) x 100. This calculated percentage will then be applied to the BAC of the work package. If Actual Cost exceeds the EAC, the earned value will equal the budget. This method is useful for progressing material items to reduce false variances. If the EAC is zero, the Percentage will be set to 100 and all Budget will be earned.<br>When actual costs are collected at the work package level, the percent complete is calculated using the total earned ((Actuals/EAC) x 100) and BAC values at the work package level. When actual costs are collected at the control account level, the EAC and BAC are calculated using the sum of the work packages and the same percentage complete is applied to all work packages with a status of **In-progress**.<br>**Note:** To enable Cobra to calculate the Earned as Spent progress technique with the formula ACWP/BAC, refer to "KB Article # 52908" in the Knowledge Center of the Deltek Support Center. |

| Field | Description |
|---|---|
| **% Complete Manual Entry (P)** | This progress technique calculates earned value using the same method as **% Complete**. However, Cobra does not update work packages using this method when status is loaded from the schedule. |

*Calculate Progress using the Calculated Apportionment Progress Technique*

The Progress values of work packages with Calculated Apportionment progress technique are calculated depending on the apportionment mapping defined.

The target resource Progress values are calculated using the Budget and Progress values of the source resource.

The calculated value will go to the base result of the target resource, which you set during apportionment definition.

**Note:** Refer to the Apportionment Definition Tab of the Resource View topic for more information.

Assume that you have a project that contains 3 control accounts (and each with 3 work packages), source resource is DRAFT, and apportionment resource is DRAFT1:

| CA/WP | Resource | BAC(Budget) | Progress | Progress Technique |
|---|---|---|---|---|
| 1.1.1 \ 1000 \ APPN | DRAFT_1 | 1000 | 0 | Calculated Apportionment |
| 1.1.1 \ 1000 \ 01 | DRAFT | 1000 | 100 | % Complete 10% |
| 1.1.1 \ 1000 \ 02 | DRAFT | 2000 | 200 | % Complete 10% |
| | | | | |
| 1.1.2 \ 2000 \ APPN | DRAFT_1 | 2000 | 0 | Calculated Apportionment |
| 1.1.2 \ 2000 \ 01 | DRAFT | 3000 | 600 | % Complete 20% |
| 1.1.2 \ 2000 \ 02 | DRAFT | 4000 | 800 | % Complete 20% |
| | | | | |
| 1.1.3 \ 3000 \ APPN | DRAFT_1 | 3000 | 0 | Calculated Apportionment |
| 1.1.3 \ 3000 \ APPN | DRAFT | 5000 | 1500 | % Complete 30% |
| 1.1.3 \ 3000 \ 02 | DRAFT | 6000 | 1800 | % Complete 30% |

Cobra will calculate the earned values for each type of mapping as follows:
**Scenario 1**

If the mapping is **Source:<All>** or a **Specific CA** and **Target: <Same as Source>**, Cobra will calculate the Progress value for each individual work package by Target resource Budget for the WP * (Progress of the source resource for the current WP / BAC of the Source resource for the current WP).

**Result**: The **Source** is **<All> CA's** and **Target** is **<Same as Source>**, then the value for:

- 1.1.1 \ 1000 \ 01 will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 1,000 * (100)/(1,000) = 1,000*0.1 = 100
- 1.1.1 \ 1000 \ 02 will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 2,000 * (600)/(3,000) = 2,000*0.2 = 400
- 1.1.2 \ 2000 \ 01 will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 3,000 * (1,500)/(5,000) = 3,000*0.3 = 900

**Result**: The **Source** is **1.1.1 \ 1000 CA's** and the **Target** is **<Same as Source>**, then the value for:

- 1.1.1 \ 1000 \ 01 will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 1,000 * (100)/(1,000) = 1,000*0.1 = 100
- 1.1.1 \ 1000 \ 02 will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 2,000 * (600)/(3,000) = 2,000*0.2 = 400.

**Scenario 2**

If the mapping is **Source: <All>** and **Target: Specific Work Package**, Cobra will calculate the Progress value by Target resource Budget * (sum of Progress of all CA/WP source resources / sum of BAC of all CA/WP source resources).

**Result**: The **Source** is **<All> CA's** and the **Target** is **1.1.1 \ 1000 \ 01**, then the value will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 1,000 * (100+200+600+800+1,500+1,800)/(1,000+2,000+3,000+4,000+5,000+6,000) = 1,000 * (5,000/21,000) = 1,000*0.238095 = 238.095

> **Note:** This scenario is not supported when running concurrent apportionment calculations or concurrent progress calculations.

**Scenario 3**

If the mapping is **Source: Specific Control Account** and **Target: Specific Work Package**, Cobra will calculate the Progress value by Target resource Budget * (Progress of the source resource / BAC of the source resource).

**Result**: The **Source** is **CA 1.1.1 \ 1000** and the **Target** is **1.1.1 \ 1000 \ 01**, then the value will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 1,000 * (100+200)/(1,000+2,000) = 1,000 * (300/3,000) = 1,000*0.1 = 100.

> **Note:** This scenario is not supported when running concurrent apportionment calculations or concurrent progress calculations.

**Scenario 4**

If the mapping is **Source:<All>** and **Target:<Same as Source> \ <Work Package>,** Cobra will calculate the Progress value for each individual WP by Target resource Budget for the WP * (Progress of the source resource for all WP under the current CA / BAC of the source resource for all WP under the current CA).

**Result**: The **Source** is **<All> CA's** and the **Target** is **<Same as Source> \ APPN**, then the value for:

- **1.1.1 \ 1000 \ APPN** will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 1,000 * (100+200)/(1,000+2,000) = 1,000 * (300/3,000) = 1,000*0.1 = 100.
- **1.1.2 \ 2000 \ APPN** will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 2,000 * (600+800)/(3,000+4,000) = 2,000 * (1,400/7,000) = 2,000*0.2 = 400.
- **1.1.3 \ 3000 \ APPN** will be DRAFT_1 Budget * ( DRAFT Earned / DRAFT BAC ) = 3,000 * (1,500+1,800)/(5,000+6,000) = 3,000 * (3,300/11,000) = 3,000*0.3 = 900.

**Scenario 5**

If the mapping is **Source: Specific CA** and **Target:<Same as Source> \ <Work Package>**, Cobra will calculate the Progress value for the Target WP by Target resource Budget for the WP * (Progress value of the source resource for all WP under the specific CA / BAC for the source resource for all WP under the specific CA).

**Result**: The **Source** is **CA 1.1.3 \ 3000** and the **Target** is **<Same as Source> \ APPN**, then the value for 1.1.3 \ 3000 \ APPN will be DRAFT_1 Budget * ( DRAFT Progress / DRAFT BAC ) = 3,000 * (1,500+1,800)/(5,000+6,000) = 3,000 * (3,300/11,000) = 3,000*0.3 = 900.

## Earned Value Methods

Cobra provides a project option that lets you choose to calculate earned value by budget, by dollars, by time, or by hours SPI.

Select your preferred method for calculating earned value on the Preferences tab of the Project Properties dialog box.

### By Budget

The default method for calculating earned value in Cobra is by budget. Cobra sums up the first result across all periods and applies the progress technique. Cobra calculates earned value by moving through the time-phased table up to the time of the calculation, earning the first result and the associated budget. If only a portion of the first result for the last period calculated is earned, Cobra uses ratios to calculate the corresponding portion of the associated budget costs.

In most project management environments, this is the recommended approach for calculating earned value. Estimates of percent complete are typically based on the hours worked, not the amount of actual costs that have been incurred or the number of days that have elapsed since the activity was scheduled to start. Using small discrete measures of progress reduces problems with the schedule variance, which can be further reduced by limiting work packages to a single resource. In cases where multiple resources are required, their budgets should reflect a single work effort. In other words, avoid planning work packages that include resources for dissimilar types of activities that occur at different times over the course of the work package.

To illustrate how the budget method for calculating earned value works, assume that a work package with two resources has a duration of two periods and is assigned the 50-50 progress technique:

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| **Labor** | | | |
| - **Hours** | 10 | 10 | 20 |

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| ▪ **Direct** | 50.00 | 75.00 | 125.00 |
| **Materials** | | | |
| ▪ **Direct** | | 400.00 | 400.00 |

If the work package has started, the earned value for the first fiscal period is distributed for each resource as follows:

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| **Labor** | | | |
| ▪ **Hours** | 10 | | 10 |
| ▪ **Direct** | 50.00 | | 50.00 |
| **Materials** | | | |
| ▪ **Direct** | 200.00 | | 200.00 |

As this example shows, one-half of the direct material dollars has been earned for the first period, even though the original budget spread had all of the direct material dollars planned for the second period.

### By Dollars

The dollar calculation method calculates earned value based on total budgeted dollars. The dollars earned are then pro-rated to arrive at the remainder of the resource costs.

To see how this method works, assume that a work package with two resources has a duration of two periods and is assigned the 50-50 progress technique:

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| **Labor** | | | |
| ▪ **Hours** | 10 | 10 | 20 |
| ▪ **Direct** | 50.00 | 75.00 | 125.00 |
| **Materials** | | | |
| ▪ **Direct** | | 400.00 | 400.00 |

If the work package has started, the earned value for the first fiscal period is distributed for each resource as follows:

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| **Labor** | | | |

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| ▪ **Hours** | 11.6 | | 11.6 |
| ▪ **Direct** | 62.50 | | 62.50 |
| **Materials** | | | |
| ▪ **Direct** | 200.00 | | 200.00 |

In this case, one half of the dollars budgeted for the LABOR resource is earned. Earned hours are then calculated by determining the number of hours corresponding to the first $62.50 of the budget as follows:

| Earned Hours | = | (10 hours * (50/50)) + (10 hours * (12.5/75)) |
|---|---|---|
| | = | (10 hours * 1) + (10 hours * .16) |
| | = | 10 hours + 1.6 hours |
| | = | 11.6 hours |

This method is typical of an earlier generation of earned value systems developed by financial rather than scheduling organizations.

**Note:** If you are transferring information from an external schedule to a project using the dollar method of calculating earned value, the status of the work package should be based on the budget costs earned by the activity.

### By Time

This method bases the calculation of earned value on a percentage of the work package's time-phased budget. Thus, a work package that is 50% complete earns the portion of the work package's budget that corresponds to the first half of that work package's duration. This method has the advantage of forcing budgeted costs to be earned as they were originally planned, particularly in cases where work packages are assigned mixed groups of resources.

To illustrate how this method works, assume that a work package with two resources has a duration of two periods and is assigned the 50-50 progress technique:

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| **Labor** | | | |
| ▪ **Hours** | 10 | 10 | 20 |
| ▪ **Direct** | 50.00 | 75.00 | 125.00 |
| **Materials** | | | |
| ▪ **Direct** | | 400.00 | 400.00 |

If the work package has started, the earned value for the first fiscal period is distributed for each resource as follows:

| Resource | Period 1 | Period 2 | Total |
|---|---|---|---|
| **Labor** | | | |
| ▪ **Hours** | 10 | | 10 |
| ▪ **Direct** | 50.00 | | 50.00 |
| **Materials** | | | |
| ▪ **Direct** | 0 | | 0 |

With this method, no value was earned for the second resource since no budget was planned for the first period.

**Note:** If you are transferring information from an external scheduling system to a project using the time method of calculating earned value, the status of the work package should be based on the number of elapsed days for the activity.

### By Hours SPI

The HOURS SPI method is a means to back into the currency amount of earned value so that the schedule performance index (SPI) based on the hours is the same for both hours and the total currency value. To do this, Cobra calculates the earned value or the hours based on the progress technique. Then, Cobra calculates the SPI (SPI = EV / Budget Cumulative to Date). Cobra then calculates the currency value as EV = SPI x Budget Cumulative to Date.

However, if there is no Budget Cumulative to Date, Cobra does not divide by zero.

Cobra follows these additional rules:

- If the resource base unit is Hours, the baseline start date is less than the status date, and the progress technique does not equal the level of effort (LOE), then Cobra uses the percent complete to calculate the hours earned. From this, Cobra calculates the Hours SPI. Cobra then applies this SPI to the remaining results.
- If the resource base unit is Hours, the baseline start date is less than the status date, and the progress technique equals the LOE, then the hours earned equals the Budget Hours, and the SPI is 1, which Cobra applies to the remaining results.
- If the resource base unit is Hours and the baseline start date is greater than the status date, Cobra applies the percent complete across all results.
- If the resource base unit is not Hours, Cobra uses the Dollars method.

  However, since it is not always practical to plan work packages with single resources, Cobra offers three alternative methods for calculating earned value.

### How Cobra Calculates Progress to Determine Earned Value

Cobra calculates earned value on each work package according to different principles.

These principles include:

- Cobra uses the specified progress technique only for work packages that are in progress. Any planned work package that has not yet started has no earned value. Any completed work package has an earned value that is exactly equal to its budget.
- Cobra uses the included budget class of the earned value class to determine what budget is used for earned value calculation.
- Cobra performs the earned value calculation on a cumulative basis, then subtracts any previously calculated earned value to produce the earned value of the current period. This avoids rounding errors and allows you to correct mistakes with a negative increment in the current period. Zero increments are not stored explicitly.
- Cobra calculates the earned value for Level of Effort (LOE) work packages based on the status period. If an LOE work package is open, the budget before the status date is earned.

  An LOE work package should be opened on or before the baseline start date of the work package. If you open an LOE work package in a status period after the baseline start date, a cumulative-to-date earned value record is placed in the current period. Similarly, if you change the budget in a previous period, a correcting entry is placed in the current period. This ensures that the cumulative-to-date earned value equals the cumulative-to-date budget. There is an option in the advance calendar process to automatically open LOE work packages.
- Percent Complete resource assignment allows you to specify the percent complete individually for each resource assignment.

  Avoid using this progress technique when apportionment assignments are used for the work package. The Apportioned progress technique at the work package level is used to calculate the earned value for resource assignments that were added using apportionment calculations.
- All other progress techniques derive a percent complete of the work package and calculate the earned value from the first result of each resource assignment.

  For example, if the 50-50 progress technique is applied to a work package in progress, 50% of the budget for each resource assignment is earned. If the Units Complete progress technique is applied to a work package, Cobra calculates the percent complete of the work package by dividing the units completed by the units to do. Even weighted milestones are used to calculate the percent complete of the work package.

By default, the Budget method is selected. This means that Cobra applies the progress technique initially to the first result of the resource assignment. Cobra then calculates the remaining results from this amount. Thus, a resource assignment with the first result of Hours will have its earned value calculated first in hours. The value is then applied as a percentage across the derived costs defined in the resource.

### Sample Earned Value Calculation

See this example of how Cobra ensures that earned value never exceeds the work package budget.

Assume that a work package is budgeted to take 1,000 hours over a period of three months:

- **Month 1**: 250 hours at $20/hour for a total of $5,000
- **Month 2**: 500 hours at $21/hour for a total of $10,500
- **Month 3**: 250 hours at $22/hour for a total of $5,500

The total dollar budget is $21,000.

Also assume that there are five equally weighted milestones for this work package. In the first month, the first two milestones are achieved.

Because these two milestones represent 40% of the total, the cumulative total number of earned hours is 400. Using this result, the cumulative dollar value is calculated by taking the first 250 hours at $20/hour, and the remaining 150 hours at $21/hour. This results in a cumulative dollar value of $8,150.

| Earned Hours | Earned Dollars |
|---|---|
| First 250 Hours at $20 | $5,000 |
| Remaining 150 Hours at $21 | $3,150 |
| Total | $8,150 |

Notice that the total, when calculated in this manner, is not exactly 40% of the dollar budget, which would be $8,400.

As there is no previously calculated earned value for this work package, a time-phased record is created with 400 hours and $8,150 of earned value.

In this example, no new milestones are achieved in the second month. The same cumulative calculations are performed, and of course, the same cumulative results are obtained. As this amount of earned value is already calculated, no new record is created for the second month.

In the third month, another two milestones are achieved. This brings the cumulative total to four out of five, and as the weights are equal, the cumulative earned value is calculated as 800. The cumulative dollars are calculated by the same method as before, this time arriving at $16,600.

| Earned Hours | Earned Dollars |
|---|---|
| First 250 Hours at $20 | $5,000 |
| Next 500 Hours at $21 | $10,500 |
| Remaining 50 Hours at $22 | $1,100 |
| Total | $16,600 |

After subtracting the previously calculated earned value ($8,150), the record for the third month will contain 400 hours and $8,450. In the fourth month, when the final milestone is achieved, the cumulative earned value is equal to the budget: 1,000 hours and $21,000. Again, the previously calculated data is subtracted to produce an earned value record for the fourth month containing

200 hours and $4,400. (Notice that this cross-checks with the fact that the final 200 hours were budgeted at $22/hour.)

Although budget rates have been used above to make this example easy to understand, the actual calculation is not performed from the rates in the rate file, but from the ratios implied by the derived costs that are actually stored in the budget records.

For example, the dollar value of the first month is actually calculated as:

5,000 + [150 (10,500/500)] = $8,150

Thus, the results will be correct even if the rate set is changed after the budget is produced.

The % Comp progress technique assigned to the resource allows you to calculate earned value at the resource level, as shown in the following examples:

| Activity | Resource | Hours | Percent Complete |
|---|---|---|---|
| 1000 | A | 100 | 100% |
| | B | 60 | 100% |
| 1010 | B | 200 | 50% |
| 1020 | A | 100 | 20% |
| | C | 40 | 20% |
| 1030 | D | 500 | 0% |

Assuming these activities are all linked to a single work package in Cobra, the earned value is calculated as follows:

| Activity | Resource | Calculation |
|---|---|---|
| 1000 | A | 100 hrs x 100% complete = 100 hrs |
| | B | 60 hrs x 100% complete = 60 hrs |
| 1010 | B | 200 hrs x 50% complete = 100 hrs |
| 1020 | A | 100 hrs x 20% complete = 20 hrs |
| | C | 40 hrs x 20% complete = 8 hrs |
| 1030 | D | 500 hrs x 0% complete = 0 hrs |

At the work package level, the earned value is calculated as follows:

- Resource A = 120 hrs
- Resource B = 160 hrs
- Resource C = 8 hrs
- Resource D = 0 hrs

### Possible Sources of Errors

Because of the possibility that schedule status information has been entered directly into detail files without having undergone a validation process, errors can occur during earned value calculation.

Cobra displays any errors encountered during the calculation of earned value on the screen and creates an error log that can be saved for review.

You should correct any errors and perform the earned value calculation again. You can perform these calculations as many times as necessary.

The most frequently encountered errors are:

- Actual dates that occur after the current status date.
- Actual finish dates that occur before an actual start date.
- The number of units completed either is a negative value or is greater than the original total for the work package.
- The percent complete is either a negative value or is greater than 100.
- The resource calculation file cannot be found.
- The rate file cannot be found.
- The earned value that is calculated for the current period is negative. (Cobra treats this as a warning rather than as an error since negative earned value could be the result of a corrective entry.)

### Concurrent Progress Calculations

Cobra leverages the PM Compass Process Server to support concurrency in running progress calculations on batches of control accounts.

For example, a project can be split into multiple jobs, with each job processing a different batch of control accounts concurrently.

**Note:** The concurrent progress calculations is not yet supported in the Cobra API.

#### Before You Begin

Before you use this feature, it is important to understand the following information and requirements:

- You must fully understand the requirements and the steps in setting up your environment to run a concurrent process. Refer to *Deltek PM Compass and Cobra Concurrency Solution Setup and Configuration Guide*.
- Concurrent progress calculations can only be run against a single project.
- The apportionment mapping target is set to **<Same as Source>** or **<Same as Source> \ WP** for all control accounts in the apportionment mapping definition.

- The number of control accounts to process per batch must be specified in the **Control Accounts per queue** field on the Data Access tab of the Application Preferences dialog box.

*Run Concurrent Progress Calculations*

Use the Calculate Progress Wizard to run concurrent progress calculations.

**Note:**

- Deltek recommends that PM Compass users only use this dedicated queue for Cobra processing.
- Make sure that your environment is set up to run concurrent progress calculations.

  **Attention:** For more information, see Concurrent Progress Calculations.

**To run concurrent progress calculations:**

1. In the Cobra Explorer, click the Processes tab.
2. In the **Status** group, click **Calculate Progress**.
3. On the Project Selection page, enter or select the project for which you want to run the progress calculation.
4. Click **Next** and complete the succeeding pages of the Calculate Progress Wizard.
5. On the Run page, make sure that **Send to process server** is selected, and click **Next**.
6. Click **Finish**.
7. Click **View Log** to display the master process log which contains entries of the overall progress calculation and the individual process log for each job.

   **Attention:** For additional details on possible errors and fixes, see View Job Status and Process Logs and Troubleshooting Concurrency Issues.

Troubleshooting Concurrency Issues

This section provides errors that you may encounter when using the concurrency feature as well as possible solutions.

- The server was unable to process the request due to an internal error
- There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message
- The encryption type requested is not supported by the KDC

**Note:** There are additional steps that you may need to perform when implementing concurrency:

- Before installing an update, back up the *.config files.
- If you are using the Cobra installer to perform an upgrade of a machine with the Cobra Gateway Service, stop the service before installing the update and start it afterwards to avoid having to restart the machine.

Use the Process Queue Manager form in PM Compass to Check Job Status

When one or more jobs on the Process Queue Manager form in PM Compass show a failed status, it means that the process was not able to successfully complete.

**To determine what caused the failure:**

1. Log into PM Compass as SYSADMIN or any user with access to PM Compass.
2. On the Navigation menu, click **Administration** » **Process Server** » **Process Queue Manager**.
3. In **Queue**, select the Cobra queue.
4. In the Queue Processes grid, click the row of the job with failed status, and click **Detail**.
5. On the Process Queue Detail form, click the **Termination Message** button to display the error.
6. Refer to the section below that relates to the error and corresponding fix.
   - The server was unable to process the request due to an internal error

The server was unable to process the request due to an internal error

If the error "The server was unable to process the request due to an internal error." displays, it means that the Cobra Gateway encountered issues when connecting to one of the Cobra Web Service instances.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | (1) The remote server returned an error: (401) Unauthorized.<br>(2) Unhandled Exception: The target principal name is incorrect.<br>(3) The HTTP request is unauthorized with client authentication scheme 'Negotiate'. |
| **Description** | The error is usually encountered when the Cobra Web Service is located on a remote machine which runs on the Windows Domain |

| | |
|---|---|
| | Account that does not have access to the Service Principal Name (SPN).<br>When the Cobra Gateway establishes a connection to the Cobra Web Service, the Cobra Web Service usually sends the SPN declared on the machine, known as Identity, to the Cobra Gateway. Since the Windows Domain Account runs on a remote machine and does not have access to the SPN, the Cobra Web Service sends the User Principal Name (UPN) instead.<br>The Cobra Gateway, which expects the SPN Identity from the Cobra Web Service receives the UPN Identity instead. This results in the Cobra Gateway rejecting the connection. |
| **Solution #1**: Specify the UPN of the running Windows domain account as the Identity of each remote Cobra Web Service in the Cobra Gateway's configuration file using the Cobra Web Service Gateway Configuration Tool. | **To specify the UPN on each remote Cobra Web Service:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, update the **UPN** field of each remote CWS.<br>4. Click **Save**, and then click **Close**.<br>5. Restart the “Gateway” service in Windows Services. |
| **Solution #2**: Have a Network Administrator register the **http/ <host name>** and **http/<fully qualified host name>** SPN under the dedicated Windows Domain Account in Active Directory. Host name refers to the remote machines where the Cobra Web Services are hosted. | **Note:** Before adding SPNs to the dedicated Windows Domain Account, make sure that these SPNs are not registered under another computer or user account. Having duplicate SPNs can cause authentication problem. For more information about SPN, https://docs.microsoft.com/en-us/windows/win32/ad/service-principal-names.<br>**Warning:** Registering a HTTP type SPN can affect other HTTP traffic hosted on the machine.<br>**Tip:** The Setspn command is a Windows command that allows you to register a SPN user for the dedicated Windows Domain Account. For more information about Setspn command, see https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/cc731241(v=ws.11).<br>**To register a SPN:**<br>1. Launch the Command Prompt and select **Run As Administrator**. |

| | |
|---|---|
| | 2. Enter these two commands:<br>`Setspn -U -S http/<host name> <dedicated Windows Domain Account>`<br>`Setspn -U -S http/<fully qualified host name> <dedicated Windows Domain Account>`<br>**For example:**<br>`Setspn -U -S http/COBWSHOST1 MYDOMAIN\serviceaccount`<br>`Setspn -U -S http/COBWSHOST1.mydomain.com MYDOMAIN\serviceaccount`<br>3. Wait for the SPN change to propagate across the entire network. You may also need to restart your machine to complete the change. |

There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message

If you encounter the error "There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message", it is possible that one of the Cobra Web Service's addresses is not working properly.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following tables for the error message and its solution.

| | |
|---|---|
| **Error Message** | There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details. |
| **Description** | The error is usually encountered if one of the Cobra Web Service's addresses is not working properly. |

| Possible Cause | Solution |
|---|---|
| The Cobra Web Service instance on <machine>:<port> has stopped from running. | Start the Cobra Web Service instance.<br>**To start the Cobra Web Service instance:**<br>1. Access the <machine> where the Cobra Web Service instance is installed.<br>2. Start the Cobra Web Service instance on <port> in the Windows Services. |
| The Cobra Web Service instance on <machine>:<port> has been uninstalled but is still defined in the Cobra Web Service Gateway Configuration Tool. | Remove the Cobra Web Service Endpoint that is causing the error from the Cobra Web Service Gateway Configuration Tool.<br>**To remove the Cobra Web Service endpoint that is causing the error from the Cobra Web Service Gateway Configuration tool:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, select the instance that is causing the error.<br>4. Click the endpoint (instance) row and press **Delete** on your keyboard.<br>5. Click **Save**, and then click **Close**.<br>6. Restart the “Gateway” service in the Windows Services. |

The encryption type requested is not supported by the KDC

Cobra Web Service with Windows authentication requires encryption algorithms. If the service account that you created for the Cobra Web Service is not properly configured to support these algorithms, the Cobra Web Service log displays an error.

The error is: "System.ComponentModel.Win32Exception: The encryption type requested is not supported by the KDC."

**To view the debug log and determine the error:**

1. Navigate to the following folder of the machine where the Cobra Web Service is configured and deployed: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.

   **Note:** Basically, this is the machine where Cobra is installed. If you are using concurrency, this is the Cobra Concurrency machine.

2. Locate the following file and open it using a text editor (such as Notepad) and look for the error message.
   - WebServiceDebugLog_<port>.xml

     **Note: <port>** is the port in the Cobra Web Service URL.

   - WebServiceGatewayDebugLog.xml file (if you are using concurrency)
3. Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | System.ComponentModel.Win32Exception : The encryption type requested is not supported by the KDC. |
| **Description** | The error is usually encountered if you are using Cobra Web Service with Windows authentication and the service account you created is not properly configured to support encryption algorithms. |

| Solution | Details |
|---|---|
| Enable the AES encryption for the service account. | **To enable AES encryption:**<br>1. Open **Active Directory Users and Computers**.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. Click the Account tab.<br>5. Under **Account** options, select one or both of the following:<br>▪ This account supports Kerberos AES 128 bit encryption. |

| Solution | Details |
|---|---|
| | ▪ This account supports Kerberos AES 256 bit encryption.<br>6. Click **OK**. |
| Configure the network security using the Group Policy Management console. | **To configure the network security:**<br>1. Open the Group Policy Management console and edit a new or existing GPO.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. On the Security Policy Setting tab, select the **Define these policy settings** checkbox.<br>5. Select the following options:<br>▪ RC4_HMAC_MD5<br>▪ AES128_HMAC_SHA1<br>▪ AES256_HMAC_SHA1<br>▪ Future encryption types<br>6. Click **OK**. |

**Additional Information**

Refer to the following articles from Microsoft:

- SharePoint server configuration requirements to support Kerberos AES encryption if errors occur
- SCCM: "The encryption type requested is not supported by the KDC" Error

## Calculate Progress Wizard

To calculate the earned/earned value of a project's in-progress work packages, you must complete the information required on each page of the Calculate Progress Wizard.

*Project Selection Page of the Calculate Progress Wizard*

Use this page to select the project for which you want to calculate progress.

**Warning:** Deltek recommends that you back up your data before running this process.

### Contents

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. |

*Options Page of the Calculate Progress Wizard*

Use this page to select the options that you want to use in calculating progress.

### Contents

| Field | Description |
|---|---|
| **Use adjusting entry to remove Progress for deleted budget** | If earned value has already been calculated for a work package, then the entire budget is deleted, this option allows you to show a negative earned value in the current period to zero out the previously posted earned value.<br>If this option is cleared, Cobra deletes the earned value for the resource without an adjusting entry when a budget is deleted. |
| **Progress by:** | You have four options for calculating earned value:<br>▪ **Budget**: Select this option to summarize the budget across all periods and to apply the progress technique. Earned value is calculated by moving through the time phase table up to the time of the calculation, earning the first result and associated budget.<br>▪ **Dollars** : Select this option to calculate earned value based on total budgeted currency. The currency earned is pro-rated to arrive at the remainder of the resource costs.<br>▪ **Hours SPI** : Select this option to calculate earned value by backing into the currency amount of the earned value so that the schedule performance index (SPI) based on hours is the same for both hours and total currency value. |

| Field | Description |
|---|---|
| | ▪ **Time** : Select this option to calculate earned value based on a percentage of the work package's time-phased budget. For example, a work package that is 50% complete earns the portion of the work package's budget that corresponds to the first half of that work package's duration. |
| **Exclude Work Packages with the following Progress Techniques** | Click to display the Progress Technique dialog box and select one or more progress techniques from the list. Work packages with the selected progress technique(s) will not be included in the Calculate Progress process. |
| **Force SPI of apportionment resources to match the source SPI** | Select this option to ensure that the earned value for apportionment items receives the same SPI as the base.<br>**Note:** This option is disabled if the Calculated Apportionment progress technique is selected on the **Exclude Work Packages with the following Progress Techniques** option.<br>**Note:** This option is always disabled regardless of the selected progress technique if the **Secure** option on the Progress Preferences tab of the Project Properties dialog box for the selected project is selected. |

*Run Page of the Calculate Progress Wizard*

This page displays after all of the requirements to run concurrent progress calculations are met.

| Field | Description |
|---|---|
| **Send to process server** | Use this option when you are running concurrent progress calculations in PM Compass. This option is enabled if you are running the process against a single project and the **Queue**, **Shared Location**, **Control Accounts per queue** fields on the Data Access tab of the Application Preferences dialog box are specified and verified.<br>If you select this option, Cobra will group the control accounts into multiple batches, queue the progress calculation job to the Process Server, and display the Process Complete page immediately.<br>**Attention:** For more information, see Concurrent Progress Calculations and Run Concurrent Progress Calculations. |

*Confirmation Page of the Calculate Progress Wizard*

This page informs you that Cobra has all the information it needs to calculate progress.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays. When you are sure that all the information is correct, click **Finish** to start the process.

*Process Running Page of the Calculate Progress Wizard*

This page displays the progress status while Cobra calculates progress.

*Process Complete Page of the Calculate Progress Wizard*

This page informs you that the process of calculating progress has been completed.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Calculate Progress process.

*Assign a Progress Technique to a Work Package*

Use the General tab of the Project view to assign a progress technique to a work package.

**To assign a progress technique to a work package:**

1. Display the Project view, click a work package and select the General tab.
2. Use the **Progress Technique** group box to assign a progress technique to the selected work package.
3. Click on the Quick Access Toolbar to save your changes.

*Add a Second Earned Value Class to Your Project*

You can add a second earned value class to a project. This is useful when you are tracking professional services.

**To add a second earned value class to a project:**

1. Display the Project Properties dialog box, select the Classes tab, and click **New**.
2. On the General Information page, select **Earned** from the **Type** field.
3. Complete the pages of the wizard to add a second earned value class to a project.

*Select the Level at Which to Capture Actual Costs*

Use the Files tab of the Project Properties dialog box to change the level at which actual costs are captured.

You can only make this change if the project log is not yet turned on. Turning the project log off after it has been turned on will not enable you to make this change.

The default level initially displayed in the Files tab is the same level that you specified when you created the project using the New Project Wizard.

**To select the level at which to capture actual costs:**

1. Display the Project Properties dialog box and select the Files tab.
2. Select an option in the **Level at which to capture actual costs** field.
   - **Control Account**: Select this option to enable actuals to be loaded at the control account level and disable the loading of actuals at the work package level of the project.
   - **Work Package**: Select this option to enable actuals to be loaded at the work package level and disable the loading of actuals at the control account level of the project.
   - **Both Control Account & Work Package**: Select this option to enable actuals to be loaded at both the control account and work package levels of the project.

*Select the Earned Value Method*

Use the Earned section of the Preferences tab of the Project Properties dialog box to select the method for calculating the earned value for a project.

**To select the earned value method for a project:**

1. Display the Project Properties dialog box and select the Preferences tab.
2. Click **Earned**.
3. In the **Earned by:** field, select the option to calculate the earned value.

*Calculate Progress*

Use the Calculate Progress Wizard to calculate the earned value for a project or group of projects.

**To calculate progress:**

1. Display the Calculate Progress Wizard by taking one of the following actions:
   - In the **Status** group on the Processes tab, click **Calculate Progress**.
   - In the Cobra Explorer select the **Projects** group bar, right-click the Projects pane, and select **Calculate Progress** on the shortcut menu.

2. Complete the Calculate Progress Wizard pages to calculate the earned value for a project.

## Forecasts

A forecast is an estimate of the final cost of the project, created at any given time during the course of the project.

You can have an unlimited number of forecasts in Cobra. Each forecast is defined with a different class and can use a different set of rates and/or method for calculating or maintaining the forecast.

A forecast in Cobra is defined by the Estimate To Complete (ETC). To report an Estimate At Complete (EAC), you add the actual class and forecast class together:

**Estimate at Complete (EAC)=Actual Cost + Forecast (ETC)**

Cobra performs this calculation during reporting by selecting the cost set EAC.

To report on multiple forecasts, you create new cost sets and include the forecast and actual cost classes needed for your report. This is useful for maintaining a customer forecast, an internal forecast, a statistical forecast, and so on.

Use the Retain EAC method to edit the Estimate At Complete (EAC) value and report the new EAC value. This is useful if you want to report the same value month after month.

Freezing the forecast lets you copy the actual costs and forecast to a new class to support gated actuals.

Cobra lets you generate forecasts using either manual or statistical entries.

You can run the Calculate Forecast process through the Calculate Forecast Wizard, the API and the Cobra Web Service.

### Manual Forecasts

If you are using a manual forecast, you can use the Reclass utility to copy the budget to the forecast. The Reclass process automatically identifies the level of the forecast class, as well as the date set used by the forecast, to update the new forecast and dates.

If you intend to use the Retain EAC/Scale EAC method, you should use the Reclass process to copy the budget to the forecast before you load any actual costs into the project. Once the actual costs have been loaded, the EAC value found in the control account/work package pane of the Project view includes the actual cost. The samples\script folder includes a query called SetEACtoBAC.sql that you can use to automatically update the EAC value to equal the BAC value.

Manual forecasts use either of two forecasting methods:

- **Manual (Retain ETC)**: Each time you advance the calendar and calculate the forecast, Cobra deletes the forecast in the periods before the status date. If the forecast dates for the work package have changed, the time-phased forecast is moved within those dates and the results recalculated to account for rate escalation. Forecast is recalculated using the current rates, except where there is no adjustment or movement required to forecast dates or spreads.

- **Manual (Retain EAC)**: Cobra performs the same actions as in Manual (Retain ETC). Then Cobra adjusts the forecast so that the EAC value on the control account or work package is retained. This process is performed by resource; thus, if actual costs come in for a resource that is not currently in the forecast, the EAC increases.
- **Scale EAC**: This method is used in conjunction with the Manual (Retain EAC) and run after performing the Recalc process. This method adjusts the value of the forecast so that the total work package or control account EAC matches the value displayed in the Spreadsheet pane of the Project view.

### Statistical Forecasts

Statistical forecasts use past performance to calculate a performance factor (PF) that is applied to the remaining budget.

The standard formula is:

Forecast = PF (BAC - EV)

Performance factors correspond to numbers that are derived from specific calculations.

| Performance Factor | Meaning |
|---|---|
| **1** | The project is expected to complete the remaining work exactly according to the budget. |
| **<1** | The project is expected to complete the remaining work under budget. |
| **>1** | The project is expected to go over budget to complete the remaining work. |

**Cost Performance Index**

One method for calculating a performance factor is an index called Cost Performance Index (CPI). Past studies show that project performance rarely improves once the project is 10% complete. To apply past performance to the remaining effort, multiply the remaining budget by a performance factor calculated using the CPI.

**Forecast = 1/CPI (BAC - EV)**

where:

**CPI = Earned Value/Actual Cost**

For example, assume that a CPI of 0.85 has been calculated indicating that for every dollar being spent, only 0.85 dollars worth of work is getting done. In this case, dividing the project target cost by the CPI of 0.85 provides a realistic cost estimate that the remaining work performed on the project will continue with the same cost overruns.

Forecast = 1/.85 (BAC - EV)

**Performance Factor Calculations**

Cobra supports the following methods for calculating a performance factor:

- **Performance factor = 1**: This method assumes that the project will perform all remaining work according to budget.
- **Performance factor = 1/CPI cumulative to date (where CPI = Earned Value/Actual Costs)**: This method assumes that all remaining work will be performed at the same rate of efficiency (cost performance index or CPI) as has been achieved so far.
- **Performance factor = 1/CPI last status period**: This method assumes that all remaining work will be performed at the same rate of efficiency as has been achieved in the current fiscal period.
- **Performance factor = 1/CPI last three status periods**: This method assumes that all remaining work will be performed at the same rate of efficiency that has been achieved in the current period plus the two previous periods.
- **Performance factor = 1/CPI last six status periods**: This method assumes that all remaining work will be performed at the same rate of efficiency that has been achieved in the current fiscal period plus five previous fiscal periods.
- **Performance factor = user-defined value**: This method allows you to enter a performance factor at the time new forecasts are generated.
- **Performance factor = 1/((a * CPI) + (b * SPI)) (where a + b = 1.0)**: This method allows you to define a performance factor that reflects the cumulative CPI and SPI and in which the relative weighting of CPI and SPI are user-definable. This method allows you to indicate the relative importance of cost and schedule performance when calculating performance factors.

  For example, assume that the cumulative CPI for a work package is 1.5 and the cumulative SPI is 0.6. You want to assign a relative weighting of 75% to the cost performance and 25% to the schedule performance. As a result, Cobra calculates a work-package performance factor of 0.889 as follows:

| Performance factor | = | 1/[(0.75 * 1.5 ) + (0.25 * 0.6)] |
|---|---|---|
| | = | 1/[(1.125) + (0.15)] |
| | = | 1/1.275 |
| | = | 0.889 |

  By contrast, if you assume the same values for CPI and SPI, but assign a weighting of 25% to cost performance and 75% to schedule performance, Cobra calculates a work-package performance factor of 1.212 as follows:

| Performance factor | = | 1/[(0.25 * 1.5) + (0.75 * 0.6)] |
|---|---|---|
| | = | 1/[(0.375) + (0.45)] |
| | = | 1/0.825 |
| | = | 1.212 |

- **Performance factor = 1/(CPI * SPI) (where SPI = EV/Budget)**: This method allows you to define a performance factor based on both the cumulative cost performance index and the cumulative schedule performance index.

For example, assume that a work package originally budgeted at $10,000 is halfway through its schedule and has a cumulative budget of $5,000. 30% of the work package budget has been earned, resulting in a cumulative EV of $3,000. Cumulative actual costs, however, are $2,000. Thus, the work package has an unfavorable SPI of 0.6 (3000/5000) and a favorable CPI of 1.5 (3000/2000).

As a result, Cobra arrives at a work-package performance factor of 1.111 as follows:

| Performance factor | = | 1/(0.6 * 1.5) |
|---|---|---|
| | = | 1/0.9 |
| | = | 1.111 |

- **Multiple performance factors**: This method allows you to have multiple performance factors. Cobra calculates a different performance factor depending on how much of the project has been completed. Cobra determines how much of the project has been completed by comparing the cumulative EV to the BAC.

  You can define up to four ranges of completion. For example, if you want to set up a forecast that uses a performance factor of 1 (forecast method 1) for the first third of the work, a user-defined performance factor (forecast method 6) over the second third of the work, and the cumulative CPI (forecast method 2) over the final third, you can use the following definition:

| Percent Complete Range | Forecast Method |
|---|---|
| 0 to 33 | 1 |
| 34 to 66 | 6 |
| 67 to 100 | 2 |

### Retain EAC

Use the Retain EAC method to edit the Estimate At Complete (EAC) value and report the new EAC value. This is useful if you want to report the same value month after month.

The Retain EAC method works by adjusting a particular resource based on the actual cost for the same resource. Actual costs with resources that are not forecasted are not included in this calculation. When you report an EAC, the actual costs with a different resource are added to the cost and the original forecast. Thus, the total EAC increases.

### Coded Ranges Method

The Coded Ranges method allows you to create a single forecast class that uses different forecast methods based on codes or progress techniques.

When creating a forecast class using the New Class Wizard, select **Coded Ranges** in the **Forecast Method** field on the Forecast Class page to display the Coded Ranges pane. In the Coded Ranges pane, the **Code Field** displays a list of saved control account codes, work package codes, or progress techniques based on the level of the forecast. Select a code from the list and then populate the Coded Ranges grid, where you can assign up to three values from the selected code or progress techniques. You must map each assigned code value to an existing

forecast method (except for Frozen Forecast, Percent Complete Ranges, PF=User Input, and None.) The Coded Ranges grid also contains the **Other** row to which you must also assign an existing forecast method. Control accounts and work packages that are not assigned one of the values on the first three rows will use the technique assigned to **Other**.

The Coded Ranges pane is also displayed on the General tab of the Classes tab of the Project Properties dialog box when you select a forecast class that uses the Coded Ranges forecast method in the Classes grid.

### Using the Copy Classes Function

The following table describes Cobra's behavior when using the Copy Classes function on Forecast Classes using the Coded Ranges forecast method with a control account or work package code field.

| Source Project CA/WP Code Field Type | Target Project CA/WP Code Field Type | Behavior |
|---|---|---|
| Code (Optional) | Code (Optional) | Copy Allowed |
| Code (Optional) | Code (Required) | Copy Allowed |
| Code (Optional) | User Field | Copy Not Allowed |
| Code (Optional) | Text | Copy Now Allowed |
| Code (Required) | Code (Optional) | Copy Allowed |
| Code (Required) | Code (Required) | Copy Allowed |
| Code (Required) | User Field | Copy Not Allowed |
| Code (Required) | Text | Copy Now Allowed |
| User Field | Code (Optional) | Copy Not Allowed |
| User Field | Code (Required) | Copy Not Allowed |
| User Field | User Field | Copy Allowed |
| User Field | Text | Copy Not Allowed |
| Text | Code (Optional) | Copy Not Allowed |
| Text | Code (Required) | Copy Not Allowed |
| Text | User Field | Copy Not Allowed |
| Text | Text | Copy Allowed |

## Forecast Calculations

Most forecast methods depend on accurate values of cumulative actual costs and earned value and on the latest estimated dates for the remaining work in the project.

As a result, most project managers generate new forecasts only after all schedule status information has been updated, earned value has been calculated and posted, and actual costs have been entered.

If you are generating a statistical forecast, Cobra allows you to calculate new performance factors. When generating statistical forecasts for the project, Cobra automatically creates new forecasts based on the existing budget for spreading purposes. For subsequent forecasts, you can have Cobra spread ETC according to either the existing ETC spread or the budget spread.

If you are generating a manual forecast, you do not need to recalculate performance factors for the program since they are not used. If this is the first time you are preparing a manual forecast for the project, however, you can use the Reclass feature to create a copy of the budget spread which can then be calculated to account for incurred actual costs.

*Examples of Forecast Calculations*

A set of examples may help demonstrate how forecast calculations are performed in Cobra.

Assume that you have budgeted 1000 hours for a work package scheduled to start in January and finish in May as follows:

| Jan | Feb | Mar | Apr | May |
|---|---|---|---|---|
| 150.00 | 450.00 | 200.00 | 100.00 | 100.00 |

At the end of the first month you advance the status date one period, and indicate that 10% of the work has been completed. You calculate and post an earned value of 100 hours for the work package, and enter actual costs of 200 hours.

At this point, we can see how Cobra calculates four different types of forecasts, based on the following methods:

- PF=1
- PF=User input
- Manual Forecast (Retain EAC)
- Manual Forecast (Retain ETC)

**PF=1**

Cobra recalculates the work package ETC by subtracting any earned portion from the original budget and assuming that any remaining work will be performed according to the budget. This results in a forecast ETC of 900 hours and a forecast EAC of 1100 hours (ETC plus actual costs). Cobra then prorates this new ETC over the remaining periods for the work package as follows:

| Feb | Mar | Apr | May |
|---|---|---|---|
| 476.46 | 211.78 | 105.88 | 105.88 |

**PF=User input**

In this case, Cobra uses a user-defined performance factor of 0.9, which indicates that the remaining work is expected to be performed at 90% of the cost of the original budget. This performance factor results in a forecast ETC of 810 hours for the work package and a forecast EAC of 1010 hours. Cobra spreads this ETC as follows:

| Feb | Mar | Apr | May |
|---|---|---|---|
| 428.81 | 190.59 | 95.30 | 95.30 |

**Manual Forecast (Retain EAC)**

When generating manual forecasts, Cobra ignores any value earned by the work package. With this method, the previous EAC (1000 hours) is retained and a new ETC is calculated by subtracting the actual costs (200 hours) from that figure. The result is a forecast ETC of 800 hours, which is initially spread as follows:

| Feb | Mar | Apr | May |
|---|---|---|---|
| 423.52 | 188.24 | 94.12 | 94.12 |

To explain how Cobra calculates forecast of Control Accounts/Work Packages with **Planned** and **In-Progress** statuses using the Manual Forecast (Retain EAC) method, let's use the following data:

| Jan | Feb | Mar | Apr | May |
|---|---|---|---|---|
| 150.00 | 450.00 | 200.00 | 100.00 | 100.00 |

**Note:** The tables below display the results after running the Advance Calendar and then Calculate Forecast.

If Control Account/Work Package has **Planned** status (no actual costs) and the forecast start is set before the status date, Cobra uses the entire spread profile over the periods after the status date.

| Feb | Mar | Apr | May |
|---|---|---|---|
| 262.50 | 437.50 | 175.00 | 125.00 |

**Note:** If the **Allow posting actual costs to a planned Control Account or Work Package** option on the Actual Cost Preferences tab of the Project Properties dialog box is selected and there are actual costs prior to the status date, Cobra deducts the actual value then uses the entire spread profile over the periods after the status date.

If Control Account/Work Package has **In-Progress** status (no actual costs) and the Actual start date is set before the status date, Cobra uses the spread profile for the remaining periods.

| Feb | Mar | Apr | May |
|---|---|---|---|
| 529.41 | 235.29 | 117.65 | 117.65 |

If Control Account/Work Package has **In-Progress** status (no actual costs) and you move the finish date to an earlier date, Cobra uses the remaining periods' spread profile and spreads it over the new dates.

| Feb | Mar | Apr |
|---|---|---|
| 651.96 | 260.78 | 87.26 |

If Control Account/Work Package has **In-Progress** status (no actual costs) and you move the finish date to later date, Cobra uses the remaining periods' spread profile and spreads it over the new dates.

| Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|
| 314.62 | 370.63 | 146.44 | 114.48 | 53.83 |

**Manual Forecast (Retain ETC)**

For this method of generating forecasts, Cobra simply looks at the remaining ETC of the work package and adds any actual costs already incurred. In this example, the calculation results in an EAC of 1050 hours (850 hours of remaining budget plus 200 hours of actuals).

| Feb | Mar | Apr | May |
|---|---|---|---|
| 450.00 | 200.00 | 100.00 | 100.00 |

*Examples of Manual Forecast Calculations*

This example demonstrates how statistical forecast calculations are performed in Cobra.

For the following examples of the different manual forecast calculations, assume the same sample data used for the examples of statistical forecast calculations:

| | Period 1 | Period 2 | Period 3 | Period 4 | Period 5 | Period 6 | Period 7 | Period 8 | Period 9 | Period 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Budget** | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1000 |
| **Earned Value** | 100 | 75 | 75 | 75 | 100 | 75 | 100 | 100 | | | 700 |
| **Actual Costs** | 100 | 100 | 100 | 100 | 125 | 100 | 125 | 150 | | | 900 |

**Manual Forecast (Retain EAC)**

Assuming no user intervention, the following values are calculated.

ETC = Remaining spread ETC = 200

**Manual Forecast (Retain EAC)**

Assuming no user intervention, the following values are calculated.

EAC = 1000

ETC = EAC – ACWP = 1000 – 900 = 100

*Examples of Statistical Forecast Calculations*

This example demonstrates how statistical forecast calculations are performed in Cobra.

For the following examples of the different statistical forecast calculations, assume that forecasts are being generated following the closing of period 8 for a work package with the following budgeted, earned value, and actual costs:

| | Period 1 | Period 2 | Period 3 | Period 4 | Period 5 | Period 6 | Period 7 | Period 8 | Period 9 | Period 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Budget** | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1000 |
| **Earned Value** | 100 | 75 | 75 | 75 | 100 | 75 | 100 | 100 | | | 700 |
| **Actual Costs** | 100 | 100 | 100 | 100 | 125 | 100 | 125 | 150 | | | 900 |

**PF = 1**

This method always calculates ETC by subtracting Earned Value from BAC, which implies that performance is following the budgeted schedule (that is, assumes a performance factor of 1):

ETC = 1000 – 700 = 300

EAC = 900 + 300 = 1200

**PF = 1/CPI Cum to date**

Uses the cumulative-to-date CPI, which trends ETC based on the total past performance of work completed.

PF = 900/700 = 1.2857

ETC = 1.2857 * 300 = 386

EAC = 900 + 386 = 1286

**PF = 1/CPI current period**

This method calculates a performance factor using a CPI based on the most recent fiscal period (in the following example, period 8):

PF = 150/100 = 1.5

ETC = 1.5 * (1000-700) = 450

EAC = 900 + 450 = 1350

**PF = 1/CPI last 3 periods**

This method calculates a performance factor using a CPI based on the three most recent fiscal periods (in the following example, periods 6, 7, 8):

PF = 375/275 = 1.3636

ETC = 1.3636 * 300 = 409

EAC = 900 + 409 = 1309

**PF = 1/CPI last 6 periods**

This method calculates a performance factor using a CPI based on the six most recent fiscal periods (in the following example, periods 3, 4, 5, 6, 7, 8):

PF = 700/525 = 1.3333

ETC = 1.3333 * 300 = 400

EAC = 900 + 400 = 1300

**PF = User input**

This method allows the user to input a PF value. In this example, assume that the user entered a value of 1.1:

PF = 1.1

ETC = 1.1 * 300 = 330

EAC = 900 + 330 = 1230

**PF = 1/(a*CPI) + (b*SPI)**

For this method, the calculation of the performance factor is based on cumulative-to-date SPI and CPI, allowing the user to define what proportion of each should be used, where a and b are the proportional factors and a + b = 1. In this case, assume the user has set both a and b to 0.5:

PF = 1/((.5 * 700/900) + (.5 * 700/800)) = 1.21

ETC = 1.21 * 300 = 363

EAC = 900 + 363 = 1263

Defining a as zero and b as 1 results in the following calculations:

PF = 1/(0 + (700/800)) = 1.143

ETC = 1.143 * 300 = 343 (342.86)

EAC = 900 + 343 = 1243

**PF = 1/(CPI * SPI)**

This method provides a worst-case scenario by multiplying the cumulative-to-date performance indices together, thereby heightening the effect of cost and schedule variance.

PF = 1/((700/900) * (700/900)) = 1.653

ETC = 1.653 * 300 = 496

EAC = 900 + 496 = 1396

**Percent Complete Ranges**

This method allows for changing the calculation of the performance automatically depending upon the percent complete of the level at which the performance is being calculated. Cobra determines this percentage using the following formula:

Percent complete = 100 * (Earned Value/BAC)

For this example, assume the following ranges and methods have been defined:

| Range | Method |
|---|---|
| 0 – 25 | PF=1 |
| 26 – 80 | PF=1/CPI |
| 81 – 100 | Method A (Retain EAC, a manual forecasting method) |

The current percent complete of the work package is calculated as follows:

Percent complete = 100 * (700/1000) = 70

As a result, Cobra uses method 2 and calculates the EAC as 1286.

### How Cobra Spreads ETC

When calculating forecast costs, Cobra spreads the ETC for each work package or control account between the estimated start and finish dates (or between the status date and the estimated finish date for in-progress work).

In addition, Cobra lets you explicitly update the spread of ETC in a manner similar to the spreading of the budget in control account planning.

To be accurate, forecast calculations must take into account that schedule or rate variances (either positive or negative) may result in the use of rates different from the ones used to budget the work. Thus, Estimate to Complete (ETC) calculations must take into account how future expenditures will be spread over time.

Cobra attempts to retain the current spread profile when the new forecasts are spread. The profile used depends on both the existence of a current ETC spread and upon the setting of the project option that allows users to use the current spread for forecast spreads. If there is no current ETC spread or if the project option is set to spread according to the current spread, the profile is generated from the current spread profile. The included current spreads for the forecast currently being spread are totaled for the resource by date, and the period current spread values are totaled and normalized into percentages, which make up the curve point values. The profile curve has as many points as there are periods in the current spread detail, and Cobra stretches or shrinks the curve as necessary if the dates for the work are adjusted at a later date.

Cobra contains special algorithms that preserve the previous spreading of ETC, if at all possible:

- If only the performance factor has changed, the previous spread is retained and the new ETC is prorated against it.
- If the dates have changed but the number of fiscal periods has not changed, the previous profile is simply shifted to match the new dates and is re-rated.
- If the new dates span a different number of fiscal periods than the current spread, Cobra attempts to reproduce the existing curve within the new dates. This may result in a stretching or shrinking of the curve, based on whether the number of fiscal periods increases or decreases.

The spread is done by calculating the percentage of the ETC that will go into each of the periods. This is done by mapping the number of periods to be spread into over the number of periods currently making up the profile, weighted by the profile values that are normalized as cumulative

percentages (total to 100). Then the number of the period to spread is divided by the total number of periods to be spread into and multiplied by the number of profile points to get a factor. The factor is made up of an integer value and a modulus. The integer value represents the profile point after which the spread point will fall. The modulus is the percentage of the difference between the new two profile points.

To better understand how Cobra spreads ETC, see the Calculate Forecast Spread by Existing EAC and Calculate Forecast Spread by Budget examples.

*Calculate Forecast Spread by Existing EAC*

A set of examples may help demonstrate how Cobra calculates forecast spread according to the Existing EAC method.

**Scenario: Extend Dates**

Assume that you have the following data:

Current Spread

- Forecast Start Date: March 31, 2023
- Forecast Finish Date: May 30, 2023

| **Periods** | Totals | March | April | May |
|---|---|---|---|---|
| **ETC Hours** | 50 | 10 | 30 | 10 |

Then, extend the forecast start and finish dates as follows:

- Forecast Start Date: Feb 28, 2023
- Forecast Finish Date: June 30, 2023

| **Periods** | Total | February | March | April | May | June |
|---|---|---|---|---|---|---|
| **ETC Hours** | 50 | 0 | 10 | 30 | 10 | 0 |

After the Calculate Forecast spread, the spread would be as follows:

| **Periods** | Total | February | March | April | May | June |
|---|---|---|---|---|---|---|
| **ETC Hours** | 50 | 6 | 10 | 18 | 10 | 6 |

**Scenario: Shrink Dates**

Assume that you have the following data:

- Forecast Start Date: Feb 28, 2023
- Forecast Finish Date: June 30, 2023

| **Periods** | Total | February | March | April | May | June |
|---|---|---|---|---|---|---|
| **ETC Hours** | 50 | 6 | 10 | 18 | 10 | 6 |

Then, shrink the forecast start and finish dates as follows:

- Forecast Start Date: March 31, 2023
- Forecast Finish Date: May 30, 2023

| **Periods** | Total | **February** | March | April | May | **June** |
|---|---|---|---|---|---|---|
| **ETC Hours** | 50 | **6** | 10 | 18 | 10 | **6** |

After the Calculate Forecast spread, the spread would be as follows:

| **Periods** | Total | March | April | May |
|---|---|---|---|---|
| **ETC Hours** | 50 | 2.67 | 24.57 | 2.67 |

**Scenario: Shift of Dates with the Same Number of Periods for Planned Work Package**

Assume that you have the following data:

- Forecast Start Date: March 31, 2023
- Forecast Finish Date: May 31, 2023

| **Periods** | Total | March | April | May |
|---|---|---|---|---|
| **ETC Hours** | 30 | 0 | 10 | 20 |

Then, move the forecast start and finish dates as follows:

- Forecast Start Date: April 30, 2023
- Forecast Finish Date: June 30, 2023

| **Periods** | Total | **March** | April | May | June |
|---|---|---|---|---|---|
| **ETC Hours** | 30 | **0** | 10 | 20 | 0 |

After the Calculate Forecast spread, the spread would be as follows:

| **Periods** | Total | April | May | June |
|---|---|---|---|---|
| **ETC Hours** | 30 | 0 | 10 | 20 |

*Calculate Forecast Spread by Budget*

A set of examples may help demonstrate how Cobra calculates forecast spread according to the current spread.

Assume that you have the following budgeted and forecast costs before statusing:

| **Periods** | **1** | **2** | **3** | **4** | **5** | **Total** |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Budget** | 100 | 200 | 300 | 200 | 200 | 1000 |
| **ETC** | 100 | 200 | 300 | 200 | 200 | 1000 |

After one period, assume that ETC has been calculated as follows:

ETC = BAC Earned Value = 1000 - 50 = 950

This results in the following cost data:

| Periods | 1 | 2 | 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|
| **Budget** | 100 | 200 | 300 | 200 | 200 | 1000 |
| **Earned Value** | 50 | | | | | 50 |
| **Actual Costs** | 100 | | | | | 100 |
| **ETC** | | 211 | 317 | 211 | 211 | 950 |

Now, if the estimated finish date for the work package had been pushed back one period (to take the poor performance into account), the spread would be:

| Periods | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|---|---|---|---|---|---|---|---|
| **Budget** | 100 | 200 | 300 | 200 | 200 | | 1000 |
| **ETC** | | 95 | 190 | 285 | 190 | 190 | 950 |

Note, however, that the profile used depends on how much has been earned. Because the earned value was less than the amount of the first period budget, the entire budget profile was used. If, however, the full amount had been earned, the profile used would have been generated from the last four periods of budget. For example, assume a performance factor of 1 and the following cost data:

| Periods | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|---|---|---|---|---|---|---|---|
| **Budget** | 100 | 200 | 300 | 200 | 200 | | 1000 |
| **Earned Value** | 100 | | | | | | 100 |
| **Actual Costs** | 120 | | | | | | 120 |

First, the spread profile curve is created. It is a four-point curve made up of the values of the last four budget amounts: 200, 300, 200, and 200, which total 900. The profile therefore is:

- Period 2 .222
- Period 3 .333
- Period 4 .222
- Period 5 .222

If expressed as a cumulative curve:

- Period 2 .222
- Period 3 .555

- Period 4 .777
- Period 5 1.0

The ETC profile is then calculated by determining each spread point:

- **First spread point**
  - Factor= 4 * (1/5) =.8
  - Integer= 0
  - Modulus = .8
  - Percent= 0 + (.8 * (.222 - 0)) = .178
- **Second spread point**
  - Factor= 4 * (2/5) = 1.6
  - Integer= 1
  - Modulus = .6
  - Percent = .222 + (.6 * (.555 - .222)) = .422
- **Third spread point**
  - Factor= 4 * (3/5) = 2.4
  - Integer = 2
  - Modulus= .4
  - Percent= .555 + (.4 * (.777 - .555)) = .644
- **Fourth spread point**
  - Factor = 4 * 4/5 = 3.2
  - Integer = 3
  - Modulus= .2
  - Percent = .777 + (.2 * (1 - .777)) = .821
- **Fifth spread point**
  - Factor= 4 * (5/5) = 4
  - Integer= 4
  - Modulus= 0
  - Percent= 1

These spread points are then multiplied by the ETC amount to get cumulative spread values for the ETC, and the interval values are then obtained by subtraction of the previous value:

| Periods | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **Budget** | 100 | 200 | 300 | 200 | 200 | | 1000 |
| **ETC** | | 160 | 220 | 200 | 160 | 160 | 900 |

### How Cobra Calculates Forecast Scale EAC

Cobra runs the Calculate Forecast process using scaling methods such **Hours**, **Currency**, and **Hours and Currency**.

The Calculate Forecast Scale Retain EAC method works as follows:

- Cobra scales the reporting set EAC. Forecast classes must be included in the Forecast class list and should be at the same control account or work package level. If not, Cobra encounters an error. Actuals classes must be included in the Actuals class list. If the **Include in Actuals** option (set on the General tab of the Project Properties dialog box) for the actual class is not selected, the class is also stored in the non-Actuals class list.
  - If the **Scale Retain EAC** option is set to **Hours** or **Hours and Currency**: Cobra gets a list of results with the sort code H results, a list of control accounts and work packages with at least one non-Hours base result in the forecast, and EAC, EAC Hours, ACWP, ACWP Hours, Sum of Cost results as ETC and Sum of Hours Results as ETC Hours.
  - If the **Scale Retain EAC** option is set to **Currency**: Cobra gets the EAC, ACWP (actual cost), and Sum of Cost results as ETC. If there are no sort code H results, the calculations will be Currency only.
  - If **Scale Retain EAC** option is set to **Hours and Currency**: Cobra gets the EAC non-labor and cost result Sum as ETC non-labor, where the sort code is not H and the time-phased classes are forecast classes in the EAC cost reporting set. Cobra also gets the ACWP (actual cost) non-labor, which is the sum of the cost results, where time-phased classes are in the actuals classes included in the EAC reporting set and sort code is not H.
- Cobra scans all of the control account and work packages that are being calculated.
  - If the **Scale Retain EAC** option is set **Hours** and the control account or work package has base results of hour, or if the Scale Retain EAC option is set to Hours and Currency, and the EAC hours is greater than 0, Cobra performs the following:
    - Cobra calculates the Total Actuals Hours as Sum Actuals Hours + Non ACWP Hours.
    - Cobra determines the scale factor. If the difference between the (ETC Hours + Total Actuals Hours) and the EAC Hours is greater than 0.5, Cobra sets the Scale Factor to (EAC Hours - Actual Hours) / ETC Hours (If ETC Hours is not 0 and Actual Hours is less than EAC Hours). If the Scale Retain EAC option is set to Hours, Cobra scales resources based on the Scale Factor, all results, and all EAC forecast classes.
    - If there are no Hours base results for a control account or a work package, Cobra scales resources using Currency.
    - If there are no Hours and Currency base results for a control account or a work package, Cobra scales resources using Hours.
  - If the **Scale Retain EAC** option is set to **Hours** and **Currency**, Cobra performs the following:

    - Cobra scale the Hours Resources based on the scale factor, all results, all EAC forecast classes and sort code H results.
    - Cobra determines the Currency scale. If the difference between the (ETC Non Labor + Actuals Non labor) and the EAC Non Labor is greater than 1.0, Cobra sets the scale factor to (EAC Non Labor - Actual Non Labor) / ETC Non Labor (If ETC Non Labor is not 0 and Actual Non Labor is less than EAC Non Labor). Cobra scales the Resources based on the scale factor, all results, all EAC forecast classes, and results of Resources that do not have a sort code of H.
  - If the **Scale Retain EAC** option is set to **Currency**, Cobra determines the Currency scale. If the difference between the (ETC + Acuals) and the EAC is greater than 1.0, Cobra sets the scale factor to (EAC - Actual) / ETC (If ETC is not 0 and Actual is less than EAC). Cobra scales the Resources based on the scale factor, all results and all the EAC Forecast classes.
- If the new actual costs are greater than the EAC, Cobra sets the EAC to match the Actuals for Currency or Hours and Currency. If the Actual Hours are greater than the EAC Hours, Hours, Cobra will set the EAC Hours to the Actual Hours if scaling **Hours** or **Hours and Currency**.

### Scale Calculated Resource Values

Cobra scales the calculated resource values from the base result as follows:

- Cobra gets the list of results for the resource assignments that match an EAC forecast class. If required, this is filtered by the sort code filter passed.
- For each of the resource assignments, Cobra determines the current base result and the new base result, which is calculated as the base result multiplied by the scale factor.
- Each result is then multiplied by the scale factor and the time-phased records are updated.
- The EAC value associated with the resource assignment is then updated to match the current EAC minus the old EAC plus the new EAC.

### Sample Calculations

This section illustrates how Cobra calculates Forecast Scale EAC.

We will use the information from this work package for each of the example calculations below.

**Status Date**: 31 Dec 15

| Work Package | Baseline Start Date | Baseline Finish Date | EAC | Hours EAC |
|---|---|---|---|---|
| 1.1.1.1\1110\01 | 30-Oct-15 | 31-May-16 | $18,699.59 | 1000 |

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Actuals | 50 | 50 |
| DRAFT | Budget | 1000 | |
| DRAFT | Forecast | | |

### Hours Calculation

Advance the calendar to 31-JAN-2016 and set Actual start date to 30-OCT-2015

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Actuals | 100 | 50, 50 |

Calculate Forecast Scale: **Hours**

| | |
|---|---|
| **EAC** | $18,613.02 |
| **Hours EAC** | 1000 |

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Forecast | 900 | 225, 225, 225, 225 |

### Currency Calculation

Advance the calendar to 31-JAN-2016 and set Actual start date to 30-OCT-2015

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Actuals | 100 | 50, 50 |

Calculate Forecast Scale: **Currency**

| | |
|---|---|
| **EAC** | $18,699.59 |
| **Hours EAC** | 1004.63 |

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Forecast | 904.63 | 226.16, 226.16, 226.16, 226.16 |

### Hours and Currency Calculation

During this calculation, the Hour results are scaled to match the “Hours EAC” and the Non-Hour results are scaled to the “Non Labor EAC”. In this example, the TRVL has a Direct base result with a total for $500, however, the Non Labor EAC total is $2000. Since the Actual costs were increased by $50 to $550, the total for TRVL changes from $500 to $2000 - $550 = $1450.

| Work Package | Baseline Start Date | Baseline Finish Date | Status Date | Non Labor EAC | Hours EAC |
|---|---|---|---|---|---|
| 1.1.1.1 \ 1110 \ 01 | 30-Oct-15 | 31-May-16 | 31-Dec 2015 | $2000 | 1000 |

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Actuals | 50 | 50 |
| DRAFT | Budget | 1000 | |

| Resource | Class | Total | Spread |
|---|---|---|---|
| DRAFT | Forecast | 1000 | 200, 200, 200, 200, 200 |
| TRVL | Actuals | $500 | $500 |
| TRVL | Budget | $2000 | |
| TRVL | Forecast | 500 | 100, 100, 100, 100, 100 |

Advance the calendar to 31-JAN-2016 and set Actual start date to 30-OCT-2015

| Resource | Class | Total | Status Date |
|---|---|---|---|
| Draft | Actuals | 100 | 50, 50 |
| TRVL | Actuals | $550 | $500, $50 |

Calculate Forecast scale: **Hours and Currency**

| | |
|---|---|
| **Non Labor EAC** | $2000 |
| **Hours EAC** | 1000 |

| Resource | Class | Total | Spread |
|---|---|---|---|
| Draft | Forecast | 900 | 225.00, 225.00, 225.00, 225.00 |
| TRVL | Forecast | $1450 | 362.50, 362.50, 362.50, 362.50 |

### Frozen Forecasts

A frozen forecast is created by copying the actual costs and the forecast classes defined in a cost set (selected when you freeze the forecast) to a new class.

The Retain EAC method always uses the following formula:

EAC = Forecast + Actual Costs

This provides a smooth S-curve report, where the forecast line in the curve report always starts from the end of the actual costs. In a gated actual cost scenario, there is a potential difference in the actual costs obtained from accounting and the forecast.

This method should be chosen with care, as the difference in the EAC and the actual costs, cumulative to date, produce strange results when producing the IPMR Format 4 report based on a Forecast or ETC class plus cumulative to date actual costs, and when comparing the results with the IPMR Format 1 report that uses the frozen forecast.

### Concurrent Forecast Calculations

Cobra leverages the PM Compass Process Server to support concurrency in running forecast calculations on batches of control accounts.

For example, a project can be split into multiple jobs, with each job processing a different batch of control accounts concurrently.

**Note:** The concurrent forecast calculations is not yet supported in the Cobra API.

**Before You Begin**

Before you use this feature, it is important to understand the following information and requirements:

- You must fully understand the requirements and the steps in setting up your environment to run a concurrent process. Refer to *Deltek PM Compass and Cobra Concurrency Solution Setup and Configuration Guide*.
- Concurrent forecast calculations can only be run against a single project.
- Concurrent forecast calculations do not support Frozen Forecast classes.
- The apportionment mapping target is set to **<Same as Source>** or **<Same as Source> \ WP** for all control accounts in the apportionment mapping definition.
- The number of control accounts to process per batch must be specified in the **Control Accounts per queue** field on the Data Access tab of the Application Preferences dialog box.

*Run Concurrent Forecast Calculations*

Use the Calculate Forecast Wizard to run concurrent forecast calculations.

**Note:**

- Deltek recommends that PM Compass users only use this dedicated queue for Cobra processing.
- Make sure that your environment is set up to run concurrent forecast calculations.

  **Attention:** For more information, see Concurrent Forecast Calculations.

**To run concurrent forecast calculations:**

1. In the Cobra Explorer, click the Processes tab.
2. In the **Status** group, click **Calculate Forecast**.
3. On the Project Selection page, enter or select the project for which you want to run the forecast calculation.
4. Click **Next** and complete the succeeding pages of the Calculate Forecast Wizard.
5. On the Run page, make sure that **Send to process server** is selected, and click **Next**.
6. Click **Finish**.
7. Click **View Log** to display the master process log which contains entries of the overall forecast calculation and the individual process log for each job.

> **Attention:** For additional details on possible errors and fixes, see View Job Status and Process Logs and Troubleshooting Concurrency Issues.

Troubleshooting Concurrency Issues

This section provides errors that you may encounter when using the concurrency feature as well as possible solutions.

- The server was unable to process the request due to an internal error
- There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message
- The encryption type requested is not supported by the KDC

> **Note:** There are additional steps that you may need to perform when implementing concurrency:
>
> - Before installing an update, back up the *.config files.
> - If you are using the Cobra installer to perform an upgrade of a machine with the Cobra Gateway Service, stop the service before installing the update and start it afterwards to avoid having to restart the machine.

Use the Process Queue Manager form in PM Compass to Check Job Status

When one or more jobs on the Process Queue Manager form in PM Compass show a failed status, it means that the process was not able to successfully complete.

**To determine what caused the failure:**

1. Log into PM Compass as SYSADMIN or any user with access to PM Compass.
2. On the Navigation menu, click **Administration** » **Process Server** » **Process Queue Manager**.
3. In **Queue**, select the Cobra queue.
4. In the Queue Processes grid, click the row of the job with failed status, and click **Detail**.
5. On the Process Queue Detail form, click the **Termination Message** button to display the error.
6. Refer to the section below that relates to the error and corresponding fix.
   - The server was unable to process the request due to an internal error

The server was unable to process the request due to an internal error

If the error "The server was unable to process the request due to an internal error." displays, it means that the Cobra Gateway encountered issues when connecting to one of the Cobra Web Service instances.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | (1) The remote server returned an error: (401) Unauthorized.<br>(2) Unhandled Exception: The target principal name is incorrect.<br>(3) The HTTP request is unauthorized with client authentication scheme 'Negotiate'. |
| **Description** | The error is usually encountered when the Cobra Web Service is located on a remote machine which runs on the Windows Domain Account that does not have access to the Service Principal Name (SPN).<br>When the Cobra Gateway establishes a connection to the Cobra Web Service, the Cobra Web Service usually sends the SPN declared on the machine, known as Identity, to the Cobra Gateway. Since the Windows Domain Account runs on a remote machine and does not have access to the SPN, the Cobra Web Service sends the User Principal Name (UPN) instead.<br>The Cobra Gateway, which expects the SPN Identity from the Cobra Web Service receives the UPN Identity instead. This results in the Cobra Gateway rejecting the connection. |
| **Solution #1**: Specify the UPN of the running Windows domain account as the Identity of each remote Cobra Web Service in the Cobra Gateway's configuration file using the Cobra Web Service Gateway Configuration Tool. | **To specify the UPN on each remote Cobra Web Service:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, update the **UPN** field of each remote CWS.<br>4. Click **Save**, and then click **Close**.<br>5. Restart the “Gateway” service in Windows Services. |
| **Solution #2**: Have a Network Administrator register the **http/ <host name>** and **http/<fully** | **Note:** Before adding SPNs to the dedicated Windows Domain Account, make sure that these SPNs are not registered under another computer or user account. Having duplicate SPNs can cause authentication problem. For more information about SPN, |

| | |
|---|---|
| **qualified host name>** SPN under the dedicated Windows Domain Account in Active Directory. Host name refers to the remote machines where the Cobra Web Services are hosted. | https://docs.microsoft.com/en-us/windows/win32/ad/service-principal-names.<br><br>**Warning:** Registering a HTTP type SPN can affect other HTTP traffic hosted on the machine.<br><br>**Tip:** The Setspn command is a Windows command that allows you to register a SPN user for the dedicated Windows Domain Account. For more information about Setspn command, see https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/cc731241(v=ws.11).<br><br>**To register a SPN:**<br>1. Launch the Command Prompt and select **Run As Administrator**.<br>2. Enter these two commands:<br>`Setspn -U -S http/<host name> <dedicated Windows Domain Account>`<br>`Setspn -U -S http/<fully qualified host name> <dedicated Windows Domain Account>`<br><br>**For example:**<br>`Setspn -U -S http/COBWSHOST1 MYDOMAIN\serviceaccount`<br>`Setspn -U -S http/COBWSHOST1.mydomain.com MYDOMAIN\serviceaccount`<br><br>3. Wait for the SPN change to propagate across the entire network. You may also need to restart your machine to complete the change. |

There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message

If you encounter the error "There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message", it is possible that one of the Cobra Web Service's addresses is not working properly.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.

2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following tables for the error message and its solution.

| | |
|---|---|
| **Error Message** | There was no endpoint listening at http://<machine>:<port>/CobraWebService/ service that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details. |
| **Description** | The error is usually encountered if one of the Cobra Web Service's addresses is not working properly. |

| Possible Cause | Solution |
|---|---|
| The Cobra Web Service instance on <machine>:<port> has stopped from running. | Start the Cobra Web Service instance.<br>**To start the Cobra Web Service instance:**<br>1. Access the <machine> where the Cobra Web Service instance is installed.<br>2. Start the Cobra Web Service instance on <port> in the Windows Services. |
| The Cobra Web Service instance on <machine>:<port> has been uninstalled but is still defined in the Cobra Web Service Gateway Configuration Tool. | Remove the Cobra Web Service Endpoint that is causing the error from the Cobra Web Service Gateway Configuration Tool.<br>**To remove the Cobra Web Service endpoint that is causing the error from the Cobra Web Service Gateway Configuration tool:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, select the instance that is causing the error.<br>4. Click the endpoint (instance) row and press **Delete** on your keyboard.<br>5. Click **Save**, and then click **Close**. |

| Possible Cause | Solution |
|---|---|
| | 6. Restart the “Gateway” service in the Windows Services. |

The encryption type requested is not supported by the KDC

Cobra Web Service with Windows authentication requires encryption algorithms. If the service account that you created for the Cobra Web Service is not properly configured to support these algorithms, the Cobra Web Service log displays an error.

The error is: "System.ComponentModel.Win32Exception: The encryption type requested is not supported by the KDC."

**To view the debug log and determine the error:**

1. Navigate to the following folder of the machine where the Cobra Web Service is configured and deployed: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.

   **Note:** Basically, this is the machine where Cobra is installed. If you are using concurrency, this is the Cobra Concurrency machine.

2. Locate the following file and open it using a text editor (such as Notepad) and look for the error message.
   - WebServiceDebugLog_<port>.xml

     **Note: <port>** is the port in the Cobra Web Service URL.

   - WebServiceGatewayDebugLog.xml file (if you are using concurrency)
3. Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | System.ComponentModel.Win32Exception : The encryption type requested is not supported by the KDC. |
| **Description** | The error is usually encountered if you are using Cobra Web Service with Windows authentication and the service account you created is not properly configured to support encryption algorithms. |

| Solution | Details |
|---|---|
| Enable the AES encryption for the service account. | **To enable AES encryption:**<br>1. Open **Active Directory Users and Computers**.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security** |

| Solution | Details |
|---|---|
| | **Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. Click the Account tab.<br>5. Under **Account** options, select one or both of the following:<br>▪ This account supports Kerberos AES 128 bit encryption.<br>▪ This account supports Kerberos AES 256 bit encryption.<br>6. Click **OK**. |
| Configure the network security using the Group Policy Management console. | **To configure the network security:**<br>1. Open the Group Policy Management console and edit a new or existing GPO.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. On the Security Policy Setting tab, select the **Define these policy settings** checkbox.<br>5. Select the following options:<br>▪ RC4_HMAC_MD5<br>▪ AES128_HMAC_SHA1<br>▪ AES256_HMAC_SHA1<br>▪ Future encryption types<br>6. Click **OK**. |

**Additional Information**

Refer to the following articles from Microsoft:

- SharePoint server configuration requirements to support Kerberos AES encryption if errors occur

- SCCM: "The encryption type requested is not supported by the KDC" Error

## Calculate Forecast Wizard

To calculate forecasts, you must complete the information required on each page of the Calculate Forecast Wizard.

This process removes the previous month's forecast, so that the actual costs are not doubled, and respreads the Estimate to Complete over the forecast dates. You must run the Calculate Forecast process to keep the forecast accurate for each status period. Since statistical forecasts require that actual costs are loaded and that earned value is calculated for the period, forecasting is performed at the end of the status period.

*Project Selection Page of the Calculate Forecast Wizard*

Use this page to select the project for which you want to calculate a forecast.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. |

*Options Page of the Calculate Forecast Wizard*

Use this page to select the options that you want to use when calculating the forecast.

**Validate Forecast Dates**

| Field | Description |
|---|---|
| **Stop process if any invalid dates exist - Forecast, Early, or Late** | Select this option to instruct Cobra not to run forecast calculations if it finds any invalid forecast dates for the control accounts or work packages. |
| **Slip all invalid dates that are earlier than the status date - Forecast, Early, or Late** | Select this option to instruct Cobra to advance any invalid forecast start date to the day following the status date. Cobra also advances the forecast finish date by the same number of days, thereby maintaining the original duration of the control accounts or work packages. Cobra will immediately run forecast calculations after the dates are slipped for the invalid dates. |
| **Skip Control Accounts/Work Packages when dates associated** | Select this option to instruct Cobra to calculate the forecast only for control accounts or work packages that have valid forecast dates. Cobra will not calculate the forecast for control accounts or work packages with invalid dates. |

| Field | Description |
|---|---|
| **with the classes being calculated are invalid.** | |
| **Allow negative ETC** | Select this option to instruct Cobra to calculate all negative ETC (Estimate To Complete) values for statistical forecast methods. Otherwise, Cobra sets all negative ETCs to zero during forecast calculation.<br>Cobra calculates ETC by subtracting Budget At Complete (BAC) from Earned Value (EV) during forecast calculations. If EV is greater than the BAC because of a negative current spread in a control account or work package, the calculated ETC will be negative. This option allows you to specify whether negative ETC should be allowed. |
| **Spread ETC according to** | Use this field to select the statistical forecast spreading option.<br>▪ **Budget**: If you select this option, Cobra spreads the forecast according to the current spread.<br>▪ **Existing ETC Spread**: If you select this option and a spread curve is assigned to the resource assignment, Cobra uses the assigned spread curve when spreading the forecast. If **Manual** spread curve is assigned to the resource assignment, or the spread curve specified does not exist, Cobra uses the existing profile of the resource assignment when spreading the forecast.<br>**Attention:** For more information, see How Cobra Spreads ETC. |
| **Scale Retain EAC** | Use this field to select the option for scaling the Estimate At Complete (EAC) values.<br>▪ **None**: If you select this option, Cobra does not use a scaling method in forecast calculation.<br>▪ **Hours**: If you select this option, Cobra updates the control accounts or work packages that contain labor (hours) resources only during forecast calculation.<br>▪ **Currency**: If you select this option, Cobra updates the control accounts or work packages that contain non-labor (currency) resources only during forecast calculation.<br>▪ **Hours and Currency**: If you select this option, Cobra updates the control accounts or work packages that contain both labor (hours) and non-labor (currency) resources during forecast calculation.<br>Selecting the **Hours**, **Currency**, or **Hours and Currency** option instructs Cobra to retain a particular EAC value for manual forecasts that use the forecast method Manual Forecast (Retain EAC).<br>If you select the **Hours**, **Currency**, or **Hours and Currency** option for the **Scale Retain EAC** field, you need to set up the appropriate forecast class |

| Field | Description |
|---|---|
| | that contains the correct classes, cost set, and project forecast options. You also need to make sure that the Forecast cost set contains the forecast class. |

*Forecast Class Selection Page of the Calculate Forecast Wizard*

Use this page to select the forecast classes to include in the forecast calculation.

This page only displays forecast classes that do not use the Frozen Forecast method and to which you have view and update access.

Click **Select All** to include all available forecast classes in the calculation.

**Contents**

| Field | Description |
|---|---|
| **Calculate Performance Factors** | Select this option to instruct Cobra to calculate the performance factors (PFs) automatically on the selected statistical forecasts classes before calculating the forecast. The performance factors can be calculated at different levels depending on the PF level selected for the class:<br>▪ The project cost performance index (CPI), where CPI=Earned Value/ Actual Cost<br>▪ The project schedule performance index (SPI), where SPI=Earned Value/Budget<br>▪ A combination of CPI and SPI values<br>▪ A user-defined value |

*Manual Performance Factors Page of the Calculate Forecast Wizard*

This page displays only if you select a forecast class that uses the forecast method PF=Unit input on the Forecast Class Selection page.

The first column on this page displays the forecast classes that use the forecast method PF=Unit input. The header for the second column can either be Control Account, Work Package, Code, Project, or Misc Levels.

| If the performance factor is... | The second column header is... |
|---|---|
| **Control Account** | Control Account |
| **Work Package** | Work Package |
| **Levels 1 to 20** | Code |
| **Project** | Project |
| **A combination of different levels** | Misc Levels |

**Contents**

| Field | Description |
|---|---|
| **Description** | This column displays a brief description of the selected work package, control account, code, or project. |
| **PF Value** | This column displays the PF value for each work package, control account, code, or project. By default, Cobra displays a PF value of 1.0000 for all levels. If you change the PF value and the forecast calculation runs successfully for this class, Cobra uses the new value in the next forecast calculation. |

*Run Page of the Calculate Forecast Wizard*

This page displays after all of the requirements to run concurrent forecast calculations are met.

**Contents**

| Field | Description |
|---|---|
| **Send to process server** | Use this checkbox when you are running concurrent forecast calculations in PM Compass. This checkbox is enabled if you are running the process against a single project and the **Queue**, **Shared Location**, **Control Accounts per queue** fields on the Data Access tab of the Application Preferences dialog box are specified and verified.<br>If you select this checkbox, Cobra will group the control accounts into multiple batches, queue the forecast calculation job to the Process Server, and display the Process Complete page immediately.<br>**Attention:** For more information, see Concurrent Forecast Calculations and Run Concurrent Forecast Calculations. |

*Confirmation Page of the Calculate Forecast Wizard*

This page informs you that Cobra has all the information it needs to calculate the forecast.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays. When you are sure that all the information is correct, click **Finish** to start the process.

*Process Running Page of the Calculate Forecast Wizard*

This page displays the progress status while Cobra calculates the forecast.

*Process Complete Page of the Calculate Forecast Wizard*

This page informs you that the process of calculating the forecast has been completed.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Calculate Forecast process.

*Create a Forecast*

Use this procedure to create a project forecast.

**To create a forecast:**

1. Set up classes.
2. Set up preferences.
3. Copy the budget to the forecast.

*Set Up a Retain EAC Forecast with the Scale EAC Option*

Use this procedure to set up the retain EAC forecast with the scale EAC options.

**To set up the retain EAC forecast with the scale EAC options:**

1. Create a manual forecast class that uses the method Manual Forecast (Retain EAC).
2. Make sure that the proper **Included Budget**, **Actual**, and **Earned** classes are included in the forecast class.
3. Make sure that the cost set EAC (Est. At Complete) contains the manual forecast class.
4. Make sure that the cost set ETC (Est. To Complete) contains the manual forecast class as the only forecast class. Cobra does not support scaling more than one forecast class.
5. In the Forecast section of the Project Properties dialog box Preferences tab, set the project's **Scale retain EAC** option to **Currency**, **Hours**, or **Hours and Currency**.
6. Make sure that the forecast class has forecast or ETC data against it. Typically, this is performed by running the Reclass Wizard to copy the budget to the forecast.

*Copy Budget to a Manual Forecast Using the Reclass Wizard*

If you select a manual forecast, use the Reclass Wizard to copy the budget to the new forecast at the beginning of a project or when new scope is added.

**To use the Reclass utility to copy the budget to a manual forecast:**

1. Set up your manual forecast class.
2. Display the Reclass Wizard.
3. In the Reclass Wizard, select the budget class that you want to copy and the manual forecast class that you want to copy the budget to.

*Export Time-Phased Resource Assignments to Excel*

Use the Assignment Export utility to update a forecast by exporting time-phased resource assignments to Excel.

**To export time-phased resource assignments to Excel:**

1. Display the Assignment Export Wizard.
2. Complete the pages of the Assignment Export Wizard to export time-phased resource assignments to Excel.

   In the **Class** field, select the forecast class that you want to update.

*Import Time-Phased Resource Assignments from Excel*

Use the Assignment Import utility to update a forecast by importing time-phased resource assignments from Excel.

**To import time-phased resource assignments from Excel:**

1. Display the Assignment Import Wizard.
2. Complete the pages of the Assignment Import Wizard to import time-phased resource assignments from Excel.

   To import resource assignments from Excel, make sure that you only edit the cells within the exported Excel file.

   In the **Class** field, select the update forecast class you want to import.

*Calculate Forecast*

Use the Calculate Forecast Wizard to estimate the final cost of the project at any given time during its course.

**To calculate the forecast:**

1. Display the Calculate Forecast Wizard by completing one of the following actions:
   - In the **Status** group on the Processes tab, click **Calculate Forecast**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Calculate Forecast** on the shortcut menu.
2. Complete the Calculate Forecast Wizard pages to calculate the forecast for a project.

# Process

Cobra provides a number of process wizards related to project-wide functions.

## Freeze Forecast

Use the Freeze Forecast process to freeze a forecast and retain historical forecast data for the purpose of comparing actual costs to a forecast in the future.

The Freeze Forecast process lets you freeze specific actual cost and forecast entries. You can freeze a forecast and continue to report the same value. This is useful during the labor-intensive process of reevaluating the remaining work.

When you run the Freeze Forecast process, Cobra copies the selected forecast and all included actual cost classes to the class type Frozen Forecast. This class type can be updated selectively over time. When forecasts are frozen, the loading of actual costs or forecast calculations does not affect the frozen forecast. This option is very similar to what is known as gated actuals, where the forecast does not include the most current period's actual costs.

Once a forecast has been frozen, some reporting issues may become more complex. For example, it is possible that the difference between actual costs and forecast costs will increase over subsequent periods, resulting in reports that show divergent curves for actual costs and the forecast. It is also possible for actual costs to exceed the forecast. In addition, when updating a frozen forecast by selecting specific control accounts, the gate period will no longer be consistent for the entire project.

The forecast method Retain EAC is the preferred method for the following reasons:

- Actual costs can be longer than forecast costs.
- In the succeeding month, when the actuals are not equal to the current month's ETC (Estimate To Complete ), there will be a gap between forecast costs and actual costs.

Use the Freeze Forecast Wizard to freeze specific actual cost and forecast entries.

### Freeze Forecast Wizard

To freeze a forecast and retain historical forecast data, you must complete the information required on each page of the Freeze Forecast Wizard.

*Project Selection Page of the Freeze Forecast Wizard*

Use this page to select the project whose forecast you want to freeze.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. |

*Criteria Selection Page of the Freeze Forecast Wizard*

Use this page to select the portion of the project for which you want to freeze the forecast.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select the project, control account, or work package for which you want to freeze the forecast. If you want to freeze the forecast for the entire project, select **Total Project**. |
| **Selection** | If you are freezing the forecast for a control account or work package, click to display the Lookup dialog box,where you can select the control account or work package. You can select multiple control accounts or work packages.<br>This field is available only if you selected **Control Account** or **Work Package** in the **Criteria** field. |

*Cost Sets Page of the Freeze Forecast Wizard*

Use this page to select the cost set containing the classes that will have their values copied into the Frozen Forecast class.

**Forecast Cost Set**

| Field | Description |
|---|---|
| **Cost Set** | Click to display the Cost Set Lookup dialog box, where you can select the cost set that contains the classes whose values will be copied to the Frozen Forecast class. By default, Cobra selects the Forecast cost set.<br>When Cobra has completed running the Freeze Forecast process, the Actual classes included in this cost set are displayed as Included Actual classes of the Frozen Forecast class on the Classes tab of the Project Properties dialog box. |
| **Included Forecast Classes** | This grid displays the list of included classes in the cost set that you selected in the **Cost Set** field, together with their descriptions and class types. |

**Frozen Forecast Class**

| Field | Description |
|---|---|
| **Copy to** | Click to display the Class Lookup dialog box, where you can select the Frozen Forecast class. The values of the classes in the cost set that you selected in the **Cost Set** field will be copied to this Frozen Forecast class. The Class Lookup dialog box displays only those forecast classes that use the Frozen Forecast method and to which you have view and update access. |

| Field | Description |
|---|---|
| | If a Frozen Forecast class does not exist, the Class Lookup dialog box is empty. You will need to exit the Freeze Forecast Wizard and create a forecast class using the New Class Wizard. |

*Confirmation Page of the Freeze Forecast Wizard*

This page informs you that Cobra has all the information it needs to freeze the forecast.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until the desired page displays.

When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Freeze Forecast Wizard*

This page displays the progress status while Cobra freezes the forecast.

*Process Complete Page of the Freeze Forecast Wizard*

This page informs you that the process of freezing the forecast has been completed.

Click **View Log** to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Freeze Forecast process.

*Freeze a Forecast*

Freezing a forecast enables you to freeze specified actual cost and forecast entries.

**To freeze a forecast:**

1. Display the Freeze Forecast Wizard by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Freeze Forecast**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Freeze Forecast** on the shortcut menu.
2. Complete the Freeze Forecast Wizard pages to freeze a forecast for a project.

## Top-Down Planning

The Top-Down planning process allows you to change budgeted and forecast costs for selected groups of control accounts or work packages by factoring the hours to meet a total monetary amount.

By letting you analyze different funding scenarios, the Top-Down Planning process helps you plan, estimate, and price proposed work. For example, you can experiment by moving a portion

of the budget assigned to one group of control accounts to another group, or by shifting funding among different fiscal years.

You can define which work items you want to adjust using one of the following methods:

- Specify individual control accounts, work packages, or resources to be adjusted.
- Define groups of control accounts, work packages, or resources by specifying a code in any code file attached to the appropriate key field.
- Define groups of control accounts and work packages based on codes from a code file attached to the project.
- Specify that you want to adjust all work items.

You can also define which calculated results and cost classes Cobra should use when calculating the total amount of budget costs that can be adjusted.

Use the Top Down Planning Wizard to perform top-down planning for a project.

## Top-Down Planning Wizard

To perform top-down planning for a project, you must complete the information required on each page of the Top-Down Planning Wizard.

*Project Selection Page of the Top-Down Planning Wizard*

Use this page to select the project for which you want to perform top-down planning.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>You must have update access to classes with the **Include in Budget** option selected in order to run the Top- Down Planning Wizard. The Project Lookup dialog box displays only those projects for which you have view and update access. |

*Criteria Selection Page of the Top-Down Planning Wizard*

Use this page to select criteria for the top-down planning process.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select the criterion to be used for top-down planning. You can select from the following options:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package |

| Field | Description |
|---|---|
| | ▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>The choice you make in this field affects the options that are available in the remaining fields on the page. For example, selecting **Control Account** displays the list of available control accounts in the **Selection** field and disables the **Include all children** field. |
| **Selection** | Use this field to select the portion of the project that you want to include in top-down planning. The options that are available depend on the selection you made in the **Criteria** field. For example, if you selected **Control Account** in the **Criteria** field, the **Selection** field displays a list of control accounts. This field is not available if you selected **Total Project** in the **Criteria** field. |
| **Include all children** | Use this field to select all the child codes of the code that you selected in the **Selection** field. This option is available only if the selected criterion in the **Criteria** field is based on a code file. |
| **Date Range** | Use the **From** and **To** fields to specify the date range for which you want to perform top-down planning. |

Cobra files use only two decimal places to store the first result. Therefore, Cobra does not change the budget or forecast for periods in which the resulting change to the first result would be less than 1%. As a result, all calculated costs derived from these first results remain unchanged as well.

*Classes Page of the Top-Down Planning Wizard*

Use this page to specify the cost classes that Cobra will use when calculating the total amount of budget costs that can be adjusted.

If you define multiple cost classes for top down planning, all of the cost classes must be of the same type. That is, they must either be all budget classes or all forecast classes.

*Results Page of the Top-Down Planning Wizard*

Use this page to select the results to use in the top-down planning process.

The Results list on this page controls the values that Cobra displays when top-down planning is performed. This enables you to define a target budget in terms of direct dollars and have Cobra

calculate the hours, general and administrative costs, and overhead costs that correspond to that target.

Click **Select All** to include all results. Click **Next** to instruct Cobra to calculate the total and available amounts.

*Calculation Page of the Top-Down Planning Wizard*

Use this page to enter the data that Cobra will use to calculate totals.

**Contents**

| Field | Description |
|---|---|
| **Total Amount** | The value in this field represents the total costs defined by the selection criteria. |
| **Available Amount** | This field displays the amount that Cobra calculates as available for adjustment. In performing this calculation, Cobra takes the following factors into consideration:<br>▪ **Status date** : Top-down planning does not alter historical data and will not apply changes to periods prior to the status date. Thus, budgets occurring in fiscal periods prior to the status date are not available for adjustment.<br>▪ **Work package status**: Ordinarily, top-down planning only affects planned work packages. However, if the project allows changes in the scope of an open package, open work packages are available for adjustment as well. Completed work packages are never available for top-down planning.<br>▪ **Date range**: If you have limited the date range for top-down planning, Cobra reduces the available amount to the budget falling within the specified time frame. |

**Adjustment Methods**

You can enter the amount of the adjustment using any of these methods.

| Field | Description |
|---|---|
| **Target Amount** | If you select this option, you can specify a target amount and have Cobra calculate the size of the adjustment required. Or, you can have Cobra calculate the target based on the totals of specific cost classes over the defined date range. This feature is useful in cases where you have developed alternative budgets for work using custom cost classes.<br>When target amounts are used, Cobra sets the total amount to the target amount and adjusts the available amount by the difference between the original total and the new total. For example, assume that the total amount is $1,000 and the available amount is $500. By setting the target amount to $1,100, you would |

| Field | Description |
|---|---|
| | increase the total amount to $1,100 and the available amount by $100 ($1100 - $1000) to $600.<br>In performing this operation, Cobra calculates the percentage of the total amount that is represented by the target amount. It then applies that percentage to the time-phased information and recalculates the total amount. Because Cobra uses a ratio when performing the calculation, the adjustment required to meet the target amount is sometimes off by a few cents. |
| **Change Amount** | By entering a value in this field, you can enter the adjustment as a total. For example, assume that the original total amount is $1,000, and the available amount is $500. By specifying a change amount of $300, the total amount is increased to $1,300, and the available amount becomes $800.<br>In performing this operation, Cobra calculates the percentage of the total amount that is represented by the change amount. It then applies that percentage to the time-phased information and recalculates the total amount. Because Cobra uses a ratio when performing the calculation, the adjustment required to meet the change amount is sometimes off by a few cents. |
| **Change Percent** | By entering a value in this field, you can enter the adjustment as a percentage of the current amount. For example, assume that the total amount is $1,000 and the available amount is $500. If you specify that Cobra should adjust the budget upward by 10%, the total amount is increased by $100 to $1,100. In addition, the adjustment increases the available amount by $100 to $600, effectively increasing the available amount by 20%.<br>Cobra always applies the adjustment to the total amount displayed for the work. Thus, a change that you have defined as - 10.5% results in Cobra decreasing the total amount by that percentage. In cases where the available amount is less than the total amount, the effect of the adjustment on the available amount is proportionately greater.<br>In the case of adjustments based on target amounts, Cobra sets the total amount to the target amount and adjusts the available amount by the difference between the original total and the new total. |

*Confirmation Page of the Top-Down Planning Wizard*

This page informs you that Cobra has all the information that it needs to start the top-down planning process.

If you need to double check the information that you entered on any of the previous pages of the wizard, click the **Back** button until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Top-Down Planning Wizard*

This page displays the progress status while Cobra performs top-down planning.

*Process Complete Page of the Top-Down Planning Wizard*

This page informs you that Cobra has completed top-down planning for the selected project.

Click **View Log** to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Top-Down Planning process.

*Perform Top-Down Planning*

Use the Top-Down Planning Wizard to perform top-down planning for a project.

**To perform top-down planning:**

1. Display the Top-Down Planning Wizard by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Top-Down Planning**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Top-Down Planning** on the shortcut menu.
2. Use the Top-Down Planning Wizard pages to perform top-down planning for the project.

## Recalc

The Recalc process allows you to recalculate all costs without disturbing existing budget spreads.

This process makes it possible for budget, actual, and forecast costs to reflect changes in rate information retroactively. This operation affects only the derived costs, not the base.

Cobra allows you to recalculate costs for all periods, for selected periods, or for remaining periods only. Recalculating remaining periods affects only those periods after the current status date. You can define which work items you want to recalculate using different recalculation techniques.

By default, the Recalc process has no effect on either complete work items or in-progress work items for which a change of scope is prohibited. You can, however, change this default by selecting the appropriate option on the Preferences tab of the Project Properties dialog box. If you choose to recalculate for remaining periods only, planned work items with scheduled finish dates prior to the status date will not be affected as well.

Like the Respread process, the recalculation of costs should be used with care. The Recalc process recalculates all derived costs for the specified cost classes from the beginning of the project to its conclusion.

Use the Recalc Wizard to run the Recalc process. You can also run the Recalc process through the API and the Cobra Web Service.

## Recalculation Techniques

Using the pages of the Recalc Wizard, you can define which work items you want to recalculate when you run the recalculation process.

Cobra lets you control the impact of the Recalculation process in a number of ways:

- You can specify individual control accounts, work packages, or resources to be recalculated.
- You can define groups of control accounts, work packages, or resources by specifying a code in any code file attached to the appropriate key field.
- You can define groups of control accounts and work packages based on codes from a code file attached to the project.
- You can specify that you want to recalculate all work items.

You can also select which cost classes and results to recalculate. Cobra allows you to select any budget, actual, or forecast class that refers to a rate set. You can also allow Cobra to recalculate read-only classes by selecting the appropriate option on the Preferences tab of the Project Properties dialog box.

Selecting specific results is useful when you are recalculating actual costs. For example, overhead and general and administrative burdens are often adjusted on a yearly basis. Normally, this is accomplished by entering an adjusting record at the end of the year. By selecting only specific results to recalculate, you can apply the correct adjustment to all actual cost records.

## Recalc Wizard

You must complete the information required on each page of the Recalc Wizard to recalculate all costs without changing the current budget spreads.

*Project Selection Page of the Recalc Wizard*

Use this page to select the project whose costs you want to recalculate.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. |

*Options Page of the Recalc Wizard*

Use this page to select the options that you want to use during recalculation.

**Attention:** For more information about the default settings and securing these options, see the Recalc Preferences help topic.

**Contents**

| Field | Description |
|---|---|
| **Allow Recalc on classes not editable in the time-phase grid** | Select this option to recalculate read-only classes. |
| **Use a rate of 1 instead of 0 when a rate is not found** | Select this option if you do not want the value in the time-phased database to be replaced with zero when the rate is missing. |
| **Allow recalculation of completed Control Accounts and Work Packages** | Select this option to instruct Cobra to include completed control accounts and work packages in the recalculation process. |

*Criteria Selection Page of the Recalc Wizard*

Use this page to select the criteria for recalculating costs.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select the criteria to recalculate. You can select from the following options:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>The choice you make in this field affects the choices that are available in the remaining fields of the wizard.<br>For example, selecting **Control Account** displays the list of available control accounts in the **Selection** field and disables the **Include all children** field. |
| **Selection** | Use this field to select the portion of the project to recalculate. The options available depend on the selections you made in the **Criteria** field. |

| Field | Description |
|---|---|
| | For example, if you selected **Control Account** in the **Criteria** field, clicking ... in the **Selection** field displays the Control Account Lookup dialog box, where you can select a control account for which to recalculate costs.<br>This field is not available if you selected **Total Project** in the **Criteria** field. |
| **Include all children** | Use this option to select all the child codes of the code that you selected in the **Selection** field. This option is available only if you selected **WBS**, **OBS**, **Resource**, **Control Account Funding Type**, or **CAM** in the **Criteria** field. |

*Classes Page of the Recalc Wizard*

Use this page to select the classes that you want to use in recalculating costs.

Cobra uses the rate file assigned to the classes to recalculate costs. By default, all budget-type classes are selected.

This page displays read-only classes only if the appropriate option is selected in the Preferences tab of the Project Properties dialog box. This page only displays forecast, budget, and actual classes for which you have view and update access.

Select the checkbox header to include all classes in the process and clear the checkbox header to deselect all classes you previously selected.

Click **Next** to go to the Results page. Click **Finish** to recalculate costs without specifying additional options on the Results page.

*Results Page of the Recalc Wizard*

Use this page to select the results to use in recalculating costs.

The results you select determine how Cobra recalculates the total and available amounts. Click **Select All** to include all results in recalculating costs.

Click **Next** to go to the Date Range page. Click **Finish** to recalculate costs without specifying additional options on the Date Range page.

*Date Range Page of the Recalc Wizard*

Use this page to select the date range that you want to use in recalculating costs.

**Date Range**

| Field | Description |
|---|---|
| **Recalc all periods in your project** | Select this option to recalculate costs for the entire project — from project start to project end. When you select this option, the recalculation process allows the change of historical data. |

| Field | Description |
|---|---|
| **Recalc all periods after the current period** | Select this option to recalculate costs for only those periods remaining after the status date. When you select this option, the recalculation process does not affect historical data. |
| **Recalc costs in a specific date range** | Select this option to recalculate costs for a specific date range.<br>Use the **From** and **To** fields to enter or select the start and end dates of the date range.<br>▪ **From**: The selected label determines the start date used during the process. The date used is determined by the previous calendar label plus one day, or more specifically, the beginning of the selected period.<br>▪ **To**: The date in the fiscal calendar that corresponds to the selected label is used as the end date.<br>Cobra displays an error if the date in the **To** field is earlier than the date in the **From** field. If both dates in the **From** and **To** fields are the first period in the calendar, both the start and end dates are the first dates in the calendar.<br>**Note:** The Date Lookup dialog box displays the calendar period labels for calendar set 00.<br>For a better understanding of the many ways date ranges are used, refer to the sample project data and table below.<br>**Sample Project Data**<br>▪ The calendar is one year long, starting 2022-DEC-31 and ending 2023-DEC-31.<br>▪ The first date in calendar set 00 is 2022-DEC-31.<br>▪ The last date in calendar set 00 is 2023-DEC-31.<br>▪ Fiscal periods all end on the last day of the month.<br>▪ Labels are MMMYYYY (for example, MAR2023).<br><br>**Scenario** / **Expected Behavior**<br>When you select the first period end date in the fiscal calendar in the **From** field (or **To** field) / Assuming you select DEC2022, as this is the very first day of the project, there is no previous period in the calendar. Therefore, Cobra will use 2022-DEC-31.<br>When you select the same period label for both the **From** and **To** fields / Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label. |

| Field | Description |
|---|---|
| | <table><tr><th>Scenario</th><th>Expected Behavior</th></tr><tr><td></td><td>For example:<br>▪ **From Field Date = MAR2023**: Cobra will use the previous calendar period, which is 2023-FEB-28, and add one day, so it will use 2023-MAR-01.<br>▪ **To Field Date = MAR2023**: Cobra will use the date from the MAR2023 calendar period, which is 2023-MAR-31.</td></tr><tr><td>When you select different labels in the **From** and **To** fields</td><td>Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = FEB2023**: Cobra will use the previous calendar period, which is 2023-JAN-31, and add one day, so it will use 2023-FEB-01.<br>▪ **To Field Date = JUN2023**: Cobra will use the date from the JUN2023 calendar period, which is 2023-JUN-30.</td></tr><tr><td>When you select a label in the **To** field that is prior to the selected label in the **From** field</td><td>Cobra will display a validation message, as this scenario is not allowed.</td></tr></table> |

Click **Next** to go to the Confirmation page, or click **Finish** to start recalculating costs.

*Confirmation Page of the Recalc Wizard*

This page informs you that Cobra has all the information that it needs to begin recalculating costs.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click the **Back** button until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Recalc Wizard*

This page displays the progress status while Cobra recalculates costs.

*Process Complete Page of the Recalc Wizard*

This page informs you that Cobra has completed recalculating the costs.

### Procedures

Follow the procedures in this section to utilize the Recalc process.

*Recalculate Costs*

Use the Recalc Wizard to recalculate all costs without disturbing existing spreads.

**Warning:** Use the Recalc process with caution. Once invoked, the utility recalculates derived costs for the specified cost classes, overwriting any cost information that was entered manually.

**To recalculate costs:**

1. Display the Recalc Wizard by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Recalc**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Recalc** on the shortcut menu.
2. Complete the pages of the Recalc Wizard to calculate the costs for a project.

## Respread

The Respread process lets you respread budget costs for an entire project at one time or to respread the budget of an individual code of the project. This is useful when the calendar has been changed.

For example, changing the calendar from a monthly to a weekly calendar would require respreading.

When a spread curve is assigned to the resource assignment, Cobra will use it during respread. When **Manual** spread curve is assigned, or the spread curve is not specified, Cobra uses the existing profile of the resource assignment during respread. The Respread process also generates all calculated costs for the work.

Use the Respread Wizard to run the Respread process. You can also run the Respread process through the API and the Cobra Web Service.

## Respread Wizard

To respread budget costs for an entire project at one time or to respread the budget of an individual code of the project, you must complete the information required on each page of the Respread Wizard.

*Project Selection Page of the Respread Wizard*

Use this page to select the project for which you want to respread the budget.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project to respread.<br>The Project Lookup dialog box displays only those projects to which you have access. |

*Options Page of the Respread Wizard*

Use this page to specify whether you want to allow changes in scope for a work package with a status of in-progress.

**Contents**

| Field | Description |
|---|---|
| **Allow changes of scope for an in-progress Work Package** | Select this option to instruct Cobra to allow the following scope changes for a work package with a status of in-progress:<br>▪ Modify the budgets for a work package<br>▪ Change the value of the **Units to Do** field when the progress technique is Units Complete<br>▪ Delete resources from open control accounts and/or work packages |

*Criteria Selection Page of the Respread Wizard*

Use this page to select which code of the project you want to respread the budget for.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select one of the following options:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package |

| Field | Description |
|---|---|
| | ▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>**Note:** If the code you selected has a hierarchical structure, the respread process includes that code and its children. |
| **Selection** | This field is available only if you selected a criterion other than **Total Project** in the **Criteria** field. Click ... to display the Code Lookup dialog box, where you can select the code that you want to include in the respread process. For example, if you selected **Control Account** in the **Criteria** field, the Control Account lookup dialog box displays all control accounts for the selected project. |
| **Include all children** | This option is available if you selected a code with children in the **Selection** field. Selecting this option instructs Cobra to run the respread process against the parent code and its children. For example, if you selected WBS code 1 in the **Selection** field and this has child codes 1.1 and 1.2, then Cobra will run the Respread process against codes 1, 1.1 and 1.2.<br>This option is enabled only for code criteria that is hierarchical in nature, such as WBS, OBS, and Resource. |

*Date Range Page of the Respread Wizard*

Use this page to select the period or date range to which you want the respread to apply.

**Contents**

| Field | Description |
|---|---|
| **Respread all periods in the project** | Select this option to instruct Cobra to perform the respread over the entire project—from project start to project end. This allows for the modification of historical data.<br>Selecting this option does not affect completed work packages. |
| **Respread all periods after the current period** | Select this option to instruct Cobra to restrict the respread process to periods that occur after the status date. Therefore, historical data is not affected.<br>If you select this option and the budget spread spans the status date, the budget records prior to the status date are summed and subtracted from the |

| Field | Description |
|---|---|
| | BAC to obtain the amount to be spread over the remaining periods. The spread curve is determined by the portion of the budget spread after the status date.<br>Selecting this option does not affect planned work packages with scheduled finish dates prior to the status date. |

*Classes Page of the Respread Wizard*

Use this page to select the classes that you want to use in the Respread process. By default, all budget-type classes are selected.

This page will only display budget classes for which you have view and update access.

*Confirmation Page of the Respread Wizard*

This page informs you that Cobra has all the information that it needs to begin respreading the budget.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Respread Wizard*

This page displays the progress status while Cobra respreads the budget.

*Process Complete Page of the Respread Wizard*

This page informs you that Cobra has completed respreading the budget.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Respread process.

*Respread the Budget*

Use the Respread Wizard to respread budget costs for an entire project at one time or to respread the budget of an individual code of the project.

**To respread the budget:**

1. Display the Respread Wizard by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Respread**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Respread** on the shortcut menu.

2. Use the Respread Wizard pages to respread budget costs for a project or its codes.

## Reclass

Use the Reclass process to copy an existing class to a different class.

Reclass is beneficial in the change control process to transform a proposed budget to an approved budget or to copy a budget to the forecast at the beginning of a project.

The Reclass Wizard takes into account how the following options on the Project Preferences tab of the Project Properties dialog box are set:

- **Allow changes to scope of in-progress Control Account/Work Package**
- **Allow Reclass of completed Control Accounts or Work Packages**

> **Note:** You may change this option in the Reclass Wizard, if not secured.

Use the Reclass Preferences dialog box to select the options for running the Reclass Wizard. You can also run the Reclass process through the API and the Cobra Web Service.

### Reclass Guidelines

Consider the following guidelines when using the Reclass Wizard.

- You can reclassify by total project, control account, work package, resource, or any other codes or fields associated to the project. You can also specify a period or date range for the reclass.
- If your new class uses a different set of dates, Cobra updates the dates for the target class to match the source class data. For example, if you are copying the budget to a forecast, Cobra updates the forecast date set for the target forecast class during the process. If you are copying a work package-level budget to a control account-level forecast, Cobra updates the forecast dates to span the work package dates. This process also enables you to copy weekly budget data to monthly forecast data.
- If the target and source classes do not have the same rate set, you need to run the Recalc Wizard after running the Reclass Wizard. The Reclass Wizard does perform recalculations based on new rates.
- This table describes the combination of source and target class types that you can use in the Reclass Wizard.

| Source | Target = Actual | Target = Budget | Target = Progress | Target = Forecast | Target = Frozen Forecast |
|---|---|---|---|---|---|
| **Actual** | Yes | No | Yes | Yes | Yes |
| **Budget** | Yes | Yes | Yes | Yes | No |
| **Progress** | Yes | Yes | Yes | No | No |
| **Forecast** | Yes | Yes | No | Yes | Yes |

| Source | Target = Actual | Target = Budget | Target = Progress | Target = Forecast | Target = Frozen Forecast |
|---|---|---|---|---|---|
| **Frozen Forecast** | No | No | No | No | Yes |

### Reclass Wizard

To copy an existing class to a different class, you must complete the information required on each page of the Reclass Wizard.

*Project Selection Page of the Reclass Wizard*

Use this page to select the project for which you want to reclass classes.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>**Note:** You cannot select a master project. |

*Options Page of the Reclass Wizard*

Use this page to specify how the Reclass process should be applied to the project and which control accounts or work packages should be included in the process.

**Contents**

| Field | Description |
|---|---|
| **Allow reclass of completed Control Accounts/Work Packages** | Select this option to include completed control accounts or work packages in the Reclass process. If this option is cleared, only planned and in-progress control accounts or work packages are included.<br>This option is disabled if you do not have the right to reclass completed control accounts or work packages for the selected project. You can set security permissions for completed control accounts and work packages for a project on the Reclass Preferences tab of the Project Properties dialog box. |
| **Copy resource assignment codes from:** | This option allows you to specify if the source or target class should retain the resource assignment codes.<br>▪ **Source**: If you select this option, the existing resource assignment codes on the source class are retained. If the target class does not contain the same resource assignment codes, the codes on the source class are retained. |

| Field | Description |
|---|---|
| | ▪ **Target**: If you select this option, the existing resource assignment codes on the target class are retained. If the target class does not contain the same resource assignment codes, the codes will be blank. |

*Criteria Page of the Reclass Wizard*

Use this page to select the portion of the project that you want to reclass.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select one of the following options:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>If you want to reclass the entire project, select **Total Project**.<br>**Note:** The options listed in this field are based on the control account, work package, and resource assignment structures that you define on the Fields tab of the Project Properties dialog box. |
| **Selection** | This field is enabled if you select a criterion other than **Total Project** in the **Criteria** field. Click ... to display a dialog box that lists all valid options based on the selected criterion.<br>For example, if you select **Control Account**, the Control Account Lookup dialog box displays, showing all control accounts used in the selected project. |
| **Include all children** | This checkbox is available if you select a code validated with a code file in the **Selection** field. Selecting this checkbox instructs Cobra to run the Reclass process against any code assignments with the selected code and its children. |

| Field | Description |
|---|---|
| | For example, if you select **WBS code 1.1** in the **Selection** field and then select the **Include all children** checkbox, control accounts and/or work packages with a code assignment of **1.1** or any child codes, such as **1.1.1** and **1.1.2** will be included in the Reclass process. |

*Source Class Page of the Reclass Wizard*

Use this page to select the class that you want to use as the basis for the Reclass process.

For example, if you want to copy the budget to a forecast, the source class is a budget class. This page only displays classes for which you have view and update access.

**Contents**

| Field | Description |
|---|---|
| **Class** | Click to display the Class Lookup dialog box, where you can select a source class. The dialog box displays all the classes used in the project, except for progress (earned value) classes.<br>▪ If the source class is a progress class, you cannot select a forecast or frozen forecast class as a target class.<br>▪ If the source class is a forecast or frozen class, you cannot select a progress class as a target class. |
| **Class Type** | This field displays the type of the selected source class. |
| **Class Description** | This field provides a brief description of the selected source class. |
| **Copy** | Select this option to copy the source class to the target class, while keeping the original source class. Selecting this option gives an additive result (twice the original budget). |
| **Copy and Delete** | Select this option to copy the source class to the target class and delete the source class data.<br>This option is enabled only if you have an update access to the class. |

*Target Class Page of the Reclass Wizard*

Use this page to select the class that Cobra will modify through the Reclass process.

This page only displays classes for which you have view and update access.

**Contents**

| Field | Description |
|---|---|
| **Class** | Click ... to display the Class Lookup dialog box, where you can select a target class based on the following rules:<br>▪ Never use a replanned class as a target class. Use the Replan Wizard instead for this purpose.<br>**Note:** You can use a replanned class as a target class only when you run the Reclass process through the Cobra Web Service, and if the source class is a budget class (included or not-included). See the Web Service Client API Help.<br>▪ If the source class is an actual, budget, or progress class, you can select a progress class.<br>▪ If the source class is an actual class, budget classes are not displayed in the Class Lookup dialog box.<br>▪ If the source class is a budget class, frozen forecast classes are not displayed in the Class Lookup dialog box.<br>▪ If the source class is a forecast class, all classes are displayed in the Class Lookup dialog box.<br>▪ If the source class is a frozen forecast, only frozen forecast classes are displayed in the Class Lookup dialog box.<br>▪ If the source class is a replanned class, frozen forecast classes are not displayed in the Class Lookup dialog box.<br>▪ If the source class is a control account class, only control account classes are displayed in the Class Lookup dialog box. This does not apply to progress class because you can only define this class type at the work package level.<br>If you select progress as a target class, Cobra will not copy any data to future periods. This means:<br>▪ If you select the **Reclass all periods in your project** option on the Date Range page, Cobra will only copy data from periods up to the status date.<br>**Note:** If you also select the **Copy and Delete** option on the Source page, Cobra will delete all periods from the source class, including those periods after the status date even though they are not copied to the target class.<br>▪ If you select the **Reclass by a specific date range** option on the Date Range page, you cannot select a date range that includes future periods. |

| Field | Description |
|---|---|
| | ▪ You cannot select the **Reclass all periods after the status date of the project** option on the Date Range page.<br>▪ If the default progress class is updated during the Reclass process, subsequent calculations may add an adjusting entry.<br>You can reclass a budget class that uses calendar set 00 to a forecast class that uses a different calendar set even if the budget is at the work package level and the forecast is at the control account level. You cannot reclass a class that uses a calendar set other than 00 into a class that uses calendar set 00. |
| **Class Type** | This field displays the type of the selected target class. |
| **Class Description** | This field provides a brief description of the selected target class. |
| **Add to existing** | This option adds the value in the source class to the value in the target class. This option is helpful when reclassing an approved scope change into the budget class.<br>If you select this option and there are spread curves assigned to the resource assignments, Cobra changes the curves to **Manual**. |
| **Replace existing** | This option replaces the value in the target class with the value in the source class for all selected costs. This option is useful when replacing the customer's forecast with a CAM's forecast. The final result does not double the original value. It replaces any class in that work package or control account with the new class.<br>If you select this option and there are spread curves assigned to the resource assignments, Cobra uses the existing spread curve assigned to the source class.<br>If you delete a spread curve, and then run reclass, Cobra retains that spread curve assigned the source class and changes it to **Manual** for the target class regardless of the option you select on this page. |

**Note:** If a resource assignment is created in the target class during reclass, Cobra uses the spread curve assigned to the source class.

*Date Range Page of the Reclass Wizard*

Use this page to specify the range of periods or dates that you want to reclass.

**Contents**

| Field | Description |
|---|---|
| **Reclass all periods in the project** | Select this option to reclass all data. |
| **Reclass all periods after the status date of the project** | Select this option to reclass data only for those periods that fall after the current status date of the project. If you select this option, planned work packages with scheduled finish dates prior to the status date are not affected by the Reclass process. |
| **Reclass by a specific date range** | Select this option to run the Reclass process for a specific date range.<br>Use the **From** and **To** fields to enter or select the start and end dates of the date range.<br>▪ **From**: The selected label determines the start date used during the process. The date used is determined by the previous calendar label plus one day, or more specifically, the beginning of the selected period.<br>▪ **To**: The date in the fiscal calendar that corresponds to the selected label is used as the end date.<br>Cobra displays an error if the date in the **To** field is earlier than the date in the **From** field. If both dates in the **From** and **To** fields are the first period in the calendar, both the start and end dates are the first dates in the calendar.<br>**Note:** The Date Lookup dialog box displays the calendar period labels for calendar set 00.<br>For a better understanding of the many ways date ranges are used, refer to the sample project data and table below.<br>**Sample Project Data**<br>▪ The calendar is one year long, starting 2022-DEC-31 and ending 2023-DEC-31.<br>▪ The first date in calendar set 00 is 2022-DEC-31.<br>▪ The last date in calendar set 00 is 2023-DEC-31.<br>▪ Fiscal periods all end on the last day of the month.<br>▪ Labels are MMMYYYY (for example, MAR2023). |

| Field | Description |
|---|---|

| Scenario | Expected Behavior |
|---|---|
| When you select the first period end date in the fiscal calendar in the **From** field (or **To** field) | Assuming you select DEC2022, as this is the very first day of the project, there is no previous period in the calendar. Therefore, Cobra will use 2022-DEC-31. |
| When you select the same period label for both the **From** and **To** fields | Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = MAR2023**: Cobra will use the previous calendar period, which is 2023-FEB-28, and add one day, so it will use 2023-MAR-01.<br>▪ **To Field Date = MAR2023**: Cobra will use the date from the MAR2023 calendar period, which is 2023-MAR-31. |
| When you select different labels in the **From** and **To** fields | Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = FEB2023**: Cobra will use the previous calendar period, which is 2023-JAN-31, and add one day, so it will use 2023-FEB-01.<br>▪ **To Field Date = JUN2023**: Cobra will use the date from the JUN2023 calendar period, which is 2023-JUN-30. |
| When you select a label in the **To** field that is prior to the selected label in the **From** field | Cobra will display a validation message, as this scenario is not allowed. |

| Field | Description |
| --- | --- |
| **Copy baseline dates to forecast dates** | Select this option to overwrite the forecast dates with the budget dates.<br>This option is available only if:<br>▪ The source class is a budget class and the target class is a forecast class.<br>▪ The **Reclass all periods in the project** option is selected.<br>▪ The criterion selected in the **Criteria** field on the Criteria page is not a resource assignment. |

*Confirmation Page of the Reclass Wizard*

This page informs you that Cobra has all the information that it needs to run the Reclass process.

If you need to double-check the information that you entered on any of the previous pages of the Reclass Wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Reclass Wizard*

This page displays the progress status while Cobra runs the Reclass process.

*Process Complete Page of the Reclass Wizard*

This page informs you that the reclass process has been completed.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Reclass process.

*Reclass a Class*

Use the Reclass Wizard to copy one class to another class.

**To reclass a class:**

1. Display the Reclass Wizard by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Reclass**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Reclass** on the shortcut menu.
2. Use the pages of the Reclass Wizard to reclassify a cost class.

## Replan

Cobra uses the Replan utility to remove variances from any ongoing projects. Typically, a project manager replans a project when the budget no longer reflects the work to be performed.

You can replan an entire project at one time or replan individual codes of the project in either of the following ways:

- Set the budget and the earned value equal to the actual costs:
  (Budget = Earned Value = Actual Costs)
- Set the budget to equal the calculated earned value:
  (Budget = Earned Value)

Typically, Cobra replans only open work packages. However, if you are setting Budget equal to Earned Value and there are planned work packages before the status date, you need to replan the planned work packages to eliminate the schedule variance. Replanning a planned work package when setting Budget equal to Earned Value would set the Budget before the status date equal to zero.

To replan a planned work package, select the **Allow planned Work Package to be replanned** option in the Replan Preferences section of the Preferences tab of the Project Properties dialog box. To replan a completed work package, select the **Allow completed Work Package to be replanned** option.

The replanning operation is performed on in-progress work packages. During the replan process, the original work package is broken up into two segments —before and after the status date.

### Budget Before the Status Date

Cobra allocates the budget before the status date to a work package with a new name if you selected the **Create a new Work Package for replanned Budget/Earned/Actuals** option on the Options page of the Replan wizard. Cobra changes the budget for this work package to equal either Actual Costs or Earned Value. Cobra changes the class used for the budget in this work package to Replanned Budget and closes the work package.

If the **Create a new Work Package for replanned budget/earned/actual costs** option is not selected, the old budget remains in the original work package but with a new class.

### Budget beyond the Status Date

The budget that is beyond the status date remains unchanged in the original work package. However, Cobra changes the start date of the original work package to the status date and removes any progress information.

Cobra also performs the following changes:

- If the progress technique used in the work package is % Complete, Cobra changes the completion percentage of the work package to zero.
- If the progress technique used in the work package is Milestones, Cobra moves the completed milestones to the completed work package and leaves the planned milestones in their existing work package.

Replan performs differently based on the level at which actual costs are stored and whether you set the budget equal to earned value or actual costs. For example, if actual costs are stored at

the cost account level and you choose to set the budget equal to actual costs, a single work package is created with the name you entered for WP. If actual costs are stored at the work package level, a new work package for each open work package is created. The new work packages use the WP as a prefix along with the original work package ID. Thus, you need to make sure that your work package field length is long enough to accommodate both the prefix you enter and the current ID.

If you use a cumulative to date transaction file to load actual costs and you collect actual costs at the work package level, you will need to modify the query that extracts the actual costs to exclude actual costs before the date of the replan. During replan, resource assignments which have been moved to a new work package will retain their existing codes. Any new resources created for the Replan class will have blank codes.

Use the Replan Preferences dialog box to select the options for running the Replan Wizard. You can also run the Replan process through the API and the Cobra Web Service.

## Replan Wizard

To remove variances from any ongoing projects, you must complete the information required on each page of the Replan Wizard.

*Project Selection Page of the Replan Wizard*

Use this page to select the project to replan.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>**Note:** You cannot select a master project on this page. |

*Options Page of the Replan Wizard*

Use this page to specify how Cobra should replan the project and what work packages should be included in the process.

**Contents**

| Field | Description |
|---|---|
| **Replan by adding an adjusting entry in the current period** | Select this option to instruct Cobra to make an adjustment in the current period when replan is performed.<br>If this option is not selected, Cobra replaces the historical budget and earned value records based on the method selected. This removes all historical variances. If this option is selected, Cobra places an adjusting entry in the current period so that the cumulative cost and schedule variance are zero, depending on the method selected. All historical data is retained. |

| Field | Description |
|---|---|
| **Extend the Work Package finish date when replanning after the baseline finish date** | This option only applies if you selected the **Replan by adding an adjusting entry in the current period** option and the status date is after the baseline finish date of the work package.<br>If the status date is after the work package baseline finish date, the work package baseline finish date is changed to the day after the status date. The adjustment of the date ensures that the replanned entry is within the work package dates. |
| **Create a new Work Package for the replanned Budget/ Earned/Actuals** | Select this option to instruct Cobra to create a new work package for Replanned Budget/Earned/Actual Costs during the replan. This option puts the adjustment in the new work package that you are given the opportunity to name. If you do not select this option, the adjustment is added to the source work package. If actual costs are stored at the Control Account level, this option is required. |
| **Allow planned Work Package to be replanned** | Select this option to replan work packages that have not yet started. If this option is not selected, a work package that has not yet started will be skipped even if there is actual cost for the work package. If this option is selected, the baseline start date for the work package will be moved to the status date so that the replanned entry occurs within the work package dates. |
| **Allow completed Work Package to be replanned** | Select this option to replan completed work packages. If this option is not selected, you can only replan incomplete work packages.<br>If the work package has a baseline finish date that is set before the status date, the work package baseline finish date is moved to the day after the status date so that the adjustment entry occurs within the work package dates. |
| **Class for replanned Earned Value adjustments** | If you replan a work package, Cobra stores the earned value of the replanned work package in the class that you specify here. Click ... to display the Class Lookup dialog box, where you can select the class that will store the replanned work package. By default, earned value is stored in the **Earned** class.<br>This option affects only the Replan process. |

*Criteria Page of the Replan Wizard*

Use this page to select which code of the project you want to replan.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use field to select one of the following options:<br>▪ Total Project<br>▪ Control Account |

| Field | Description |
|---|---|
| | ▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>If the code you selected has a hierarchical structure, the Replan process includes that code and its children if the **Include all children** option is selected. |
| **Selection** | This field is available only if you selected a criterion other than **Total Project** in the **Criteria** field. Click ... to display the Code Lookup dialog box, where you can select the code that you want to include in the replan. For example, if you selected **Control Account** in the **Criteria** field, the Code lookup dialog box displays all control accounts for the selected project. |
| **Include all children** | This option is available if you selected a code validated with a code file in the **Selection** field. Selecting this option instructs Cobra to run the replan process against any code assignments with the selected code and its children. For example, if you selected WBS code 1.1 in the **Selection** field and you selected the **Include all children** option, the replan process will include control accounts and/or work packages with code assignments of 1.1 or any child codes, such as 1.1.1 and 1.1.2. |

*Method Page of the Replan Wizard*

Use this page to select how the replan should be calculated.

**Contents**

| Field | Description |
|---|---|
| **Budget = Earned = Actuals** | Select this option to set the Budget and the Earned Value equal to the Actual Costs. |
| **Budget = Earned** | Select this option to set the Budget equal to the calculated Earned Value. |

*Work Package Name Page of the Replan Wizard*

Use this page to enter a name and description for the new work package that the Replan process will create.

**Contents**

| Field | Description |
|---|---|
| **Work Package** | Use this field to enter a name for the new work packages. Choose whether the new name will be applied as a prefix or a suffix to the existing work package name.<br>If only one work package is created due to actual costs being collected at the control account level, Cobra disables the **Prefix** and **Suffix** options and uses the name that you provide as the new name of the work package.<br>When naming new work packages, you should consider how they will be ordered in the list of work packages for future replans. For example, if you want to have replanned work packages at the bottom of the list because they are already closed, you should name them in a manner that will put them at the bottom of the list alphanumerically. In addition, if you intend to perform more than one replan during the life of the project, you should not use the name Replan for new work packages. |
| **Description** | Use this field to enter a description for the new work packages. |

*Confirmation Page of the Replan Wizard*

This page informs you that Cobra has all the information it needs to replan the project.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until the page displays. When all the information is correct, click **Finish** to run the Replan process.

*Process Running Page of the Replan Wizard*

This page displays the progress status while Cobra runs the Replan process.

*Process Complete Page of the Replan Wizard*

This page informs you that the Replan process has been completed.

Click **View Log** to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Replan process.

*Perform Project Replan*

Use the Replan Wizard to replan an entire project or the individual codes of a project.

**To perform project replan:**

1. Display the Replan Wizard by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Replan**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Replan** on the shortcut menu.
2. Use the Replan Wizard pages to replan a project or its codes.

## Slip

The Slip process lets you move an entire project or selected control accounts within a project to new dates.

Cobra adjusts all dates — baseline, forecast, early, and late — for each control account or work package according to the amount of slippage. Cobra also respreads the time-phased data to ensure it remains within the new dates.

The Slip process is helpful when you are pricing a contract before you create a schedule. You can enter either a negative number of days to slip or a date earlier than the start date, provided that you don't cause the new start date to fall before the status date. When the data has been slipped, Cobra automatically calculates the forecast values and respreads affected data.

You can only slip planned control accounts. When slipping the whole project, Cobra ignores all in-progress and completed control accounts.

Use the Slip Wizard to slip a project or control account.

### Slip Wizard

To move an entire project or selected control accounts within a project to new dates, you must complete the information required on each page of the Slip Wizard.

*Project Selection Page of the Slip Wizard*

Use this page of the Slip Wizard to select the project to slip.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. |

*Criteria Page of the Slip Wizard*

Use this page to select the portion of the project that you want to slip.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select the project or control account that you want to slip. If you want to slip the entire project, select **Total Project**. |
| **Selection** | If you are slipping a control account, click to display the Control Account Lookup dialog box, where you can select the control account to slip. You can select multiple control accounts.<br>This field is available only if you selected **Control Account** in the **Criteria** field. |

*Slip By Page of the Slip Wizard*

Use this page to specify how you want to slip the selected project or control account.

You can either slip the project or control account to a specific date or slip the selection by a number of days.

**Date**

| Field | Description |
|---|---|
| **Enter New Start Date** | Use this field to display a calendar from which you can select a date. Cobra uses this date to calculate the number of days to slip the project or control account. Cobra calculates the difference between the earliest scheduled start date of the selected control accounts and the date entered. Cobra uses the derived duration in days to determine the new scheduled start and finish dates for each control account.<br>If you select a new start date, Cobra adjusts all date sets, including Schedule, Estimate, Early, and Late dates. |

**Days**

| Field | Description |
|---|---|
| **Days to Slip By** | Use this field to slip the selected project or control account by a specific number of days. Enter a positive or negative number in this field. Cobra uses this number to determine the new scheduled start and finish dates for each control account. |

*Confirmation Page of the Slip Wizard*

This page informs you that Cobra has all the information that it needs to run the Slip process.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Slip Wizard*

This page displays the progress status while Cobra slips the project.

*Process Complete Page of the Slip Wizard*

This page informs you that Cobra has completed slipping the project.

Click **View Log** to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Slip process.

*Slip a Project*

Use the Slip Wizard to move an entire project or selected control accounts within a project to new dates. This procedure is helpful when you are pricing a contract before you create a schedule.

**To slip a project:**

1. Display the Slip Wizard by completing one of the following actions:
   - In the Process group on the Processes tab, click **Slip**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Slip** on the shortcut menu.
2. Use the Slip Wizard pages to slip a project or control account.

## Apportionment

Apportionment is used to create a budget, earned value, and a forecast for work that is based on other work. It has two features: apportionment mapping and apportionment calculation.

Use apportionment, for example, if you budget IT Support as a percentage of Engineering. Engineering is the source for the apportionment and IT Support is the target.

Once you set up apportionment, use the Calculate Apportionment Wizard to run apportionment calculations to create a budget for the apportioned resource. You can also run the Apportionment process through the API and the Cobra Web Service.

### Apportionment Setup Steps

You need to perform several steps to set up apportionment for a project.

You do not need to perform the steps in the order below, but this order works well.

| Step | Related Topics |
|---|---|
| **Select the Resources to be Used in the Project**<br>Use the Apportionment Definition dialog box to select resources from the Resource file.<br>For example, if you budget IT Support as a percentage of Engineering, define the source resource (Engineering), and select the apportioned resource (IT Support). | Apportionment Definition Tab of the Resource View |
| **Create Rates for Apportionment**<br>Apportioned budgets are created by multiplying a result from the source resource by a rate, to get the first result of the apportioned resource.<br>Using our IT Support example, if your IT Support resource uses DIRECT as the first result, you can multiply the Engineering DIRECT by a rate to get the DIRECT for IT Support. The remaining derived costs for IT Support are calculated using the IT Support resource definition. Thus, if IT Support is 10% of Engineering DIRECT, you need to create a rate set with the rate of 10%. | Resource Components<br>Examples of Resources |
| **Create the Apportionment Definition**<br>Because you are setting up resources and rates before you create your project, it makes sense to define the apportioned resources. However, you can wait until after the budget has been created. Apportionment Definition is the step where you specify how apportioned resources are calculated. Then, specify which result to use in the calculation, and what resources the apportionment is based on.<br>For example, if Travel is based on Engineering DIRECT dollars, you create an apportionment definition for the resource Travel and specify that the calculation is based on DIRECT. Then select the Engineering resource as the source resource.<br>If you are importing a large amount of apportionment definition data file, use the | Create the Apportionment Definition<br>Apportionment Definition Tab of the Resource View<br>Define Resource Apportionment<br>Data Import — Apportionment Definition |

| Step | Related Topics |
| --- | --- |
| Integration Wizard — Apportionment Definition and Mapping Data. | |
| **Create the Source Budget**<br>Now that you have created rates and resources, you can enter the budget for the source resource (in our example, Engineering). Control accounts, work packages, and the budget spread are entered manually or loaded from a schedule for all of the Engineering work.<br>**Note:** You can create project data before creating the apportionment definition. | Define Resource Apportionment |
| **Create the Target Work Package or Control Account**<br>You have two options when you create apportioned data: you can create the data in a specific work package or control account to be used for your apportioned resources, or you can make new resources in existing work packages.<br>For example, assume that Quality Assurance is an apportioned budget code created from the Engineering resource. You have these options:<br>▪ You can create an apportioned budget for Quality Assurance in a new work package so that the budget will roll up into a different organizational code of the OBS and can be statused separately. If you are apportioning into a new work package, you can use the Apportioned progress technique. This progress technique calculates earned value based on the formula Earned Value/Budget At Complete of the source resources.<br>▪ You can create Quality Assurance as another resource in the same work package as the Engineering budget element. It will not require a different charge number. | Add Apportionment Target Dialog Box<br>Add Apportionment Source Dialog Box |

| Step | Related Topics |
| --- | --- |
| **Note:** This step is only necessary if you do not intend to use the **Same as Source** option on the Add Apportionment Target dialog box. | |
| **Set Up Apportionment Mapping**<br>Now that you have a budget and a place to put the apportioned budget, you are ready to set up the mapping. First, you define where the apportioned resource is going to go and the rate to be used for the apportionment. Then you define the source control account that you are going to use for the apportionment.<br>If you are importing a large amount of apportionment mapping data from a file, use the Integration Wizard — Apportionment Definition and Mapping Data. | Apportionment Mapping<br>Data Import — Apportionment Mapping |
| **Calculate Apportioned Budget and Forecast**<br>Now you are ready to calculate the apportioned budget. You will select multiple classes to calculate both budget and forecast at the same time. This operation generates time-phase budget and forecast data based on the apportionment mapping and updates the status for apportioned work packages.<br>Earned value for the apportioned effort is calculated when you run the Calculate Progress utility. Once the apportioned data is in the project, you will need to rerun Apportionment Calculations if the source budget is changed. | Calculate Progress<br>Apportionment Calculations |

### Create the Apportionment Definition

One of the setup steps for apportionment is to create the apportionment definition, where you specify how apportioned resources are to be calculated.

Select which result to use in the calculation and what resources the apportionment is based on.

Use the Apportionment Definition tab of the Resource view to create the apportionment definition.

## Apportionment Mapping

One of the setup steps for apportionment is to link source control accounts with target control accounts.

After you have chosen a project for apportionment, use the Apportionment Mapping dialog box to add, edit, or delete apportionment sources and targets.

- **Source**: The project and control account where the budget for the apportionment calculations is located.
- **Target** : The project , control account, and/or work package where the data will be created.

The Apportionment Mapping dialog box has two sections: the Apportionment Target pane and the Apportionment Source pane. Use the Apportionment Target pane to specify the project and account where the apportioned resource will go and the rate that will be used in apportionment calculations. Use the Apportionment Source pane to select the project and control account where the budget  for the apportionment calculations are located.

Apportionment Mapping can be defined at the project or master project level. If apportionment is defined at the master project level, it is possible to apportion to any subproject that belongs to the master project.

*Apportionment Dialog Box*

Use this dialog box to create budget, earned value, and forecast for work that is based on other work.

Start the apportionment set up process by selecting a project for apportionment.

Display the Apportionment Dialog Box

Use this procedure to display the Apportionment dialog box.

**To display the Apportionment dialog box:**

1. Launch the Apportionment Mapping dialog box by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Mapping**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Mapping** on the shortcut menu.
2. In the Apportionment dialog box, click the **Project** field.
3. In the Project Lookup dialog box, select a project, and click **Select**.
4. Click **OK**.

*Apportionment Mapping Dialog Box*

Use this dialog box to link source control accounts with target control accounts.

You can also use this dialog box to calculate the apportioned resources defined in the target control accounts based on the resources used in the source control accounts.

**Note:** You can use the Integration Wizard to quickly populate the target and source information.

**Apportionment Target**

| Field | Description |
|---|---|
| **Project** | This field displays the project containing the target resource for apportionment. |
| **Resource** | This field displays the target resource for apportionment. |
| **Control Account/ Work Package** | This field displays the target control account/work package for apportionment. |
| **Rate Set** | This field displays the target rate set for apportionment. |
| **Add** | Click this button to display the Add Apportionment Target dialog box, where you define the apportionment target. |
| **Edit** | Click this button to display the Add Apportionment Target dialog box, where you can edit the properties of the apportionment target. This button displays only if there is an apportionment target selected. |
| **Delete** | Click this button to delete the apportionment target. |

**Apportionment Source**

| Field | Description |
|---|---|
| **Project** | This field displays the project containing the source resource for apportionment. |
| **Control Account/Work Package** | This field displays the source control account/work package for apportionment. |
| **Delete** | Click this button to delete the apportionment source. |

Display the Apportionment Mapping Dialog Box

Use this procedure to display the Apportionment Mapping dialog box.

**To display the Apportionment Mapping dialog box:**

1. Launch the Apportionment Mapping dialog box by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Mapping**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Mapping**.
2. In the Apportionment dialog box, click the **Project** field.
3. In the Project Lookup dialog box, select a project, and click **Select**.
4. Click **OK**.

*Add Apportionment Target Dialog Box*

Use this dialog box to define where the apportionment data will be created.

**Note:** This help topic also applies to the Edit Apportionment Target dialog box.

**Contents**

| Field | Description |
|---|---|
| **Project** | This field displays the project for which apportionment mapping is being set up. You cannot modify the entry in this field. |
| **Resource** | Use this field to select the apportionment resource that will be created for the project and control account or work package when Cobra runs apportionment calculations. Click to display the Resource Lookup dialog box where you can select a resource.<br>You can only select one resource. You can only select a resource that is defined as an apportioned resource in the Add Apportionment Target dialog box file. |
| **Control Account** | Use this field to select the control account where the apportioned resource will be created when Cobra runs apportionment calculations:<br>▪ **Same as Source**: Select this option to create the apportioned resource in the same control account/work package where the source resource is located. Selecting this option also enables the **Work Package** field, where you can select a single work package from the same source control account where the apportioned resource will be created. Cobra will look for a work package with the selected name in all source control accounts.<br>▪ **Selection**: Select this option and click to display the Control Account lookup dialog box, where you can select the control account where the |

| Field | Description |
|---|---|
| | apportioned resource will be created. You can also enter the control account name manually in the field provided. Specifying a control account in this field enables the **Work Package** field. |
| **Work Package** | Use this field to select the work package where the apportioned resource will be created when Cobra runs the apportionment calculations. Click ... to display the Work Package Lookup dialog box where you can select a work package. |
| **Rate Set** | Use this field to select the rate set that Cobra uses in performing apportionment calculations. Rate sets are defined in the rate file assigned to the project. |

Display the Add Apportionment Target Dialog Box

Use this procedure to display the Add Apportionment Target dialog box.

**To display the Add Apportionment Target dialog box:**

1. Launch the Apportionment Mapping dialog box by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Mapping**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Mapping**.
2. In the Apportionment dialog box, click the **Project** field.
3. In the Project Lookup dialog box, select a project, and click **Select**.
4. Click **OK**.
5. At the bottom of the Apportionment Target pane, click **Add**.

   You can also right-click the Apportionment Target pane, and select **Add** on the shortcut menu.

*Add Apportionment Source Dialog Box*

Use this dialog box to define where the budget for the apportionment calculations is located.

**Contents**

| Field | Description |
|---|---|
| **Project** | This field displays the project for which apportionment mapping is being set up. You cannot modify the entry in this field. |
| **Control Account** | Use this field to select the control account where the budget and forecast values for the apportioned resource are located.<br>▪ **Select All**: Select this option to select all control accounts in the project as the source of the budget and forecast values. |

| Field | Description |
|---|---|
| | ▪ **Selection**: Select this option and click ... to display the Control Account lookup dialog box, where you can select the control account where the budget and forecast values are located. You can also enter the control account name manually in the field provided.<br>You can select multiple control accounts in the Control Account Lookup dialog box for this field. |

Display the Add Apportionment Source Dialog Box

Use this procedure to display the Add Apportionment Source dialog box.

**To display the Add Apportionment Source dialog box:**

1. Launch the Apportionment Mapping dialog box by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Mapping**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Mapping**.
2. In the Apportionment dialog box, click the **Project** field.
3. Select a project, and click **Select**.
4. Click **OK**.
5. At the bottom of the Apportionment Source pane, click **Add**.
   You can also right-click the Apportionment Source pane, and select **Add** on the shortcut menu.

### Apportionment Calculations

When you run apportionment mapping, Cobra calculates apportionment based on the set up choices you have made.

You need to have update rights to the project before you can run this process. If the apportionment mapping is against a subproject and the mapping includes references to other subprojects to which you don't have update rights, the apportionment calculation process will not run.

The apportionment process calculates time spread values for the apportioned budget elements by summing the source values by period (within the specified date range and only for the selected classes) and multiplying those values by the rate for the associated periods.

| | Aug-03 | Sep-03 | Oct-03 | Nov-03 | Dec-03 | Jan-04 |
|---|---|---|---|---|---|---|
| **Source** | | | | | | |
| **CA/WP/BE 1** | 100 | 150 | 125 | 75 | 125 | 250 |

| | Aug-03 | Sep-03 | Oct-03 | Nov-03 | Dec-03 | Jan-04 |
|---|---|---|---|---|---|---|
| **CA/WP/BE 2** | 80 | 75 | 75 | 75 | 60 | 60 |
| **CA/WP/BE 3** | 60 | 60 | 60 | 75 | 75 | 85 |
| | | | | | | |
| **Total** | 240 | 285 | 260 | 225 | 260 | 395 |
| | | | | | | |
| **Apportioned Rate** | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.2 |
| | | | | | | |
| **Apportioned** | 36 | 42.75 | 39 | 33.75 | 39 | 79 |

If the source resource value is **<Same as Source>**, Cobra will process all control accounts and add the apportioned resource to each work package using the calculation mentioned above.

If the source resource value is **<Same as Source> / Work Package>**, Cobra will process all control accounts and sum the apportioned resource for each work package using the calculation mentioned above and add the total calculated resource assignment value to each control account in the work package selected in the apportionment mapping. If the selected work package does not exist in the source control account, no apportionment will be calculated for the control account.

*Concurrent Apportionment Calculations*

Cobra leverages the PM Compass Process Server to support concurrency in running apportionment calculations on batches of control accounts.

You can implement this feature if the apportionment mapping target is set to **<Same as Source>** or **<Same as Source> \ WP** for all control accounts in the apportionment mapping definition.

For example, a project can be split into multiple jobs, with each job processing a different batch of control accounts concurrently.

**Note:** The concurrent apportionment calculations is not yet supported in the Cobra API.

**Before You Begin**

Before you use this feature, it is important to understand the following information and requirements:

- You must fully understand the requirements and the steps in setting up your environment to run a concurrent process. Refer to *Deltek PM Compass and Cobra Concurrency Solution Setup and Configuration Guide*.
- Concurrent apportionment calculations can only be run against a single project.
- The apportionment mapping target is set to **<Same as Source>** or **<Same as Source> \ WP** for all control accounts in the apportionment mapping definition.

- The number of control accounts to process per batch must be specified in the **Control Accounts per queue** field on the Data Access tab of the Application Preferences dialog box.

  **Note:** Previously, Cobra used **CALCAPPORTIONMENTBATCHSIZE** defined in the SETTING table to determine the number of control accounts to process per batch when running a concurrent process. If it is present in the database, Cobra now ignores **CALCAPPORTIONMENTBATCHSIZE** and uses the value specified in the **Control Accounts per queue** field on the Data Access tab of the Application Preferences dialog box.

  For instructions to remove **CALCAPPORTIONMENTBATCHSIZE** in the database, refer to KB Article #105447 in the Knowledge Center of the Deltek Support Center.

Data Locking

If the Apportionment Calculation process is being sent to the Process server, Cobra will use Control Account locking while it processes each batch of Control Accounts, even if the Project lock setting on the Data Access tab of the Application Preferences dialog box is set to **Process**.

If a batch is unable to lock all of the control accounts that it wants to process, the whole batch calculation is aborted.

Before Cobra splits the project into batches of control accounts and sends them to the process server, it creates and releases a process lock to validate that the project is available for processing.

Troubleshooting Concurrency Issues

This section provides errors that you may encounter when using the concurrency feature as well as possible solutions.

- The server was unable to process the request due to an internal error
- There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message
- The encryption type requested is not supported by the KDC

**Note:** There are additional steps that you may need to perform when implementing concurrency:

- Before installing an update, back up the *.config files.
- If you are using the Cobra installer to perform an upgrade of a machine with the Cobra Gateway Service, stop the service before installing the update and start it afterwards to avoid having to restart the machine.

Use the Process Queue Manager form in PM Compass to Check Job Status

When one or more jobs on the Process Queue Manager form in PM Compass show a failed status, it means that the process was not able to successfully complete.

**To determine what caused the failure:**

1. Log into PM Compass as SYSADMIN or any user with access to PM Compass.
2. On the Navigation menu, click **Administration** » **Process Server** » **Process Queue Manager**.
3. In **Queue**, select the Cobra queue.
4. In the Queue Processes grid, click the row of the job with failed status, and click **Detail**.
5. On the Process Queue Detail form, click the **Termination Message** button to display the error.
6. Refer to the section below that relates to the error and corresponding fix.
   - The server was unable to process the request due to an internal error

The server was unable to process the request due to an internal error

If the error "The server was unable to process the request due to an internal error." displays, it means that the Cobra Gateway encountered issues when connecting to one of the Cobra Web Service instances.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | (1) The remote server returned an error: (401) Unauthorized.<br>(2) Unhandled Exception: The target principal name is incorrect.<br>(3) The HTTP request is unauthorized with client authentication scheme 'Negotiate'. |
| **Description** | The error is usually encountered when the Cobra Web Service is located on a remote machine which runs on the Windows Domain Account that does not have access to the Service Principal Name (SPN).<br>When the Cobra Gateway establishes a connection to the Cobra Web Service, the Cobra Web Service usually sends the SPN declared on the machine, known as Identity, to the Cobra Gateway. Since the Windows Domain Account runs on a remote machine and does not have access to the SPN, the Cobra Web Service sends the User Principal Name (UPN) instead. |

| | |
|---|---|
| | The Cobra Gateway, which expects the SPN Identity from the Cobra Web Service receives the UPN Identity instead. This results in the Cobra Gateway rejecting the connection. |
| **Solution #1**: Specify the UPN of the running Windows domain account as the Identity of each remote Cobra Web Service in the Cobra Gateway's configuration file using the Cobra Web Service Gateway Configuration Tool. | **To specify the UPN on each remote Cobra Web Service:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, update the **UPN** field of each remote CWS.<br>4. Click **Save**, and then click **Close**.<br>5. Restart the “Gateway” service in Windows Services. |
| **Solution #2**: Have a Network Administrator register the **http/<host name>** and **http/<fully qualified host name>** SPN under the dedicated Windows Domain Account in Active Directory. Host name refers to the remote machines where the Cobra Web Services are hosted. | **Note:** Before adding SPNs to the dedicated Windows Domain Account, make sure that these SPNs are not registered under another computer or user account. Having duplicate SPNs can cause authentication problem. For more information about SPN, https://docs.microsoft.com/en-us/windows/win32/ad/service-principal-names.<br>**Warning:** Registering a HTTP type SPN can affect other HTTP traffic hosted on the machine.<br>**Tip:** The Setspn command is a Windows command that allows you to register a SPN user for the dedicated Windows Domain Account. For more information about Setspn command, see https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/cc731241(v=ws.11).<br>**To register a SPN:**<br>1. Launch the Command Prompt and select **Run As Administrator**.<br>2. Enter these two commands:<br>`Setspn -U -S http/<host name> <dedicated Windows Domain Account>`<br>`Setspn -U -S http/<fully qualified host name> <dedicated Windows Domain Account>` |

| | |
|---|---|
| | **For example:**<br>`Setspn -U -S http/COBWSHOST1 MYDOMAIN \serviceaccount`<br>`Setspn -U -S http/COBWSHOST1.mydomain.com MYDOMAIN\serviceaccount`<br>3. Wait for the SPN change to propagate across the entire network. You may also need to restart your machine to complete the change. |

There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message

If you encounter the error "There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message", it is possible that one of the Cobra Web Service's addresses is not working properly.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following tables for the error message and its solution.

| | |
|---|---|
| **Error Message** | There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details. |
| **Description** | The error is usually encountered if one of the Cobra Web Service's addresses is not working properly. |

| Possible Cause | Solution |
|---|---|
| The Cobra Web Service instance on <machine>:<port> has stopped from running. | Start the Cobra Web Service instance.<br>**To start the Cobra Web Service instance:**<br>1. Access the <machine> where the Cobra Web Service instance is installed.<br>2. Start the Cobra Web Service instance on <port> in the Windows Services. |

| Possible Cause | Solution |
|---|---|
| The Cobra Web Service instance on <machine>:<port> has been uninstalled but is still defined in the Cobra Web Service Gateway Configuration Tool. | Remove the Cobra Web Service Endpoint that is causing the error from the Cobra Web Service Gateway Configuration Tool.<br>**To remove the Cobra Web Service endpoint that is causing the error from the Cobra Web Service Gateway Configuration tool:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, select the instance that is causing the error.<br>4. Click the endpoint (instance) row and press **Delete** on your keyboard.<br>5. Click **Save**, and then click **Close**.<br>6. Restart the “Gateway” service in the Windows Services. |

The encryption type requested is not supported by the KDC

Cobra Web Service with Windows authentication requires encryption algorithms. If the service account that you created for the Cobra Web Service is not properly configured to support these algorithms, the Cobra Web Service log displays an error.

The error is: "System.ComponentModel.Win32Exception: The encryption type requested is not supported by the KDC."

**To view the debug log and determine the error:**

1. Navigate to the following folder of the machine where the Cobra Web Service is configured and deployed: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.

   **Note:** Basically, this is the machine where Cobra is installed. If you are using concurrency, this is the Cobra Concurrency machine.

2. Locate the following file and open it using a text editor (such as Notepad) and look for the error message.

- WebServiceDebugLog_<port>.xml

  **Note: <port>** is the port in the Cobra Web Service URL.

- WebServiceGatewayDebugLog.xml file (if you are using concurrency)

3. Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | System.ComponentModel.Win32Exception : The encryption type requested is not supported by the KDC. |
| **Description** | The error is usually encountered if you are using Cobra Web Service with Windows authentication and the service account you created is not properly configured to support encryption algorithms. |

| Solution | Details |
|---|---|
| Enable the AES encryption for the service account. | **To enable AES encryption:**<br>1. Open **Active Directory Users and Computers**.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. Click the Account tab.<br>5. Under **Account** options, select one or both of the following:<br>▪ This account supports Kerberos AES 128 bit encryption.<br>▪ This account supports Kerberos AES 256 bit encryption.<br>6. Click **OK**. |
| Configure the network security using the Group Policy Management console. | **To configure the network security:**<br>1. Open the Group Policy Management console and edit a new or existing GPO.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security** |

| Solution | Details |
|---|---|
| | **Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. On the Security Policy Setting tab, select the **Define these policy settings** checkbox.<br>5. Select the following options:<br>▪ RC4_HMAC_MD5<br>▪ AES128_HMAC_SHA1<br>▪ AES256_HMAC_SHA1<br>▪ Future encryption types<br>6. Click **OK**. |

**Additional Information**

Refer to the following articles from Microsoft:

- SharePoint server configuration requirements to support Kerberos AES encryption if errors occur
- SCCM: "The encryption type requested is not supported by the KDC" Error

*Apportionment Calculation Wizard*

To run apportionment calculations and create a budget for the apportioned resource, you must complete the information required on each page of the Apportionment Calculation Wizard.

Project Selection Page of the Apportionment Calculation Wizard

Use this page to select the project for which you want to calculate apportionment.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. The Project Lookup dialog box displays only those projects that you are permitted to access. |

Calculation Range Page of the Apportionment Calculation Wizard

Use this page to indicate the period or date range that Cobra will use in the apportionment calculation.

**Contents**

| Field | Description |
|---|---|
| **All periods in the project** | Select this option to perform apportionment calculation for all relevant project data (mappings) for the entire date range of the source resource. |
| **All periods after the status date of the project** | Select this option to perform apportionment calculation for all relevant project data (mappings) from the status date of the project to the last date of the project (baseline finish date). |
| **By a specific data range** | Select this option to perform the apportionment calculation for all relevant project data (mappings) for a specific date range.<br>Use the **From** and **To** fields to enter or select the start and end dates of the date range.<br>▪ **From**: The selected label determines the start date used during the process. The date used is determined by the previous calendar label plus one day, or more specifically, the beginning of the selected period.<br>▪ **To**: The date in the fiscal calendar that corresponds to the selected label is used as the end date.<br>Cobra displays an error if the date in the **To** field is earlier than the date in the **From** field. If both dates in the **From** and **To** fields are the first period in the calendar, both the start and end dates are the first dates in the calendar.<br>**Note:** The Date Lookup dialog box displays the calendar period labels for calendar set 00.<br>For a better understanding of the many ways date ranges are used, refer to the sample project data and table below.<br>**Sample Project Data**<br>▪ The calendar is one year long, starting 2022-DEC-31 and ending 2023-DEC-31.<br>▪ The first date in calendar set 00 is 2022-DEC-31.<br>▪ The last date in calendar set 00 is 2023-DEC-31.<br>▪ Fiscal periods all end on the last day of the month.<br>▪ Labels are MMMYYYY (for example, MAR2023).<br>**Scenario** / **Expected Behavior**<br>When you select the first period end date in the fiscal / Assuming you select DEC2022, as this is the very first day of the project, there is no |

| Field | Description |
|---|---|
| | <table><tr><th>Scenario</th><th>Expected Behavior</th></tr><tr><td>calendar in the **From** field (or **To** field)</td><td>previous period in the calendar. Therefore, Cobra will use 2022-DEC-31.</td></tr><tr><td>When you select the same period label for both the **From** and **To** fields</td><td>Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = MAR2023**: Cobra will use the previous calendar period, which is 2023-FEB-28, and add one day, so it will use 2023-MAR-01.<br>▪ **To Field Date = MAR2023**: Cobra will use the date from the MAR2023 calendar period, which is 2023-MAR-31.</td></tr><tr><td>When you select different labels in the **From** and **To** fields</td><td>Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = FEB2023**: Cobra will use the previous calendar period, which is 2023-JAN-31, and add one day, so it will use 2023-FEB-01.<br>▪ **To Field Date = JUN2023**: Cobra will use the date from the JUN2023 calendar period, which is 2023-JUN-30.</td></tr><tr><td>When you select a label in the **To** field that is prior to the selected label in the **From** field</td><td>Cobra will display a validation message, as this scenario is not allowed.</td></tr></table> |

Classes Page of the Apportionment Calculation Wizard

Use this page to select the budget and/or forecast classes that Cobra will calculate for the apportionment targets.

You must select at least one class to run the apportionment calculation. You can only select budget and forecast classes. This page only displays budget and forecast classes for which you have view and update access. If you select a master project, this page displays all classes defined for the projects associated with the master project, as long as you have read-write permission to those projects.

Run Page of the Apportionment Calculation Wizard

This page displays once all of the requirements to run concurrent apportionment calculations are met.

| Field | Description |
|---|---|
| **Send to process server** | Use this option when you are running concurrent apportionment calculations in PM Compass. This option is enabled if you are running the process against a single project, the apportionment mapping target is set to **Same as Source** for all control accounts in the apportionment mapping definition, and the **Queue** and **Shared Location** fields on the Data Access tab of the Application Preferences dialog box are specified and verified.<br>When you select this option, Cobra groups the control accounts into multiple batches, queue the apportionment calculation job to the Process server and displays the Process Complete page immediately.<br>**Attention:** For more information, see Concurrent Apportionment Calculations and Run Concurrent Apportionment Calculations. |

Confirmation Page of the Apportionment Calculation Wizard

This page informs you that Cobra has all the information that it needs to run the apportionment calculation.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

Process Running Page of the Apportionment Calculation Wizard

This page displays the progress status while Cobra calculates the apportionment.

Process Complete Page of the Apportionment Calculation Wizard

This page informs you that the process of calculating apportionment is completed.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Apportionment process.

*Edit Apportionment Targets*

Use the Edit Apportionment Target dialog box to modify apportionment target settings.

**You can also edit apportionment targets within the grids of the Apportionment Target pane by clicking the appropriate rows and columns.**

**To edit an apportionment target:**

1. Launch the Apportionment Mapping dialog box by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Mapping**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Mapping** on the shortcut menu.
2. In the Apportionment dialog box, click the **Project** field.
3. In the Project lookup dialog box, select a project, and click **Select**, and **OK**.
4. Select a row in the Apportionment Target pane and click **Edit**.
5. Perform the necessary changes in the Edit Apportionment Target dialog box, and click **OK**.

   A target resource must not be set up more than once in the same control account-work package combination.

*Perform Apportionment Mapping*

Use the Apportionment Mapping process to link source control accounts with target control accounts.

**To perform apportionment mapping:**

1. Launch the Apportionment Mapping dialog box by completing one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Mapping**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Mapping** on the shortcut menu.
2. In the Apportionment dialog box, click the **Project** field.
3. In the Project Lookup dialog box, select a project, and click **Select**.
4. Click **OK** to display the Apportionment Mapping dialog box.

   Cobra runs validations before displaying the Apportionment Mapping dialog box to ensure that the control account, work package, and resource defined in the mapping rules still exist in the project.

5. At the bottom of the Apportionment Target pane, click **Add**. You can also right-click the Apportionment Target pane and select **Add** on the shortcut menu.
6. Use the fields and options in the Add Apportionment Target dialog box to specify where the apportioned data will be created.
7. At the bottom of the Apportionment Source pane, click **Add**. You can also right-click the Apportionment Source pane and select **Add** on the shortcut menu.

   A target resource must not be set up more than once in the same control account-work package combination.
8. Use the fields and options in the Add Apportionment Source dialog box to specify where the budget for the apportionment calculations is located.
9. Click **Close**.

*Perform Apportionment Calculations*

Use the Apportionment Calculation Wizard to run apportionment calculations to create the budget for apportioned resources in a project.

Apportionment is used to create budget and forecast values for work that is based on other work. After the source and target apportionment mappings have been defined, the Apportionment Calculation Wizard is used to run apportionment calculations to create budget for the apportioned resource.

**To perform apportionment calculations:**

1. Display the Calculate Apportionment Wizard by taking one of the following actions:
   - In the **Process** group on the Processes tab, click **Apportionment** » **Calculation**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Apportionment** » **Calculation**.
2. Use the pages of the Apportionment Calculation Wizard to perform apportionment calculations.

*Run Concurrent Apportionment Calculations*

Use the Apportionment Calculation Wizard to run concurrent apportionment calculations.

**Note:**

- Deltek recommends that PM Compass users only use this dedicated queue for Cobra processing.
- Make sure that your environment is set up to run concurrent apportionment calculations.

  **Attention:** For more information, see Concurrent Apportionment Calculations.

**To run concurrent apportionment calculations:**

1. In the Cobra Explorer, click the Processes tab.
2. In the Process group, click **Apportionment** » **Calculation**.
3. On the Project Selection page, enter or select the project for which you want to run the apportionment calculation.

   **Note:** Make sure that apportionment mapping target is set to **<Same as Source>** or **<Same as Source> \ WP** for all control accounts in the apportionment mapping definition.

4. Click **Next** and complete the succeeding pages of the Apportionment Calculation Wizard.
5. On the Run page, make sure that **Send to process server** is selected, and click **Next**.
6. Click **Finish**.

   Click **View Log** to display the master process log which contains entries of the overall apportionment calculation and the individual process log for each job.

   **Attention:** For additional details on possible errors and fixes, see View Job Status and Process Logs and Troubleshooting Concurrency Issues.

## Analyze

The Analyze process lets you drill down through any code file assigned to the project, such as the work breakdown structure (WBS) or by control account. This view of project costs highlights variances that exceed the thresholds defined on the code file selected.

The red and green color coding allows you to easily pinpoint areas that need management attention.

This management technique is often called management by exception, or looking for areas not performing as planned. This is a proven method used to quickly identify problems in time to apply effective corrective action.

Cobra also uses this utility to enter the explanation of the variance, corrective action, impact, and monthly summary. Cobra uses this information in the IPMR Format 5 reports.

**Note:** To analyze project data in hours, select the **Hours** option in the Analyze section of the Preferences tab of the Project Properties dialog box.

### Analyze Form

Running the Analyze process displays the Analyze form for the selected project. Variances that exceed either the value or the percentage of the specified thresholds for a given code are highlighted. Negative cost and schedule variances that exceed the defined thresholds are displayed using contrasting colors. You can also collapse or expand code structure and Resource File codes so that you can drill down to any level defined in the structure.

The Analyze form displays values for the following fields:

- Code

- Description
- Start Date
- Finish Date
- Cost Variance (CV)
- Schedule Variance (SV)
- Budget
- Actuals
- Progress
- BAC
- SPI
- CPI
- EAC
- VAC

### Security Options for the Analyze Process

Use the EPM Security Administrator (EPM SA) to control access to the Analyze process.

Once a user has access to the Analyze process from the Cobra menu, the administrator can further restrict the items that appear on the control account list to only those control accounts that have a control account manager (CAM) code that matches the user's login ID. The administrator can also prevent a user from viewing or editing the narrative or text information on the Analyze form.

### Analyze Options Dialog Box

Use this dialog box to specify how Cobra runs the Analyze utility.

**Contents**

| Field | Description |
|---|---|
| **Curve chart template file** | Select this option to specify an alternative chart template file to use for the Analyze curve graph. Click ... in the **Select** column to display the Locate Report Template dialog box, where you can select a template file. |
| **CV-SV chart template file** | Select this option to specify an alternative chart template file to use for the Analyze CV-SV (Cost Variance-Schedule Variance) graph. Click ... in the **Select** column to display the Locate Report Template dialog box, where you can select a template file. |

| Field | Description |
|---|---|
| **Custom XSL document for XML output** | By default, the .xml file contains a reference to the ddactive.xsl file. You can change the .xsl document reference inserted into the .xml file by supplying a filename in this field. You can also click ... in the **Select** column to display the Locate Report Template dialog box, where you can select a template file. |
| **Always generate XML support files** | Selecting this option instructs Cobra to save the .xml support files in a sub-folder of the folder containing the XML file when you save Analyze reports to XML. |
| **Use selected Results** | Select this option to use results in the analysis. |
| **Results used to calculate values grid** | This grid displays all of the results included in the project. Select the results that you want to use in performing analysis by selecting the appropriate checkboxes in the **Selected** column. |

*Display the Analyze Options Dialog Box*

Use this procedure to display the Analyze Options dialog box.

**To display the Analyze Options dialog box:**

1. Display the Analyze Project dialog box by taking one of the following actions:
   - In the **Analysis** group on the Reporting tab, click **Analyze**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and click **Analyze**.
2. In the Analyze Project dialog box, click **Options**.

### Locate Custom Application Dialog Box

Use this dialog box to find the custom application that you need to run a process.

**Contents**

| Field | Description |
|---|---|
| **Select the file** | Use this field to navigate to the location of the custom application. |
| **Files of type** | Use this field to filter the items in the **Select the file** field by file type. |
| **File name** | Use this field enter the name in this field. |

*Display the Locate Custom Application Dialog Box*

Use this procedure to display the Locate Custom Application dialog box.

**To display the Locate Custom Application dialog box:**

1. Launch a Cobra process that uses the Locate Custom Application dialog box.
2. Click ... for the field that uses the Locate Custom Application dialog box.

## Analyze Project Dialog Box

Use this dialog box to select the project and its valid structures that you want to analyze.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project to analyze. |
| **Code** | Use this field to select a valid structure for project analysis.<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20 |

*Display the Analyze Project Dialog Box*

Use this procedure to display the Analyze Project dialog box.

**To display the Analyze Project dialog box:**

- In the **Analysis** group on the Reporting tab, click **Analyze**.
- In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Analyze** on the shortcut menu.

## Analyze Form

The Analyze form shows the results of the project analysis process.

The Analyze form highlights the variances that exceed either the value or the percentage of the specified thresholds for a given code. Negative cost and schedule variances that exceed the defined thresholds are displayed using contrasting colors. You can also collapse or expand the code structure and resource file codes so that you can drill down to any level defined in the structure.

Create reports by selecting a code on the grid, right-clicking the grid, and clicking an option from the shortcut menu. The graph created is based on the item you selected. Right-click the graph to see options to change the image or print the information.

The form has two panes:

- Results Pane
- Narrative Text Pane

You can perform the following tasks on the Analyze form:

- Create graphs or reports.
- Launch the Chart Wizard for customizing graphs.
- Copy narrative information.

*Analyze Edit Tab*

The Analyze Edit tab contains commands available on the Analyze form for the selected project.

**Clipboard Group**

| Command | Description |
|---|---|
| **Copy** | ▪ **Copy**: Click this command to copy the content of the selected cell.<br>▪ **Copy View to Excel**: Click command to save a copy of the Analyze Form view in Excel. |
| **Paste** | Click this command to paste copied information. |
| | Click this command to refresh the Analyze Form view. |

| Command | Description |
|---|---|
| **Refresh** | |
| **Undo** | Click this command to revert the changes you made. |
| **Find** | Click this command to display the Find dialog box. |

**Graphs**

| Command | Description |
|---|---|
| **CV vs. SV** | Click this command to generate the Cost vs Schedule Variance graph. |
| **S, P, A, ETC Curves** | Click this command to generate the Cost vs Schedule Variance graph. |
| **SPI, CPI, TCPI Curves** | Click this command to generate the SPI, CPI, TCPI graph. |
| **SV% vs. CV% Bullseye** | Click this command to generate the SV% vs. CV% Bullseye graph. |
| **SPI vs. CPI Bullseye** | Click this command to generate the SPI vs. CPI Bullseye graph. |

Shortcut Menu

Right-click the Analyze form to display the available options that you can use.

| Option | Description |
|---|---|
| **CV vs. SV** | Click this command to generate the Cost vs Schedule Variance graph. |

| Option | Description |
|---|---|
| **S, P, A, ETC Curves** | Click this command to generate the Cost vs Schedule Variance graph. |
| **SPI, CPI, TCPI Curves** | Click this command to generate the SPI, CPI, TCPI graph. |
| **SV% vs. CV% Bullseye** | Click this command to generate the SV% vs. CV% Bullseye graph. |
| **SPI vs. CPI Bullseye** | Click this command to generate the SPI vs. CPI Bullseye graph. |
| **Copy View to Excel** | Click command to save a copy of the Analyze Form view in Excel. |
| **Save As** | Click this command to save a copy of the Analyze Form view in XML format. |

*Results Pane of the Analyze Form*

The Results pane shows many columns of data for the project you are analyzing. Some of the columns are color-coded based on thresholds that are defined in the Code and Resource files.

The Results pane shows the following columns.

| Column | Description |
|---|---|
| **Selection** | This column indicates whether a code contains child codes, and whether the child codes are expanded on the display. If this column is blank for a particular code, then that code has no child codes. If this column displays the plus (+) sign for a particular code, then that code has unexpanded child codes. If this column displays the minus (-) sign for a particular code, then that code has expanded child codes. |
| **Code** | This column displays each code used in the project analysis. |

| Column | Description |
|---|---|
| **Description** | This columns contains a brief description of the code. |
| **Start Date** | This column displays the start date for the work represented by the code. |
| **Finish Date** | This column displays the finish date for the work represented by the code. |
| **CV** | This column displays the cost variance (CV) associated with the code. The formula used is Earned - Actuals. If the CV exceeds the threshold, Cobra displays the value in this field against a colored background. A green background indicates a positive CV. A red background indicates a negative CV. |
| **SV** | This column displays the schedule variance (SV) associated with the code. The formula used is Earned - Budget. If the SV exceeds the threshold, Cobra displays the value in this field against a colored background. A green background indicates a positive SV. A red background indicates a negative SV. |
| **Budget** | This column displays the budgeted cost of work scheduled for the code. |
| **Actuals** | This column displays the actual cost of work performed for the code. |
| **Earned** | This column displays the budgeted cost of work performed for the code. |
| **Budget At Complete** | This column displays the budget at complete for the code. |
| **SPI** | This column displays the SPI (schedule performance index) for the code. The formula used is Earned / Budget. |
| **CPI** | This column displays the CPI (cost performance index) for the code. The formula used is Earned / Actuals . |
| **EAC** | This column displays the Forecast for the code. |
| **VAC** | This column displays the VAC (variance at complete) for the code. The formula used is BAC - EAC. If the VAC exceeds the threshold, Cobra displays this value against a colored background. A green background indicates a |

| Column | Description |
|---|---|
| | positive variance. A red background indicates a negative variance. |

*Graph Reports*

The graph reports available through the Analyze process use charts to display important information about the project.

You can generate any of the following graph reports:

- CV vs SV Graph
- S, P, A, ETC curves
- SPI, CPI, TCPI curves
- Bullseye Chart (SV% vs CV%)
- Bullseye Chart (SPI vs CPI)

Right-click on the report to display a shortcut menu for performing the following actions:

- Launch the Chart Designer.
- Save the graph report as an image file.
- Print the graph report.
- Save template (save a graph report in XML format).

*Save Template Dialog Box*

Use this dialog box to save a graph report that you created from the Analyze form. The report is saved in XML format.

To use a specific template for the CV vs SV (Cost Variance vs Schedule Variance) graph report, enter the location and filename for the new template in the **CV-SV chart template file** field in the Analyze section of the Preferences tab of the Project Properties dialog box.

To use a specific template for the S, P, A, ETC Curves graph report, enter the location and filename for the new template in the **Curve chart template file** field in the Analyze section of the Preferences tab of the Project Properties dialog box.

Display the Save Template Dialog Box

Use this procedure to display the Save Template dialog box.

**To display the Save Template dialog box:**

1. Run the Analyze process.
2. Create a graph report using the Analyze form.
3. Right-click the graph report to display the shortcut menu and select **Save Template**.

*Narrative Text Pane of the Analyze Form*

Use this form to display and edit the narrative text for the IPMR Format 5 Report for selected code file codes.

**Contents**

| Field | Description |
|---|---|
| **Narrative Category** | You can filter narrative information using the categories in this field. Your options are:<br>▪ **Explanation**<br>▪ **Impact**<br>▪ **Corrective Action**<br>▪ **Monthly Summary** |

*Get Narrative Dialog Box*

Use this dialog box to copy existing narrative text.

**Contents**

| Field | Description |
|---|---|
| **Copy narrative from previous period** | Select this option to copy the narrative text from the previous period into the current period for the current category. |
| **Copy narrative from child codes to parent code** | Select this option to copy the narrative text from the child codes into the selected code. This option is enabled only if the selected code has child codes.<br>Cobra copies narrative text entered at the work package level to its control account. |
| **Copy narrative for all categories** | Select this option to copy the narrative text from all categories for the selected code file code, not just the displayed category. |
| **Copy narrative only from Control Accounts** | Select this option to copy only the narrative text from control accounts. This option is available only if you selected the **Copy narrative from child codes to parent code** option and if a control account is selected in the Results pane. This option is relevant only if the WBS (work breakdown structure) is assigned to the Key Field 1. |

Display the Get Narrative Dialog Box

Use this procedure to display the Get Narrative dialog box.

**To display the Get Narrative dialog box:**

1. Run the Analyze process.
2. On the Analyze form, click **Get Narrative** below the Narrative Text pane.

## Procedures

Follow the procedures in this section to utilize the Analyze process.

*Perform Project Analysis*

Use the Analyze Project dialog box to perform project analysis.

**To perform project analysis:**

1. Display the Analyze Project dialog box by completing one of the following actions:
   - In the **Analysis** group on the Reporting tab, click **Analyze**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Analyze** on the shortcut menu.
2. Select a project in the **Project** field.
3. Select a valid structure for project analysis in the **Code** field and click **OK**.

   **Note:** If you select **<Control Accounts>** in this field, the Analyze form displays control accounts only. The control accounts have a flat structure.
4. Use the Analyze form to perform project analysis.

   After performing project analysis, you can create reports by selecting an element on the grid on the Analyze form, right-clicking the grid, and clicking an option from the shortcut menu.

*Create Graph Reports from the Analyze Form*

You can generate graphs and reports from the Results pane of the Analyze form.

**To create graphs/reports from the Analyze formL**

1. Run the Analyze form.
2. Right-click the Results pane of the Analyze form.
3. On the shortcut menu, select the graph or report that you want to generate. Your options are:
   - **CV vs SV Graph**
   - **S, P, A, ETC curves**
   - **SPI, CPI, TCPI curves**

- **Bullseye Chart (SV% vs CV%)**
- **Bullseye Chart (SPI vs CPI)**

*Print Analyze Graph Reports*

You can print graph reports that you created from the Analyze form.

**To print graph reports:**

1. Run the Analyze process.
2. Create a graph report using the Analyze Form.
3. Right-click the graph report to display the shortcut menu.
4. On the shortcut menu, click **Print**.
5. Select a printer from the **Name** field.
6. Click **OK**.

*Save Graph Reports as Graphic Files*

You can save the graph reports that you created from the Analyze form as graphic files.

**To save Analyze graph reports:**

1. Run the Analyze process.
2. Create a graph report using the Analyze form.
3. Right-click the graph report and select **Save As** on the shortcut menu.
4. Select the folder where you want to save the graph report.
5. Enter a name in the **File name** field.
6. In the **Save as type** field, select a file type.
7. Click **Save**.

*Save Graph Reports as XML Files*

You can save some graph reports that you created from the Analyze form as XML files. This option is available only for CV vs SV (Cost Variance vs Schedule Variance) graph report or the S, P, A, ETC curves graph report.

To use a specific template for the CV vs SV graph report, enter the location and filename for the new template in the **CV-SV chart template file** field in the Analyze section of the Preferences tab of the Project Properties dialog box.

To use a specific template for the S, P, A, ETC Curves graph report, enter the location and filename for the new template in the **Curve chart template file** field in the Analyze section of the Preferences tab of the Project Properties dialog box.

**To save graph reports as XML files:**

1. Run the Analyze process.
2. Create a graph report using the Analyze Form.
3. Right-click the graph report and select **Save Template** on the shortcut menu.
4. Select the folder where you want to save the graph report.
   You cannot navigate outside of the root folder displayed in the Save Template dialog box.
5. Enter a name in the **File name** field and click **Save**.

*Copy Narrative Information*

Use the Get Narrative dialog box to copy existing narrative text.

**To copy narrative text:**

1. Run the Analyze process.
2. On the Analyze form, click **Get Narrative** below the Narrative Text pane.
3. Use the Get Narrative dialog box to copy existing narrative text.

## Customize Graphs

Use the Chart Designer feature to customize the graphs that you created from the Analyze Form.

*Procedures*

Use the procedures to customize graphs.

Use the Chart Designer to Customize Graphs

Use the Chart Designer to customize the graphs that you created from the Analyze form.

**To customize graphs:**

1. Display the Analyze Project dialog box by taking one of the following actions:
   - In the **Analysis** group on the Reporting tab, click **Analyze**.
   - In the Cobra Explorer, select the **Projects** group, right-click the Projects pane, and select **Analyze** on the shortcut menu.
2. Select a project and click **OK**.
3. Right-click the Results pane of the Analyze form and select the graph or report that you want to generate on the shortcut menu.
4. Right-click the graph and select **Chart Designer**.
5. Complete the pages of the Chart Wizard to customize your graph.

Select a Chart Type

Use the Simple Types tab to select a chart type to customize.

**To select a chart type:**

1. Select the **Simple Types** tab to display available chart types.
2. Select the **Preview** tab to display a preview of the selected chart type.
3. Click **Next** to go to the next page of the Chart Wizard.

Set Up Chart Details

Use the Chart Elements tab to specify the elements that will be used in the graph that you are customizing.

**To set up chart details:**

1. Select the **Chart elements** tab.
2. Select one or more of the following options:
   - **Header**
   - **Footer**
   - **Legend**
   - **Axis X**
   - **Axis Y**
   - **Use data binding**
3. Select the **Preview** tab to display a preview of the selected chart type, showing the chart elements that you selected.
4. Click **Next** to go to the next page of the wizard.

Edit Chart Data

Use the Chart Data tab to edit data on the chart that you are customizing.

**To edit chart data:**

1. Select the Chart Data tab.
2. Use the following buttons and option to specify how data is presented:
   - **Stacked**: Select this option if you want to display the data elements stacked on top of each other in the graph.
   - **Color Generation**: Click this button to select a color generation scheme for the data elements in the graph.
   - **Label**: Use this field to enter a label for the data element that you selected in the **Data Series** group box.
   - **Fill**: Click this button to modify the fill color settings for the element that you selected in the **Data Series** group box.

- **Add**: Click this button to add a new data element to the **Data Series** group box.
- **Remove**: Click this button to delete the data element that you selected in the **Data Series** group box.

3. Select the Data Table tab to modify the data for each data element used in the graph.
4. Select the Preview tab to display a preview of the selected chart type showing the data elements and their values.
5. Click **Finish** to create the customized graph.

## Project Audit Logging

The project audit log serves as a change control mechanism by tracking budget transactions against project funding accounts.

Using the project log is optional.

After the project log is turned on, documented transactions can be made between different budget accounts (negotiated cost, authorized unpriced work, contract budget base, management reserve, distributed budget, undistributed budget, and over target baseline). The primary purpose of the log is to track all transactions made against the baseline after the baseline is established. Transactions can be captured and stored at the control account, work package, or resource assignment levels of the project.

Use the Project Audit Log Wizard to create a transaction log for a project, which allows you to perform the following operations:

- **Initialize the baseline (turning log on)**: This feature turns the project log on to start tracking budget transactions. When the log is turned on, direct entries can be made against the authorized unpriced work, negotiated cost, and management reserve fields.
- **Reset the baseline**: This feature deletes existing budget transactions and adds the new budget.
- **Transaction changes**: This feature updates the log by making direct entries to change the value of authorized unpriced work, negotiated cost, and allocates funds from the management reserve account.
- **Reconcile log**: This feature forces the total budget saved in the log to match the project's current total budget value.
- **Edit comments and change numbers and log significant changes**: This feature makes corrections to change numbers and comments given for transactions that are saved in the project's log and designates if the baseline change is significant or not.
- **Turn the log off**: This feature turns off the log to stop all recording of budget changes.

### Audit Logging

Audit logging prompts you to enter comments and change numbers associated with any operation that affects the set baseline in Cobra. Tracking transactions with comments and change

numbers provides you with a change control procedure for your projects. The information logged is also used in many standard Cobra reports.

Cobra logs these types of changes:

- Contract funding transactions that are made directly through the project's log.
- Changes that affect the project's budget. These changes can occur when you update the project's budget directly or when you run processes that have an effect on the project's budget.

The logged information is used in Cobra reports including IPMR Format 3, Change Management, Burn Down, and Contract Log reports. You can also see the change comments/numbers and affected accounts through the Edit Comment and Change Number function in the Project Audit Wizard.

When a change occurs that affects the project's budget, the change displays the Log Change Comment dialog box, where you enter a comment and/or change number for the affected amount. When the Log Change Comment dialog box displays depends on the level (control account, work package, resource) at which the changes are set to be logged. This setting is defined in the project log.

For changes at the project level, the Log Change Comment dialog box is not displayed. Project level changes occur only when you make direct updates to the project's log. These changes are logged at the project level. The comments and change numbers that reflect the change in funding for the project are entered on the Change Comment/Number page in the Project Audit Wizard.

If a process runs at the master project level, the Log Change Comment dialog box will display only once and all projects under the master project will have the same change comment and number applied. The changes are logged at the master project level but are applied to the individual projects and accounts that are affected.

**Note:** A value change must be greater than .01 to be saved in the project log.

Changes can occur when you use the following features:

- Recalc
- Reclass
- Replan
- Respread
- Top-down Planning
- Project Slip
- Apportionment Calculations
- Integration Wizard-Loading Budget
  - **Project Data** » **Resource Assignments** » **Load budget**
  - **Project Data** » **Resource Assignments** » **Activity Field Mapper**
- Assignment Export/Import

The following information is saved when a change is logged:

- Project name
- Amount of change
- Status date
- Date/time change is made
- User name/ID that made the change
- Control account
- Work package (If the log is set to log changes at the work package level)
- Resource (If the log is set to log changes at the resource level)
- Change number
- Log comment
- Distributed budget
- Undistributed budget
  - If a positive budget change is made, the distributed budget balance increases by that amount, and the undistributed budget/management reserve/over target accounts decrease by that same amount.
  - If a negative budget change is made, the distributed budget balance decreases by that amount, and the undistributed budget/management reserve/over target accounts increase by that same amount.
- Over target baseline

  If the budget change is made against the OTB class and a positive change is made, the OTB balance increases and the over target account decreases.
- Management reserve

### Log Change Comment Dialog Box

Use this dialog box to log changes in a project's budget information.

The Log Change Comment dialog box displays under the following conditions:

- A change occurs in the project's budget.
- The track changes feature is enabled in the project's log.
- The **Include in totals** option is selected for the class.

The dialog box displays after each change.

If the log is set to save changes at the control account level, the value that is saved and the associated change comment and number only reflect a single control account. If changes are made to multiple control accounts, the dialog box displays for each control account. This is also the case for changes made at the work package and RSC levels when the log is set to those levels. The dialog box displays for each affected work package or RSC.

The dialog box displays only once for processes that affect many control accounts, work packages, or resources. The comment and change number entered are used for all accounts.

If the change you make results in a net zero change, the dialog box displays, but the comment is not saved because there is no change to the budget.

The dialog box prompts you to enter a **Change number** and a **Change comment**:

- These values are not required unless the **Change number** field uses a required code.
- If you select a code number in the **Change number** field, the code description is entered in the **Change comment** field. You can change or add to this value.
- If you do not enter data for either field, the budget change is still saved, but no log comment or change number is associated with the change.

**Contents**

| Field | Description |
|---|---|
| **Change number** | Use this field to enter a change number, or click to select a change number from a list. |
| **Change comment** | Use this field to enter a comment for the transaction. |
| **Significant** | Select this option to flag a change as significant. Changes flagged as significant are broken out and shown as individual entries on the IPMR Format 3 report, while non-significant changes are grouped together and displayed as **Others**. By default, this option is cleared. |

### Round off Audit Log Transactions

Cobra allows you to round up project audit transactions amount for existing and new projects to 6 decimal places using the **Round audit log transactions to 6 decimal places** option.

You can configure this option in the following areas of Cobra:

- Other tab of the Application Preferences dialog box
- Project Preferences tab of the Project Properties dialog box

Enabling this option allows Cobra to make log adjustments depending on the log level (control account, work package, or resource assignment). The application preferences value takes precedence over the project preferences value. However, you can only change this option once.

- This option is automatically selected or turned on for new projects created using the following:
  - New Project Wizard (whether or not you select the **Copy defaults from project** option on the General Information page)
  - Integration Wizard (by selecting the **Create a new project** option on the Project Selection page)
  - Save As dialog box (by selecting the **Copy Project Data** option)
  - Restore process(whether you restore a project to its original name or to a different name)

- For existing projects, Cobra rounds up audit transaction values to two decimal places only. Use this option to allow Cobra you to round up project audit transactions amount to 6 decimal places.
- For master projects, you have to turn on this option for the master project and for each subproject.
- For existing projects, make sure to run the Project Audit Reconcile process after you select this option to add adjusting entries to the log and fix any changes in values caused by the change in the level of precision. For master projects, you must run the Project Audit Reconcile process to each subproject. If you fail to reconcile project logs and then run a process, Cobra will add adjusting entries and update budget entries even though those entries are not included as part of the process.

## Log Significant Changes for IPMR Format 3 Reports

Use the time-phased data logging feature to designate if baseline changes are significant or not, for the purpose of collecting data for the IPMR Format 3 report.

Use the Log Operation page of the Project Audit Wizard to enable this feature.

Turn on the project log, then select the **Log time phased changes** option to enable time-phased data logging of baseline changes. If the project log is already turned on prior to selecting the option, you need to turn off the project log first.

When the time-phased data logging is enabled, the **Significant** option is displayed on the Log Comment page of the Project Audit Wizard, which you can use to flag a change as significant. Significant baseline changes are broken out and shown as individual entries on the IPMR Format 3 report.

If you enable the time-phased data logging feature for a project that already has status entered in the current period, you must also perform one of the actions in the table below before you make any further changes to the budget. If you do not perform any of these actions, Cobra will incorrectly calculate the transaction amount for baseline log entries in some cases. This happens because Cobra captures additional information for time-phased changes when you perform an action that causes a baseline log entry to be created. This information will not be captured for existing projects.

| Action | Notes |
|---|---|
| **Advance the calendar**<br>or<br>**Reset the baseline** | Future baseline log transactions will be calculated correctly and all audit log reports will work correctly. |
| **Reconcile project audit log** | Future baseline log transactions will be calculated correctly. All audit log reports will work correctly except for the IPMR Format 3 report. |

# Project Audit Wizard

Use the Project Audit Wizard to turn on a project's audit log for the first time, set up your project's baseline, and make decisions about the logging process.

## Project Selection Page of the Project Audit Wizard

Use this page to select the project for which you want to maintain a project audit log.

**Note:** Before you run the Project Audit Wizard, save all pending changes to the project.

### Contents

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. By default, project auditing is turned off for all newly created projects.<br>You can only select projects for which you have write permission. You can select a master project. |

## Log Operation Page of the Project Audit Wizard

Use this page to turn the project log on or off and to perform updates to the log.

**Note:** Options on this page are disabled if the role security for the option in EPM Security Administrator is set to either **Not Visible** or **Disabled**. When you turn the project log on for the first time, only the **Turn Log On** and **Edit the log comment and change number** options are enabled.

### Contents

| Field | Description |
|---|---|
| **Turn Log On** | Select this option to turn the project log on for collecting/recording budget transactions in currency and hours. This option displays only when the project log is turned off. |
| **Log time phased changes** | Select this option to turn on time-phased data logging of baseline changes for projects with regulatory requirements. Cobra captures baseline changes for each period, in addition to the total budget in the IPMR Format 3 report. This option displays only when the project log is turned on.<br>**Note:** Budget transactions in hours are only recorded when time-phased logging is turned on. |
| **Turn Log Off** | Select this option to stop all recording of budget transactions for the project. This option displays only when the project log is turned on. |

| Field | Description |
|---|---|
| **Adjust the log** | Select this option to enable the **Update Project Log** option. This option displays only when the project log is turned on. |
| **Edit the log comment and change number** | Select this option to edit change comments and numbers that are saved when budget changes are made to the project and against the log.<br>Selecting this option disables the **Update Project Log** option. |
| **Update Project Log** | Use these options to perform transactions against the project log. You must select the **Adjust the log** option to enable these options.<br>Select one of the following options:<br>▪ **Transaction change of new unpriced work, negotiated changes, or allocate management reserve**: Select this option to make funding changes to the project's contract account balances.<br>▪ **Reconcile the project audit log to the current budget**: Select this option to adjust the project log to match that of the project. This process updates the distributed budget and header records in the log to match those in the project.<br>▪ **Reset the baseline by deleting the existing transactions stored in the project audit log and overwriting the new baseline**: Select this option to delete the saved budget log changes or transactions and the change comments or numbers saved with each budget transaction. |

### Log Transaction Page of the Project Audit Wizard

Use this page to update the project log directly with three types of transactions: Negotiated Changes, New Unpriced Work, and Allocate Management Reserve.

You can enter the amount of funds to be transferred between accounts for each transaction.

**Note:** This page displays only if you select the **Adjust the log** and **Transaction Change** options on the Log Operation page.

#### Contents

| Field | Description |
|---|---|
| **Account fields** | These fields are updated as you enter an **Amount** value. These can include the following fields:<br>▪ **Negotiated Cost**<br>▪ **Authorized Unpriced Work**<br>▪ **Contract Budget Base**<br>▪ **Contract Ceiling** |

| Field | Description |
|---|---|
| | ▪ **Management Reserve**<br>▪ **Distributed Budget**<br>▪ **Undistributed Budget**<br>▪ **Over Target Baseline** |
| **Transaction Type** | Select one of the following options from the drop-down list:<br>▪ **New Unpriced Work**: Select this option to indicate funding for new work that is authorized but not yet priced.<br>You can update the balance of **Authorized Unpriced Work** by entering an **Amount** in the **New Unpriced Work** transaction type.<br>**Authorized Unpriced Work** is budget that has not yet been allocated as time phased (distributed) budget on the project.<br>▪ **Allocate Management Reserve**: Select this option to transfer funds from the **Management Reserve** account to the **Undistributed Budget** account.<br>You must transfer funds from the **Management Reserve** account to the **Undistributed Budget** account before you can distribute budget. You can distribute budget only from the **Undistributed Budget** account.<br>▪ **Negotiated Changes**: Select this option to update the **Negotiated Cost** or **Authorized Unpriced Work**. |
| **Amount** | Enter the amount of the transaction. |
| **Amount from AUW** | Enter the amount to transfer from the Authorized Unpriced Work (AUW) account. This amount cannot be greater than the current balance in the AUW account. You can enter a positive or negative amount or zero. |
| **Credit To** | Select where you want to credit the amount you entered. Select one of the following options from the drop-down list:<br>▪ **Management Reserve**: Select this option to credit or debit the **Management Reserve** account with the value you entered in the **Amount** field.<br>▪ **Undistributed Budget**: Select this option to credit or debit the **Undistributed Budget** account with the value you entered in the **Amount** field. |
| **Adjust contract fee** | Use these fields to adjust the fee amount or percentage on the contract. You can enter a positive or negative amount or zero.<br>▪ **Fee %** : Use this field to enter a percentage to automatically calculate the percentage in the **Fee Amount** field. |

| Field | Description |
|---|---|
| | ▪ **Amount** : Use this field to enter the exact amount for the contract fee. Entering a value in this field does not calculate the **Fee %** . |

### Edit Comment and Change Number Page of the Project Audit Wizard

Use this page to edit the change comment, change number, and the **Significant** field saved for a transaction.

**Note:**

- This page displays when you select the **Edit comment and change number** option on the Log Operation page
- You can access this page whether project auditing is turned on or off.
- You cannot enter new comments or change numbers on this page.

**Contents**

| Field | Description |
|---|---|
| **Filter Comments** | Use these options to select a subset of project log entries to display in the grid.<br>▪ **Starting log date**: Select the date on or after which the log entries or transactions that you want to view were created.<br>▪ **Transaction Number**: Select the transaction number of the log entries that you want to view.<br>▪ **Change number**: Select the change number of the log entries that you want to view.<br>To see all log entries, select**<Any>** for all of the options.<br>Select the blank option to view log entries that have blank change numbers. |
| **Apply Filter** | Click this button to update the grid using your filtering selections. |
| **Total Entries** | This grid displays the following fields:<br>▪ **Significant**: This column displays whether the log entry or transaction was marked as significant.<br>▪ **Control Account**: This column displays the prompt level of the log entry or transaction.<br>▪ **Change Comment**: This column displays the comment that was entered for the change.<br>▪ **Change Number**: This column displays the number that was entered for the change. |

| Field | Description |
|---|---|
| | ▪ **Trans. Num**: This column displays the transaction number that was entered for the change.<br>Log entries are displayed on separate rows in the grid. Multiple log entries that have been created by running a process are displayed on separate rows, with the same details displayed on each row. If the details for one of these entries are changed, the changes are automatically applied to all other entries that were created by the same process when you click **Apply**. Cobra displays a message informing you if this has occurred.<br>Log entries that were created by the same process using a version of Cobra prior to 5.1 Hot Fix 19 can be edited independently; the changes will not be automatically applied to the other log entries. |
| **Significant** | Select this option to flag a change as significant. Changes identified as significant are broken out and shown as individual entries on the IPMR Format 3 report, while non-significant changes are grouped together and displayed as **Others**.<br>For existing projects that already have status entered in the current period, you must advance the calendar after you turn on the project log to ensure that the baseline changes are displayed in the Significant/Other line of the IPMR Format 3 report. |
| **Change Number** | Enter a change number, or click to select a new change number to replace the current change number.<br>You can select multiple transactions from the grid and replace their change numbers with a single change number. |
| **Change Comment** | Enter a new comment to replace the selected comment.<br>You can select multiple transactions from the grid and replace their comments with a single comment. |
| **Apply** | Click this button to make multiple edits to different entries in one transaction. For example, click this button to update multiple entries using different comments and change numbers without restarting the wizard.<br>If you do not click the **Apply**, changes are saved when you click **Next** or **Finish**. |

### Prompt Level Page of the Project Audit Wizard

Use this page to indicate the level at which budget changes are captured.

**Note:**

- The prompt level is also the level at which you are prompted to enter change comments or numbers for budget changes.
- You cannot track budget changes at both the **Control Account** and **Work Package** levels.

### Set Log Level

| Field | Description |
|---|---|
| **Control Account** | Select this option to indicate that budget changes are prompted and captured at the control account level of the project. |
| **Work Package** | Select this option to indicate that budget changes are prompted and captured at the work package level of the project. |
| **Resource Assignment** | Select this option to indicate that budget changes are prompted and captured at the resource assignment levels of the project. |

## Set Project Baseline Page of the Project Audit Wizard

Use this page to enter or verify the values for contract budget accounts.

### Contents

| Field | Description |
|---|---|
| **Negotiated Cost** | Use this field to enter the budgeted contract target cost. |
| **Authorized Unpriced Work** | Use this field to enter the amount of authorized unpriced work. |
| **Contract Budget Base** | This field displays the total of Negotiated Cost plus Authorized Unpriced Work. |
| **Contract Ceiling** | This field represents the Budgeted and Estimate at Complete Contract Ceiling value for the project. |
| **Management Reserve** | This field represents the amount from which values are debited to increase the distributed budget. The value that you enter here is debited or credited during the project's duration as you distribute the budget. |
| **Distributed Budget** | This field displays the total currency budget value for the project. |
| **Undistributed Budget** | This field displays the budgeted and estimated undistributed budget at completion of the project. |
| **Over Target Baseline** | This field represents the total value of the budget in the Over Target class (OTB). |

## Log Comment Page of the Project Audit Wizard

Use this page to enter a change number and change comment for the update to the project’s log.

Updates to the log, including comments and change numbers, are made at the project level

**Contents**

| Field | Description |
|---|---|
| **Significant** | Select this option to flag a change as significant. Changes identified as significant are broken out and shown as individual entries on the IPMR Format 3 report, while non-significant changes are grouped together and displayed as **Others**. By default, this option is cleared.<br>The **Significant** option is not displayed when you select **Turn Log Off** or **Reset the baseline by deleting the existing transactions stored in the project audit log and overwriting the new baseline** option on the Log Operation page of the Project Audit Wizard. |
| **Change number** | Use this field to enter a change number or select a change number for the transaction. |
| **Change comment** | Use this field to enter a comment for the transaction. |
| **Transaction Number** | This field identifies each transaction in the log. A transaction number is assigned each time a value changes in the project. All transaction numbers are unique and are assigned by Cobra. |

### Confirmation Page of the Project Audit Wizard

This page informs you that Cobra has all the information that it needs to run the update log process.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays. When you are sure that all the information is correct, click **Finish** to start the process.

### Process Running Page of the Project Audit Wizard

This page displays the progress status while Cobra retrieves the project baseline data to be displayed on the Set Project Baseline page or validates that log records match the records in the project.

### Process Complete Page of the Project Audit Wizard

This page displays information about the status of updating the project log.

### Audit Log Comparison Page of the Project Audit Wizard

This page displays only if there are discrepancies between account values in project log records and project header records.

**Contents**

| Field | Description |
|---|---|
| **Account** | This column displays the name of the account with the discrepancy. |
| **Log** | This column displays the account value in the log. |
| **Project** | This column displays the account value in the project. |

Click **Next** to update the header records to match the log records. Use it to reconcile the discrepancies.

Clicking **Cancel** does not update the project header records to match the log records. You cannot make a transaction change until the discrepancy is fixed.

## Procedures

Follow the procedures in this section to utilize the Project Audit Logging process.

### Turn Project Audit On or Off

Use the Project Audit Wizard to turn project auditing on or off.

**To turn project auditing on or off:**

1. In the **Audit** group on the Processes tab, click **Project**.
2. On the Log Operation page, select the **Turn Log On** or **Turn Log Off** option.
3. Complete the pages of the Project Audit Wizard to turn project auditing on or off.

### Reset the Baseline Using the Project Audit Wizard

Use the Project Audit Wizard to reset project baselines.

**Note: When resetting the baseline, all records are deleted from the project log, leaving no history of baseline changes. It is highly recommended that you back up your project prior to this operation.**

**To reset the baseline:**

1. In the **Audit** group on the Processes tab, click **Project**.
2. On the Log Operation page, do the following:
   - Select the **Adjust the log** option.
   - Select the **Reset the baseline by deleting the existing transactions stored in the project audit log and overwriting the new baseline** option.
3. Complete the pages of the Project Audit Wizard to reset baselines.

### Reconcile Project Logs Using the Project Audit Wizard

Use the Project Audit Wizard to reconcile or align the logs to the project.

**To reconcile project logs:**

1. In the **Audit** group on the Processes tab, click **Project**.
2. On the Log Operation page, do the following:
   - Select the **Adjust the log** option.
   - Select the **Reconcile the project audit log to the current budget** option.
3. Complete the pages of the Project Audit Wizard to reconcile project logs.

### Update Transaction Changes

Use the Project Audit Wizard to update transaction changes.

**To update transaction logs:**

1. In the **Audit** group on the Processes tab, click **Project**.
2. On the Log Operation page, do the following:
   - Select the **Adjust the log** option.
   - Select the **Transaction chage of new unpriced work, negotiated changes, or allocated management reserve** option.
3. Complete the pages of the Project Audit Wizard to update transaction logs.

### Edit the Project Audit Log

Use the Project Audit Wizard to edit project audit logs.

**To edit a project audit log:**

1. In the **Audit** group on the Processes tab, click **Project**.
2. Complete the pages of the Project Audit Wizard to edit the project audit log.

# Integration

The Integration tab contains commands for importing to and exporting from Cobra.

## Integration Wizard

The Integration Wizard allows you to import data into Cobra.

You use the Integration Wizard to import project data from the following tools:

- Open Plan
- Primavera
- Microsoft Project
- Excel or CSV file

In addition to project data, you can import the following elements:

- Actual costs from an accounting system
- Ancillary data such as rates, codes, resources, calculations, calendars, and holidays
- Apportionment data such as mappings and apportionment definition
- Time-phased assignment data

### Data Import Using Scheduling Tools and Files

In an integrated cost/schedule environment, activities in a schedule are identified with their control account points (that is, control accounts or work packages) in an earned value management system. This integration allows budgets and forecasts to accurately reflect the most current actual and estimated scheduling information.

You can create an integrated cost/schedule system between Cobra and the following scheduling software tools:

- Deltek Open Plan
- Microsoft Project
- Primavera
- Import Files

By linking a Cobra projects with a scheduling tool, you can have a system that provides for single data entry. This avoids both the extra effort and the increased risk of error associated with having to enter the data in both the schedule and Cobra. The detailed resource-loaded schedule provides the time-phasing of the budget in Cobra while status data from the schedule generates earned value in Cobra. In addition, if you use Open Plan as your scheduling tool, you can also use Cobra's integration features to provide for bidirectional data transfer.

The Integration Wizard also allows you to load code files from your schedule. You can save only the settings you have made for your configuration, or you can synchronize Cobra with your schedule as well.

**Video**

| Title | Description |
|---|---|
| How to Link an Activity to a Work Package | Learn how to identify to which work package an activity is linked, which is the first step in integrating cost and schedule. |

### Sharing Cost and Schedule Information

When planning to integrate your Cobra project with a resource-loaded schedule, consider the best practice tips below:

- An activity in the schedule should correlate to a work package in Cobra.
- Activity durations should be from six to eight weeks in order to calculate accurate earned value (by collecting actual costs at the cost account level, you can reduce the number of charge numbers).

  **Note:** Activities with longer durations can be used if the progress technique of their work packages is Percent Complete. In this case, the Physical Percent Complete entry in the schedule should be based on something that can be measured objectively, such as the number of completed drawings.

- Budget revisions should begin in the schedule as additions or revisions and be updated in Cobra.

Because Cobra supports the milestones progress technique , it is also possible to set up a system where several activities in the schedule generate a single work package with milestones in Cobra. In this scenario, the baseline finish dates of the activities in the schedule can be correlated to the milestones in the work package.

Note, however, that the earned value is calculated as a weighted percentage for all budget elements of the work package. For this reason, this feature is best used when you do not plan to use a resource-loaded schedule.

While Cobra does have the ability to build the schedule and load the budget manually, this process does not promote integration between cost and schedule. The best usage of this feature would be to add the following items into the Cobra project:

- Level of effort and apportioned work packages
- Planning packages maintained in Cobra

- Budget revisions made in Cobra
- Adjusted resource hours updated in the scheduling software

You can then use powerful features in Cobra such as top-down planning to convert these resource loadings into a fully-costed budget baseline, and you can update the schedule with data from Cobra.

**Note:** Updating Open Plan resources with data from a Cobra project does not create activities in the project.

The Integration Wizard is a user-friendly feature that allows you to define how your Cobra project should be created or updated from your schedule. The Integration Wizard also allows you to load code files from your schedule. You can save only the settings you have made for your configuration, or you can synchronize Cobra with your schedule as well.

The following is a list of items that can be loaded from a schedule:

- Code files
- Resource definitions and rates
- Budget
- Code assignments
- Status
- Forecast

### Preparing Cobra for Schedule Integration

You can load information such as rates from your schedule using the Integration Wizard.

If the information in the schedule is not accurate, you can create these files manually before using the Integration Wizard and refer to them during the integration process. You may need to create the following files before the integration process:

- Code Files
- Resource Files
- Rates
- Template Resource Files
- Calendar

#### Cobra Project

You can create an empty project in Cobra into which to load the schedule data. For example, if your schedule contains cost classes other than current budget (CB), you should create a blank project with all valid cost classes defined before loading the budget.
If the work package record does not exist, Cobra creates the appropriate progress technique and sets the work package start and finish dates exactly equal to the activity dates. If the work package record exists at the time you load the schedule, Cobra adjusts only the required data. For example, if the activity has slipped and the finish date is greater than the work package finish date, Cobra adjusts the work package finish date, not the work package start date.

### Code Files

There are three ways to create code files and breakdown structures:

- You can have the Integration Wizard automatically create these files, in which case Cobra determines the structure type from the data in the schedule.
- You can create the empty code files manually before running the Integration Wizard. This enables you to specify the structure of your choice. The Integration Wizard then populates the code file with the values found in the schedule.
- You can create and populate the code file before loading the schedule. This enables you to validate the entries in the schedule against the code file.

**Note:** If you want to use a non-significant breakdown structure in Cobra that is punctuated in the schedule, you must create the non-significant breakdown structure before the integration process. You can then load the codes from the schedule into the code file.

### Resource Files

You can roll up resource information by defining the budget element calculations for a higher-level resource. It is possible to roll up resource information by defining the budget calculations for a higher-level resource but not for a lower-level resource. The lower-level resource requirements can be combined and rolled up to a higher level for costing purposes.

**Note:** Do not use the roll-up feature if you intend to update Open Plan resources from Cobra. You can use a template for resource calculations when importing from the schedule or when creating a new resource file.

Cobra loads the unit rate from the resource file only if the value for the rate is any value other than 0 or 1. If the rate for the resource is not equal to 0 or 1 and a calculation template is not used, Cobra creates resource assignments with the result of HOURS and DIRECT, where the direct rate comes from the rate defined in the schedule. If the rate for the resource is equal to 0 or 1, Cobra creates the resource assignment with a single result of DIRECT.

### Rates

You can load direct rates from the schedule using the Integration Wizard. If you have results other than direct, enter these rates into the rate file before loading budgets or forecasts. For example, if you plan to use a template resource file, you will need to create OVERHEAD and G&A rates.

### Template Resource Files

You can define complex burden structures to be used during the load resource definition process in the Integration Wizard by creating a template resource file.

### Calendar

You can create a calendar in two ways:

- You can have the Integration Wizard automatically create the calendar file.

- You can create the calendar file manually before running the Integration Wizard. This enables you to adjust period cut-off dates and working hours before the baseline is loaded.

**Note:** Cobra determines baseline spread by fiscal cut-off dates and working hours.

### Data Import from Open Plan

Use the Integration Wizard to import data from Open Plan into Cobra.

Demonstration data is provided in both the Cobra and Open Plan applications. You can use this data to help you learn about the Cobra/Open Plan linking function. The Open Plan installation includes a demonstration project named Ship that when restored can be linked to Cobra.

**Video**

| Title | Description |
|---|---|
| How to Link an Activity to a Work Package | Learn how to identify to which work package an activity is linked, which is the first step in integrating cost and schedule. |
| Exporting the Cobra Calendar | Learn how to export the Cobra calendar to ensure that Cobra and Open Plan time-phasing match. |
| Creating a Baseline for Integration | Learn how to create a baseline for Cobra's integration. |
| Importing the Progress Technique from the Schedule | View this video to explore the many options for choosing the progress technique while importing from the schedule. |

*Preparing the Open Plan Schedule*

Preparing the Open Plan schedule before exporting to Cobra involves a number of elements.

**File Format**

Open Plan and Cobra must be stored in the same database to use the Integration Wizard. From Open Plan, select **Tools** » **Data Source** and confirm that your Open Plan data source is the same database where the Cobra data resides.

**Identifying the Link**

Before importing data into Cobra, you must define how you want to link activities to control accounts and work packages in Cobra. You use code fields or user character fields in the schedule to identify the WBS, OBS, and the work package ID. If you want to link many activities to a single work package, you can identify the milestone ID. The activity ID is also a selection for linking.

The Integration Wizard in Cobra prompts you to select how the schedule links to the following elements in Cobra:

- Control account codes
- Work package codes
- Code assignments on the control account
- Code assignments on the work package
- Classes
- Progress techniques
- Units to do and units complete (user number fields)
- Milestones ID
- Milestone weights ( BAC cost and BAC quantity are also in the pick list)
- Filter data being imported

**Note:** If you use the **Activity ID** and you insert an activity, Open Plan renumbers the remaining activities. Codes and user character fields do not automatically change and thus are the preferred fields for integration.

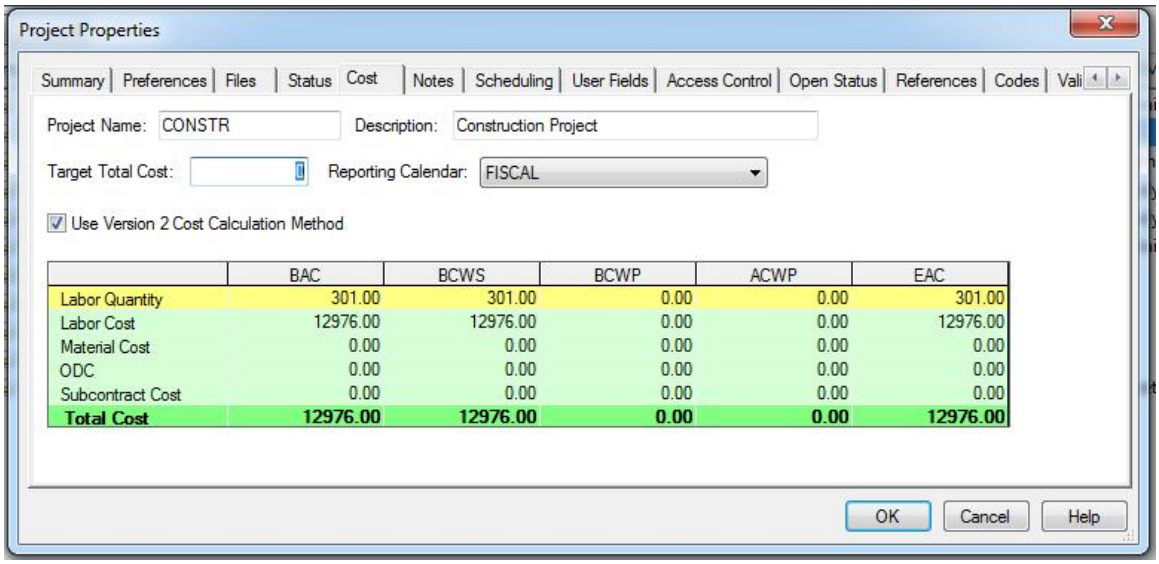
**Loading from Schedule or Baseline**

Cobra imports the following fields from Open Plan:

- **Schedule Dates**: Selecting schedule dates retrieves the SSDATE and SFDATE values from the activity (ACT) table and the resource information from the USE table. This should be used when there is no baseline in the Open Plan schedule and the baseline is to be imported based on resource scheduling calculations.
- **Baseline Dates**: Selecting baseline dates retrieves the BSTART and BFINISH fields from the selected baseline (BSA) table and the resource information from the baseline resource (BSU) table.

The Date Selection page of the Integration Wizard indicates if the data is from the current schedule or from a saved baseline. The benefit of retrieving data from a baseline is that the time-phased resource assignment data is more accurate. You can create a reporting calendar in Open Plan to match the calendar in Cobra. You can also use the Export Calendar to Open Plan feature (click **Open Plan Calendar** in the **Export** group on the Integration tab) to create a reporting calendar that matches the Cobra calendar in Open Plan.

After you create the reporting calendar in Open Plan, open the Project Properties dialog box and click the Cost tab. Select the reporting calendar that matches the Cobra fiscal calendar:




| | BAC | BCWS | BCWP | ACWP | EAC |
|---|---|---|---|---|---|
| Labor Quantity | 301.00 | 301.00 | 0.00 | 0.00 | 301.00 |
| Labor Cost | 12976.00 | 12976.00 | 0.00 | 0.00 | 12976.00 |
| Material Cost | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ODC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Subcontract Cost | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Cost** | **12976.00** | **12976.00** | **0.00** | **0.00** | **12976.00** |

After saving, Open Plan creates a baseline that breaks the time-phased assignment data into periods that match Cobra's periods. Using this process, the time-phased assignment data in Open Plan exactly matches the Cobra time-phased data.

- After you select to import from a baseline, all data comes from the baseline including the linking codes, milestone weights, and so on.

  **Note:** You can use Open Plan to view the baseline data and confirm that the values in the baseline are updated.

- If you are importing from schedule dates, Cobra looks at the results of resource leveling and spreads the information over the calendar periods.
- To load from early or late dates in Open Plan, select the date set when creating the Open Plan baseline.

**Attention:** For the detailed steps on how to check baseline resource records, see Check Open Plan Baseline Resource Records.

### Checking Open Plan Baseline Usage Records

Cobra places resources into the time-phased periods based on the data it receives. If you are loading baseline, the data that Cobra loads is stored in the Baseline Usage (BSU) table. Refer to Check Open Plan Baseline Resource Records for steps on how to view data in the BSU table.

### Resources and Rates

Cobra imports the unit rate from the resource file only if the value for the rate is not 0 or 1. If the rate for the resource is not equal to 0 or 1 and a calculation template is not used, Cobra creates resources with the result of HOURS and DIRECT where the direct rate comes from the rate defined in the schedule. If the rate for the resource is equal to 0 or 1, Cobra creates the resource with a single result of DIRECT.

### Loading Resource Codes as Non-Significant

The resources in Open Plan have a punctuated, significant structure; thus, the resource codes look like SHIP.LABOR.83.8301. In Cobra, you can create a non-significant resource structure that does not contain the parent information in the resource ID assigned to the work package, for example, 8301. This is useful because when importing actual costs, the resources assigned to the work package must match those in the accounting system. Most accounting systems do not contain parent information and simply use codes such as 8301. The Other Options page of the Integration Wizard displays if the project has a non-significant resource file. Select the **Load resource codes as non-significant** checkbox to remove the parent portion of the resource ID.

### Using Template for Resource Calculations

If you want to create a new resource file or rate when importing from the schedule, you can use a template for resource calculations. This option is located on the Resource and Rates page of the Integration Wizard. If you select this option, you can select a resource file in Cobra that is used to define how resources being imported from the schedule are burdened or have multiple results in the calculation.

If a resource in the template resource file matches a resource name in the schedule, that resource is copied from the template file to the new resource file being created. Otherwise, the unit for the resource in the schedule is used to match the resource name in Cobra. If a resource in Cobra is found with the same name as the resource units in the schedule, Cobra uses the calculation for the creation of the new resource.

For example, a resource in the template resource file with the name of Hours is used for creating the calculation of the labor resources.

### Rolling up Resources Structures

The schedule usually goes to a detailed level of the individual name. This type of detail is usually not used for budgeting purposes and prevents you from explaining a variance caused by the replacement of one resource with another.

You have the option to automatically roll up the resource structure during budgeting. To roll up the resource structure, create resources in the Cobra resource file down to the level found in the schedule, but define calculations only at the level you want to import them into Cobra.

For example, to import a resource with an ID of LABOR.ENG.ENG01 from Open Plan into Cobra as LABOR.ENG, perform the following:

1. Create the resource file in Cobra down to the level used in Open Plan.
2. Do not define calculations at the lowest level.
3. Define the calculation at the node LABOR.ENG.

**Note:** When importing data, Cobra automatically summarizes the child codes and imports the budget into LABOR.ENG.

You can also use the option in Open Plan. In Open Plan, select the **Roll up for Scheduling** option on the **General** tab of the Resource Details dialog box to indicate the level you want for the baseline data. Save the baseline based on scheduled dates.

### Resource-Loaded Schedule

When linking with a resource-loaded schedule, Cobra uses the value in the **Resource Assignment Level** field from the schedule as the value for the base. If a curve is not used on the assignment, the level is multiplied by the duration.

If you plan to later update the Open Plan project with information from Cobra, use spread curves instead of offsets and periods, as this information does not transfer back. You must also not use the roll-up resource options.

### Video

| Title | Description |
|---|---|
| How to Link an Activity to a Work Package | Learn how to identify to which work package an activity is linked, which is the first step in integrating cost and schedule. |
| Exporting the Cobra Calendar | Learn how to export the Cobra calendar to ensure that Cobra and Open Plan time-phasing match. |
| Creating a Baseline for Integration | Learn how to create a baseline for Cobra's integration. |

Check Open Plan Baseline Resource Records

Follow this procedure to check the Open Plan base resource records.

**To check the Open Plan BSU records:**

1. Open your project in a spreadsheet view (such as the Assignment Spreadsheet).
2. Right-click anywhere in the view and click **Preferences**.
3. In the **Table Name** drop-down list, select **Baseline Usage** and click **OK**.
4. Create a sort to view the data correctly using on **Activity ID**, **Resource**, and **Start Date**.

   **Note:** The Res Used amount displays in seconds. If you have 8 hours per day, you can divide the seconds by 4800. However, this is not really needed to check the dates.

5. Check if the start and finish dates match the values in the Cobra calendar.
6. If the start date value is the day after the period end date in the Cobra calendar, and the finish date value is the period end date in Cobra, the time-phase spread from Open Plan to Cobra will be exactly the same.

*Open Plan Fields Imported*

This topic describes the fields imported by Cobra from Open Plan.

### Schedule Dates

Selecting schedule dates retrieves the **SSDATE** and **SFDATE** values from the activity (ACT) table and the resource information from the USE table. This should be used when there is no baseline

in the Open Plan schedule and the baseline is to be imported based on resource scheduling calculations.

**Baseline Dates**

Selecting baseline dates retrieves the **BSTART** and **BFINISH** fields from the selected baseline (BSA) table and the resource information from the baseline resource (BSU) table.

*Resource-Loaded Schedule*

Cobra uses the value in the **Resource Assignment Level** field from the schedule as the value for the base or first result when linking with a resource-loaded schedule.

If a curve is not used on the assignment, the level is multiplied by the duration. If you plan to later update the Open Plan project with information from Cobra, use spread curves rather than offsets and periods as this information does not transfer back.

When you load budget from Open Plan, you can load from a baseline or the schedule. Cobra reads the time-phased spread information from the usage file. If you are loading from a baseline and you want the spread in Cobra to match, you must use a reporting calendar and perform resource scheduling before the baseline is created. Cobra does not support loading from early or late dates in Open Plan.

If you want to load from early or late dates, you must create a baseline in Open Plan based on these dates and then load from that baseline into Cobra. If you select the **Update early and late dates** option on the Status page of the Integration Wizard when integrating with Open Plan, Cobra informs you that it is not supported.

Depending on the detail at which you resource load your schedule, you might want to take advantage of one of the following options:

- If you resource load at the name level, you should set a baseline at the pool level. If necessary, you can schedule the individual resources in six-month blocks of time. This prevents you from having to explain a variance caused by the replacement of one resource with another.
- Roll up resource information by defining the resource assignment calculations for a higher-level resource. Do not use the roll-up feature if you intend to update Open Plan resources from Cobra.
- In Open Plan, select the **Roll up for Scheduling** option on the General tab of the Resource Details dialog box.

*Loading Resource Files from Open Plan*

You can import a resource code file from Open Plan into Cobra. In Open Plan, you can use a punctuated significant breakdown structure for resource codes, while in Cobra, you can use a non-significant breakdown structure for resource assignments.

When you load code files from the schedule, Cobra compares the resource code with the format of the breakdown structure validating the resource assignments in Cobra. If a punctuated-significant format was used in the Open Plan resource code and a non-significant format is used in Cobra, Cobra removes the parent information from the resource code. Thus, a resource with an ID of LABOR.ENG.ENG01 appears in Cobra as the resource assignment ENG01.

*Turn On the Opening % Feature When Integrating with Open Plan*

Use this procedure to load the Opening % from Open Plan activities to Cobra work packages. If you do not follow this procedure, the Opening % will not be loaded from Open Plan to Cobra when activities and work packages use the User Defined progress technique.

**To turn on the Opening % feature:**

1. Locate the cobra.process.cfg file. This file resides in the same location as your cobra.process.dll file.

   The cobra.process.cfg file does not exist by default. See the Deltek Support Center site for the Knowledge Base article about the cobra.process.cfg file.

2. Using a text editor (such as Notepad), add the following lines to the cobra.process.cfg file:

```
<CobraIni>
[OPPIntegration]
LoadStartPercentComplete=1
/CobraIni>
```

## Data Import from Microsoft Project

Use the Integration Wizard to import data from Microsoft Project.

Cobra integrates with Microsoft Project Professional using the XML file format.

> **Attention:** To see the list of the supported and compatible versions, see "Software Requirements" in the *Deltek Cobra Installation Guide*.

Cobra integrates with Microsoft Project Professional using the XML file format.

You must save your project in XML format by selecting **File** » **Save As** on the File menu and choosing XML format (.XML).

If you use Microsoft Project Server, you can save the file as an XML file, or you can set up a direct connection to the Project Server Reporting Database.

*Options for Importing from Microsoft Project*

Before you import data from Microsoft Project, you must make some decisions and perform some set-up steps that control how data is imported.

### Identifying the Link

Before importing data into Cobra, you must define how you want to link activities to control accounts and work packages in Cobra. You usually use the **WBS** field to identify the control account in Cobra and the **Activity ID** to identify the work package. Alternatively, you can use a code on the activity to represent a work package in Cobra and use the activity ID as the milestone.

You can assign the following to the activities in the project that correspond to the various Cobra items such as control accounts, work packages, and milestones:

- WBS
- Activity ID
- Text fields
- Outline controls

Avoid using the Activity ID in Microsoft Project because Activity IDs automatically renumber when you insert an activity. You can copy the WBS number to a text field before importing data into Cobra; if you reorder the activities in Microsoft Project or indent an activity, the WBS number is automatically changed by Microsoft Project. If you use a text field to link with Cobra, you do not have to worry about Microsoft Project automatically changing the link values.

You can also use text fields to identify the progress technique and the class. You can use number fields to identify the milestone weight. You can also import the task work, cost, or BAC values as milestone weights.

Outline controls in Microsoft Project only store the lowest level data. If you are importing into a Cobra project that has a validating code file that is punctuated significant, Cobra determines the parent information and enters the entire code. If you are creating the code file or importing into a field that is not validated using a code file, Cobra imports only the local portion or lowest level found in the Outline code.

### Resources and Rates

Cobra imports only the standard rate for the default cost rate table. If the rate for the resource is greater than one and a calculation template is not used, Cobra creates resources with the result of HOURS and DIRECT, for which the direct rate comes from the rate defined in the schedule. If the rate for the resource is equal to 0 or 1, Cobra creates the resource with a single result of DIRECT.

### Using Template for Resource Calculations

If you choose to create a new resource file or rate when importing from the schedule, you can use a template for resource calculations. This option is located on the Resources and Rates page of the Integration Wizard. If you use this option, you can select a resource file in Cobra that is used to define how resources imported from the schedule are burdened or have multiple results in the calculation.

If a resource in the template resource file matches a resource name in the schedule, that resource is copied from the template file to the new resource file being created; otherwise, create a resource called WORK, MATERIAL, or any value that you enter as the material label. Cobra creates the calculations for these resource types using the same calculation as in the template file.

### Resource-loaded Schedule

When Cobra links with a resource-loaded schedule, it uses the resource assignment (work field) from the schedule as the value for the base. For material and cost resources, Cobra uses the cost field from the schedule as the base.

In Microsoft Project, you can save time-phased data in the database. If you save time-phased data, Cobra retrieves the data from the database and spreads it into the calendar periods.

Cobra retrieves the data from the database and spreads it using the dates and values in Microsoft Project. If your Cobra calendar is not month end, there is a difference in the spread because Cobra has to spread the values into fiscal periods. If you have a month end calendar in Cobra, there can be a slight variation in the spread because Microsoft Project does not always store the records using a month end date. Regardless of the calendar, the total work is always the same in Cobra after importing, but the exact monthly spread can vary a little.

**Microsoft Project Fields Imported**

The following Microsoft Project fields are imported:

- **Schedule Dates**: The **Start** and **Finish** dates are retrieved.
- **Baseline Dates**: The baseline **Start** and **Finish** dates are used.

*Configure Cobra to Work with Microsoft Project Server*

Cobra supports direct integration with Microsoft Project (MSP) Server. You must perform a series of steps to set up the integration.

The setup steps require that you access to SQL Server Studio and the MSP Server database.

> **Attention:** To see the list of the supported and compatible versions, see "Software Requirements" in the *Deltek Cobra Installation Guide*.

**To configure the MSP Server database to support integration with Cobra:**

1. Using the Microsoft SQL Server Management Studio, connect to the SQL Server with MSP Server setup.
2. Once connected, expand the Database folder.
   - If you are configuring MSP 2013, 2016, 2019, or 2021 server, look for the PWA database.

     > **Note:** The database name usually defaults to ProjectWebApp.
3. Open the **MSP_Server_SQLServer.sql** script located in the Cobra application script subfolder.

   For standalone deployment, the default installation folder is: C:\Program Files\Deltek \Cobra\Scripts\SQLServer\Create.

   For client/server and n-tier deployments, you can find the script in the Cobra installation folder on the server.
4. Edit the script.
   - If you are configuring MSP 2016, MSP 2019, or MSP 2021, do the following:
     - Replace all occurrences **[PWA_Reporting]** with **[<Project Web App Database Name>]** (4 occurrences).

- Replace all occurrences **[PWA_Published].[dbo]** with **[pjpub]** (103 occurrences)
- Replace all occurrences of **[PWA_Published]** with **[<Project Web App Database Name>]** (5 occurrences).
- Replace all occurrences of **[dbo]** with **[pjrep]** (48 occurrences).

- If you are configuring MSP 2013, do the following:
  - Replace all occurrences of **[PWA_Reporting]** with **[<Project Web App Database Name>]** (4 occurrences) .
  - Replace all occurrences of **[PWA_Published].[dbo]** with **[<Project Web App Database Name>].[pub]** (103 occurrences).
  - Replace [PWA_Published] with **[<Project Web App Database Name>]** (5 occurrences).

Make sure the square brackets around the database names in the script are also replaced.

5. Run the script against the MSP server database.
6. If the scripts complete successfully, the MSP server databases are ready to run the Cobra Integration using MSP server. You can define the connection information to the MSP server on the New Connection dialog box of the Integration Wizard.

## Data Import from Primavera

Use the Integration Wizard to import data from Primavera into Cobra.

*Preparing the Primavera Schedule*

Preparing the Primavera schedule before exporting to Cobra involves a number of elements.

### File Format

There are two methods for integrating with Primavera:

- Use Cobra to read the Primavera database
- Use the Primavera API

**Attention:** Refer to the "Cobra Integration with Oracle Primavera P6 API" section of the *Deltek Cobra Installation Guide* for more information on how to integrate Cobra with Primavera P6 API.

You must set up a data source name (DSN) to connect to the database regardless of the selected connection method for importing data. When using the API, the DSN connection allows you to select the fields in the Integration Wizard.

Using the database is much faster than using the API; however, the resource data is spread linearly across the activity dates. Using the API to connect to Primavera provides daily time-phased data and thus, the resources imported into Cobra closely match the resource spread in Primavera.

To use the API, first confirm that all of the demonstration applications that come with Primavera work while logged into the application tier of Cobra.

**Attention:** For more information on the location of the application tier based on the installation options, refer to the *Deltek Cobra Installation Guide*. Consult Primavera support if all of the demonstration applications are not functioning from the application tier.

After confirming that the demonstration applications are operational, click the **New** button on the Connection Selection page of the Integration Wizard. On the New Connection dialog box:

1. Select the **Load daily time-phased data** checkbox.
2. Enter the user name, password and location of the API.

   This location must be accessible to the application tier where the application is usually installed.

**Note:** You can use one connection file to import time-phased data using the API and another connection file using a straight connection to the database to improve performance of the status updates.

### Identifying the Link

Before importing data into Cobra, you must define how you want to link activities to control accounts and work packages. For example, you can use the **Work Breakdown Structure** field to identify the control account in Cobra and the activity ID to identify the work package. Alternatively, you can use a code on the activity to represent a work package in Cobra and use the activity ID as the milestone, or use one of the codes or user text fields of Primavera to identify the link.

The following fields are available to link to Cobra fields as control accounts, work packages, and milestones:

- Task Code
- Work Breakdown Structure
- Resp.Discipline
- Activity codes – Global
- User Defined Text fields
- Resource Cost Account

These determine the fields that define the control account or work package to be

**Note:** Cobra displays only the codes with values in the selected project. You can use user number fields to identify the milestone weight.

User Defined Text fields loaded from Primavera must have the following:

- The data type should be Text .
- The user defined fields should be under Activities.
- The user defined field must have values assigned in the Primavera project selected in the Integration Wizard.

### Resources and Rates

In the import of resource rates, Cobra imports the escalated rates from the Primavera resource rates table. The fields imported are **Resource Name**, **Start Date**, and **Cost Per Quantity**.

### Loading Resource Codes as Non-Significant

Under most circumstances, you must import the data into a non-significant structure so that you can indicate parent codes such as Labor and Material. Do not select this checkbox if you use periods in your resource codes to identify parent information.

### Using Template for Resource Calculations

If you indicate to create a new resource file or rate when importing from the schedule, you can use a template for resource calculations. This option is located on the Resources and Rates page of the Integration Wizard. If you select this option, you can select a resource file in Cobra that is used to define how resources being imported from the schedule are burdened or have multiple results in the calculation.

If a resource in the template resource file matches a resource name in the schedule, that resource is copied from the template file to the new resource file being created; otherwise, the resource type is used to determine what resource in the template is used to obtain the calculation.

To define the calculations for a resource, create a resource in the template file with the same name as the resource type. Examples are Labor or Nonlabor. Cobra creates the calculations for these resources using these units with the same calculation as in the template file.

### Resource Assignments

When linking with a resource loaded schedule, the following are the options on the Resource Assignments page of the Integration Wizard for retrieving labor:

- **Budgeted Quantity**: Values stored in the budgeted units (**Target_qty**) field are imported when importing a budget. Values stored in the Pending Remaining Units (**Remain_qty**) field are imported when importing forecast data.
- **Budgeted Cost**: Values stored in the budget cost are imported when selecting to import from a budget. Values stored in the remaining cost are imported when you select a forecast.

### Resource Definitions

If the rate for a resource is greater than one and a calculation template is not used, Cobra creates resources with the result of HOURS and DIRECT where the direct rate comes from the rate defined in the schedule. If the rate for the resource is equal to 0 or 1, Cobra creates the resource with a single result of DIRECT.

*Primavera Fields Imported*

This topic describes the Primavera fields used by Cobra during integration.

**Loading Primavera Code Fields using the Cobra Integration**

This table displays the list of Primavera code fields that you can choose to load during Cobra Integration, depending on the Cobra Field type.

| Cobra Integration Field | Primavera Code Field |
|---|---|
| **Project Key Fields :** | Activity User Defined Text Fields<br>Project Activity Codes<br>Global Activity Codes<br>Cost Account Resource Assignment Codes<br>Work Breakdown Structure<br>Activity ID |
| CA1 - CA3 | |
| WP | |
| Milestones | |
| CAM | |
| WP Manager | |
| Control Account Codes | |
| Work Package Codes | |
| User Character Fields | |
| Load Progress Technique | |
| Filter Schedule Code Field | |
| Load Budget Class From Field | Activity User Defined Text Fields<br>Project Activity Codes<br>Global Activity Codes<br>Cost Account Resource Assignment Codes<br>Resource Level User Defined Codes<br>Work Breakdown Structure<br>Activity ID |
| Load Forecast Class From Field | |
| Use Assignment Class From Schedule Field | |
| User Number Fields | Activity User Defined Number Fields |
| Load Units To Do | |
| Load Milestone Weights | |
| Load Units Complete | |
| User Date Fields | Activity User Defined Date Fields |
| Load only these budget classes | The Code Values from the Field selected for **"Load Budget Class From Field"** |
| Load only these forecast classes | The Code Values from the Field selected for **"Load Forecast Class From Field"** |

| Cobra Integration Field | Primavera Code Field |
|---|---|
| Filter code value | The Code Values from the Field selected for **"Filter Schedule Code Field"** |
| Schedule Code File | Work Breakdown Structure<br>Resource Breakdown Structure<br>Cost Account Resource Assignment Code Structure<br>Activity Codes |

### Data Import Using Files

With the Integration Wizard, you can import project data into Cobra using import files.

- You can import a Cobra project from a file saved in Microsoft Excel ® or text format. This file includes activity information, baseline resources, forecast resources, status, coding, code assignments, and notes.
- You can import budget, forecast, and status data either individually or during the same import process.
- You must import notes by themselves; they cannot be combined with other actions on the Action Selection page of the Integration Wizard.
- Before importing from files, you must create a Cobra project with the necessary ancillary files assigned.
- Using the import file, you can:
  - Load activity and resource assignment data from a single import file or separate import file.
  - Load data from multiple projects from a single file.

*Import File for Loading Activity and Resource Assignment Data*

An import file can be an activity file, a resource assignment file, or a combination of both in an Excel or CSV spreadsheet.

Take note of the following when loading an import file:

- Fields marked by an asterisk (*) are displayed as prompts defined in the Project Properties dialog box.
- Only the key fields defined in the Project Properties dialog box are required.
- To load code and user fields, select **Code Assignments and User Fields** on the Action Selection page.

**Attention:** For more information on how fields are loaded during integration, see Import File Loading Considerations.

### Using a Single Import File

When using a single import file during integration, you can use a single activity file or a single file with activity and resource assignment data.

**Single Activity File**

To load an activity file during integration, select the following option and field on the Integration Wizard pages:

- The **Control Account and Work Package** option on the Action Selection page
- The **Activity File** field on the Project Selection page

The data structure for an activity file is described in this table.

**Table 1: Activity File**

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| CA1* | Character | Y | Y |
| CA2* | Character | Y | Y |
| CA3* | Character | Y | Y |
| WP* | Character | Y | Y |
| Milestone | Character | | |
| Milestone Weight | Numeric | | |
| Description | Character | | |
| Baseline Start Date | Date | Y | |
| Baseline Finish Date | Date | Y | |
| Forecast Start Date | Date | | Y |
| Forecast Finish Date | Date | | Y |
| Early Start Date | Date | | |
| Early Finish Date | Date | | |
| Late Start Date | Date | | |
| Late Finish Date | Date | | |
| Progress Technique | Character | | |
| Units to do | Numeric | | |
| CAM | Character | | |
| Forecast Class | Character | | |
| Budget Class | Character | | |
| Code | Character | | |
| User Character Field | Character | | |

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| User Number Field | Numeric | | |
| User Date Field | Date | | |

**Single Activity and Resource Assignment File**

To load a single file with activity and resource assignment data during integration, select the following options on the Integration Wizard pages:

- The **Control Account and Work Package** option and the **Resource Assignments** option on the Action Selection page
- The **Use one file with activity and resource assignment data** option and the **Activity and Resource Assignment File** field on the Project Selection page

The data structure for an activity and resource assignment file is described in this table.

**Table 2: Activity and Resource Assignment File**

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| CA1* | Character | Y | Y |
| CA2* | Character | Y | Y |
| CA3* | Character | Y | Y |
| WP* | Character | Y | Y |
| Milestone | Character | | |
| Milestone Weight | Numeric | | |
| Description | Character | | |
| Resource | Character | | |
| Individual <Results> | Character | | |
| Baseline Start Date | Date | Y | |
| Baseline Finish Date | Date | Y | |
| Forecast Start Date | Date | | Y |
| Forecast Finish Date | Date | | Y |
| Early Start Date | Date | | |
| Early Finish Date | Date | | |
| Late Start Date | Date | | |
| Late Finish Date | Date | | |
| Progress Technique | Character | | |

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| Units to do | Numeric | | |
| CAM | Character | | |
| Forecast Class | Character | | |
| Budget Class | Character | | |
| Code | Character | | |
| User Character Field | Character | | |
| User Number Field | Numeric | | |
| User Date Field | Date | | |

### Using Two Separate Import Files

To load an activity file and a resource assignment file separately during integration, select the following options and fields on the Integration Wizard pages:

- The **Control Account and Work Package** option and the **Resource Assignments** options on the Action Selection page
- The **Activity File** field and the **Resource Assignment File** field on the Project Selection page

The data structure for an activity file is described in this table.

**Table 3: Activity File**

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| CA1* | Character | Y | Y |
| CA2* | Character | Y | Y |
| CA3* | Character | Y | Y |
| WP* | Character | Y | Y |
| Milestone | Character | | |
| Milestone Weight | Numeric | | |
| Description | Character | | |
| ID | Character | Y | Y |
| Baseline Start Date | Date | Y | |
| Baseline Finish Date | Date | Y | |
| Forecast Start Date | Date | | Y |
| Forecast Finish Date | Date | | Y |

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| Early Start Date | Date | | |
| Early Finish Date | Date | | |
| Late Start Date | Date | | |
| Late Finish Date | Date | | |
| Progress Technique | Character | | |
| Units to do | Numeric | | |
| CAM | Character | | |
| Forecast Class | Character | | |
| Budget Class | Character | | |
| Code | Character | | |
| User Character Field | Character | | |
| User Number Field | Numeric | | |
| User Date Field | Date | | |

The data structure for a resource assignment file is described in this table.

**Important:** The fields must be in the order they are listed.

**Table 4: Resource Assignment File**

| Field | Type | Required for Baseline | Required for Forecast |
|---|---|---|---|
| ID | Character | Y | Y |
| Resource | Character | Y | Y |
| Amount | Numeric | Y | Y |
| From Date | Date | Y | Y |
| To Date | Date | Y | Y |
| Class | Character | Y | Y |
| Curve | Character | | |

### Using the Same Import File to Load Both Activity and Resource Assignment Data

If you want to use the same import file to load both activity and resource assignment data, take note of the following:

- Create a single import file that has the resource assignments first, followed by the activity fields. Then, place the activity fields after the resource assignments.

- On the Project Selection page, select the same import file in the **Activity File** field and in the **Resource Assignment File** field.
- On the Import File Fields Mapper page file, select **Activity ID** as the first field, ignore the remaining resource assignment fields, and select the activity field.

Import File Loading Considerations

There are guidelines to consider when loading activity and resource assignment data from an import file.

These guidelines are as follows:

- You can use the **Save temporary integration table** field on the Integration tab of the Application Preferences dialog box to save temporary integration tables. By saving the temporary tables, you can examine how the CSV or XLS file is interpreted during the import.
- When you select to import resource assignments, use the **ID** field to correlate the activity file to the resource assignment file. When importing from a scheduling system, this field is usually the activity ID. However, you can concatenate the WBS, OBS, and WP IDs to generate a link between the two files.

  **Tip:** In Excel, you can use a formula like A2&A3&A4 to concatenate the fields, but you will have to copy and paste the contents as text before importing.

- When importing control account-level codes such as the CAM, the WP code must be blank to indicate a control account-level data.
- When importing from a single activity and resource assignment file, take note of the following:
  - The **CA1** and **CA2** column depend on what has been defined in the project.
  - HOURS is generally the base result, but you can also select multiple columns with different results (for example, HOURS, DIRECT, OVERHEAD, GANDA). The **Individual <Results>** column displays the results as HOURS, DIRECT, OVERHEAD, or GANDA depending on what is defined in the resource calculation file. Only one **Result** column is required.
- The Apportioned progress technique is not supported for the integration process. If you want to use this progress technique for integration, you must manually select it on the General tab of the Project view.
- When importing progress techniques, use the corresponding progress technique letter code.
- The following options identify how resources are spread across the activity dates:
  - Using the **From Date** and **To Date** fields, you can specify the exact value to place in each period. The resource value is spread across these dates. For example, if the **From Date** and **To Date** for a resource are in the middle of the month, the amount specified is placed in a single period. If the **From Date** and **To Date** span several months, the amount is spread over those periods instead.

- When creating the resource assignment file, you can use the same date for both the **From Date** and **To Date** fields. For example, if you have 10 hours in January, you can have a **From Date** of **1/15/2022** and a **To Date** of **1/15/2022**, and Cobra will load that quantity into the January period.
- On the Resource Assignments page of the Integration Wizard, select the **Spread resource across activity dates** option to spread the amount linearly across the activity dates. Alternatively, you can select the **Use curves for resource spreads** option to instruct Cobra to spread the time-phased resource assignments based on the curve specified in the import file. The curve name entered in the resource file must match the curve name on the Spread Curves tab of the Application Preferences dialog box.
- Resources with multiple records are summed up based on the key fields and the **From Date** and **To Date** fields. If there are multiple records with different **From Date** and **To Date**, Cobra will load each amount over each period specified.

Sample Format for Loading Activity and Resource Assignment Data

The table below provides a sample format for loading activities and resource assignments.

**Table 5: Sample Format for Loading Activity and Resource Assignment Data**

| WBS | WP | OBS | Baseline Start Date | Baseline Finish Date | Progress Technique | Resource | Hours | Direct |
|---|---|---|---|---|---|---|---|---|
| 1.1 | 1.1.1 | MGT | 8/15/2016 | 8/15/2018 | % Complete | DRAFT | 456 | 0 |
| 1.1 | 1.1.1 | MGT | 8/15/2016 | 8/15/2018 | % Complete | MANAGER | 320 | 0 |
| 1.1 | 1.1.1 | MGT | 8/15/2016 | 8/15/2018 | % Complete | SENG | 124 | 0 |
| 1.1 | 1.1.1 | MGT | 8/15/2016 | 8/15/2018 | % Complete | TECH | 459 | 0 |
| 1.2 | 1.2.1 | ENG | 8/20/2016 | 8/20/2018 | Milestones | MANAGER | 251 | 0 |
| 1.2 | 1.2.1 | ENG | 8/20/2016 | 8/20/2018 | Milestones | TECH | 321 | 0 |
| 1.2 | 1.2.1 | ENG | 8/20/2016 | 8/20/2018 | Milestones | DRAFT | 546 | 0 |

The import file must contain a new row for each resource assignment in a work package. Rows 2-5 of the sample will create Control Account 1.1 and Work Package 1.1.1 with four resources assigned to them and the required hours listed in the **Hours** column. All results used by the resource calculations are available as columns, which can be loaded from the import file.

Load an Import File with Activity and Resource Assignment Data

Run the Integration Wizard to load an import file with activity and resource assignment data.

**To load an import file with activity and resource assignment data:**

1. Click the Integration tab.
2. In the **Import** group, click **File**.
3. On the Integration Configuration page, click **Open an existing configuration to load an existing configuration** or click **Create a new configuration to create a new one** (for example, a budget configuration).
4. On the Action Selection page, select the appropriate data based on the import file you are loading.

   **Attention:** For more information, see Import File for Loading Activity and Resource Assignment Data.

5. On the Project Selection page, select the file that contain the data you are loading and the Cobra project you want to integrate with.

   **Attention:** For more information, see Import File for Loading Activity and Resource Assignment Data.

6. Compete the succeeding pages of the Integration Wizard-Scheduling Tools and Files.

*Import File with Data from Multiple Projects*

When loading data into Cobra using **Integration** » **File**, you can import data for multiple projects from a single file, without loading against a master project.

Cobra will split the data for each individual project and load them during the integration, instead of having to load each project from individually created files.

The following rules apply when loading an import file with multiple projects:

- This only applies to **Integration** » **File** Wizard.
- You can load multiple projects for any of the action selection processes that load project data: **Control Account and Work Package**, **Code Assignments and User Fields**, **Resource Assignments**, or **Status**.
  - On the Project Selection page, select the **Defined in File** field to load multiple projects from an import file.
  - If the **Defined in File** field is selected, specify a project in the **Use field mapping from Project** field. Cobra will use the specified file to determine the number of key

fields that can be selected on the Import File Field Mapper page, as well as the default classes that can be used.

> **Note:** If you are loading multiple projects, all of the projects must have the same number of Control Account Key fields as the project selected in the **Use field mapping from Project** field. If the key fields for a project being loaded do not match, Cobra displays an error in the log and skips loading that project.

- You must have update rights to the projects being loaded from the import file. If you do not have update rights to a project being loaded, Cobra skips that project and displays an error in the log.
- Cobra processes each project in sequence and stores log information in a single process log. The log is associated with the project selected in the **Use field mapping from Project** field.
- Since each project is loaded separately, the baseline changes are stored in each individual audit log for each project.

Here is an example of an activity file with data from multiple projects:

| Project | WBS | OBS | WP | DESCRIPTION | ID | Baseline Start Da | Baseline Finish Date | Forecast Start Date |
|---|---|---|---|---|---|---|---|---|
| MULTIPROJECT01 | 1.1.1.1 | 1400 | | Completed CA | 1.1.1.11400 | 6/15/2015 | 4/16/2016 | 6/15/2015 |
| MULTIPROJECT01 | 1.1.1.1 | 1400 | 1 | Completed WP1 | 1.1.1.1140001 | 6/2/2015 | 8/15/2015 | 6/2/2015 |
| MULTIPROJECT01 | 1.1.1.1 | 1400 | 2 | Completed WP2 | 1.1.1.1140002 | 6/2/2015 | 11/15/2015 | 6/2/2015 |
| MULTIPROJECT03 | 1.1.2.1 | 1600 | | InProgress CA | 1.1.2.116 | 12/19/2015 | 3/15/2016 | 12/19/2015 |
| MULTIPROJECT03 | 1.1.2.1 | 1600 | 1 | InProgress WP1 | 1.1.2.1160001 | 12/19/2015 | 3/15/2016 | 12/19/2015 |
| MULTIPROJECT03 | 1.1.2.1 | 1600 | 2 | InProgress WP2 | 1.1.2.1160002 | 12/25/2015 | 5/25/2016 | 12/25/2015 |
| MULTIPROJECT04 | 1.1.2.2 | 1600 | | Planned CA | 1.1.2.216 | 12/25/2015 | 4/15/2016 | 12/25/2015 |
| MULTIPROJECT04 | 1.1.2.2 | 1600 | 1 | Planned WP1 | 1.1.2.2160001 | 12/25/2015 | 4/15/2016 | 12/25/2015 |
| MULTIPROJECT04 | 1.1.2.2 | 1600 | 2 | Planned WP2 | 1.1.2.2160002 | 12/25/2015 | 4/25/2016 | 12/25/2015 |
| MULTIPROJECT05 | 1.6 | 1100 | | New CA | 1.611 | 6/15/2015 | 4/16/2016 | 6/15/2015 |
| MULTIPROJECT05 | 1.6 | 1100 | 1 | New WP1 | 1.6110001 | 6/2/2015 | 8/15/2015 | 6/2/2015 |
| MULTIPROJECT05 | 1.6 | 1100 | 2 | New WP2 | 1.6110002 | 6/2/2015 | 11/15/2015 | 6/2/2015 |

Multi-Project Concurrent Integration

Cobra leverages the PM Compass Process Server to implement the multi-project concurrent integration feature.

You can load a single import file with data from multiple projects concurrently instead of sequentially when using **Integration** » **File**. This means if there are 10 projects in the import file, Cobra will load these projects all at the same time.

Cobra creates a single-project integration for each project and submits that integration job to PM Compass Process Server. PM Compass then distributes each integration job to a Cobra Web Service.

Cobra submits a single job (.csv file) containing multiple projects. When it gets submitted to the Cobra Process Server, the server breaks that job up into a bunch of smaller individual jobs, one for each project. The Cobra Web Service Gateway Service distributes each integration job to one or more Cobra Web Services.

### Before You Begin

Before you use this feature, it is important to understand the following information and requirements:

- You must fully understand the requirements and the steps in setting up your environment to run a concurrent process. Refer to *Deltek PM Compass and Cobra Concurrency Solution Setup and Configuration Guide*.
- You are integrating an import file with data from multiple projects.

**Note:** Multi-project concurrent integration is not yet supported in the Cobra API.

Load an Import File with Multiple Projects Concurrently

Run the Integration Wizard to load an import file with multiple projects concurrently.

**Attention:**

- Deltek recommends that PM Compass users only use this dedicated queue for Cobra processing.
- Make sure that your environment is set up to run multi-project concurrent integration. See Multi-Project Concurrent Integration.

**To load an import file with multiple projects concurrently:**

1. Click the Integration tab.
2. In the **Import** group, click **File**.
3. On the Integration Configuration page, click **Open an existing configuration** to load an existing configuration, or click **Create a new configuration** to create a new one (for example, a budget configuration).
4. On the Project Selection page, select a valid import file with multiple projects, and select the **Defined in File** checkbox.

   **Attention:** For more information, see Import File with Data from Multiple Projects.
5. Click **Next** and complete the succeeding pages of the Integration Wizard-Scheduling Tools and Files.
6. On the Save and Load page, click **Load data now?** and **Send to process server.**
7. Click **Finish**.

   When the integration completes successfully without errors, click **View Log** to display the master process log that contains entries of the overall multi-project integration as well as the details of each job.

   **Attention:** For details on possible errors and fixes, see View Job Status and Process Logs and Troubleshooting Concurrency Issues.

Integration Errors

If the integration process completes with errors, you need to correct the errors and perform the integration again.

In this case, you may perform a single project integration using the Cobra application.

**Attention:** For details on possible error and fixes, Troubleshooting.

Troubleshooting Concurrency Issues

This section provides errors that you may encounter when using the concurrency feature as well as possible solutions.

- The server was unable to process the request due to an internal error
- There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message
- The encryption type requested is not supported by the KDC

**Note:** There are additional steps that you may need to perform when implementing concurrency:

- Before installing an update, back up the *.config files.
- If you are using the Cobra installer to perform an upgrade of a machine with the Cobra Gateway Service, stop the service before installing the update and start it afterwards to avoid having to restart the machine.

Use the Process Queue Manager form in PM Compass to Check Job Status

When one or more jobs on the Process Queue Manager form in PM Compass show a failed status, it means that the process was not able to successfully complete.

**To determine what caused the failure:**

1. Log into PM Compass as SYSADMIN or any user with access to PM Compass.
2. On the Navigation menu, click **Administration** » **Process Server** » **Process Queue Manager**.
3. In **Queue**, select the Cobra queue.
4. In the Queue Processes grid, click the row of the job with failed status, and click **Detail**.
5. On the Process Queue Detail form, click the **Termination Message** button to display the error.
6. Refer to the section below that relates to the error and corresponding fix.
   - The server was unable to process the request due to an internal error

The server was unable to process the request due to an internal error

If the error "The server was unable to process the request due to an internal error." displays, it means that the Cobra Gateway encountered issues when connecting to one of the Cobra Web Service instances.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | (1) The remote server returned an error: (401) Unauthorized.<br>(2) Unhandled Exception: The target principal name is incorrect.<br>(3) The HTTP request is unauthorized with client authentication scheme 'Negotiate'. |
| **Description** | The error is usually encountered when the Cobra Web Service is located on a remote machine which runs on the Windows Domain Account that does not have access to the Service Principal Name (SPN).<br>When the Cobra Gateway establishes a connection to the Cobra Web Service, the Cobra Web Service usually sends the SPN declared on the machine, known as Identity, to the Cobra Gateway. Since the Windows Domain Account runs on a remote machine and does not have access to the SPN, the Cobra Web Service sends the User Principal Name (UPN) instead.<br>The Cobra Gateway, which expects the SPN Identity from the Cobra Web Service receives the UPN Identity instead. This results in the Cobra Gateway rejecting the connection. |
| **Solution #1**: Specify the UPN of the running Windows domain account as the Identity of each remote Cobra Web Service in the Cobra Gateway's configuration file using the Cobra Web Service Gateway Configuration Tool. | **To specify the UPN on each remote Cobra Web Service:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**.<br>3. In the Cobra Web Service Endpoints grid, update the **UPN** field of each remote CWS.<br>4. Click **Save**, and then click **Close**.<br>5. Restart the “Gateway” service in Windows Services. |

| | |
|---|---|
| **Solution #2**: Have a Network Administrator register the **http/<host name>** and **http/<fully qualified host name>** SPN under the dedicated Windows Domain Account in Active Directory. Host name refers to the remote machines where the Cobra Web Services are hosted. | **Note:** Before adding SPNs to the dedicated Windows Domain Account, make sure that these SPNs are not registered under another computer or user account. Having duplicate SPNs can cause authentication problem. For more information about SPN, https://docs.microsoft.com/en-us/windows/win32/ad/service-principal-names.<br><br>**Warning:** Registering a HTTP type SPN can affect other HTTP traffic hosted on the machine.<br><br>**Tip:** The Setspn command is a Windows command that allows you to register a SPN user for the dedicated Windows Domain Account. For more information about Setspn command, see https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/cc731241(v=ws.11).<br><br>**To register a SPN:**<br>1. Launch the Command Prompt and select **Run As Administrator**.<br>2. Enter these two commands:<br>`Setspn -U -S http/<host name> <dedicated Windows Domain Account>`<br>`Setspn -U -S http/<fully qualified host name> <dedicated Windows Domain Account>`<br><br>**For example:**<br>`Setspn -U -S http/COBWSHOST1 MYDOMAIN\serviceaccount`<br>`Setspn -U -S http/COBWSHOST1.mydomain.com MYDOMAIN\serviceaccount`<br><br>3. Wait for the SPN change to propagate across the entire network. You may also need to restart your machine to complete the change. |

There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message

If you encounter the error "There was no endpoint listening at http://<machine>:<port>/CobraWebService/service that could accept the message", it is possible that one of the Cobra Web Service's addresses is not working properly.

Use the Gateway's debug log file to see the specific error.

**To view the debug log and determine the error:**

1. Navigate to the following folder on the Cobra Concurrency machine: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.
2. Locate the **WebServiceGatewayDebugLog.xml** file and open it using a text editor (such as Notepad) and look for the error message.

   Refer to the following tables for the error message and its solution.

| | |
|---|---|
| **Error Message** | There was no endpoint listening at http://<machine>:<port>/CobraWebService/ service that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details. |
| **Description** | The error is usually encountered if one of the Cobra Web Service's addresses is not working properly. |

| Possible Cause | Solution |
|---|---|
| The Cobra Web Service instance on <machine>:<port> has stopped from running. | Start the Cobra Web Service instance.<br>**To start the Cobra Web Service instance:**<br>1. Access the <machine> where the Cobra Web Service instance is installed.<br>2. Start the Cobra Web Service instance on <port> in the Windows Services. |
| The Cobra Web Service instance on <machine>:<port> has been uninstalled but is still defined in the Cobra Web Service Gateway Configuration Tool. | Remove the Cobra Web Service Endpoint that is causing the error from the Cobra Web Service Gateway Configuration Tool.<br>**To remove the Cobra Web Service endpoint that is causing the error from the Cobra Web Service Gateway Configuration tool:**<br>1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.<br>**Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.<br>2. In the left pane in the Gateway tree, click **Cobra Web Service Gateway**. |

| Possible Cause | Solution |
|---|---|
| | 3. In the Cobra Web Service Endpoints grid, select the instance that is causing the error.<br>4. Click the endpoint (instance) row and press **Delete** on your keyboard.<br>5. Click **Save**, and then click **Close**.<br>6. Restart the “Gateway” service in the Windows Services. |

The encryption type requested is not supported by the KDC

Cobra Web Service with Windows authentication requires encryption algorithms. If the service account that you created for the Cobra Web Service is not properly configured to support these algorithms, the Cobra Web Service log displays an error.

The error is: "System.ComponentModel.Win32Exception: The encryption type requested is not supported by the KDC."

**To view the debug log and determine the error:**

1. Navigate to the following folder of the machine where the Cobra Web Service is configured and deployed: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.

   **Note:** Basically, this is the machine where Cobra is installed. If you are using concurrency, this is the Cobra Concurrency machine.

2. Locate the following file and open it using a text editor (such as Notepad) and look for the error message.
   - WebServiceDebugLog_<port>.xml

     **Note: <port>** is the port in the Cobra Web Service URL.

   - WebServiceGatewayDebugLog.xml file (if you are using concurrency)
3. Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | System.ComponentModel.Win32Exception : The encryption type requested is not supported by the KDC. |
| **Description** | The error is usually encountered if you are using Cobra Web Service with Windows authentication and the service account you created is not properly configured to support encryption algorithms. |

| Solution | Details |
|---|---|
| Enable the AES encryption for the service account. | **To enable AES encryption:**<br>1. Open **Active Directory Users and Computers**.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. Click the Account tab.<br>5. Under **Account** options, select one or both of the following:<br>▪ This account supports Kerberos AES 128 bit encryption.<br>▪ This account supports Kerberos AES 256 bit encryption.<br>6. Click **OK**. |
| Configure the network security using the Group Policy Management console. | **To configure the network security:**<br>1. Open the Group Policy Management console and edit a new or existing GPO.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. On the Security Policy Setting tab, select the **Define these policy settings** checkbox.<br>5. Select the following options:<br>▪ RC4_HMAC_MD5<br>▪ AES128_HMAC_SHA1<br>▪ AES256_HMAC_SHA1<br>▪ Future encryption types<br>6. Click **OK**. |

**Additional Information**

Refer to the following articles from Microsoft:

- SharePoint server configuration requirements to support Kerberos AES encryption if errors occur
- SCCM: "The encryption type requested is not supported by the KDC" Error

View Job Status and Process Logs

You can view the job status and process logs both in Cobra and PM Compass.

View Job Status and Process Logs in Cobra

You can view the job status and process logs in Cobra.

**To view the job status and process logs in Cobra:**

1. Log into Cobra.
2. Click **Tools** » **Process Logs**.

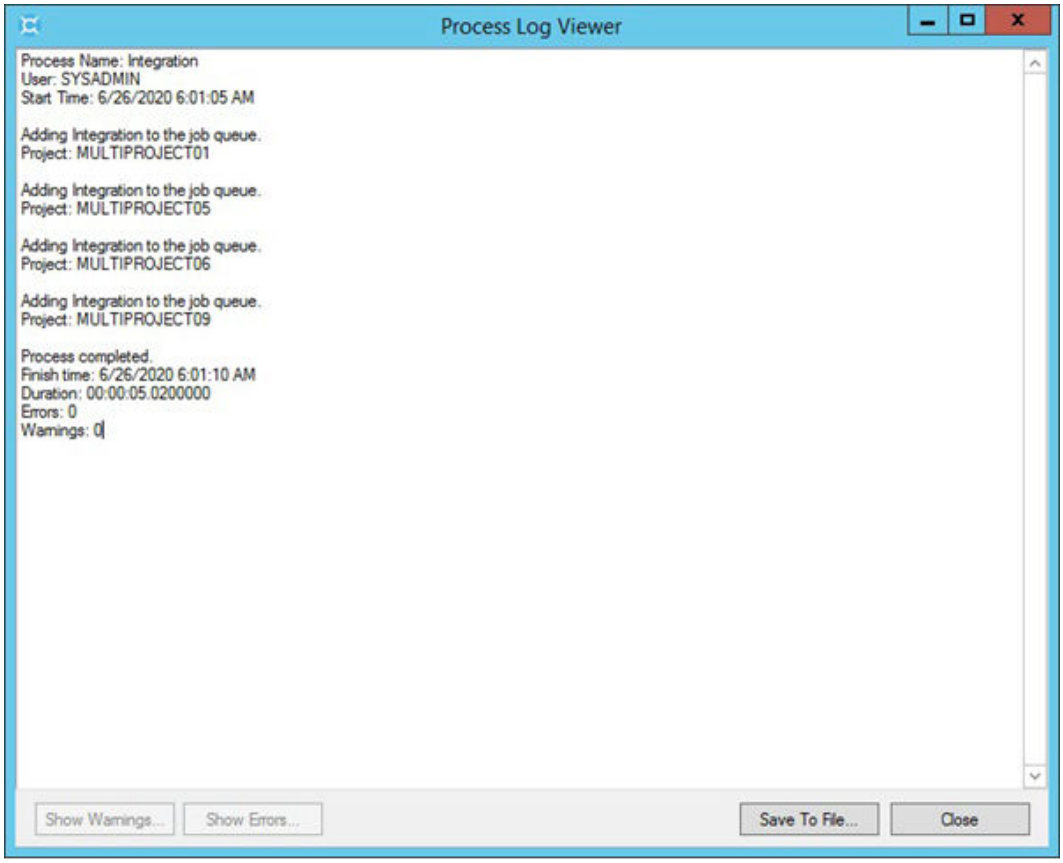
   There are two types of process logs created by Cobra for each process sent to the job queue.

   - **Master Process Log**: This log represents the overall process and contains details of the jobs submitted to the queue. This is immediately created and marked Completed as it represents information on each job submitted to the queue.
   - **Individual Process Log**: One process log exists for each job.

     Each process log contains the standard information for an individual job, and also the machine name and the instance ID of the machine you are using. If the machine is an n-tier server, the machine name displays the n-tier machine name. If the machine is a Cobra Web Service server, the machine name displays the Cobra Web Service machine name. If the machine is neither an n-tier server nor a Cobra Web Service server, the machine name is not displayed.

   **Note:** All logs should have the same **StartTime.**

   Here is an example of the process log when you run concurrent integration of multiple projects.



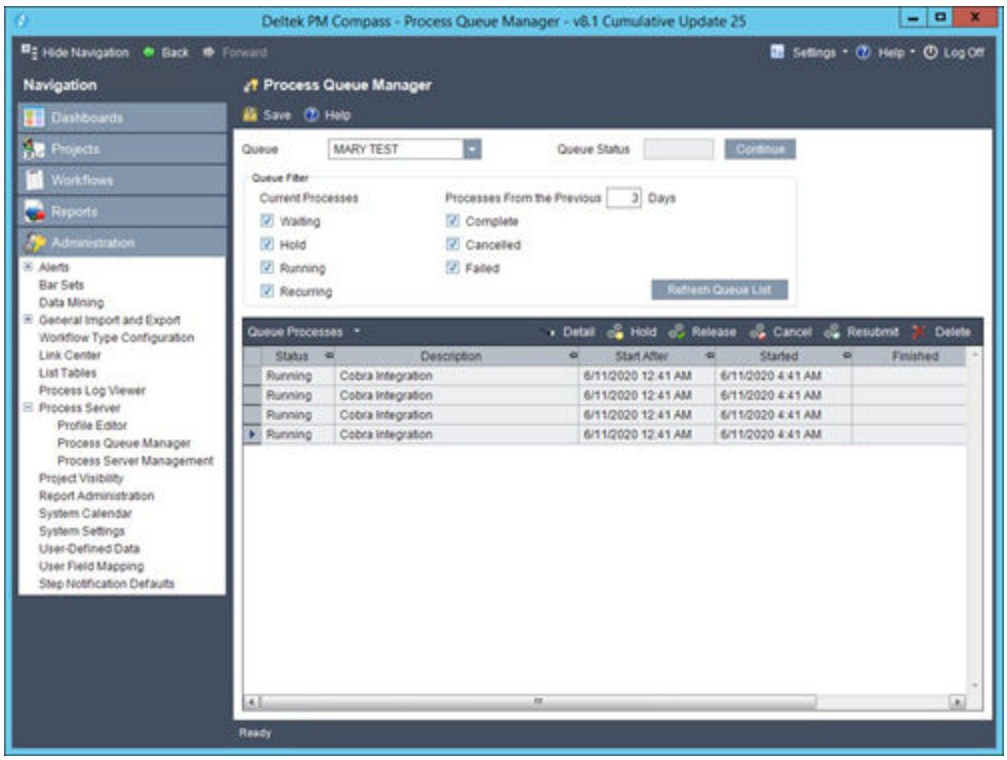

View Job Status and Process Logs in PM Compass

You can view the job status and process logs in PM Compass.

**To view the job status and process logs in PM Compass:**

1. Log into PM Compass as SYSADMIN or any user with access to PM Compass.
2. On the Navigation menu, click **Administration** » **Process Server**.
3. On the Process Queue Manager form, in the **Queue** field, select the Cobra queue.
4. In the Queue Processes grid, all jobs created are displayed.

   The initial status of the jobs is Waiting. Once the job starts, the status is changed to **Running**. When the job is complete, the status is changed to **Completed**. The status of all jobs is updated at the same time.




**Attention:** For details on possible errors and fixes, see Troubleshooting.

*Import File Example*

An import file can be an activity file, resource assignment file, or a combination of both.

This is an example of an activity file.

```
1.1.1,1600,01,161,This is act 1,12/15/09,02/03/02
1.1.1,1600,02,162,This is act 2,02/09/02,03/30/0
```

This is an example of a resource assignment file.

```
161,ENG1,156,12/15/09,12/31/09
161,ENG1,200,01/01/02,01/31/02
161,ENG1,10,02/01/02,02/03/02
161,ENG2,35,12/15/09,12/31/09
161,ENG2,40,01/01/02,01/15/02
162,TECH,206,02/01/02,02/28/02
162,TECH,290,03/01/02,03/30/02
162,MATL,10000,02/01/02,02/01/02
```

This is an example of a combined activity and resource assignment file.

```
1.1.1.1,1400,01,1.1.1.1.01,06/01/2007,07/12/2007,LABOR,100,10000
1.1.1.1,1400,02,1.1.1.1.02,06/01/2007,10/13/2007,MAT,0,100000
1.1.1.2,1420,01,1.1.1.2.01,09/01/2007,12/23/2007,LABOR,50,5000
```

If you are loading a forecast, you are loading forecast dates and forecasted resource requirements. Therefore, the resource requirements should not be before the status date.

For example, if the project status date was 12/31/09, the resource assignment file will be as follows:

```
161,ENG1,200,01/01/02,01/31/02
161,ENG1,10,02/01/02,02/03/02
161,ENG2,40,01/01/02,01/15/02
162,TECH,206,02/01/02,02/28/02
162,TECH,290,03/01/02,03/30/02
162,MATL,10000,02/01/02,02/01/02
```

**Note:** To easily create an import file for the ancillary data you want to import into Cobra, you can generate the corresponding export report to see a sample CSV file for import. If you save the data as a CSV, XLS, or XLSX file, you can select the **File contains a header row** option on the Ancillary File Field Mapper page and just import the file.

### File Level Security

Cobra enforces file-level security when you use the Integration Wizard.

For example, if you do not have the right to update a resource file, you will not be able to load data into that resource file through the Integration Wizard. When enabled, file-level security is applied to existing files. You must have the appropriate rights to the file in order to load data into an existing file. If you create a file, you become the owner of the file and are given full rights.

| File Type | Security Rights |
|---|---|
| Code File | Update rights to the project |
| Code Assignment | Update, add, and delete rights to the project |
| Loading Budget | Update, add, and delete rights to the project |
| Resource Definition and Rate | Update and add rights for updating and requires add and delete rights for overwriting |
| Loading Status | Read rights to the project |
| Loading Forecast | Add, delete, and update rights to the project |

**Note:** All options require read rights, which are automatically given with any other right. Also, full rights are given to the manager and the file owner. All users have full rights to files without owners.

### Template Resource Files

Template resource files help you build a calculation for the resources that you are importing from a schedule. The resources are calculated during the import process.

Without a template resource file, there are at most only two results—Hours and Direct—when you import data from a schedule. The rate for the resource in the schedule is used to determine the number of results. If the rate is 0 or 1, the only result used is Direct. If the rate in the schedule for the resource is not 0 or 1, the two results Hours and Direct are created. The rate used for the Direct result is the same name as the resource. If you are importing rates from the schedule, that rate is imported from the schedule into a rate set with the same name as the resource (rate escalation is never imported from the schedule).

With a template resource file, you can build a complex calculation when importing data from the schedule. A template resource file is just a different resource file that contains resources named to identify which calculation should be used when importing data.

If you use Open Plan or Primavera, the resource name must be the same as the units for the resource in the schedule. For example, if the schedule contains data using Dollars as the unit, the calculation for the resource named Dollars in the template resource file is used on all new resources imported from the schedule with units of Dollars. If Hours is a unit in the schedule, the calculation for the resource named Hours in the template resource file is used on all new resources imported from the schedule with units of Hours.

If you use Microsoft Project, the resource name must be WORK, MATERIAL, or any value you have entered as the material label in Microsoft Project.

If a resource in the template resource file is found with the same name as the resource in the schedule, that calculation is used. This override method applies to data being imported from all schedules.

### Import Data From Scheduling Tools and Files

Use the Integration Wizard to import data from scheduling tools and files.

**To import data from scheduling tools and files using the Integration Wizard:**

1. Click the Integration tab.
2. In the **Import** group, click the appropriate command depending on the type of data you would like to import.
   - Click **Open Plan** if you are importing Open Plan data.
   - Click **MS Project** if you are importing MS Project data.
   - Click **Primavera** if you are importing Primavera data.
   - Click **File** if you are importing from an import file.
3. Complete the pages of the Integration Wizard-Scheduling Tools and Files to import data into Cobra.

## Integration Wizard-Scheduling Tools and Files

To import data from files, Microsoft Project, Open Plan, or Primavera into Cobra, you must complete the information required on each page of the Integration Wizard.

### Video

| Title | Description |
|---|---|
| Integration Wizard-Getting Started | View this video to begin using the Integration Wizard: This is the first in a series of videos explaining the Integration Wizard. |
| Importing the Progress Technique from the Schedule | View this video to explore the many options for choosing the progress technique while importing from the schedule. |

*Integration Configuration Page of the Integration Wizard*

Use this page to create a new configuration or select an existing one.

Imported data includes, but is not limited to, project structures, coding, control accounts and work packages, budget and forecast spreads, project status, resource information, and rates. The data to be imported can reside in either a scheduling tool or an import file.

### Contents

| Field | Description |
|---|---|
| **Create a new configuration** | Select this option to create a new configuration. This option is enabled only if you have rights to create configurations as defined by your system administrator. |
| **Open an existing configuration** | Use this field to select a configuration that is defined and stored in the database.<br>Click ... to select a saved configuration using the Lookup dialog box. You can click the column header to sort the data in the column.<br>**Note:** The Lookup dialog displays only personal configurations and those shared for all users. If you do not have rights to create a new configuration but can open an existing configuration, you will only have rights to change the file selection. All other Wizard pages will be filled in but disabled based on the saved configurations. |
| **Description** | This field is enabled only when you select the **Open an existing configuration** option. This field displays the description of the selected configuration. |

| Field | Description |
| --- | --- |
| **Where are you loading the data from?** | Use this field to select the source of the data you will import.<br>▪ **Files**: Select this option if you are importing data from files.<br>**Attention:** For more information, see Data Import Using Files.<br>▪ **Microsoft Project XML**: Select this option if you are importing data from Microsoft Project XML.<br>**Attention:** For more information, see Data Import from Microsoft Project.<br>▪ **Microsoft Project Server**: Select this option if you are importing data from Microsoft Project Server.<br>**Attention:** For more information, see Data Import from Microsoft Project.<br>▪ **Open Plan**: Select this option if you are importing data from Open Plan.<br>**Attention:** For more information, see Data Import from Open Plan.<br>▪ **Primavera**: Select this option if you are importing data from Primavera.<br>**Attention:** For more information, see Data Import from Primavera.<br>**Note:** This field is disabled if you select an existing configuration. |

### Video

| Title | Description |
| --- | --- |
| Integration Wizard-Getting Started | View this video to begin using the Integration Wizard: This is the first in a series of videos explaining the Integration Wizard. |

*Connection Selection Page of the Integration Wizard*

Use the Connection Selection page of the Integration Wizard to define the connection to use to import data from Microsoft Project or Primavera.

**Contents**

| Field | Description |
|---|---|
| **Connection Name** | Click ... to select a connection from the list. |
| **Test** | Click this button to validate the properties defined in the selected connection file. The connection is automatically validated when you click **Next**. |
| **New** | Click this button to create a new connection.<br>**Attention:** For more information, see New Connection Dialog box of the Integration Wizard. |
| **Edit** | Click this button to edit connection information. This button is enabled only when you select a connection.<br>**Attention:** For more information, see New Connection Dialog box of the Integration Wizard. |

New Connection Dialog Box of the Integration Wizard

Use this dialog box of the Integration Wizard to create a new connection for importing data from Microsoft Project or Primavera.

New Connection Dialog Box of the Integration Wizard-MS Project

Use this dialog box to create a new connection to import data from Microsoft Project.

**Contents**

| Field | Description |
|---|---|
| **Connection Name** | Enter a name for the new connection. The connection name must be unique and must not exceed 59 characters. |
| **Connection Properties** | Use this field to enter the connection properties for the type of configuration you selected.<br>▪ **Cobra database**: Use this option if Cobra and Microsoft Project use the same database. |

| Field | Description |
|---|---|
| | **Note:** If Cobra and Microsoft Project do not use the same database, you must specify the username and password information of the Windows data source used to connect to the Microsoft Project database.<br>▪ **Data source**: Use this option to select the Windows data source used to connect to the Microsoft Project database. The drop-down list displays the defined ODBC data sources.<br>▪ **User name**: Use this field to enter the user name required to connect to the selected data source.<br>▪ **Password**: Use this field to enter the password to connect to the selected data source.<br>▪ **Connection String**: Use this option if you want to use a connection string to connect to the schedule data source. If you enter the password as part of the connection string, Cobra remembers the value and encrypts it when it is saved in the connection file.<br>  ▪ **Microsoft Project <versions> XML file**: Click ... to select the path to the XML file that is generated by Microsoft Project. You may also enter the path type or use UNC to define the location. The path must be accessible to the server in a client/server installation.<br>  The maximum file size supported for the XML format is 2 GB. |
| **Test** | Click this button to check that the XML file can be accessed by the server in a client/server environment. This field is enabled only when you select an XML file. |

New Connection Dialog Box of the Integration Wizard-Primavera

Use this dialog box to create a new connection for importing data from Primavera.

### Contents

| Field | Description |
|---|---|
| **Connection Name** | This field allows you to enter a name for the new connection. The connection name must be unique and must not exceed 59 characters. |

### Connection Properties

This group box allows you to enter the connection properties for the type of configuration you selected.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Cobra Database</td><td>Select this option to instruct Cobra to look for all schedule data in the same ODBC data source to which Cobra is connected.<br><br>Note: If Cobra and Primavera do not use the same database, you must specify the username and password information of the Windows data source used to connect to the Primavera database.</td></tr>
<tr><td>Data Source</td><td>Use this option to select the Windows data source to which you are connecting.<br>▪ User name Use this field to enter the user name required to connect to the selected Windows data source.<br>▪ Password: Use this field to enter the password to connect to the selected Windows data source.</td></tr>
<tr><td>Connection String</td><td>Select option if you want to use a connection string to connect to the schedule data source. If you enter the password as part of the connection string, Cobra remembers the value and encrypts it when it is saved in the connection file.<br><br>Attention: For more information on connection strings, see https://www.connectionstrings.com/.
<table>
<tr><th></th><th>SQL Server Database</th><th>Oracle Database</th></tr>
<tr><td>Syntax</td><td><code>Driver=xx;Server=myServerAddress;Database=myDataBase;Uid=myUsername;Pwd=myPassword</code><br><br>where<br>xx = ODBC driver<br>Server = Server name<br>Database = Database name<br>Uid = Username<br>Pwd = Password</td><td><code>Driver={xx};Dbq=<DBNAME>;Uid=<>;Pwd=<>;</code><br><br>where<br>xx = ODBC driver<br>DBq = Database name<br>Uid = Username<br>Pwd = Password</td></tr>
<tr><td>Example</td><td><code>Driver={SQL Server Native Client 11.0};Server=myServerAddress;Database=myDataBase;Uid=myUsern</code></td><td><code>Driver={Oracle in OraClient12Home1_32bit};Dbq=COBRA12CI;Uid=IWACTABLE;Pwd=IWACTABLE;</code></td></tr>
</table>
</td></tr>
</table>

| Field | Description |
|---|---|
| | <table><tr><th></th><th>SQL Server Database</th><th>Oracle Database</th></tr><tr><td></td><td>ame;Pwd=myPassword;</td><td></td></tr></table> |
| **Load daily time-phased data** | Select this option to enable the fields necessary to establish a connection to the Primavera API containing the time-phased data you want to load.<br>▪ **Primavera User**: Use this field to enter the user name required to connect to the Primavera API.<br>**Note:** The user specified for the integration API must be a Primavera user who has been given Named User rights to the Integration API. The Integration API database connection must be set up using the API tools before it can be used.<br>▪ **Password**: Use this field to enter the password for the specified user to connect to the Primavera API.<br>▪ **Primavera API Location**: Use this field to select the path where the Primavera API file is located.<br>**Note:** The Primavera API file path must be on the same machine that runs the Integration process. In an n-tier or a client/server deployment, this is the application server. In a stand-alone deployment, this can be a local machine |

Edit Connection Dialog Box of the Integration Wizard

Use this dialog box to edit existing connection for importing data from Microsoft Project or Primavera.

Edit Connection Dialog Box of the Integration Wizard-MS Project

Use this dialog box to edit an existing connection for importing data from Microsoft Project.

**Contents**

| Field | Description |
|---|---|
| **Connection Name** | This field indicates the name of the connection being edited. This field cannot be edited. |
| **Connection Properties** | Use this group box to enter the connection properties for the type of configuration you selected. |

| Field | Description |
|---|---|
| | ▪ **Cobra database**: Use this option if Cobra and Microsoft Project use the same database.<br>**Note:** If Cobra and Microsoft Project do not use the same database, you must specify the username and password information of the Windows data source used to connect to the Microsoft Project database.<br>▪ **Data source**: Use this field to select the Windows data source used to connect to the Microsoft Project database. The field displays the defined ODBC data sources.<br>▪ **User name**: Use this field to enter the user name required to connect to the selected data source.<br>▪ **Password**: Use this field to enter the password to connect to the selected data source.<br>▪ **Connection String**: Use this option if you want to use a connection string to connect to the schedule data source. If you enter the password as part of the connection string, Cobra remembers the value and encrypts it when it is saved in the connection file.<br>▪ **Microsoft Project <versions> XML file**: Click to select the path to the XML file that is generated by Microsoft Project. You may also enter the path type or use UNC to define the location. The path must be accessible to the server in a client/server installation.<br>The maximum file size supported for the XML format is 2 GB. |
| **Test** | Click this button to check if the XML file can be accessed by the server in a client/server environment. This field is enabled only when you select an XML file. |

Edit Connection Dialog Box of the Integration Wizard-Primavera

Use this page to modify a connection for importing data from Primavera.

**Note:** The fields displayed in this dialog box are the same as the fields in the New Connection dialog box of the Integration Wizard.

*Action Selection Page of the Integration Wizard*

Use this page to select the data type you want to import from the schedule.

**Note:** You can import only project data when importing from files. You must select at least one option to continue.

**Contents**

| Field | Description |
|---|---|
| **Ancillary Data** | Select one of the following checkboxes if you want to import ancillary data using a scheduling tool.<br>▪ **Codes**: Select this option to create or update codes in a code file.<br>▪ **Resources and Rates**: Select this option to update resources in a code file and rates in a code file. |
| **Project Data** | Select one of the following checkboxes if you want to import project data using a scheduling tool:<br>▪ **Control Account and Work Package**: Select this option to create or update control accounts and/or work packages.<br>▪ **Code Assignments and User Fields**: Select this option to update code assignments and user fields on control accounts and/or work packages.<br>▪ **Resource Assignments**: Select this option to create or update budget or forecast data on resource assignments.<br>**Note:** If you select **Resource Assignments**, **Control Account and Work Packages** is selected automatically.<br>▪ **Status**: Select this option to update actual dates and percent complete.<br>▪ **Notes**: Select this option to import notes.<br>**Note:** This option is not supported when importing from Open Plan. Use the Schedule Mapping page to select an Open Plan note category to import. |

*Project Selection Page of the Integration Wizard*

Use this page to select the files from which you will import data and the Cobra project where data is imported to.

Project Selection Page of the Integration Wizard-Files

Use this page to select the files from which you will import data and the Cobra project into which data is imported.

**Contents**

| Field | Description |
|---|---|
| **Activity File** | Click ... to select the activity file that contains information on control accounts and work packages. The data required in this field depends on the option you select on the Action Selection page. |

| Field | Description |
|---|---|
| | **Note:** You must select an activity file when importing any type of data except **Status** data. |
| **Resource Assignment File** | Click ... to select a resource assignment file to import.<br>This field is required when you select **Resource Assignments** on the Action Selection page. |
| **Use one file with activity and resource assignment data** | Select this checkbox to import budget from a single budget file that contains both activity and resource data. This checkbox is enabled only when all of the following options are selected on the Action Selection page:<br>▪ **Control Account and Work Package**<br>▪ **Code Assignments and User Fields**<br>▪ **Resource Assignments**<br>Selecting this checkbox enables the **Activity and Resource Assignment File** field and disables the **Activity File** and **Resource Assignment File** fields.<br>This checkbox is not selected by default. |
| **Activity and Resource Assignment File** | Click to select the file that contains both the activity and resource assignment data. This field becomes enabled only if you select the **Use one file with activity and resource assignment data** checkbox.<br>When there are two or more records that represent different resource assignments belonging to the same activity, Cobra imports the activity information from the first record in the file. |
| **Status File** | Click ... to select a status file you want to import.<br>**Note:** This field is required when you select **Status** on the Action Selection page. |
| **Cobra Project** | Click ... to select the Cobra project where data is imported to. You can also enter the name of the project. However, ensure that the project is valid and that you have write permissions to it. |
| **Defined in File** | Select this checkbox to load an import file (status file, activity file, resource assignment file, or a single file with activity and resource assignment data) with data from multiple projects without loading against a master project.<br>This checkbox displays if you select any of the following options on the Action Selection page:<br>▪ **Control Accounts and Work Packages**<br>▪ **Code Assignments and User Fields** |

| Field | Description |
|---|---|
| | ▪ **Resource Assignments**<br>▪ **Status** |
| **Use field mapping from Project** | This field displays when you select the **Defined in File** checkbox. Select a project from the list. Cobra uses the specified file to populate the Lookup dialog boxes in the wizard and define the number of key fields expected in the field mapper. Otherwise, Cobra displays an error in the logs. |

Project Selection Page of the Integration Wizard-Scheduling Tools

Use this page to select the schedule project from which data is imported and the Cobra project to which it is imported.

This page displays if you are importing project data.

**Contents**

| Field | Description |
|---|---|
| **Schedule Project** | Use this field to select a source project from which you will import data. |
| **Cobra Project** | Use this field to identify the Cobra project to which the data will be imported. Enter the project name or click ... to select a project from the lookup. It can take a while to retrieve data for the lookup.<br>You can only select a project that you have access to modify.<br>This field becomes blank when you select the **Create a new project** checkbox. |
| **Create a new project** | Select this option to create a new project. Selecting this checkbox clears the **Cobra Project** field.<br>Enter a name for the new project or use the default name that Cobra assigns. The project name must be unique. |
| **Populate only the link table** | Select this option if you want the import process to populate the link tables but not load the data into the database. |

*Notes Page of the Integration Wizard*

Use this page to define the **Note category** to use if the **Category** field is not mapped in the activity file or if the mapped field in the file is blank.

**Note:** This page displays when you select **Notes** on the Action Selection page.

### Contents

| Field | Description |
|---|---|
| **Control Account note category** | Click to select a control account-level note category. |
| **Work Package note category** | Click to select a work package-level note category. |

### Sample File Format for Importing Multiple Note Categories

```
1.1.1.1, 1400, Statement of Work, This note will be loaded into the
control account note category Statement of Work".1.1.1.1, 1400,
Risk, "This note will be loaded into the control account note
category Risk".
1.1.1.2, 1410, Statement of Work, "This is the second note for the
Statement of Work".
1.1.1.2, 1410, Risk, "This is the second note for the Risk".
```

*Codes Page of the Integration Wizard*

Use this page to select the schedule code you want to import and the corresponding Cobra code files to import to.

Codes Page of the Integration Wizard-MS Project

Use this page to select the code information that you want to import from the schedule and the Cobra code file to which the code file will be imported.

The Codes page of the Integration Wizard displays only if you are importing codes.

### Contents

| Field | Description |
|---|---|
| **Action** | Use this field to select whether to update an existing code file or create or overwrite a new one.<br>▪ **Update**: Select this option to add new codes to the existing file. Codes that match the imported codes have their description updated.<br>▪ **Create/Overwrite**: Select this option to create the selected Cobra code file if it does not exist. If it exists, the existing file is deleted and recreated. |
| **Schedule Code** | Use this field to identify the codes to import from the schedule. |
| **Microsoft Project** | Click to display a list of code fields in the selected Microsoft Project file. It may take some time to retrieve data for the database.<br>The list includes the following Microsoft Project fields: |

| Field | Description |
|---|---|
| | ▪ WBS<br>▪ Task Text fields<br>▪ Resource Text fields<br>▪ Task Number fields<br>▪ Resource Number fields<br>▪ Task Outline Code fields<br>▪ Resource Outline Code fields<br>▪ Enterprise Outline Codes |
| **Cobra Code File** | To select the code file into which you will import data, either click and select a file from the list or enter the name of the code file in this field.<br>▪ If you selected **Update** as the action, the file that you select or enter must be an existing code file.<br>▪ If you selected **Create/Overwrite** as the action, you can either select an existing file or enter a name for a new file to be created. |
| **Add** | Use this button to insert a row in the grid so that you can import another code file. |
| **Delete** | Use this button to delete the selected row. This button is disabled if no row is selected. |

Codes Page of the Integration Wizard-Primavera

Use this page to select the code information you want to import from the Primavera schedule, and the Cobra code file where you want the code file to be imported.

**Note:** The Codes page of the Integration Wizard displays only if you are importing codes.

**Contents**

| Field | Description |
|---|---|
| **Action** | Use this field to select whether to update an existing code file in Cobra, or create or overwrite a new one.<br>▪ **Update**: Select this option to add new codes to the existing file. Codes that match the imported codes have the description updated.<br>▪ **Create/ Overwrite**: Select this option to create the selected Cobra code file if it does not exist yet. If it exists, the existing file is deleted and recreated. |

| Field | Description |
|---|---|
| **Schedule Code** | Use this field to define the codes to import from the schedule. |
| **Primavera** | Use this field to select the Primavera file to be imported.<br>▪ **WBS**: Cobra loads from the level of the selected project going down.<br>▪ **Resource Control Account**: This refers to all control accounts in the Primavera control account table.<br>▪ **Activity Codes**: These can be global, EPS (Enterprise Project Structure), or project specific. This list of available codes is drawn from codes assigned to tasks on the selected project.<br>**Note:** If you select a code that has a lookup list, the entire list is imported whether all the values are assigned to the project or not. |
| **Cobra Code File** | To select the code file into which you import data, either click ... and select a file from the list or enter the name of the code file in this field. It may take some time to retrieve data for the database.<br>▪ If you select **Update** as the action, the Cobra code file you select or enter must be an existing code file.<br>▪ If you select **Create/ Overwrite** as the action, you can either select an existing file or enter a name for a new file to be created. If you select this option, the default value in the **Cobra Code File** field becomes **New Code 1**. If that name already exists, it increments to the next number. |
| **Add** | Use this button to insert a row into the grid so that you can import another code file. |
| **Delete** | Use this button to delete the selected row. This button is disabled if no row is selected. |

Codes Page of the Integration Wizard-Open Plan

Use this page to select the code information you want to import from the schedule, and the Cobra code file where you want the code file to be imported.

**Note:** The Codes page of the Integration Wizard displays only if you are importing codes.

### Contents

| Field | Description |
|---|---|
| **Action** | Use this field to select whether to update an existing code file in Cobra, or create or overwrite a new one. |

| Field | Description |
|---|---|
| | ▪ **Update**: Select this option to add new codes to the existing file. Codes that match the imported codes have the description updated.<br>▪ **Create/ Overwrite**: Select this option to create the selected Cobra code file if it does not exist yet. If it exists, the existing file is deleted and recreated. |
| **Schedule Code** | Use this field to define the codes to import from the schedule. |
| **Open Plan** | Click to open a list of BDN (breakdown structure) files that you have read access to in Open Plan. It may take some time to retrieve data for the database. |
| **Cobra Code File** | To select the code file into which you import data, either click and select a file from the list or enter the name of the code file in this field.<br>▪ If you select **Update** as the action, the Cobra code file you select must be an existing code file.<br>▪ If you select **Create/ Overwrite** as the action, you can either select an existing file or enter a name for a new file to be created. If you select this option, the default value in the **Cobra Code File** field becomes **New Code 1**. If that name already exists, it increments to the next number. |
| **Add** | Use this button to insert a row into the grid so that you can import another code file. |
| **Delete** | Use this button to delete the selected row. This button is disabled if no row is selected. |

*Resources and Rates Page of the Integration Wizard*

Use this page to select the resource and rate information that you want to import from the schedule and to select the Cobra resource and rate files that you are importing data into.

**Note:** The Resources and Rates page displays only if you are importing resources and rates, or if you are creating a new Cobra project even if you do not select to import resources and rates.

If **Resources and Rates** is not selected on the Action Selection page but you select to create a Cobra project during the import, a resource and a rate file are required. You must then define an existing Cobra resource file and rate file to use with the new project. Under this condition, the Resources and Rates page prompts you to define an existing Cobra resource file and rate file to use with the new project. These files will be validated when you click **Next**.

**Contents**

| Field | Description |
|---|---|
| **Action** | Use this field to select whether to update an existing code file in Cobra or to create or overwrite a new one.<br>▪ **Update**: Select this option to add new codes to the existing file. Codes that match the imported codes will have the description updated.<br>▪ **Create/ Overwrite**: Select this option to create the selected Cobra code file if it does not exist yet. If it exists, the existing file is deleted and recreated. |
| **Schedule resource file** | Click ... to select an RDS (Resource Description Structure) file to import from the schedule.<br>**Note:** Resources imported from the **Res_Name** field is the only option for this field in Microsoft Project. **Resource ID** is the only option for this field in Primavera. |
| **Cobra resource file** | Use this field to select or enter the Cobra file into which data is imported.<br>When importing into an existing project, the default resource file is the file assigned to the selected project, and the default action is update.<br>▪ If you select **Update** as the action, the Cobra resource file must be an existing file.<br>▪ If you select **Create/Overwrite** as the action, you can either select an existing file or enter a name for a new file to be created.<br>If you select to create a new resource file, a rate file must be defined to associate with the new file. |
| **Use templates for resource calculations** | Select this option to select an existing resource file to use when applying resource calculations to the resource codes. Selecting this option enables the **Template resource file** field. |
| **Template resource file** | Click ... to select an existing Cobra resource file. |
| **Load Rates from the schedule** | Select this option to import rates in addition to the resources. Selecting this option enables the following:<br>▪ **Action**: If you select **Update**, ensure that the Cobra rate file is existing. If you select **Create/Overwrite**, you can either select an existing file or enter a name for the new file to be created. |

| Field | Description |
|---|---|
| | ▪ **Cobra rate file**: If you select **Update** as the action, click to select a file to update. If you select **Create/Overwrite** as the action, the default value in the **Cobra rate File** field is **New Rate 1**. If that name exists, it will increment to the next number.<br>Rates are created with the same name as the resource code.<br>You cannot import rates without importing resources. |

*Resources and Rates Page of the Integration Wizard (New Project)*

Use this page to define a resource file and rate file for a new project. This page displays if you do not select **Resources and Rates** on the Action Selection page but you do choose to create a new Cobra project during the data import.

**Contents**

| Field | Description |
|---|---|
| **Cobra resource file** | Click to select a resource file for the new project. |
| **Cobra rate file** | Click to select a rate file for the new project. |

*Date Selection Page of the Integration Wizard*

Use this page to select the schedule date fields that you want to use to load the Cobra dates.

Date Selection Page of the Integration Wizard-MS Project

Use this page to select the date field from the schedule.

The date field is used when updating Cobra baseline and forecast dates. In addition, the date field selected filters the code fields that are available when mapping key fields and code assignments.

**Note:** This page displays when you are importing project data.

**Contents**

| Field | Description |
|---|---|
| **Load budget resource assignments** | Select this option if you want to import budget resource assignments. This option is enabled only if you select **Resource assignments** on the Action Selection page of the Integration Wizard. |
| **Load forecast resource assignments** | Select this option if you want to import forecast resource assignments. This option is enabled only if you select **Resource assignments** on the Action Selection page of the Integration Wizard. |

### Schedule Date Fields

| Field | Description |
|---|---|
| **Baseline Dates** | This field is enabled when you select **Control Accounts and Work Packages** on the Action Selection page of the Integration Wizard.<br>When importing activity data without resource assignments, select one of the following options:<br>▪ **<Do Not Load>**<br>▪ **Baseline Dates**<br>▪ **Schedule Dates**<br>▪ **Early Dates**<br>▪ **Late Dates**<br>If you select **Baseline Dates**, the **Baseline** field is enabled.<br>If you select **Load budget resource assignments**, only **Schedule** and **Baseline Dates** are displayed in the **Baseline Dates** field because these are the only fields that resource spreads can be derived from. If the **Resource Assignment** option is cleared, all dates are displayed.<br>If you select **<Do Not Load>** as the baseline date and **<Do Not Load>** as the pending date and you did not select the **Load forecast resource assignments** option, you cannot proceed to the next page. You must either select a different option for the **Baseline Dates** field, the **Pending Dates** option or select the **Load forecast resource assignments** option to proceed.<br>If you select **<Do Not Load>** as the baseline date and you select the **Load forecast resource assignments** option only the forecast resource assignments are imported. The baseline dates are not changed. |
| **Pending Dates** | This field is enabled if your project contains classes with pending dates and the **Load budget resource assignments** option is selected, or if the **Load budget resource assignments** option is cleared. This fields allows you to update the pending dates even if you are not loading resource assignments.<br>Your options are:<br>▪ **<Do Not Load>**<br>▪ **Schedule Dates**<br>▪ **Baseline Dates**<br>If you select **<Do Not Load>** as the pending date, Cobra will load classes that do not have pending dates. In this case, the **Default budget class** field on the Resource Assignments page of the Integration Wizard will only display classes that do not have pending dates.<br>If you select **Baseline Dates**, the **Baseline** field is enabled.<br>If you specify a project template when creating a new project, Cobra will check the project template and see if it contains classes with pending dates. If the project template contains classes with pending dates, the **Pending Dates** field is enabled. |

| Field | Description |
|---|---|
| | If you are creating a new project but did not specify a project template, the **Pending Dates** field is disabled. |
| **Forecast Dates** | This field is enabled only when you select **Load forecast resource assignments**. Use this field to define where the forecast dates and resource spread are derived from.<br>Your options are:<br>▪ **Baseline Dates**<br>▪ **Schedule Dates** |

Date Selection Page of the Integration Wizard-Primavera

Use this page to select the date field from the schedule.

The date field is used when updating Cobra baseline and forecast dates. In addition, the date field selected filters the code fields that are available when mapping key fields and code assignments.

This page displays when you are importing project data.

### Contents

| Field | Description |
|---|---|
| **Load budget resource assignments** | Select this option if you want to import budget resource assignments. This option is enabled only if you select **Resource assignments** on the Action Selection page of the Integration Wizard.<br>**Note:** If you select both the **Load budget resource assignments** and the **Load forecast resource assignments** options, an error occurs. |
| **Load forecast resource assignments** | Select this option if you want to import forecast resource assignments. This option is enabled only if you select **Resource assignments** on the Action Selection page of the Integration Wizard. |

### Schedule Date Fields

| Field | Description |
|---|---|
| **Baseline Dates** | This field is enabled when you select **Control Accounts and Work Packages** on the Action Selection page of the Integration Wizard.<br>When importing activity data without resource assignments, select one of the following options:<br>▪ **<Do Not Load>**<br>▪ **Baseline Dates** |

| Field | Description |
| --- | --- |
| | ▪ **Schedule Dates**<br>▪ **Early Dates**<br>▪ **Late Dates**<br>If you select **Baseline Dates**, data is imported from the TASKRSRC table using the **TARGET_START_DATE** and **TARGET_END_DATE** columns.<br>If you select **Load budget resource assignments**, only **Schedule** and **Baseline Dates** are displayed in the **Baseline Dates** field because these are the only fields that resource spreads can be derived from. If the **Resource Assignment** option is cleared, all dates are displayed.<br>If you select **<Do Not Load>** as the baseline date and **<Do Not Load>** as the pending date, and you did not select the **Load forecast resource assignments** option, you cannot proceed to the next page. You must either select a different option for the **Baseline Dates** field, the **Pending Dates** field, or select the **Load forecast resource assignments** option to proceed.<br>If you select **<Do Not Load>** as the baseline date, and you select the **Load forecast resource assignments** option, only the forecast resource assignments are imported. The baseline dates are not changed. |
| **Pending Dates** | This field is enabled if your project contains classes with pending dates and the **Load budget resource assignments** option is selected, or if the **Load budget resource assignments** option is cleared. This field allows you to update the pending dates even if you are not loading resource assignments.<br>Select one the following options:<br>▪ **<Do Not Load>**<br>▪ **Schedule Dates**<br>▪ **Baseline Dates**<br>If you select **<Do Not Load>** as the pending date, Cobra will load classes that do not have pending dates. In this case, the **Default budget class** field on the Resource Assignments page of the Integration Wizard will only display classes that do not have pending dates.<br>If you select **Baseline Dates**, data is imported from the TASKRSRC table using the **TARGET_START_DATE** and **TARGET_END_DATE** columns.<br>If you specify a project template when creating a new project, Cobra will check the project template and see if it contains classes with pending dates. If the project template contains classes with pending dates, the **Pending Dates** field is enabled.<br>If you are creating a new project but did not specify a project template, the **Pending Dates** field is disabled. |
| **Forecast Dates** | This field is enabled only when you select **Load forecast resource assignments**. Use this field to define where the forecast dates and resource spread are derived from.<br>Select one of the following options: |

| Field | Description |
|---|---|
| | ▪ **Baseline Dates**<br>▪ **Schedule Dates**<br>▪ **Early Dates**<br>▪ **Late Dates** |

Date Selection Page of the Integration Wizard-Open Plan

Use this page to select the date field from the schedule.

The date field is used when updating Cobra baseline and forecast dates. In addition, the date field selected filters the code fields that are available when mapping key fields and code assignments.

This page displays when you are importing project data.

### Contents

| Field | Description |
|---|---|
| **Load budget resource assignments** | Select this option if you want to import budget resource assignments. This option is enabled only if you select **Resource assignments** on the Action Selection page of the Integration Wizard. |
| **Load forecast resource assignments** | Select this option if you want to import forecast resource assignments. This option is enabled only if you select **Resource assignments** on the Action Selection page of the Integration Wizard. |

### Schedule Date Fields

| Field | Description |
|---|---|
| **Baseline Dates** | This field is enabled when you select **Control Accounts and Work Packages** on the Action Selection page of the Integration Wizard.<br>When importing activity data without resource assignments, select one of the following options:<br>▪ **<Do Not Load>**<br>▪ **Baseline Dates**<br>▪ **Schedule Dates**<br>▪ **Early Dates**<br>▪ **Late Dates**<br>If you select **Baseline Dates**, the **Baseline** field is enabled. Click to select a baseline date in the Open Plan project.<br>If you select **Load budget resource assignments**, only **Schedule** and **Baseline Dates** are displayed in the **Baseline Dates** field because these are the only fields |

| Field | Description |
|---|---|
| | that resource spreads can be derived from. If the **Resource Assignment** option is cleared, all dates are displayed.<br>If you select **<Do Not Load>** as the baseline date and **<Do Not Load>** as the pending date, and you did not select the **Load forecast resource assignments** option, you cannot proceed to the next page. You must either select a different option for the **Baseline Dates** field, the **Pending Dates** field, or select the **Load forecast resource assignments** option to proceed.<br>If you select **<Do Not Load>** as the baseline date and you select the **Load forecast resource assignments** option, only the forecast resource assignments are imported. The baseline dates are not changed. |
| **Pending Dates** | This field is enabled if your project contains classes with pending dates and the **Load budget resource assignments** option is selected, or if the **Load budget resource assignments** option is cleared. This allows you to update the pending dates even if you are not loading resource assignments.<br>Select one the following options:<br>▪ **<Do Not Load>**<br>▪ **Schedule Dates**<br>▪ **Baseline Dates**<br>▪ **Early Dates**<br>▪ **Late Dates**<br>If you select **<Do Not Load>** as the pending date, Cobra will load classes that do not have pending dates. In this case, the **Default budget class** field on the Resource Assignments page of the Integration Wizard will only display classes that do not have pending dates.<br>If you select **Baseline Dates**, the **Baseline** field is enabled. Click to select a baseline date in the Open Plan project.<br>If you specify a project template when creating a new project, Cobra will check the project template and see if it contains classes with pending dates. If the project template contains classes with pending dates, the **Pending Dates** field is enabled.<br>If you are creating a new project but did not specify a project template, the **Pending Dates** field is disabled. |
| **Forecast Dates** | This field is enabled only when you select **Load forecast resource assignments**. Use this field to define where the forecast dates and resource spread are derived from.<br>Select one of the following options:<br>▪ **Baseline Dates**<br>▪ **Schedule Dates**<br>If you select **Baseline Dates**, the **Baseline** field is enabled. Click to select a baseline date in the Open Plan project. |

*Import File Field Mapper Page of the Integration Wizard*

Use this page to define the order of fields in the selected import file, which is used to define the general information for control accounts and work packages such as name (keys), description, dates, progress technique, and other information.

**To define the field order:**

1. If you want the import file to contain a header row, select the **File contains a header row** checkbox.
2. Define the data code in each column by selecting values from a drop-down list on the first row of each column.

   Values in the drop-down lists depend on the options selected on the Action Selection page. Use the **<Ignore>** option more than once to signify fields that the process should ignore during the import process.

   If you are importing data that contains quotes in the descriptions, you must use the XLS format of the file. You must also select the **File contains a header row** option.

   Select the Cobra field that corresponds to the type of data in the import file column.

| Value | Description |
|---|---|
| **<Ignore>** | Select this value to represent fields that the process should ignore during the import process. |
| **Control Account field 1 prompt** | This value corresponds to the prompt assigned to **Control Account Field 1**. |
| **Control Account field 2 prompt** | This value corresponds to the prompt assigned to **Control Account Field 2**. |
| **Control Account field 3 prompt** | This value corresponds to the prompt assigned to **Control Account Field 3**. |
| **Work Package prompt** | This value corresponds to the prompt assigned to the work package. You can select a work package code without control account and work package keys. |
| **Work Package Manager** | This value corresponds to the work package manager assigned to the project. |
| **Resource** | This value is available only when you are importing data from a single file. This value corresponds to the resource assignment for the selected cost set or class type. |
| **From Date** | This value is available only when you are importing data from a single file. If this value is not selected or contains empty dates, the resource uses the activity start date. |

| Value | Description |
|---|---|
| **To Date** | This value is available only when you are importing data from a single file. If this value is not selected or contains empty dates, the resource uses the activity finish date. |
| **Curve** | This value is available only when you are importing data from a single file. If this value is not selected, the values are spread using the linear curve and the Spread Weight Options in Project Properties. |
| **Class** | This value corresponds to the class associated with the resource. |
| **<Individual Results>** | This value separately lists each result defined for the selected project on the Resource File Properties dialog box. |
| **Cost_date** | |
| **Project** | Select this value if:<br>▪ You selected a master project on the Project Selection page.<br>▪ You are loading an import file with data from multiple projects without loading against a master project.<br>**Attention:** For more information, see Project Selection Page of the Integration Wizard-Files. |
| **Code.<prompt>** | This value lists code prompts on the control account or work package depending on the level of actual costs defined. |
| **Resource Assignment.<prompt>** | This value is available only when you are importing data from a single file. There is one column for each **Resource Assignment Code Field** defined on the project. Selecting the **Resource Assignment** column is optional. |
| **User Character Fields [1-10]** | This value is available only if you select **Code Assignments and User Fields** on the Action Selection page. If you select this option, the value will be imported into the corresponding field in the Spreadsheet pane of the Project view. Cobra will overwrite codes in Cobra with the codes in the schedule, even if the codes are empty. If the control account or work package is in Cobra, but the control account or work package is not being loaded from the schedule, the user character field in Cobra will not be updated. See **User Fields tab** on the Schedule Mapping |

| Value | Description |
|---|---|
| | Page of the Integration Wizard for additional information on user fields.<br>**Note:** You must first run the required script to display **User Character Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields. |
| **User Number Fields [1-10]** | This value is available only if you select **Code Assignments and User Fields** on the Action Selection page. If you select this option, the value will be imported into the corresponding field in the Spreadsheet pane of the Project view. Cobra will overwrite codes in Cobra with the codes in the schedule, even if the codes are empty. If the control account or work package is in Cobra, but the control account or work package is not being loaded from the schedule, the user number field in Cobra will not be updated. See **User Fields tab** on the Schedule Mapping Page of the Integration Wizard for additional information on user fields.<br>**Note:** You must first run the required script to display **User Number Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields. |
| **User Date Fields [1-10]** | This value is available only if you select **Code Assignments and User Fields** on the Action Selection page. If you select this option, the value will be imported into the corresponding field in the Spreadsheet pane of the Project view. Cobra will overwrite codes in Cobra with the codes in the schedule, even if the codes are empty. If the control account or work package is in Cobra, but the control account or work package is not being loaded from the schedule, the user date field in Cobra will not be updated. See **User Fields tab** on the Schedule Mapping Page of the Integration Wizard for additional information on user fields.<br>**Note:** You must first run the required script to display **User Date Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields. |
| **Units to do** | This value corresponds to the number of units that remain to be completed, if you are using the Units Complete progress technique. |

A sample import file is shown below:

| ID | Resource | Value | From | To | Class | Res Asg.Code1 | Res Asg.Code2 |
|---|---|---|---|---|---|---|---|
| 1.1.1.1 | LABOR | 100 | 1-Jan-14 | 1-Jan-15 | Budget | Res Code 1 | Res Code 2 |
| 1.1.1.2 | ASTRO | 200 | 30-Mar-14 | 2-Aug-14 | Budget | Res Code 3 | Res Code 4 |

**Note:** If actual costs are at the control account level, you must select the control account keys or a control account code. If actual costs are at the work package level, you must select the control account keys and a work package.

*Results Page of the Integration Wizard*

Use this page to select specific results that Cobra should calculate after the import is completed if these results are not included in the imported file.

This page displays only if you selected the **Use one file with activity and resource assignment data** checkbox on the Project Selection page.

**Contents**

| Field | Description |
|---|---|
| **Calculate results** | This group box lists all of the results defined for the selected project. Use this group box to select results that Cobra should calculate after the import process is complete. This is used to calculate results that are specific to Cobra, such as full-time equivalents (FTE) or fee, rather than from outside accounting systems. You can select more than one result.<br>**Note:** Only the results you did not select on the Import File Field Mapper page are displayed.<br>Saving the configuration also saves the selected results. If you define new results subsequently in the Cobra database, they are not added automatically to the list of results that are recalculated when you open the configuration again. |

*Schedule Mapping Page of the Integration Wizard*

Use this page to configure how your schedule is linked to your Cobra project.

Schedule Mapping Page of the Integration Wizard-MS Project

Use this page to define how the fields in the schedule map to the Cobra project.

**Note:** The Schedule Mapping page of the Integration Wizard displays if you are importing project data.

**Project Keys Tab**

Use this tab to define how project fields map to the schedule.

If you are importing data into an existing project, the labels and Cobra validation files on this tab are based on the project properties for the selected project. Any control account or work package fields that are not defined in the project are hidden.

When creating a new project, the labels and validation files are based on the project template defined on the General tab of the Application Preferences dialog box. If a project template is not defined, the fields are based on the system defaults for new projects.

| Field | Description |
|---|---|
| **Schedule Fields** | Use these fields to map the fields in the schedule to their corresponding Cobra fields. Click ... to select a value for each of the fields below:<br>▪ **WBS**: This field is required.<br>▪ **OBS**<br>▪ **WP_NO.**: This field is required.<br>▪ **Milestone**: This field displays only when you select **Code Assignments and User Fields** on the Action Selection page.<br>▪ **CAM**: This field displays only when you select **Code Assignments and User Fields** on the Action Selection page.<br>▪ **WP Manager**<br>The values in these fields depend on the date field selected for Baseline and Forecast, and the scheduling tool from which you are importing.<br>You cannot import using the **CA3** field unless a template project that defines this field is used or if you are importing into an existing project with this field defined.<br>When you import data from any date field , the following values are available in the **Control Account 1-3**, **Work Package**, **Milestone**, and **CAM** fields:<br>▪ User Text<br>▪ WBS<br>▪ Outline Control<br>▪ Activity ID |

### Cobra File Used for Validation

When importing data, all codes in the schedule must be in the validating code file if the project has specified a code file. The code files selected for validation are displayed in this column. The fields that are not being validated.

When creating a new project, use this column to define the Cobra file to be assigned to the key field in Cobra. If the template does not have the required fields defined, the fields are enabled.

Click ... to select a file against which each key for new projects is validated.

**Note:** Cobra does not validate the **Milestone** and **Note Categories** fields.

### Resource Name

This field displays only when importing data from Microsoft Project Server. Use this field to select the resource field from the following:

- **Resource Name**: This is the resource name defined in MSP and is the default value being loaded.
- **Code**: This loads values from the Code field on the General tab of the Resource Information dialog box in MSP.
- **Resource Text Fields**: Any resource-level custom fields with the type “Text” and have values assigned to resources in the MSP project are displayed in the list. This will show both Project- and Enterprise-level code fields.
- **Resource Outline Codes**: Any resource-level outline code custom fields that have values assigned to resources in the MSP Project are shown in the list. The list displays Project- and Enterprise-level code fields.

  All resources with the same field value and the same work package mapping will be aggregated into a single resource in Cobra by a class. If you are loading a resource at the Control Account (CA)-level class, the resources will be aggregated at the CA level.

### Control Account Codes Tab

Use this tab to map imported data to codes in the **Control Account** field. This tab displays a grid with lines representing the code assignments associated with the selected project.

When you create a new project, the codes defined on the template project display in the grid. If no code is defined for the selected project, or if you are creating a new project where no template is defined, an error message displays saying that there are no control account codes defined for the project.

| Field | Description |
|---|---|
| **Prompt** | When you import into an existing project, the prompts for any predefined codes from the project information are displayed in the grid. |
| **Schedule Fields** | Use the fields in this column to map fields in the schedule that contain the code assignment. You can either click ... to select a schedule field, or enter the name of the schedule field. An invalid schedule field results in an error<br><br>Make sure that you have selected **Code Assignments and User Fields** on the Action Selection page if codes are assigned to the project. |

### Work Package Codes Tab

Use this tab to map imported data to codes in the **Work Package** field. This tab displays a grid with lines representing the code assignments associated with the selected project.

When you create a new project, the codes defined in the template project are displayed in the grid. If no code is defined for the selected project or if you are creating a new project where no template is defined, an error message displays saying that there are no work package codes defined for the project.

| Field | Description |
|---|---|
| **Prompt** | When you import into an existing project, the prompts for any predefined codes from the project information display in the grid. |
| **Schedule Fields** | Use the fields in this column to map fields in the schedule that contain the code assignment. You can either click to select a schedule field or enter the name of the schedule field. An invalid schedule field results in an error.<br>Make sure that you have selected **Control Account and Work Package** on the Action Selection page if work packages are assigned to the project. |

### User Fields Tab

Use this tab to map schedule fields to the Cobra user fields. The User Fields grid displays the following columns:

| Column | Description |
|---|---|
| **Cobra User Field** | This column displays the list of the Cobra user fields. |
| **Schedule Field** | Use this column to select a schedule field to map against the Cobra user field. You can either click to select a schedule field or enter the name of the schedule field. The **User Character Fields [1-10]** lookup dialog box will only display text code fields defined in the schedule. The **User Number Fields [1-10]** lookup dialog box will only display numeric code fields defined in the schedule. The **User Date Fields [1-10]** lookup dialog box will only display date code fields defined in the schedule.<br>The User Field grid displays only of you select **Code Assignments and User Fields** on the Action Selection page.<br>**Note:** You must first run the required script to display **User Character Fields [6-10]**, **User Number Fields [6-10]**, or **User Date Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields.<br>**User Character Fields can be mapped to:**<br>▪ Code fields with the type **Text**<br>▪ Code fields with the type **Outline Code** |

| Column | Description |
|---|---|
| | ▪ Enterprise Outline Fields (This only applies to MSP Server integration)<br>▪ Enterprise Text Fields<br>▪ Flag Fields<br>**User Date Fields can be mapped to:**<br>▪ Code fields with the type **Date**<br>▪ Code fields with the type **Start**<br>▪ Code fields with the type **Finish**<br>▪ Enterprise code fields with the type **Date**, **Start**, or **Finish**<br>**User Number Fields can be mapped to:**<br>▪ Code fields with the type **Number**<br>▪ Code fields with the type **Cost**<br>▪ Enterprise code fields with the type **Number** or **Cost** |

Schedule Mapping Page of the Integration Wizard-Primavera

Use this page to define how the fields in the schedule map to the Cobra project.

**Note:** The Schedule Mapping page of the Integration Wizard displays if you are importing project data.

**Project Keys Tab**

Use this tab to define how project fields map to the schedule.

If you are importing data into an existing project, the labels and Cobra validation files on this tab are based on the project properties for the selected project. Any control account or work package fields that are not defined in the project are hidden.

When creating a new project, the labels and validation files are based on the project template defined on the General tab of the Application Preferences dialog box. If a project template is not defined, the fields are based on the system defaults for new projects.

| Field | Description |
|---|---|
| **Schedule Fields** | Use these fields to define the field in the schedule that contains the value for each Cobra field. Click ... to select a value for each of the fields below:<br>▪ **WBS**: This field is required.<br>▪ **OBS** |

| Field | Description |
|---|---|
| | ▪ **WP_NO.**: This field is required.<br>▪ **Milestone**: If you are importing from Primavera 6.x , the key field can be imported from a Code field at the activity level; custom data item at the activity or resource level; and the Cost Account field at the resource level or the Activity ID.<br>▪ **CAM**: This field displays only when you select **Code Assignments and User Fields** on the Action Selection page.<br>▪ **WP Manager**: This field displays only when you select **Code Assignments and User Fields** on the Action Selection page.<br>The values in these fields depend on the date field selected for **Baseline** and **Forecast**, and the scheduling tool you are importing from.<br>You cannot import using the **CA3** field unless a template project that defines this field is defined or you are importing into an existing project with this field defined.<br>When importing data from any date field in Primavera, the following values are available in the **Control Account 1-3**, **Work Package**, and **CAM** fields.<br>▪ **WBS**<br>▪ **Activity code**: These are the activity codes associated with the project.<br>▪ All standard user text fields<br>▪ **Control Account** |
| **Cobra File Used for Validation** | Use the fields in this column to define the Cobra file to be assigned to the particular key field in Cobra. If the template does not have the required fields defined, the fields are enabled. Click ... to select a file to validate each key against for new projects.<br>If you are importing into an existing project or if a template containing these fields has been defined for the application, the fields in this column are populated and disabled.<br>**Note:** Cobra does not validate the **Milestone** field. |

### Cobra File Used for Validation

When importing data, all codes in the schedule must be in the validating code file if the project has specified a code file. The code files selected for validation are displayed in this column. The fields that are not being validated.

When creating a new project, use this column to define the Cobra file to be assigned to the key field in Cobra. If the template does not have the required fields defined, the fields are enabled.

Click ... to select a file against which each key for new projects is validated.

**Note:** Cobra does not validate the **Milestone** and **Note Categories** fields.

### Control Account Codes Tab

Use this tab to map imported data to codes on the **Control Account** field. This tab displays a grid with lines representing the code assignments associated with the selected project.

When creating a new project, the grid display the codes defined on the template project. If no code is defined for the selected project, or if you are creating a new project where no template is defined, an error message that there are no control account codes defined for the project displays.

| Field | Description |
|---|---|
| **Prompt** | When importing into an existing project, the prompts for any predefined codes from the project information display in the grid. |
| **Schedule Fields** | Use the fields in this column to map fields in the schedule that contain the code assignment. You can either click to select a schedule field or enter the name of the schedule field. An invalid schedule field results in an error.<br>**Note:** Ensure that you have selected **Code Assignments and User Fields** on the Action Selection page if codes are assigned to the project. |

### Work Package Codes Tab

Use this tab to map imported data to codes on the **Work Package** field. This tab displays a grid with lines representing the code assignments associated with the selected project.

When creating a new project, the grid displays the codes defined on the template project. If no code is defined for the selected project or if you are creating a new project where no template is defined, an error message that there are no work package codes defined for the project displays.

| Field | Description |
|---|---|
| **Prompt** | When importing into an existing project, the prompts for any predefined codes from the project information display in the grid. |
| **Schedule Fields** | Use the fields in this column to map fields in the schedule that contain the code assignment. You can either click to select a schedule field or enter the name of the schedule field. An invalid schedule field results in an error.<br>**Note:** Ensure that you have selected **Control Account and Work Package** on the Action Selection page if work packages are assigned to the project. |

### User Fields Tab

Use this tab to map schedule fields to the Cobra user fields. The User Fields grid displays the following columns.

| Column | Description |
|---|---|
| **Cobra User Field** | This column displays the list of the Cobra user fields. |

| Column | Description |
| --- | --- |
| **Schedule Field** | Use this column to select a schedule field to map against the Cobra user field. You can either click ... to select a schedule field or enter the name of the schedule field. The **User Character Fields [1-10]** lookup dialog will only show text code fields defined in the schedule. The **User Number Fields [1-10]** look up dialog box will only display numeric code fields defined in the schedule. The **User Date Fields [1-10]** lookup dialog box will only display date code fields defined in the schedule.<br>The User Fields grid displays only if you select **Code Assignments and User Fields** on the Action Selection page.<br>**Note:** You must first run the required script to display **User Character Fields [6-10]**, **User Number Fields [6-10]**, or **User Date Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields.<br>**User Character Fields can be mapped to:**<br>▪ Codes defined at the Task level<br>▪ User Defined fields with the type Text<br>▪ WORK BREAKDOWN STRUCTURE<br>▪ TASK CODE<br>**User Date Fields can be mapped to:**<br>▪ User Defined fields with the type **Start Date**<br>▪ User Defined fields with the type **Finish Date**<br>**User Number Fields can be mapped to:**<br>▪ User defined fields with the type **Number**<br>▪ User Defined fields with the type **Cost** |

Schedule Mapping Page of the Integration Wizard-Open Plan

Use this page to define how the fields in the schedule map to the Cobra project.

**Note:** The Schedule Mapping page of the Integration Wizard displays if you are importing project data.

### Project Keys Tab

Use this tab to define how project fields map to the schedule.

If you are importing data into an existing project, the labels and Cobra validation files on this tab are based on the project properties for the selected project. Any control account or work package fields that are not defined in the project are hidden.

When creating a new project, the labels and validation files are based on the project template defined on the General tab of the Application Preferences dialog box. If a project template is not defined, the fields are based on the system defaults for new projects.

| Field | Description |
|---|---|
| **Schedule Fields** | Use these fields to define the field in the schedule that contains the value for each Cobra field. Click to select a value for each of the fields below:<br>▪ **WBS**: This field is required.<br>▪ **OBS**<br>▪ **WP_NO.**: This field is required.<br>▪ **Milestone**<br>▪ **CAM**: This field displays only when you select **Code Assignments and User Fields** on the Action Selection page.<br>▪ **WP Manager**: This field displays only when you select **Code Assignments and User Fields** on the Action Selection page.<br>▪ **Note Categories**: Click to select a note category in the selected schedule. You can import notes for all categories by multi-selecting the list. This option is only available when loading data from Open Plan.<br>Notes are always imported from the current note on the activity, so baseline date selection is not considered. If the **Note** field does not exist in Cobra, Cobra adds it during the import.<br>The values in these fields depend on the date field selected for **Baseline** and **Forecast,** and the scheduling tool you are importing from.<br>You cannot import using the **CA3** field unless a template project that defines this field is defined or you are importing into an existing project with this field defined.<br>When importing data from baseline dates in Open Plan, the following values are available in the **Control Account 1-3**, **Work Package**, **Milestone**, and **CAM** fields.<br>▪ **Activity ID**<br>▪ **Baseline Codes** |

| Field | Description |
|---|---|
| | ▪ **Baseline User Character Fields**<br>When importing early or late dates from Open Plan, the following fields are available in the **Control Account 1-3**, **Work Package**, **Milestone**, and **CAM** fields.<br>▪ **Activity ID**<br>▪ **Codes**<br>▪ **User Character Fields** |

### Cobra File Used for Validation

When importing data, all codes in the schedule must be in the validating code file if the project has specified a code file. The code files selected for validation are displayed in this column. The fields that are not being validated.

When creating a new project, use this column to define the Cobra file to be assigned to the key field in Cobra. If the template does not have the required fields defined, the fields are enabled.

Click ... to select a file against which each key for new projects is validated.

> **Note:** Cobra does not validate the **Milestone** and **Note Categories** fields.

### Control Account Codes Tab

Use this tab to map imported data to codes on the **Control Account** field. This tab displays a grid with lines representing the code assignments associated with the selected project.

When creating a new project, the codes defined on the template project are displayed in the grid. If no code is defined for the selected project or if you are creating a new project where no template is defined, an error message that there are no work package codes defined for the project displays.

| Field | Description |
|---|---|
| **Prompt** | When importing into an existing project, the prompts for any predefined codes from the project information display in the grid. |
| **Schedule Fields** | Use the fields in this column to map fields in the schedule that contain the code assignment. You can either click ... to select a schedule field, or enter the name of the schedule field. An invalid schedule field results in an error.<br>**Note:** Ensure that you have selected **Control Account and Work Package** on the Action Selection page if work packages are assigned to the project. |

### Work Package Codes Tab

Use this tab to map imported data to codes on the **Work Package** field. This tab displays a grid with lines representing the code assignments associated with the selected project.

When creating a new project, the grid displays the codes defined on the template project. If no code is defined for the selected project or if you are creating a new project where no template is defined, an error message that there are no control account codes defined for the project displays.

| Field | Description |
|---|---|
| **Prompt** | When importing into an existing project, the prompts for any predefined codes from the project information display in the grid. |
| **Schedule Fields** | Use the fields in this column to map fields in the schedule that contain the code assignment. You can either click to select a schedule field or enter the name of the schedule field. An invalid schedule field results in an error.<br>**Note:** Ensure that you have selected **Code Assignments and User Fields** on the Action Selection page if codes are assigned to the project. |

### User Fields Tab

Use this tab to map schedule fields to the Cobra user fields. The User Fields grid displays the following columns.

| Column | Description |
|---|---|
| **Cobra User Field** | This column displays the list of the Cobra user fields. |
| **Schedule Field** | Use this column to select a schedule field to map against the Cobra user field. You can either click to select a schedule field or enter the name of the schedule field. The **User Character Fields [1-10]** lookup dialog will only show text code fields defined in the schedule. The **User Number Fields [1-10]** lookup dialog box will only display numeric code fields defined in the schedule. The **User Date Fields [1-10]** lookup dialog box will only display date code fields defined in the schedule.<br>The User Fields grid displays only if you select **Code Assignments and User Fields** on the Action Selection page.<br>**Note:** You must first run the required script to display **User Character Fields [6-10]**, **User Number Fields [6-10]**, or **User Date Fields [6-10]**. Refer to Additional User Fields for instructions on how to configure Cobra to use these additional fields.<br>**User Character Fields can be mapped to:** |

| Column | Description |
|---|---|
| | ▪ User Character Fields<br>▪ Activity ID<br>▪ Activity Codes<br>**User Date Fields can be mapped to:**<br>▪ User Date Fields<br>**User Number Fields can be mapped to:**<br>▪ User Number Fields<br>▪ BAC Cost<br>▪ BAC Quantity<br>The user fields will be imported from the current schedule regardless of baseline selection. |

**Video**

| Title | Description |
|---|---|
| How to Link an Activity to a Work Package | Learn how to identify to which work package an activity is linked, which is the first step in integrating cost and schedule. |

*Progress Page of the Integration Wizard*

Use this page to select the options to use for assigning the progress technique to work package.

Progress Page of the Integration Wizard-Files

Use this page to select the options for progress techniques to work packages.

> **Note:** This page displays only if you selected **Control Accounts and Work Packages** on the Action Selection page.

**Contents**

| Field | Description |
|---|---|
| **Assign Progress Technique based on Work Package length** | Select this option to enable the **Work packages over two periods in length use Progress Technique** field.<br>**Note:** If a progress technique is already assigned in Cobra, selecting a new progress technique using this field will not change the progress technique value during the integration. |

| Field | Description |
|---|---|
| **Work packages over two periods in length use Progress Technique** | This field displays all available progress techniques in Cobra. Select the progress technique you want to use for new work packages longer than two periods.<br>When you select the **Assign Progress Technique based on work package length** checkbox, Cobra to assigns a progress technique to work packages that the import process creates.<br>These are as follows:<br>▪ Work packages with a duration of one accounting period are assigned the progress technique of 0-100.<br>▪ Work packages with a duration of two accounting periods are assigned the progress technique of User-Defined Percent. With this progress technique, Cobra considers how the budget is spread and automatically enters the opening percentages (for example, 60-40) to reflect the spread.<br>▪ Work packages with more than two periods are assigned a progress technique that you define. The default progress technique is percent complete.<br>▪ If Cobra encounters milestones associated with the work package, the weighted milestone progress technique is assigned. |
| **Use this Progress Technique for all new Work Packages** | Select this option to enable a drop-down list of all available progress techniques in Cobra. Select a progress technique from the drop-down list. The selected progress technique is assigned to all new work packages created during the import. |
| **Load Progress Technique from file** | Click ... to select a schedule field from which to map the progress technique.<br>The progress technique assigned to a work package is updated in the following conditions:<br>▪ If you create a new work package, Cobra will use the progress technique that you specify during the integration.<br>▪ If the work package is unopened, Cobra will use the progress technique that you specify during the integration.<br>▪ If the work package is open and the **Allow changing of progress technique for an in-progress Work Package** option on the Project Preferences tab of the Project Properties dialog box is selected, Cobra will use the progress technique that you specify during the integration.<br>▪ If the work package uses a progress technique other than Milestones or Steps and the **Allow entering milestones regardless of** |

| Field | Description |
|---|---|
| | **Progress Technique** option on the Project — Preferences tab of the Project Properties dialog box is selected, Cobra will use the progress technique assigned to the work package in the schedule file and load the milestones.<br>**Note:** This field is enabled only if you select the **Progress Technique** field as one of the column selections on the Import File Field Mapper page.<br>If a work package has milestones, the **Milestones** progress technique is automatically assigned regardless of the progress technique assigned in the activity file. If a progress technique is already assigned in Cobra, selecting a new progress technique using this field will not change the progress technique during the integration.<br>**Note:** Cobra imports milestone weights up to six decimal places. If it exceeds, Cobra will round the milestone weight value to six decimal places. |
| **Blank Progress Technique use:** | If the mapped schedule field is empty, Cobra assigns the progress technique based on the value in the **Blank Progress Technique use** field, which displays a list of all progress techniques in Cobra. Select the progress technique to use if the mapped schedule field is blank. |

Progress Page of the Integration Wizard-Scheduling Tools

Use this page to select the options for assigning progress techniques to work packages.

**Note:** This page displays only when you select **Control Accounts and Work Packages** on the Action Selection page.

**Contents**

| Field | Description |
|---|---|
| **Assign Progress Technique based on Work Package length** | Select this option to enable the **Work Packages over two periods in length use Progress Technique** field.<br>**Note:** If a progress technique is already assigned in Cobra, selecting a new progress technique using this field will not change the progress technique value during the integration. |
| **Work Packages over two periods in length use** | This field list displays all available progress techniques in Cobra. Select the progress technique you want to use for new work packages longer than two periods. |

| Field | Description |
|---|---|
| **Progress Technique** | When you select the **Assign Progress Technique based on Work Package length** option, Cobra assigns a progress technique to work packages that the import process creates.<br>▪ Work packages with a duration of one accounting period are assigned with the **0-100** progress technique.<br>▪ Work packages with a duration of two accounting periods are assigned with the **User-Defined Percent** progress technique. With this progress technique, Cobra considers how the budget is spread and automatically enters the opening percentages (for example, 60-40) to reflect the spread.<br>▪ Work packages with more than two periods are assigned a progress technique that you define. The default progress technique is **Percent Complete**.<br>▪ If Cobra encounters milestones associated with the work package, the weighted milestone progress technique is assigned. |
| **Use this Progress Technique for all new Work Packages** | Select this option to enable the field and select a progress technique. The selected progress technique is assigned to all new work packages created during the import. |
| **Load Progress Technique from Schedule** | Select this option to enable the lookup for all schedule fields. Click ... to select a schedule field where you want to map the progress technique.<br>You can map the following schedule fields:<br>▪ A progress technique field that is mapped to an activity in the Open Plan schedule. This is the preferred method because it keeps the cost project and the schedule project in sync.<br>▪ A user-character field or a code field on the activity. If you use a code field or a user-character field, you must specify the letter associated with the progress technique.<br>**Attention:** To know the letters associated with the progress techniques, see Progress Techniques.<br>Cobra imports the progress technique from the Open Plan project's mapped field into the **Progress Technique** field under the following conditions:<br>▪ The work package is new.<br>▪ The existing Cobra work package is unopened (planned status). |

| Field | Description |
|---|---|
| | ▪ The existing Cobra work package is open (in-progress status), **and** the **Allow changing of progress technique for an in-progress Work Package** project preference option is selected.<br>Cobra does not import the progress technique from the Open Plan project's mapped field into the **Progress Technique** field under the following conditions:<br>▪ The **Allow changing of progress technique for an in-progress Work Package** project preference option is not selected.<br>▪ The existing Cobra work package uses a progress technique other than **Assignment % Complete**, **Milestones**, or **Steps**, and the **Allow entering milestones regardless of Progress Technique** project preference option is selected.<br>▪ The existing work package is open, **and** the **Allow changes to scope for an in-progress work package** project preference option is not selected.<br>**Note:** Cobra displays warning messages in the process log about the work packages whose progress techniques have changed.<br>▪ The existing work package is closed.<br>**Note:** Cobra displays warning messages in the process log about the closed work packages that did not get updated.<br>If the work package already exists and there is an activity linked to a milestone and the **Allow entering milestones regardless of the Progress Technique** project preference option is not selected, the progress technique is changed to **Milestones**. |
| **Blank Progress Technique use** | If the mapped schedule field is empty, Cobra assigns the progress technique based on the value in the **Blank Progress Technique use** field, which displays a list of all progress techniques in Cobra. Select a progress technique to use if the mapped schedule field is blank. |
| **Load units to do** | Select this option to use the **Units to do** field to enter the number of units that remain to be completed. Cobra calculates the earned value as the work package budget multiplied by the number of tasks completed and divided by the value in the **Units to do** field. Use this method when the work package contains a predefined number of similar tasks.<br>▪ Click ... to select a schedule field containing the units to do. Units to do can be imported from Microsoft Project's **task numeric**, **task_work**, **task_BAC**, or **task_cost** fields. |

| Field | Description |
|---|---|
| | ▪ Click to select a schedule field containing the units to do. Units to do can be imported from Open Plan's user numeric fields, BAC (Budget at Complete) cost, and BAC quantity. The available options depend on whether baseline or schedule dates are selected.<br>▪ Click to select a schedule field containing the units to do. Units to do can be imported from Primavera's **task numeric**, **task integer**, **Res_qty**, **Res_cos**, and **Res_bac** fields.<br>**Note:** Values in this field are imported only for activities assigned with the **Units Complete** progress technique. |
| **Load milestone weights** | Select this option to enable the field and click to select the schedule field containing milestone weights.<br>▪ You can import milestone weights from the Microsoft Project **task numeric**, **task_work**, **task_BAC**, or **task_cost** fields.<br>▪ You can import milestone weights from Open Plan **user numeric**, the **BAC_cost**, or the **BAC_quantity** fields. The available options depend on whether baseline or schedule dates are selected.<br>▪ You can import milestone weights from Primavera **task numeric**, **task integer, Res_qty**, **Res_cos**, and **Res_bac** fields.<br>If this option is cleared, Cobra calculates the weight of the milestone based on the budget associated with that milestone. However, this applies only if budget data is imported with the activities; otherwise, milestone weights are set to zero.<br>Values in this field are imported only for activities with the **Milestones** progress technique.<br>**Note:** Cobra imports milestone weights up to six decimal places. If it exceeds, Cobra will round the milestone weight value to six decimal places. |

### Video

| Title | Description |
|---|---|
| Importing the Progress Technique from the Schedule | View this video to explore the many options for choosing the progress technique while importing from the schedule. |

*Resource Assignments Page of the Integration Wizard*

Use this page to select whether you want to load all assignments into a single class or load them based on classes assigned in the schedule.

Resource Assignments Page of the Integration Wizard-Files

Use this page to define how resources are imported into the Cobra project from the file.

> **Note:** This page displays only if you selected **Resource Assignments** on the Action Selection page. Only classes for which you have view and update access are listed.

**Budget**

This group box is enabled only if you select **Baseline start date** as one of the columns on the Import File Field Mapper page.

| Field | Description |
|---|---|
| **Default budget class** | Click to select the default Cobra budget class. |
| **Load all budget into default class** | Select this option to import all resource assignments into the same class in Cobra.<br>**Note:** If you select a control account-level class, only the resources of activities mapped to the control account are imported. If there is a work package mapped on the Import File Field Mapper page and a value is found in the associated schedule field in an activity, resources assigned to the activity are not imported into a control account-level budget class. |
| **Load budget class from file** | Select this option to inform Cobra that a field in the activity file is assigned the class value. Take note of the following:<br>▪ During the import, Cobra imports the assignment records into the class defined on each record.<br>▪ If the class is blank in the file, the data is imported into the default class.<br>▪ Control account- and work package-level classes can be imported at the same time.<br>▪ If Cobra does not contain a class that matches the class assigned in the file, the assignment is not imported.<br>▪ If the class is at the activity level, no assignment is imported for the activity.<br>▪ If the class is at the resource level, the individual resource is not imported. Other resources with valid classes on the same activity are imported. |

| Field | Description |
|---|---|
| **Load only these budget classes** | This field is enabled if you select the **Load budget class from file** option and select a value for it. Selecting a value in this field informs Cobra to filter the class being imported only to the selected classes. If this field is blank, all classes found in the file field are imported. Click to select from the distinct values in the selected file field where the class is to be imported from.<br>**Note:** During the import process, Cobra imports assignment records only if they match the selected classes. |

**Forecast**

This group box is enabled if **Forecast start date** is selected on the Import File Field Mapper page.

| Field | Description |
|---|---|
| **Default forecast class** | Click to select a forecast class in the Cobra project or template. This forecast class is used if no class is defined or if it is blank.<br>**Note:** If the class is not found, the field is set to blank by default. |
| **Load all forecast into the default class** | Select this option to import all forecast resource assignments into the same class in Cobra. |
| **Load forecast class from file** | This option is selected by default if you select **Forecast class** as one of the columns on the Import File Field Mapper page.<br>**Note:** Selecting this option clears the **Load all forecast into the default class** option. |
| **Load only these forecast classes** | This field is enabled only if you select the **Load forecast class from file** option and select a value for it. Selecting a value in this field informs Cobra to filter the class being imported only to the selected classes. Click to select from the distinct values in the selected file field where the class is to be imported from. |
| **Replace existing forecast** | When this option is selected, Cobra performs the following actions:<br>▪ Deletes all records in the existing forecast classes and replaces them with values being imported.<br>▪ Loads the forecast start and finish dates as the schedule forecast dates. |

| Field | Description |
|---|---|
| | ▪ Loads forecast only into the future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and only loads the spread from the status date forward.<br><br>**Note:** This option displays when importing into an existing project. Selecting this option clears the **Add to existing forecast** option. |
| **Add to existing forecast** | Select this option to inform Cobra to add any imported values to those that already exist in the corresponding classes in Cobra.<br>▪ If the records being loaded have a class designation which matches a class in Cobra, the forecast values are added to the data in Cobra versus overwriting the existing forecast.<br>▪ If the forecast data being loaded falls outside of the existing forecast dates, the forecast dates are adjusted to encompass all the existing Cobra resources and those being loaded.<br>▪ If the forecast being loaded has a resource that does not exist in Cobra, the resource is added based on the spread from the schedule.<br>▪ If the forecast being loaded has a resource that does exist in Cobra, the resource value is added to the existing resource.<br>▪ Forecast is only loaded into future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and loads the spread from the status date forward. |
| **Allow loading forecast in the current status period** | Select this option to allow time-phased spread values to be loaded in the current status period during integration.<br><br>**Attention:** For more information, see Integration Wizard Preferences. |

### Contents

| Field | Description |
|---|---|
| **Calculate apportionment** | Select this option to enable the **Define Calculation** button. |
| **Define Calculation** | Click this button to display the Calculation Range and the Classes pages of the Calculate Apportionment Wizard. Selecting this option informs Cobra to perform the apportionment calculation after the import process is complete.<br>After importing the project into Cobra, the apportionment calculation runs and adds any apportioned resources to the project based on the defined apportionment mapping. Click **Next** on the Classes page to return to the Resource Assignment page of the Integration Wizard. |

| Field | Description |
|---|---|
| | **Note:** This button is enabled only if apportionment mappings are defined for the selected Cobra project. |
| **Spread resource across activity dates** | Use this option to instruct Cobra if it spreads time-phased resource assignments across the **From Date** and **To Date**, if defined in the import file; otherwise, across the baseline dates.<br>The time-phased resource assignments are spread based on the following conditions:<br>▪ If the **Spread resource across activity dates** and **Use curves for resource spreads** options are both selected, they are spread based on the curve specified in the import file.<br>▪ If no curve is defined in the import file, Cobra sets the curve to manual and spreads the data using a linear spread. |
| **Use curves for resource spreads** | Select this option to instruct Cobra to spread time-phased resource assignments based on the curve specified in the import file.<br>▪ If you are loading an activity file and a resource assignment file separately during integration, Cobra uses the curve defined in the resource assignment file to determine the time-phased spread. If the curve does not exist, Cobra displays a message and then sets the curve to manual. If there are multiple resource assignment entries with different curve values in the resource assignment file, Cobra sets the curve to manual.<br>▪ If you are loading an import file with combined activity and resource assignment data during integration, this option is always enabled, even if Curve is not selected as one of the columns on the Import File Field Mapper page of the Integration Wizard. |

Resource Assignments Page of the Integration Wizard-MS Project

Use this page to define how budgeted and forecast resources and their respective spreads are imported into the Cobra project from the schedule.

This page displays only if you select **Resource Assignments** on the Action Selection page of the Integration Wizard. Only classes for which you have view and update access are listed.

### Budget

This group box is enabled only if you select the **Load budget resource assignments** option on the Date Selection page of the Integration Wizard.

| Field | Description |
|---|---|
| **Default budget class** | Click ... and select the budget class to import the budget into. Use this option in conjunction with the other class options on this page. |

| Field | Description |
|---|---|
| **Load all budget into default class** | Select this option to import all resource assignments into the same class in Cobra.<br>If you select a control account-level class, only the resources of activities mapped to the control account are imported.<br>If there is a work package mapped on the Schedule Mapping Page of the Integration Wizard and a value is found in the associated schedule field in an activity, resources assigned to the activity are not imported into a control account-level budget class. |
| **Load budget class from field** | Select this option to inform Cobra that a schedule field is assigned a class value. When you select this option, the lookup is enabled.<br>Click to select a code field, user character field, text field, or cost class for the assignment in the schedule.<br>The schedule field selected can be used to load Control Account and Work Package classes at the same time.<br>This lookup is not displayed for import files since the field selection determines where the classes are loaded from. |
| **Load only these budget classes** | This field is enabled if you select the **Load budget class from field** option and select a value for it. Selecting a value in this field informs Cobra to filter the class being imported to include only the selected classes. If this field is blank, all classes found in the selected schedule field are imported.<br>Click to select from the values in the selected schedule field from which the classes will be imported.<br>During the import, Cobra imports assignment records only if they match the selected classes. If the class value being loaded from the schedule is empty, Cobra uses the default class. |

### Forecast

This group box is enabled only if you select the **Load forecast resource assignments** option on the Date Selection page of the Integration Wizard.

| Field | Description |
|---|---|
| **Default forecast class** | Select the forecast class to import the forecast into. Use this option in conjunction with the other class options on this page.<br>You can load data into both the budget and forecast in one import. This is useful when new work is being added to the project. And this time, the forecast and the budget are the same.<br>If the import contains forecast data for a period before the status date, those records are ignored (not loaded) and there is no warning in the process log.<br>Click to select a forecast class in the Cobra project or template. This forecast class is used if no schedule class is defined, or if it is blank.<br>If the class is not found, the field will be set to blank. |

| Field | Description |
|---|---|
| **Load all forecast into the default class** | Select this option to import all forecast resource assignments into the same class in Cobra.<br>If you select a control account-level class, only the resources of activities mapped to the control account are imported.<br>If there is a work package mapped on the Schedule Mapping Page of the Integration Wizard and a value is found in the associated schedule field for an activity, resources assigned to the activity are not imported into a control account-level budget class. |
| **Load forecast class from field** | Select this option to inform Cobra that a schedule field has been defined with the class value.<br>The corresponding field is enabled when you select this option. Click to select a code field, user character field, or cost class for the assignment in the schedule.<br>The schedule field selected can be used to load Control Account and Work Package classes at the same time.<br>The Lookup dialog box is not displayed for import files since the field selection determines where the classes are loaded from. |
| **Load only these forecast classes** | This field is enabled only if you select the **Load forecast class from file** option and select a value for it. Selecting a value in this field informs Cobra to filter the class being imported to only the selected classes. If this field is blank, all classes found in the selected schedule field are imported.<br>Click to select from the values in the selected schedule field from which the classes will be imported.<br>During the import, Cobra imports assignment records only if they match the selected classes. If the class value being loaded from the schedule is empty, Cobra uses the default class. |
| **Replace existing forecast** | This option displays when you import into an existing project. When this option is selected, Cobra performs the following actions:<br>▪ Deletes all records in the existing forecast classes and replaces them with imported values.<br>▪ Loads the forecast start and finish dates as the schedule forecast dates.<br>▪ Loads forecast only into the future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and only loads the spread from the status date forward. |
| **Add to existing forecast** | This option displays when you import into an existing project. Select this option to inform Cobra to add any imported values to those that already exist in the corresponding classes in Cobra.<br>▪ If the records being loaded have a class designation that matches a class in Cobra, the forecast values are added to the data in Cobra versus overwriting the existing forecast. |

| Field | Description |
| --- | --- |
| | ▪ If the forecast data being loaded falls outside of the existing forecast dates, the forecast dates are adjusted to encompass all the existing Cobra resources and those being loaded.<br>▪ If the forecast being loaded has a resource that does not exist in Cobra, the resource is added based on the spread from the schedule.<br>▪ If the forecast being loaded has a resource that does exist in Cobra, the resource value is added to the existing resource.<br>▪ The forecast is only loaded into future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and loads the spread from the status date forward. |
| **Allow loading forecast in the current status period** | Select this option to allow time-phased spread values to be loaded in the current status period during integration.<br>**Attention:** For more information, see Integration Wizard Preferences. |

**Contents**

| Field | Description |
| --- | --- |
| **Calculate apportionment** | Select this option to enable the **Define Calculation** button. |
| **Define Calculation** | Click this button to display the Calculation Range and the Classes pages of the Calculate Apportionment Wizard. Selecting this option informs Cobra to perform the apportionment calculation after the import process is complete.<br>After importing the project into Cobra, the apportionment calculation runs and adds any apportioned resources to the project based on the defined apportionment mapping.<br>This button is enabled only if apportionment mappings are defined for the selected Cobra project.<br>Click **Next** on the Classes page to return to the Resource Assignment page of the Integration Wizard. |
| **Time-phased data is expanded in the Microsoft Project database** | If this option is selected, Cobra reads the daily time-phased spread from Microsoft Project, uses it when spreading budget, and spreads the daily time-phased values across the Cobra fiscal calendar periods. If the calendar periods match between Cobra and Microsoft Project calendars, the time-phased spreads between two products are the same. If this option is cleared, Cobra spreads the Total values across all periods using the Respread process. |

Resource Assignments Page of the Integration Wizard-Primavera

Use this page to define how budgeted and forecast resources and their respective spreads are imported into the Cobra project from the schedule.

**Note:** This page displays only if you select **Resource Assignments** on the Action Selection page. Only classes for which you have view and update access are listed.

### Budget

This group box is enabled only if you select the **Load budget resource assignments** option on the Date Selection page of the Integration Wizard.

| Field | Description |
|---|---|
| **Default budget class** | Select the budget class to import the budget into. Use this option in conjunction with the other class options on this page.<br>Click to select a Cobra budget class. |
| **Load all budget into default class** | Select this option to import all resource assignments into the same class in Cobra. If you select a control account-level class, only the resources of activities mapped to the control account are imported.<br>If there is a work package mapped on the Schedule Mapping page and a value is found in the associated schedule field in an activity, resources assigned to the activity are not imported into a control account-level budget class. |
| **Load budget class from field** | Select this option to inform Cobra that a schedule field is assigned a class value. When you select this option, the lookup is enabled.<br>Click to select a code field, user character field, text field, or cost class on the assignment in the schedule.<br>The schedule field selected can be used to load Control Account and Work Package classes at the same time.<br>This lookup is not displayed for import files since the field selection determines where the classes are loaded from. |
| **Load only these budget classes** | This field is enabled if you select the **Load budget class from field** option and select a value for it. Selecting a value in this field informs Cobra to filter the data being imported to only those activities or resource assignments with the selected class. If this field is blank, all data is imported.<br>Click to select the class to be imported. During the import, Cobra imports assignment records only if they match the selected classes. |

### Forecast

This group box is enabled only if you select the **Load forecast resource assignments** option on the Date Selection page of the Integration Wizard.

| Field | Description |
|---|---|
| **Default forecast class** | Select the forecast class to import the forecast into. Use this option in conjunction with the other class options on this page.<br>You can load data into both the budget and forecast in one import. This is useful when a new work is being added to the project. And this time, the forecast and the budget are the same. If the import contains forecast data in period before the status date, those records are ignored (not loaded) and there is no warning in the process log.<br>Click to select a forecast class in the Cobra project or template. This forecast class is used if no schedule class is defined, or if it is blank. |
| **Load all forecast into the default class** | Select this option to import all resource assignments into the same forecast class in Cobra. If you select a control account-level class, only the resources of activities mapped to the control account are imported.<br>If there is a work package mapped on the Schedule Mapping page and a value is found in the associated schedule field in an activity, resources assigned to the activity are not imported into a control account-level forecast class. |
| **Load forecast class from field** | Select this option to inform Cobra that a schedule field has been defined with the class value.<br>The corresponding field is enabled when you select this option. Click to select a code field, user character field, or cost class on the assignment in the schedule.<br>The schedule field selected can be used to load control account and work package classes at the same time.<br>The Lookup dialog box is not displayed for import files since the field selection determines where the classes are loaded from. |
| **Load only these forecast classes** | This field is enabled only if you select the Load forecast class from field option and select a value for it. Selecting a value in this field informs Cobra to filter the class being imported only to the selected classes. If this field is blank, all classes found in the selected schedule field are imported.<br>Click to select from the distinct values in the selected schedule field where the class is to be imported from.<br>**Note:** During integration, Cobra imports assignment records only if they match the selected classes. If the class value being loaded from the schedule is empty, Cobra uses the default class. |
| **Replace existing forecast** | When this option is selected, Cobra performs the following actions:<br>▪ Deletes all records in the existing forecast classes and replaces them with values being imported<br>▪ Loads the forecast start and finish dates as the schedule forecast dates |

| Field | Description |
|---|---|
| | ▪ Loads forecast only into the future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and only loads the spread from the status date forward.<br>This option displays when importing into an existing project. |
| **Add to existing forecast** | Select this option to inform Cobra to add any imported values to those that already exist in the corresponding classes in Cobra.<br>▪ If the records being loaded have a class designation which matches a class in Cobra, the forecast values are added to the data in Cobra versus overwriting the existing forecast.<br>▪ If the forecast data being loaded falls outside of the existing forecast dates, the forecast dates are adjusted to encompass all the existing Cobra resources and those being loaded.<br>▪ If the forecast being loaded has a resource that does not exist in Cobra, the resource is added based on the spread from the schedule.<br>▪ If the forecast being loaded has a resource that does exist in Cobra, the resource value is added to the existing resource.<br>▪ Forecast is only loaded into future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and loads the spread from the status date forward. |
| **Allow loading forecast in the current status period** | Select this option to allow time-phased spread values to be loaded in the current status period during integration.<br>**Attention:** For more information, see Integration Wizard Preferences. |

### Contents

| Field | Description |
|---|---|
| **Calculate apportionment** | Select this option to enable the **Define Calculation** button. |
| **Define Calculation** | Click this button to display the Calculation Range and the Classes pages of the Calculate Apportionment Wizard. Selecting this option informs Cobra to perform the apportionment calculation after the import process is complete.<br>After importing the project into Cobra, the apportionment calculation runs and adds any apportioned resources to the project based on the defined apportionment mapping. Click **Next** on the Classes page to return to the Resource Assignment page of the Integration Wizard. |

| Field | Description |
|---|---|
| | This button is enabled only if apportionment mappings are defined for the selected Cobra project. |
| **Retrieve Quantity for:** | Use this field to specify where to retrieve resource quantity values when importing from Primavera.<br>Your options are:<br>▪ **Non-Labor**<br>▪ **Labor**<br>▪ **Material**<br>**Note:** You can select one or more options.<br>Selected resource types will load **Quantity** values for the matching Primavera resource types, while cleared resource types will load **Cost** values for the matching Primavera resource types. |
| **Load daily time-phased data** | This option is enabled if the Primavera API location has been specified in the Connection Information dialog box of the Integration Wizard.<br>By default, this option is cleared. Cobra reads the total Resource Assignment Cost or Units from the Primavera database and spreads the values using a linear spread.<br>If this option is selected, the daily time-phased spread values are extracted from the Primavera database using the Primavera API. Cobra will use the Resource Assignment spread profile from the extracted data when loading the spread in Cobra. |

Resource Assignments Page of the Integration Wizard-Open Plan

Use this page to define how budgeted and forecast resources and their respective spreads are imported into the Cobra project from the schedule.

**Note:** This page displays only if you select **Resource Assignments** on the Action Selection page. Only classes for which you have view and update access are listed.

### Budget

This group box is enabled only if you select the **Load budget resource assignments** option on the Date Selection page of the Integration Wizard.

| Field | Description |
|---|---|
| **Load budget class from field** | Select this option to inform Cobra that a schedule field is assigned a class value. Click ... to select a code field, user character field, text field, or cost class on the assignment in the schedule. The schedule field selected can be used to load control account and work package classes at the same time. |

| Field | Description |
|---|---|
| **Load all budget into default class** | Select this option to import all resource assignments into the same class in Cobra. If you select a control account-level class, only the resources of activities mapped to the control account are imported.<br>If there is a work package mapped on the Schedule Mapping page and a value is found in the associated schedule field in an activity, resources assigned to the activity are not imported into a control account-level budget class. |
| **Load only these budget classes** | This field is enabled if you select the **Load budget class from field** option and assign a value for it. Selecting a value in this field informs Cobra to filter the class being imported only to the selected classes. If this field is blank, all classes found in the selected schedule field are imported.<br>Click ... to select from the distinct values in the selected schedule field where the class is to be imported from.<br>**Note:** During the import, Cobra imports assignment records only if they match the selected classes. If the class value being loaded from the schedule is empty, Cobra uses the default class. |
| **Default budget class** | Select the budget class to import the budget into. Use this option in conjunction with the other class options on this page.<br>Click ... to select a Cobra budget class. |

**Forecast**

This group box is enabled only if you select the **Load forecast resource assignments** option on the Date Selection page of the Integration Wizard.

| Field | Description |
|---|---|
| **Default forecast class** | Use this field to select the forecast class to import the forecast into. Use this option in conjunction with the other class options on this page.<br>You can load data into both the budget and forecast in one import. This is useful when a new work is being added to the project. And this time, the forecast and the budget are the same.<br>If the import contains forecast data in period before the status date, those records are ignored (not loaded) and there is no warning in the process log.<br>Click ... to select a forecast class in the Cobra project or template. This forecast class is used if no schedule class is defined, or if it is blank. If the class is not found, the field will be set to blank by default. |
| **Load all forecast into the default class** | Select this option to import all forecast resource assignments into the same class in Cobra. If you select a control account-level class, only the resources of activities mapped to the control account are imported.<br>If there is a work package mapped on the Schedule Mapping page and a value is found in the associated schedule field in an activity, resources assigned to the activity are not imported into a control account-level budget class. |

| Field | Description |
|---|---|
| **Load forecast class from field** | Select this option to inform Cobra that a schedule field has been defined with the class value.<br>The corresponding field is enabled when you select this option. Click ... to select a code field, user character field, or cost class on the assignment in the schedule.<br>The schedule field selected can be used to load Control Account and Work Package classes at the same time.<br>The Lookup dialog box is not displayed for import files since the field selection determines where the classes are loaded from. |
| **Load only these forecast classes** | This field is enabled only if you select the **Load forecast class from field** option and select a value for it. Selecting a value in this field informs Cobra to filter the class being imported only to the selected classes. If this field is blank, all classes found in the selected schedule field are imported.<br>Click ... to select from the distinct values in the selected schedule field where the class is to be imported from.<br>During the import, Cobra imports assignment records only if they match the selected classes. If the class value being loaded from the schedule is empty, Cobra uses the default class. |
| **Replace existing forecast** | When this option is selected, Cobra performs the following actions:<br>▪ Deletes all records in the existing forecast classes and replaces them with values being imported.<br>▪ Loads the forecast start and finish dates as the schedule forecast dates.<br>▪ Loads forecast only into the future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and only loads the spread from the status date forward.<br>This option displays when importing into an existing project. |
| **Add to existing forecast** | Select this option to inform Cobra to add any imported values to those that already exist in the corresponding classes in Cobra.<br>▪ If the records being loaded have a class designation which matches a class in Cobra, the forecast values are added to the data in Cobra versus overwriting the existing forecast.<br>▪ If the forecast data being loaded falls outside of the existing forecast dates, the forecast dates are adjusted to encompass all the existing Cobra resources and those being loaded.<br>▪ If the forecast being loaded has a resource that does not exist in Cobra, the resource is added based on the spread from the schedule.<br>▪ If the forecast being loaded has a resource that does exist in Cobra, the resource value is added to the existing resource. |

| Field | Description |
|---|---|
| | ▪ Forecast is only loaded into future periods. If the forecast data in the file is in the past, Cobra ignores the records before the status date and loads the spread from the status date forward. |
| **Allow loading forecast in the current status period** | Select this option to allow time-phased spread values to be loaded in the current status period during integration.<br>**Attention:** For more information, see Integration Wizard Preferences. |

| Field | Description |
|---|---|
| **Calculate apportionment** | Select this option to enable the **Define Calculation** button. |
| **Define Calculation** | Click this button to display the Calculation Range and the Classes pages of the Calculate Apportionment Wizard. Selecting this option informs Cobra to perform the apportionment calculation after the import process is complete.<br>After importing the project into Cobra, the apportionment calculation runs and adds any apportioned resources to the project based on the defined apportionment mapping. Click **Next** on the Classes page to return to the Resource Assignment page of the Integration Wizard.<br>This button is enabled only if apportionment mappings are defined for the selected Cobra project. |

*Calendar Page of the Integration Wizard*

Use this page to define the calendar to use for a new project. You can either use an existing calendar or create a new one.

The Calendar page of the Integration Wizard displays when you are creating a new project.

**Contents**

| Field | Description |
|---|---|
| **Calendar** | Use this field to enter the existing name of a calendar, or click ... to select from a list of existing Cobra calendars. |
| **Create a new calendar** | Select this option to create a new calendar. If you select this checkbox, you must also enter a name for the new calendar in the **Calendar** field. Use a unique name for the calendar. |

### Range

Use these options to specify the length of the calendar.

| Field | Description |
|---|---|
| **Start Date** | This field is set to the system date by default. |
| **End Date** | Use this field to enter the end date. |
| **Repeat Interval** | Use this field to enter the number of period intervals that you want to include in the calendar set if an **End Date** is not entered. |
| **Period Interval** | Use this field to select the interval to use for the new calendar. If you select **Pattern**, the **Pattern** field is enabled and set to **4w, 4w, 5w** by default. |
| **Label Format** | Use this field to select the format to use for calendar labels. This field is set to the User Preference date setting by default. |
| **Calculate Hours** | Use this field to define the productive hours per day. By default, this field is set to **8** hours from Monday to Friday, and **0** hours on Saturday and Sunday. |

*Change Control Page of the Integration Wizard*

Use this page to specify the actions that will be performed when the import process updates existing Cobra data.

This page displays when the **Control Accounts and Work Packages** option is selected on the Action Selection page and a new project is not being created.

Some of the options on this page are controlled using the project-level options on the Integration tab of the Project Preferences dialog box.

### Contents

| Field | Description |
|---|---|
| **Get the Control Account description from** | Use this field to determine where to get the control account description when a new control account is created.<br>Select one of the following options:<br>▪ **Schedule Activities then Key Field 1 Structure**: When this option is selected, a new control account will obtain the description from an activity linked to that control account, for example, an activity that has the control account mapping fields populated but not the work package mapping field. If there is no activity linked to a control account or if the activity description of the control account-linked activity is blank, the control account description will come from the code file validating the first control account field. If the code file description is blank, Cobra uses the description from the first work package in the schedule for that control account. |

| Field | Description |
| --- | --- |
| | ▪ **Key Field 1 Structure then Schedule Activities**: When this option is selected, a new control account will obtain the description from the code file validating the first control account field, if it is defined. If the code file description is blank, the control account description will be blank. If the validating code file is not defined, the control account description will be obtained from the description of the activity linked to the control account. If there is not an activity linked to the control account, the description will come from the first activity linked to a work package in that control account. |
| **Apply historical budget changes as an adjusting entry in the current status period** | This option is useful when importing data into in-progress work packages, and you do not want to change the budget before the current period. If this option is selected, any budget changes before the beginning of the current period are applied as an adjustment to the current period. This results in the cumulative to-date budgeted amount for the activity and the work package to match. If this option is not selected, the resource assignments are imported before the status date, even if you have the project preference option **Prevent editing of historical time-phased values** selected. |
| **Apply historical forecast changes as an adjusting entry in the current status period** | This option is enabled if you select **Resource Assignments** on the Action Selection page and **Forecast Start Date** on the Import File Field Mapper page. This option is enabled if you are importing forecast data. If you select this option, Cobra sums up all schedule forecast data prior to status date and puts the data in the current period. If you clear this option, Cobra does not load any schedule forecast data prior to the status period. |
| **Force existing Work Package dates to match the schedule for** | If you clear this option, the work package dates will only change if the activity is outside the work package date, for example, if you increase the duration of an activity.<br>Select this option if you want your work package dates to contract or exactly span the activities linked to the work package.<br>Based on the options selected on the Integration Wizard pages, the date selection options change. Select the date set you want changed based on the activity information being imported.<br>Your options are as follows:<br>▪ **Baseline**: This option displays if you are loading Baseline dates and not Pending dates.<br>▪ **Pending**: This option displays if you are loading Pending dates and not Baseline dates.<br>▪ **Baseline and Pending**: This option displays if you are loading Baseline and Pending dates. |

| Field | Description |
| --- | --- |
| | ▪ **Forecast**: This option displays if you are loading Forecast dates. If you select this option, only dates after the status date will be updated.<br>▪ **Baseline and Forecast**: This option displays if you are loading Baseline and Forecast dates.<br>▪ **Pending and Forecast**: This option displays if you are loading Pending and Forecast dates.<br>▪ **Baseline, Pending and Forecast**: This option displays if you are loading Baseline, Pending, and Forecast dates.<br><br>**Note:** This option was previously labeled **Force existing Work Package baseline dates to match the schedule**. If you are loading an existing configuration with this option previously cleared, this option will be cleared. If you are loading an existing configuration with this option previously selected, this option will be selected and set to **Baseline**, **Pending**, or **Baseline and Pending**, depending on the dates being loaded from the existing configuration.<br><br>**If you are updating Baseline Dates or Pending Dates**<br>When a new work package is created by loading data from the schedule, Cobra updates the control account and work package baseline dates to exactly match the dates loaded from the schedule. In other words, the work package start date will equal the earliest start date of the activities linked to the work package. The work package finish date will equal the latest finish date of the activities linked to the work package. The control account will then be updated with the earliest and latest dates of the work package.<br>If you select this option and a work package already exists, Cobra forces the control account and work package baseline dates to match the dates loaded from the schedule. After loading the data, if there is time-phased data outside the work package dates, the time-phased data is respread within the new work package dates. The control account is then updated with the min and max dates of the work package. If you have more than one class on the work package, and only load one class from the schedule, the other classes will remain outside the work package dates. For example, you have a LABOR resource that uses the class Budget and another LABOR resource that uses the class B1. You import data from the schedule and change the dates of the wok package, but only load the LABOR resource in the class Budget; LABOR in class B1 will not be spread over the new dates. Cobra displays a message asking you to respread the resource and the class<br>If you clear this option, Cobra updates the baseline dates as follows: |

| Field | Description |
| --- | --- |
| | ▪ If the data being loaded from the schedule contains all budget resource assignments already in Cobra, the work package start and finish dates are updated to match the schedule dates.<br>▪ If there are budget resource assignments in Cobra that are not in the schedule, the work package start date is only updated if the schedule start date is earlier than the work package start date. The work package finish date is only updated if the schedule finish date is later than the work package finish date.<br>**If you are updating the Forecast Start Date and the Control Account or Work Package is Planned**<br>**When replacing existing forecasts**<br>▪ If the control account dates are being updated with a work package level forecast from the schedule, only the Cobra forecast start date is moved if the schedule forecast start date is earlier than the current date.<br>▪ If the dates being updated match the forecast level from the schedule, the Cobra forecast start date is replaced with the schedule forecast start date.<br>**When adding to existing forecast**<br>▪ If the schedule forecast start is earlier than the Cobra forecast start date and the schedule forecast start is later than the status date, the Cobra forecast start date is updated with the schedule forecast start date.<br>▪ If the schedule forecast start date is earlier than the status date and the Cobra forecast start date is later than the status date, the Cobra forecast start date is updated with the status date + 1 day.<br>▪ If the scenarios above are not true and the **Force existing Work Package dates to match the schedule** for option is selected and set to **Forecast**, the Cobra forecast start date is set to match the schedule forecast start date.<br>**If you are updating the Forecast Finish Date and the Control Account or Work Package is Planned or In-Progress**<br>**When replacing existing forecasts**<br>▪ If the control account dates are being updated with a work package level forecast from the schedule, only the Cobra forecast finish date is moved if the schedule forecast finish date is later than the current date.<br>▪ If the dates being updated match the forecast level from the schedule, the Cobra forecast finish date is replaced with the schedule forecast finish date.<br>**When adding to existing forecast**: |

| Field | Description |
|---|---|
| | ▪ If the schedule forecast finish date and the Cobra forecast finish date are both earlier than the status date, the Cobra forecast finish date is updated with the status date + 1 day.<br>▪ If the schedule forecast finish date is later than the Cobra forecast finish date, the Cobra forecast finish date is updated with the schedule forecast finish date.<br>▪ If the scenarios above are not true and the **Force existing Work Package dates to match the schedule for** option is selected and set to **Forecast**, the Cobra forecast finish date is set to match the schedule forecast finish.<br>**If you are updating the Forecast Start and Finish and Control Account or Work Package is Complete**<br>▪ If the control account or work package is in-progress or complete, the forecast start date will not be updated.<br>▪ If the control account or work package is complete, the forecast finish date will not be updated.<br>**Note:** The start and finish dates are determined by the forecast dates. Cobra will update the early or late dates using the same rules if the forecast class uses early or late dates. |
| **Update the Control Account dates to span Work Package dates exactly** | This option is enabled only if you select the **Update baseline dates** option. Select this option to:<br>▪ Make control account dates exactly span the work package.<br>▪ Make control account start and finish dates for all date sets exactly match the earliest start and latest finish of all work package date sets. |
| **Update the description for existing Control Accounts and Work Packages** | Select this option to update the description of the Cobra accounts to match the description of the corresponding schedule activity. If the description in Cobra is blank, Cobra still updates it, whether you select this option or not. |
| **Recalculate existing milestone weights** | Select this option to recalculate the weight of each milestone. This option applies only if Cobra calculates milestone weights during the import process and does not import them from a schedule field.<br>This option is enabled only if the **Load budget resource assignments** option on the Date Selection page is selected. |
| **Delete items from Cobra that are no** | This option is enabled if at least the **Control Account and Work Package** option on the Action Selection page is selected. |

| Field | Description |
|---|---|
| **longer in the schedule** | Select this option to enable the other options that define how Cobra deletes the items not in the schedule that are being imported.<br>The **Delete** options below only apply when loading budget resource assignments or baseline dates. Cobra runs the Update Totals process only against the budget of the control account/work package where an item is deleted. |
| **Delete Control Accounts and Work Packages no longer in the schedule** | This option is enabled if at least the **Control Account and Work Package** option on the Action selection page is selected and the parent option **Delete items from Cobra that are no longer in the schedule** is selected.<br>Select this option to delete any Cobra control account or work package no longer in the schedule that you are importing. However, the control account or work package is not deleted in any of the following scenarios:<br>▪ If the control account and/or work package is already in the Completed state.<br>▪ If the work package is in-Progress and the **Allow changes to scope for an in-progress Control Account/Work Package** option on the Project Preferences tab of the Project Properties dialog box is cleared.<br>▪ If the **Apply historical budget changes as an adjusting entry in the current status period** option is selected and the control accounts and/or work packages baseline start date is set prior to the status period's start date.<br>If you select this option, Cobra also runs the Update Totals process against any control accounts where a work package was deleted. Note that only budget totals will be updated. However, if you are loading budget and forecast resources in a single import file and this option is selected, both the EAC and budget totals will be updated. It is recommended to load the budget and forecast separately if you are maintaining a retain EAC forecast. |
| **Delete milestones no longer in the schedule** | This option is enabled only if at least the **Control Account and Work Package** option on the Action Selection page is selected, the parent option **Delete items from Cobra that are no longer in the schedule** is selected, and the **Milestone** field on the Import File Field Mapper page is mapped.<br>Select this option to delete existing milestones no longer found in the schedule. If you select this option, Cobra deletes milestones with no matching value in the mapped **Milestone** field on the activity in the schedule. Selecting this option does not delete work packages and resource assignments. In addition, milestones are not be deleted in any of the following scenarios:<br>▪ If the milestone is already in the Completed state. |

| Field | Description |
|---|---|
| | ▪ If the work package it belongs to is in the Completed state.<br>▪ If the **Apply historical budget changes as an adjusting entry in the current status period** option is selected and the milestone baseline finish is prior the status period's start date. |
| **Delete resource assignments no longer in the schedule** | This option is enabled if the **Resource Assignment** option on the Action Selection page is selected and the parent option **Delete items from Cobra that are no longer in the schedule** is selected.<br>Select this option to delete all resources no longer found in the incoming schedule based on the mapping defined. Selecting this option enables the **Delete only resources with the default or selected class** option. However, the resource is not deleted in any of the following scenarios:<br>▪ If the control account or work package the resource belongs to is in the Completed state.<br>▪ If the control account or work package the resource belongs to is in the in-Progress state and the project preferences option **Allow changes to scope for an in-progress Control Account/Work Package** is cleared.<br>▪ If the **Apply historical budget changes as an adjusting entry in the current status period** option is selected and the control account or work package baseline start date is set prior to the status period's start date.<br>If you select this option and there are budget resources deleted, Cobra runs the Update Totals process for budget against the control account/ work package to which the resource belongs. |
| **Delete only resources with the default or selected class** | This option is enabled if the parent option **Delete resource assignments no longer in the schedule** is selected.<br>Select this option to filter the deleted resources to include only those that have the default class or the filtered class defined on the Resources Assignment page. |
| **Delete only items that match the following criteria** | This option is enabled if any of the Delete options for control account and work package, milestones or resource assignment is selected.<br>Select this option to filter the accounts deleted to only those matching the defined filter. This is important when multiple schedules are imported into a single Cobra project, and when the only data from the schedule being imported should be deleted. The criteria is applied to control account and work package, milestones, or resource assignment, based on their corresponding delete option selection.<br>If the criteria is for Control Account code only, Cobra deletes the control account, work package, control account and work package resource assignments, and milestones that belong to the control account that matches the control account code filter. |

| Field | Description |
|---|---|
| | If the criteria is for Work Package code only, Cobra deletes the work package, work package resource assignments, and milestones that belong to a work package that matches the work package code filter.<br>If the criteria is both for Control Account code and Work Package code, Cobra deletes all work packages, resources assignments, and milestones that belong to the work package that matches the work package code filter. |
| **Deletion Criteria** | This button is enabled only when the **Delete only items that match the following criteria** option is selected. Click this button to display the Deletion Criteria dialog box. |
| **List deleted items in the process log** | Select this option to list all items that were deleted from Cobra during the import process in the integration log. |
| **Create Work Packages that do not exist when loading forecast** | Select this option to instruct Cobra to create new work package if it does not exist and you are loading forecast data.<br>When you clear this option, Cobra ignores the forecast values if the work package does not exist. |

### Video

| Title | Description |
|---|---|
| Integration Wizard-Getting Started | View this video to begin using the Integration Wizard: This is the first in a series of videos explaining the Integration Wizard. |

Deletion Criteria Dialog Box of the Integration Wizard

Use this dialog box to define the criteria for deleting items in the imported data. You can select a control account, work package, or both.

If you select both a control account and work package, the items being deleted are filtered for the control account value or the work package value, so they have to match either filter to be deleted.

### Contents

| Field | Description |
|---|---|
| **Code** | Use this field to select a code. This field displays all the Cobra control account codes that have assigned values and their prompts. You can choose to filter by:<br>▪ **Code assignment**: Select this option to deletes items based on a specific code assignment.<br>▪ **Project name**: Select this item to deletes records from Cobra only if the selected code value equals the name of the schedule project being imported. |

| Field | Description |
|---|---|
| **Work Package** | Use this field to select a work package. This field displays all of the Cobra work packages that have assigned values and their prompts. You can choose to filter by:<br>▪ **Code assignment**: Select this option to delete items based on a specific work package.<br>▪ **Project name**: Select this option to delete records from Cobra only if the selected work package equals the name of the schedule project being imported. |

*Status File Field Mapper Page of the Integration Wizard*

Use this page to define the order of the fields in the status file.

**Note:** This page displays when importing a status file.

**To define the field order:**

1. If the import file contains a header row, select the **File contains a header row** option.
2. Define the data code in each column by selecting values from a drop-down list on the first row of each column. Select from the following options:

| Option | Description |
|---|---|
| **<Ignore>** | Use this prompt to indicate ignoring the field. |
| **Control account key 1** | This is the prompt for the field. This field is required. |
| **Control account key 2** | This is the prompt for the field. This field is required if used in a project. |
| **Control account key 3** | This is the prompt for the field. This field is required if used in a project. |
| **Work package** | This field is required. |
| **Milestone** | This field is required if the progress technique assigned to the work package is milestones or steps. |
| **Resource** | This is the resource assignment code when updating the percentage of completion on assignments. |
| **Budget Class** | This field is used when updating the percentage of completion on assignments. |

| Option | Description |
|---|---|
| **Actual Start Date** | This field is optional. Select this option only if you are updating % complete or units complete, or if you selected **For schedule activities with percent complete and no actual start date, use the early start date as the Cobra actual start date** on the Status page of the Integration Wizard. |
| **Actual Finish Date** | This field is optional. Select this option only if you are updating % complete or units complete, or if you selected **For schedule activities with percent complete and no actual start date, use the early start date as the Cobra actual start date** on the Status page of the Integration Wizard. |
| **Forecast Start Date** | This is the forecast start date. |
| **Forecast Finish Date** | This is the forecast finish date. |
| **Early Start Date** | This is the start date for a forecast using the early dates. |
| **Early Finish Date** | This is the finish date for a forecast using the early dates. |
| **Late Start Date** | This is the start date for a forecast using the late dates. |
| **Late Finish Date** | This is the finish date for a forecast using the late dates. |
| **Percent Complete** | This is a required field. |
| **Units Complete** | This updates the units complete for work packages that use Units to Do progress technique. |
| **Earned Value** | This is used in the calculation of the percentage of completion with the formula BCWP/BAC. |
| **BAC** | This is used in the calculation of the percent of completion with the formula BCWP/BAC. |

- Options displayed on this page depend on the options selected on the Action Selection page.

  You can use the **<Ignore>** option more than once to signify fields that the process should ignore during the import process.

  If you use the same field names as those in the drop down list and you indicate that the first row contains the field names then the fields are automatically selected.

  If you select the **Budget At Complete** and **Earned** fields, Cobra calculates the percent complete using the formula Earned/BAC. This option is useful when receiving earned value from a contractor.

*Status Page of the Integration Wizard*

Use this page to define how status is imported into Cobra from the status file defined on the Project Selection page.

Status Page of the Integration Wizard-Files

Use this page to define how status is imported into Cobra from the status file defined on the Project Selection page. Cobra uses this data in calculating earned value and updating actual, forecast, early, and late dates.

**Contents**

| Field | Description |
|---|---|
| **Update status using** | Use this field to select a date to use when importing status. Select one of the following options:<br>▪ **Forecast Dates**<br>▪ **Early Dates**<br>▪ **Late Dates** |
| **Allow percent complete reduction** | Select this option to enable Cobra to decrease the percent complete based on the amount in the schedule. If the percent complete is currently 30%, it can become 20%. This option affects work packages, milestones, and resources that use percent complete.<br>**Note:** If you do not select this option, Cobra allows only the increase of values. |
| **Change Cobra actual dates to match the schedule** | Select this option to update Cobra actual dates that are different from the file dates so that they match the file dates for the mapped activities. |
| **For schedule activities with percent complete and no actual start date, use the early start date as the Cobra actual start date** | Select this option to import the early start date when the actual start date is blank for activities with percent complete greater than 0. |
| **Update early and late dates** | Select this option to update the early and late dates used for alternative forecasts in Cobra from the schedule early and late dates. |
| **Calculate the Work Package percent** | Select this option to calculate the % complete using the values in the file. If the **Earned** and **BAC** columns are not mapped on the Status File Field Mapper page, the values are set to zero. |

| Field | Description |
|---|---|
| **complete from Progress/BAC in the file** | |
| **Update assignment % for resources with class** | Click ... to select a budget class to update. Use this option when there are multiple resources with different classes on the work package. Percent complete is updated for resources with the selected class. |

Status Page of the Integration Wizard-Scheduling Tools

Use this page to define how status is imported into Cobra from the schedule. You can enter status information for activities and import the data into Cobra for use in calculating earned value and updating forecast dates.

The Status page displays if you select **Status** on the Action Selection page.

**Contents**

| Field | Description |
|---|---|
| **Update status using** | Use this field to select a date to use when updating status. Select one of the following options:<br>▪ **Early Dates**<br>▪ **Late Dates**<br>▪ **Schedule Dates** |
| **Allow percent complete reduction** | Select this option to enable Cobra to decrease the percent complete based on the amount in the schedule. This option affects work packages, milestones, and resources that use percent completes.<br>If you do not select this option, Cobra allows values to be increased but not decreased. |
| **Change Cobra actual dates to match the schedule** | Select this option to update Cobra actual dates that are different from the schedule dates so that actual dates match the schedule dates for the mapped activities. |
| **For schedule activities with percent complete and no actual start date, use early start date as Cobra actual start date** | Select this option to import the early start date when the actual start date is blank for activities with percent completes greater than zero. |
| **Update early and late dates** | Select this option to update the early and late dates used for alternative forecasts in Cobra from the schedule early and late dates. |

| Field | Description |
|---|---|
| **Load units complete from field** | Click ... to select a schedule field from which Cobra imports the Unit to Do value on work packages with Units Complete progress technique. |

### Options for Open Plan and Primavera

**Note:** These options display when you are integrating with Open Plan or Primavera.

| Field | Description |
|---|---|
| **Update Assignment % Complete** | This option allows you to select which budget classes you want to have the Resource Assignment % Complete value be updated for work packages that use the Assignment % Complete progress technique during the Open Plan or Primavera status integration. |
| **Select assignment class to update** | Selecting this option directs Cobra to update the percent complete values of the resource assignments that use the Assignment % Complete progress technique based on Cobra class selection. If the resource assignment being loaded from the schedule matches the selected class in the **Cobra class** field, the Assignment % Complete is updated.<br>For example, if you have DRAFT resource assignment for Budget and OTB classes and you select **Budget** in the **Cobra class** field, the Assignment % Complete will be loaded only for the Budget class. |
| **Cobra class** | Use this field to select the Cobra class to which the resource Assignment % Complete is loaded.<br>If the **Load budget class from field** option is selected and a schedule field is specified on the Resource Assignments page, the **Select assignment class to update** option and **Cobra class** field are disabled. |
| **Use assignment class from schedule** | Select this option to direct Cobra to update percent completes for all resources that use the Assignment % Complete progress technique based on the class assigned in the schedule field. |
| **Schedule field where class is stored** | Use this field to select a schedule text code field, which contains the class to update. |
| **Class to use when field is blank** | Use this field to specify a default budget class in Cobra. If the **Schedule field where class is stored** field is blank or empty, the integration uses the class specified in this field. |

### Options for Microsoft Project XML and Microsoft Project Server

**Note:** These options display when you are integrating with Microsoft Project XML and Microsoft Project Server.

| Field | Description |
|---|---|
| **Update assignment % for resources with class** | Click ... to select a budget class to update. Use this option when there are multiple resources with different classes in the work package. The percent complete is updated for resources with the selected class. |
| **Load percent complete from** | Use this field to specify how you want to import percent complete and assignment percent complete values from Microsoft Project. Select one of the following options:<br>▪ **Calculate Percent Complete**: Select this option to calculate percent complete, using resource progress when updating the status for work packages that use the progress technique of percent complete. The percent complete is calculated by summarizing the values for Budget and Earned for the resource assignments for all tasks at the work package level. Percent complete is calculated using the formula: Earned/Budget.<br>▪ **Percent Complete**: Select this checkbox to import the percent complete from the level **% Complete** field of the activity. Percent Complete is calculated using the following formula: ((Resource Value * % Complete)+ (Resource Value * % Complete)+…))/Sum Resource Values.<br>▪ **Work Percent Complete**: Select this checkbox to import the percent complete from the **% Work Complete** MSP field. Work Percent Complete is calculated using the following formula: ((Resource Value * Work % Complete)+ (Resource Value * Work % Complete)+…))/Sum Resource Values.<br>▪ **Physical Percent Complete**: Select this option to import the percent complete from the **Physical % Complete** MSP field. Physical Percent Complete is calculated using the following formula: ((Resource Value * Physical % Complete)+ (Resource Value * Physical % Complete)+…))/Sum Resource Values .<br>**Note:** If all the Resource Values are 0 for a task, the Percent Complete option is calculated as follows: Sum of all the Task % Complete values for the Work Package/The number of tasks being loaded for the work package |

*Filter Page of the Integration Wizard*

Use this page to define the data to be imported.

Filter Page of the Integration Wizard-Files

Use this page to define the data to be imported.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Select one of the following options:<br>▪ **Total Project**: This is the default selection. Select this option to import the entire project. If you select this option, Cobra runs the Update Totals process against the control accounts to which the resources were loaded and the work packages that belong to the same control account.<br>▪ **<Control Account Prompt>**: Select this option to import only the selected control accounts. Cobra also runs the Update Totals process against the selected control accounts. If you are loading budget resource assignments, only the budget totals, including the project-level budget totals, are updated.<br>▪ **<Work Package Prompt>**: Select this option to import only the selected work packages.<br>If you are loading budget resource assignments, only the budget totals, including the project-level budget totals, are updated. If you are loading forecast resource assignments, only the EAC totals, including the project-level EAC totals, are updated.<br>**Note:** If you select **<Control Account Prompt>**or **<Work Package Prompt>**, the **Selection** field is enabled. |
| **Selection** | Click ... to select a schedule field mapped as a Control Account or Work Package field on the Schedule Mapping page. You can also select one of the following options:<br>▪ **<All>**: Select this option to retrieve all accounts.<br>▪ **<Multiple Selections>**: This option displays when you select multiple values from the lookup. |
| **Delete only items that satisfy the selection criteria** | Select this option to delete only items from Cobra that meet the criteria selected.<br>If Cobra is made up of multiple single projects loaded through the Integration Wizard, and a single project is being loaded, Cobra will only consider deleting items that are not in the schedule if the code field contains the name of the project being loaded. You can either enter the project name specifically in the **Equals** field, or you can enter the project name generically by using the reserved value **<ProjectName>**.<br>**Note:** This option considers the deletion filter on the Change Control page and only deletes items within the criterion that matches the filter. This option displays only when importing activity data into an existing project. |

| Field | Description |
|---|---|
| **Load only schedule activities that do not exist in Cobra** | Select this option to import only new data and to ignore any existing data so that previously imported data remains the same. |
| **Load only data for Control Accounts that already exist in Cobra** | Select this option to import only data previously imported and to ignore any new information. You cannot select both the **Load only schedule activities that do not exist in Cobra** and **Load only data for Control Accounts that already exist in Cobra** checkboxes at the same time. |

Filter Page of the Integration Wizard-Scheduling Tools

Use this page to limit the data to be imported.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Select one of the following options:<br>▪ **Total Project**: This is the default selection. Select this option to import the entire project. If you select this option, Cobra runs the Update Totals process against the control accounts to which the resources were loaded and the work packages that belong to the same control account.<br>▪ **<Control Account Prompt>**: Select this option to import only the selected control accounts. Cobra also runs the Update Totals process against the selected control accounts. If you are loading budget resource assignments, only the budget totals, including the project-level budget totals, are updated.<br>▪ **<Work Package Prompt>**: Select this option to import only the selected work packages.<br>If you are loading budget resource assignments, only the budget totals, including the project-level budget totals, are updated. If you are loading forecast resource assignments, only the EAC totals, including the project-level EAC totals, are updated.<br>**Note:** If you select **<Control Account Prompt>**or **<Work Package Prompt>**, the **Selection** field is enabled. |
| **Selection** | Click ... to select a schedule field mapped as a control account or work package field on the Schedule Mapping page. You can also select one of the following options: |

| Field | Description |
|---|---|
| | ▪ **<All>**: Select this option to retrieve all accounts.<br>▪ **<Multiple Selections>**: This option displays when you select multiple values from the lookup. |
| **Delete only items that satisfy the selection criteria** | Select this option to delete only the items from Cobra that meet the criteria selected. In other words, if you select criteria for a control account and a specific control account in the Schedule Fields Lookup dialog box, when you select this option, only work packages and resource assignments in the selected control account will be deleted if they are not in the schedule. This is useful when you have deleted activities from the schedule and want the work packages and/or assignments deleted from your Cobra project.<br>This option displays only when you import data into an existing project. |
| **Load only schedule activities that do not exist in Cobra** | Select this option to import only new data and to ignore any existing data so that previously imported data remains the same.<br>You cannot select both the **Load only schedule activities that do not exist in Cobra** and **Load only data for Control Accounts that already exist in Cobra** options at the same time. |
| **Load only data for Control Accounts that already exist in Cobra** | Select this option to import only data previously imported and to ignore any new schedule information.<br>You cannot select both the **Load only schedule activities that do not exist in Cobra** and **Load only data for Control Accounts that already exist in Cobra** options at the same time. |
| **Filter activities loaded from the schedule (for Open Plan and Primavera only)** | Select this option to filter data from the schedule and import only a specific portion of the schedule based on a code on the activities. Selecting this option enables the **Schedule code field** and **Code value** fields. |
| **Schedule code field** | Click ... to select a code file. |
| **Code value** | Click ... to select a value assigned to the activities from the selected schedule code field. If you select multiple values, **<Multiple selections>** is displayed in the field. |

*Other Options Page of the Integration Wizard*

Use this page to select options that may apply to multiple action selections when you integrate between Cobra and all of the scheduling software tools.

This page does not display under the following conditions:

- When you select **Codes** only or **Code Assignments** only on the Action Selection page.
- When you integrate a resource file with punctuated significant structure. The decimal mark is required for punctuated code structure so the parent values should never be trimmed.
- When you integrate an import file and select only the **Status** option on the Action Selection page and the **Update assignment % for resources with class** option on the Status page was empty.
- When you integrate with Open Plan, select only the **Status** option on the Action Selection page and clear the **Update Assignment % Complete** option on the Status page.

**Contents**

| Field | Description |
|---|---|
| **Load resource codes as non-significant** | This option determines if the parent code is trimmed when adding resource assignments.<br>The following scenarios determine whether or not Cobra includes a parent code when loading resource assignments:<br>▪ If this option is selected, Cobra trims everything before the decimal when loading resource assignments.<br>▪ If this option is not selected, Cobra loads project data in the same format as the data appears in the resource file. |

*Save and Load Page of the Integration Wizard*

Use this page to save the options you selected while running the Integration process.

These options are saved as a configuration in the database. You can use this configuration for future data imports.

**Contents**

| Field | Description |
|---|---|
| **Load data now?** | Select this option to run the integration immediately based on the options selected with the Integration Wizard. This option can be selected whether the configuration is saved or not. |
| **Save your configuration?** | Select this option if you want to save the options you selected while running the Integration Wizard. This option is enabled only if you have security rights to create configurations. |
| **Send to process server** | Use this checkbox when you are running the concurrent integration using an import file with data from multiple projects in PM Compass. This checkbox is enabled if the **Queue** and **Shared Location** fields on the Data tab of the Application Preferences dialog box are specified and verified. |

| Field | Description |
|---|---|
| | If you select this checkbox, Cobra will split the import file into individual projects and will send the integration job to PM Compass through to the queue specified on the Data tab of the Application Preferences dialog box.<br>If you clear this checkbox but the **Load data now?** checkbox is selected, Cobra displays the following message: "Cobra will load project data in the transaction file sequentially by project. If there are a lot of projects in the transaction file this may take a long time. Do you wish to continue?". |
| **Configuration Name** | Use this field to enter a name for the configuration. The name can be up to 59 characters long.<br>**Note:** If you enter a name similar to an existing shared configuration, you will be prompted to save the configuration as personal which cannot be shared with anyone. Multiple users can have personal configurations with same name, but only one of those configurations can be shared with anyone. |
| **Description** | Use this field to enter information about the new configuration. |

*Access Control Page of the Integration Wizard*

Use this page to enable users or groups to access the integration configuration that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Configuration Security dialog box.

**Note:**

- This page displays only if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.
- For existing configuration, only the owner or any member of the SYSADMIN group can change the security settings, and delete and restore a configuration. You can assign multiple users, groups, or roles to a configuration.

  **Attention:** For more information, see Restoring Reports and Configurations.

*Confirmation Page of the Integration Wizard*

This page informs you that Cobra has all the information it needs to run the integration.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

**Note:**

- This page displays after the Save and Load page if the **Save your configuration** option is not selected.
- This page displays after the Access Control page if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.

*Process Running Page of the Integration Wizard*

This page displays the progress status of the process you are running.

*Process Complete Page of the Integration Wizard*

This page displays information about the status of the process.

## Data Import-Actual Costs

Cobra is very flexible in terms of loading actual costs. You can select the level at which they are captured.

If actual costs are loaded from an import file, you select the charge number identifier, whether or not the file is cumulative-to-date, and so on.

Cobra offers a wide variety of options related to the entry of actual costs for a project.

- You can enter actual costs either at the control account or work package level.
- The actual costs can link to one or many of the control account fields, or the work package field, or any code assignment.
- You can import actual costs into a master project and the values are posted to the subproject.
- Files can contain either cumulative or current period costs.

The succeeding topics contain information about creating an actual cost import file, entering actual costs using both import files and manual procedures, and using the Integration wizard to import actual costs.

### Control Account Versus Work Package Level

When you create a project, Cobra allows you to indicate whether you want to enter actual costs at the control account or the work package level. Cobra then defines the default actual cost class (AC) and forecast cost class (F1) to function at the appropriate level.

Typically, if actual costs are collected at the control account level, you would also generate the forecasts at the control account level.

Collecting actual costs at the control account level is the method adopted by most project managers. This is the preferred method for managing work that is performed within your organization. When you are managing work that is performed outside of your organization, the terms of the contract frequently determine how costs are collected.

While detailed planning is important for accurate earned value, it is possible to overdo a good thing. If you were to collect costs at the work package level, you would require a different charge number for each work package, adding a level of complexity that would deter people from creating a detailed plan. The goal in a proper implementation is to provide an environment that is easy to maintain while yielding the information that is required to properly manage the project. In most cases, this goal is met by collecting actual costs at the control account level.

It is important to note that collecting actual costs at the control account level does not preclude you from reporting to the customer at a higher level. An implementation that stores the actual costs at the control account level usually uses three control account key fields. The first two fields are WBS and OBS, and the third key field is the charge number.

This allows you to report to the customer in either of the following ways:

- Define the customer reporting level as a specific level of the WBS
- Add a code on the control account to represent the customer reporting level

### Cumulative versus Current Period Costs

You can enter actual costs either for the current period or as a cumulative-to-date figure. In either case, the system stores the current period value; if you enter cumulative values, Cobra subtracts the previous cumulative value to arrive at the correct current period value.

Cumulative-to-date values are preferred because they are by their very nature self-correcting. For example, assume that an accounting error was made in the previous period. If a correct cumulative-to-date value were entered in the current period, the error would be corrected by an adjusting entry in the current period.

To define if the records in the import file represent costs for a given period or if they are cumulative-to-date costs, use the options in the Included Costs Page of the Integration Wizard.

### Master Project Versus Individual Projects

You may extract a single actual cost import file from your accounting system and load that file into a master project instead of creating a different actual cost import file for each project.

The Integrate Actual Cost process will look at the sub-projects assigned to the master project and load the actual costs into the individual sub-project when processing the master file.

You have several options. If you have a unique charge number across all projects, you may use either a control account field, combination of the control account fields, or a code on the control account or work package as the unique charge number to identify where the actual costs are to be loaded. Alternatively, you may include the Cobra project name in the file. If you select a master project in the Integration Wizard, the **Project** option will be displayed on the Field Mapper page.

### Control Account Fields Versus Codes

When actual costs are posted to a project, a unique identifier must be used to process the import file.

You may use either a combination of fields such as the WBS and OBS, a single field such as the work package key field, or a code on the control account or work package.

Consider the following:

- The row is uniquely identified. You cannot choose WBS, for example, and have WBS on multiple control accounts.
- The level of the class is consistent with the fields. If the class level is work package, then a field on the work package must be in the file.

  The selections you make on the Field Mapper page the Integration Wizard are validated. You may select either all control account fields or codes at the appropriate level. While you may use a combination of control account fields to uniquely identify where the actual costs will be posted, you may not use a combination of codes. For example, if you select a code on the control account, the first validation performed is to check for duplicate codes assigned to any of the control accounts. This validation procedure assures Cobra will know where the transaction is to be posted. If you do not have a unique identifier, the process stops and Cobra displays an error message.

  To determine the best business process for your organization, you must determine when charge numbers are assigned to a project and when you plan to build your Cobra project. If your organization only assigns charge numbers after a project is underway and you plan to use Cobra as your estimating tool, you will probably find using a code on the control account a good implementation. That way you can create the control accounts before you have charge numbers, and assign the charge numbers to the control accounts after the contract has been awarded.

### First Result and Derived Costs

You can enter actual costs in terms of first result and have Cobra calculate the derived costs, or you can enter each result individually.

When you enter actual costs manually, each of the derived results is calculated from the selected result. For example, when you enter hours, all of the derived results are calculated. If you enter a direct cost, the overhead and G&A costs are calculated from the direct cost you manually entered.

When you enter actual costs using import file, you can choose to have various derived results calculated. For example, you could export the hours and direct costs from a labor system and have Cobra calculate the overhead and G&A cost when the import file is loaded into Cobra. Alternatively, you could have Cobra calculate the actual FTE value for head count analysis.

### Cost Classes

If you have defined custom cost classes for actual costs, you can display and enter costs using any actual cost class.

For example, items such as commitments and accruals can be entered into Cobra. These values can be used for reporting or to improve the accuracy of a forecast.

If you are exporting outstanding commitments from your accounting system, these values are cumulative-to-date values. When a commitment is no longer outstanding, a record must be exported or entered into Cobra in order for that account to indicate there is no longer an outstanding commitment.

### Entering Actual Costs

Under normal circumstances, you enter information about actual costs after updating all schedule status information. By default, Cobra allows the entry of actual cost information only for open work items.

The default setting can be modified using the Actual Costs dialog box on the Preferences tab of the Project view. Thus, you should be sure that all progress information has been entered before beginning the entry of actual cost information.

Cobra offers a number of options for the entry of actual costs that will affect your implementation and integration with other applications.

**Attention:** For more information, see Actual Cost Import File.

Cobra provides a way to enter and validate actual costs using import files or to enter actual costs manually.

*Entering Actual Costs Using an Import File*

Although it is possible to enter actual cost data by hand, in most cases the information has already been captured in an external accounting system.

Thus, Cobra makes it possible to enter and validate actual costs using import  files prepared outside of Cobra in CSV (comma separated values) file format.

Import File Preparation

A typical import file contains the Work Breakdown Structure (WBS), Organizational Breakdown Structure (OBS), Resource, Hours, Direct, Overhead (OH), and General & Administration (G&A) costs.

However, Cobra does not require you to provide all control account fields when loading actual costs. All you need is a means of uniquely identifying a control account or work package (depending on the level at which you collect actual costs). For example, if your charge number is a code on the control account, you can simply supply that code value in an import file and Cobra will provide the WBS and OBS information needed to load the import file. In addition, you can choose to ignore empty fields during an import file definition. When loading actual costs into a master project, you have the option to include the project name of each sub-project. If you include

a sub-project that contains the same control account fields as another included sub-project, Cobra adds a unique identifier to one set of control account fields.

To load costs using an import file, use the options in the Included Costs Page of the Integration Wizard.

Import File Validation

Cobra performs validations on the data in the file after you identify the import file to be used for entering actual costs.

The following restrictions must be followed:

- Control account, work package keys, or code values must be valid.
- Any transaction dates must be before the project status date.
- Actual costs must be posted to either open control accounts or to open work packages.
- Resources in the import file must correspond to the resources that were budgeted to the control account or work package. However, there is a project option to allow you to post unbudgeted resources.

  Whenever Cobra detects an error during the validation process, a message appears on the screen, and a log of the session is stored in a text file. You can save this file for further review.

  After all validations are complete, Cobra takes one of the following actions:

  - If Cobra detects any errors when validating cumulative actual costs, Cobra asks you to post the corrected transactions.
  - If Cobra detects any errors when validating current period actual costs, Cobra does not post any actual cost data. However, selecting the **Post valid records** option on the Included Costs page of the Integration Wizard allows these actual costs to be posted.

    You can show the result values on the error log when loading actual costs. To show result values in the log, select the **Print values of invalid records to the process log** option on the Options page of the Integration Wizard.

  Cobra creates a transaction error file when you load actual costs for invalid transactions that Cobra is unable to load during the integration. The transaction error file, whose filename is the same as the transaction filename but with the .err extension, is generated in the \<User>\Documents\Deltek\Cobra\Logs folder. You can access the file and fix the invalid transactions, and load it directly back to Cobra.

*Entering Actual Costs Manually*

While actual costs are usually entered using import files, Cobra also provides a facility for entering these costs manually.

To add actual costs manually, select **Actual** in the **Class** field in the Add Resource Assignment dialog box.

## Loading Actual Cost Records

Using the Integration Wizard, you can import actual cost records either from a CSV file or from a database table.

*Loading Actual Cost Records from a CSV File*

When you create the actual cost import file, the file must be in a CSV (comma separated values) file format. This file format is also called comma delimited, ASCII, or a text file.

When Cobra is installed, examples of these import files are installed into a subfolder of the same system folder. For example, the path could be **Cobra\Samples\Transaction Files**.

When you run the Integration Wizard, select **Actual cost file** on the File Selection page, and locate the file that you are going to import.

*Loading Actual Cost Records from a Database Table*

If you want to load actual cost records from a database table, you must first create connection to a database that contains the actual cost records.

Take note of the following:

- The database table name that contains the actual cost records can be any valid database table name that the database user has read access to. To avoid potential conflicts, use a table name that relates to your company name, for example: <CompanyName>_ACT.
- The data types in your database table should match the ones being used by Cobra. Generally, WBS, OBS, CA3 and Resource columns should use Character type, while the Result column such as Hours or Direct should use the Numeric type. However, this depends on the format of the data used.

  **Attention:** For more information, see Data Formats.

- Use the Integration wizard pages to create or edit the connection to the database that contains the actual cost records you are going to import.

  **Attention:** For more information, see Integration Wizard-Actual Costs.

- For steps to create a database connection to load actual costs using a MS SQL database, see Create an MS SQL Database Connection to Load Actual Costs.

### Using the Integration Wizard

Take note of the following:

- When you run the Integration Wizard, select **Connection name** on the File Selection page, and locate the file that you are going to import.
- Click **New** or **Edit** to display the Connection dialog box, where you can create or edit the database that contains the actual cost records.

- On the Database Table Selection page, select the database table that contains the actual cost records. The first 10 rows of the database will be displayed on the Field Mapper page.
- Continue with the pages of the Integration Wizard-Actual Cost to complete the integration.

*Actual Cost Import File*

Actual cost import files can be used to import actual cost data into Cobra.

Use an actual cost import file to import actual cost data into Cobra through the Integration Wizard. Cobra provides the following options for import files that contain actual costs:

- You can enter actual costs either at the control account or work package level.
- The actual costs can link to one or many of the control account fields, or the work package field, or any code assignment.
- You can import actual costs into a master project and the values are posted to the subproject.
- Files can contain either cumulative or current period costs.
- Files can include optional fields related to import dates and cost classes.
- You can either write a query to extract data from your accounting system, write a report that creates a CSV file, or extract data from a data warehouse.
- Files can be in one of two data formats.

Data Formats

The actual cost import file can only be imported using a CSV format. You can choose between two format options.

These two options are:

- **Format 1**: Each result as a column in the CSV file. For example, **Direct** or **Hours**.
- **Format 2**: A separate row for each result in a resource calculation. This format uses the **Data_type** column to specify the result and the **Data_value** column to specify the quantity.

  In either data format, the file structure must include the information that identifies the control account or work package (or a code assignment to the CA or WP) where it applies. If actual costs are only at the control account level, the work package identifier can be omitted.

  To explain the difference between the two formats, assume that the control accounts in a project have been defined with two control account key fields and at the control account level.

  Assume that the project resource calculations include the following results: **HOURS**, **DIRECT**, and **OHEAD**

| WBS | OBS | Resource | Hours | Direct | Ohead |
|---|---|---|---|---|---|
| 1.1 | 1.7 | ENG | 15 | 187 | 18 |
| 1.2 | 1.1 | COMP | 0 | 475 | 48 |
| 1.3 | 1.2 | TECH | 35 | 634 | 63 |

An actual cost import file using the second option and the same information is shown in the table below.

| WBS | OBS | Resource | Data_type | Data_value |
|---|---|---|---|---|
| 1.1 | 1.7 | ENG | HOURS | 15 |
| 1.1 | 1.7 | ENG | DIRECT | 187 |
| 1.1 | 1.7 | ENG | OHEAD | 18 |
| 1.2 | 1.1 | COMP | OHEAD | 48 |
| 1.3 | 1.2 | TECH | HOURS | 35 |
| 1.3 | 1.2 | COMP | DIRECT | 634 |
| 1.3 | 1.2 | COMP | OHEAD | 63 |

Using Format 1 is more efficient from the Cobra standpoint, but the second option is more typical of the form that contains the data exported from an external system.

The Field Mapper

Use the Field Mapper page of the Integration Wizard to specify how the file is formatted when you create the actual cost import file.

For example, if you select to load actual costs into a master project, you get the option to choose **Project** as one of the fields in the field picker. You do not have to choose this field. If your charge numbers (for example, WBS +OBS or CA code) are unique across all projects assigned to the master, the project name is not required.

If you have a code on a control account or work package to represent the charge number, do not select **CA1**, **CA2**, or **WP**. You must select the code file that represents the charge number. When using a current period file, you can enter the date of the import in the **Cost_date** field. If the **Cost_date** field is missing, the current status date is the assumed import date. Another optional field is **Class**.

Cobra supports the following formats:

- Each line of the import file contains all the results for that work package in separate columns.
- Each result is displayed on a different line. This is the format that is most frequently used.

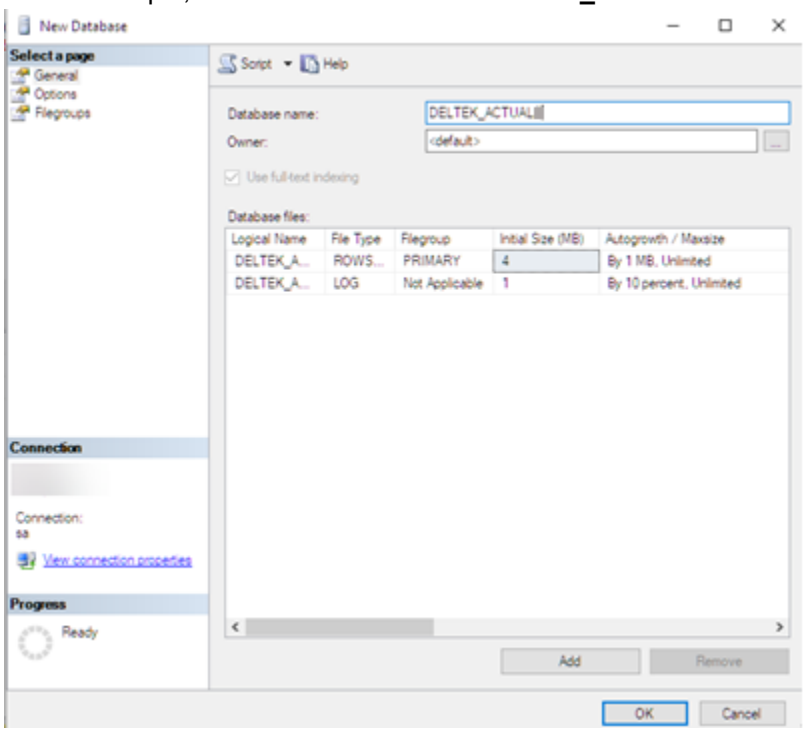
## Create an MS SQL Database Connection to Load Actual Costs

Use this procedure to create a connection to an MS SQL database in order to load actual costs during integration.

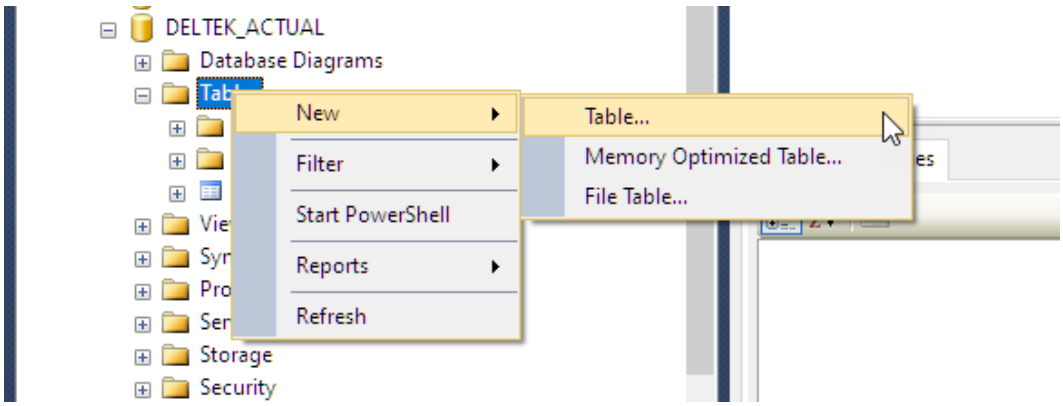
It is expected that managing the database tables will be handled by your company's IT personnel/ Database Administrator (DBA).

**To create an MS SQL database connection to load actual costs:**

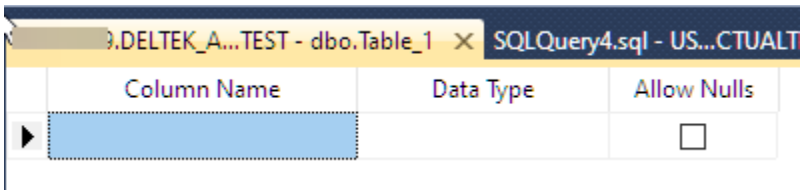
1. Connect to an MS SQL server.
2. In the Object Explorer pane, right-click **Databases** and select **New Database...**.
3. On the New Database dialog box, enter a database name and click **OK**.
   In this example, the database is named **DELTEK_ACTUAL**.




   The new database will be listed as one of your databases in the Databases tree.
4. In the Object Explorer pane, expand the new database by clicking the **+** icon.
5. Right-click **Tables** and click **New**, and then click **Table...**.

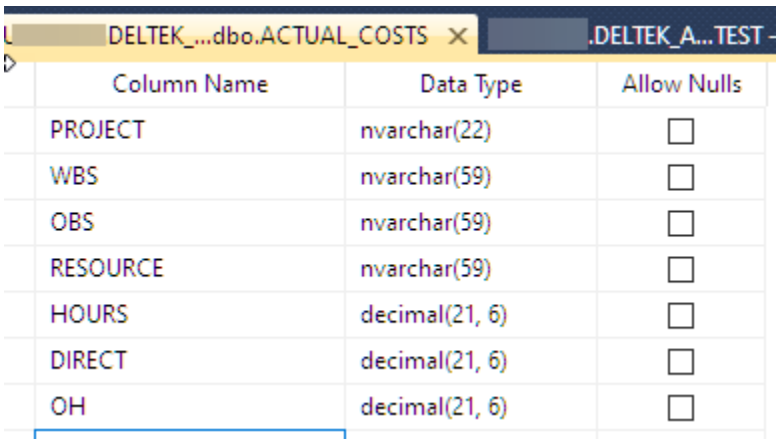



The database table displays in the right pane.




In this example, we are creating a simple database for actual costs using data Format 1 to load actuals (Results are specified as column headers). The columns created should use the same Data Type used throughout Cobra for that same value. For example, in the CAWP table, the CA1 (WBS) field is NVARCHAR (59, not null). The WBS field in the Actuals table should use the same data type setting.

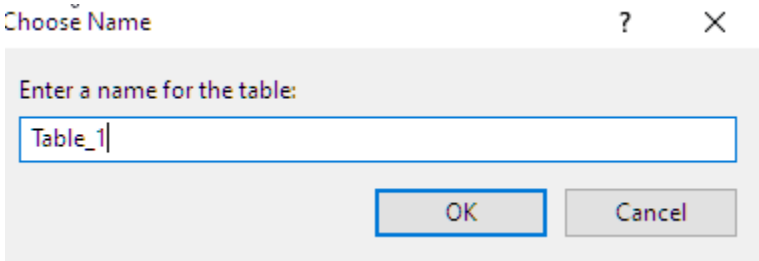
6. Enter the following information and clear the **Allow Nulls** checkbox next to each entry.



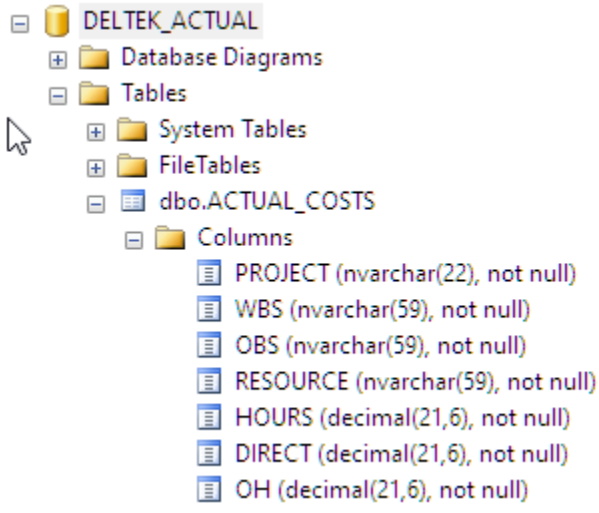

| Column Name | Data Type | Allow Nulls |
|---|---|---|
| PROJECT | nvarchar(22) | ☐ |
| WBS | nvarchar(59) | ☐ |
| OBS | nvarchar(59) | ☐ |
| RESOURCE | nvarchar(59) | ☐ |
| HOURS | decimal(21, 6) | ☐ |
| DIRECT | decimal(21, 6) | ☐ |
| OH | decimal(21, 6) | ☐ |

In this example, we are going to load 3 results. Since were are using Format 1, each result needs to be its own column (HOURS, DIRECT, and OH). The project is collecting actuals at the control account (CA) level, so we only need to identify the CA fields, resource, and results. If collecting actuals at the work package (WP) level, you need to create a column for the WP name.

7. Click **Save**. When prompted, enter a name for the new table.

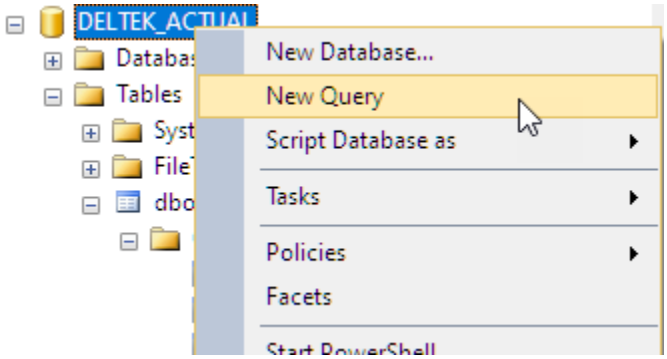


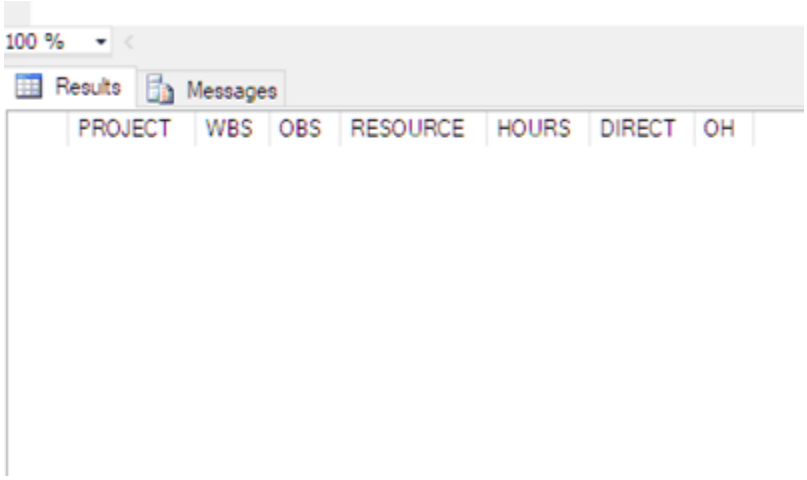

The new table, **dbo.ACTUAL_COSTS**, is now listed in the Database tree. If the new table is missing, right-click the database, and select **Refresh**.




8. Right-click your database, select **New Query**, and execute the Select statement to make sure the new actuals table is working and all the column names you created are working.

   Select * FROM [name of your database]





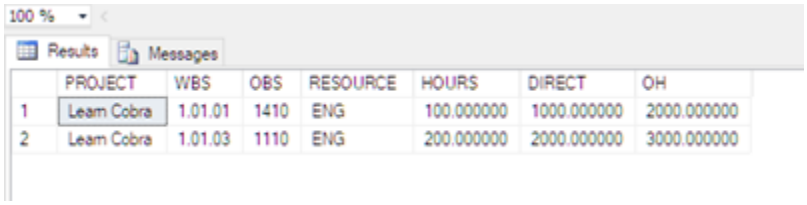

9. Populate the Actual Costs table with the actual cost data.

> **Important:** This is a very simple example. These queries will create actual costs for two control accounts only.

```
Insert INTO dbo.ACTUAL_COSTS
(PROJECT,WBS,OBS,RESOURCE,HOURS,DIRECT,OH)
VALUES ('Learn
Cobra','1.01.01','1410','ENG','100','1000','2000');
Insert INTO dbo.ACTUAL_COSTS
(PROJECT,WBS,OBS,RESOURCE,HOURS,DIRECT,OH)
VALUES ('Learn
Cobra','1.01.03','1110','ENG','200','2000','3000');
```

10. Right-click your database, select **New Query**, and execute the Select statement to make sure the table is populated.

    Select * FROM [name of your database]




| | PROJECT | WBS | OBS | RESOURCE | HOURS | DIRECT | OH |
|---|---|---|---|---|---|---|---|
| 1 | Learn Cobra | 1.01.01 | 1410 | ENG | 100.000000 | 1000.000000 | 2000.000000 |
| 2 | Learn Cobra | 1.01.03 | 1110 | ENG | 200.000000 | 2000.000000 | 3000.000000 |

11. Create an ODBC connection in order for Cobra to see the database holding the actual cost data.

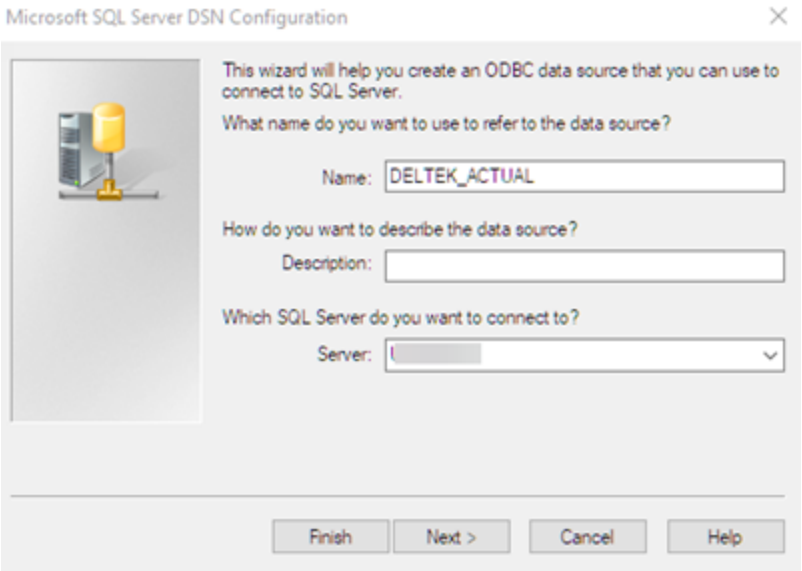
    a) Launch the ODBC Data Source Administrator.

    b) Click the **Add** button.

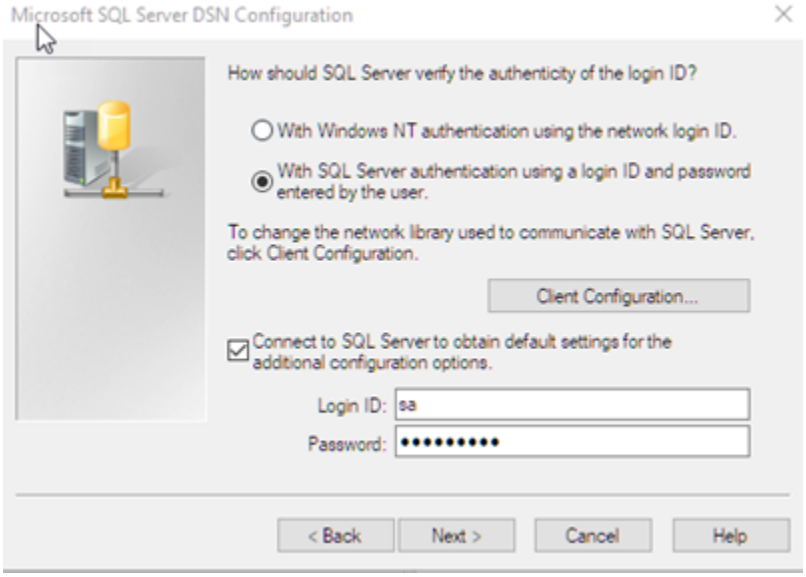
    c) On the Create New Data Source dialog box, select **SQL Server** in the list of drivers for which you want to set up a data source, and click **Finish**.

    d) Enter a name for the data source so you can easily recognize it in Cobra. In this example, the data source name is **DELTEK_ACTUAL**.

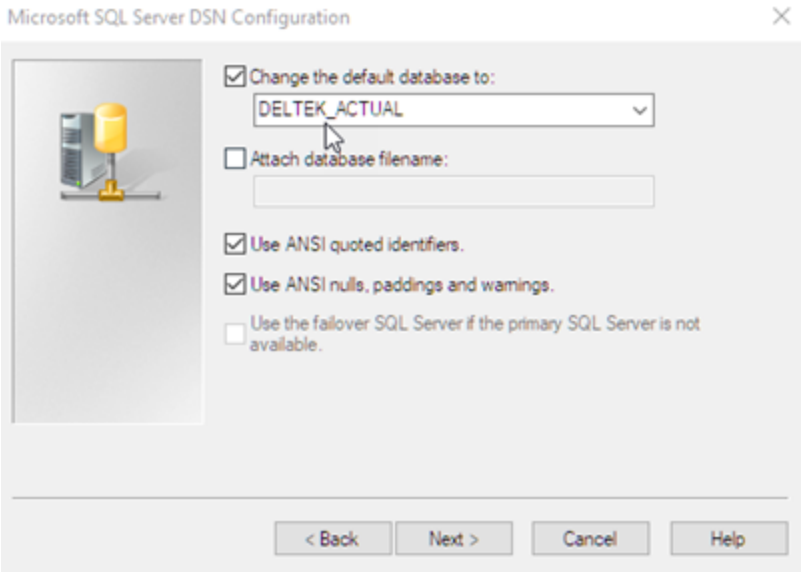
e) Select the server on which the database is located and click **Next**.



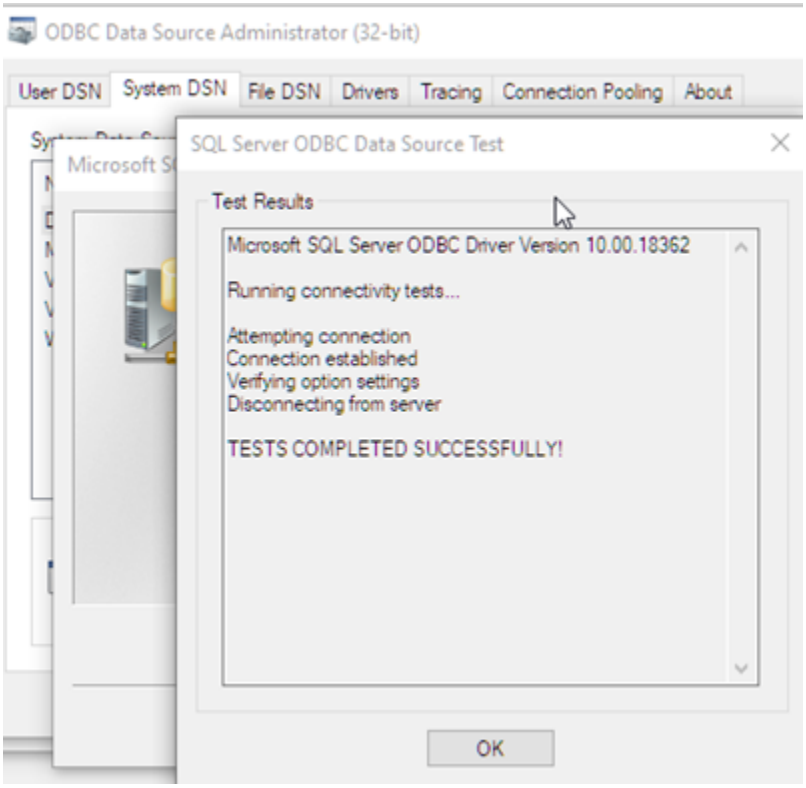

f) Set up the authentication and click **Next**.
In this example, SQL Server authentication is used.




g) Select the **Change the default database to** checkbox and click **Next**, and then **Finish**.



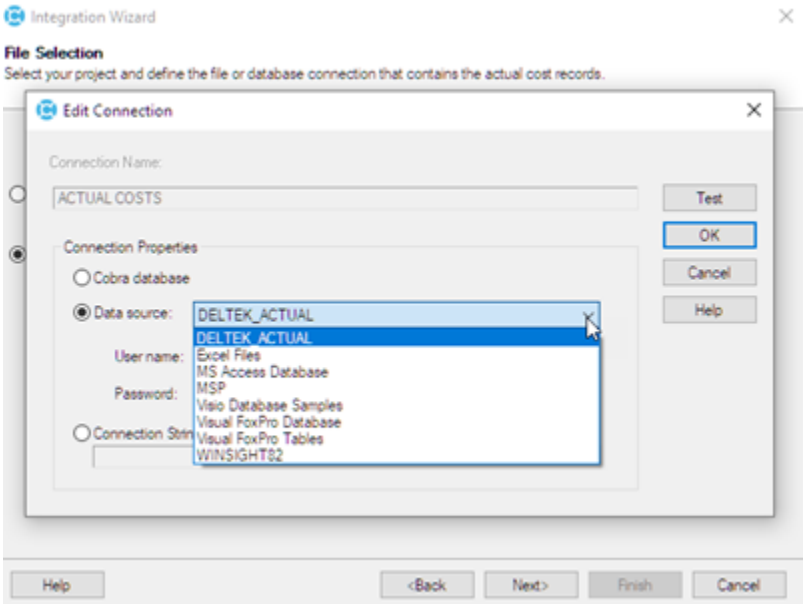

h) Click the **Test Data Source** button. When the test completes, click **OK** to close out the ODBC Data Source Administrator.



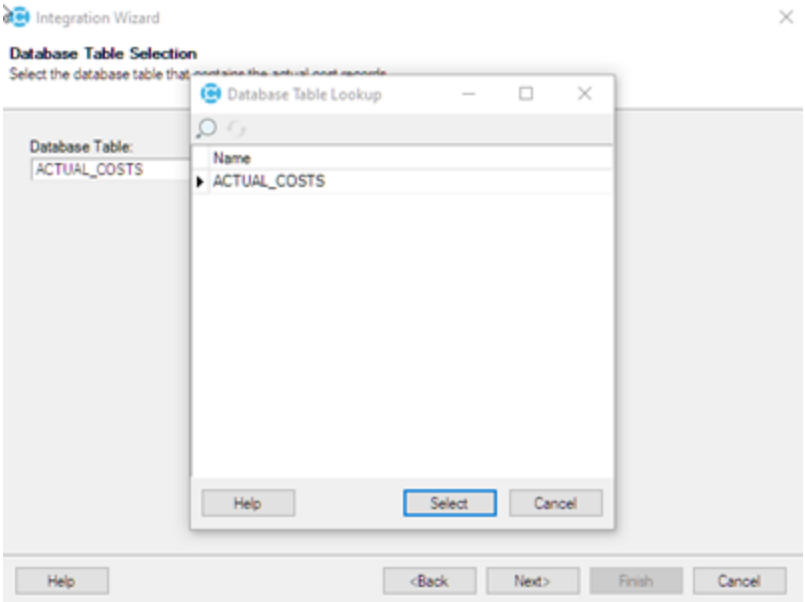

12. Log into Cobra.
13. On the Integration tab, click **Actual Cost** in the **Import** group.
14. On the Integration Configuration page, select the **Create a new configuration** option

15. On the File Selection page, do the following:
    a) Use the **Project** field to define the project where the actual costs will be imported.
    b) Select the **Connection name** option and click **New** to create a new connection.
    c) On the New Connection dialog box, enter in a name for the connection. In this example, the connection name is **Actual Costs**.
    d) Select the **Data source** option and select the data source you created using the ODBC Data Source Administrator.
    e) Enter the username and password for the actuals database and click **Test**.
    f) When the test completes, click **OK**.
    The connection should be populated in the **Connection Name** field. Click **Next**.

    **Note:** If the connection name is not populated, select it from the list.




    g) On the Database Table Selection page, click ... to display the Database Table Lookup dialog box.
    h) Select the table holding the actual costs, and click **Next**.




i) Complete the pages of the Integration Wizard-Actual Cost.

### Import Actual Cost Data

Use the Integration Wizard to import actual cost data.

**To import data actual cost data using the Integration Wizard:**

1. Click the Integration tab.
2. In the **Import** group, click **Actual Cost**.
3. Complete the pages of the Integration Wizard-Actual Cost to import actual cost data into Cobra.

### Integration Wizard-Actual Costs

To import actual costs, you must complete the information required on each page of the Integration Wizard.

*Integration Configuration Page of the Integration Wizard*

Use this page to choose an existing configuration or create a new one.

Import data includes, but is not limited to project structures, coding, control accounts, and work packages, budget and forecast spreads, project status, resource information, and rates. The data to be imported can reside in either a scheduling tool or file.

Use this page to choose an existing configuration or create a new one.

### Contents

| Field | Description |
|---|---|
| **Create a new configuration** | This option is enabled only if you have rights to create configurations as defined by the system administrator. |
| **Open an existing configuration** | Use this option to select a configuration that is defined and stored in the database.<br>Click to select a saved configuration from the lookup. You can click the column header to sort the data in the column.<br>**Note:** The Lookup dialog box displays only personal configurations and those shared for all users. If you do not have rights to create a new configuration but can open an existing configuration, you will only have rights to change the file selection. All other pages will be filled in but disabled based on the saved configurations. |
| **Description** | This field is enabled only when you select the **Open an existing configuration** option. It displays the description of the selected configuration. |

*File Selection Page of the Integration Wizard*

Use this page to select your project and define the file or database connection that contains the actual cost records for importing data.

**Note:** For actual cost integration, Cobra only supports import file in CSV (comma separated values) file format.

### Contents

| Field | Description |
|---|---|
| **Project** | Use this field to define the project where the actual costs will be imported.<br>Click to select a project or master project.<br>**Note:** Only projects where you have right access are displayed. |
| **Actual cost file** | Select this option if you are importing actual cost records from a file. Click to locate the file. |
| **Connection name** | Select this option if you are importing actual costs records from a database. Click **New** to create a new connection using the New Connection dialog box, or **Edit** to modify an existing connection using the Edit Connection dialog box. |

| Field | Description |
|---|---|
| | **Note:**<br>▪ Selecting this option displays the Database Table Selection page after you click **Next**.<br>▪ If you want to load actual cost records from a database table, you must first create connection to a database that contains the actual cost records.<br>For steps to create a database connection to load actual costs using a MS SQL database, see Create an MS SQL Database Connection to Load Actual Costs. |
| **Actual cost file contains records at the following level** | Use this field to define the level of costs contained in the actual file. Select one of the following options:<br>▪ Control Account Prompt<br>▪ Work Package Prompt<br>**Note:** This field is enabled only if the project has actual costs defined at both levels; otherwise, the level of the project is selected and the field is disabled. |

*Database Table Selection Page of the Integration Wizard*

Use this page to select the database table that contains the actual cost records.

**Contents**

| Field | Description |
|---|---|
| **Database Table** | Click ... to display the Database Table Lookup dialog box, which you use to select the database table which contains the actual cost records. The first 10 rows of the database will be displayed on the Field Mapper page.<br>**Note:** If you want to load actual cost records from a database table, you must first create connection to a database that contains the actual cost records. For steps to create a database connection to load actual costs using a MS SQL database, see Create an MS SQL Database Connection to Load Actual Costs. |

*Field Mapper Page of the Integration Wizard*

Use this page to define the order of the columns in the import file.

**Note:**

- For actual cost integration, Cobra only supports import file in CSV (comma separated values) file format.
- The **File contains a header row** option is not displayed when you are importing actual costs from a database.

**Defining the Field Order**

Define the data element in each column by selecting values from the list on the first row of each column. If you want the imported file to contain a header row, select the **File contains a header row** checkbox. If the header in the text file matches the field in Cobra, the column maps automatically when you select this option.

Additional fields can be mapped using the list. Select one of the following values:

| Option | Description |
|---|---|
| **<Ignore>** | |
| **Control Account field 1 prompt** | |
| **Control Account field 2 prompt** | This value is included only if this field is used in the import file. |
| **Control Account field 3 prompt** | This value is included only if this field is used in the import file. If actual costs are at the control account level then you must select the control account keys or a control account code. If actual costs are at the work package level then you must select the control account keys and a work package. |
| **Work Package prompt** | You can select a work package code without control account work package keys. |
| **Resource prompt** | |
| **Class** | |
| **Result** | This is the actual word “Result”. When you select **Result**, you must also select **Result value** and vice versa. |
| **Result value** | |
| **<Individual Results>** | This option separately lists each result defined for the selected project on the Resource File Properties dialog box. You can select either **Result** or multiple **<Individual Results>**. You cannot select both **Result** and **<Individual Results>**. |
| **Cost date** | If you are loading the actual cost records from a database, the date column should be in DateTime type. |

| Option | Description |
|---|---|
| **Project** | This value is included only if the selected project is a master project. |
| **Code.<prompt>** | This value lists code prompts on the control account or work package depending on the level of actual costs defined. |
| **Resource Assignment.<prompt>** | This value is only available when you are importing code assignments from a single file. There is one column for each Resource Assignment Code Field defined on the project. Selecting the Resource Assignment columns is optional. |

**Note:** With the exception of **<Ignore>**, you can select an option only once. A selected option is no longer available in subsequent columns.

*Class and Results Page of the Integration Wizard*

Use this page to define the class where you want to import the actual costs. You can also select the results that Cobra should calculate after the import is complete if these results are not included in the imported file.

**Note:** Make sure that the **Allow recalculation of completed Control Accounts and Work Packages** option in the Recalc Preferences dialog box is selected in order for Cobra to calculate the results of the completed work packages.

**Contents**

| Field | Description |
|---|---|
| **Class** | Use this field to determine what class the actual costs should be given if the field mapper does not specify a class column. If the **Class** field is defined as one of the columns on the Field Mapper page, this option is blank and disabled.<br>**Note:** If you select control account as the cost level, only control account-level classes are listed. If you selected work package as the cost level, only work package-level classes are listed. Only classes for which you have view and update access are listed. |
| **Calculate results** | This group box lists all of the results defined for the selected project. Use this group box to select results that Cobra should calculate after the import process is complete. This is used to calculate results that are specific to Cobra, such as full-time equivalents (FTE) or fee, rather than from outside accounting systems. You can select more than one result. |

| Field | Description |
|---|---|
| | **Note:** The Field Mapper page displays only the results you did not select. |

*Included Costs Page of the Integration Wizard*

Use this page to define if the records in the import file represent costs for a given period or if they are cumulative-to-date costs.

**Note:** The Included Costs page displays only when integrating actual costs.

**Contents**

| Field | Description |
|---|---|
| **Period Costs** | Use this option to indicate that each record in the file is for a specific period. If no date is defined on the record, it is assumed that the record is for the current period. |
| **Replace existing** | This checkbox is enabled if you select **Period Costs**. Select this option to replace any existing actual cost records in Cobra with corresponding records in the import file. No change occurs in existing Cobra records that do not have matching records in the import file. |
| **Post valid records** | This checkbox is enabled if you select **Period Costs**. Select this option to post valid records even if invalid records are found in the file. If you do not select this option, the process stops if invalid records are found, and no record is posted. |
| **Prevent loading historical actual costs** | This checkbox is enabled if you select **Period Costs**. Select this option to load only the actual costs with cost date values that fall between the start and finish dates of the current status period during the load actuals process. By default, this option is cleared. |
| **Cumulative Costs** | Use this option to indicate that records in the file are cumulative-to-date costs. Cobra subtracts the previous cumulative value to arrive at the correct current period value. The current period values are then loaded into the current period. Cumulative-to-date values are preferred because they are by their very nature self correcting. For example, assume that an accounting error was made in the previous period. If a correct cumulative-to-date value were entered in the current period, the error would be corrected by an adjusting entry in the current period.<br>Select this option to enable the **Zero unreferenced actual costs** checkbox. |
| **Zero unreferenced actual costs** | Select this checkbox to set the cumulative value of actual costs to zero for any control account or work package not found in the import file. If you do not select this option, no change occurs in any account that is not referenced. |

| Field | Description |
|---|---|
| **Select classes to exclude** | This checkbox is enabled when you select the **Zero unreferenced actual costs** checkbox. Select this checkbox if you want records belonging to the specified class to be excluded from the import.<br>To select a class for exclusion, click on the corresponding field.<br>**Note:** You can select more than one class for exclusion. |
| **Exclusion file** | This checkbox is enabled when you select the **Zero unreferenced actual costs** checkbox. Select this checkbox if you want records belonging to the specified file to be excluded from the import through the zeroing process.<br>To select a file for exclusion, click on the corresponding field.<br>**Note:** You can select only one file. The file must be of the same type and in the same format as the import file. For example, if the import file has the field order WBS, OBS, and WP then the exclusion file should also have the same order.<br>If the Control Account columns are included in the exclusion file, and the work packages, resources and classes are not included or are empty, all work packages, resources and classes will be excluded from the import under the Control Account.<br>If the Work Package columns are included in the exclusion file, and the resources and classes are not included or are empty, all resources and classes will be excluded from the import under the Work Package.<br>If the Resource Assignments are included in the exclusion file, and the classes are not included or are empty, all classes will be excluded from the import where the resource assignment name matches.<br>If the Resource Assignment and Class are included in the exclusion file, only the resource assignments with matching classes will be excluded from the import. |

*Options Page of the Integration Wizard*

Use this page to define options that you want to apply to the import process.

**Note:** Make sure that the **Allow recalculation of completed Control Accounts and Work Packages** option in the Recalc Preferences dialog box is selected in order for Cobra to calculate the results of the completed work packages.

**Contents**

| Field | Description |
|---|---|
| **Print values of invalid records to the process log** | Select this option to save the result values of the actual cost import in the error log. |
| **Generate a separate process log for each sub project** | Select this option if you want information in the actual cost log file to be segregated into separate files for each sub project. The separate files are stored in a folder in the project directory with the same name as the sub project.<br>This option is enabled only if the selected project is a master project. |
| **Allow posting actual costs to a planned Control Account or Work Package** | Select this option if you want to allow entry of actual costs against a control account or work package that has a status of planned. The planned status indicates that the control account or work package does not have an actual start date.<br>This option is disabled if the option is disabled on the Actual Cost Preference tab of the Project Properties dialog box for the selected project. |
| **Use the status date as the actual start date when posting values** | Select this option to enable Cobra to automatically set the status of planned control accounts and work packages to in-progress during the load actuals process.<br>If the forecast start date is later than the status date, Cobra will change the start date to the day before the status date and open the control account or work package.<br>If the forecast start date is earlier than the status date, Cobra will change the start date to the forecast start date.<br>This option is available only if you select the **Allow posting actual costs to a planned Control Account or Work Package** option. |
| **Allow posting actual costs to a completed Control Account or Work Package** | Select this option to allow the entry of actual costs against control accounts or work packages with a status of complete.<br>If this option is cleared, Cobra will not allow loading of actuals against a control account or work package that has an actual finish date earlier than the start of the current period. If they were closed in the current status period (for example, the actual finish date is between the end of the previous period and the current status date), Cobra will still load actuals for those completed control accounts and work packages.<br>You can disable this option at the project level on the Actual Cost Preference tab of the Project Properties dialog box. |

*Save and Load Page of the Integration Wizard*

Use this page to save the options you selected while running the Integration process.

These options are saved as a configuration in the database. You can use this configuration for future data imports.

**Contents**

| Field | Description |
|---|---|
| **Load data now?** | Select this checkbox to run the integration immediately based on the options selected with the wizard. This option can be selected whether the configuration is saved or not. |
| **Save your configuration?** | Select this checkbox if you want to save the options you selected while running the Integration Wizard. This option is enabled only if you have security rights to create configurations. |
| **Configuration Name** | Use this field to enter a name for the configuration. The name can be up to 59 characters long.<br>**Note:** If you enter a name similar to an existing shared configuration, you will be prompted to save the configuration as personal which cannot be shared with anyone. Multiple users can have personal configurations with same name, but only one of those configurations can be shared with anyone. |
| **Description** | Use this field to enter information about the new configuration. |

*Access Control Page of the Integration Wizard*

Use this page to enable users or groups to access the integration configuration that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards in the Configuration Security dialog box.

**Note:**

- This page displays only if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.
- For existing configuration, only the owner or any member of the SYSADMIN group can change the security settings, and delete and restore a configuration. You can assign

multiple users, groups, or roles to a configuration. Refer to Restoring Reports and Configurations help topic for more information.

*Confirmation Page of the Integration Wizard*

This page informs you that Cobra has all the information it needs to run the integration.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

**Note:** This page displays after the Save and Load page if the **Save your configuration** option is not selected. This page displays after the Access Control page if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.

*Process Running Page of the Integration Wizard*

This page displays the progress status of the process you are running.

*Process Complete Page of the Integration Wizard*

This page displays information about the status of the process.

Click the **View Log** button to display processing and any error information.

## Data Import-Ancillary Data

Use the Integration Wizard to import ancillary data such as codes, resource structures, resource calculations, rates, calendars, and holidays from files.

To easily create an import file for the ancillary data you want to import into Cobra, you can generate the corresponding export report to see a sample CSV file for import. If you save the data as a CSV, XLS, or XLSX file, you can select the **File contains a header row** option on the Ancillary File Field Mapper page and import the file.

### Import Ancillary Data

Use the Integration Wizard to import ancillary data.

**To import ancillary data using the Integration Wizard:**

1. Click the Integration tab.
2. In the **Import** group, click **Ancillary Data**.
3. Complete the pages of the Integration Wizard-Ancillary Data to import ancillary data into Cobra.

## Integration Wizard-Ancillary Data

To import ancillary data, you must complete the information required on each page of the Integration Wizard.

*Integration Configuration Page of the Integration Wizard*

Use this page to choose an existing configuration or create a new one.

Import data includes, but is not limited to project structures, coding, control accounts, and work packages, budget and forecast spreads, project status, resource information, and rates. The data to be imported can reside in either a scheduling tool or file.

Use this page to choose an existing configuration or create a new one.

### Contents

| Field | Description |
|---|---|
| **Create a new configuration** | Select this option to create a new configuration. This option is enabled only if you have rights to create configurations as defined by our system administrator. |
| **Open an existing configuration** | Use this field to select a configuration that is defined and stored in the database.<br>Click to select a saved configuration from the lookup. You can click the column header to sort the data in the column.<br>**Note:** The Lookup dialog box displays only personal configurations and those shared for all users. If you do not have rights to create a new configuration but can open an existing configuration, you will only have rights to change the file selection. All other pages will be filled in but disabled based on the saved configurations. |
| **Description** | This field is enabled only when you select the **Open an existing configuration** option. It displays the description of the selected configuration. |

*File Selection Page of the Integration Wizard*

Use this page to select the file to import the ancillary data from, the type of data being imported, and the Cobra file that the data is being imported into.

**Note:** If you are importing data that contains quotes in the descriptions, you must use the XLS format of the file. You must also select the **File contains a header row** option on the Field Mapper page.

**Contents**

| Field | Description |
|---|---|
| **Ancillary data file** | Click ... to select the file containing the records to import.<br>**Note:** The file formats you can use are Excel (.xls) and Comma Separated Values (.csv). |
| **What type of data are you importing?** | Use this field to select the file type, resource structure or calculation that you are importing. Select one of the following options:<br>▪ Calendar<br>▪ Codes<br>▪ Resources<br>▪ Resource Calculations<br>▪ Rates<br>▪ Holidays |
| **Action** | Use this field to select the action to perform.<br>▪ **Overwrite**: Select this option to delete and recreate the data in the selected Cobra file with the data from the imported file.<br>▪ **Update**: Select this option to append the records from the imported file to those in the Cobra file. If a matching record is found, the Cobra file is updated with the information from the imported file. |
| **Cobra file name** | Click ... to open a list of files of the type you specified where you have write access and select the Cobra file where you want to import the data. |

*Ancillary File Field Mapper Page of the Integration Wizard*

Use this page to define the order of the fields in the selected ancillary file.

The file field mapper displays the first 10 rows of data from the file you selected.

**Note:** If you are importing data that contains quotes in the descriptions, you must use the XLS format of the file. You must also select the **File contains a header row** option on the Field Mapper page.

**Defining the Field Order**

Define the data element in each column by selecting values from the drop-down list on the first row of each column. If you want the imported file to contain a header row, select the **File contains a header row** checkbox. If the header in the file matches the field in Cobra, the column maps automatically when you select this option.

Additional fields can be mapped using the drop-down list. Select one of the following options:

- **<Ignore>**
- **Control account field 1 prompt**
- **Control account field 2 prompt**: This option is included only if this field is used in the imported file.
- **Control account field 3 prompt**: This option is included only if this field is used in the imported file.
- **Work Package prompt**

You can select a work package code without control account work package keys.

- **Resource prompt**
- **Class**
- **Result**: This is the actual word Result.

When you select **Result**, you must also select **Result value** and vice versa.

- **Result value**
- **<Individual Results>**: This option separately lists each result defined for the selected project based on the resource file information.

You can select either **Result** or multiple **<Individual Results>**. You cannot select both **Result** and **<Individual Results>**.

- **Cost_date**
- **Project**: This option is included only if the selected project is a master project.
- **Code<prompt>**: This option lists code prompts on the control account or work package depending on the level of actual costs defined.

With the exception of **<Ignore>**, you can select an option only once. A selected option is no longer available in subsequent columns.

**Note:** The data elements displayed in each column depend on the type of ancillary data you are importing. For example, if you are importing a Calendar file, the columns display Calendar fields.

*Save and Load Page of the Integration Wizard*

Use this page to save the options you selected while running the integration process.

These options are saved as a configuration in the database. You can use this configuration for future data imports.

### Contents

| Field | Description |
|---|---|
| **Load data now?** | Select this option to run the integration immediately. You can select this checkbox whether the configuration is saved or not. |

| Field | Description |
|---|---|
| **Save your configuration?** | Select this option if you want to save the options you selected while running the Integration Wizard. This option is enabled only if you have security rights to create configurations. |
| **Configuration Name** | Use this field to enter a name for the configuration. The name can be up to 59 characters long.<br>**Note:** If you enter a name similar to an existing shared configuration, you will be prompted to save the configuration as personal which cannot be shared with anyone. Multiple users can have personal configurations with same name, but only one of those configurations can be shared with anyone. |
| **Description** | Use this field to enter information about the new configuration. |

*Access Control Page of the Integration Wizard*

Use this page to enable users or groups to access the integration configuration that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Configuration Security dialog box.

**Note:**

- This page displays only if you select the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.
- For existing configuration, only the owner or any member of the SYSADMIN group can change the security settings and delete and restore a configuration. You can assign multiple users, groups, or roles to a configuration.

  **Attention:** For more information, see Restoring Reports and Configurations.

*Confirmation Page of the Integration Wizard*

This page informs you that Cobra has all the information it needs to run the integration.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

**Note:**

- This page displays after the Save and Load page if the **Save your configuration** option is not selected.
- This page displays after the Access Control page if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.

*Process Running Page of the Integration Wizard*

This page displays the progress status of the process you are running.

*Process Complete Page of the Integration Wizard*

This page displays information about the status of the process.

Click the **View Log** button to display processing and any error information.

## Data Import-Apportionment Definition and Mapping Data

Use the Integration Wizard to import apportionment definition and apportionment mapping data.

### Data Import-Apportionment Definition

Use the Integration Wizard to import apportionment definition data from a file, which can be either in CSV or XLSX format.

You must take extra care when saving a CSV file in Excel, as non-numeric data that contains only numbers is converted to numeric format. For example, WP **01** becomes **1**.

*File Format for Importing Apportionment Definition*

Cobra checks the apportionment definition file format when importing apportionment definition data.

These checks are as follows:

- The apportionment definition file can be either in CSV or XLSX format.
- If you use CSV file, it must contain comma separate columns and optionally can have quotes around string values.
- The first row of the apportionment definition file must be a column header and the order of arrangement can be interchanged.
- The apportionment definition file must conform to the column names below:

| Column | Column Name | Table Field |
|---|---|---|
| 1 | Resource | APPBE.CECODE |
| 2 | Result | APPBE.RESULT |

| Column | Column Name | Table Field |
|---|---|---|
| 3 | Source Resource | APPBEDTL.SRC_CECODE |

Columns 1–3 are required for the first resource record budgeted by apportionment. Any subsequent record with the same Resource or Result will not require columns 1-2 until another resource record need to be updated.

During the validation, Cobra checks and performs the following:

- The specified resource file must have Resource in Column 1.
- Result in Column 2 must be a valid result for the resource file based on the selection in the Resource file information.
- Source Resource in Column 3 must exist in the specified resource file.
- The resource file must not contain blank rows between the records. If there is a blank row, Cobra will assume that the row is the end of the file, and there are no more records to process.
- The resource file must contain all resource apportionment definitions.
- Cobra will not update any specific records.
- All existing resource apportionment definitions will be deleted and replaced with those from the import file.
- Multiple records with different result for one single apportionment resource will use the first specified result.
- The resource file must not contain a record used both as Resource and Source Resource as this causes circular reference. Otherwise, Cobra will display a warning message in the log and will not load the resource apportionment definition.

Below is a sample file.

| | A | B | C |
|---|---|---|---|
| 1 | Resource | Result | Source Result |
| 2 | Tech | Hours | Draft |
| 3 | | | Sysan |
| 4 | | | Manage |
| 5 | Draft | Hours | Eeng |
| 6 | | | Ergeng |
| 7 | | | |
| 8 | | | |

### Data Import-Apportionment Mapping

Use the Integration Wizard to import apportionment mapping data from a file, which must be in CSV format.

Using the Integration Wizard, you can quickly and easily populate the Apportionment Mapping dialog box.

You must take extra care when saving a CSV file in Excel, as non-numeric data that contains only numbers is converted to numeric format. For example, WP **01** becomes **1**.

*File Format for Importing Apportionment Mapping*

The CSV file must contain comma separate columns and optionally can have quotes around string values.

The first row can be a column header, which is optional. If you do use one, it needs to follow the order in the following table:

| Column | Column Name |
|---|---|
| **1** | Target Project |
| **2** | Resource |
| **3** | Target CA1 |
| **4** | Target CA2 |
| **5** | Target CA3 |
| **6** | Target WP |
| **7** | Rate Set |
| **8** | Source Project |
| **9** | Source CA1 |
| **10** | Source CA2 |
| **11** | Source CA3 |

Different columns must be filled in depending on what you are importing. The following validations take place:

- If the specified project is a master project, the projects named in Column 1 (Target Project) and Column 8 (Source Project) must both exist as a subprojects of the specified master project.
- If the specified project is not a master project, the projects named in Column 1 (Target Project) and Column 8 (Source Project) must be the same as the name of the specified project.
- The resource in Column 2 must be a valid resource with apportionment defined in the resource file of the specified project.
- The data in Columns 3–6 (Target CA/WP) must exist in the target project if Column 3 is not **<Same As Source>**. If Column 3 is **<Same As Source>**, any data in Columns 4–6 is ignored.

  **Note: <Same As Source>** is case sensitive.

- The data in Columns 9–11 (Source CA) must exist in the source project if Column 9 is not **<All>**. If Column 9 is **<All>**, any data in Columns 10–11 is ignored.

  **Note: <All>** is case sensitive.

- The rate set in Column 7 is checked to see if it exists in the rate file for the specified project, but the data is imported anyway if not found.

### Edit Exported Data in Excel

Use this procedure to edit a CSV file in Excel. This procedure ensures that no numeric conversions occur, which minimizes the possibility of error when importing the data again later.

**To edit a CSV file in Excel:**

1. Open a blank workbook.
2. On the Excel menu, do one of the following:
   - In Excel 2003, click **Data** » **Import External Data** » **Import Data**.
   - In Excel 2007, click **Data** » **Get External Data from Text**.
3. Open the text file that you want to import.
4. On the Text Import Wizard – Step 1 of 3 page, select **Delimited**.
5. If the data contains a header row and you do not want to see the header row in Excel, change the **Start import at row** field to **2**, and click **Next**.
6. On the Text Import Wizard – Step 1 of 2 page, click **Comma**, and click **Next**.
7. On the Text Import Wizard – Step 1 of 3 page, select all columns shown in the Data preview, and click **Text**.
8. Click **Next**.

   Excel prompts you for the location of the new data, which defaults to **Sheet 1, cell A1**.

### Import Apportionment Definition and Mapping Data

Use the Integration Wizard to import apportionment definition and apportionment mapping data.

**To import apportionment definition and apportionment mapping data using the Integration Wizard:**

1. Click the Integration tab.
2. In the **Import** group, click **Apportionment**.
3. Complete the pages of the Integration Wizard-Apportionment Definition and Mapping Data to import apportionment definition and apportionment mapping data into Cobra.

## Integration Wizard-Apportionment Definition and Mapping Data

To import apportionment definition and mapping data, you must complete the information required on each page of the Integration Wizard.

*File Selection Page of the Integration Wizard*

Use this page to select the type of apportionment file to import.

### Apportionment Definition

Select this option to load apportionment definition data.

**Note:** By default, this option is selected. However, if the role of the user in the EPM Security Administrator does not provide access to the Integration Wizard Apportionment Definition, the **Apportionment Mapping** option will be selected by default.

| Field | Description |
|---|---|
| **Cobra Resource file** | Use this field to define the location of the resource file. Enter the resource filename or click ... to display the Resource File Lookup dialog box, where you can select the resource file.<br>Only resource files to which you have write-access are displayed. |
| **Apportionment Definition file** | Use this field to define the location of the apportionment definition file. Enter the apportionment definition filename or click ... to display the Open dialog box, where you can select the apportionment definition file.<br>The apportionment definition file must be specified. Make sure that the apportionment definition file is in CSV format. |

### Apportionment Mapping

Select this option to load apportionment mapping data.

| Field | Description |
|---|---|
| **Cobra Project** | Use this field to define the project where the apportionment mapping data will be imported. Enter a project or a master project or click ... to display the Project Lookup dialog box, where you can select a project or a master project. |
| **Apportionment Mapping file** | Use this field to define the location of the Apportionment Mapping file. Enter the apportionment mapping filename or click ... to display the Open dialog box, where you can select the apportionment mapping file. |
| **Delete existing apportionment mappings** | Select this checkbox to delete apportionment mappings for the target project before importing new data. By default, this checkbox is cleared. |

Click **Finish** to complete the process.

*Confirmation Page of the Integration Wizard*

This page informs you that Cobra has all the information it needs to run the integration.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays.
When you are sure that all the information is correct, click **Finish** to complete the process.

*Process Running Page of the Integration Wizard*

This page displays the progress status of the process you are running.

*Process Complete Page of the Integration Wizard*

This page displays information about the status of the process.

Click the **View Log** button to display processing and any error information.

## Data Import-Budget Data

Use the Integration Wizard to import budget data into Cobra.

### Import Budget Data into Cobra

Use the Integration Wizard to import budget data.

**To import budget data using the Integration Wizard:**

1. Click the Integration tab.
2. In the **Import** group, click **File**.
3. On the Integration Configuration page, select **Create a new configuration** or **Open an existing configuration**, and click **Next**.
4. On the Action Selection page, select **Resource Assignments**.
5. Complete the pages of the Integration Wizard-Scheduling Tools and Files to import budget data into Cobra.

## Data Import-Status Data

Use the Integration Wizard to import status data into Cobra.

### File Format for Importing Status Information

Status information consists of actual dates, forecast dates, and units or percent complete.

Because statusing a work package automatically statuses the control account where it belongs, explicit statusing of control accounts is generally not necessary. Statusing work packages is

therefore the most common case. Statusing milestones is necessary for those work packages whose progress technique is Milestones.

The structure of the import file for work package status must contain, at a minimum, fields that identify the work package and two date fields, **Asd** and **Afd**, representing the actual start and actual finish. If the work package uses the Milestones progress technique, Cobra uses the milestone ID in order to identify the transaction.

Import files for status information must be stored in CSV format. Use the Integration Wizard to import these files into a Cobra project.

**Note:** Milestone records require only the **Afd** field as milestones do not have a start date.

If the work package is in progress, the **Asd** field should contain the actual start date, and the **Afd** field should be empty. In addition to setting the actual start date of the work package, it marks the work package as in progress. If the actual finish date is also set then the work package is marked as complete.

The import file can contain the optional forecast date fields **Esd** and **Efd**. These fields are ignored if the corresponding actual fields contain data; otherwise, they update the forecast dates in the work package.

The import file can also contain fields for the percentage and units complete, depending on the progress technique in force for a particular work package. In addition, the import file can contain forecast early and late dates to use with a forecast.

The following table is an example of a work package status import file:

The control account fields (Ca1-Ca3) used for your project are displayed as they are in the project information and are required.

If you export earned value data from Cobra and make changes to the .csv file, you can import this file back into Cobra in order to update the work package data. On the Status page of the Integration Wizard, you must select the **Update early and late dates** checkbox. In addition, you can use this file for direct entry of Earned Value data by selecting the **Calculate the Work Package percent complete from EARNED/BAC » in the file** checkbox. When you select this checkbox, Cobra calculates a percent complete value for each work package that exists in the import file using the formula Earned Value / BAC.

| Field | Type | Description | Required |
|---|---|---|---|
| **Afdate** | Date | Actual Finish Date | Y |
| **Asdate** | Date | Actual Start Date | Y |
| **BAC** | Numeric | Budget at Complete (for Earned Value % Complete) | |
| **Earned Value** | Numeric | Budgeted Cost of Work<br>Performed (for Earned Value %<br>Complete) | |
| **Be** | Character | Budget Element (for BE % | |

| Field | Type | Description | Required |
|---|---|---|---|
| | | Complete) | |
| **Ca1** | Character | Control Account Field 1 | Y |
| **Ca2** | Character | Control Account Field 2 | |
| **Ca3** | Character | Control Account Field 3 | |
| **Class** | Character | Class (for BE % Complete) | |
| **Earlyfd** | Date | Early Finish Date | |
| **Earlysd** | Date | Early Start Date | |
| **Efdate** | Date | Forecast  Finish Date | |
| **Esdate** | Date | Forecast Start Date | |
| **Latefd** | Date | Late Finish Date | |
| **Latesd** | Date | Late Start Date | |
| **Ms** | Character | Milestone ID | |
| **Pc_comp** | Numeric | Percent Complete | |
| **Units_comp** | Numeric | Units Complete | |
| **Wp** | Character | Work Package ID | Y |

### Import Status Data into Cobra

Use the Integration Wizard to import status data into Cobra.

**To import status data into Cobra using the Integration Wizard:**

1. Click the Integration tab.
2. In the **Import** group, click **File**.
3. On the Integration Configuration page, select **Create a new configuration** or **Open an existing configuration**, and click **Next**.
4. On the Action Selection page, select **Status**.
5. Complete the pages of the Integration Wizard-Scheduling Tools and Files to import status data into Cobra.

# Assignment Import/Assignment Export

Use the Assignment Import/Assignment Export process to make quick updates to a project's resource assignments.

Use the Assignment Export Wizard to export the time-phased resource assignments for a control account to Excel and make quick updates to a project's resource assignments. You can export one or multiple control accounts, along with their associated work packages. You can also select the specific class and result that you want to export to Excel. After the data is exported to Excel, you can make modifications to these resource assignments and import the changes from Excel back into your project using the Assignment Import Wizard.

**Video**

| Title | Description |
|---|---|
| Using Export/Import Assignments to Import Project Data | Learn how to edit project data in Excel and then import the data for quick and easy project data entry. |
| How to Resolve Common Errors When Using Assignment Import | Learn how to correct common errors when using Assignment Import. |

## Rules for Importing Data

Cobra follows a set of rules when importing resource assignments from an Excel file that was previously exported using the Resource Assignment Export.

These are the rules that Cobra follows:

- If the **Allow changes of scope for an in-progress work package** option is selected on the Preferences tab of the Project Properties dialog box, Cobra will import any changes made to an in-progress work package in the exported Excel file.
- Cobra ignores any values edited for completed control accounts in the exported Excel file.
- Cobra will not import control account start and finish dates that you modified in the exported Excel file.
- Cobra will import work package start and finish dates that you modified in the exported Excel file.
- If the work package dates are extended past the control account dates, Cobra will not import the expanded dates and any accompanying changes in time-phased data.
- For forecast classes, only values in the remaining periods (periods past the status dates) can be modified and imported.
- You cannot add new work packages and control accounts to the exported Excel file. If they are added to the Excel file or if existing control account/work package names are modified, Cobra will not import them.

- You cannot modify the control account and work package status. Cobra will not import modified control account and work package statuses.
- You can add a new resource assignment to the control account and work package, provided that the resource already exists in the project's Resource file.
- You can add a class to an existing resource assignment, provided that the class already exists in the project.
- Cobra will not import blank rows in the Excel file.
- You cannot add time-phased date columns to the exported Excel file.
- You can modify the result in the exported Excel file. If you modified the result, Cobra will import the result's value. For example if you exported the DIRECT result, and then changed DIRECT to HOURS in the exported Excel file, the values that are counted against HOURS will be imported against the HOURS result.
- The import file must not contain a single work package with duplicate resources.
- For empty time-phased periods, enter zero values.

## Export and Import Time-Phased Resource Assignments

Use the Assignment Import/Export Wizard to export or import time-phased resource assignments for selected control accounts.

To import resource assignments from Excel, make sure that you only edit the cells within the exported Excel file.

**To export time-phased resource assignments to Excel or import them from Excel:**

1. Display the Assignment Import/Export Wizard.
2. Complete the pages of the Assignment Import/Export Wizard.

**Video**

| Title | Description |
|---|---|
| Using Export/Import Assignments to Import Project Data | Learn how to edit project data in Excel and then import the data for quick and easy project data entry. |
| How to Resolve Common Errors When Using Assignment Import | Learn how to correct common errors when using Assignment Import. |

## Specify the Export Location for Resource Assignments

Specify the location where you want to export the Excel file containing resource assignments using the Export Location page of the Assignment Export Wizard.

**To specify export location for resource assignments:**

1. Click the **Export file** field to display the Save As dialog box.

2. Click the **Save in** field to select the location where you want to export the resource assignments.
3. Enter a name for the file in the **File Name** field.
4. Select Excel in the **Save as type** field.
5. Click **Save**.

## Specify the Import Location for Resource Assignments

Specify the location of the Excel file that you want to import using the Import Location page of the Assignment Import Wizard.

**To specify the location of the Excel file that you want to import:**

1. Click the **Import file** field to display the Open dialog box.
2. Click the **Look in** field to locate the file that you want to import.
3. Select the file and click **Open**.
4. Click **Next**.
   Cobra validates the Excel file.

## Assignment Import/Assignment Export Wizard

To export budget or forecast time-phased data to Excel for updates and import the updated information back into Cobra, you must complete the information required on each page of the Assignment Import/Assignment Export Wizard.

### Project Selection Page of the Assignment Import/Assignment Export Wizard

Use this page to select the project whose resource assignment you want to export to Excel.

**Contents**

| Field | Description |
|---|---|
| **Project** | Select the project containing the time-phased resource assignments that you want to export to Excel.<br>Click ... to display the Project lookup dialog box, where you can select a project. |

**Video**

| Title | Description |
|---|---|
| Using Export/Import Assignments to Import Project Data | Learn how to edit project data in Excel and then import the data for quick and easy project data entry. |
| How to Resolve Common Errors When Using Assignment Import | Learn how to correct common errors when using Assignment Import. |

### Resource Assignments Page of the Assignment Import/Assignment Export Wizard

Use this page to select whether you want to export or import resource assignments by a specific result.

**Contents**

| Field | Description |
|---|---|
| **Export to Excel** | Select this option to export resource assignments to Excel. |
| **Control Account** | Use this field to select the control account to be exported. You can select multiple control accounts.<br>Click ... to display the Control Account Lookup dialog box, where you can select the control account containing the resource assignments that you want to export. |
| **Class** | Use this field to select the class that Cobra will include in the export process. You can only select from budget and forecast classes that are used in the Resources tab of Project view. You cannot select a frozen forecast class or a class that is marked as read-only. |
| **Results** | Use this field to select the result that will be included in the exported data.<br>▪ **First Result**: This option will export only the values for the resource assignments in the first result, such as HOURS for labor resources.<br>▪ **Total currency**: This option will export only the total currency results for the resource assignments.<br>▪ **Selected Result**: Select this option enables the **Result** field and select a specific result for the resource assignments. You can only select one result. |
| **Import from Excel** | Select this option only if you want to import resource assignment data from Excel. Cobra imports data that was modified in the exported Excel file. |

### Export Location Page of the Assignment Export Wizard

Use this page to specify the location where you want to export the Excel file containing resource assignments. This page displays only if you are exporting resource assignments to Excel.

### Import Location Page of the Assignment Import Wizard

Use this page to specify the location of the Excel file that you want to import. This page displays only if you are importing resource assignments from Excel.

### Confirmation Page of the Assignment Import/Export Wizard

This page informs you that Cobra has all the information that it needs to export or import the resource assignments.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

### Process Running Page of the Assignment Import/Assignment Export Wizard

This page displays the progress status while Cobra exports or imports data.

### Process Complete Page of the Assignment Import/Assignment Export Wizard

This page informs you that the process of exporting or importing resource assignments has been completed.

Click **View Log** to display processing information.

### Log Comment Page of the Assignment Import/Assignment Export Wizard

Use this page to enter comments and a change number for any changes that you make to the Excel file after it is imported to/exported from Cobra.

**Contents**

| Field | Description |
|---|---|
| **Change number** | Use this field to enter or select a change number. |
| **Change comment** | Use this field to enter a comment for the transaction. |
| **Significant** | Select this checkbox if a change is flagged as significant. Changes flagged as significant are broken out and shown as individual entries in the IPMR Format 3 report, while non-significant changes are grouped together and displayed as **Others**. By default, this checkbox is cleared. |

# Configuration Security

Use the Configuration Security dialog box to set the security for saved configurations.

By default, all configurations are owned by the user who created them. You can use the Configuration Security dialog box to grant another group access to the saved configuration or to set the configuration as read only to prevent both the user and/or group from modifying it. Through this feature, a configuration can also be deleted by the owner.

The owner of a configuration cannot be modified. Once the owner has created the configuration, the user becomes the sole owner of it until it is deleted. Only the group and read only access can be edited for the configuration.

**Note:** You can edit the wInsight Wizard, Integration Wizard, and Cost Data Wizard configuration securities.

## Configuration Security Dialog Box

Use this dialog box to edit and for manage security on existing Integration, wInsight, and Cost Data configurations.

By default, the Configuration Security dialog box displays the configurations which you (the logged-in user) have access to or the configurations that are shared to you. If you are logged in as SYSADMIN or as a member of the SYSADMIN group, you will always see all the system users.

**Contents**

| Field | Description |
|---|---|
| **Process** | Use this field to select a process whose saved configurations you want to display.<br>▪ **Cost Data**<br>▪ **Integration Wizard**<br>▪ **wInsight**<br>If you do not select a process, all of the saved configurations are displayed. |
| **Show all users** | Select this option to display all the configurations in the system, regardless of the configuration owner. You must have access rights to a configuration file in order to edit it. |
| **Apply Filter** | Click this button to display the records in the grid. |
| **Delete** | Select a configuration you want to delete from the grid and click the **Delete** button.<br>A confirmation message displays. Click **Yes** to proceed with the deletion. You can select multiple rows for deletion by pressing CTRL+click. |

| Field | Description |
|---|---|
| **Configuration Security Grid** | The upper grid displays the following columns:<br>▪ **Process**: This column displays the process name.<br>▪ **Name**: This column displays the configuration name.<br>▪ **Description**: This column displays the configuration description.<br>▪ **Owner**: This column displays the user ID that created the configuration file.<br>Even the owner cannot modify the file when the **Read only** checkbox is selected. Click the column heading to sort the records by the column field. |
| **Access Control Grid** | When you select a configuration on the upper grid, the lower grid displays the corresponding access control and allows the owner or any member of the SYSADMIN group to edit the settings.<br>▪ **Owner**: This field displays the user ID of the owner of the configuration file. Click the to change the ownership of the configuration file and select another user ID in the Users lookup dialog box.<br>▪ **User**: Users refer to individuals who can be given the right to open and view the configuration file.<br>▪ **Group**: Groups are composed of individual users and provide a convenient way of assigning multiple user rights to the configuration file. A user can be a member of any number of groups. The SYSADMIN group is a special group that has access to administrative information.<br>▪ **Role**: Roles define the permissions of a user. Each user has a primary role, such as an analyst or a project manager. You can override the primary role for an individual by entering a role next to a group or a user.<br>▪ **Read Only**: This option, when selected, allows the creator of the configuration file (or any member of the SYSADMIN group) to provide a user or a group with **Read Only** access to the configuration file.<br>Only the configuration file owner or a member of the SYSADMIN group can delete a configuration file. If you are viewing a personal configuration with the same name as an existing shared configuration that you do not own, the Configuration Security page displays a message informing you that the configuration you are viewing cannot be shared, instead of the Access Control grid with the **New** and **Delete** buttons. |

### Display the Configuration Security Dialog Box

Use this procedure to display the Configuration Security dialog box.

**To display the Configuration Security dialog box:**

- On the Integration tab, click **Configuration Security**.

## Data Export

Cobra offers you the ability to export data to other applications.

You can use any of the following features:

- Cost Data Export
- Update Open Plan Resources
- Calendar Export to Open Plan
- Cobra to wInsight Data Export
- Data Export in ANSI EIA X12 Format

### Cost Data Export

The Cost Data Export feature allows you to export Cobra data for integration with Acumen or wInsight using the Cost Data Wizard. This feature also supports other formats and proprietary export formats.

You can use the Cost Data Wizard to:

- Generate the **Deltek Common Data (DCDE)** format, which is a standard format for cost data that can be read by Acumen or wInsight.
- Generate the **Integrated Program Management Data Analysis Report (IPMDAR)** format, which is a format for cost data that is required by the US Department of Defense for reporting project performance. This IPMDAR file is exported in ZIP format.

To secure access to the Cost Data Wizard, click **Integration** » **Cost Data** in the EPM Security Administrator tool.

#### For DCDE and IPMDAR Formats

Here are some important things you need to know when creating the DCDE or IPMDAR format:

- You must assign the results to the resource in the resource file with the correct result code in order to group the data as hours, direct costs, and burdens. All data results required for export must have one of the following result codes:
  - **D**: Direct
  - **C**: COM
  - **O**: Overhead
  - **G**: G&A

- In order to export Reprogramming Adjustment values, you must create cost sets for Schedule Variance (SV) and Cost Variance (CV).

**For IPMDAR Format**

Here are some important things you need to know when creating the IPMDAR format:

- By default, Cobra concatenates the Control Account (CA) key fields and the Work Package (WP) ID during the Cost Data Export process. If you want to disable concatenation, select the **Do not prefix Work Package ID with Control Account ID** option in the Cost Data pane of the Integration tab of the Application Preferences dialog box.

**For DCDE Format**

Here are some important things you need to know when creating the DCDE format:

- You must ensure that the number of flagged periods in Calendar Set 19 is complete and correct.

### Exported Cost Data File

The output file created after running the Cost Data Wizard depends on the format you select on the Project and Format page.

- **Deltek Common Data**: The Cost Data Wizard generates the DCDE file and saves it in DCDE format (for example, DEMO ADVANCED.DCDE).
- **IPMDAR**: The Cost Data Wizard generates the IPMDAR Cost Performance Dataset (CPD) file and saves it in ZIP format.

  **Important:** Deltek recommends that you run the validation tool provided by the government before you submit the IPMDAR file.

  **Attention:** For more information on how this export was developed, refer to the AAP Policy and Guidance page.

## Cost Data Wizard

To generate the DCDE or IPMDAR file for exporting Cobra data to Acumen or wInsight, complete the pages of the Cost Data Wizard.

*Configuration Selection Page of the Cost Data Wizard*

Use this page to create a new configuration or select one that was previously saved.

### Configuration

| Field | Description |
|---|---|
| **Create a new configuration** | Select this option to create a new configuration.<br>This option is enabled only if you have permissions to create new configurations. |
| **Open an existing configuration** | Select this option to use a configuration that was previously defined and stored in the database.<br>Selecting this option enables the **Configuration Name** field. |
| **Configuration Name** | Click ... to select a saved configuration.<br>The Open Configuration dialog box displays your personal configurations and those configurations shared for all users. If you select a valid saved configuration, the F**inish** button is enabled. Clicking **Finish** on this page runs the export but does not save the configuration file. Clicking **Finish** on the subsequent pages overwrites the existing configuration. |
| **Description** | This field displays the description for the selected configuration. |

*Project and Format Page of the Cost Data Wizard*

Use this page to select the Cobra project to export and which file format to generate.

### Contents

| Field | Description |
|---|---|
| **Cobra project** | Use this field to enter select a project whose data you want to export.<br>The Project Lookup dialog box displays only those projects to which you have at least read access. You can also select a master project. When you select a master project, Cobra aggregates the sub-projects data up to the master project.<br>**Note:** By default, the Cost Data Export feature uses Calendar Set 00 as basis for the calendar periods. If a project has a rolling wave calendar, this feature will use Calendar Set 01 for the calendar periods. |

| Field | Description |
|---|---|
| **What format do you want to create?** | Use this option to select the format to use in generating the export file.<br>▪ **Deltek Common Data**: Select this option to generate the DCDE and save it in DCDE format.<br>▪ **IPMDAR-Contract Performance Format**: Select this option to generate the IPMDAR file and save it in ZIP format. |

*Export Structures Page of the Cost Data Wizard*

Use this page to select the fields that contain the work and organizational breakdown structures to be exported.

**Contents**

| Field | Description |
|---|---|
| **WBS** | Click to display the Lookup dialog box and select the field where the work breakdown structure (WBS) is assigned.<br>This field is required |
| **OBS** | Click to display the Lookup dialog box and select the field where the organizational breakdown structure (OBS) is assigned.<br>This field is required. |
| **Parent code for multiple top level codes** | The value entered in this field will be used as the single top level element for structures that have multiple top level elements. The default value is Top, but you can enter a different value in the field.<br>This field is always enabled. The value in this field applies to all structures with multiple top levels. |

*Codes and Structures Page of the Cost Data Wizard*

Use this page to select the control account and work package code assignments and associated structures to be exported.

**Control Account Tab or Work Package Tab**

Use this tab to select the control account and/or work package code assignments to be exported.

Click the Control Account tab to display control account code assignments 1-20 defined on the selected project, regardless of code field type.

Click the Work Package tab to display work package code assignments 1-20 defined on the selected project, regardless of code field type.

**Note:** This page displays the information specified on the Control Account Codes tab or on the Work Package Codes tab of the Fields tab of the Project Properties dialog box for the selected

Cobra project. Codes used to map WBS and OBS on the Export Structures page may not be selected again on this page.

| Field | Description |
|---|---|
| **Number** | This field displays the location of the codes on the control account or work package. |
| **Prompt** | This field displays the user prompt for each code field. |
| **Code File** | This field displays the names of the code files. This checkbox is blank if the code field type is not **Code (optional)** or **Code (required)**. |
| **Export Value** | Select this checkbox to export the value assigned to the control account or work package code. By default, this checkbox is cleared. |
| **Export Structure** | Select this checkbox to export the associated code file structure. This field is only enabled when exporting the DCDE format. By default, this checkbox is cleared.<br>If you select **Deltek Common Data** on the Project and Format page, take note of the following:<br>▪ For code-validated fields, the **Export Structure** checkbox is disabled if the **Export Value** checkbox is cleared. You can only export the structure if you export the associated code value.<br>▪ For non-code validated fields, the **Export Structure** checkbox is always disabled. There is no structure to export for this field type (for example, **Text** or **User Field)**.<br>▪ The **Export Value** checkbox and the **Export Structure** checkbox are both disabled if you are exporting control account code assignments that have already been defined as WBS or OBS.<br>If you select **IPMDAR-Contract Performance Format** on the Project and Format page, take note of the following:<br>▪ The **Export Structure** checkbox is always disabled even if the **Export Value** checkbox is selected. WBS and OBS are the only structures exported to the IPMDAR.<br>▪ The selected codes are included as custom fields in the following JSON tables:<br>  ▪ ControlAccountCustomFieldDefinitions<br>  ▪ ControlAccountCustomFieldValues<br>  ▪ WorkPackageCustomFieldDefinitions<br>  ▪ WorkPackageCustomFieldValuesCustomFieldEnums<br>▪ The IPMDAR format allows you to map and export only up to 10 control account codes or 10 work package codes. If you select more than 10 |

| Field | Description |
|---|---|
| | codes, Cobra displays the following message: "The IPMDAR Format is limited to 10 codes. Please select no more than 10 [control account or work package] codes."<br>▪ Only control account codes or work package codes whose **Export Value** checkbox is selected will be exported and included in the generated IPMDAR file. |

*Cost Sets Page of the Cost Data Wizard*

Use this page to map the cost sets you want to export.

**Contents**

| Field | Description |
|---|---|
| **Export Cost Set** | This column displays a list of all the cost sets that you can export.<br>▪ **Actuals**<br>▪ **Budget**<br>▪ **EAC**<br>▪ **Earned**<br>▪ **Estimated Actuals**<br>▪ **ETC** |
| **Cobra Cost Set** | Use this column to select the Cobra cost set that you want to map to each of the Acumen or wInsight costs. The data for each cost set is exported to the corresponding Acumen or wInsight cost set and mapped to the elements of the exported structures.<br>The **Cobra Cost Set** field is populated with all the cost sets on the selected project. |

*Data Options Page of the Cost Data Wizard*

Use this page to select the level at which to export and aggregate data.

**Contents**

| Field | Description |
|---|---|
| **Export data by:** | Use this field to select the level at which to export and aggregate data.<br>Your options are: |

| Field | Description |
|---|---|
| | ▪ **Work Package**: If selected, the to-date, current period, and to complete values of Budget, Progress, and Actuals will be exported at the work package level.<br>**Note:** If the **Level at which to capture actual costs** option of the selected project is set to **Control Account**, actuals will be exported at the control account level. If the Forecast class is set to **Control Account** level, forecast will be exported at the control account level.<br>▪ **Control Account**: If selected, the to-date, current period, and to complete values of Budget, Progress, Actuals, and Forecasts will be exported at the control account level.<br>**Note:** If you select **Deltek Common Data** on the Project and Format page, this option defaults to **Work Package**. If you select **IPMDAR —Contract Performance Format**, this option defaults to **Control Account**. |
| **Export historical data:** | Use this field to either export the cost data per time-phased periods or just the cumulative to date values.<br>Your options are:<br>▪ **Time-phased**<br>▪ **Cumulative to date** |
| **Aggregate time-phased data by:** | Use this field to select the level at which to aggregate time-phased data.<br>Your options are:<br>▪ **Element of Cost**: Select this option to aggregate time-phased data at the element of cost level. This option is available when exporting both DCDE and IPMDAR formats.<br>▪ **None**: Select this option to exclude lower level data aggregation. This option is available when exporting IPMDAR format. |
| **Use WBS/OBS combination as Control Account** | Select this option if you want to export the data using the WBS and OBS as the control account if they are not assigned to control account key fields. When this option is selected, control accounts with similar WBS and OBS will be aggregated.<br>The field values that will be exported for the combined Control Accounts are as follows:<br>▪ **BaselineStartDate**: The earliest baseline start date is exported.<br>▪ **BaselineFinishDate**: The latest baseline finish date is exported.<br>▪ **ForecastStartDate**: The earliest forecast start date is exported.<br>▪ **ForecastFinishDate**: The latest forecast finish date is exported. |

| Field | Description |
|---|---|
| | ▪ **ActualStartDate**: The earliest actual date is exported.<br>▪ **ActualEndDate**: This is only exported when all control accounts are in COMPLETED status and the latest actual end date is exported.<br>▪ **CAM**: The CAM of the first control account that the database sees when combining control accounts with the same WBS/OBS is exported.<br>▪ **CA/WP Code assignments**: The values from the first control account that the database sees when combining control accounts with the same WBS/OBS are exported.<br>▪ **Progress Technique**: The progress technique of the first work package that the database sees when combining control accounts with the same WBS/OBS and work package ID is exported. |
| **Detail data contains:** | Use this field to select one of the following options:<br>▪ **Direct values**: Select this option to include Direct Dollars (in addition to Total Dollars) in the exported data. You must have a result code of Direct in the direct results.<br>▪ **Indirect values**: Select this option to include Indirect Dollars (in addition to Total Dollars) in the exported data. |
| **Selected burdens are NonAdd:** | Use this field to select the burden of cost to mark as **NonAdd** in the configuration.<br>Your options are:<br>▪ **Overhead (OH)**<br>▪ **General and Administrative (G&A)**<br>▪ **Cost of Money (COM)**<br>You can select as many options as you want, or none at all. |

*Save and Run Page of the Cost Data Wizard*

Use this page to save and run your configuration.

**Contents**

| Field | Description |
|---|---|
| **Export your project now** | Select this checkbox to export your project. |

| Field | Description |
|---|---|
| **Append the current period label to the filename** | Select this checkbox to add the label for the current status date to the filename so you can save multiple files in one location without overwriting the older files.<br>This checkbox is enabled if you select the **Export your project now** checkbox.<br>**Note:** When you run the Cost Data Export API process and this checkbox is selected, the label for the current status date is added to the exported filename. |
| **Export file** | Click to display the Save As dialog box and specify the location where Cobra will save the export file . The export file name defaults to the name of the Cobra project that you specify on the Project and Format page.<br>The export process supports only the DCDE and ZIP formats. If you use a different file extension, Cobra will display an error message.<br>**Note:** If there is already an existing export file with the same name, Cobra automatically overwrites it without displaying a confirmation prompt. |
| **Save your configuration** | This checkbox is enabled only if you have permission to create configurations. Select this checkbox to save your export configuration.<br>When you select this checkbox, you can specify the configuration name and description in their respective fields. |
| **Configuration name** | Use this field to enter a name for the configuration. If you select a name used by an existing configuration that you own, the existing configuration will be overwritten. If you enter a name similar to an existing shared configuration, you will be prompted to save the configuration as personal, which means it cannot be shared with anyone.<br>Multiple users can have personal configurations with the same name, but only one of these configurations can be shared with anyone. |
| **Description** | Use this field to enter the description for the configuration. |

*Access Control Page of the Cost Data Wizard*

Use this page to enable users or groups to access the configuration that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control topic. You can modify the access control settings afterwards on the Configuration Security dialog box.

This page displays only if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.

For existing configuration, only the owner or any member of the SYSADMIN group can change the security settings, and delete and restore a configuration. You can assign multiple users, groups, or roles to a configuration.

**Attention:** For more information, see Restoring Reports and Configurations.

*Confirmation Page of the Cost Data Wizard*

This page informs you that Cobra has all the information it needs to save the configuration and save data.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that the information is correct, click **Finish** to complete the process.

This page displays after the Save and Run page if the **Save your configuration** option is not selected.

This page displays after the Access Control page if you select the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Run page.

*Process Running Page of the Cost Data Wizard*

This page displays the progress status while Cobra completes the Cost Data Export.

*Process Complete Page of the Cost Data Wizard*

This page displays information about the status of the Cost Data Export.

Click **View Log** to display the processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Cost Data Export process.

*Export Cost Data*

Use the Cost Data Wizard to generate the DCDE or IPMDAR file, which are different formats that can be read by Acumen or wInsight.

**To generate the export cost data file:**

1. In the **Export** group on the Integration tab, click **Cost Data**.
2. Complete the pages of the Cost Data Wizard to generate the export cost data file.

# Update Open Plan Resources

Use the Update Open Plan Resources Wizard to update information on the Open Plan Professional schedule.

You must first import resource information from Open Plan and use the Top-Down Planning feature in Cobra to determine the hours for resources that correspond to a specific derived budget cost. You can then use this information to update the resource requirement levels for activities in the original Open Plan schedule.

When updating Open Plan resources from Cobra, keep the following guidelines in mind:

- The entire project is saved in the Open Plan schedule.
- Cobra assumes that Cobra work packages are linked on a one-to-one basis with project activities and that resources are linked on a one-to-one basis with activity resources.
- Cobra does not add any additional activities or resource assignments to the Open Plan schedule. It only updates the level.
- Only the resource is saved in Open Plan.
- Cobra assumes that resource requirements are defined by using spread curves and that offsets and periods are not used.

This feature is frequently used in the following situations:

- To force a schedule to match an estimate
- To enter negotiated top-level contract changes such as reducing labor costs by 10%
- To move budget to management reserve

## Update Open Plan Resources Wizard

To update existing Open Plan resources with values from Cobra, you must complete the information required on each page of the Update Open Plan Resources Wizard.

*General Information Page of the Update Open Plan Resources Wizard*

This page provides a brief description of what the Update Open Plan Resources feature does.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select the name of the project whose resource information you want to update. You must have at least read permissions to the project you select. |

*Select Configuration Page of the Update Open Plan Resources Wizard*

Use this page to select an existing configuration.

**Contents**

| Field | Description |
|---|---|
| **Configuration** | Use this field to enter or select the name of an existing configuration that has the data for updating resource information in Open Plan. |

*Criteria Page of the Update Open Plan Resources Wizard*

Use this page to select an Open Plan project and a cost class.

**Contents**

| Field | Description |
|---|---|
| **Open Plan Project** | Use this field to enter or select the name of an Open Plan project. |
| **Cobra Cost Class** | Use this field to select a cost class. |

*Confirmation Page of the Update Open Plan Resources Wizard*

This page informs you that Cobra has all the information it needs to run the update Open Plan resources.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays.
When you are sure that all the information is correct, click **Finish** to start the process.

*Process Running Page of the Export Calendar to Open Plan Wizard*

This page displays the progress status while Cobra exports a calendar to Open Plan.

*Process Complete Page of the Update Open Plan Resources Wizard*

This page displays information about the status of updating the Open Plan resource information.

Click the **View Log** button to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Update Open Plan Resources process.

*Update Open Plan Resources*

Use the Update Open Plan Resources Wizard to update existing Open Plan resources with values from Cobra.

**To update Open Plan resources:**

1. In the **Export** group on the Integration tab, click **Open Plan Resources**.
2. Complete the pages of the Update Open Plan Resources Wizard to update existing Open Plan resources.

## Calendar Export to Open Plan

Use the Export Calendar to Open Plan Wizard to export a calendar to Open Plan for use as a reporting calendar when generating time-phased resource records.

Having matching calendars ensures that resource spreads match exactly in Open Plan and Cobra after you import a schedule.

Cobra appends the end of day time to the time-phased resource assignments following these rules:

- If exporting calendar dates to an Open Plan fiscal calendar, Cobra will read the default stop time specified in Open Plan and add it as time during calendar export. For example, if the default stop time is 16:00, Cobra will export 29-Mar-2025 4:00pm as the date in Open Plan.
- If the default stop time in is 24:00, Cobra will load the fiscal calendar date +1 day. For example, if the day is 29-Mar-2025, Cobra will load it as 30-Mar-2025 12:00am.
- If the default time is not found in the Open Plan, Cobra will default to 11:59pm.

**Video**

| Title | Description |
|---|---|
| Exporting the Cobra Calendar | Learn how to export the Cobra calendar to ensure that Cobra and Open Plan time-phasing match. |

## Export Calendar to Open Plan Wizard

To export a Cobra calendar to Open Plan for use as a reporting calendar when generating time-phased resource records, you must complete the information required on each page of the Export Calendar Wizard.

### Video

| Title | Description |
|---|---|
| Exporting the Cobra Calendar | Learn how to export the Cobra calendar to ensure that Cobra and Open Plan time-phasing match. |

*Calendar Selection Page of the Export Calendar to Open Plan Wizard*

Use this page to select a calendar and specify the name for the exported calendar.

### Contents

| Field | Description |
|---|---|
| **Calendar** | Use this field to enter or select the name of the calendar that you want to export. |
| **Calendar Set** | Use this field to enter or select the name of the calendar set file.<br>This field is enabled only after you select a calendar. |
| **Reporting Calendar** | Use this field to enter a name for the exported calendar. |

### Video

| Title | Description |
|---|---|
| Exporting the Cobra Calendar | Learn how to export the Cobra calendar to ensure that Cobra and Open Plan time-phasing match. |

*Confirmation Page of the Export Calendar to Open Plan Wizard*

This page informs you that Cobra has all the information that it needs to export a calendar to Open Plan.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until that page displays. When you are sure that all the information is correct, click **Finish** to start the process.

*Process Running Page of the Export Calendar to Open Plan Wizard*

This page displays the progress status while Cobra exports a calendar to Open Plan.

*Process Complete Page of the Export Calendar to Open Plan Wizard*

This page displays information about the status of exporting a calendar to Open Plan.

Click the **View Log** button to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Export Calendar to Open Plan process.

*Export a Calendar to Open Plan*

Use the Export Calendar to Open Plan Wizard to export a calendar to Open Plan for use as a reporting calendar when generating time-phased resource records.

**To export a calendar to Open Plan:**

1. In the **Export** group on the Integration tab, click **Open Plan Calendar.**
2. Complete the pages of the Export Calendar to Open Plan Wizard.

## Cobra to wInsight Data Export

The Cobra to wInsight data export allows you to export Cobra data directly into the wInsight database each month.

The wInsight Wizard steps you through the process of configuring the export, including how Cobra data is rolled up, what information is exported, and how the Cobra database communicates with the wInsight database.

Once a configuration is saved, you can use the API to automate integration with wInsight.

Cobra uses the specified username and password when connecting to the wInsight database. If the user name and password information is not valid, the wInsight database rejects the login attempt and the XML file transfer fails. If the login attempt fails, Cobra still creates the XML file so you can manually import it. Alternatively, you can fix the login credentials and export the data directly.

wInsight O/S authentication uses Windows user credentials to log onto wInsight using wInsight's standard Windows authentication mechanism, regardless of where wInsight is deployed. If Cobra is not using Windows authentication, user could be logged onto Cobra, but wInsight would log on the user using the Windows user credentials from the Citrix session.

You can also run the wInsight data export process through the API and the Cobra Web Service.

### Narrative Export Process

Cobra follows a set of rules for exporting narratives.

These rules are as follows:

- Cobra evaluates each code of each structure being exported.

  If there is a narrative for a report period's structure code, Cobra exports the narrative and proceeds to the next code.

  If there is no narrative for a code and the structure is the WBS structure, which is attached to the CA1 field of the project, Cobra searches for a narrative against the control account with the CA1 field that matches the code. If Cobra finds a CA level narrative for the current period, the narrative is exported.
- Cobra does not attempt to export CA level narratives for anything that is not the WBS structure assigned to CA1. It also does not export CA narratives if the WBS narrative is on the same code as the CA1 value for the control account.

### wInsight Wizard

The wInsight Wizard steps you through the process of configuring the export to wInsight, including how Cobra data is rolled up, what information is exported, and how the Cobra database communicates with the wInsight database.

Once a configuration is saved, you can use the API to automate integration with wInsight.

*Configuration Page of the wInsight Wizard*

Use this page to create a new configuration or select one that was previously saved.

All configurations are saved in the Cobra database.

**Contents**

| Field | Description |
|---|---|
| **Create a new configuration** | Select this option to create a new configuration. This option is enabled only if you have permissions to create a new configuration. |
| **Open an existing configuration** | Select this option to use a configuration that was previously defined and stored in the database. Selecting this option enables the **Configuration Name** field. |
| **Configuration Name** | Click ... to select a saved configuration. Only your personal configurations and those shared for all users are displayed in the lookup.<br>If you select a valid saved configuration, the **Finish** button is enabled.<br>Clicking **Finish** on this page runs the export but does not save the configuration file. Clicking **Finish** on subsequent pages will overwrite the existing configuration. |

| Field | Description |
|---|---|
| **Description** | This field displays the description for the selected configuration. |

*Project Page of the wInsight Wizard*

Use this page to select the Cobra project to export and the wInsight contract name to use when importing.

**Contents**

| Field | Description |
|---|---|
| **Cobra project** | Use this field to enter or select a project whose data you want to export to wInsight. The Project Lookup dialog box displays only those projects to which you have at least read access.<br>You can select a master project. |
| **wInsight contract** | Use this field to enter the name of the wInsight contract to use when importing the data. |

*Export Structures Page of the wInsight Wizard*

Use this page to define the structures that you want to use when exporting data to wInsight.

The information entered on this page is exported to the XML file as follows:

- Exported structure information is exported to the **<Structure>** section of the XML file.
- Exported structure data is exported to the **<Elements>** section of the XML file.

**Contents**

| Field | Description |
|---|---|
| **Selection box** | This column displays a checkbox for each structure. Select the checkbox for the structure that you want to export. |
| **Name** | This column displays the field label and prompt that the structure is associated with on the project. For a key field, this is the key field's prompt. For a code field, this is the code field's prompt.<br>**Note:** This field must be unique for all code files. You cannot export more than one field with the same name. For example, if the **CA1** key field uses **WBS** and a CA-level code uses **WBS**, the export process does not begin. You must rename one of the labels in Cobra. |
| **File** | This column displays the name of the structure file. |

| Field | Description |
|---|---|
| **Exported Name** | This field displays the name that you want to give to the corresponding wInsight structure. When assigning a name to the corresponding structure, consider the following information:<br>▪ Duplicate names are not allowed.<br>▪ The name must be unique.<br>▪ If a file represents the WBS, you must give it the name **WBS**.<br>▪ If a file represents the OBS, you must give it the name **OBS**.<br>▪ At least one code file must have an exported name of **WBS**.<br>▪ You cannot use the name **Indirect** for any structure. This is a reserved name used internally by the export. |
| **Level** | Use this field to select the level at which you want to summarize and export the data for each code. You may select one of the following options:<br>▪ **Control Account**: This level applies to control account codes and control account key fields.<br>▪ **Work Package**: This level applies to control account key fields, work package key fields, and work package codes.<br>▪ **Resource Assignment**: This level applies to structures assigned to the control account and work package code fields.<br>▪ **Code File level**: This level applies to the code file structure level, which varies depending on the number of levels that exist in the selected code file. For example, if the code file contains four levels, options are 1, 2, 3, and 4. |
| **Code for Control Account level actual costs** | This field is the code ID used for the element that represents control account level actual costs if costs are captured at the control account level but an export structure is exported down to the work package level. The default value is **Actuals**, but you can enter a different value in the field.<br>This field is enabled only under the following conditions:<br>▪ Costs are captured at the control account level or both control account and work package levels.<br>▪ There is at least one control account level Actual cost class defined.<br>▪ You chose to export at least one structure down to the work package level. |
| **Parent code for multiple top level codes** | This field is the code ID used for the top level element that is added to structures that have multiple top level elements. The default value is **Top**, but you can enter a different value in the field. This field is enabled only if one or more of the selected structures have multiple top levels.<br>The value in this field applies to all structures with multiple top levels. This field is required. |

*Project Officer Codes Page of the wInsight Wizard*

Use this page to specify the Cobra codes that contain project officer information for the wInsight WBS and OBS.

The values in the fields will be exported as the project officer code for each respective structure element.

**Contents**

| Field | Description |
|---|---|
| **WBS project officer code** | Use this field to select the field that contains the WBS project officer code. The list contains the following values:<br>▪ The list of code assignments defined on the code file selected as WBS on the previous page of the wizard.<br>▪ The Cost Account Manager field on the control account. |
| **OBS project officer code** | Use this field to select the field that contains the OBS project officer code. The list contains the following values:<br>▪ The list of code assignments defined on the code file selected as OBS on the previous page of the wizard.<br>▪ The Cost Account Manager field on the control account.<br>The value that you select in this field is exported to the **<ProjOff>** field for each element in the Elements section of the XML file.<br>If you have not identified an OBS to export, this field is disabled. |

*Link Structures Page of the wInsight Wizard*

Use this page to define additional structures to link to the WBS structure defined on the Export Structures page.

Only structures not explicitly exported or selected on the Export Structure page are available for selection on this page. Linked structures can reduce the size of the export file.

The information entered on this page will be exported to the XML file as follows:

- The linked structure's name and description will be exported to the **<Structures>** section of the XML file.
- The elements of the linked structures will be exported to the **<Elements>** section of the XML file.
- The linking of the linked structure's lowest level code to the WBS code is defined in the **<ElemLinks>** section of the XML file.

### Contents

| Field | Description |
|---|---|
| **Selection box** | This column displays a checkbox for each structure. Select the checkbox for the structure that you want to link to the WBS in the exported data. |
| **Name** | This column displays the field label and prompt that the structure is associated with on the project. For a key field, this will be the key field's name. For a code field, this will be the code field's user prompt. |
| **File** | This column displays the name of the code file linked to the field. |
| **Exported Name** | This column displays the name that will be given to the exported linked structure when it is exported to wInsight. You can change the default value by entering the new value in the field.<br>The name you select must follow these rules:<br>▪ If the structure file is a key field, the name defaults to the key field name.<br>▪ If the structure file is associated with a code field, it defaults to the code field name.<br>▪ Duplicate names are not allowed. In addition, you cannot use a name that is the same as an exported structure.<br>▪ You cannot use the name **Indirect** for any structure. This is a reserved name used internally by the export. |

*Control Account Codes Page of the wInsight Wizard*

Use this page to export the control account code assignments from Cobra into custom codes in wInsight.

The code assignments are linked to the exported structures at the level where the codes join the control account.

Only control account level codes are available for export.

The fields added to the wInsight database are C1 through C20 based on the selected codes because using the code number reduces the total number of custom fields added to the database.

> **Note:** When you use this option for the first time, you must have permission in wInsight to add custom columns to the wInsight database.

### Contents

| Field | Description |
|---|---|
| **Selection box** | This column displays a checkbox for each structure. Select the checkbox for the code field that you want to export. |

| Field | Description |
|---|---|
| **Code Field** | This field displays the prompt used by the control account level code field. The data that you select on this page will be exported to the **<Column>** section of the XML file.<br>Each selected code becomes a column in wInsight. |

*Work Package Codes Page of the wInsight Wizard*

Use this page to export work package code assignments from Cobra into user fields in the CPR Elements table.

The code assignments are linked to the exported structures at the level at which the work package is defined.

The fields added to the wInsight database are C1 through C20 based on the selected codes because using the code number reduces the total number of custom fields added to the database.

**Note:** When you use this option for the first time, you must have permission in wInsight to add custom columns to the wInsight database.

**Contents**

| Field | Description |
|---|---|
| **Selection box** | This column displays a checkbox for each structure. Select the checkbox for the code field that you want to export. |
| **Code Field** | This field displays the prompt used by the work package level code field. The data that you select on this page is exported to the **<Column>** section of the XML file.<br>Each selected code becomes a user field in wInsight. |

*Cost Sets Page of the wInsight Wizard*

Use this page to map wInsight costs to Cobra cost sets.

**Contents**

| Field | Description |
|---|---|
| **wInsight Cost** | This column displays a list of all the costs in wInsight. |
| **Cobra Cost Set** | Select the Cobra cost set that you want to map to each of the wInsight costs. The data for each cost set is exported to the corresponding wInsight cost set and mapped to the elements of the exported structures.<br>The data is exported to the **<EarnedValues>** section of the XML file. |

*Element of Cost Page of the wInsight Wizard*

Use this page to select the elements of cost that are exported to wInsight. Data in Cobra is exported against each selected export structure using each of the selected elements of cost.

The information entered on this page is placed in the XML file as follows:

- Selected elements of cost are placed in the **<Units>** section of the XML file.
- After the units are defined, the project data is summarized and exported for each selected export structure's lowest level element by unit. This data is placed in the **<EarnedValues>** section of the XML file. It links to the unit section using the **un_id** field.
- Future time-phased budget and forecast data is exported to the **<FutureEtcs>** section of the XML file. This data is summarized and exported as defined above the earned value data.
- The selected manpower unit is exported to the **<Manpowers>** section of the XML file using the calendar set defined.
- The **F4Unitid** field under the **<Contract>** section is mapped to the **unit_id** field in the **<Units>** section for the unit selected.

**Element of cost**

Use these options to specify the cost units and the fields that are used as the element of cost. You must select at least one element of cost. Select one of the following options:

| Field | Description |
|---|---|
| **Dollars** | Select this option to export every result marked as currency. |
| **FTE** | Select this option to use hours in calculating FTEs using the following equation:<br>Total scheduled hours/total productive hours for the period from the calendar assigned to the project. |
| **Hours** | Select this option to select results with the result code **H**. |
| **Other** | Select this option to export data using an element of either a level of the resource structure or a code of the resource structure assigned to the selected project. Select one of the following options:<br>▪ **Level of resource**: Select this option to display the values **1** through **n** based on the number of levels in the resource file assigned to the project.<br>For example, if the resource file is broken down to show **Labor** and **Material** at the second level, and **Level on resource structure** is selected as 2, the export includes cost data for each of those level 2 elements for each exported structure's lowest element.<br>▪ **Code on resource**: Select this option to export the Element of Cost, or a code field assigned to the resource structure, as units in the wInsight export. |

### Include these result codes as elements of cost

Use this grid to select result codes to include as Element of Cost units in the XML file when exporting data. The grid displays a list of result codes associated with the resource file assigned to the project; however, the list excludes Hours, FTEs, and empty result codes, since these are included in the checkbox selections above.

By default, all options in the grid are cleared. However, if you are loading a configuration saved in a previous version with the **Include Overhead as element of cost** option already selected, the **O - Overhead** option is automatically selected in the new grid.

### Manpower Units

Use these options to specify the unit to use in the IPMR Format 4 report in the export. Select one of the following options:

| Field | Description |
|---|---|
| **Hours** | Select this option to create a IPMR Format 4 in hours. The sort code of **H** in the resource file defines the hours result. |
| **FTE** | Select this option to calculate an average head count using the productive hours in the fiscal calendar. The sort code **F** in the resource file defines the FTE result. |
| **Aggregated FTEs** | Select this checkbox to summarize the FTE result data. This summarizes the weekly data and exaggerates the monthly FTE by the number of weeks in the month. The sort code of **F** in the resource file defines the FTE result.<br>When you skip periods in reporting calendars, Cobra usually calculates the sum of the values between the skipped periods. The exception to this rule is when you report on FTEs. For example, if you are using rolling wave reporting and you want a monthly CAP with FTEs, Cobra does not calculate the sum of the FTEs for the weeks to give you a monthly value. In the CAPFTE report, Cobra searches for results that use a sort code of **F**. The values for this result are replaced by the hours (sort code of **H**) divided by the productive hours found in the fiscal calendar. |

*Performance Data Page of the wInsight Wizard*

Use this page to set options for Currency Values, Overhead, General and Administration, and Cost of Money.

You can also set options that determine where specific results display in the wInsight data.

### Currency Values

Use these options to determine how results are included in the Dollar unit:

| Field | Description |
|---|---|
| **Sum all currency results** | Select this option to include all results with a currency flag of **True** in the exported dollar values. |

| Field | Description |
|---|---|
| **Sum selected results** | Select this checkbox to enable the list. All currency results defined in the resource file associated with the selected project will be available for selection.<br>You must select at least one result. |
| **Multiply currency by** | Select this option to enable the field where you can enter a number by which each currency result is multiplied.<br>**Note:** Only the escalated values will be exported to wInsight. |

**Export Options**

| Field | Description |
|---|---|
| **Include in body** | Select this checkbox to export results with the defined result code as part of the earned value data for each element in the exported structure. |
| **Include in bottom line** | Select this checkbox to export results to the elements for **OH**, **COM**, and **G&A** in wInsight. The selections made in the **Overhead**, **General & Administration**, and **Cost of Money** group boxes determine how data is displayed on some reports such as the IPMR. |

*IPMR Format 2 Summary Page of the wInsight Wizard*

Use this page to select the IPMR Format 2 Summary codes that you want to include in the export.

This page displays only if you have selected the IPMR Format 2 Summary code for the project from which you are exporting data.

**Contents**

| Field | Description |
|---|---|
| **Code** | This column displays the name of the codes in the code file assigned as the IPMR Format 2 Summary of the project information. |
| **Description** | This column displays the description of the codes from the code file. |
| **Body** | This column displays a checkbox for each code. Select the checkbox for the code(s) that you want to include in the body of the IPMR Format 2 report export. By default, all codes are selected. |
| **Bottom-Line** | This column displays a checkbox for each code. Select the checkbox for the code that you want to display in the bottom line of the IPMR Format 2 report export. The selected bottom line elements appear as extra items at the end of the OBS structure in wInsight. |

*Miscellaneous Page of the wInsight Wizard*

Use this page to set options for the exported format, calendar, and dollar scale factor.

The information entered on this page will be placed in the XML file as follows:

- Data entered in the **Exported Format** group box is exported to the **<RptType>** parameter in the **<Contracts>** section of the XML file.
- The name of the calendar, date format, and end of year date are exported to the **<Calendars>** section of the XML file.
- The specific calendar dates are exported to the **<CalendarDets>** section of the XML file.

### Exported Format

Use these options to determine the format of the data used when importing in wInsight. Select one of the following checkboxs:

| Field | Description |
|---|---|
| **CPR** | Select this checkbox to make IPMR formats available when importing in wInsight. |
| **CSSR** | Select this checkbox to make the CSSR report available in wInsight. If you select this checkbox, manpower information and the OBS export structure are not exported to the XML file.<br>**Note:** Selecting this checkbox removes the **F3UnitID**, **F4UnitID**, and **F4StruID** parameters from the **<Contracts>** section of the XML file. |

### Export Options

| Field | Description |
|---|---|
| **Export status flag to each WBS code** | Select this checkbox to export a status flag for all codes in the WBS. The flag indicates whether the corresponding control account or work package is in progress, complete, or planned.<br>When you use this checkbox for the first time, you must have permission in wInsight to add custom columns to the wInsight database because this checkbox adds a custom field called **Status** to the wInsight database. |
| **Export monthly forecast periods** | This checkbox is only enabled if you have a rolling wave assigned to the calendar. By default, this checkbox is cleared.<br>If this checkbox is cleared, the wInsight Export will include all periods (weekly and monthly.)<br>If this checkbox is selected, the wInsight Export will roll the weeks back up to the monthly values and only export month - end totals. |
| **Exclude unassigned codes** | Select this checkbox to filter the WBS and OBS codes to only contain those with project data assigned. You can use this checkbox when combining contractor data in wInsight. |

| Field | Description |
|---|---|
| **Export unused structure elements** | This checkbox controls what happens if you have codes (or structure elements) in your WBS or other selected structures that contain no data – the codes are not used as fields on any control accounts or work packages. Selecting this checkbox exports those codes with a zero value. When the file is imported into wInsight, the unused codes are set to zero to remove the previously imported data. This makes the values for each code in wInsight and Cobra match.<br>Clearing this checkbox is useful when you use wInsight to combine subcontractor data from a different leg of the WBS. When you choose not to export unused structure elements, the missing codes are not zeroed out during the import. When the subcontractor data for the other codes is imported, the data for those codes is added to the wInsight project. |

**Calendar**

Use these options to export a calendar from the Cobra project. The exported calendar is given the name of the calendar used by the project. Selecting this checkbox enables the following fields:

| Field | Description |
|---|---|
| **Financial End of Year (mm.dd)** | Use this field to enter the month and day for the end of the fiscal year. |
| **Date Format** | Use this field to select the date format that you want to use. |

**Currency and Hours Options**

| Field | Description |
|---|---|
| **Dollar scale factor** | Use this field to enter a numeric value. Dollar currency values are divided by this value.<br>The XML file contains the dollar values based on the scale factor. |
| **Currency precision** | Use this field to enter the number of decimal places, from 0 - 6, for currency values. By default, this field is set to 2. |
| **Hours precision** | Use this field to enter the number of decimal places, from 0 - 6, for hour values. By default, this field is set to 2. |

*wInsight Database Page of the wInsight Wizard*

Use the wInsight Database page of the wInsight Wizard to define the link to wInsight so that data can be transferred directly to the wInsight database.

This page displays only if you have wInsight Administrator installed.

**Contents**

| Field | Description |
|---|---|
| **wInsight version** | Use this field to select the version of wInsight that you are using.<br>**Note:** wInsight version refers to 6.5.1 and any major or minor version after it. |
| **Create UN/ CEFACT XML file** | Select this checkbox to create a standard wInsight XML file (**xsdcostschedule.xml**) and run the DLL to create a second XML file.<br>**Note:** Take note of the following when generating UNCEFACT/XML file:<br>▪ Populate all fields on the Contract Information tab of the Project Properties dialog box with values.<br>▪ To assure proper data is submitted, the currency unit in the **Caption** field on the General tab of the Project Properties dialog box should conform to the UN/CEFACT standard terminology (which is Dollars.) |
| **Include Format 7** | Selecting this checkbox allows the wInsight Wizard to export the IPMR CPR Format 7 PastPeriods XML, which includes time-phased budget, earned, and actual data until a period prior to the status date. Selecting this checkbox creates the **xsdtimephasedcostdata.xml** file.<br>If the **Create UN/CEFACT XML file** checkbox is also selected, both **xsdtimephasedcostdata.xml** and **xsdcostschedule.xml files** are created. |
| **Transfer data directly to the wInsight database** | Select this checkbox to export data directly to the wInsight database. When you select this checkbox, Cobra creates the configuration file, then immediately imports the data in wInsight. If you do not select this checkbox, the XML file is created but not imported. |
| **Recalculate after transferring data to wInsight** | Select this checkbox to perform a recalculation in wInsight after transferring the data to wInsight.<br>This checkbox is enabled only if **Transfer data directly to the wInsight database** is selected. |
| **Connection name** | Click ... to select the connection file to use in connecting to wInsight.<br>This checkbox is enabled only if **Transfer data directly to the wInsight database** is selected. |
| **Test** | Click this button to validate the properties that are defined for the currently selected connection file. |
| **New** | Click this button to create a new wInsight database connection. |
| **Edit** | Click this button to edit the wInsight database connection. |

New Connection Dialog Box of the wInsight Wizard

Use this dialog box to create a new wInsight database connection.

**Contents**

| Field | Description |
|---|---|
| **Connection Name** | Use this field to enter a name for the new database connection. |
| **wInsight Connection Name** | Use this field to select a wInsight database. |
| **wInsight doesn't require a login** | Select this option to enable users to connect to wInsight as the administrator without entering a user ID and password. |
| **Use wInsight O/S authentication** | Select this option to allow Cobra to use wInsight's operating system authentication when logging on to wInsight.<br>**Note:** In an n-tier mode, the direct transfer occurs on the server and not on the client computer. This means that the user logged on to the server is different from the user logged on to the client computer. The credentials (or user ID) used for Windows Authentication to the database are taken from the Windows account of the server service (the windows user ID on the application server — not the user logging into Cobra).<br>**Attention:** To set up or check your connection, refer to KB Article # 93859 in the Knowledge Center of the Deltek Support Center. |
| **Specify your wInsight User ID and Password** | Select this option to enable the following fields:<br>▪ **User ID**: Use this field to enter the wInsight user ID.<br>▪ **Password**: Use this field to enter the wInsight password. |

Edit Connection Dialog Box of the wInsight Wizard

Use this dialog box to edit a wInsight database connection.

**Contents**

| Field | Description |
|---|---|
| **Connection Name** | Use this field to enter a name for the new database connection. |
| **wInsight Connection Name** | Use this field to select a wInsight database. |

| Field | Description |
|---|---|
| **wInsight doesn't require a login** | Select this option to enable users to connect to wInsight as the administrator without entering a user ID and password. |
| **Use wInsight O/S authentication** | Select this option to enable Cobra to use operating system authentication of wInsight when logging on to the application.<br>**Note:** In an n-tier mode, the direct transfer occurs on the server and not on the client computer. This means that the user logged on to the server is different from the user logged on to the client computer. The credentials (or user ID) used for Windows Authentication to the database are taken from the Windows account of the server service (the windows user ID on the application server — not the user logging into Cobra).<br>**Attention:** To set up or check your connection, refer to KB Article # 93859 in the Knowledge Center of the Deltek Support Center. |
| **Specify your wInsight User ID and Password** | Select this option to enable the following fields:<br>▪ **User ID**: Use this field to enter the wInsight user ID.<br>▪ **Password**: Use this field to enter the wInsight password. |

*Save and Run Page of the wInsight Wizard*

Use this page to save or run the export configuration.

You must choose to either export the project or save the configuration to enable the **Finish** button.

**Contents**

| Field | Description |
|---|---|
| **Export your project now** | Select this checkbox to export the project. |
| **Append the current period label to the file name** | Select this checkbox to add the label for the current status date to the filename so you can save multiple files in one location without overwriting the older files<br>This checkbox is enabled if you select the **Export your project now** checkbox. |
| **Export file** | Click to specify the filename and location of the exported data. |

| Field | Description |
|---|---|
| **Save your configuration** | Select this checkbox to save your export configuration.<br>This checkbox is enabled if you have permission to create configurations. |
| **Configuration name** | Use this field to enter a name for the new configuration or to update an existing configuration. If you select a name used by an existing configuration that you own, the existing configuration will be overwritten. If you enter a name similar to an existing shared configuration, you will be prompted to save the configuration as personal, meaning that it cannot be shared with anyone.<br>Multiple users can have personal configurations with the same name, but only one of these configurations can be shared with anyone. |
| **Description** | Use this field to enter a description for the configuration. |

*Access Control Page of the wInsight Wizard*

Use this page to enable users or groups to access the wInsight configuration that you are creating.

The access control entry supports a read-only flag. The owner (or member of the SYSADMIN group) can use this feature to override the access rights otherwise permitted to the specific User/Group/Role combination.

The access control settings are described in the Access Control help topic. You can modify the access control settings afterwards on the Configuration Security dialog box.

**Note:** This page displays only if you selected the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Load page.

For existing configuration, only the owner or any member of the SYSADMIN group can change the security settings, and delete and restore a configuration. You can assign multiple users, groups, or roles to a configuration.

**Attention:** For more information, see Restoring Reports and Configurations.

*Confirmation Page of the wInsight Wizard*

This page informs you that Cobra has all the information that it needs to save the configuration and/or export data.

If you need to double-check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays. When you are sure that all the information is correct, click **Finish** to complete the process.

This page displays after the Save and Run page if the **Save your configuration** option is not selected.

This page displays after the Access Control page if you select the **Save your configuration** option and enter a configuration name that is not the same as an existing shared configuration on the Save and Run page.

*Process Running Page of the wInsight Wizard*

This page displays the progress status while Cobra exports data to wInsight or saves the configuration file.

*Process Complete Page of the wInsight Wizard*

This page displays information about the status of the export of data to wInsight.

Click the **View Log** button to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Cobra to wInsight data export process.

*Export Data from Cobra to wInsight*

Use the wInsight Wizard to export data from Cobra to wInsight.

**To export data from Cobra to wInsight:**

1. In the **Export** group on the Integration tab, click **XML/UNCEFACT**.
2. Complete the pages of the wInsight Wizard to export data.

## Sections of the XML File

When you export data from Cobra to wInsight, you do it using a single XML file.

The file is divided into sections for easier reading. These sections are:

- Units
- Structures
- Columns
- Calendars
- CalendarDets
- Contractors
- Contracts
- ACL
- Periods
- Cprs
- Elements

- EarnedValues
- Manpowers
- FutureEtcs
- NarrElemPers
- ElemLinks

*Units Section of the XML File*

When a project is exported to wInsight, the elements of cost selected on the Element of Cost page of the wInsight Wizard are exported to the <Units> section of the XML file.

The elements information is placed in the <Units> section in the following format:

```
<Units>
<Unit id="un1">
<UnitName>Dollars</UnitName>
<Scale>3</Scale>
<Symbol>$</Symbol>
<Prefix>T</Prefix>
<Pad>F</Pad>
<UnitSeq>1</UnitSeq>
<RptSeq>1</RptSeq>
</Unit>
</Units>
```

*Structures Section of the XML File*

When a project is exported to wInsight, the structures selected on the Export Structures page of the wInsight Wizard are exported to the <Structures> section of the XML file.

The structure information is placed in the <Structures> section in the following format:

```
<Structures>
<Structure id="st1">
<StruName>WBS</StruName>
<StruDesc>Space Shuttle</StruDesc>
</Structure>
</Structures>
```

*Columns Section of the XML File*

When a project is exported to wInsight, the columns information is exported to the <Columns> section of the XML file.

The elements information is placed in the <Columns> section in the following format:

```
<Columns>
<Column id="col1">
<TableID>4</TableID>
```

```
<ColName>C1</ColName>
<DataType>5</DataType>
<Length>15</Length>
<SQL>Element.C1</SQL>
<Alias>Status</Alias>
</Column>
</Columns>
```

During the wInsight Export process, the control account (CA) and work package (WP) codes in Cobra are exported to the Elements table in the wInsight database.

In Cobra 8.3, CA Codes 1 to 9 are exported to the C1 to C9 columns in the Elements table of the wInsight database, while WP Codes 1 to 9 are exported to the C10 to C18 columns after the wInsight Export process.

With Cobra now supporting up to 20 control account codes and 20 work package codes in 8.4, the same WP Codes to 9 are also exported to the C1 to C9 columns in the Elements table of the wInsight database. In the XML output file, the columns information is exported to the <Columns> section. CA Code 1 and WP Code 1 are now placed in C1, CA Code 2 and WP Code 2 are now stored in C2, and so on.

*Calendars Section of the XML File*

When a project is exported to wInsight, the calendar information is exported to the <Calendars> section of the XML file.

The elements information is placed in the <Calendars> section in the following format:

```
<Calendars>
<Calendar id="cal1">
<CalDesc>DEMOADV</CalDesc>
<DateFmt>%a</DateFmt>
<FyEnd>12.30</FyEnd>
</Calendar>
</Calendars>
```

*CalendarDets Section of the XML File*

When a project is exported to wInsight, the information on the Calendar Periods tab of the assigned calendar detail is exported to the <CalendarDets> section of the XML file.

The elements information is placed in the <CalendarDets> section in the following format:

```
<CalendarDets>
<CalendarDet cal_id="cal1">
<EndDate>19990530</EndDate>
<PerNum>5</PerNum>
<ReportPer>T</ReportPer>
<HrsInPer>0</HrsInPer>
</CalendarDet>
</CalendarDets>
```

*Contractors Section of the XML File*

When a project is exported to wInsight, the information on Contract Information tab of the Project Properties dialog box is exported to the <Contractors> section of the XML file.

The elements information is placed in the <Contractors> section in the following format:

```
<Contractors>
<Contractor id="ctr1">
<CtrName>Deltek Aerospace Corporation</CtrName>
<Abbr/>
<Address>
<City>Herndon, VA 20171</City>
<Addr1/>
<State/>
<Zip/>
</Address>
</Contractor>
</Contractors>
```

*Contracts Section of the XML File*

When a project is exported to wInsight, the information on the Contract Information and Budget tabs of the Project Properties dialog box is exported to the <Contracts> section of the XML file.

The elements information is placed in the <Contracts> section in the following format:

```
<Contracts>
<Contract id="cc1" Owner="GUEST">
<ContrName>Demo</ContrName>
<ContrNum>199101</ContrNum>
<ContrType>FFP</ContrType>
<ProgName>Demo</ProgName>
<ProgNum>1</ProgNum>
<ProgType>1</ProgType>
<CtrID ctr_id="ctr1"/>
<SecurityText>Unclassified</SecurityText>
<RDQty>1</RDQty>
<RptType>CPR</RptType>
<NegCost>0.00</NegCost>
<TgtPrice>594000.00</TgtPrice>
<TgtFeeDol>54000.00</TgtFeeDol>
<ContrCeiling>540000.00</ContrCeiling>
<ShareAbove>0.00</ShareAbove>
<CprDID>1</CprDID>
<ContrStart>20151231</ContrStart>
<ContrDefinit>20151231</ContrDefinit>
<WorkStart>20151231</WorkStart>
<CalID cal_id="cal1"/>
<F3UnitID un_id="un1"/>
<F4UnitID un_id="un2"/>
<F4StruID st_id="st2"/>
```

```
</Contract>
</Contracts>
```

**Note:** The Owner information is exported only if you are exporting to wInsight 8.1 or later and you select the **Export Access Control to wInsight 8.1 or later** option on the Integration tab of the Application Preferences dialog box.

*ACL Section of the XML File*

When a project is exported to wInsight, the access control information is exported to the <ACL> section of the XML file.

The access control information is exported only if you are exporting to wInsight 8.1 or later and you select the **Export Access Control to wInsight 8.1 or later** option on the Integration tab of the Application Preferences dialog box.

The access control information is placed in the <ACL> section in the following format:

```
<ACL>
<WST_ACL id="acl1" cc_id="cc1">
<GRP_ID>WORLD</GRP_ID>
<READONLY>0</READONLY>
</WST_ACL>
</ACL>
<ACL>
<WST_ACL id="acl1" cc_id="cc1">
<USR_ID>GUEST</USR_ID>
<ROL_ID>DEFAULT</ROL_ID>
<READONLY>0</READONLY>
</WST_ACL>
</ACL>
```

*Periods Section of the XML File*

When a project is exported to wInsight, the current period information is exported to the <Periods> section of the XML file.

The elements information is placed in the <Periods> section in the following format:

```
<Periods>
<Period id="cd1" cc_id="cc1">
<EndDate>20160131</EndDate>
</Period>
</Periods>
```

*Cprs Section of the XML File*

When a project is exported to wInsight, the information on the General, Contract Information, and Budget tabs of the Project Properties dialog box is exported to the <Cprs> section of the XML file.

The elements information is placed in the <Cprs> section of the XML file in the following format:

```
<Cprs>
<Cpr cd_id="cd1">
<ApprTitle>Program Manager</ApprTitle>
<ApprName>John Smith</ApprName>
<RptStartDt>20160101</RptStartDt>
<RptEndDt>20160131</RptEndDt>
<TotalNegChg>540000.00</TotalNegChg>
<CBB>540000.00</CBB>
<TAB>540000.00</TAB>
<TgtFeeDol>54000.00</TgtFeeDol>
<SubmDate>20161010</SubmDate>
<NegCost>540000.00</NegCost>
<AuthUnpr>0.00</AuthUnpr>
<TgtPrice>594000.00</TgtPrice>
<EstPrice>594000.00</EstPrice>
<ContrCeiling>540000.00</ContrCeiling>
<EstCeiling>0.00</EstCeiling>
<ContrCompl>20200228</ContrCompl>
<CtrEstCompl>20200228</CtrEstCompl>
<PlanCompl>20200228</PlanCompl>
<EacMin>0.00</EacMin>
<EacML>540000.00</EacML>
<EacMax>0.00</EacMax>
<ShareAbove>0.00</ShareAbove>
<EVMSAppr>20150630</EVMSAppr>
<F3PerTC>43</F3PerTC>
<F4PerTC>43</F4PerTC>
</Cpr>
</Cprs>
```

*Elements Section of the XML File*

When a project is exported to wInsight, the work breakdown structures (WBS) and organizational breakdown structures (OBS) information is exported to the <Elements> section of the XML file.

The elements information is placed in the <Elements> section in the following format:

```
<Elements>
<Element id="ce1" cc_id="cc1" st_id="st1">
<WbsNum>1</WbsNum>
<ElemDesc>Space Shuttle</ElemDesc>
<LongDesc>Space Shuttle</LongDesc>
<ElemLevel>1</ElemLevel>
<ElemSeq>0</ElemSeq>
</Element>
<Element id="ce2" cc_id="cc1" st_id="st1">
<WbsNum>1.1</WbsNum>
```

```
<ElemDesc>Design</ElemDesc>
<LongDesc>Design</LongDesc>
<ParentID ce_id="ce1" />
<ElemSeq>1</ElemSeq>
</Element>
</Elements>
```

*EarnedValues Section of the XML File*

When a project is exported to wInsight, the cost set information on the Cost Sets page of the wInsight wizard is exported to the <EarnedValues> section of the XML file.

Each cost set data will be exported into the corresponding wInsight cost set and mapped to the elements of the exported structures.

This is an example of the <EarnedValues> section:

```
<EarnedValues>
<EarnedValue ce_id="ce13" cd_id="cd1" un_id="un4">
<BcwsCum>75862.06</BcwsCum>
<BcwsCur>1024.00</BcwsCur>
<BcwpCum>75862.06</BcwpCum>
<BcwpCur>1203.00</BcwpCur>
<AcwpCum>84686.52</AcwpCum>
<AcwpCur>904.52</AcwpCur>
<Bac>75862.06</Bac>
<Lre>84686.52</Lre>
<ReprogCost>0.00</ReprogCost>
<ReprogBudg>0.00</ReprogBudg>
</EarnedValue>
</EarnedValues>
```

*Manpowers Section of the XML File*

When a project is exported to wInsight, the manpower units information on the Element of Cost page of the wInsight Wizard is exported to the <Manpowers> section of the XML file.

This is an example of the <Manpowers> section:

```
<Manpowers>
<Manpower ce_id="ce19" cd_id="cd1" rpt="0">
<PlanCur>5.23</PlanCur>
<ActCur>6.01</ActCur>
<ActCum>7.81</ActCum>
<CurP1>4.93</CurP1>
<CurP2>5.03</CurP2>
<CurP3>9.18</CurP3>
<CurP4>16.39</CurP4>
<CurP5>20.99</CurP5>
<CurP6>16.32</CurP6>
<Per1>14.62</Per1>
<Per2>8.29</Per2>
<Per3>7.11</Per3>
<Per4>22.76</Per4>
```

```
</Manpower>
</Manpowers>
```

*FutureEtcs Section of the XML File*

When a project is exported to wInsight, the future time-phased budget and forecast information is exported to the <FutureEtcs> section of the XML file.

This is an example of the <FutureEtcs> section:

```
<FutureEtcs>
<FutureEtc ce_id="ce14" cd_id="cd1" un_id="un1">
<EndDate>19991130</EndDate>
<Bcws>1.76</Bcws>
<Etc>3.50</Etc>
</FutureEtc>
```

*NarrElemPers Section of the XML File*

When a project is exported to wInsight, the narrative information in Narrative Text pane of the Analyze form is exported to the <NarrElemPers> section of the XML file.

The elements information is placed in the <NarrElemPers> section of the XML file in the following format:

```
<NarrElemPers>
<NarrElemPer cd_id="cd1" ce_id="ce1" type="1">
<B>Impact</B><br>This will be displayed as narrative text
information for the selected WBS/Functional element if data has been
entered. The contractor should provide information that explains the
cause of the problem.<br><br>
</NarrElemPer>
</NarrElemPers>
```

*ElemLinks Section of the XML File*

When a project is exported to wInsight, codes selected on the Link Structures page of the wInsight Wizard are exported to the <ElemLinks> section of the XML file.

The elements information is placed in the <ElemLinks> section of the XML file in the following format:

```
<ElemLinks>
<ElemLink st_id="st5" ce_id="ce9" tl_id="ce0"/>
<ElemLink st_id="st5" ce_id="ce10" tl_id="ce0"/>
<ElemLink st_id="st5" ce_id="ce11" tl_id="ce0"/>
<ElemLink st_id="st5" ce_id="ce12" tl_id="ce0"/>
<ElemLink st_id="st5" ce_id="ce13" tl_id="ce0"/>
<ElemLink st_id="st5" ce_id="ce14" tl_id="ce0"/>
<ElemLink st_id="st5" ce_id="ce15" tl_id="ce0"/>
</ElemLinks>
```

### wInsight DTD

This is a sample of the wInsight DTD.

```
<!--
WINST.DTD - Document Type Definition file for wInsight 6.x database
-->
<!ELEMENT wInsightDb (
Columns?,
Units?,
Structures?,
Weights?,
Thresholds?,
Calendars?,
CalendarDets?,
Contractors?,
Contracts?,
Periods?,
Cprs?,
EacMrs?,
BaselineChgs?,
Milestones?,
Elements?,
EarnedValues?,
Manpowers?,
FutureEtcs?,
NarrPers?,
NarrElems?,
NarrElemPers?,
EuwtLinks?,
Projects?,
Tasks?,
TaskLinks?,
TaskPreds?,
Users?,
UserContracts?,
FundTypes?,
ClinTypes?,
CfsrBlock12Types?,
Block11s?,
Block12s?,
CfsrThresholds?,
Cfsrs?,
CfsrNarrs?,
OmbMilestones?,
ElemLinks?
)>
<!--
Enter version as "6,3,1,0" for documents matching this DTD.
-->
<!ATTLIST wInsightDb version CDATA #REQUIRED>
<!--
Column
-->
<!ELEMENT Columns (Column+)>
```

```
<!ELEMENT Column (
TableID,
DataType,
Length,
SQL,
Alias,
Formula?
)>
<!--
Prefix ID attribute with 'col' - e.g. col1, col2, etc.
TableID: enum { Contract=1, Period=2, Element=4, EarnedValue=5,
Project=6, Task=7, FutureEtc=9 };
Note: The combination of TableID and ColName must be unique.
DataType(Length): enum { short(2)=1, long(4), double(8), date(8),
str(1-255) }
SQL: SQL statement for field (e.g. Table.Field
Alias: Display name for ColName (optional)
Formula: SQL expression for column (optional)
-->
<!ATTLIST Column id ID #REQUIRED>
<!ELEMENT TableID (#PCDATA)>
<!ELEMENT ColName (#PCDATA)>
<!ELEMENT DataType (#PCDATA)>
<!ELEMENT Length (#PCDATA)>
<!ELEMENT SQL (#PCDATA)>
<!ELEMENT Alias (#PCDATA)>
<!ELEMENT Formula (#PCDATA)>
<!--
Unit
-->
<!ELEMENT Units (Unit+)>
<!ELEMENT Unit (
UnitName,
Scale?,
Symbol?,
Prefix?,
Pad?,
UnitSeq?,
RptSeq?
)>
<!--
Prefix ID attribute with 'un' - e.g. un1, un2, etc.
Standard units are:
Dollars: un1
Hours: un2
EQP: un3
-->
<!ATTLIST Unit id ID #REQUIRED>
<!--
Name is unit name, plural, e.g., Dollars, Hours, EQP
Scale: a power of 10, e.g. scale="3" defines values in thousands
Symbol: e.g. $ for Dollars, H for Hours
Prefix: 'F' for following, e.g '10H', 'T' for leading, e.g. '$100'
Pad: 'T' if symbol is separated from value, e.g. '100 H', 'F' if
not: '$100'.
UnitSeq: Order to display units in Units menu, or zero (0) to hide.
```

```
RptSeq: Order to display units in Element of Cost report, or zero
(0) to hide.
-->
<!ELEMENT UnitName (#PCDATA)>
<!ELEMENT Scale (#PCDATA)>
<!ELEMENT Symbol (#PCDATA)>
<!ELEMENT Prefix (#PCDATA)>
<!ELEMENT Pad (#PCDATA)>
<!ELEMENT UnitSeq (#PCDATA)>
<!ELEMENT RptSeq (#PCDATA)>
<!--
Structure
-->
<!ELEMENT Structures (Structure+)>
<!ELEMENT Structure (
StruName,
StruDesc?
)>
<!--
Prefix ID with 'st' - e.g. st1, st2, etc.
Standard structures are:
WBS: st1
OBS: st2
Indirect: st3
-->
<!ATTLIST Structure id ID #REQUIRED>
<!ELEMENT StruName (#PCDATA)>
<!ELEMENT StruDesc (#PCDATA)>
<!--
Weight
-->
<!ELEMENT Weights (Weight+)>
<!ELEMENT Weight (
WeightDesc,
CostWt,
PerfFctr
)>
<!--
Prefix ID attribute with 'wt' - e.g. wt1, wt2, etc.
-->
<!ATTLIST Weight id ID #REQUIRED>
<!ELEMENT WeightDesc (#PCDATA)>
<!--
CostWt is a number between 0 and 100, inclusive
PerfFctr is Cost/Schedule weighting (default 1.0)
-->
<!ELEMENT CostWt (#PCDATA)>
<!ELEMENT PerfFctr (#PCDATA)>
<!--
Threshold
-->
<!ELEMENT Thresholds (Threshold+)>
<!ELEMENT Threshold (
ThreshDesc,
ThreshSet,
ThreshSet,
```

```
ThreshSet,
ThreshSet
)>
<!--
Prefix ID attribute with 'th' - e.g. th1, th2, etc.
-->
<!ATTLIST Threshold id ID #REQUIRED>
<!ELEMENT ThreshDesc (#PCDATA)>
<!ELEMENT ThreshSet (
PctCmp,
CurCostD?,
CurCostP?,
CurSchD?,
CurSchP?,
CumCostD?,
CumCostP?,
CumSchD?,
CumSchP?,
VacD?,
VacP?,
AndOr?
)>
<!ATTLIST ThreshSet range (1 | 2 | 3 | 4) #REQUIRED>
<!--
ThreshSet applies from % complete range of previous (or 0) to
% complete value given in PctCmp field. Default is 97, 98, 99, 100.
This creates ranges of 0-97, 97-98, 98-99, 99-100.
-->
<!ELEMENT PctCmp (#PCDATA)>
<!ELEMENT CurCostD (#PCDATA)>
<!ELEMENT CurCostP (#PCDATA)>
<!ELEMENT CurSchD (#PCDATA)>
<!ELEMENT CurSchP (#PCDATA)>
<!ELEMENT CumCostD (#PCDATA)>
<!ELEMENT CumCostP (#PCDATA)>
<!ELEMENT CumSchD (#PCDATA)>
<!ELEMENT CumSchP (#PCDATA)>
<!ELEMENT VacD (#PCDATA)>
<!ELEMENT VacP (#PCDATA)>
<!--
AndOr: 'A', 'O', or 'N'
AND = exceeds Cost AND Sch thresh; OR = Cost OR Sch thresh; NOT =
ignore
-->
<!ELEMENT AndOr (#PCDATA)>
<!--
Calendar
-->
<!ELEMENT Calendars (Calendar+)>
<!ELEMENT Calendar (
CalDesc,
DateFmt?,
FyEnd?
)>
<!--
Prefix ID attribute with 'cal' - e.g. cal1, cal2, etc.
```

```
-->
<!ATTLIST Calendar id ID #REQUIRED>
<!ELEMENT CalDesc (#PCDATA)>
<!--
DateFmt specifies how periods should be displayed.
Default is "!%b %y", e.g. JUN 99.
%d  Day of month (01-31)
%m  Two digit month (01-12)
%b  Month abbreviation (Jan, Feb, Mar, ...)
%y  Two digit year (00 - 99)
%Y  Four digit year (1999, 2000, ...)
%f  Two-digit fiscal year
%F  Four digit fiscal year
%q  Quarter number (1-4)
%p  Period number (see below)
! (prefix) Use upper case (JUN vs. Jun)
-->
<!ELEMENT DateFmt (#PCDATA)>
<!--
Specifies FY end date in mm.dd format. The default value
is December 31st, represented as '12.31'.
-->
<!ELEMENT FyEnd (#PCDATA)>
<!--
CalendarDet
-->
<!ELEMENT CalendarDets (CalendarDet+)>
<!ELEMENT CalendarDet (
EndDate,
PerNum?,
ReportPer?,
HrsInPer?,
AltDate?,
FeeLoadSp?,
FeeLoadA?,
FeeLoadEtc?,
OhLoadSp?,
OhLoadA?,
OhLoadEtc?,
ComLoadSp?,
ComLoadA?,
ComLoadEtc?,
GaLoadSp?,
GaLoadA?,
GaLoadEtc?
)>
<!--
cal_id must refer to a previously defined Calendar
-->
<!ATTLIST CalendarDet cal_id IDREF #REQUIRED>
<!ELEMENT EndDate (#PCDATA)>
<!--
PerNum is the period number in the current fiscal year. By
default,it is the ordinal value of the current month (1-12).
-->
<!ELEMENT PerNum (#PCDATA)>
```

```
<!--
'T' if period is a reporting period, 'F' otherwise
-->
<!ELEMENT ReportPer (#PCDATA)>
<!ELEMENT HrsInPer (#PCDATA)>
<!ELEMENT AltDate (#PCDATA)>
<!ELEMENT FeeLoadSp (#PCDATA)>
<!ELEMENT FeeLoadA (#PCDATA)>
<!ELEMENT FeeLoadEtc (#PCDATA)>
<!ELEMENT OhLoadSp (#PCDATA)>
<!ELEMENT OhLoadA (#PCDATA)>
<!ELEMENT OhLoadEtc (#PCDATA)>
<!ELEMENT ComLoadSp (#PCDATA)>
<!ELEMENT ComLoadA (#PCDATA)>
<!ELEMENT ComLoadEtc (#PCDATA)>
<!ELEMENT GaLoadSp (#PCDATA)>
<!ELEMENT GaLoadA (#PCDATA)>
<!ELEMENT GaLoadEtc (#PCDATA)>
<!--
Contractor
-->
<!ELEMENT Contractors (Contractor+)>
<!ELEMENT Contractor (CtrName, Abbr?, Address?, Locator?)>
<!--
Prefix ID attribute with 'ctr' - e.g. ctr1, ctr2, etc.
-->
<!ATTLIST Contractor id ID #REQUIRED>
<!ELEMENT CtrName (#PCDATA)>
<!ELEMENT Abbr (#PCDATA)>
<!ELEMENT Address (Addr1?, Addr2?, City?, State?, Country?, Zip?)>
<!ELEMENT Addr1 (#PCDATA)>
<!ELEMENT Addr2 (#PCDATA)>
<!ELEMENT City (#PCDATA)>
<!ELEMENT State (#PCDATA)>
<!ELEMENT Zip (#PCDATA)>
<!ELEMENT Country (#PCDATA)>
<!--
Locator IDType & IDCode values:
1 = D-U-N-S Number
9 = D-U-N-S + 4
10 = DOD Address Code
-->
<!ELEMENT Locator (IDType, IDCode)>
<!ELEMENT IDType (#PCDATA)>
<!ELEMENT IDCode (#PCDATA)>
<!--
Contract
-->
<!ELEMENT Contracts (Contract+)>
<!ELEMENT Contract (
ContrName,
ContrNum?,
ContrType?,
ProgName?,
ProgNum?,
ProgType?,
```

```
CtrID?,
SecurityText?,
RDQty?,
ProdQty?,
Manager?,
Analyst?,
ProgOffName?,
ProgOffSym?,
RptType?,
NegCost?,
TgtPrice?,
TgtFeeDol?,
TgtFeePct?,
ContrCeiling?,
MinFee?,
MaxFee?,
FixedFee?,
OrigAwdFee?,
NonFeeBearCost?,
ShareAbove?,
ShareBelow?,
ChgPct?,
RedPct?,
YellowPct?,
GreenPct?,
ContrDefinit?,
ContrStart?,
WorkStart?,
LastItemDlv?,
ContrCompl?,
UserSym?,
CaoSym?,
CtrSym?,
RecalcFlags?,
SysDateID?,
CalID?,
F3UnitID?,
F4UnitID?,
F4StruID?,
CustID?,
CprDid?,
UserDefValue*
)>
<!--
Prefix ID attribute with 'cc' - e.g. cc1, cc2, etc.
-->
<!ATTLIST Contract id ID #REQUIRED>
<!ELEMENT ContrName (#PCDATA)>
<!ELEMENT ContrNum (#PCDATA)>
<!--
ContrType values are limited to 10 characters
CW = Cost Plus Award Fee
CX = Cost Plus Fixed Fee
CY = Cost Plus Incentive Fee
FD = Fixed Price Redetermination
FE = Fixed Price with Escalation
```

```
FI = Fixed Price Incentive
FR = Firm Fixed Price
TM = Time and Materials
OC = Other Contract Type (enter)
-->
<!ELEMENT ContrType (#PCDATA)>
<!ELEMENT ProgName (#PCDATA)>
<!ELEMENT ProgNum (#PCDATA)>
<!--
ProgType values are limited to 10 characters
RDT&E = Research, Development, Test and Evaluation
PROD = Production
RDT&E+P = Both RDT&E and Production
AD = Advanced Design
DEMVAL = Demonstration Validation
FSD = Full Scale Development
EMD = Engineering and Manufacturing Development
CONEXP = Concept Exploration
DEPLOY = Deployment
LRIP = Low Rate Initial Production
Other = (specify)
-->
<!ELEMENT ProgType (#PCDATA)>
<!--
CtrID must refer to an existing Contractor ('ctr1', 'ctr2', etc.)
CustID must refer to an existing Contractor ('ctr1', 'ctr2', etc.)
-->
<!ELEMENT CtrID EMPTY>
<!ATTLIST CtrID ctr_id IDREF #REQUIRED>
<!ELEMENT CustID EMPTY>
<!ATTLIST CustID ctr_id IDREF #REQUIRED>
<!--
0 for Aug 1996 DID
1 for Mar 2005 DID
-->
<!ELEMENT CprDid (#PCDATA)>
<!--
CalID must refer to an existing Calendar ('cal1', 'cal2', etc.)
-->
<!ELEMENT CalID EMPTY>
<!ATTLIST CalID cal_id IDREF #REQUIRED>
<!--
SecurityText values are limited to 30 characters, e.g.
Competition Sensitive
Unclassified
Confidential
Secret
Top Secret
-->
<!ELEMENT SecurityCode (#PCDATA)>
<!ELEMENT SecurityText (#PCDATA)>
<!ELEMENT RDQty (#PCDATA)>
<!ELEMENT ProdQty (#PCDATA)>
<!ELEMENT Manager (#PCDATA)>
<!ELEMENT Analyst (#PCDATA)>
<!ELEMENT ProgOffName (#PCDATA)>
```

```
<!ELEMENT ProgOffSym (#PCDATA)>
<!--
enum RptType { CPR, C/SSR }
When generating a C/SSR file, the OBS (i.e., Element Type = Func),
and Manpower elements  can be omitted, as well as all Cpr elements
after 'ShareBelow'.
-->
<!ELEMENT RptType (#PCDATA)>
<!--
Monetary values should be entered in the units specified
by F3UnitID
-->
<!ELEMENT NegCost (#PCDATA)>
<!ELEMENT TgtPrice (#PCDATA)>
<!ELEMENT TgtFeeDol (#PCDATA)>
<!ELEMENT TgtFeePct (#PCDATA)>
<!ELEMENT ContrCeiling (#PCDATA)>
<!ELEMENT MinFee (#PCDATA)>
<!ELEMENT MaxFee (#PCDATA)>
<!ELEMENT FixedFee (#PCDATA)>
<!ELEMENT OrigAwdFee (#PCDATA)>
<!ELEMENT NonFeeBearCost (#PCDATA)>
<!ELEMENT ShareAbove (#PCDATA)>
<!ELEMENT ShareBelow (#PCDATA)>
<!ELEMENT ChgPct (#PCDATA)>
<!ELEMENT RedPct (#PCDATA)>
<!ELEMENT YellowPct (#PCDATA)>
<!ELEMENT GreenPct (#PCDATA)>
<!ELEMENT ContrDefinit (#PCDATA)>
<!ELEMENT ContrStart (#PCDATA)>
<!ELEMENT WorkStart (#PCDATA)>
<!ELEMENT LastItemDlv (#PCDATA)>
<!ELEMENT ContrCompl (#PCDATA)>
<!ELEMENT UserSym (#PCDATA)>
<!ELEMENT CaoSym (#PCDATA)>
<!ELEMENT CtrSym (#PCDATA)>
<!ELEMENT RecalcFlags (#PCDATA)>
<!--
Specifies the ID of the most recent period of data (cd1, cd2, etc.)
-->
<!ELEMENT SysDateID EMPTY>
<!ATTLIST SysDateID cd_id IDREF #REQUIRED>
<!--
Specifies the unit ID for Format 3 (Baseline) records
Must refer to an existing Unit
-->
<!ELEMENT F3UnitID  EMPTY>
<!ATTLIST F3UnitID un_id IDREF #REQUIRED>
<!--
Specifies the unit ID for Format4 (Manpower) records
Must refer to an existing Unit
-->
<!ELEMENT F4UnitID  EMPTY>
<!ATTLIST F4UnitID un_id IDREF #REQUIRED>
<!--
Specifies the structure ID for Format4 (Manpower) records
```

```
Must refer to an existing Structure
-->
<!ELEMENT F4StruID  EMPTY>
<!ATTLIST F4StruID st_id IDREF #REQUIRED>
<!--
col_id = ColumnID of associated Column
-->
<!ELEMENT UserDefValue (#PCDATA)>
<!ATTLIST UserDefValue col_id IDREF #REQUIRED>
<!--
Period
-->
<!ELEMENT Periods (Period+)>
<!ELEMENT Period (
EndDate,
CprID?,
PerNum?,
OrdVal?,
Alias?,
UserDefValue*
)>
<!--
Prefix ID attribute with 'cd' - e.g. cd1, cd2, etc.
cc_id must refer to an existing Contract ('cc1', 'cc2', etc.)
-->
<!ATTLIST Period
cc_id IDREF #REQUIRED
id ID #REQUIRED
>
<!--
Ordinal number of period from most recent (1) to earliest.
-->
<!ELEMENT OrdVal (#PCDATA)>
<!--
cd_id must refer to an existing Period (cd1, cd2, etc.)
-->
<!ELEMENT CprID EMPTY>
<!ATTLIST CprID cd_id IDREF #REQUIRED>
<!ELEMENT Cprs (Cpr+)>
<!ELEMENT Cpr (
RptStartDt?,
RptEndDt?,
LastContrChg?,
TotalNegChg?,
LastOTB?,
CBB?,
TAB?,
FundsObl?,
TgtFeeDol?,
TgtFeePct?,
LastItemDlv?,
Incentives?,
ApprName?,
ApprTitle?,
ApprOrg?,
SubmDate?,
```

```
NegCost?,
AuthUnpr?,
TgtPrice?,
EstPrice?,
ContrCeiling?,
EstCeiling?,
TotalAwdFee?,
AwdFeePaid?,
AwdFeeRem?,
ContrCompl?,
PoEstCompl?,
CtrEstCompl?,
EacMin?,
EacML?,
EacMax?,
PoEpc?,
CaoEpc?,
TotalFund?,
MinFee?,
MaxFee?,
FixedFee?,
NonFeeBearCost?,
ShareAbove?,
ShareBelow?,
TFloat?,
FundLimit?,
AmtBilled?,
PmtRcvd?,
BaselineRevNum?,
BaselineRevDate?,
OmbConcur?,
PlanCompl?,
EvmsAppr?,
BCumToDt?,
BCurrent?,
BCurP1?,
BCurP2?,
BCurP3?,
BCurP4?,
BCurP5?,
BCurP6?,
BPer1?,
BPer2?,
BPer3?,
BPer4?,
BToCmp?,
BUndBudg?,
ECumToDt?,
ECurP1?,
ECurP2?,
ECurP3?,
ECurP4?,
ECurP5?,
ECurP6?,
EPer1?,
EPer2?,
```

```
EPer3?,
EPer4?,
EToCmp?,
EUndBudg?,
F3Per1?,
F3Per2?,
F3Per3?,
F3Per4?,
F3PerTC?,
F3Txt1?,
F3Txt2?,
F3Txt3?,
F3Txt4?,
F4Per1?,
F4Per2?,
F4Per3?,
F4Per4?,
F4PerTC?,
F4Txt1?,
F4Txt2?,
F4Txt3?,
F4Txt4?
)>
<!--
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
-->
<!ATTLIST Cpr cd_id IDREF #REQUIRED>
<!--
Monetary values should be entered in the units specified
by F3UnitID of the corresponding contract
-->
<!ELEMENT RptStartDt (#PCDATA)>
<!ELEMENT RptEndDt (#PCDATA)>
<!ELEMENT LastContrChg (#PCDATA)>
<!ELEMENT TotalNegChg (#PCDATA)>
<!ELEMENT LastOTB (#PCDATA)>
<!ELEMENT CBB (#PCDATA)>
<!ELEMENT TAB (#PCDATA)>
<!ELEMENT FundsObl (#PCDATA)>
<!ELEMENT Incentives (#PCDATA)>
<!ELEMENT ApprName (#PCDATA)>
<!ELEMENT ApprTitle (#PCDATA)>
<!ELEMENT ApprOrg (#PCDATA)>
<!ELEMENT SubmDate (#PCDATA)>
<!ELEMENT AuthUnpr (#PCDATA)>
<!ELEMENT EstPrice (#PCDATA)>
<!ELEMENT EstCeiling (#PCDATA)>
<!ELEMENT TotalAwdFee (#PCDATA)>
<!ELEMENT AwdFeePaid (#PCDATA)>
<!ELEMENT PoEstCompl (#PCDATA)>
<!ELEMENT CtrEstCompl (#PCDATA)>
<!ELEMENT EacMin (#PCDATA)>
<!ELEMENT EacML (#PCDATA)>
<!ELEMENT EacMax (#PCDATA)>
<!ELEMENT PoEpc (#PCDATA)>
<!ELEMENT CaoEpc (#PCDATA)>
```

```
<!ELEMENT TotalFund (#PCDATA)>
<!ELEMENT BCumToDt (#PCDATA)>
<!ELEMENT BCurrent (#PCDATA)>
<!ELEMENT BCurP1 (#PCDATA)>
<!ELEMENT BCurP2 (#PCDATA)>
<!ELEMENT BCurP3 (#PCDATA)>
<!ELEMENT BCurP4 (#PCDATA)>
<!ELEMENT BCurP5 (#PCDATA)>
<!ELEMENT BCurP6 (#PCDATA)>
<!ELEMENT BPer1 (#PCDATA)>
<!ELEMENT BPer2 (#PCDATA)>
<!ELEMENT BPer3 (#PCDATA)>
<!ELEMENT BPer4 (#PCDATA)>
<!ELEMENT BToCmp (#PCDATA)>
<!ELEMENT BUndBudg (#PCDATA)>
<!ELEMENT ECumToDt (#PCDATA)>
<!ELEMENT ECurP1 (#PCDATA)>
<!ELEMENT ECurP2 (#PCDATA)>
<!ELEMENT ECurP3 (#PCDATA)>
<!ELEMENT ECurP4 (#PCDATA)>
<!ELEMENT ECurP5 (#PCDATA)>
<!ELEMENT ECurP6 (#PCDATA)>
<!ELEMENT EPer1 (#PCDATA)>
<!ELEMENT EPer2 (#PCDATA)>
<!ELEMENT EPer3 (#PCDATA)>
<!ELEMENT EPer4 (#PCDATA)>
<!ELEMENT EToCmp (#PCDATA)>
<!ELEMENT EUndBudg (#PCDATA)>
<!ELEMENT F3Per1 (#PCDATA)>
<!ELEMENT F3Per2 (#PCDATA)>
<!ELEMENT F3Per3 (#PCDATA)>
<!ELEMENT F3Per4 (#PCDATA)>
<!ELEMENT F3PerTC (#PCDATA)>
<!ELEMENT F3Txt1 (#PCDATA)>
<!ELEMENT F3Txt2 (#PCDATA)>
<!ELEMENT F3Txt3 (#PCDATA)>
<!ELEMENT F3Txt4 (#PCDATA)>
<!ELEMENT F4Per1 (#PCDATA)>
<!ELEMENT F4Per2 (#PCDATA)>
<!ELEMENT F4Per3 (#PCDATA)>
<!ELEMENT F4Per4 (#PCDATA)>
<!ELEMENT F4PerTC (#PCDATA)>
<!ELEMENT F4Txt1 (#PCDATA)
<!ELEMENT F4Txt2 (#PCDATA)>
<!ELEMENT F4Txt3 (#PCDATA)>
<!ELEMENT F4Txt4 (#PCDATA)>
<!ELEMENT TFloat (#PCDATA)>
<!ELEMENT FundLimit (#PCDATA)>
<!ELEMENT AmtBilled (#PCDATA)>
<!ELEMENT PmtRcvd (#PCDATA)>
<!ELEMENT BaselineRevNum (#PCDATA)>
<!ELEMENT BaselineRevDate (#PCDATA)>
<!ELEMENT OmbConcur (#PCDATA)>
<!ELEMENT PlanCompl (#PCDATA)>
<!ELEMENT EvmsAppr (#PCDATA)>
<!--
```

```
EacMr
-->
<!ELEMENT EacMrs (EacMr+)>
<!ELEMENT EacMr (
PoEac?,
PoMr?,
CaoEac?,
CaoMr?,
ReprogSch?
)>
<!--
cd_id must refer to an existing Period (cd1, cd2, etc.)
un_id must refer to an existing Unit (un1, un2, etc.)
-->
<!ATTLIST EacMr
cd_id IDREF #REQUIRED
un_id IDREF #REQUIRED
<!ELEMENT PoEac (#PCDATA)>
<!ELEMENT PoMr (#PCDATA)>
<!ELEMENT CaoEac (#PCDATA)>
<!ELEMENT CaoMr (#PCDATA)>
<!ELEMENT ReprogSch (#PCDATA)>
<!--
BaselineChg
Omit this element when generating a C/SSR file.
-->
<!ELEMENT BaselineChgs (BaselineChg+)>
<!ELEMENT BaselineChg (
ChgDesc,
ChgValue
)>
<!--
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
-->
<!ATTLIST BaselineChg cd_id IDREF #REQUIRED>
<!ELEMENT ChgDesc (#PCDATA)>
<!ELEMENT ChgValue (#PCDATA)>
<!--
Milestones
-->
<!ELEMENT Milestones (Milestone+)>
<!ELEMENT Milestone (
MilesDesc,
Baseline?,
Actual?,
Scheduledz
)>
<!--
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
-->
<!ATTLIST Milestone cd_id IDREF #REQUIRED>
<!ELEMENT MilesDesc (#PCDATA)>
<!ELEMENT Baseline (#PCDATA)>
<!ELEMENT Actual (#PCDATA)>
<!ELEMENT Scheduled (#PCDATA)>
<!--
```

```
Element
-->
<!ELEMENT Elements (Element+)>
<!ELEMENT Element(
WbsNum,
ElemDesc?,
ElemLevel?,
ElemHier?
ParentID?,
ElemSeq?,
NumChild?,
SortVal?,
LinkVal?,
ElemType?,
EVM?,
LongDesc?,
NAFlag?,
ProjOff?,
OffSym?,
OffExt?,
RiskLevel?,
CtrID?,
Email?,
VarState?,
VarRejectReason?,
VarLastTimeStamp?,
VarStateAw?,
UserDefValue*
)>
<!--
Prefix ID attribute with 'ce' - e.g. ce1, ce2, etc.
cc_id must refer to an existing Contract ('cc1', 'cc2', etc.)
st_id must refer to an existing Structure ('st1', 'st2', etc.)
-->
<!ATTLIST Element
id #REQUIRED
cc_id IDREF #REQUIRED
st_id IDREF #REQUIRED
>
<!--
WbsNum is limited to 50 characters. The following WBS Numbers are
reserved:
[OH] - Overhead
[COM] - Cost of Money
[G&A] - General And Administrative
[UB] - Undistributed Budget
[MR] - Management Reserve
These WBS elements are members of the "Indirect" structure
(st_id="st3")
and are (formally) children of the level 1 WBS element (ref:
ParentID below).
The following WBS Number is also reserved. It is generated
automatically during the recalculation process and need not be
exported. If exported, its cc_id and st_id attributes should reflect
the contract and structure to which it belongs. Similarly, its
ParentID will be that of the level 1 element of the structure to
```

```
which it belongs.
[PMB] - Peformance Measurement Baseline
-->
<!ELEMENT WbsNum (#PCDATA)>
<!ELEMENT ElemDesc (#PCDATA)>
<!--
ElemLevel may be omitted if ParentID is supplied.
Required for Level 1 element of each structure.
-->
<!ELEMENT ElemLevel (#PCDATA)>
<!--
ElemHier is the ordinal position of element in tree (hierarchical
sort).
This is a calculated value and may be omitted.
-->
<!ELEMENT ElemHier (#PCDATA)>
<!--
ParentID is required except for Level 1 elements.
ce_id must refer to a previously defined element.
-->
<!ELEMENT ParentID EMPTY>
<!ATTLIST ParentID ce_id IDREF #REQUIRED>
<!--
If supplied, use the values below for the reserved elements.
ElemSeq: { OH=9994, COM=9995, G&A=9996, UB=9997, PMB=9998, MR=9999 }
-->
<!ELEMENT ElemSeq (#PCDATA)>
<!ELEMENT NumChild (#PCDATA)>
<!ELEMENT SortVal (#PCDATA)>
<!ELEMENT LinkVal (#PCDATA)>
<!ELEMENT ElemType (#PCDATA)>
<!ELEMENT EVM (#PCDATA)>
<!ELEMENT LongDesc (#PCDATA)>
<!--
For ordinary elements NAFlag = 0 for add, or 1 for non-add into
parent.
For [OH], [COM], [G&A], [UB], and [MR] elements, NAFlag can be set
on a per-structure basis by setting the bit corresponding to
(structure id - 1). For example, NAFlag = 9 is non-add for st_id = 1
and 4 (2^0 + 2^3).
-->
<!ELEMENT NAFlag (#PCDATA)>
<!ELEMENT ProjOff (#PCDATA)>
<!ELEMENT OffSym (#PCDATA)>
<!ELEMENT OffExt (#PCDATA)>
<!--
RiskLevel: 'L', 'M', or 'H' (Low, Medium, High)
-->
<!ELEMENT RiskLevel (#PCDATA)>
<!ELEMENT Email (#PCDATA)>
<!ELEMENT VarState (#PCDATA)>
<!ELEMENT VarRejectReason (#PCDATA)>
<!ELEMENT VarLastUser (#PCDATA)>
<!ELEMENT VarTimeStamp (#PCDATA)>
<!ELEMENT VarStateAw (#PCDATA)>
<!--
```

```
EarnedValue
-->
<!ELEMENT EarnedValues (EarnedValue+)>
<!ELEMENT EarnedValue(
BcwsCum?,
BcwpCum?,
AcwpCum?,
Bac?,
Lre?,
BcwsAdj?,
BcwpAdj?,
AcwpAdj?,
ReprogCost?,
ReprogBudg?,
BcwsCur?,
BcwpCur?,
AcwpCur?,
UserEac?,
UserEacMin?,
UserEacMax?,
UserEacPdf?,
MovAvg3?,
MovAvg6?,
CumCpiFc?,
CurCpiFc?,
WtCostSch?,
LinRegr?,
PerfFctr?,
Micom?,
Trends?,
Fmt5Var?,
UserMethod?,
UserMethodMin?,
UserMethodMax?,
CumCpiFcAdj?,
CpiSpiAdj?,
UnfillOrd?,
Number1?,
Number2?,
Number3?,
Number4?,
Number5?,
Number6?,
Number7?,
Number8?,
Number9?,
Number10?,
SvAw?,
CvAw?,
VacAw?,
CpiCum3?,
CpiCum6?,
SpiCum3?,
SpiCum6?,
ReprogSch?,
UserColors?,
```

```
UserTrends?,
UserDefValue*
)>
<!--
ce_id must refer to an existing Element ('ce1', 'ce2', etc.)
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
un_id must refer to an existing Unit ('un1', 'un2', etc.)
-->
<!ATTLIST EarnedValue
ce_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
un_id IDREF #REQUIRED
>
<!ELEMENT BcwsCum (#PCDATA)>
<!ELEMENT BcwpCum (#PCDATA)>
<!ELEMENT AcwpCum (#PCDATA)>
<!ELEMENT Bac (#PCDATA)>
<!ELEMENT Lre (#PCDATA)>
<!ELEMENT BcwsAdj (#PCDATA)>
<!ELEMENT BcwpAdj (#PCDATA)>
<!ELEMENT AcwpAdj (#PCDATA)>
<!ELEMENT ReprogCost (#PCDATA)>
<!ELEMENT ReprogBudg (#PCDATA)>
<!ELEMENT BcwsCur (#PCDATA)>
<!ELEMENT BcwpCur (#PCDATA)>
<!ELEMENT AcwpCur (#PCDATA)>
<!ELEMENT MovAvg3 (#PCDATA)>
<!ELEMENT MovAvg6 (#PCDATA)>
<!ELEMENT CumCpiFc (#PCDATA)>
<!ELEMENT CurCpiFc (#PCDATA)>
<!ELEMENT WtCostSch (#PCDATA)>
<!ELEMENT LinRegr (#PCDATA)>
<!--
PerfFctr already declared in Weight, where it is a paramenter used
in the calculation of this EAC
-->
<!ELEMENT PerfFctr (#PCDATA)>
<!ELEMENT CpiSpi (#PCDATA)>
<!ELEMENT Micom (#PCDATA)>
<!ELEMENT Colors (#PCDATA)>
<!ELEMENT Trends (#PCDATA)>
<!ELEMENT Fmt5Var (#PCDATA)>
<!ELEMENT UserEac (#PCDATA)>
<!ELEMENT UserEacMin (#PCDATA)>
<!ELEMENT UserEacMax (#PCDATA)>
<!ELEMENT CumCpiFcAdj (#PCDATA)>
<!ELEMENT CpiSpiAdj (#PCDATA)>
<!ELEMENT UnfillOrd (#PCDATA)>
<!ELEMENT Number1 (#PCDATA)>
<!ELEMENT Number2 (#PCDATA)>
<!ELEMENT Number3 (#PCDATA)>
<!ELEMENT Number4 (#PCDATA)>
<!ELEMENT Number5 (#PCDATA)>
<!ELEMENT Number6 (#PCDATA)>
<!ELEMENT Number7 (#PCDATA)>
<!ELEMENT Number8 (#PCDATA)>
```

```
<!ELEMENT Number9 (#PCDATA)>
<!ELEMENT Number10 (#PCDATA)>
<!ELEMENT SvAw (#PCDATA)>
<!ELEMENT CvAw (#PCDATA)>
<!ELEMENT VacAw (#PCDATA)>
<!ELEMENT CpiCum3 (#PCDATA)>
<!ELEMENT CpiCum6 (#PCDATA)>
<!ELEMENT SpiCum3 (#PCDATA)>
<!ELEMENT SpiCum6 (#PCDATA)>
<!ELEMENT UserColors (#PCDATA)>
<!ELEMENT UserTrends (#PCDATA)>
<!--
UserEacPdf: enum { Uniform=0, Triangular=1, Normal=2, Beta=3 }
-->
<!ELEMENT UserEacPdf (#PCDATA)>
<!ELEMENT UserMethod (#PCDATA)>
<!ELEMENT UserMethodMin (#PCDATA)>
<!ELEMENT UserMethodMax (#PCDATA)>
<!--
Manpower
Omit this element when generating a C/SSR file.
-->
<!--
ce_id must refer to an existing Element ('ce1', 'ce2', etc.)
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
rpt is 0 for Manpower LRE, 1 for Manpower BAC
Labor value should be entered in the units specified by F4UnitID of
the corresponding contract
-->
<!ELEMENT Manpowers (Manpower+)>
<!ELEMENT Manpower (
PlanCur?,
PlanCum?,
ActCur?,
ActCum?,
RptType?,
CurP1?,
CurP2?,
CurP3?,
CurP4?,
CurP5?,
CurP6?,
Per1?,
Per2?,
Per3?,
Per4?,
ToCmp?
)>
<!ATTLIST Manpower
ce_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
rpt (0 | 1) #REQUIRED
>
<!ELEMENT PlanCur (#PCDATA)>
<!ELEMENT PlanCum (#PCDATA)>
<!ELEMENT ActCur (#PCDATA)>
```

```
<!ELEMENT ActCum (#PCDATA)>
<!ELEMENT CurP1 (#PCDATA)>
<!ELEMENT CurP2 (#PCDATA)>
<!ELEMENT CurP3 (#PCDATA)>
<!ELEMENT CurP4 (#PCDATA)>
<!ELEMENT CurP5 (#PCDATA)>
<!ELEMENT CurP6 (#PCDATA)>
<!ELEMENT Per1 (#PCDATA)>
<!ELEMENT Per2 (#PCDATA)>
<!ELEMENT Per3 (#PCDATA)>
<!ELEMENT Per4 (#PCDATA)>
<!ELEMENT ToCmp (#PCDATA)>
<!--
FutureEtc
-->
<!ELEMENT FutureEtcs (FutureEtc+)>
<!ELEMENT FutureEtc(
EndDate,
Bcws?,
Etc?
UserDefValue*
)>
<!--
ce_id must refer to an existing Element ('ce1', 'ce2', etc.)
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
un_id must refer to an existing Unit ('un1', 'un2', etc.)
-->
<!ATTLIST FutureEtc
ce_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
un_id IDREF #REQUIRED
<!ELEMENT Etc (#PCDATA)>
<!--
NarrPer
-->
<!ELEMENT NarrPers (NarrPer+)>
<!ELEMENT NarrPer (#PCDATA)>
<!--
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
enum type { PMR=1, OMBC=2, OMBD=3, OMBE=4, OMBF=5 }
-->
<!ATTLIST NarrPer
cd_id IDREF #REQUIRED
type (1 | 2 | 3 | 4 | 5) #REQUIRED
>
<!--
NarrElem
-->
<!ELEMENT NarrElems (NarrElem+)>
<!ELEMENT NarrElem (#PCDATA)>
<!--
ce_id must refer to an existing Period ('ce1', 'ce2', etc.)
enum type { SOW=1 }
-->
ce_id IDREF #REQUIRED
type (1) #REQUIRED
```

```
>
<!--
NarrElemPer
-->
<!ELEMENT NarrElemPers (NarrElemPer+)>
<!ELEMENT NarrElemPer (#PCDATA)>
<!--
ce_id must refer to an existing Element ('ce1', 'ce2', etc.)
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
enum type { Fmt5=1, UserNarr=2, EacNarr=3, EacLink=4 }
-->
<!ATTLIST NarrElemPer
ce_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
type (1 | 2 | 3 | 4) #REQUIRED
<!--
EuwtLink
-->
<!ELEMENT EuwtLinks (EuwtLink+)>
<!ELEMENT EuwtLink (WeightID, ThreshID)>
<!--
ce_id must refer to an existing Element ('ce1', 'ce2', etc.)
un_id must refer to an existing Unit ('un1', 'un2', etc.)
-->
<!ATTLIST EuwtLink
ce_id IDREF #REQUIRED
un_id IDREF #REQUIRED
>
<!--
Must refer to an existing Weight record (wt1, wt2, etc.)
-->
<!ELEMENT WeightID EMPTY>
<!ATTLIST WeightID wt_id IDREF #REQUIRED>
<!--
Must refer to an existing Threshold record (th1, th2, etc.)
-->
<!ELEMENT ThreshID EMPTY>
<!ATTLIST ThreshID th_id IDREF #REQUIRED>
<!--
Project
-->
<!ELEMENT Projects (Project+)>
<!ELEMENT Project (
ProjName,
StatusDate,
UserDefValue*
)>
<!--
Prefix ID attribute with 'prj' - e.g. prj1, prj2, etc.
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
-->
<!ATTLIST Project
cd_id IDREF #REQUIRED
id ID #REQUIREd
>
<!ELEMENT ProjName (#PCDATA)>
```

```
<!ELEMENT StatusDate (#PCDATA)>
<!--
Tasks
-->
<!ELEMENT Tasks (Task+)>
<!ELEMENT Task (
UID,
TaskName?,
WbsNum?,
IsSummary?,
IsMilestone?,
IsCritical?,
Duration?,
BaselineDuration?,
ActualDuration?,
RemainingDuration?,
Start?,
Finish?,
ActualStart?,
ActualFinish?,
BaselineStart?,
BaselineFinish?,
EarlyStart?,
EarlyFinish?,
LateStart?,
LateFinish?,
Start1?,
Finish1?,
Start2?,
Finish2?,
Start3?,
Finish3?,
FreeFloat?,
TotalFloat?,
PercentComplete?,
CompleteThrough?,
BaselinePctCmp?,
BaselineCmpThru?,
Slip?,
SlipVal?,
FloatVal?,
NumSlips?,
ColorCode?,
LongestPath?,
LongestPath1?,
LongestPath2?,
LongestPath3?,
FreeFloat1?,
FreeFloat2?,
FreeFloat3?,
TotalFloat1?,
TotalFloat2?,
TotalFloat3?,
Slip1?,
Slip2?,
Slip3?,
```

```
Critical1?,
Critical2?,
Critical3?,
UserDefValue*
)>
<!--
Prefix ID attribute with 't' - e.g. t1, t2, etc.
prj_id must refer to an existing Project ('prj1', 'prj2', etc.)
-->
<!ATTLIST Task
id  ID  #REQUIRED
prj_id  IDREF #REQUIRED
>
<!--
UID is the schedule's unique ID for the task
-->
<!ELEMENT UID (#PCDATA)>
<!ELEMENT TaskName (#PCDATA)>
<!--
For next 3 fields: enum { true='T', false='F' }
-->
<!ELEMENT IsMilestone (#PCDATA)>
<!ELEMENT IsSummary (#PCDATA)>
<!ELEMENT IsCritical (#PCDATA)>
<!--
Enter durations as text in desired format, e.g. 10d
Enter start/finish dates in CCYYMMDD format
-->
<!ELEMENT Duration (#PCDATA)>
<!ELEMENT BaselineDuration (#PCDATA)>
<!ELEMENT ActualDuration (#PCDATA)>
<!ELEMENT RemainingDuration (#PCDATA)>
<!ELEMENT Start (#PCDATA)>
<!ELEMENT Finish (#PCDATA)>
<!ELEMENT ActualStart (#PCDATA)>
<!ELEMENT ActualFinish (#PCDATA)>
<!ELEMENT BaselineStart (#PCDATA)>
<!ELEMENT BaselineFinish (#PCDATA)>
<!ELEMENT EarlyStart (#PCDATA)>
<!ELEMENT EarlyFinish (#PCDATA)>
<!ELEMENT LateStart (#PCDATA)>
<!ELEMENT LateFinish (#PCDATA)>
<!ELEMENT Start1 (#PCDATA)>
<!ELEMENT Finish1 (#PCDATA)>
<!ELEMENT Start2 (#PCDATA)>
<!ELEMENT Finish2 (#PCDATA >
<!ELEMENT Start3 (#PCDATA)>
<!ELEMENT Finish3 (#PCDATA)>
<!--
Enter FreeFloat and TotalFloat as text in format used by scheduling
system
-->
<!ELEMENT FreeFloat (#PCDATA)>
<!ELEMENT TotalFloat (#PCDATA)>
<!ELEMENT PercentComplete (#PCDATA)>
<!ELEMENT CompleteThrough (#PCDATA)>
```

```
<!ELEMENT BaselinePctCmp (#PCDATA)>
<!ELEMENT BaselineCmpThru (#PCDATA)>
<!--
Enter Slip as text in format used by scheduling system
-->
<!ELEMENT Slip (#PCDATA)>
<!--
Enter slip from baseline and total float as numeric values in days
-->
<!ELEMENT SlipVal (#PCDATA)>
<!ELEMENT FloatVal (#PCDATA)>
<!--
Enter number of slips from baseline compared to 3 prior periods (0-3)
(Can be calculated after import by schedule viewer)
-->
<!ELEMENT NumSlips (#PCDATA)>
<!--
enum { red='R', yellow='Y', green='G' } (Can be calculated after
import by schedule viewer)
-->
<!ELEMENT ColorCode (#PCDATA)>
<!--
Enter 'T' if the task is on the longest path through the schedule,
'F' otherwise
-->
<!ELEMENT LongestPath (#PCDATA)>
<!ELEMENT LongestPath1 (#PCDATA)>
<!ELEMENT LongestPath2 (#PCDATA)>
<!ELEMENT LongestPath3 (#PCDATA)>
<!--
Enter as text in the format used by the scheduling system
-->
<!ELEMENT FreeFloat1 (#PCDATA)>
<!ELEMENT FreeFloat2 (#PCDATA)>
<!ELEMENT FreeFloat3 (#PCDATA)>
<!ELEMENT TotalFloat1 (#PCDATA)>
<!ELEMENT TotalFloat2 (#PCDATA)>
<!ELEMENT TotalFloat3 (#PCDATA)>
<!ELEMENT Slip1 (#PCDATA)>
<!ELEMENT Slip2 (#PCDATA)>
<!ELEMENT Slip3 (#PCDATA)>
<!ELEMENT Critical1 (#PCDATA)>
<!ELEMENT Critical2 (#PCDATA)>
<!ELEMENT Critical3 (#PCDATA)>
<!--
TaskLink
-->
<!ELEMENT TaskLinks (TaskLink+)>
<!ELEMENT TaskLink (
LinkVal,
TaskLevel?,
TaskSeq?
)>
<!--
t_id refers to an existing Task ('t1', 't2', etc.)
st_id refers to an existing Structure ('st1', 'st2', etc.)
```

```
-->
<!ATTLIST TaskLink
t_id  IDREF #REQUIRED
st_id IDREF #REQUIRED
>
<!--
(Can be calculated after import by schedule viewer)
-->
<!ELEMENT TaskLevel (#PCDATA)>
<!ELEMENT TaskSeq (#PCDATA)>
<!--
TaskPred
-->
<!ELEMENT TaskPreds (TaskPred+)>
<!ELEMENT TaskPred (
LagVal?,
LagType?
)>
<!--
t_id refers to an existing Task ('t1', 't2', etc.)
pt_id refers to an existing (predecessor) Task ('t1', 't2', etc.)
-->
<!ATTLIST TaskPred
t_id  IDREF #REQUIRED
pt_id IDREF #REQUIRED
>
<!--
Enter LagVal as text in format expected by scheduling system
-->
<!ELEMENT LagVal (#PCDATA)>
<!--
LagType is one of "FS", "SS", "SF", "FF"
-->
<!ELEMENT LagType (#PCDATA)>
<!--
User
-->
<!ELEMENT Users (User+)>
<!ELEMENT User (
UserName,
UserCode?,
Password?,
Prefilter?,
GroupID?,
OSAuth?
)>
<!--
Prefix ID attribute with 'usr' - e.g. usr1, usr2, etc.
-->
<!ATTLIST User id ID #REQUIRED>
<!ELEMENT UserName (#PCDATA)>
<!ELEMENT UserCode (#PCDATA)>
<!ELEMENT Password (#PCDATA)>
<!ELEMENT Prefilter (#PCDATA)>
<!--
Must refer to an existing User record (usr1, usr2, etc.)
```

```
To indicate a user group, set the group ID to the user ID.
-->
<!ELEMENT GroupID EMPTY>
<!ATTLIST GroupID usr_id IDREF #REQUIRED>
<!ELEMENT OSAuth (#PCDATA)>
<!--
UserContract
-->
<!ELEMENT UserContracts (UserContract+)>
<!ELEMENT UserContract (AccessFlag)>
<!--
cc_id must refer to an existing Contract ('cc1', 'cc2', etc.)
usr_id must refer to an existing User ('usr1', 'usr2', etc.)
-->
<!ATTLIST UserContract
cc_id IDREF #REQUIRED
usr_id IDREF #REQUIRED
>
<!--
AccessFlag: 'R' (Read) 'W' (Write), or 'N' (None)
-->
<!ELEMENT AccessFlag (#PCDATA)>
<!--
Beginning of CFSR data elements
-->
<!ELEMENT FundTypes (FundType+)>
<!ELEMENT FundType (
Source,
Approp,
Fy,
FundTypeParentID?,
ElemDesc?,
NumChild?,
ElemLevel?,
ElemSeq?,
ElemHier?
)>
<!--
Prefix ID attribute with 'ft' - e.g. ft1, ft2, etc.
cc_id must refer to an existing Contract ('cc1', 'cc2', etc.)
-->
<!ATTLIST FundType
id ID #REQUIRED
cc_id IDREF #REQUIRED
>
<!ELEMENT ElemID (#PCDATA)>
<!ELEMENT ContrID (#PCDATA)>
<!--
<!ELEMENT Source (#PCDATA)>
<!--
If the FundType element does not have an Appropriation, the value
provided for this element must be '*' i.e., <Approp>*</Approp>
-->
<!ELEMENT Approp (#PCDATA)>
<!--
If the FundType does not have an Fiscal Year, the value provided for
```

```
this element must be '*' i.e., <Fy>*</Fy>
-->
<!ELEMENT Fy (#PCDATA)>
<!--
FundTypeParentID is required except for Level 1 elements.
ft_id must refer to a previously defined element.
-->
<!ELEMENT FundTypeParentID EMPTY>
<!ATTLIST FundTypeParentID ft_id IDREF #REQUIRED>
<!ELEMENT ClinTypes (ClinType+)>
<!ELEMENT ClinType (
Clin
)>
<!--
Prefix ID attribute with 'cl' - e.g. cl1, cl2, etc.
cc_id must refer to an existing Contract ('cc1', 'cc2', etc.)
-->
<!ATTLIST ClinType
id ID #REQUIRED
cc_id IDREF #REQUIRED
>
<!ELEMENT Clin (#PCDATA)>
<!ELEMENT CfsrBlock12Types (CfsrBlock12Type+)>
<!ELEMENT CfsrBlock12Type(
Type
)>
<!--
Prefix ID attribute with 'tp' - e.g. tp1, tp2, etc.
-->
<!ATTLIST CfsrBlock12Type
id ID #REQUIRED
>
<!ELEMENT Type (#PCDATA)>
<!ELEMENT Block11s (Block11+)>
<!ELEMENT Block11 (
AuthFund?,
AccruExp?,
Definit?,
NotDefinit?,
NotAuth?,
OtherWork?,
CarryOver?
)>
<!--
ft_id must refer to an existing FundType ('ft1', 'ft2', etc.)
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
cl_id must refer to an existing ClinType ('cl1', 'cl2', etc.)
-->
<!ATTLIST Block11
ft_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
cl_id IDREF #REQUIRED
>
<!ELEMENT AuthFund (#PCDATA)>
<!ELEMENT AccruExp (#PCDATA)>
<!ELEMENT Definit (#PCDATA)>
```

```
<!ELEMENT NotDefinit (#PCDATA)>
<!ELEMENT NotAuth (#PCDATA)>
<!ELEMENT OtherWork (#PCDATA)>
<!ELEMENT CarryOver (#PCDATA)>
<!ELEMENT Block12s (Block12+)>
<!ELEMENT Block12(
ActToDate?,
Period1?,
Period2?,
Period3?,
Period4?,
Period5?,
Period6?,
Period7?,
Period8?,
Period9?,
Period10?,
Period11?,
Period12?,
Period13?,
Period14?,
AtComplete?
)>
<!--
ft_id must refer to an existing FundType ('ft1', 'ft2', etc.
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
tp_id must refer to an existing CfsrBlock12Type ('tp1', 'tp2', etc.
-->
<!ATTLIST Block12
ft_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
tp_id IDREF #REQUIRED
>
<!ELEMENT ActToDate (#PCDATA)>
<!ELEMENT Period1 (#PCDATA)>
<!ELEMENT Period2 (#PCDATA)>
<!ELEMENT Period3 (#PCDATA)>
<!ELEMENT Period4 (#PCDATA)>
<!ELEMENT Period5 (#PCDATA)>
<!ELEMENT Period6 (#PCDATA)>
<!ELEMENT Period7 (#PCDATA)>
<!ELEMENT Period8 (#PCDATA)>
<!ELEMENT Period9 (#PCDATA)>
<!ELEMENT Period10 (#PCDATA)>
<!ELEMENT Period11 (#PCDATA)>
<!ELEMENT Period12 (#PCDATA)>
<!ELEMENT Period13 (#PCDATA)>
<!ELEMENT Period14 (#PCDATA)>
<!ELEMENT AtComplete (#PCDATA)>
<!ELEMENT CfsrThresholds (CfsrThreshold+)>
<!ELEMENT CfsrThreshold (
ThreshDesc,
TpDolVar?,
TpPerVar?,
TpAndOr?,
NdDolVar?,
```

```
NdPerVar?,
NdAndOr?,
AeDolVar?,
AePerVar?,
AeAndOr?,
AcDolVar?,
AcPerVar?,
AcAndOr?
)>
<!--
Prefix ID attribute with 'ct' - e.g. ct1, ct2, etc.
-->
<!ATTLIST CfsrThreshold
id ID #REQUIRED
>
<!--
xxAndOr: 'A' or 'O',
AND = exceeds Cost AND Sch thresh; OR = Cost OR Sch thresh
-->
<!ELEMENT TpDolVar (#PCDATA)>
<!ELEMENT TpPerVar (#PCDATA)>
<!ELEMENT TpAndOr (#PCDATA)>
<!ELEMENT NdDolVar (#PCDATA)>
<!ELEMENT NdPerVar (#PCDATA)>
<!ELEMENT NdAndOr (#PCDATA)>
<!ELEMENT AeDolVar (#PCDATA)>
<!ELEMENT AePerVar (#PCDATA)>
<!ELEMENT AeAndOr (#PCDATA)>
<!ELEMENT AcDolVar (#PCDATA)>
<!ELEMENT AcPerVar (#PCDATA)>
<!ELEMENT AcAndOr (#PCDATA)>
<!ELEMENT Cfsrs (Cfsr+)>
<!ELEMENT Cfsr (
LastPeriodDate?,
Per1?,
Per2?,
Per3?,
Per4?,
Per5?,
Per6?,
Per7?,
Per8?,
Per9?,
Per10?,
Per11?,
Per12?,
Per13?,
Per14?,
AtComplete
)>?
<!--
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
ct_id must refer to an existing CfsrThreshold ('ct1', 'ct2', etc.)
->
<!ATTLIST Cfsr
cd_id IDREF #REQUIRED
```

```
ct_id IDREF #REQUIRED
>
<!ELEMENT LastPeriodDate (#PCDATA)>
<!ELEMENT Per5 (#PCDATA)>
<!ELEMENT Per6 (#PCDATA)>
<!ELEMENT Per7 (#PCDATA)>
<!ELEMENT Per8 (#PCDATA)>
<!ELEMENT Per9 (#PCDATA)>
<!ELEMENT Per10 (#PCDATA)>
<!ELEMENT Per11 (#PCDATA)>
<!ELEMENT Per12 (#PCDATA)>
<!ELEMENT Per13 (#PCDATA)>
<!ELEMENT Per14 (#PCDATA)>
<!ELEMENT CfsrNarrs (CfsrNarr+)>
<!ELEMENT CfsrNarr (#PCDATA)>
<!--
ft_id must refer to an existing FundType ('ft1', 'ft2', etc.)
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
-->
<!ATTLIST CfsrNarr
ft_id IDREF #REQUIRED
cd_id IDREF #REQUIRED
<!--
OmbMilestones
-->
<!ELEMENT OmbMilestones (OmbMilestone+)>
<!ELEMENT OmbMilestone (
MilesDesc,
BaselineStart?,
BaselineFinish?,
BaselineDur?,
PlannedCost?,
FundingAgency?,
ActualStart?,
ActualFinish?,
ActualPctCmp?,
ActualCost?
)>
<!--
cd_id must refer to an existing Period ('cd1', 'cd2', etc.)
-->
<!ATTLIST OmbMilestone cd_id IDREF #REQUIRED>
<!ELEMENT BaselineDur (#PCDATA)>
<!ELEMENT PlannedCost (#PCDATA)>
<!ELEMENT FundingAgency (#PCDATA)>
<!ELEMENT ActualPctCmp (#PCDATA)>
<!ELEMENT ActualCost (#PCDATA)>
<!--
ElemLink
-->
<!ELEMENT ElemLinks (ElemLink+)>
<!ELEMENT ElemLink EMPTY>
<!--
ce_id must refer to an existing Element ('ce1', 'ce2', etc.)
st_id must refer to an existing Structure ('st1', 'st2', etc.)
tl_id must exist to an existing Element ('ce1', 'ce2', etc.)
```

```
Additional notes:
-The element referred to by ce_id should be a member of the WBS
structure.
-The structure referred to by st_id should NOT be the WBS or
Indirect structure.
-The element referred to by tl_id should be a member of the
structure identified by st_id.
-->
<!ATTLIST ElemLink
ce_id IDREF #REQUIRED
st_id IDREF #REQUIRED
tl_id IDREF #REQUIRED
```

## Data Export in ANSI EIA X12 Format

Use the ANSI EIA X12 process to export project information to applications that support Version 3040 or Version 4010 of ANSI EIA X12 Transaction Set 839 Project Cost Reporting.

The export process generates an ASCII file that can be used to export date to wInsight, Performance Analyzer for Windows, and other applications. The ASCII file is in the ANSI EIA X12 Transaction Set 839 Project Cost Reporting transaction file format.

- Use Version 3040 to generate IPMR Formats 1 and 2
- Use Version 4010 to generate IPMR Formats 1 through 4

The export file includes the following sections:

| Format | Exported Data |
|---|---|
| **Contract data section** | Project details and performance data across the whole project. |
| **Format 1** | Currency performance data related to the code file that is associated with Control Account key field 1. |
| **Format 2** | Currency performance data related to the code file that is associated with Control Account key field 2. |
| **Calendar Set 09** | Cobra collects calendar data, which is required by IPMR Formats 3 and 4 from Calendar Set 09. |
| **Format 3** | Baseline data, including the following:<br>▪ Beginning of Period Baseline data<br>▪ Baseline changes<br>▪ End of Period Baseline data |
| **Format 4** | Hour data related to the code file that is associated with the second control account key |

| Format | Exported Data |
|---|---|
| | field (CA2). Cobra exports this data in two parts:<br>▪ **Manpower budget at complete (BAC)**: Manpower data related to costs defined in the budget cost set<br>▪ **Forecast or latest revised estimate (LRE)**: Manpower data related to costs defined in the ETC cost set |

You can also run the ANSI EIA X12 process through the API.

### ANSI EIA X12 Wizard

Use the ANSI EIA X12 Wizard to create an ASCII file in the ANSI EIA X12 Transaction Set 839 Project Cost Reporting transaction file format.

The ANSI EIA X12 Wizard steps you through the process of selecting a project to export and configuring the export file.

*Project Selection Page of the ANSI EIA X12 Wizard*

Use this page to select the project whose data you want to export.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select the name of the project whose data you want to export. You must have at least read permission to the project.<br>You can enter or select a master project.<br>When you select a project in the **Projects** pane before you launch the ANSI EIA X12 Wizard, the selected project becomes the default value for the **Project** field. |

*Export Structures Page of the ANSI EIA X12 Wizard*

Use this page to define the structures you want to use when exporting data.

**Contents**

| Field | Description |
|---|---|
| **WBS** | Use this field to select a code prompt of the control account . |
| **OBS** | Use this field to select a code prompt of the control account. |

| Field | Description |
|---|---|
| **Export Level** | Use this field to select one of the following options for exporting data:<br>▪ **Level 3**: Select this option if you want to export data summarized at the third level of the code file. If there is a control account associated with a second or first level code of the structure, performance data is exported at that level. Summarized data is generated to satisfy customer requirements.<br>▪ **Control Account**: Select this option if you want to export data at the control account level. This level of information is used by a CAM to analyze this data in other applications.<br>▪ **Work Package**: Select this option if you want to export data at the work package level. If actual costs are collected at the work package level and the work package ID is a code of the WBS (for example, the WP and CA1 key fields are validated against the same code file), then Format 2 is exported at the control account level.<br>The **Work Package** option is enabled only if there is a structure validating the work package key and if actual costs are at the work package level. |

*Project Officer Codes Page of the ANSI EIA X12 Wizard*

Use this page to specify the Cobra code that contains project officer information for the WBS and OBS.

**Contents**

| Field | Description |
|---|---|
| **WBS Project Officer is located in code** | Use this field to select a code field prompt assigned to the WBS structure specified on the Export Structures page, or a prompt for the control account manager field. |
| **OBS Project Officer is located in code** | Use this field to select a code field prompt assigned to the OBS structure specified on the Export Structures page, or a prompt for the control account manager field. |

*Results Page of the ANSI EIA X12 Wizard*

Use this page to set options for Overhead, General and Administration, and Cost of Money information, and to determine where specific results appear in the ANSI EIA X12 data.

**Contents**

| Field | Description |
|---|---|
| **Include in body** | Select this checkbox to export results with the defined result code to be exported as part of the earned value data for each code in the exported structures. These costs are included with the code's direct costs. |

| Field | Description |
|---|---|
| **Include in bottom line** | Select this checkbox to export the Overhead, Cost of Money, and General and Administration values separated from the individual elements.<br>Selecting both the **Include in body** and **Include in bottom line** checkboxes includes the costs in the body with the individual WBS and OBS codes, and also includes them as separated values summarized for all WBS and OBS codes. |

*Options Page of the ANSI EIA X12 Wizard*

Use this page to select from many different options for defining the content of the ANSI EIA X12 export.

**Contents**

| Field | Description |
|---|---|
| **wInsight Extended Data** | Use these options to export data to wInsight. wInsight has an extended set of data, which is supported by transaction set version 4010. The extended data set includes the control account manager and project officer, hourly data, and future monthly budget and ETC.<br>▪ **Export wInsight Extended Data**: Select this checkbox to export wInsight extended data.<br>  ▪ **Export Variance Narrative Data**: Select this checkbox to export IPMR Format 5, using all categories of the narrative for every WBS code.<br>  ▪ **Export CSSR Data**: Select this checkbox to export only the CSSR data.<br>  ▪ **Export CAM field**: Select this checkbox to exclude the **CAM** field from the export. Select this checkbox only if you are exporting wInsight Extended Data. |
| **Transaction Set Version** | Use this field to select the version of the ANSI EIA X12 Transaction Set 839 that you want to use to export project data.<br>▪ **Version 3040**: Select this option to export IPMR Formats 1 and 2.<br>▪ **Version 4010**: Select this option to export IPMR Formats 1, 2, 3, and 4.<br>Cobra also exports Format 5 if you select the Export Variance Narrative Data checkbox. |
| **Manpower Units** | Select the unit for measuring manpower.<br>▪ **Hours**: Select this checkbox to create the IPMR Format 4 using hours. The result code H in the resource assignment file defines the hour result. |

| Field | Description |
|---|---|
| | ▪ **FTE**: Select this checkbox to calculate an average head count using the productive hours in the fiscal calendar. The CAP_FTE report provides the same values. The result code F in the resource assignment file defines the FTE result.<br>▪ **Aggregated FTEs**: Select this checkbox to summarize the FTE result data. The result code F on the resource assignment file defines the FTE result.<br>▪ This option should not be used for projects that use the rolling wave or any time phasing process aside from the monthly time phase because the aggregated values are calculated as if you ran a CAP report and selected the FTE result and calendar 9. This summarizes the weekly data and exaggerates the monthly FTE by the number of weeks in the month. |
| **Enforce consecutive forecast periods** | Select this checkbox if the analysis tool you are using requires consecutive monthly data for forecast periods.<br>If you do not select this checkbox, Cobra summarizes weekly data in monthly periods. |
| **Use yyyymmdd for dates instead of yymmdd** | Select this checkbox to use the 4-character year format for date information. |
| **Filter unused elements of the structure** | Select this checkbox to exclude unused WBS/OBS codes from the export. |

*Export Page of the ANSI EIA X12 Wizard*

Use this page to specify the file name and location of the exported data. By default, the exported data is saved under the filename <projectname>.trn in the Cobra directory.

**Contents**

| Field | Description |
|---|---|
| **Export To** | Use this field to select a different location and name if you do not want to use the default values for the exported data. |

*Confirmation Page of the ANSI EIA X12 Wizard*

This page informs you that Cobra has all the information that it needs to run the process of exporting data in ANSI EIA X12 format.

If you need to double-check the information that you entered on any of the previous pages of the wizard, click **Back** until that page displays. When you are sure that all the information is correct, click **Finish** to start the process.

*Process Running Page of the ANSI EIA X12 Wizard*

This page displays the progress status while Cobra exports data in ANSI EIA X12 format.

*Process Complete Page of the ANSI EIA X12 Wizard*

This page displays information about the status of exporting data in ANSI EIA X12 format.

Click the **View Log** button to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the ANSI EIA X12 process.

*Export Data in ANSI EIA X12 Format*

Use the ANSI EIA X12 Wizard to export data from Cobra to other applications in ANSI EIA X12 format.

**To export data using the ANSI EIA X12 Wizard:**

1. In the **Export** group on the Integration tab, click **ANSI EIA X12**.
2. Complete the pages of the ANSI EIA X12 Wizard to export data from Cobra to other application in ANSI EIA X12 format.

# Tools

Cobra provides a number of tools related to project-wide functions.

## Align Time-phased Dates

The Align Time-phased Dates process is designed to adjust time-phased resource record dates to make sure they match the dates in the modified fiscal calendar.

Cobra stores time-phased resource information for a project in the time-phased table. Generally, each record in the time-phased table corresponds with a period in the fiscal calendar. When the periods in the fiscal calendar are adjusted, the link between the periods in the fiscal calendar and the time-phased resources in the time-phased table can become invalid. This prevents Cobra from performing the correct summarization.

Cobra adjusts time-phased resource record dates to make sure they match the dates in the modified fiscal calendar by comparing the fiscal calendar containing the original dates used by the project and the current fiscal calendar assigned to the project containing the modified dates to establish which dates need to be changed, and updates the time-phased resources accordingly.

### New Period Dates Later than Old Period Dates

The following principles apply to new period dates which have been moved to date later than the old period date:

#### Budget Data

If adjusting the time-phased date would result in the record falling after the control account/work package end date, the values in the time-phased record are added to the control account/work package end date record and the old record is deleted.

#### Forecast Data

If adjusting the time-phased date would result in the record falling after the control account/work package estimate end date, the values in the time-phased record are added to the forecast end date record and the old time-phased record is deleted. The process checks which estimate dates are used by the forecast data to establish the end date (schedule, early or late).

#### Actuals and Earned Value Data

Actuals and earned value records always fall on the period date, so period dates are adjusted based on the new dates.

#### Frozen Forecast Data

Frozen forecasts are not altered.

### New Period Dates Earlier than Old Period Dates

When a new period is made earlier than the original period, the results can be an undesirable change to the data spread. Consider the following example:

Original setup with Sep 30 and Oct 30 periods and WP ends on Oct 29 with 100 hours for Sep and Oct periods.

The time-phased spread is as follows:

| **Sep 30** | **Oct 29** |
|---|---|
| 100 hrs | 100 hrs |

New setup with Sep 30 and Oct 28 periods and WP still ends on Oct 29.

When you view the time-phased table or run a report, Oct 28 displays a zero-value period.

| **Sep 30** | **Oct 28** | **Oct 29** | |
|---|---|---|---|
| 100 hrs | 0 hrs | 100 hrs | |

The process resolves this problem by changing the date on the last record to match the new period date. When viewing time-phased data, the original spread will be maintained and a zero-value period is added to the end of the spread, as follows:

| **Sep 30** | **Oct 28** | **Oct 29** | |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 100 hrs | 100 hrs | 0 hrs | |

The following additional principles also apply:

- **Budget Data**: The process compares the last period's date against the control account or work package scheduled finish date and makes the above adjustment as necessary.
- **Actuals and Earned Value**: Actuals and earned value data are not affected by this issue because these records always fall on period dates.
- **Frozen Forecasts**: No changes are made to frozen forecast data.

Use the Align Time-phased Dates Wizard when there is a change in the fiscal calendar of a project. To secure access to this wizard, click **Tools** » **Align Time-Phased Dates** in the EPM SA tool. You must create a new calendar with the new dates and assign it to the project before running this wizard.

The Align Time-phased Dates Wizard will adjust the time-phased resource records on the project and align them with the new calendar. Take note of the following before you run this wizard:

- The original and current calendars must have the same number of periods; otherwise, Cobra will display a warning message and the process will not run.
- You cannot move a period date earlier than the end of the previous period, or later than the end of the following period. If you do, Cobra will display a warning message and will not change any project data. For example, you have an original calendar with the last three periods as follows:

  30 Sep 2002

  30 Oct 2002

  30 Nov 2002

Assuming you change 30 Oct 2002 to 02 Dec 2002 and 30 Nov 2002 to 10 Jan 2003. The new date for 30 Oct 2002 is past the date for the following original period: 30 Nov 2002. In this scenario, the Align Time-phased Dates process will not continue and Cobra will display a list of invalid dates in the log.

## Align Time-phased Dates Wizard

To align the time-phased dates, you must complete the information required on each page of the Align Time-phased Dates Wizard.

### Project Selection Page of the Align Time-phased Dates Wizard

Use this page to select the project containing the time-phased resources that you want to align with the modified fiscal calendar.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>This field defaults to the selected project in your current view, depending on where you launch the it (Explorer view or Project view.)<br>The Project Lookup dialog box does not display master projects. Only projects which you have write-access to are displayed. |

### Original Calendar Page of the Align Time-phased Dates Wizard

Use this page to select the calendar file originally associated with the project.

**Contents**

| Field | Description |
|---|---|
| **Project Calendar** | This field displays the current fiscal calendar associated with the project selected on the Project Selection page. |
| **Original Calendar** | Use this field to select the original fiscal calendar associated with the project selected on the Project Selection page. You must have read access to both calendars at minimum to run the process. |

### Confirmation Page of the Align Time-phased Dates Wizard

This page informs you that Cobra has all the information it needs to align time-phased dates.

If you need to double check the information you entered on any of the previous pages of the wizard, click Back until that page displays.

When you are sure that all the information is correct, click **Finish** to start the process.

### Process Running Page of the Align Time-phased Dates Wizard

This page displays the progress status while Cobra aligns the time-phased dates.

### Process Complete Page of the Align Time-phased Dates Wizard

This page informs you that Cobra has completed aligning the time-phased dates.

## Procedures

Follow the procedures in this section to utilize the Align Time-phased Dates process.

### Align Time phased Resource Records

Use the Align Time-phased Dates Wizard to adjust time-phased resource records on the project and align them with the new calendar.

**To align time-phased resource records:**

1. In the **Tools** group on the Tools tab, click **Align Time-Phased Dates**.
2. Use the pages of the Align Time-phased Dates Wizard to align the time-phased resource records on the project with the new calendar.

# Zero-Out Data

Cobra provides the ability to set budget, forecast, progress, or actual time-phased resource values to zero without deleting the class through the Zero-Out Data Wizard.

This allows you to easily delete a proposed change or forecast without having to delete the class. Similarly, since the wizard allows you to pick a time period, this is an easy way to delete the budget, forecast, progress, or actual costs loaded for the current period. The values in the time-phased records are changed to zero based on the selected criteria. The resource assignment totals are updated to reflect the new time-phased amount.

To secure access to the wizard, click **Tools** » **Zero-Out Data** in the EPM Security Administrator tool.

Using the Zero-Out Data process, you can zero out values of in-progress or completed control accounts and work packages, and delete resources with zero values when deleting all periods. After processing, you can also run the Update Totals process.

The options selected when running this process override the project level options for loading budget, forecast, progress, or actual selected on the Project Preferences tab of the Project Properties dialog box.

You can run this process on any of the following portions of a project:

- Total project
- Control account
- Work package (with Selection)
- Control Account key fields

- Work Package key field

## Zero-Out Data Wizard

To set the time-phased resource values of a selected budget, forecast, progress, or actual class to zero, you must complete the information required on each page of the Zero-Out Data Wizard.

### Project Selection Page of the Zero-Out Data Wizard

Use this page to select the project that you want to set the budget, forecast, progress, or actual time-phased resource values to zero.

**Content**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>The field defaults to the selected project in your current view, depending on where you launch the wizard (Explorer or Project view.)<br>The Project Lookup dialog box also displays master projects. If you select a master project, the Project Lookup dialog box displays the classes in the master project on the Classes page.<br>Click **Next** to go to the next page of the wizard. |

### Options Page of the Zero-Out Data Wizard

Use this page to select the option you want to use when running the Zero-Out Data process.

The options selected on this page will override the project level options for loading budget, forecast, progress, or actual selected on the Project Preferences tab of the Project Properties dialog box.

**Contents**

| Field | Description |
|---|---|
| **Allow zeroing out completed control accounts and work packages** | Select this option to set the values of the completed control accounts and work packages to zero. |
| **Allow zeroing out in-progress control accounts and work packages** | Select this option to set the values of the in-progress control accounts and work packages to zero. |

| Field | Description |
|---|---|
| **Delete zero value resources when deleting all periods** | Select this option to delete all resources with zero values when deleting all periods. |
| **Update Totals after processing** | Select this option to run the Update Totals process after completing the Zero-Out Data process.<br>If this option is selected, and the **Scale Retain EAC** field on the Forecast Preferences tab of the Project Properties dialog box is not set to **None**, Cobra displays the Scale Retain EAC dialog box asking if the EAC values will be included in the Update Totals process. The same dialog box displays when you run the Update Totals Wizard in the same condition. |

### Criteria Selection Page of the Zero-Out Data Wizard

Use this page to select the criteria for running the Zero-Out Data process.

**Contents**

| Field | Description |
|---|---|
| **Criteria** | Use this field to select one of the following options:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ WBS<br>▪ OBS<br>▪ WP<br>▪ Resource Assignment |
| **Selection** | This field is available only if you select a criterion other than **Total Project** in the **Criteria** field. Click ... to display the dialog box that lists all valid options based on the selected criterion.<br>For example, if you select **Control Account** in the **Criteria** field, the Control Account Lookup dialog box displays, showing all control accounts used in the selected project. |
| **Include all children** | Selecting this option selects all of the child nodes of the code you select in the **Selection** field. This option is available only if you select **WBS** or **OBS** in the **Criteria** field. |

### Classes Page of the Zero-Out Data Wizard

Use this page to select a class to which you want to run the Zero-Out Data process.

This page only displays classes for which you have update access.

Select the checkbox header to include all classes in the process and clear the checkbox header to deselect all classes you previously selected.

### Date Range Page of the Zero-Out Data Wizard

Use this page to select the date range to which you want to run the Zero-Out Data process.

**Contents**

| Field | Description |
|---|---|
| **Zero-out all periods in your project** | Select this option to set all of the periods of the entire project to zero. |
| **Zero-out values in a specific date range** | Select this option to run the Zero-Out Data process for a specific date range.<br>Use the **From** and **To** fields to enter or select the start and end dates of the date range.<br>▪ **From**: The selected label determines the start date used during the process. The date used is determined by the previous calendar label plus one day, or more specifically, the beginning of the selected period.<br>▪ **To**: The date in the fiscal calendar that corresponds to the selected label is used as the end date.<br>Cobra displays an error if the date in the **To** field is earlier than the date in the **From** field. If both dates in the **From** and **To** fields are the first period in the calendar, both the start and end dates are the first dates in the calendar.<br>**Note:** The Date Lookup dialog box displays the calendar period labels for calendar set 00.<br>For a better understanding of the many ways date ranges are used, refer to the sample project data and table below.<br>**Sample Project Data**<br>▪ The calendar is one year long, starting 2022-DEC-31 and ending 2023-DEC-31.<br>▪ The first date in calendar set 00 is 2022-DEC-31.<br>▪ The last date in calendar set 00 is 2023-DEC-31.<br>▪ Fiscal periods all end on the last day of the month. |

| Field | Description |
|---|---|
| | ▪ Labels are MMMYYYY (for example, MAR2023). |

| Scenario | Expected Behavior |
|---|---|
| When you select the first period end date in the fiscal calendar in the **From** field (or **To** field) | Assuming you select DEC2022, as this is the very first day of the project, there is no previous period in the calendar. Therefore, Cobra will use 2022-DEC-31. |
| When you select the same period label for both the **From** and **To** fields | Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = MAR2023**: Cobra will use the previous calendar period, which is 2023-FEB-28, and add one day, so it will use 2023-MAR-01.<br>▪ **To Field Date = MAR2023**: Cobra will use the date from the MAR2023 calendar period, which is 2023-MAR-31. |
| When you select different labels in the **From** and **To** fields | Cobra will use the date from the previous calendar period, add one day, and use that as the **From** field date. The **To** field date will match the calendar date of the selected label.<br>For example:<br>▪ **From Field Date = FEB2023**: Cobra will use the previous calendar period, which is 2023-JAN-31, and add one day, so it will use 2023-FEB-01.<br>▪ **To Field Date = JUN2023**: Cobra will use the date from the JUN2023 calendar period, which is 2023-JUN-30. |
| When you select a label in the **To** field that is prior to the selected label in the **From** field | Cobra will display a validation message, as this scenario is not allowed. |

### Confirmation Page of the Zero-Out Data Wizard

This page informs you that Cobra has all the information it needs to run the Zero-Out Data process.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays.

When you are sure that all the information is correct, click **Finish** to start the process.

### Process Running Page of the Zero-Out Data Wizard

This page displays the progress status while Cobra zeroes out the values of the selected class.

### Process Complete Page of the Zero-Out Data Wizard

This page informs you that Cobra has completed zeroing out the values of the selected class.

## Procedures

Follow the procedures in this section to utilize the Zero-Out Data process.

### Set Resource Values to Zero

Use the Zero-Out Data Wizard to set the time-phased resource values of a selected budget, forecast, progress, or actual class to zero based on the selected criteria.

**To set resource values to zero:**

1. In the **Tools** group on the Tools tab, click **Zero-Out Data**.
2. Use the pages of the Zero-Out Data Wizard to set the time-phased resource values of a selected budget, forecast, progress, or actual class to zero.

# Update Codes

Cobra provides the ability to quickly populate a code field on multiple records with a single value through the Update Codes process.

Use the Update Codes Wizard to update any of the code fields on a Cobra project with a specified value based on the criteria you selected. To secure access to this wizard, click **Tools** » **Update Codes** in the EPM SA tool.

# Update Codes Wizard

To populate a code field on multiple records with a single value, you must complete the information required on each page of the Update Codes Wizard.

## Project Selection Page of the Update Codes Wizard

Use this page to select the project that you want to populate a code field on multiple records with a single value.

### Content

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a prpject.<br>This field defaults to the selected project in your current view, depending on where you launch the Update Codes Wizard (Explorer or Project view.)<br>The Project Lookup dialog box also displays master projects. If you select a master project, the Project Lookup dialog box displays the files, key fields, and codes associated with the master project. Only projects and master projects to which you have write access are displayed.<br>Click **Next** to go the next page of the wizard. |

## Criteria Selection Page of the Update Codes Wizard

Use this page to select the criteria for running the Update Codes process.

### Contents

| Field | Description |
|---|---|
| **Criteria** | Use this field to select the criteria by which to filter the data. You can select any of the following options:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignments<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM |

| Field | Description |
|---|---|
| | ▪ Work Package Manager<br>Take note of the following when you select **Control Account Key Fields** in the **Criteria** field:<br>▪ Cobra displays the key fields being used and the corresponding label for each key field.<br>▪ You can select a value for each key field.<br>▪ Values not populated will be considered a wild card instead of a blank selection.<br>▪ Cobra populates a value for at least one key field. If all key fields are not populated, Cobra displays a message informing the user to select at least one key field. |
| **Selection** | This field is available only if you select a criterion other than **Total Project** in the**Criteria** field. Click ... to display the dialog box that lists all valid options based on the selected criterion. For example, if you select **Control Account** in the **Criteria** field, the Control Account Lookup dialog box displays, showing all control accounts used in the selected project. |
| **Include all children** | Select this option to instruct Cobra to run the Update Codes process against the code fields that use the selected code and its children. |

### Update Code Page of the Update Codes Wizard

Use this page to select the code field to be updated and enter the value of the code field.

**Contents**

| Field | Description |
|---|---|
| **Update Code fFeld** | Use this field to select one of the following options:<br>▪ Control Account Codes<br>▪ CAM<br>▪ Work Package Codes<br>▪ Resource Assignment Codes<br>Cobra only displays code fields configured for the current project. If a code is validated, you can select it from the **Update Code field** field regardless of your access rights to the validating code file. |
| **Only update empty fields** | Select this option to update empty code fields only. |

| Field | Description |
|---|---|
| **Value** | Use this field to enter the value of the code field. Leaving this field blank clears the values on the selected code field.<br>If the selected code field is validated, the Value Lookup dialog box displays the list of elements in the validating structure.<br>If the selected code field is not validated, the Value lookup dialog box displays the list of existing values for the code field. You can also enter any value in the field. |

### Confirmation Page of the Update Codes Wizard

This page informs you that Cobra has all the information it needs to run the Update Codes process.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays.

When you are sure that all the information is correct, click **Finish** to start the process.

### Process Running Page of the Update Codes Wizard

This page displays the progress status while Cobra populates a code field on multiple records with a single value.

### Process Complete Page of the Update Codes Wizard

This page informs you that Cobra has completed updating the code fields on the project.

## Procedures

Follow the procedures in this section to utilize the Update Codes process.

### Update the Code Fields

Use the Update Codes Wizard to update any of the code fields on a Cobra project with a specified value based on the criteria you selected.

**To populate a code field on multiple records with a single value:**

1. In the **Tools** group on the Tools tab, click **Update Codes**.
2. Use the Update Codes Wizard pages to update any of the code fields with a specified value.

# Replace Resources

Use the Replace Resources process to replace one resource with another, provided that the new resource is included in the resource file. You can also merge several resources into a single resource.

You can either replace resources one at a time, or you can merge multiple resources into a single resource using a comma delimited (.csv) file or Excel (.xls) file.

If you use the file method, the file must contain two columns: one for the original resources and one for the replacement resources. In the following example, AERO1 and AERO2 would be merged into AERO, and MECH would be replaced with MECHENG:

| AERO1 | AERO |
|---|---|
| AERO2 | AERO |
| MECH | MECHENG |

When performing the resource replacement/merge process, if a resource with the same name as the new resource exists for a particular control account or work package/class combination, Cobra will combine the old data with the new resource name. If there is no existing data, the old data will be renamed to the new.

Because this process just renames and combines resources, the following conditions exist:

- You must run the Recalc Wizard after using the Replace Resources Wizard if the new resource definition references different rates and/or different results. This is necessary since the resource replacement process does not perform calculations on the combined/renamed data.
- Adjustments to the current period may occur the next time you calculate earned value since the resource replacement process does not recalculate earned value for merged resource data for work packages in progress or complete.
- You must run the Apportionment Calculations Wizard since the resource replacement process does not perform calculations on the combined/renamed data.

## Replace Resources Wizard

To replace a resource with another resource or to merge multiple resources into a single resource, you must complete the information required on each page of the Replace Resources Wizard.

### Project Selection Page of the Replace Resources Wizard

Use this page to select the project containing the resources that you want to replace.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project. |

| Field | Description |
|---|---|
| | The Project Lookup dialog box displays only those projects to which you have write access. |

### Resource Selection Page of the Replace Resources Wizard

Use this page to select the resource that you want to replace and the resource that you will replace it with.

**Contents**

| Field | Description |
|---|---|
| **Single Resource** | Select this option to replace resources one at a time. Selecting this option enables the following fields:<br>▪ **Original**: Click ... to display the Resource Lookup dialog box, where you can select the resource that you want to replace.<br>▪ **Replace With**: Click ... to display the Resource Lookup dialog box, where you can select the resource that you want to use as replacement for the resource that you selected in the **Original** field. |
| **Resources from File** | Select this option to specify the .xls or .csv file that Cobra will use to replace multiple resources. Selecting this option enables the following field:<br>▪ **File**: Click ... and use the Open dialog box to locate the .xls or .csv file that contains the list of original and replacement resources. |

### Confirmation Page of the Replace Resources Wizard

This page informs you that Cobra has all the information it needs to replace/merge resources.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays.
When you are sure that all the information is correct, click **Finish** to complete the process.

### Process Running Page of the Replace Resources Wizard

This page displays the progress status while Cobra replaces the resources.

### Process Complete Page of the Replace Resources Wizard

This page informs you that Cobra has completed replacing the resources for the selected project.

Click **View Log** to display processing and any error information.

## Procedures

Follow the procedures in this section to utilize the Replace Resources process.

### Replace or Merge Resources

Use the Replace Resources Wizard to replace a resource with another resource or to merge multiple resources into a single resource.

- You must run the Recalc Wizard after using the Replace Resources Wizard if the new resource definition references different rates and/or different results. This is necessary since the resource replacement process does not perform calculations on the combined/renamed data.
- You must run the Apportionment Calculations Wizard after using the Replace Resources Wizard since the resource replacement process does not perform calculations on the combined/renamed data.

**To replace or merge resources:**

1. In the **Tools** group on the Tools tab, click **Replace Resources**.
2. Use the Replace Resources Wizard pages to replace a resource with another resource or to merge multiple resources into a single resource.

# Calculated Fields

You can create calculated fields in Cobra to perform arithmetic operations (such as add, subtract, mutiply and divide) in the Spreadsheet pane the Project view.

To secure access to the Calculated Fields dialog box click **Tools** » **Calculated Fields** in the EPM SA tool.

## Calculated Fields Dialog Box

The Calculated Fields dialog box displays tables where the calculated field can be associated with or created.

**Contents**

| Field | Description |
|---|---|
| **Display for** | Use this field to display the tables where you can associate with or create the calculated fields.<br>**Note:** This field is currently disabled and defaults to **Control Account/ Work Package**. Cobra only allows you to add calculated fields for control accounts and work packages displayed in the Spreadsheet pane of the Project view. |

| Field | Description |
|---|---|
| **Calculated Field List** | This list displays the existing calculated fields that are associated with the selected table in the **Display for** list. The values displayed are actual database values.<br>**Note:** There is no limit to the number of calculated fields that you can create. |
| **New** | Click this button to display the New Calculated Field dialog box. |
| **Copy** | Click this button to display the Calculated Field Expression dialog box. |
| **Edit** | Click this button to display the Calculated Field Expression dialog box and edit the expression. |
| **Delete** | Click this button to delete the selected calculated field. |

## New Calculated Field Dialog Box

Use the New Calculated Field dialog box to create a new calculated field.

### Contents

| Field | Description |
|---|---|
| **Name** | Use this field to assign a name to the calculated field you are creating. |
| **Applies to Table** | Use this field to display the tables where you can create or associate with the calculated fields.<br>**Note:** This field is currently disabled and defaults to **Control Account/Work Package**. Cobra only allows you to add calculated fields for control accounts and work packages displayed in the Spreadsheet pane of the Project view. |

## Calculated Field Expression Dialog Box

Use the Calculated Field Expression dialog box to create the calculated field expression.

### Contents

| Field | Description |
|---|---|
| **Name** | This field is read-only and displays the name of the field entered in the New Calculated Field dialog box. |
| **Expression** | Use this field to create the expression. |

| Field | Description |
|---|---|
| | ▪ The expression may contain mathematical operators:<br>▪ Add (+)<br>▪ Subtract (-)<br>▪ Multiply (*)<br>▪ Divide (/)<br>▪ Group (( ))<br>▪ The expression may contain any property from the **Applies to Table** field that has a numeric data type.<br>▪ Mathematical operators are evaluated according to the normal rules of precedence:<br>▪ Cobra performs grouping operations before multiplication and division operations.<br>▪ Cobra performs multiplication and division operations before addition and subtraction operations. |
| **Applies to Table** | This field is read-only and displays the value selected in the New Calculated Field dialog box. |
| **Data Type** | Use this field to select the data type.<br>Your options are:<br>▪ Integer<br>▪ Decimal<br>**Note:** This field does not filter the fields displayed in the Fields dialog box. Cobra allows you to select integer and decimal data types; nullable data types will be supported in future releases. |
| **Currency** | This checkbox is currently not in use but will be required in future releases. |
| **Fields** | Click this button to display the Fields dialog box. |

## Fields Dialog Box

Use the Fields dialog box to select a field that you can use in the field expression.

The Fields dialog box only displays **NUMERIC** columns that belong to the selected table in the **Applies to Table** field in the Calculated Field Expression dialog box. You can only select one field at a time.

## Considerations When Creating Field Names

Cobra allows you to define multiple field names in a calculation.

When creating field names in Cobra, consider the following rules:

- Field names may contain only alphanumeric values.
- Field names may not contain special characters.
- Field names may not contain spaces.
- Field names may not exceed 59 characters.

## Procedures

Follow the procedures in this section to utilize the Calculated Fields feature.

### Display the Calculated Fields Dialog Box

**To display the Calculated Fields dialog box:**

In the **Custom Fields** group on the Tools tab, click **Calculated Fields**.

### Display the New Calculated Field Dialog Box

**To display the New Calculated Field dialog box:**

1. In the **Custom Fields** group on the Tools tab, click **Calculated Fields**.
2. Click **New**.

### Display the Calculated Field Expression Dialog Box

**To display the Calculated Field Expression dialog box:**

1. In the **Custom Fields** group on the Tools tab, click **Calculated Fields**.
2. Click **New**.
3. In the New Calculated Field dialog box, enter the name of the field and click **OK**.

### Display the Fields Dialog Box

**To display the Fields dialog box:**

1. In the **Custom Fields** group on the Tools tab, click **Calculated Fields**.
2. Click **New**.
3. In the New Calculated Field dialog box, enter the name of the field and click **OK**.
4. In the Calculated Field Expression dialog box, click **Fields**.

### Create Calculated Fields

Create calculated fields in Cobra to perform arithmetic operations in the Spreadsheet pane of the Project view.

**To create calculated fields:**

1. Display the Calculated Fields dialog box and click **New**.
2. In the New Calculated Field dialog box, enter a name for the field and click **OK**.
3. In the **Expression** field in the Calculated Field Expression dialog box, create the expression using the mathematical operators and fields.
4. Click **Fields** to display the Fields dialog box and select a field that you can use in the field expression and click **OK**.

   The field is now added to the Calculated Fields list.
5. Close the Calculated Fields dialog box.

   You can now select this field in the **Field Name** list in the Insert Column dialog box when you right-click the column heading in the Spreadsheet pane of the Project view.

## Update Totals

The Update Totals feature allows you to total the values from the detail resource records to ensure that the summary data displays correctly at the work package, control account, and project levels for all cost sets.

Cobra uses the project values Budget, Earned Value, Actual Costs, and Forecast for a variety of purposes, including the calculation of performance factors for automatic forecasting. These values are defined by the budget classes specified as Budget, the performance cost class, and the actual cost classes specified as Actual Costs. They are displayed in the Project view.

> **Note:** Your Project view may not use the names Budget and Actual Costs depending upon which earned value notation you configured Cobra to use in the General Tab of the Application Preferences Dialog Box.

Each time you enter the appropriate information through the standard data entry screens, Cobra automatically updates these values. However, it is possible that data entered through an alternative means (for example, during an external updating procedure) may result in one or more of the values no longer being accurate. Cobra provides the Update Totals utility so that you can total Budget, Earned Value, Actual Costs, and Forecast amounts to ensure that the stored summary values are valid.

If you notice a difference from the values on a CAP report and the value in the Project view , use the Update Totals utility to ensure that the values in the Project view correctly represent the values in the tables. In addition, Cobra assumes that budget before the status date will remain constant. Therefore, the cumulative to date budget is only calculated when the calendar is advanced. Thus, if you change budget before the status date, you must use this utility to update the Budget value.

If you use the option to scale Forecast, Cobra will prompt you to recalculate Forecast.

You can also run the Update Totals process through the API and the Cobra Web Service.

# Update Totals Wizard

To sum up the values from the detailed resource records, you must complete the information required on each page of the Update Totals Wizard.

## Project Selection Page of the Update Totals Wizard

Use this page to select the project that you want to update totals for.

The Update Totals feature enables you to total the values from the detail resource records to ensure that the summary data displays correctly at the Work Package, Control Account, and project levels for all cost sets. .

### Content

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select a project.<br>The Project Lookup dialog box displays only those projects that you are permitted to access. |

## Confirmation Page of the Update Totals Wizard

This page informs you that Cobra has all the information it needs to update totals.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until the desired page displays.

When you are sure that all the information is correct, click **Finish** to complete the process.

## Process Running Page of the Update Totals Wizard

This page displays the progress status while Cobra updates the totals.

## Process Complete Page of the Update Totals Wizard

The page informs you that Cobra has completed updating the totals.

Click **View Log** to display processing and any error information.

### Procedures

Follow the procedures in this section to utilize the Update Totals process.

#### Update Totals

Use the Update Totals Wizard to sum up the values from the detailed resource records and to ensure that Cobra displays summary data correctly at the work package, control account, and project levels for all cost sets.

**To update totals:**

1. Display the Update Totals Wizard by completing one of the following actions:
   - In the **Data** group on the Tools tab, click **Update Totals**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Update Totals** on the shortcut menu.
2. Use the Update Totals Wizard pages to sum up the values from the detailed resource records.

## SQL Command Utility

The SQL Command Utility is a powerful export and global update utility that enables you to run SQL commands and scripts against Cobra tables.

SQL is an ANSI standard computer language for accessing and manipulating databases.

For example, this SQL command returns all of the data in the CAWP table:

```
SELECT * FROM CAWP
```

This statement would return all of the data found in the CAWP table.

In addition, once a select script has been run, you can choose to save the selection criteria to one of the following file formats:

- CSV
- XLS

**Note:** The SQL Command Utility can perform all of the tasks associated with exporting ancillary data. In addition, this utility enables you to restrict the data exported. For example, you could choose to export all rates from a specific date onwards.

There are several sample scripts shipped with Cobra, for example, BDNLeg.SQL. These scripts can be found in the Cobra\Samples\Scripts folder. Most of the scripts found in this folder must be modified to work with your data. For example, many scripts contain the following:

```
WHERE PROGRAM = 'DEMOADV'
```

**DEMOADV** must be changed to your program name in order for the script to work properly.

The following list describes a few of the scripts found in this folder:

- **DeleteActuals.sql**: Use this script to delete the actual costs in the current period.
- **DropTables.sql**: Use this script to drop the tables in an Oracle implementation.
- **Display Orphaned Tphase Records.sql**: Use this script to select orphaned T-phase records in the T-phase table. This is useful in determining the magnitude of the data error.

**Note:** For a description of what a script in the Cobra\Samples\Scripts folder does, open it in a text editor such as Windows Notepad.

You can also use the SQL Command Utility as a global update command. It is very important, however, that you make a backup of your project before executing any update or delete statements in the utility. Most standard SQL commands work using this utility.

**Note:** Since SQL is a standard language, there are many places you can learn more about SQL. W3 Schools provides a free SQL tutorial where you will learn how to use SQL to access, define, and manipulate data. You can take this tutorial at: http://www.w3schools.com/sql/default.asp.

The SQL Command Utility provides direct access to the database. Only subject matter experts should be granted access to this menu item.

You can also run the SQL Command Utility through the API.

## SQL Command Utility Dialog Box

Use this dialog box to run SQL commands and scripts against Cobra tables.

### Contents

| Field | Description |
|---|---|
| **SQL Statement** | Use this pane to enter a SQL command or script. |
| **Messages** | The Message pane displays messages related to the command or script that you are running. |
| **Execute** | Click this button to run the SQL command or script that you entered in the SQL Statement pane. |
| **Close** | Click this button to close the SQL Command Utility dialog box. |
| **Open** | Click this button to locate a saved SQL command or script. |
| **Save As** | Click this button to save the SQL command or script in SQL or text file format. |

## SQL Command Utility Supported Parameters

This table lists the supported parameters for the SQL Command Utility.

| Parameter | Description |
|---|---|
| **%cam** | This parameter returns the current Control Account Manager (CAM). If the project is open, this parameter returns the CAM for the currently selected control account or work package in the Spreadsheet pane of the Project view. |
| **%c** | This parameter returns the current CA/WP code. If the project is open, this parameter returns the code at the specified CA/WP code assignment location for the currently selected control account or work package in the Spreadsheet pane of the Project view.<br>**Example**: %c:1, %c:2 |
| **%cawpid** | This parameter returns the current CA/WP ID. If the project is open, this parameter returns the CA/WP ID for the currently selected control account or work package in the Spreadsheet pane of the Project view. |
| **%c** | This parameter returns the current code. If the code file is open, this parameter returns the currently selected code in the Codes grid of the Code view. |
| **%ca** | This parameter returns the current Control Account. If the project is open, this parameter returns the currently selected control account in the Spreadsheet pane of the Project view. |
| **%F** | This parameter returns the current file. |
| **%FT** | This parameter returns the current file type. |
| **%P** | This parameter returns the current project. If the project is open or you are currently in the Explorer view and the Projects pane is displayed, this parameter returns the currently selected project. |
| **%REP** | This parameter returns the current report. If you are currently in the Explorer view and the All Reports or Personal Reports pane is displayed, this parameter returns the currently selected report. |

| Parameter | Description |
|---|---|
| **%r** | This parameter returns the current resource file. If the resource file is open, this parameter returns the currently selected resource file in the Resource grid of the Resource view. |
| **%ra** | This parameter returns the current resource assignment. If the project is open, this parameter returns the currently selected resource assignment in the Spreadsheet pane of the Project view. |
| **%U** | This parameter returns the current user ID. |
| **%wp** | This parameter returns the current work package. If the project is open, this parameter returns the currently selected work package in the Spreadsheet pane of the Project view. |
| **?** | This parameter returns dynamic prompt. Dynamic prompts may contain a string or a sentence after the keyword.<br>**Example:** ?project, ?"Please enter a Project", ?'Please enter a Project' |
| **%?** | This parameter returns dynamic prompt . Dynamic prompts may contain a string or a sentence after the keyword.<br>**Example:** %?project, %?"Please enter a Project", %?'Please enter a Project' |
| **<RDBKEYNAME>** | This parameter returns the Ideablade data source. |
| **<LOGDIR>** | This parameter returns the log directory. |
| **<MYDOCDIR>** | This parameter returns the My Documents directory. |

## SQL Language Extended Support

You can use SQL scripts to perform actions such as getting the USER ID and the program name.

If you are using an Oracle or SQL Server database, you can use the following:

- SET statements
- DESCRIBE
- TRUNCATE TABLE

### Examples

The following examples illustrate some of the actions that can be performed with a SQL script.

| Example | Description |
|---|---|
| **1** | Use this example to get the USER ID.<br>`SET vpcUSER = %U;` |
| **2** | Use this example to get the project name.<br>`SET vpcProgram = %P;`<br>If the project is open, this will pick up the project name; otherwise, it will set the name to the parameter passed '%P'. Whether or not this is suitable depends on what your script is trying to do. |
| **3** | This example prompts you for the name of the breakdown structure and extracts the code and code description for that breakdown structure.<br>`SET vpcBDNFile=(inputbox('Breakdown Structure File Name:'));`<br>`SELECT CODE,CODEDESC FROM BDNDETL WHERE BREAKFILE=? vpcBDNfILE;` |

## Procedures

Follow the procedures in this section to utilize the SQL Command Utility.

### Run the SQL Command Utility

Use the SQL Command Utility to run SQL commands and scripts against Cobra tables.

**To use the SQL Command Utility:**

1. In the **Data** group on the Tools tab, click **SQL Command Utility**.
2. Enter a SQL command or script in the SQL Statement pane.
3. Click **Execute**. The Message pane displays messages related to the command or script that you are running.

   You can also browse for an existing SQL script or command by clicking **Open**. In addition, you can save the script or command that you entered in the SQL Statement pane by clicking **Save As**.

4. After the SQL Command Utility has successfully executed a SQL script or command, Cobra generates the Results dialog box.

   To save the results as a XLS or .CSV file, right-click the Results dialog box and select **Save As** on the shortcut menu.

# Validity Check

The Validity Check feature allows you to validate a wide range of project information.

Information that can be validated includes data anomalies, invalid reference data, code assignments and files, resource assignments and files, cost set and class definitions, apportionment mappings, project audit errors, business checks, ancillary file checks, and project and master project checks.

A validity check is not required before running processes but is recommended for you to perform before running such processes in order to correct any data errors/anomalies. A validity check is also recommended after importing data into Cobra as there are no validations that are run during the import process.

Business validations check for such things as vertical traceability (dates) and control accounts/ work packages that do not have resource assignments and/or costs.

The ancillary file validations check for duplicates within the ancillary files, invalid referenced data within the code/resource files, and the calculations and results within the resource file. Invalid reference data occurs when someone inadvertently deletes the code file that has been assigned to the project. Cobra does not automatically start deleting all the code assignments in the project because the code may have been deleted in error. The validity check helps identify invalid referenced data so that you can add the code assignment back to the code or remove the code assignment from the project.

Data anomalies do not occur under normal circumstances. However, orphan records or duplicate records can exist for reasons such as network errors. These checks locate orphan and duplicate records.

**Attention:** It is a good practice to validate your data each month before you advance the calendar.

You can also run the Validity Check process through the API.

## Validity Check Wizard

To validate project integrity, resource and code structures, resource calculations, and undefined results, you must complete the information required on each page of the Validity Check Wizard.

### Project Selection Page of the Validity Check Wizard

This page provides a brief description of what the Validity Check Wizard does.

Validity Check is used to validate the integrity of data within the project as well as the integrity of resource definitions, code definitions, ancillary files, master and project definitions, apportionment mappings, and other code files associated to the project.

The options to rebuild code/resource structures and check if forecast dates are before the project status date are also included in the Validity Check Wizard. This wizard allows you to check the validity of your project.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select the name of the project against which you want to run a validity check. You must have at least read permissions to the project you select. You do not have to open the project to run the validity check against it. |

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Validations Page of the Validity Check Wizard

Use this page to select the types of validations you want to perform. A validity check will be performed only on the selected options.

Select from the following types of validations:

- Business validations
- Resource and code assignment validations
- Ancillary file validations
- Data anomaly validations
- Project and apportionment definitions

You must select at least one summary option to perform the validity check.

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Business Validations Page of the Validity Check Wizard

Use this page to select options for validating control accounts, work packages, forecasts, and milestone dates in the project, and perform other data integrity checks on the control accounts or work packages.

**Contents**

| Field | Description |
|---|---|
| **Control Accounts and Work Packages that have no resource assignments** | Select this checkbox if you want to validate whether the control account or work package has resource assignments and if there are costs for the assignments. |

| Field | Description |
|---|---|
| **Delete Control Accounts/Work Packages with no costs** | Select this checkbox to delete control accounts or work packages that contain resource assignments without costs entered against them. Control accounts or work packages with no costs include budgets, earned values, actual costs, and forecasts.<br>This option is enabled if the **Control Accounts and Work Packages that have no resource assignments** checkbox is selected.<br>**Note:** You must have write security permissions to the project to delete it. |
| **Work Package with Milestones has correct Progress Technique** | Select this checkbox to validate whether or not each work package with milestones has Milestones as the progress technique used. |
| **Forecast dates before status date** | Select this checkbox to identify invalid forecast dates in the control account or work package and invalid dates selected for the forecast class.<br>The following are instances when forecast dates are considered invalid:<br>▪ A planned control account or work package has a forecast start date that is before the current status date.<br>▪ A planned control account or work package has a forecast finish date that is before the current status date.<br>▪ A milestone that is in progress or planned has a forecast finish date that is before the current status date. |
| **Slip the Control Account/Work Package dates if the forecast dates are earlier than the status date** | Select this checkbox to change the invalid forecast start date to the date following the status date. The forecast finish date is also moved by the same number of days to maintain the original duration of the control account or work package.<br>**Note:** You must have write permissions to the project to slip the dates. |
| **Control Account dates exactly span Work Package dates** | Select this option if you want to validate that:<br>▪ The forecast dates for the work package align with the forecast dates for the control account.<br>▪ The baseline dates for the work package align with the baseline dates for the control account.<br>▪ The milestone end dates are within the work package dates. |
| **Adjust Control Account dates to** | Select this option if you want to adjust the control account baseline and forecast dates to align to the work package dates, unless the |

| Field | Description |
|---|---|
| **exactly span Work Package dates** | control account date contains control account-level resources beyond the work package dates. |
| **Work Package dates correctly span resource assignment dates** | Select this option if you want to validate any of the following:<br>▪ Budget resources are within the work package baseline dates.<br>▪ Forecast resources are between the status date and the forecast finish date.<br>▪ Actual resources are prior to the work package actual start date.<br>**For planned work packages with actual costs**: When the **Allow posting actual costs to a planned Control Account or Work Package** option on **Project Properties** » **Preferences** » **Actual Costs** is cleared, Cobra will display an error message if actual costs exist for planned work packages.<br>▪ All earned value resources are later than the work package actual start date.<br>▪ Earned value records do not exist for planned work packages. |
| **Adjust Work Package dates to span resource assignment dates** | Select this option if you want to automatically adjust the budget, forecast, and actual work package dates to span their respective resource assignment dates. |
| **Project Audit Log matches Project Value** | Select this checkbox to identify account records whose project logs do not match the project header and budget values. |
| **Control Account/Work Package dates that are outside of the Project Calendar** | Select this checkbox to identify Control Account/Work Package start or finish dates (Baseline, Actual, Forecast, Early, Late, and Pending) that fall outside the project calendar dates. |

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Resource and Code Assignment Validations Page of the Validity Check Wizard

Use this page to check if resource and code assignments in the project have invalid referenced data or undefined results.

**Contents**

| Field | Description |
|---|---|
| **Fix undefined results** | Select this checkbox to validate that the resource assignment uses a result that is defined in Resource Calculation. Cobra fixes undefined results. |
| **T-phase has invalid resource code** | Select this checkbox to verify that each time-phase record has a valid resource code. |
| **Resource assignments have budget, but no T-phase** | Select this checkbox to determine resource assignments that have budget at complete (BAC) data but have no time phasing data. |
| **Resource assignments have calculation defined** | Select this checkbox to validate the following:<br>▪ Those resources assigned in the Project view are resource values included in the resource code file attached to the project.<br>▪ Those resource assignments used in a control account or work package have calculations in the resource file. |
| **Key field code assignments still exist in code file** | Select this checkbox to validate whether or not the values assigned from the key field codes exist in the code file. This validates CA1 (Control Account 1), CA2 (Control Account 2), CA3 (Control Account 3), and work package key fields. |

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Ancillary File Validations Page of the Validity Check Wizard

Use this page to validate all the ancillary files (rate files, resource files, calendar files, and code files) attached to the project. You can also use this page to rebuild resource and code structures.

**Contents**

| Field | Description |
|---|---|
| **Validate rates** | Select this checkbox to validate the rates used for results in the resource file. Cobra validates that the selected rate set for the result still exists in the project's rate file. |

| Field | Description |
|---|---|
| **Validate results** | Select this checkbox to validate the resource file results. This validation option checks for the following:<br>▪ **Missing result fields**: Cobra validates that no result fields are missing from the resource calculations and that all resources are referencing valid results. It also validates that the resource calculation has at least one result defined.<br>▪ **Inconsistently defined results**: Cobra determines the following:<br>  ▪ If a source result selected for the resource is not a valid result. An error message is entered in the log file if the resource's result uses an invalid source.<br>  ▪ If the result on Resource Calculation has the **Units** field blank. An error message is entered in the log file if the resource's result has the Units field blank.<br>  ▪ An error message is entered in the log file if the **Result** field is blank.<br>▪ **Duplicate results**: Cobra validates that there are no duplicate results for the resource.<br>▪ **Valid result definitions**: Cobra verifies that all result definitions are valid. Cobra determines the following:<br>  ▪ If the first result in the resource's calculation has a rate and a source defined. This is invalid because base results (first result of the calculation) cannot have a source or rate since they are not calculated from anything.<br>  ▪ If a non base result has a rate set specified<br>  ▪ If a non base result for a resource calculation has a source result specified<br>  ▪ If results have a rate set and not a source<br>  ▪ If results have a source and not a rate set<br>  ▪ If the results for a resource are numbered correctly in the table. Each result calculation represents a line number in the calculation and should be numbered in the correct sequential order. |
| **Orphan results** | Select this checkbox to validate that all results in a resource file are referenced by at least one resource calculation. |
| **Validate calendar** | Select this checkbox to check for duplicate periods in attached project calendars (fiscal and roll wave if applicable). This validation option checks for the following:<br>▪ **Duplicate fiscal periods**: Cobra checks for duplicate periods in the fiscal calendar, roll wave calendar if applicable, and any calendar attached to a class. |

| Field | Description |
|---|---|
| | ▪ **TODATE** field: Cobra checks if this field in calendar set 18 matches the status date of the project |

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Data Anomaly Validations Page of the Validity Check Wizard

Use this page to check data anomalies in the project such as orphan and duplicate records.

**Contents**

| Field | Description |
|---|---|
| **Validate orphan records** | Select this checkbox to check for orphan control account, work package, time-phase, and milestone records in the project. You can also delete orphan records by selecting the **Delete orphans** checkbox. You can delete orphan records if you have write permissions to the project.<br>Cobra performs the following checks when you select this validation option:<br>▪ If you delete a control account, Cobra ensures that there are no orphaned work packages.<br>▪ If you delete a work package, Cobra ensures that there are no orphaned resource assignments.<br>▪ If you delete a work package, Cobra ensures that there are no orphaned milestones.<br>▪ Cobra checks for orphaned time-phased data. |
| **T-phase has invalid class** | Select this checkbox to validate that each record in the Tphase table has a valid class. |

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Project and Apportionment Validations Page of the Validity Check Wizard

Use this page to check project definitions such as class or cost set assignments and project audit log records. You can also check apportionment definitions.

**Contents**

| Field | Description |
|---|---|
| **Validate classes** | Select this checkbox to validate the definition of classes in the project. Cobra performs the following validations when you select this checkbox: |

| Field | Description |
|---|---|
| | ▪ **Missing default classes**: If missing default classes are found, Cobra adds them back. Default classes are Budget, Earned, Forecast, Actual, Replanned, and OTB (Over Target Baseline). No message is entered in the log file. |
| **Validate cost sets** | Select this checkbox to validate the definition of cost sets in the project. Cobra performs the following validations when you select this checkbox:<br>▪ **Missing default cost sets**: If missing default cost sets are found, Cobra adds them back. Default cost sets are Actual, Budget, Forecast, Earned, OTB, Replan, and ETC (Estimate to Complete). No message is entered in the log file. Below are the included classes in the cost sets that are added back:<br>  ▪ Class Actual in the Actual cost set<br>  ▪ Class Budget, Replanned, and OTB in the Budget cost set<br>  ▪ Class Earned in the Earned cost set<br>  ▪ Class Forecast in the ETC cost set<br>  ▪ Class OTB in the OTB cost set<br>  ▪ Class Replanned in the Replan cost set<br>▪ Cobra checks for missing classes in the default cost sets. |
| **Consistent class definitions** | Select this checkbox to validate that the default classes have the correct class types associated and that those classes are included in the proper categories according to their class type. This validation option searches for classes of a certain type that are not assigned as proper included classes. Cobra performs the following validations on classes when you select this checkbox:<br>▪ Default class Budget has the class type Budget.<br>▪ Default class Earned has the class type Earned.<br>▪ Default class Forecast has the class type Forecast.<br>▪ Default class Actuals has the class type Actual.<br>▪ **Included classes**: Cobra ensures that the following budget classes are included by default in the Totals budget class and are also included as Earned Value budget classes: OTB, Replan, and Budget.<br>An example of an error is when the Budget class is of type budget but is included as type Actuals. |
| **Validate apportionment definitions** | Select this checkbox to verify that the apportionment definition for the resource is correct. Cobra performs the following validations:<br>▪ A source resource exists in the resource file that is defined as the source for the target apportionment resource. |

| Field | Description |
| --- | --- |
| | ▪ A target resource exists for the source resource. Cobra checks that the target resource defined is a valid resource in the project's resource file.<br>▪ The target apportionment resource result is an existing result in the resource file.<br>▪ The apportionment order is valid. Cobra sets this order automatically when you add apportionment resources. However, Cobra resets the order when an apportionment resource is added or deleted. This validation determines instances where the order is not reset correctly and a loop is created. For example, if the resource Test is based on a QA apportioned resource, the QA resource needs to be higher than the Test resource. |
| **Validate apportionment mappings** | Select this checkbox to verify that the control account and work package where the apportioned budget resources will be created are correctly defined and that the source control account exists. Cobra performs the following validations:<br>▪ The target resource is a valid resource in the resource file for the project.<br>▪ The control account and work package defined as targets on the Apportionment Mapping page exist.<br>▪ The source control account specified as an apportionment source exists in the source project.<br>▪ The sets are valid for the target apportioned resource.<br>▪ A source is defined for the corresponding apportionment target. |

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Confirmation Page of the Validity Check Wizard

This page informs you that Cobra has all the information it needs to run the validity check.

If you need to double check the information you entered on any of the previous pages of the wizard, click **Back** until that page displays.

When you are sure that all the information is correct, click **Finish** to start the process.

**Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Process Running Page of the Validity Check Wizard

This page displays the progress status while Cobra runs the validation checks.

> **Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

### Process Complete Page of the Validity Check Wizard

This page displays information about the status of running the validation checks.

Click the **View Log** button to display processing and any error information.

> **Note:** The validity check runs only against the selected master project, not against the sub-projects listed under the master project.

## Procedures

Follow the procedures in this section to utilize the Validity Check process.

### Perform a Validity Check

Use the Validity Check Wizard to validate project integrity, resource and code structures, resource calculations, and undefined results.

**To perform the validity check:**

1. Display the Validity Check Wizard by completing one of the following actions:
   - In the **Validation** group on the Tools tab, click **Validity Check**.
   - In the Cobra Explorer, select the **Projects** group bar, right-click the Projects pane, and select **Validity Check** on the shortcut menu.
2. Use the pages of the Validity Check Wizard to validate the integrity of data within the project and files associated to the project.

   > **Note:** All error/warning messages are generated in the process log. Use the Process Log Viewer see these messages .

# Process Logs

Cobra creates a log file every time a user runs a process such as Recalc or Reclass.

These log files capture information about the process that has been performed. All process logs are stored in the database.

A process is any action taken in the application that changes or performs a check of data. Examples include Replan, Recalculate, Slip, Calculate Progress, and Calculate Forecast.

## Process Logs Dialog Box

Use the Process Logs dialog box to filter, view, or delete process log files. You can also use the Process Log viewer to view the logs that are saved in the database.

Logs are generated and saved during processing for multiple features such as advance calendar and integration wizard. Use the Process Logs dialog box to filter, view, or delete process log files.

**Contents**

| Field | Description |
|---|---|
| **Project** | Use this field to enter or select the name of the project whose process log files you want to view.<br>**Note:** If you do not select a project, the log files for the selected process will be displayed for all projects. In addition, if you do not select a project, the grid displays the SQL Command logs. |
| **Process** | Use this field to select a process whose log files you want to view. If you do not select a process, all process logs for the selected project will be displayed in the grid.<br>▪ Advance Calendar<br>▪ Analyze<br>▪ ANSI EIA X12<br>▪ Apportionment Calculation<br>▪ Assignment Import/Export<br>▪ Backup<br>▪ Batch API<br>▪ Project Audit<br>▪ Calculate Progress<br>▪ Calculate Forecast<br>▪ Control Account Operations<br>▪ Copy Project<br>▪ Cost Data Export<br>▪ Delete Project<br>▪ Export Calendar to OP<br>▪ Freeze Forecast<br>▪ Integration Actual Costs<br>▪ Integration Project Data |

| Field | Description |
| --- | --- |
| | ▪ Integration Ancillary Data<br>▪ Multi-Project Operations<br>▪ Rebuild Hierarchy<br>▪ Recalc<br>▪ Reclass<br>▪ Replace Resources<br>▪ Replan<br>▪ Reporting<br>▪ Respread<br>▪ Restore File<br>▪ Slip<br>▪ SQL Command<br>▪ Top Down Planning<br>▪ Tphase Operations<br>▪ Update EAC<br>▪ Update Totals<br>▪ Validity Check<br>▪ wInsight Export<br>▪ Work Package Operations<br>▪ Update OP Resources<br>▪ Update Codes<br><br>**Note:** If you do not select a process, the grid displays all process logs for the selected project. If you select the SQL Command process, the **Project** field is cleared. If you select **Batch API**, the **Batch Start Time** field becomes enabled. |
| **Batch Start Time** | Use this field to select the start time of the batch API process that was run for the specified project. |
| **Show logs for User** | Use this field to enter or select the name of the user that you want to view the process logs.<br>By default, this field displays the ID of the user currently logged into Cobra. If a user is selected, the Process Logs grid will only display process logs run by the specified user. An empty field will display the process logs for all users. If you are a SYSADMIN user or a member of the SYSADMIN group, you can view all |

| Field | Description |
|---|---|
| | process logs for all users. If you are a NON-SYSADMIN user, you can only view the logs for processes run on projects that you have at least read access. |
| **Date Range** | Use this field to specify which process logs are to be displayed based on the selected time frame from the current calendar date. Your options are:<br>▪ **<blank>**: Select this option to display all available process logs.<br>▪ **Last 30 days**: Select this option to display the process logs for the past 30 days from the current calendar date.<br>▪ **Last 60 days**: Select this option to display the process logs for the past 60 days from the current calendar date.<br>▪ **Last 90 days**: Select this option to display the process logs for the past 90 days from the current calendar date.<br>▪ **Last 12 months**: Select this option to display the process logs for the past 12 months from the current calendar date.<br>By default, this field is set to **Last 30 days**. |
| **Apply Filter** | Click this button to display the records in the grid. |
| **Process Log Grid** | The grid displays the following information:<br>▪ **Process**: This column displays the process name.<br>▪ **Project**: This column displays the project name.<br>▪ **Start Time**: This column displays the process' start time.<br>▪ **End Time**: This column displays the process' end time.<br>▪ **Errors**: This column displays the error count.<br>▪ **Warnings**: This column displays the warning count.<br>▪ **User**: This column displays the user who ran the process.<br>**Note:** Click the header column to sort the records by that field. |
| **View Log** | Select a process log you want to view from the grid and click this button to view the log file.<br>**Note:** You can also view a log file by double-clicking the log file in the grid. |
| **Delete** | Select a process log you want to delete from the grid and click this button to delete the process log. You can select multiple process logs by pressing the CTRL or SHIFT key while clicking.<br>A message confirming the deletion displays. Click **Yes** to proceed with the deletion. |

| Field | Description |
|---|---|
| | **Note:** You can select multiple process logs by pressing the CTRL or SHIFT key while clicking.<br>Only the project owner, process owner or member of the SYSADMIN group can delete a log file. If you own a project, you can delete any log file related to the project you own. |

## Process Log Viewer

Use the Process Log Viewer to view log files generated by batch processes.

Log files are created as you run the batch process, and provide information about the processes that have been performed. You can also use the Process Log Viewer to review logs.

The Process Log Viewer allows you to view the process log records. The log viewer displays the errors or warnings generated during the process on a separate window.

**Note:** You cannot edit the information in any of the log files, but you can copy text from a log file and paste it on another Windows application.

The process log file is divided into the following sections:

- **Header**
- **Process Records**
- **Footer**

**Note:** Data is stored as an XML string.

### Contents

| Field | Description |
|---|---|
| **Header Section** | The header section displays the following information:<br>▪ **Process Name**: This field displays the name of the process run.<br>▪ **User**: This field displays the name of the user who ran the process.<br>▪ **Start Time**: This field displays the date and time when the process started.<br>▪ **Project**: This field displays the name of the project.<br>**Example**<br>Process Name: Recalc<br>User: John Doe<br>Start Time: 01/10/2007 23:15:25PM |

| Field | Description |
|---|---|
| | <table><tr><td>Project</td><td>DEMO</td></tr></table> |
| **Criteria Section** | This section varies and is defined by the criteria selection of the process. |
| **Process Section** | This section varies and is defined by the process.<br>**Example**: Recalc Planned items |
| **Footer Section** | This section displays the following information:<br>▪ **Finish time**: This field displays the date and time when the process finished.<br>▪ **Error**: This field displays the count of the errors encountered while running the process.<br>▪ **Warning**: This field displays the count of the warnings generated for the process run.<br>**Example**<br><table><tr><td>Finish Time</td><td>01/10/2007 23:15:25PM</td></tr><tr><td>Errors</td><td>0</td></tr><tr><td>Warnings</td><td>1</td></tr></table> |
| **Save to File** | Click this button to save the contents of the viewer to your computer. The file is saved in .txt format. |
| **Show Errors** | This button is enabled if errors occurred while running the process. Click this button to view the errors. |
| **Show Warnings** | This button is enabled if there are warnings for the process run. Click this button to view the warning messages. |

## Errors Dialog Box of the Process Log Viewer

Use the Error dialog box to display information about any errors that occurred while the process ran.

Click the **Save to File** button to save the information in a .txt file.

## Warnings Dialog Box of the Process Log Viewer

The Warnings dialog box displays any warning messages for the process.

Click the **Save to File** button to save the information in a .txt file.

## Procedures

Follow the procedures in this section to access the dialog boxes related to process logs.

### Display the Process Logs Dialog Box

Use this procedure to display the Process Logs dialog box.

**To display the Process Logs dialog box:**

- In the **Validation** group on the Tools tab, click **Process Logs**.

### Display the Process Log Viewer

Use this procedure to display the Process Log Viewer.

**To display the Process Log Viewer:**

- Click the **View Log** button on the Process Complete page, which displays after you run a process.

### Display the Errors Dialog Box of the Process Log Viewer

Use this procedure to display the Errors dialog box of the Process Log Viewer.

**To display the Errors dialog box:**

1. Click the **View Log** button on the Process Complete page, which displays after you run a process.
2. Click the **Show Errors** button.
   This button is enabled if errors occurred while running the process.

### Display the Warnings Dialog Box of the Process Log Viewer

Use this procedure to display the Warnings dialog box of the Process Log Viewer.

**To display the Warnings dialog box:**

1. Click the **View Log** button on the Process Complete page, which displays after you run a process.
2. Click the **Show Warnings** button.
   This button is enabled if the process generated any warnings.

# Debug Logs

Cobra creates debug log files that store information about various Cobra processes and certain user interface operations.

Unlike process log files that are stored in the database, debug log files are stored and may be found on the following location in which the Cobra application is running:

- Your workstation
- Application server

Types of debug log files are:

- ProcessLog.xml
- ClientDebugLog.xml
- ServerDebugLog.xml

## ProcessLog.xml Log File

This log file stores information about various processes that run in Cobra, such as the Integration wizard, Backup, Restore, and Reports.

### Locations

- **Client/Server and Standalone Deployments**

  The file is created in the My Documents\Deltek\Cobra\Logs folder of the workstation where the Cobra application is running.

- **N-Tier Deployment**

  ProcessLog.xml log file is created on the application server. The location of the log file depends on the Windows account used to run the Cobra service. Cobra requests the location of the **My Documents** folder from Windows and creates the log file in the **Deltek \Cobra\Logs** subfolder of the location returned by Windows.

  Typical default locations of this log file on the application server are as follows:

  - <Service Account User>\My Documents\Deltek\Cobra\Logs
  - <Default User>\My Documents\Deltek\Cobra\Logs
  - C:\Deltek\Cobra\Logs

### Turning the Log File On or Off

Select the **Generate processlog.xml** option on the Data Access tab of the Application Preferences dialog box to turn the log file generation on or off.

**Attention:** For more information, see the Data Access Tab of the Application Preferences Dialog Box help topic.

### Logging SQL Statements

Select the **Include SQL Statements** option on the Data Access tab of the Application Preferences dialog box to enable logging of SQL statements in the ProcessLog.xml file.

## ClientDebugLog.xml Log File

This log file stores information about certain user interface operations. Cobra creates a new version of this log file each time you start the Cobra application.

### Location

- **Client/Server, Standalone, and N-Tier Deployments**

  The file is created in the My Documents\Deltek\Cobra\Logs folder of the workstation where the Cobra application is running.

### Turning the Log File On or Off

This log file is always created. However, you can disable automatic archiving of the file.

### Logging SQL Statement

In a client/server or standalone deployment, you can choose to log SQL statements executed by the user interface in the ClientDebugLog.xml file.

In an n-tier deployment. you cannot store SQL statements executed by the user interface in the ClientDebugLog.xml file. Instead, SQL statements are stored in the ServerDebugLog.xml file, if you have turned on logging for this type of log file.

## ServerDebugLog.xml Log File

This log file stores information about the Cobra service that runs on the application server in an n-tier deployment.

Cobra creates a new version of this file each time you start the Cobra service on the application server.

### Locations

- **Client/Server and Standalone Deployments**

  The ServerDebugLog.xml log file is created only on the application server in an n-Tier deployment.

- **N-Tier Deployment**

  The file is created on the application server. The location of the file depends on the Windows account used to run the Cobra service. Cobra requests the location of the My Documents folder from Windows, and creates the file in the Deltek\Cobra\Logs subfolder of the location returned by Windows.

  Typical default locations of this file on the application server are as follows:

  - <Service Account User>\My Documents\Deltek\Cobra\Logs
  - <Default User>\My Documents\Deltek\Cobra\Logs

- C:\Deltek\Cobra\Logs

**Turning the Log File On or Off**

This log file is always created.

**Logging SQL Statements**

You can enable logging of SQL statements in the ServerDebugLog.xml log file in an n-tier deployment.

### Logging of Memory Usage Details

Enabling the **LogMemoryUsage** option provides information to assist Deltek with troubleshooting issues relating to high memory consumption of the Cobra service on the application server.

Take note of the following when using the **LogMemoryUsage** option:

- You can enable or disable the option without restarting the Cobra service on the application server. The option value will take effect within a minute.
- Enabling the option will potentially result in a lot of additional entries being recorded in the log file. Deltek recommends that you periodically monitor the size of the log file (at least once a day) to ensure it does not grow too large. Disable the option to prevent further memory usage logging.
- Deltek recommends to test the changes to the ServerService.exe.config file in a test environment first before enabling the option in a production environment. Although enabling or disabling this option does not require restarting of the Cobra service, an incorrectly formatted ServerService.exe.config file can cause the Cobra service to fail.

## Procedures

Follow the procedures in this section to enable logging of SQL statements in the debug files.

### Log SQL Statements in ClientDebugLog.xml

Use this procedure to enable logging of SQL statements in the ClientDebugLog.xml file in standalone and client/server deployments.

You must perform this procedure on each workstation where you want to enable logging of SQL statements.

You cannot log SQL statements in the ClientDebugLog.xml file in an n-tier deployment. Instead, you must enable logging of SQL statements in the ServerDebugLog.xml file.

**To enable logging of SQL statements in the ClientDebugLog.xml file:**

1. Shut down the Cobra application.
2. Locate the IdeaBlade.ibconfig file in your Cobra installation folder and create a backup copy of it.
3. Using a text editor (such as Notepad), edit the IdeaBlade.ibconfig file.

4. Start the Cobra application.

### Log SQL Statements in ServerDebugLog.xml

Use this procedure to enable logging of SQL statements in the ServerDebugLog.xml in an n-tier deployment.

**To enable logging of SQL statements in the ServerDebugLog.xml file:**

1. Shut down the Cobra application on all workstations.
2. Stop the Cobra service on the application server.
3. Locate the IdeaBlade.ibconfig file in the Server subfolder of your Cobra installation folder and create a backup copy of it.
4. Using a text editor (such as Notepad), edit the IdeaBlade.ibconfig file.
5. Start the Cobra service on the application server.
6. Start the Cobra application.

### Edit IdeaBlade.ibconfig File

Edit the IdeaBlade.ibconfig file to enable logging of SQL statements.

**To edit the IdeaBlade.ibconfig file:**

1. Create a backup copy of the IdeaBlade.ibconfig file.
2. Open the file and find the tags that start with **<namespaceRejectFilter>**.
3. Replace all **namespaceRejectFilter** tags with the following:

   ```
   <!-- namespaceRejectFilter> ... </namespaceRejectFilter -->
   ```

   Make sure that each **namespaceRejectFilter** tag starts with **!--** and ends with **--**. Take note of the space after **<!--** and before **-->**. These lines now become comment tags and Cobra will ignore these lines.
4. Save and close the IdeaBlade.ibconfig file.

### Disable the Automatic Archiving of ClientDebugLog.xml Log File

You must edit the IdeaBlade.ibconfig file to disable automatic archiving of the ClientDebugLog.xml log file.

By default, a new version of ClientDebugLog.xml is created each time you start Cobra. The previous version of the file is renamed with a timestamp, for example ClientDebugLog.bak.20130909-141651.xml. The timestamp indicates that the ClientDebugLog.xml. file was archived and not overwritten.

**To disable automatic archiving of this log file:**

1. Navigate to the Cobra installation folder.
2. Open the IdeaBlade.ibconfig file.
3. Locate the **<archiveLogs>** tag and change the value from **true** to **false.**
4. Save and close the IdeaBlade.ibconfig file.

### Log Memory Usage Details

Use this procedure to enable logging of memory usage details in the ServerDebugLog.xml log file.

**To configure the logging of memory details:**

1. Navigate to the Server subfolder of the Cobra installation folder.
2. Locate the ServerService.exe.config file and open it using a text editor (such as Notepad).
3. To enable memory usage logging, add the **LogMemoryUsage** option to the file. If the option is already present, make sure to set the value to **1**.

**Before**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="
<add key="Roles" value="" />
</appSettings>
```

**After**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="
<add key="Roles" value="" />
</appSettings>
```

4. To disable memory usage logging, set the **LogMemoryUsage** option to **0**, or remove the changes above.

**Before**

```
<add key ="LogMemoryUsage" value="1"/>
```

**After**

```
<add key ="LogMemoryUsage" value="0"/>
```

## Custom Hooks

Use the Custom Hooks tab of the Application Preferences dialog box to set the process that should run before a particular process runs or after a process completes.

Pre-process and post-process custom applications can be set for the following Cobra processes:

- Advance Calendar
- Calculate Forecast
- Integration
- Move Work Package
- Reclass
- Update Totals

A custom application, which is saved on the application server and not on the local machine, can be any of the following types:

- **Script**: A text file with a SQL query or list of commands in VFP
- **Executable**: For example, a compiled VB or C++ application
- **Visual FoxPro Procedure**: A compiled .FXP file

Using custom hooks in Cobra involves the following steps:

- Creating the custom application using any of the application types
- Setting the processes that should run before a process runs or after the process completes using the Custom Hooks tab of the Application Preferences dialog box

The table below provides a sample path and extension for each custom application type and which fields to specify or select on the Custom Hooks tab.

| Custom Application Type | Sample Path and Extension | Notes |
|---|---|---|
| Script | <Drive>:\<Path>\Test.txt | In the **Custom Application** field, enter or locate the sample path and extension, and select **Script** in the **Type** field. |
| Executable | <Drive>:\<Path>\Test.exe | In the **Custom Application** field, enter or locate the sample path and extension, and select **Executable** in the **Type** field. |

| Custom Application Type | Sample Path and Extension | Notes |
|---|---|---|
| Visual FoxPro Procedure | <Drive>:\<Path>\Test.fxp | In the **Custom Application** field, enter or locate the sample path and extension, and select **Visual FoxPro Procedure** in the **Type** field. |

## Custom Hook Parameters

The custom hook parameters that should be passed are determined by the parameters supported in the custom hook tool.

The following table provides information on the supported pararemeters.

| Parameter | Description |
|---|---|
| paramfile=<XML Path and file name> | When this parameter is included, Cobra will output the XML parameters used by the process into the file specified. The path and file name are then passed as a parameter to the custom hook tool.<br>When running Cobra in an n-tier deployment, the XML file is created on the server using the path specified. For example, if **c:\temp\temp.xml** is specified as the **paramfile** value, this is created on the C: drive of the server.<br>**Note:** The parameter output currently does not include the connection information. This information is cleared out before being stored in the specified XML file. |

### Executable Custom Hook Tool

When **paramfile** is specified, the value (path/location) is passed as a parameter to the exe file so that the custom tool should accept at least one string parameter.

### Visual FoxPro Procedure (VFP) Custom Hook Tool

The VFP custom hook tool will have to read the parameter file directly if it needs information. The custom process passes the process object as the first parameter to the custom hook tool. There is an optional second parameter for the success result if the process returns a result.

## Customization of Processes

Use the Custom Hooks tab of the Application Preferences dialog box to set up the custom applications that will run as part of the integration process.

Custom applications might, for example, further validate information or convert data to a format that the standard integration supports.

### Contents

**Attention:** For the description of each field on the Custom Hooks tab, see Custom Hooks Tab of the Application Preferences Dialog Box.

| Field | Description |
|---|---|
| **Process** | Select one of the following options:<br>▪ **Advance Calendar**<br>▪ **Calculate Progress**<br>▪ **Calculate Forecast**<br>▪ **Integration Wizard**<br>▪ **Move Work Package**<br>▪ **Reclass**<br>▪ **Update Totals** |
| **Advance Calendar, Calculate Forecast, Move Work Package, and Reclass** | Below are the fields you can use to define custom processes for these processes:<br>▪ **Pre-process custom application**<br>▪ **Post-process custom application**<br>▪ **Type** |
| **Calculate Progress and Update Totals** | Below are the fields you can use to define custom processes for these processes:<br>▪ **Post-process custom application**<br>▪ **Type** |
| **Integration Wizard Fields** | Below are the fields you can use to define custom processes for the Integration Wizard processes:<br>▪ **Pre-load custom application**<br>▪ **Pre-load returns a result**<br>▪ **Pre-save custom application** |

| Field | Description |
| --- | --- |
| | ▪ **Pre-save returns a result**<br>**Note:** If this checkbox is cleared, the integration process continues in all cases.<br>▪ **Pre-process custom application**<br>▪ **Type** |

## Customization of Integration Process

The integration process provides hooks to allow custom applications to run before importing the schedule data into Cobra. This enables further validation of information, a reformat of the schedule data, or conversion of the schedule in a format that the standard integration supports.

The Integration Wizard places the data in a normalized set of temporary tables, pauses to see if there are custom hooks defined, executes any custom hooks, continues with the validation of data, and then imports the data into Cobra tables.

You can view these temporary integration tables by choosing to publish temporary integration tables on the Integration tab of the Application Preferences dialog box.

When importing project data, there are two points in the integration processing cycle:

- **Pre-Load Process**: This occurs before starting the Integration Wizard and can be used to change the selections in the Integration Wizard.
- **Pre-Save Process**: This occurs after the data is retrieved from the schedule but is not yet validated. This is where most custom applications run.

When importing actual costs, the custom hooks run after the data is imported into the temporary tables and before validation occurs.

When importing project data, you can stop the process if an error occurs in your custom application. This feature is useful if your custom hook is performing extra validations and you do not want the data to be imported if certain conditions exist.

### Pre-Load Process

After extracting data from the schedule, data is stored in temporary tables located in the Cobra temporary folder. The temporary folder is a Windows temporary folder and can be accessed using the variable **goApp.cTempPath**. Data in these tables can then be filtered, summarized, or modified to meet your specific needs through a custom application before it is validated, processed, and loaded into the Cobra tables.

### Pre-Save Process

The integration process loads data into LINK tables prior to the data being saved to the Cobra database. A custom application can be executed prior to saving the data in the Cobra tables that will have access to the data in the LINK tables. Before the data is saved to the Cobra tables, you can modify or enhance them by adding codes to meet your specific needs through a custom application.

**Note:** To know which fields to use to define custom processes for the Integration process,refer to Customization of Processes.

## Procedures

Use the procedures to manage custom hooks.

### Set Up Custom Applications

Use the Application Preferences dialog box to set up custom applications in Cobra.

**Note:** To know which fields to use to define custom processes for a process, refer to Customization of Processes. For a description of each field on the Custom Hooks tab, refer to Custom Hooks Tab of the Application Preferences Dialog Box.

**To set up custom applications:**

1. Display the Application Preferences dialog box.
2. On the General tab, click the **Custom Hooks Location** field, and specify the folder where the custom applications are stored.

   **Note:** Custom applications are saved on the application server and not on the local machine.
3. On the Custom Hooks tab, perform the following actions:
   a) In the left pane, select which process for which you want to set up the pre-process and post-process custom applications.
   b) Depending on the selected process, specify or select the location of the custom application.

      **Note:** If you enter the custom application path, make sure to include the exact path and extension. For example, if you are using a VFP application type, enter **<Drive>:\<Path>\Test.fxp**.
   c) In the **Type** field, select the custom application type.

      **Note:** Using the example in Step 3b, select **Visual FoxPro Procedure**.
4. Click **OK**.

# API

The Application Programming Interface (API) in Cobra lets you run one or more processes automatically and without user intervention, from beginning to end.

Consider the following points when using the API:

- Cobra can define up to 999 processes within a single API script.
- You can run processes using the API on batch servers, where you can schedule processes to run automatically and without user intervention.
- An API script is a simple ASCII text file. To run a process using the API, specify the API script on the API command line.
- The Settings section in the API script is used to define settings that affect all processes that are defined in that script.
- When you run an API process, Cobra saves all logs in the database. This allows you to quickly retrieve relevant information to resolve errors that may occur.
- You need multiple Cobra licenses to run an API process. If you try to run an API process while logged into Cobra using the same user ID, you will not be able to run the API process.
- To run an API process, you need to have access to the API script file and files to import.

## Running Cobra with Command Line Parameters

You can use command line parameters that can be passed to Cobra applications and Cobra API.

### Common Parameters

This table lists the command line parameters that can be passed to Cobra applications.

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| **configfolder** | Use this parameter to launch Cobra application and specify the location of the Config.dat file and IdeaBlade.Ibconfig file if Cobra is not installed in the default installation location.<br>When you pass this parameter to Cobra or to any | Cobra | "<Cobra Installation Location>\DeltekCobra.exe" /configfolder:"<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\DeltekCobra.exe" /configfolder:C:\my cobra config |
| | | Database Upgrade Wizard | "<Cobra Installation Location> | "C:\Program Files\Deltek\Cobra\Support\Utilities |

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| | tool, you must specify the same location of the Config.dat file or the IdeaBlade.Ibconfig file. When you use this parameter to start Cobra, you must also use this parameter in other Cobra applications (EXE applications) that support this parameter to make sure you are pointing to the same database.<br>By default, the Datasources.dat and the Config.dat files are found in the same location. In cases when the Datasources.dat file does not reside together with the Config.dat file, you must transfer the Datasources.dat file to the same location where the Config.dat file resides. Otherwise, you will be prompted to navigate to the location of the Datasources.dat file. This location will be saved in | | \Support\Utilities\DeltekCobra8xDatabaseUpgradeWizard.exe" /configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | \DeltekCobra83DatabaseUpgradeWizard.exe" /configfolder:C:\my cobra config |
| | | Data Tool | "<Cobra Installation Location>\DataTool.exe" /configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\DataTool.exe" /configfolder:C:\my cobra config |
| | | API | "<Cobra Installation Location>\Cobra.API.exe" configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\Cobra.API.exe" configfolder:C:\my cobra config |

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| | the Config.dat file.<br>**Attention:** For more information on these files, refer to the Config.dat and Datasources.dat topics in the Data Tool Help System. | | | |

### API-Specific Parameters

This table lists the command line parameters that you can pass to the Cobra API.

| Parameter | Description | Syntax | Example |
|---|---|---|---|
| **user** | You use this parameter to specify the Cobra user and password using this parameter . This parameter is required unless when Cobra is configured to use Windows Authentication. | "<Cobra Installation Location> \Cobra.API.exe" user:<username> \<password> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" user:SYSADMIN \password |
| **script** | You use this parameter to specify the script file that contains the processes. This parameter is required. | "<Cobra Installation Location> \Cobra.API.exe" script:<fully qualified path of the script file> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" script:C:\CobraAPIScripts\batch.txt" |
| **logfile** | You use this parameter to specify a different filename for the API log file. If omitted, the log file filename will be Batch.Api.log.<br>This parameter does not support a fully qualified path. You can specify the log | "<Cobra Installation Location> \Cobra.API.exe" logfile:<log file filename> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" logfile:BatchProcess.log |

| Parameter | Description | Syntax | Example |
|---|---|---|---|
| | filename and the file will be created in the **<Logged In User>\My Documents\Deltek \Cobra\Logs** folder of the workstation where the Cobra API is running. | | |
| **datasource** | You use this parameter to specify the data source to which the API would run the processes. If omitted, the API will use the last data source that was logged onto Cobra.<br>**Note:** If you omit the quotes in the datasource parameter, the application uses the IdeaBlade.Ibconfig or Config.dat file in the application's folder. The location of the Datasources.dat file is defined inside the Config.dat file. If the location of the Datasources.dat file is not specified in the Config.dat file, you must move the Datasources.dat file within the same folder where the Config.dat file is located. | "<Cobra Installation Location> \Cobra.API.exe" data source:<name of data source><br>**Note:** The <name of the data source> must be an existing data source. | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" data source:DB2 |

**Attention:** For more information on the Config.dat and Datasources.dat files, see the Data Tool Help System.

## API Log File

When you run processes via the Cobra API, Cobra creates an overall API process log where information about the API process is entered.

The file, called Batch.API.log, is created in the user's working folder.

Messages are written to the Batch.API.log if it already exists instead of a new one being created.

## API Script

Use the API script to define settings that affect all API processes in a batch. The API script that Cobra uses to control the API process is a simple ASCII text file.

The API script has two sections:

- Settings
- Process

**API Script Structure**

```
[Settings]
<setting 1>=<setting 1 value>
<setting 2>=<setting 2 value>
. . .
<setting n>=<setting n value>
[Process001]
ProcessID=<pre-defined process id>
<process 1 setting 2>=<process 1 value2>
<process 1 setting 3>=<process 1 value 3>
. . .
<process 1 setting n>=<process 1 value n>
[Process002]
ProcessID=<pre-defined process id>
<process 2 setting 2>=<process 2 value2>
<process 2 setting 3>=<process 2 value 3>
. . .
<process 2 setting n>=<process 2 value n>
. . .
[ProcessN]
ProcessID=<pre-defined process id>
<process N setting 2>=<process N value2>
<process N setting 3>=<process N value 3>
. . .
<process N setting n>=<process N value
```

### Settings Section of the API Script

The settings that affect all API processes are defined in the Settings section of the API script.

The following can be specified in the Settings section:

| Setting | Description | Example |
|---|---|---|
| **LogComment** | You can specify a default log comment for all API processes in the API script that cause changes to the project audit log. | [Settings]<br>**LogComment**=This is a sample log comment |
| **ChangeNumber** | Use this setting to set the change number for any API process that requires a project audit log entry. | [Settings]<br>**ChangeNumber**=123 |
| **Significant** | Use this setting to designate any baseline changes which occur in the batch as significant.<br>A value of 1 indicates that the baseline change is significant, while a value of 0 indicates that the baseline change is non-significant. | [Settings]<br>**Significant**=1 |

### Process Sections of the API Script

Use the process sections of the API script to define the API processes that you want to run in a batch.

- Each section must have a **ProcessID** setting that identifies a valid API process to run.
- The settings that are relevant for each API process depend on the process itself.
- Cobra recognizes a maximum of 999 API processes in a single API script.

  The **Process Number** consists of three digits, which can be from 001-999. API processes are run based on the order that they appear in the API script, and not based on the process ID. Process ID numbers are used for reference in error messages in the log files. Process IDs should be unique for each API process.

  > **Note:** If an API process fails, processing still continues with the other API processes.

- **Exit on Error**: Each process section can contain this parameter. Values can be 0 or 1.
  - **1**: Abort all processing if the API process that contains this setting results in an error
  - **0**: Continue processing even if the API process that contains this setting results in as error

    **Example:** ExitOnError=0
- The value you specify for the API setting must align with the format (case and spacing) of the corresponding Cobra field option.

*Advance Calendar Process*

Use the Advance Calendar API process to advance the calendar for a selected project.

**Process Settings**

Below are the settings you must define for the Advance Calendar API process.

| Setting | Description | Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Advance Calendar process. | AdvanceCalendar |
| **Project** | This setting refers to the Cobra project where you are advancing the calendar.<br>The project name is case sensitive. This setting is required. | Demo Advanced |
| **UseStatusDateAsActualStart DateForLoE** | If value is set to **1**, work packages with Level of Effort (LOE) progress technique and with start dates set before the new status date will be set to In-Progress.<br>This setting is optional and the default value is the value set in the **Automatically change the status date of LOE Work Packages to in-progress** option in the Advance Calendar Preferences. | 1 |
| **PeriodsPriorToStatusDate** | This setting only applies if the rolling wave calendar is defined and the rolling wave process is run. The value determines that number of periods that should be left as rolling wave prior to the status period.<br>This setting is optional, and the default value is **1**. | 1 |
| **PeriodsFollowingStatusDate** | This setting only applies if the rolling wave calendar is defined and the rolling wave process is run. The value determines the number of periods to expand when the | 3 |

| Setting | Description | Value |
|---|---|---|
| | rolling wave process is run after the status date.<br>This setting is optional, and the default value is **3**. | |
| **UpdateRateSetsUsedWithFTE** | This setting only applies if the rolling wave calendar is defined and the rolling wave process is run. If value is set to **1**, rates that begin with FTE are updated based on calendar hours.<br>This setting is optional and the default value is **1**. | 1 |
| **SynchCalendarWithProjectStatus** | If value is set to **1**, the TODATE period in the calendar will be updated to match the status date of the project.<br>This setting is optional, and the default value is **0**. | 1 |
| **SynchProjectWithCalendarStatus** | If value is set to **1** and the calendar set 18 contains a TODATE label, the status date of the project will be updated to match the date in the TODATE calendar entry. This setting only applies if the **SynchCalendarWithProjectStatus** value is **0**.<br>This setting is optional, and the default value is **0**. | 1 |
| **SkipRollingWave** | If value is set to **1**, Cobra skips the rolling wave process.<br>This setting is optional, and the default value is **0**. | 1 |
| **UpdateEAC** | This setting determines whether Cobra will update the Estimate At Complete (EAC) values for the project. If value is set to **1**, Cobra updates the EAC values for the project.<br>This setting is optional, and the default value is **0**. | 1 |

| Setting | Description | Value |
|---|---|---|
| | If the **Scale retain EAC** setting of the project is set to **None**, this setting will have no effect. Cobra will always update the EAC values. | |

### Sample Script

Below is a sample script file for the Advance Calendar API process.

```
[Process007]
ProcessID=AdvanceCalendar
Project=Demo Advanced
UseStatusDateAsActualStartDateForLoE=1
PeriodsPriorToStatusDate=1
PeriodsFollowingStatusDate=3
UpdateRateSetsUsedWithFTE=1
SynchCalendarWithProjectStatus=1
SynchProjectWithCalendarStatus=1
SkipRollingWave=1
UpdateEAC=1
```

*ANSI EIA X12 Process*

Use the ANSI EIA X12 API process to automatically export ANSI EIA X12 data.

### Process Settings

Below are the settings you must define for the ANSI EIA X12 API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the ANSI EIA X12 process. | AnsiX12 |
| **Project** | This setting refers to the project where you want to export ANSI X12 data from.<br>This setting is required. | Demo Advanced |
| **ExportFile** | This setting refers to the full path and name of the file where data will be stored.<br>If you omit the path, the file is saved in the Cobra root directory.<br>If you omit the file name, Cobra uses the project name by default. | C:\ProjectFiles\Deltek\Cobra \System\<br>Demodata\export.csv |

| Setting | Description | Sample Value |
|---|---|---|
| **AggregatedFTE** | If value is set to **1**, the man power values are exported as summed FTE values. If value is set to **0**, the man power values are exported as Hours values.<br>This setting is optional, and the default value is **0**. | 1 |
| **EnforceConsecutivePeriods** | If value is set to **1**, there must be 6 flagged consecutive periods in the calendar set 19 after the TODATE label to complete the export process.<br>This setting is optional, and the default value is **1**. | 0 |
| **ExportExtended** | If value is set to **1** and TransactionSet is **3050**, extra data is exported to the export file.<br>This setting is optional, and the default value is **1**. | 0 |
| **ExportVarianceNarrative** | If value is set to **1**, variance narrative is included in the export file.<br>This setting is optional and the default value is **1**. | 0 |
| **ExportCSSR** | If value is set to **1**, data is exported using the CSSR syntax. If value is set to **0**, the IPMR data is exported.<br>This setting is optional, and the default value is **0**. | 1 |
| **ExportLevel** | This setting refers to the level where data is exported.<br>▪ **3**: Use this value to export the data at structure level 3.<br>▪ **C**: Use this value to export the data at the control account level. | W |

| Setting | Description | Sample Value |
|---|---|---|
| | ▪ **W**: Use this value to export the data at the work package level.<br>You can export data at the work package level only if the actual costs are collected at this level. If the actual costs are not collected at the work package level, an error message is entered in the ANSI EIA X12 log, and the export occurs at the default level.<br>This setting is optional. | |
| **TransactionSet** | This setting refers to the transaction set version by which data is exported.<br>This setting is required. | 3050 |
| **FilterStructureElements** | If value is set to **1**, the structure files are filtered to contain entries for the data exported. If value is set to **0**, all structure entries are exported, even if the entries do not contain data.<br>This setting is optional, and the default value is **1**. | 0 |
| **LongDate** | If value is set to **1**, dates are exported using the format **yyyymmdd** instead of **yymmdd**.<br>This setting is optional, and the default value is **0**. | 1 |
| **ManpowerUnits** | This setting determines how manpower values are exported.<br>Use one of the following values: | F |

| Setting | Description | Sample Value |
|---|---|---|
| | ▪ **H**: Use this value to export the man power values as **Hours**.<br>▪ **F**: Use this value to export the man power values as **FTE**.<br>This setting is optional and the default value is **H**. This setting is not used if the AggregatedFTE setting is **1**. | |
| **OBSProjectOfficerCode** | This setting determines which structure code field to use when exporting the OBS project officer value. If this setting is left blank (the default value), the OBS project officer codes are not exported.<br>This setting is optional. | D1 |
| **OBSCodeFieldId** | This setting determines which control account code file to use when exporting the OBS structure. If this setting is left blank (the default value), the OBS structure defined against the project is used.<br>This setting is optional. | C1 |
| **COMIncludeInBody** | If value is set to **1**, the COM (Sort code C) values are included in the body of the export file.<br>This setting is optional, and the default value is **0**. | 1 |
| **COMIncludeInBottomLine** | If value is set to **1**, the G&A (Sort code G) values are included in the body of the export.<br>This setting is optional, and the default value is **0**. | 1 |
| **GAndAIncludeInBody** | If value is set to **1**, the G&A (Sort code G) values are | 1 |

| Setting | Description | Sample Value |
|---|---|---|
| | included in the bottom line of the export file.<br>This setting is optional, and the default value is **1**. | |
| **GAndAIncludeInBottomLine** | If value is set to **1**, the G&A (Sort code G) values are included in the bottom line of the export file.<br>This setting is optional, and the default value is **0**. | 1 |
| **OHIncludeInBody** | If value is set to **1**, the OH (Sort code O) values are included in the body of the export file.<br>This setting is optional, and the default value is **1**. | 0 |
| **OHIncludeInBottomLine** | If value is set to **1**, the OH (Sort code O) values are included in the bottom line of the export file.<br>This setting is optional, and the default value is **0**. | 1 |
| **SuppressCAM** | If value is set to **1** and there are CAM values defined for the project, the values are not exported. If the **WBSProjectOfficerCode** setting or the **OBSProjectOfficerCode** setting is defined, the CAM values are exported even if this setting is **1**.<br>This setting is optional, and the default value is **1**. | 0 |
| **WBSProjectOfficerCode** | This setting determines which structure code field to use when exporting the WBS project officer value. If this setting is left blank (the default value), the WBS project officer codes are not exported.<br>This setting is optional. | D1 |

| Setting | Description | Sample Value |
|---|---|---|
| **WBSCodeFieldId** | This setting determines which control account code file to use when exporting the WBS structure. If this setting is left blank (the default value), the WBS structure defined against the project is used.<br>This setting is optional. | C1 |

### Sample Script

Below is a sample script file for the ANSI EIA X12 API process.

```
[Process005]
ProcessID=AnsiX12
Project=Demo Advanced
ExportFile=C:\ProjectFiles\Deltek\Cobra\System\Demodata\export.csv
AggregatedFTE=1
EnforceConsecutivePeriods=0
ExportExtended=0
ExportVarianceNarrative=1
ExportCSSR=1
ExportLevel=W
TransactionSet=3040
FilterStructureElements=0
LongDate=1
ManpowerUnits=H
OBSProjectOfficerCode=D1
OBSCodeFieldId=C1
COMIncludeInBody=1
COMIncludeInBottomLine=1
GAndAIncludeInBody=0
GAndAIncludeInBottomLine=0
OHIncludeInBody=0
OHIncludeInBottomLine=1
SuppressCAM=0
WBSProjectOfficerCode=D1
WBSCodeFieldId=C1
```

*Apportionment Process*

Use the Apportionment API process to calculate apportioned budget and forecast values for a selected project.

**Note:** There is a limit of six levels of calculations in the Apportionment API process.

### Process Settings

Below are the settings you must define for the Apportionment API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Apportionment process. | Apportionment |
| **Project** | This setting refers to the project where you want to run the apportionment process.<br>You must define apportionment mapping for the project before the process runs.<br>This setting is required. | Demo Advanced |
| **Scope** | Use one of the following values:<br>▪ **All**: Use this value to recalculate all selected costs regardless of their status. Recalculation applies to historical data.<br>▪ **Remaining**: Use this value to recalculate from the status date forward without changing historical data.<br>▪ **DateRange**: Use this value to set the date range where Cobra should recalculate.<br>This setting is optional, and the default value is **All**. | Remaining |
| **StartDateLabel** | This setting refers to a valid calendar label and is the starting date for the **DateRange** setting.<br>This setting is optional, and the default value is set to the starting date for the **DateRange** setting. | JAN07 |
| **EndDateLabel** | This setting refers to a valid calendar label and is the | APR07 |

| Setting | Description | Sample Value |
|---|---|---|
| | ending date for the **DateRange** setting.<br>Use **StartDateLabel** and **EndDateLabel** only if you use **DateRange** for the **Scope** setting.<br>This setting is optional, and the default value is the ending date for the **DateRange** setting. | |
| **ClassList** | This setting contains a comma-delimited list of the classes to recalculate. This setting supports the inclusion of cost reporting sets.<br>If you leave this setting blank, the calculation process does not run. | Budget,Forecast,OTB |
| **RunTotalSPA** | If this value is set to **1**, Cobra runs the Update Totals process after the apportionment calculations is completed.<br>This setting is optional and the default value is **1**. | 0 |

### Sample Script

Below is a sample script file for the Apportionment API process.

```
[Process012]
ProcessID=Apportionment
Project=Demo Advanced
Scope=ALL
StartDateLabel=JAN07
EndDateLabel=APR07
ClassList=Budget,Forecast,OTB
RunTotalSPA=0
```

*Backup Project Process*

Use the Backup Project API process to back up a Cobra project in a specified location.

### Process Settings

Below are the settings you must define for the Backup Project API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Backup Project process. | BackupProject |
| **Project** | This setting refers to the project that you are creating a backup for.<br>This setting is required. | Demo Advanced |
| **Destination** | This is the directory where you want to save the backed up project file.<br>This setting is required. | C:\Cobra\Project\System\<br>Demodata\ |
| **IncludeAncillaryFiles** | If value is set to **0**, Cobra excludes the ancillary files associated with the project from the backup process.<br>This setting is optional, and the default value is **1**. | 0 |
| **ExcludeLinkFiles** | If value is set to **0**, Cobra excludes the link files associated with the project from the backup process.<br>This setting is optional, and the default value is **1**. | 0 |

### Sample Script

Below is a sample script file for the Backup Project API process.

```
[Process021]
ProcessID=BackupProject
Project=Demo Advanced
Destination=C:\Backups\
IncludeAncillaryFiles=0
ExcludeLinkFiles=0
```

*Batch Report Process*

Use the Batch Report API process to run a Cobra batch report.

### Process Settings

Below are the settings you must define for a Batch Report API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Batch Report process. | BatchReport |
| **BatchReport** | This setting refers to the name of the batch report file to run.<br>The batch name is case sensitive.<br>This setting is required. | MYBATCH |

### Sample Script

Below is a sample script file for a Batch Report API process.

```
[Process001]
ProcessID=BatchReport
BatchReport=My Batch
```

*Calculate Progress Process*

Use the Calculate Progress API process to calculate the value earned for a specific period.

### Process Settings

**Note:** The Calculate Progress process was previously called Calculate Earned Value.

Below are the settings you must define for the Calculate Progress API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This ID informs Cobra to run the Calculate Progress process. | CalculateProgress or CalculateEV |
| **Project** | This setting refers to the project where you are performing a Calculate Progress process.<br>This setting is required. | Demo Advanced |
| **ForceBaseSPI** | If value is set to **1**, schedule performance index values for apportioned work packages are updated to match the source work package values.<br>This setting is optional and the default value is **0**. | 1 |
| **UseAdjustingEntry** | If value is set to **1**, an adjusting entry is added to the work | 0 |

| Setting | Description | Sample Value |
|---|---|---|
| | package to zero out the earned value entries instead of deleting them.<br>This setting is optional and the default value is the value set in the **Use an adjusting entry to remove earned/earned value from deleted budget** option on the Earned Preferences tab of the Project Properties dialog box. | |
| **MethodId** | This setting determines how the earned values are calculated.<br>Use one of the following values:<br>▪ **B**: Budget<br>▪ **D**: Dollars<br>▪ **T**: Time<br>▪ **H**: HoursSPI<br>This setting is optional and the default value is the value set in the **Earned/Earned value by:** option in the Earned Preferences tab of the Project Properties dialog box. If you use this setting, you must specify the value with uppercase letter (for example, **MethodId=D**, not **MethodId=d**).<br>**Note:** If **ProcessID=CalculateEV**, you can also use **EVMethodId** instead of **MethodId**. | D |
| **ExcludedProgressTechniques** | Use this setting to specify one or more progress techniques. Work packages with the | Milestones,Apportioned |

| Setting | Description | Sample Value |
|---|---|---|
| | specified progress technique(s) will not be included in the Calculate Progress process.<br>Use one or more of the following values:<br>▪ Level of Effort<br>▪ Milestones<br>▪ % Complete<br>▪ Units Complete<br>▪ 50-50<br>▪ 0-100<br>▪ 100-0<br>▪ User Defined<br>▪ Apportioned<br>▪ Planning Package<br>▪ Assignment % Complete<br>▪ Calculated Apportionment<br>▪ Earned As Spent<br>▪ % Complete Manual Entry<br>▪ Steps | |

**Sample Script**

Below is a sample script file for the Calculate Progress API process.

```
[Process008]
ProcessID=CalculateProgress
Project= Demo Advanced
ForceBaseSPI=1
UseAdjustingEntry=0
MethodId=D
ExcludedProgressTechniques=Milestones,Apportioned
```

*Calculate Forecast Process*

Use the Calculate Forecast API process to automatically calculate forecasts.

**Process Settings**

Below are the settings you must define for the Calculate Forecast API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This ID informs Cobra to run the Calculate Forecast process. | CalculateForecast |
| **Project** | This setting refers to the project where you want to calculate forecasts.<br>This setting is required. | Demo Advanced |
| **ClassList** | This setting contains a comma-separated list of the forecast classes to calculate.<br>This setting is required. | Forecast,CAM,EAC |
| **CalculatePF** | If value is set to **1**, Cobra recalculates performance factors.<br>This setting is optional, and the default value is **0**. | 1 |
| **CheckForecastDates** | This setting informs Cobra to check the forecast dates.<br>Use one of the following values:<br>▪ **A**: Stop if forecast date is invalid<br>▪ **S**: Slip if forecast date is invalid<br>▪ **P**: Process only Control Accounts (CAs) and Work Packages (WP) with valid forecast dates<br>This setting is optional, and the default value is **P**. | S |
| **AllowNegativeETC** | If value is set to **1**, Cobra calculates all negative Estimate To Complete (ETC) | 1 |

| Setting | Description | Sample Value |
|---|---|---|
| | values. If value is set to **0**, Cobra sets all negative ETC values to zero.<br>This setting is optional, and the default value is **0**.<br>If this setting is not included in the API script, Cobra uses the value set in the **Allow negative ETC** option in the Forecast Preferences.<br>If this setting is not included in the API script, Cobra uses the value set in the **Allow negative ETC** option in the Forecast Preferences tab of the Project Properties dialog box. | |
| **SpreadETCMethodId** | This setting refers to statistical forecast spreading.<br>▪ **E** : This value instructs Cobra to base the forecast spread on the existing forecast spread when performing forecast calculations.<br>▪ **B**: This value instructs Cobra to base the forecast spread on the current budget spread when performing forecast calculations.<br>This setting is required, and the default value is the value set in the **Spread ETC according to** option in the Forecast Preferences tab of the Project Properties dialog box. | B |
| **ScaleRetainEACId** | This setting refers to scaling Estimate At Complete (EAC) values. | H |

| Setting | Description | Sample Value |
|---|---|---|
| | Use one of the following values:<br>▪ **Blank**: If no value is specified, Cobra will not scale the EAC to a particular value. By default, no value is specified for this setting.<br>▪ **C**: This value instructs Cobra to use the value stored in the **EAC** field in the Spreadsheet pane of the Project view to calculate forecast.<br>▪ **H**: This value instructs Cobra to use the value stored in the **Hours.EAC** field in the Spreadsheet pane of the Project view to calculate forecast.<br>▪ **HC**: This value instructs Cobra to scale the resource assignments whose first result is Hours so that the total hours match the value stores in the **Hours.EAC** field in the Spreadsheet pane of the Project view.<br>This setting is optional and the default value is the value is the value set in the **Scale retain EAC** option in the Forecast Preferences tab of the Project Properties dialog box. | |

### Sample Script

Below is a sample script file for the Calculate Forecast API process.

```
[Process015]
ProcessID=CalculateForecast
Project=Demo Advanced
ClassList=Forecast,CAM,EAC
CheckForecastDates=S
CalculatePF=1
AllowNegativeETC=0
SpreadETCMethodId=E
ScaleRetainEACId=C
```

*Copy Project Process*

Use the Copy Project API process to create a new Cobra project by copying an existing project. You can also use this process to copy a Cobra master project which results in a new copy of the master project and all its children projects.

### Process Settings

Below are the settings you must define for the Copy Project API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the copy Project process. | CopyProject |
| **CopyFrom** | This setting refers to the name of the source project to copy<br>This setting is required. | Demo |
| **CopyTo** | This setting identifies the name of the new Cobra project to create.<br>This setting is required. | Demo Advanced |
| **CopyData** | This setting indicates whether data is copied from the source project into the new project. A value of **1** indicates that the data is copied.<br>This setting is optional, and the default value is **0**. | 1 |
| **DeleteTarget** | This setting indicates whether Cobra should delete the existing copy of the new project. A value of **1** informs Cobra to delete the existing copy of the new project. | 0 |

| Setting | Description | Sample Value |
|---|---|---|
| | This setting is optional, and the default value is **1**. | |
| **CopyCalendar** | Use this setting to copy the calendar from the source project and rename it to the new name of the project..<br>A value of **1** informs Cobra to copy the calendar. A value of **0** informs Cobra to use the same calendar as the source project for the new project.<br>This setting is optional, and the default value is **1**. | 0 |
| **NewDescription** | This setting refers to the description of the new Cobra project.<br>This setting is optional. | This is demo project. |

### Sample Script

Below is a sample script file for the Copy Project API process.

```
[Process018]
ProcessID=CopyProject
CopyFrom=Demo
CopyTo=Demo Advanced
CopyData=1
DeleteTarget=0
CopyCalendar=0
NewDescription=This is demo project.
```

*Cost Data Export Process*

Use the Cost Data Export API process to generate the Cost Data Export file in batch.

### Process Settings

Below are the settings you must define for the Cost Data Export API process.

**Note:** This process was previously called AcumenExport. If you have an existing script file, you must rename the file to CostDataExport before running the API process. There are no changes in the process settings.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Cost Data Export process. | CostDataExport |
| **ConfigurationName** | This setting refers to the name of the export configuration file.<br>This setting is required. | DemoAdvancedExport |
| **ConfigurationOwner** | This setting refers to the owner of the export configuration file. If this setting is not specified, Cobra will assume that the API login user is the owner of the configuration file.<br>This setting is optional. | SYSADMIN |
| **Project** | This setting refers to an alternative project to export from, using a specified configuration file.<br>This setting is optional. By default, this is set to the project specified in the configuration file if not specified. | Demo Advanced |
| **ExportFile** | This setting refers to the file path and filename of the exported file. If this setting is not specified, Cobra will use the default path saved in the configuration file.<br>**Note:** If the **Append the current period label to the filename** checkbox on the Save and Run page of the Cost Data wizard is selected, the label for the current status date is added to the exported filename.<br>**Note:** If there is already an existing export file with the same name, Cobra | c:\My Documents\spaceshuttle.dcde |

| Setting | Description | Sample Value |
|---|---|---|
| | automatically overwrites it without displaying a confirmation prompt.<br>This setting is optional. | |

**Sample Script**

Below is a sample script file for the Cost Data Export API process.

```
[Process001]
ProcessID=CostDataExport
ConfigurationName=DemoAdvancedExport
ConfigurationOwner=SYSADMIN
Project=Demo Advanced
ExportFile=c:\My Documents\spaceshuttle.dcde
```

*Create Project from Template Process*

Use the Create Project from Template API process to create a new project from an XML configuration file.

**Attention:** For more information. see the XML Configuration File help topic.

**Process Settings**

Below are the settings you must define for the Create Project from Template API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Create Project from Template process. | CreateProjectFromTemplate |
| **ConfigurationFile** | This is the XML configuration file used to generate a new project. | C:\Import\ProjectTemplate.xml |

**Sample Script**

Below is a sample script file for the Create Project From Template API process.

```
[Process015]
ProcessID=CreateProjectFromTemplate
ConfigurationFile=c:\Import\ProjectTemplate.xml
```

*Delete Project Process*

Use the Delete Project API process to automatically delete projects.

**Process Settings**

Below are the settings you must define for the Delete Project API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Delete Project process. | DeleteProject |
| **Project** | This setting refers to the project you want to delete. | DEMOADV |
| **DeleteCalendar** | If value is set to **1**, Cobra deletes the calendar associated with the project when the project is deleted.<br>This setting is optional, and the default value is **0**. | 1 |

**Note:**

- If security is enabled, you must have modify and delete rights to both the project and the calendar to delete both of them.
- When you delete a project, Cobra does not delete the process logs associated with it.

**Sample Script**

Below is a sample script file for the Delete Project API process.

```
[Process019]
ProcessID=DeleteProject
Project =DEMOADV
DeleteCalendar=1
```

*Get Cobra Spread Process*

Use the Get Cobra Spread API process to view the results of a Cobra Tphase spread for a specified resource and date range.

You can use this process to preview the Tphase spread before adding it to Cobra.

**Process Settings**

Below are the settings you must define for the Get Cobra Spread API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Get Cobra Spread process. | GetCobraSpread |
| **SpreadInformationFile** | This setting refers to the full path and file name of the XML file containing the information to be spread. If the path is not specified, the Start In directory is used.<br>This setting is required. | C:\Program Files\Deltek\Cobra \XMLSpreadInput.xml |
| **SpreadOutputFile** | This setting refers to the full path and file name of the XML file that will contain the spread results. If the specified path does not exist, it will be created.<br>This setting is required. | C:\Program Files\Deltek\Cobra \XMLSpreadOutput.xml |

### Spread Information XML File Structure

The spread information XML file has the following structure:

```
<SpreadInformation>
<Project Name="xxx">
<Resource Name="xxx">
<CostClass Name="xx">
<Spread SpreadKey=”value”>
<StartDate></StartDate>
<FinishDate></FinishDate>
<SpreadCurve></SpreadCurve>
<Quantity Name="xxx"></Quantity>
</Spread>
```

**Note:** The information placed between the **<Spread>** tags can be repeated if multiple resource spreads are required.

The following information is entered between the **<SpreadInformation>** and **</Spread>** tags:

- **<Project Name>**: This is the name of the project. An error occurs if the project does not exist.
- **<Resource Name>**: This is the name of the resource you want to spread. An error occurs if the resource does not exist.
- **<CostClass Name>**: This is the two-letter cost class. An error occurs if the cost class does not exist.

- **<Spread SpreadKey>**: The SpreadKey attribute is optional. If used, this attribute will be added to each SpreadValue element in the output XML for the spread that corresponds to the requested Spread. The SpreadKey value can be any identifier that you want to use.
- **<StartDate>**: This is the start date of the spread.
- **<FinishDate>**: This is the finish date of the spread.
- **<SpreadCurve>**: This the name of the spread curve used. If the spread does not exist, a warning displays and the Linear spread is used.
- **<Quantity Name>**: This is the name of the result.
- **<Quantity>**: This is the numeric value that will be spread in base units.

### Spread Information File Sample

Below is a sample code using the **<SpreadInformation>** tag.

```
<SpreadInformation>
<Project Name="DEMOADV">
<BudgetElement Name="ASTRO">
<CostClass Name="CB">
<Spread SpreadKey=123>
<StartDate>12/19/99</StartDate>
<FinishDate>04/15/00</FinishDate>
</Spread>
<SpreadCurve>Linear</SpreadCurve>
<Quantity Name="DIRECT">3000</Quantity>
<Spread>
<StartDate>12/19/99</StartDate>
<FinishDate>04/15/00</FinishDate>
<SpreadCurve>Bell</SpreadCurve>
<Quantity>1000</Quantity>
</Spread>
</CostClass>
<CostClass Name="OT">
<Spread>
<StartDate>11/30/99</StartDate>
<FinishDate>04/30/00</FinishDate>
<SpreadCurve>Last Period</SpreadCurve>
<Quantity>3000</Quantity>
</Spread>
</BudgetElement>
</Project>
</SpreadInformation>
```

### XML Output Structure

The output file has the following XML structure:

```
<SpreadResults>
<SpreadValue SpreadKey=”value”>
<Project></Project>
<Resource>xxx
<CostClass></CostClass>
<PeriodDate></PeriodDate>
```

```
<[Result1]></[Result1]>
<[Result2]></[Result2]>
...
<[ResultN]></[ResultN]>
<SpreadValue>
</SpreadResults>
```

**Note:** The **<SpreadValue>** tags are repeated for each period generated by the spread and each resource specified in the information file.

The following information is entered between the tags:

- **<Project>**: This is the name of the project to which the spread information applies. It is the same as the project entered in the information file.
- **<Resource>**: This is the name of the resource to which the spread information applies. It is the same as the resource entered in the information file.
- **<CostClass>**: This is the name of the cost class to which the spread information applies. It is the same as the cost class entered in the information file.
- **<PeriodDate>**: This is the period date for the result values.
- **<[ResultN]>**: These tags display the name of the result with the period spread value. They display each result that the resource used.

### Sample Script

Below is a sample script file for the Get Cobra Spread API process.

```
[Process030]
ProcessID=GetCobraSpread
SpreadInformationFile=C:\Program Files\Deltek\Cobra
\XMLSpreadInput.xml
SpreadOutputFile=C:\Program Files\Deltek\Cobra\XMLSpreadOutput.xml
```

*Initialize Forecast Process*

Use the Initialize Forecast API process to automatically initialize forecasts.

This process is available only through the Cobra API.

### Process Settings

Below are the settings you must define for the Initialize Forecast API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Initialize Forecast process. | InitializeForecast |

| Setting | Description | Sample Value |
|---|---|---|
| **Project** | This setting refers to the project where you want to run the initialize forecast process.<br>This setting is required. | Demo Advanced |
| **ClassList** | This setting contains a comma-delimited list of forecast classes to initialize.<br>This setting is required and must be specified. | F1,F2,F3,F4 |
| **Overwrite** | If value is set to **1**, Cobra overwrites an existing forecast.<br>This setting is optional, and the default value is **0**. | 1 |
| **CopyBaselineDates** | If value is set to **1**, Cobra copies the baseline dates into the forecast dates.<br>This setting is optional, and the default value is **0**. | 1 |
| **SkipUpdateTotals** | If value is set to **1**, Cobra skips the update totals process at the end of the initialize forecast process.<br>This setting is optional, and the default value is **0**. | 1 |

### Sample Script

Below is a sample script file for the Initialize Forecast API process.

```
[PROCESS000]
ProcessId=InitializeForecast
Project=Demo Advanced
ClassList=F1,F2,F3,F4
Overwrite=1
CopyBaselineDates=1
SkipUpdateTotals=1
```

*Integrate Actual Costs Process*

Use the Integrate Actual Costs API process to import actual costs into a project in progress.

### Process Settings

Below are the settings you must define for the Integrate Actual Costs API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Integrate Actual Costs process. | IntegrateActualCosts |
| **ConfigurationName** | This setting refers to the name of the configuration stored in the database. The configuration file is created on the last page of the Integration Wizard and contains the list of actions to be run on the project.<br>This setting is required. | MyConfig |
| **Project** | This setting refers to the project where you want to import actual costs.<br>This setting is required. | Demo Advanced |
| **TransactionFile** | This setting refers to the file that contains the data you want to import.<br>This must be a fully qualified filename.<br>This setting optional. By default, this field is set to the settings in the configuration file. | C:\Cobra\System\Demodata \Trn\ac_tran1.csv |
| **ConfigurationOwner** | This setting is optional. However, if the user ID running the API process is not the owner of the configuration file, you must define this setting in the API script. | SYSADMIN |
| **ExclusionFile** | This setting forces the zeroing process to ignore the actual costs contained in a file.<br>The exception file must be in the same format (Format 1 or Format 2) and have the same column order as the actuals import file.<br>This setting is ignored if the **ZeroUnreferencedActualCosts** field is not set to **1**.<br>This setting is optional. | C:\Cobra \IgnoreTheseRecords.csv |

| Setting | Description | Sample Value |
|---|---|---|
| **ValidateOnly** | Use this setting to validate the actual costs without posting any data to the Cobra database.<br>This setting is optional and the default value is **0.** | 1 |
| **Class** | If the file does not include the actuals class, this setting is used to determine the class that will hold the data when loaded. The value must be an actuals class in the Cobra project; otherwise the process will not be completed successfully.<br>This setting is optional. | Actual |
| **ClassId** | This setting is optional and can be used instead of the **Class** setting. | Actual |
| **FieldList** | This setting holds a comma-delimited list of the fields used when loading data from an import file. The field list is used to determine the position of the data being loaded into Cobra. The field list must use field labels such as CA1, CA2, WP, CECODE, HOURS, DIRECT, OVERHEAD, or GANDA and not WBS or Resource. The fields are separated by commas and there should not be any spaces between the fields.<br>This setting is optional. | CA1,CECODE,HOURS,DIRECT |
| **IgnoreClassList** | This setting forces the zeroing process to skip any actual cost records whose class appears in the defined cost class list. This setting is ignored if **ZeroUnreferencedActualCosts** is not set to **1**.<br>This setting is optional. | Budget,Forecast,OTB |

| Setting | Description | Sample Value |
|---|---|---|
| **ResultsToCalculate** | This setting holds a comma-delimited list of resource Results that are calculated after the actual costs are loaded.<br>This setting is optional. | OVERHEAD,GANDA |
| **ResultIdList** | This setting is optional and can be used instead of the **ResultsToCalculate** setting. | OVERHEAD,GANDA |
| **ZeroUnreferencedActualCosts** | If value is set to **1**, Cobra zeroes out actual cost records that do not have a corresponding entry in the load actuals import file.<br>This setting is optional and the default value is **0**. | 1 |
| **FieldMapperColumnHeaders** | This setting is optional and can be used instead of the **FieldList** setting. | CA1,CECODE,HOURS,DIRECT |
| **ExcludedClassesIdList** | This setting is optional and can be used instead of the **IgnoreClassList** setting. | Budget,Forecast,OTB |

### Sample Script

Below is a sample script file for the Integrate Actual Costs API process.

```
[Process004]
ProcessID=IntegrateActualCosts
Project=Demo Advanced
ConfigurationName=MyConfig
TransactionFile=F:\Accounting\Jan-10.csv
ConfigurationOwner=SYSADMIN
Class=Actual
FieldList=CA1,CECODE,HOURS,DIRECT
IgnoreClassList=Budget,Forecast,OTB
ResultsToCalculate=OVERHEAD,GANDA
ZeroUnreferencedActualCosts=1
```

*Integrate Ancillary Data Process*

Use the Integrate Ancillary Data API process to automate the import of ancillary files. This improves integration with other applications.

### Process Settings

Below are the settings you must define for the Integrate Ancillary Data API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Integrate Ancillary Data process. | IntegrateAncillaryData |
| **ConfigurationName** | This setting refers to the name of the configuration stored in the database.<br>The configuration file is created on the last page of the Integration Wizard and contains the list of actions to run on the project.<br>This setting is required. | MyConfig |
| **ConfigurationOwner** | If the user ID running the API process is not the owner of the configuration file, then you must define this setting in the API script.<br>This setting is optional. | SYSADMIN |
| **TransactionFile** | This setting refers to the file that contains the data you want to import.<br>This must be a fully qualified filename. By default, this is set to the import file specified in the configuration file. | C:\Cobra\System\Demodata\Trn\ac_tran1.csv |
| **CobraFile** | This setting refers to the ancillary file that you want to use instead of the file in the saved configuration.<br>This setting is optional. | Ship |

### Sample Script

Below is a sample script file for the Integrate Ancillary Data API process.

```
[Process003]
ProcessID=IntegrateAncillaryData
TransactionFile=C:\Cobra\System\Demodata\Trn\ac_tran1.csv
ConfigurationName=MyConfig
ConfigurationOwner=SYSADMIN
CobraFile=Ship
```

*Integrate Apportionment Definition Process*

Use the Integrate Apportionment Definition API process to import apportionment definition for a selected resource file.

**Process Settings**

Below are the settings you must define for the Integrate Apportionment Definition API process.

| Setting | Description | Sample Value |
|---|---|---|
| **Process ID** | This setting informs Cobra to run the Integrate Apportionment Definition process. | IntegrateApportionmentDefinition |
| **ResourceFile** | This setting refers to the name of the resource file.<br>This setting is required. | Demo Advanced Resources |
| **DefinitionFile** | This is the fully qualified name of the definition file to import, including the file extension.<br>This setting is required. | C:\Cobra\System\Demodata\Trn\ac_tran1.csv |

**Sample Script**

Below is a sample script file for the Integrate Apportionment Definition API process.

```
[PROCESS000]
ProcessId=IntegrateApportionmentDefinition
ResourceFile=Demo Advanced Resources
DefinitionFile=C:\Cobra\System\Demodata\Trn\ac_tran1.csv
```

*Integrate Apportionment Mapping Process*

Use the Integrate Apportionment Mapping API process to calculate apportioned budget and forecast values for a selected project using the Integration Wizard.

**Process Settings**

Below are the settings you must define for the Integrate Apportionment Mapping API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Integrate Apportionment Mapping process. | IntegrateApportionmentMapping |
| **Project** | This setting refers to the project where you want to run the integrate apportionment mapping process. | Demo Advanced |

| Setting | Description | Sample Value |
|---|---|---|
| | This setting is required. | |
| **MappingFile** | This setting refers to the fully qualified name of mapping file to import, including extension.<br>This setting is required. | C:\appmap.csv |
| **DeleteExistingMappings** | If value is set to **1**, Cobra deletes apportionment mappings for the target project before importing new data.<br>This setting is optional, and the default value is **0**. | 1 |

### Sample Script

Below is a sample script file for the Integrate Apportionment Mapping API process.

```
[PROCESS000]
ProcessId=IntegrateApportionmentMapping
Project=Demo Advanced
MappingFile=C:\appmap.csv
DeleteExistingMappings=1
```

*Integrate Project Data Process*

Use the Integrate Project Data API process to integrate a Cobra project with a schedule.

### Process Settings

Below are the settings you must define for the Integrate Project Data API process:

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Integrate Project Data process. | IntegrateProjectData |
| **ConfigurationName** | This setting refers to the name of the configuration stored in the database.<br>The configuration is created on the last page of the Integration wizard and saves your setting in the wizard.<br>This setting is required. | UpdateStatus |
| **ConfigurationOwner** | If the user ID running the API process is not the owner of the configuration file, then you | SYSADMIN |

| Setting | Description | Sample Value |
|---|---|---|
| | must define this setting in the API script.<br>This setting is optional. | |
| **Project** | This is the target Cobra project.<br>This setting is optional. By default, this is set to the project specified in the configuration file. | Demo Advanced |
| **ScheduleProject** | This setting refers to the schedule project.<br>This setting is optional. By default, this is set to the schedule project specified in the configuration file. | SHIP |
| **ActivityFile** | This is the fully qualified path of the activity file including the extension name. Use this setting only when loading data using an import file.<br>This setting is optional. By default, this is set to the path specified in the configuration file. | C:\Demo\Activity.csv |
| **ResourceAssignmentFile** | This setting refers to the fully qualified path of the resource assignment file you want to import. Use this setting only when loading data using an import file.<br>This setting is optional. By default, this is set to the path specified in the configuration file. | C:\Demo \Resourceassignment.csv |
| **StatusFile** | This setting refers to the fully qualified path of the status file you want to import. Use this setting only when loading data using an import file.<br>This setting is optional. By default, this is set to the path specified in the configuration file. | C:\Demo\Status.csv |

| Setting | Description | Sample Value |
|---|---|---|
| **DefaultBudgetClass** | Use this setting to specify the default budget class where you want to import budget resource assignment data.<br>This setting is optional. | Budget |
| **RunUpdateTotals** | If the value is set to **1**, Cobra updates the total values for Budget, Earned, Actuals, and Forecast, ensuring that these summary values that are stored for the project are valid.<br>If the value is set to **0**, Cobra does not update the total values for Budget, Earned, Actuals, and Forecast.<br>You must set this field to **0** only when you are importing more than one project into a single Cobra project. You must set this field to **1** on the last project in the series.<br>This setting is optional and the default value is **1**. | 0 |
| **ActivityResourceFile** | Use this setting only when loading data using an import file. This setting refers to the combined activity and resource files. If you used this setting, you must leave the **ActivityFile** and **ResourceAssignmentFile** settings blank.<br>This setting is optional. | C:\Demo\ActivityResource.csv |

### Sample Script

Below is a sample script file for the Integrate Project Data API process.

```
[Process002]
ProcessID=IntegrateProjectData
ConfigurationName=UpdateStatus
ConfigurationOwner=SYSADMIN
Project=Demo Advanced
ScheduleProject=SHIP
ActivityFile=C:\Demo\Activity.csv
ResourceAssignmentFile=C:\Demo\Resourceassignment.csv
StatusFile=C:\Demo\Status.csv
```

```
DefaultBudgetClass=Budget
RunUpdateTotals=0
ActivityResourceFile=C:\Demo\ActivityResource.csv
```

*Recalculate Process*

Use the Recalculate API process to recalculate data in a project file.

**Process Settings**

Below are the settings you must define for the Recalculate API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Recalculate process. | Recalc |
| **Project** | This setting refers to the project where you want to run the recalculate process. | Demo Advanced |
| **ClassList** | This setting contains the list of cost classes to recalculate.<br>This setting is required. | Budget,OTB |
| **Criteria** | Use this setting to choose the selection criterion you want to use for the recalculate process. The selection criteria change based on the project. Some selection criteria include the following:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM | Control Account |

| Setting | Description | Sample Value |
|---|---|---|
| | ▪ Work Package Manager<br>The options are case sensitive.<br>This setting is optional and the default value is **Total Project**. | |
| **IncludeChildren** | Use this setting to specify whether the selected criterion should include child elements or not.<br>This setting is optional and the default value is **0**. | 1 |
| **Selection** | Use this setting to select the portion of the project for the recalc. The available choices depend on the selections you made in the **Criteria** settings.<br>If you select **Total Project** for the **Criteria** setting, the **Selection** setting is left blank. | 1.1 |
| **Scope** | Use one of the following values:<br>▪ **All**: Use this value to recalculate all selected costs regardless of their status. Recalculation applies to historical data.<br>▪ **Remaining**: Use this value to recalculate from the status date forward without changing historical data.<br>▪ **DateRange**: Use this value to set the date range when Cobra should recalculate. You must specify the **StartDateLabel** and | DateRange |

| Setting | Description | Sample Value |
|---|---|---|
| | **EndDateLabel** settings if you use this value.<br>This setting is required and the default value is **All**. | |
| **StartDateLabel** | Use this setting if setting **Scope=DateRange**.<br>This setting refers to a valid calendar label in calendar set 00 and is the starting date for the **DateRange** option the calculation process is to execute.<br>This setting is only required if the **Scope=All** setting is not defined or missing from the API script. | JAN07 |
| **EndDateLabel** | Use this setting if setting **Scope=DateRange**.<br>This setting refers to a valid calendar label in calendar set 00 and is the end date for the **DateRange** option the calculation process is to execute.<br>This setting is only required if the **Scope=All** setting is not defined or missing from the API script. | APR07 |
| **ResultList** | This setting is the result used to recalculate the total and available costs. This is a required parameter and must be specified.<br>This setting is case sensitive. | OVERHEAD,GANDA |
| **AllowComplete** | Use this setting to indicate whether you want to recalculate completed control accounts and work packages or not.<br>This setting is optional and the default value is the value set in the **Allow recalculation of** | 1 |

| Setting | Description | Sample Value |
|---|---|---|
| | **completed Control Accounts and Work Packages** option in the Recalc Preferences tab of the Project Properties dialog box. | |
| **AllowReadOnlyClasses** | Use this setting to indicate whether to recalculate read-only classes or not.<br>This setting is optional and the default value is the value set in the **Allow Recalc on classes not editable in the time-phase grid** option in the Recalc Preferences tab of the Project Properties dialog box. | 1 |
| **ReplaceResults** | This setting determines whether Cobra uses a rate of **1** or **0** when performing calculations and a required rate is not found.<br>If **ReplaceResults = 1 (True)**, Cobra uses a rate of **1** when there is a missing rate.<br>If **ReplaceResults = 0 (False)**, Cobra uses a rate of **0** when there is a missing rate.<br>If this setting is not specified, Cobra uses a rate of **0** when there is a missing rate. | 1 |

### Sample Script

Below is a sample script file for the Recalculate API process.

```
[Process001]
ProcessID=Recalc
Project=Demo Advanced
Criteria=Control Account
IncludeChildren=0
Selection=1.1
Scope=All
StartDateLabel=JAN07
EndDateLabel=APR07
ClassList=Budget,OTB
ResultList= OVERHEAD,GANDA
AllowComplete=0
```

```
AllowReadOnlyClasses=0
ReplaceResults=1
```

*Reclass Process*

Use the Reclass API process to change, copy, or replace an existing cost class with a different cost class.

**Process Settings**

Below are the settings you must define for the Reclass API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Reclass process. | Reclass |
| **Project** | This setting refers to the project where you want to run the reclass process.<br>This setting is required. | Demo Advanced |
| **SourceClass** | This setting refers to the source class from which you copy, change, or replace the data of the target class.<br>This setting is required. | Budget |
| **SourceAction** | Use one of the following values:<br>▪ **Copy**: Use this value to copy data from the source class and add it to the target class without deleting the source class.<br>▪ **CopyDelete**: Use this value to copy data from the source class, add it to the target class and delete the source class.<br>This setting is required. | CopyDelete |
| **TargetAction** | Use one of the following values:<br>▪ **Add**: Use this value to add data from the | Replace |

| Setting | Description | Sample Value |
|---|---|---|
| | source class to the existing target class data without deleting the source data.<br>▪ **Replace**: Use this value to replace data in the target class with data from the source class.<br>This setting is required. | |
| **TargetClass** | This setting refers to the target class where you copy, change, or replace data from the source class.<br>This setting is required. | OTB |
| **CopyResourceAssignmentCodeFrom** | Use this setting to specify which class should retain the resource assignment codes. Use one of the following values:<br>▪ **Source** : Use this value to instruct Cobra to retain existing resource assignment codes on the source class.<br>▪ **Target** : Use this value to instruct Cobra to retain existing resource assignment codes on the target class.<br>This setting is optional and the default value is the source class. | Source |
| **Criteria** | Use this setting to choose the selection criterion you want to use for the reclass. The selection criteria change based on the project. Some selection criteria include the following:<br>▪ Total Project | Resources |

| Setting | Description | Sample Value |
|---|---|---|
| | ▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource<br>▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>This setting is optional and the default value is **Total Project**. | |
| **IncludeChildren** | Use this setting to specify whether the selected criterion should include child elements or not.<br>This setting is optional and the default value is **0**. | 1 |
| **Selection** | Use this setting to select the portion of the project for the reclass. The available choices depend on the selections you made in the **Criteria** settings.<br>If you select **Total Project** for the **Criteria** setting, the **Selection** setting is left blank.<br>This setting is optional. By default, no value is specified in this setting. | 1.1 |
| **Scope** | Use one of the following values:<br>▪ **All**: Use this value to reclass all selected costs regardless of | DateRange |

| Setting | Description | Sample Value |
|---|---|---|
| | their status. Reclass applies to historical data.<br>▪ **Remaining**: Use this value to reclass from the status date forward without changing historical data.<br>▪ **DateRange**: Use this value to set the date range when Cobra should reclass. You must specify the **StartDateLabel** and **EndDateLabel** settings if you use this value.<br>This setting is optional and the default value is **All**. | |
| **StartDateLabel** | Use this setting if **Scope=DateRange**. This setting refers to a valid calendar label and is the starting date for the **DateRange** setting.<br>This setting is optional and the default value is the starting date for the **DateRange** setting. | JAN07 |
| **EndDateLabel** | Use this setting if setting **Scope=DateRange**. This setting refers to a valid calendar label and is the ending date for the **DateRange** setting.<br>Use **StartDateLabel** and **EndDateLabel** only if you use **DateRange** for the **Scope** setting.<br>This setting is optional and the default value is the ending date for the **DateRange** setting. | APR07 |

| Setting | Description | Sample Value |
|---|---|---|
| **AllowComplete** | Use this setting to indicate whether you want to perform a reclass of completed control accounts and work packages or not.<br>This setting is optional and the default value is the value set in the **Allow reclass of completed Control Account and Work Package**: option in the Reclass Preferences. | 1 |
| **IncludeForecastInUpdateTotals** | If the target class is a Forecast class, setting this value to **1** will include the Forecast class values when you run the Update Totals process after the Reclass process is finished.<br>This setting is optional and the default value is **0**. | 0 |
| **CopyBaselineDatesToForecastDates** | If value is set to **1**, Cobra copies the baseline dates to the forecast dates if the following conditions are met:<br>▪ **SourceClass** is set to a Budget class.<br>▪ **TargetClass** is set to a Forecast class.<br>▪ **Scope** is set to **All**.<br>▪ **Criteria** is not set to **Resource Assignmen** or **Resource**.<br>Otherwise, Cobra automatically sets the value to **0**. | 1 |

### Sample Script

Below is a sample script file for the Reclass API process.

```
[Process010]
ProcessID=Reclass
Project=Demo Advanced
SourceAction=CopyDelete
SourceClass=Budget
```

```
TargetAction=Replace
TargetClass=OTB
Criteria=Resources
IncludeChildren=1
Selection=1.1
Scope=DateRange
StartDateLabel=JAN07
EndDateLabel=APR07
AllowComplete=1
IncludeForecastInUpdateTotals=0
CopyBaselineDatesToForecastDates=1
```

*Reconcile Log Process*

Use the Reconcile Log API process to reconcile project logs.

**Process Settings**

Below are the settings you must define for the Reconcile Log API process.

| Setting | Description | Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Reconcile process. | Reconcile |
| **Project** | This setting refers to the Cobra project where you are reconciling project logs.<br>The project name is case sensitive. This setting is required. | Demo Advanced |

**Sample Script**

Below is a sample script file for the Reconcile API process.

```
[PROCESS000]
ProcessId=Reconcile
Project=Demo Advanced
```

*Replace Resources Process*

Use the Replace Resources API process to automatically replace resources.

**Process Settings**

Below are the settings you must define for the Replace Resources API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Replace Resources process. | ReplaceResources |

| Setting | Description | Sample Value |
|---|---|---|
| **Project** | This setting refers to the project where you want to replace resources.<br>This setting is required. | Demo Advanced |
| **FileName** | This setting refers to the full path and filename of the comma-separated value (.csv) or Excel (.xls) file containing the resource pairings to use in the replace process. | C:\ProjectFiles\Deltek\Cobra\Data\ResourceList.xls |
| **OriginalResources** | This setting refers to the old resources to be replaced.<br>You must specify this setting if **FileName** setting is not defined.<br>This setting is optional and the default value is equal to the **FileName** setting. | AERO1 (any resource in the resource file attached to the project) |
| **ReplacementResources** | This setting refers to the new resource that will replace the old resource.<br>You must specify this setting if **FileName** setting is not defined.<br>This setting is optional and the default value is equal to the **FileName** setting. | AERO (any resource in the resource file attached to the project) |

### Sample Script

Below is a sample script file for the Replace Resources API process.

```
[Process019]
ProcessID=ReplaceResources
Project=Demo Advanced
FileName=C:\Project Files\Deltek\Cobra\Data\ResourceList.XLS
OriginalResources=AERO1
ReplacementResources=AERO
```

**Note:** This API script runs the Replace Resources process on the DEMOADV project using the resource pairings in the indicated Excel file. If you include both a file and an **OriginalResources/ReplacementResources** pairing, Cobra uses the file unless the file does not exist.

*Replan Process*

Use the Replan API process to remove variances from any ongoing projects.

**Process Settings**

Below are the settings you must define for the Replan API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Replan process. | Replan |
| **Project** | This setting refers to the project where you want to run the replan process.<br>This setting is required. | Demo Advanced |
| **UseAdjustingEntry** | If value is set to **1**, Cobra makes an adjustment in the current period when replan is performed.<br>Valid values are **1** or **0**. Default value is **0**. | 1 |
| **ExtendFinishDate** | If value is set to **1** and the status date is after the work package baseline finish date, the work package baseline finish date is changed to the day after the status date. The adjustment of the date ensures that the replanned entry is within the work package dates.<br>This setting applies only if **UseAdjustingEntry** is set to 1 and the status date is after the baseline finish date of the work package.<br>Valid values are **1** or **0**. Default value is **0**. | 1 |
| **CreateNewWP** | This setting instructs Cobra to create new work package.<br>This setting is ignored if **ReplanMethodId** is set to **BP** and the project's level at which to capture actual costs is set to **Control Account**.<br>Valid values are **1** or **0**. Default value is **0**. | 1 |

| Setting | Description | Sample Value |
|---|---|---|
| **AllowPlanned** | If value is set to **1**, Cobra replans the work packages that have not yet started and moves the baseline start date for the work packages to the status date so that the replanned entry occurs within the work package dates. If value is set to **0**, Cobra skips the work package that has not yet started even if there is actual cost for that work package.<br>Valid values are **1** or **0**. Default value is **0**. | 0 |
| **AllowCompleted** | If value is set to **1**, Cobra replans the completed work packages. If value is set to **0**, Cobra replans only the incomplete work packages.<br>Valid values are **1** or **0**. Default value is **0**. | 0 |
| **ProgressAdjustmentClass** | Cobra stores the earned value of the replanned work package in the class that you specify in this setting.<br>Valid values are blank or any progress class.<br>If value is blank, Cobra uses the default class following this order:<br>▪ The class defined in the Project Preferences.<br>▪ The "EARNED", "Earned", or "EV" class that is defined in the project's classes.<br>▪ The first project's progress class (following the alphabetical order.) | Earned |

| Setting | Description | Sample Value |
|---|---|---|
| **Criteria** | Use this setting to specify which code of the project you want to replan.<br>Valid values are:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>Default value is **Total Project** (displayed as **ALL** in the process log.) | Control Account |
| **Selection** | Use this setting to specify the code that you want to include in the replan if **Criteria** is not set to **Total Project**. | |
| **IncludeChildren** | If value is set to **1**, Cobra runs the replan process against any code assignments with the selected code and its children.<br>Valid values are **1** or **0**. Default value is **0**. | 0 |
| **ReplanMethodId** | Use this setting to specify how replan should be calculated.<br>Valid values are:<br>▪ **BP**: Budget = Progress = Actuals<br>▪ **P**: Budget = Earned<br>Default value is **BP**. | BP |

| Setting | Description | Sample Value |
|---|---|---|
| **NewWPName** | Use this setting to specify the name of the new work package.<br>This setting is required if one of the following conditions are met:<br>▪ The **CreateNewWP** setting is set to **1**.<br>▪ The **ReplanMethodId** is set to **BP** and the project's level at which to capture actual costs is set to **Control Account**. | RepWP |
| **NewWPNameIsSuffix** | If value is set to **1**, Cobra adds the value you specify in the **NewWPName** setting as suffix to the existing work package name.<br>This setting is ignored if the **ReplanMethodId** is set to **BP** and the project's level at which to capture actual costs is set to **Control Account**. Default value is **0**. | 0 |
| **NewWPDescription** | Use this setting to specify the description for the new work packages. | Replan WP |
| **LogComment** | Use this setting to specify a comment for the log. | |
| **ChangeNumber** | Use this setting to specify the change number. | |
| **Significant** | If value is set to **1**, Cobra flags the change as significant.<br>Valid values are **1** or **0**. | |

### Sample Script

Below is a sample script file for the Replan API process.

```
[Process001]
ProcessID=Replan
Project=Demo Advanced
UseAdjustingEntry=1
```

```
ExtendFinishDate=1
CreateNewWP=1
AllowPlanned=0
AllowCompleted=0
ProgressAdjustmentClass=Earned
Criteria=Total Project
ReplanMethodId=BP
NewWPName=RepWP
NewWPNameIsSuffix=0
NewWPDescription=Replan WP
```

*Respread Process*

Use the Respread API process to respread project costs.

**Process Settings**

Below are the settings you must define for the Respread API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Respread process. | Respread |
| **Project** | This setting refers to the project where you want to run the respread process.<br>This setting is required. | Demo Advanced |
| **ClassList** | This setting contains the list of cost classes that can be used for the respread.<br>This setting is required. | Budget,OTB |
| **Criteria** | Use this setting to choose the selection criterion you want to use for the respread. The selection criteria change based on the project. Some selection criteria include the following:<br>▪ Total Project<br>▪ Control Account<br>▪ Work Package<br>▪ Control Account Key Fields<br>▪ Work Package Field<br>▪ Resource | Control Account |

| Setting | Description | Sample Value |
|---|---|---|
| | ▪ Resource Assignment<br>▪ Control Account Codes 1 to 20<br>▪ Work Package Codes 1 to 20<br>▪ CAM<br>▪ Work Package Manager<br>The selection criteria are case sensitive.<br>This setting is optional and the default value is **Total Project**. | |
| **IncludeChildren** | Use this setting to specify if the selected **Criteria** should include child elements.<br>This setting is optional, and the default value is **0**. | 1 |
| **Selection** | Use this setting to select the portion of the project for the respread. The available options depend on the selections you make in the **Criteria** and **Level** settings.<br>If you select **Total Project** for the **Criteria** setting, the **Selection** setting is left blank.<br>This setting is optional. By default, no value is specified in this setting. | 1.1 |
| **Scope** | Use one of the following values:<br>▪ **All**: Use this value to apply the respread to the entire project. The respread applies to historical data.<br>▪ **Remaining**: Use this value to apply the respread from the | Remaining |

| Setting | Description | Sample Value |
|---|---|---|
| | status date forward without changing historical data.<br>This setting optional and the default value is **All**. | |
| **AllowInProgress** | This setting specifies if work packages in progress will be included in the respread process.<br>This setting is optional and the default value is the value set in the **Allow changes to scope for an in-progress Control Account/Work Package** option in the Project Preferences tab of the Project Properties dialog box. | 1 |

### Sample Script

Below is a sample script file for the Replace Resources API process.

```
[Process014]
ProcessID=Respread
Project=Demo Advanced
ClassList=Budget,OTB
Criteria=WBS
IncludeChildren=1
Selection=1.1
Scope=Remaining
AllowInProgress=1
```

*Restore Process*

Use the Restore API process to automatically restore projects in batch.

### Process Settings

Below are the settings you must define for the Restore API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Restore process. | Restore |
| **FileName** | This setting refers to the name of the file you want to restore. | DEMOADV.CMP |

| Setting | Description | Sample Value |
|---|---|---|
| | You can specify a comma delimited list of file names to restore.<br>This setting is required. | |
| **Path** | This setting refers to the directory containing the backup files.<br>If you leave this setting blank, the Cobra directory is used by default.<br>This setting is required. | C:\Cobra\System\DemoData\ |
| **OverWriteAll** | If the value is set to **0**, the Restore process skips the files that are being restored if they exist in Cobra.<br>This setting is required and the default value is **1**. | 0 |

### Sample Script

Below is a sample script file for the Restore API process.

```
Process022]
ProcessID=Restore
FileName=DEMOADV.CMP
Path=C:\Cobra\System\DemoData\
OverWriteAll=0
```

*Rolling Wave Process*

Use the Rolling Wave API process to facilitate weekly earned value management and reporting over a user defined period while the remaining project data before and after this period is stored less frequently (generally, monthly).

### Process Settings

Below are the settings you must define for the Rolling Wave API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This ID informs Cobra to run the Rolling Wave process. | RollingWave |
| **Project** | This setting refers to the project where you are performing a rolling wave.<br>This setting is required. | LEARN |

| Setting | Description | Sample Value |
|---|---|---|
| **PeriodsPriorToStatusDate** | This setting refers to the number of periods before the status date that you want to expand.<br>This setting is ignored if the value of the **CollapseAllPeriods** setting is **1**. | 1 |
| **PeriodsFollowingStatusDate** | This setting refers to the number of periods after the status date that you want to expand.<br>This setting is ignored if the value of the **CollapseAllPeriods** setting is **1**. | 3 |
| **UpdateRateSetsUsedWithFTE** | If the value of this setting is **1**, Cobra expands any rate with the result code **F** into the sub-period rates for all the rate files in the project. If value is set to **0**, Cobra does not expand any FTE rate sets.<br>This setting is optional, and the default value is **0**. | 1 |
| **CollapseAllPeriods** | This setting allows you to collapse all of the periods in the project from weekly back to monthly.<br>If the value of this setting is **1**, the **PeriodsPriorToStatusDate** and **PeriodsFollowingStatusDate** settings are ignored.<br>If the value of this setting is **0**, the Rolling Wave process will expand and collapse the periods normally.<br>This setting is optional, and the default value is **0**. | 1 |

### Sample Script

Below is a sample script file for the Rolling Wave API process.

```
[Process003]
ProcessID=RollingWave
Project=LEARN
PeriodsPriorToStatusDate=1
PeriodsFollowingStatusDate=3
UpdateRateSetsUsedWithFTE=1
CollapseAllPeriods=1
```

*Set Project Baseline Process*

Use the Set Project Baseline API process to set and verify the values for the contract budget accounts.

### Process Settings

Below are the settings you must define for the Set Project Baseline API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Set Project Baseline process. | SetProjectBaseline |
| **Project** | This setting refers to the project where you want to run the Set Project Baseline process.<br>This setting is required. | Demo Advanced |
| **LogTimePhasedChanges** | This setting is required if the project audit is off. Use this setting to enable or disable the time-phased data logging of baseline changes for a project with regulatory requirements.<br>Use one of the following values:<br>▪ **0**: Use this value to disable the time-phased data logging for a project. This is the default value.<br>▪ **1** : Use this value to enable the time-phased data logging for a project. | 1 |
| **LogLevel** | Use this setting to indicate the level where budget changes are captured.<br>This option is required.<br>Use one of the following values: | Control Account |

| Setting | Description | Sample Value |
|---|---|---|
| | ▪ Control Account<br>▪ Work Package<br>▪ Resource Assignments | |
| **NegotiatedCost** | This setting refers to the budgeted contract target cost value.<br>This setting is optional. | 2290000.00 |
| **AuthorizedUnpricedWork** | This setting refers to the authorized unpriced work value.<br>This setting is optional. | 500.50 |
| **ContractCeiling** | This setting refers to the Budgeted and Estimate at Complete Contract Ceiling value for the project.<br>This setting is optional. | 484000.00 |
| **ManagementReserve** | This setting refers to the values debited from to increase the distributed budget.<br>This setting is optional. | 20000.00 |

### Sample Script

Below is a sample script file for the Set Project Baseline API process.

```
[Process010]
ProcessID=SetProjectBaseline
Project=Demo Advanced
LogTimePhasedChanges=1
LogLevel=Control Account
NegotiatedCost=2290000.00
AuthorizedUnpricedWork=5000.50
ContractCeiling=484000.00
ManagementReserve=20000.00
```

*SQL Command Process*

Use the SQL Command API process to automate SQL scripts, which is helpful in exporting data or running SQL scripts on data.

### Process Settings

Below are the settings you must define for the SQL Command API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the SQL Command process. | SQLCommand |
| **SQLCommand** | This setting refers to the SQL command that runs during the API process. It can either be a one-line SQL command or a file containing a SQL script.<br>If you specify a SQL script file that contains the statements you want to run, Cobra retrieves the value in this field and checks if it exists as a file. If it does, Cobra loads the contents and runs the file; otherwise, Cobra runs the value directly as a SQL statement.<br>This setting is required. | C:\ProjectFiles\Deltek\Cobra \sqlexample.sql |
| **SaveAsFile** | This setting refers to the full path and filename of the data exported after the command runs.<br>This setting is needed only when the SQL command is a Select command.<br>If no extension is used, the default is .csv.<br>If you do not specify a filename, data is saved in the file sql.csv in the Cobra directory.<br>This setting is optional. By default, this setting is set to not save. | C:\ProjectFiles\Deltek\Cobra\ System\sqlexample.csv |

### Sample Script

Below is a sample script file for the SQL Command API process.

```
[Process020]
ProcessID=SQLCommand
SQLCommand=C:\ProjectFiles\Deltek\Cobra\sqlexample.sql
SaveAsFile=C:\ProjectFiles\Deltek\Cobra\System\sqlexample.csv
```

*Update Totals Process*

Use the Update Totals API process to update and save the total values for Budget, Earned, Actuals, and Forecast.

**Process Settings**

Below are the settings you must define for the Update Totals API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Update Totals process. | UpdateTotals |
| **Project** | This setting refers to the project where you want to run the Update Totals process.<br>This setting is required. | Demo Advanced |
| **Total** | This setting contains a comma-delimited list and is used to restrict the Total process to summarize the following:<br>▪ **S**: Budget<br>▪ **P**: Earned<br>▪ **A**: Actuals<br>▪ **E**: Forecast<br>This setting is optional. By default, this setting is set to **S,P,A,E**.<br>If **E** is included in the setting (**Total=S,P,A,E**), EAC is not retained and Forecast is included in calculating the total values. This is the same as clicking **Yes** in the following confirmation prompt when you run the Update Totals Wizard: "Do you want to include EAC values in the process of calculating the total, possibly changing the existing Control Account/Work Package EAC values?"<br>If **E** is not included in the setting (**Total=S,P,A,E**), EAC is retained and Forecast is not | S, P, A, and/or E |

| Setting | Description | Sample Value |
|---|---|---|
| | included in calculating the total values. This is the same as clicking **No** in the following confirmation prompt when you run the Update Totals Wizard: "Do you want to include EAC values in the process of calculating the total, possibly changing the existing Control Account/Work Package EAC values?" | |

### Sample Script

Below is a sample script file for the Update Totals API process.

```
[Process009]
ProcessID=UpdateTotals
Project=Demo Advanced
Total=S,A
```

*Update Tphase Process*

Use the Update Tphase API process to update an individual Tphase (time-phase) period for a specified resource and date.

You can either add or overwrite the existing value.

### Process Settings

Below are the settings you must define for the Update Tphase API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Update Tphase process. | UpdateTphase |
| **UpdateTphaseFile** | This setting refers to the full path and file name of the XML file containing the information that is updated in the Tphase table. If the path is not specified, the Start In directory is used. | C:\UpdateTPHASE.xml |

### Update Tphase XML Structure

The Update Tphase XML file has the following structure:

```
<UpdateTphase>
<Project Name="xxx">
<CAWP Type="xx"></CAWP>
<BudgetElement></BudgetElement>
<CostClass></CostClass>
<Add></Add>
<Periods>
</Period>
<Date></Date>
<Quantity></Quantity>
</Period>
</Periods>
</UpdateTphase>
```

The following information is entered between the tags:

- **<Project Name>**: This is the name of the project. An error occurs if the project does not exist.
- **<CAWPType>**: This determines the format of the **<CAWP>** tag values. Select one of the following options:

  **CA**: Control Account

  **WP**: Work Package

  **ID**: CAWPID
- **<CAWP>**: This is the **CA**, **WP**, or **CAWPID** value based on the <**CAWPType>** tag entry.

  The **CAWPID** is a number based on the **CAWPID** value in Cobra. The **CA** and **WP** codes are in the form CA1 / CA2 / CA3 / WP.

  For example, if you have a WBS and OBS code for a control account, the format would be 1.1.1.1 / 1200. A work package under this control account would be 1.1.1.1 / 1200 / 01.

  An error occurs if the specified **CA**, **WP** or **CAWPID** does not exist.
- **<BudgetElement>**: This is the name of the resource you want to update. An error occurs if the resource does not exist in the project.

  > **Note:** The process loads to the base result on the resource, so there is no need to add a **Result** field to the XML file.
- **<CostClass>**: This is the cost class. An error occurs if the specified cost class does not exist in the project.
- **<Add>**: Enter one of the following values in this tag:
  - **0**: This value indicates that the **Quantity** replaces the existing value.
  - **1**: This value indicates that the **Quantity** is added to the existing period value.

  If this option is omitted, the data is added to an existing entry by default.

- **<Period>**: This is repeated for each date and quantity being entered in the Tphase spread.

**Note:** Information placed between the **<Period>** tags can be repeated if multiple date spreads are required.

- **<Date>**: This is the date of the period to replace. The date must be either a calendar date, or the control account or work package finish date.
- **<Quantity>**: This is the numeric value that is entered into the Tphase period.

### Sample Script

Below is a sample script file for an Update Tphase API process.

```
[Process001]
ProcessID=UpdateTphase
UpdateTphaseFile=C:\UpdateTPHASE.xml
```

Below is a sample Update Tphase XML file section.

```
<UpdateTphase>
<Project Name="Demo Advanced">
<CAWP Type="WP">1.1.2.2/1600/03</CAWP>
<BudgetElement>DRAFT</BudgetElement>
<CostClass>Budget</CostClass>
<Add>0</Add>
<Periods>
<Period>
<Date>12/31/2015</Date>
<Quantity>400.00</Quantity>
</Period>
<Period>
<Date>01/31/2016</Date>
<Quantity>300.50</Quantity>
</Period>
<Period>
<Date>02/28/2016</Date>
<Quantity>200</Quantity>
</Period>
<Period>
<Date>03/31/2016</Date>
<Quantity>100</Quantity>
</Period>
<Period>
<Date>04/15/2016</Date>
<Quantity>10.50</Quantity>
</Period>
</Periods>
</Project>
</UpdateTphase>
```

*Validity Check Process*

Use the Validity Check API process to automatically run a validity check.

**Process Settings**

Below are the settings you must define for the Validity Check API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the Validity Check process. | ValidityCheck |
| **Project** | This setting refers to the Cobra project you are validating.<br>This setting is required. | DEMOADV |
| **BusinessValidation** | If value is set to **1**, Cobra validates the control account, work package, forecast, and milestone dates on the project, and performs other data integrity checks on the control accounts or work packages.<br>This setting is optional, and the default value is **1**. | 0 |
| **ResourceCodeAssignmentValidation** | If value is set to **1**, Cobra validates that the resource and code assignments in the project do not have invalid referenced data or undefined results.<br>This setting optional, and the default value is **1**. | 0 |
| **AncillaryFilesValidation** | If value is set to **1**, Cobra validates all the ancillary files (rate files, resource files, calendar files, and code files) attached to the project and rebuild resource/code structures.<br>This setting is optional, and the default value is **1**. | 0 |
| **DataAnomalyValidation** | If value is set to **1**, Cobra validates data anomalies such as orphan and duplicate records in the project.<br>This setting is optional, and the default value is **1**. | 0 |

| Setting | Description | Sample Value |
|---|---|---|
| **ProjectApportionmentDefinitionValidation** | Set this field to **1** to validate master project and project definitions such as the class/cost set assignments, project audit log records, master project, and apportionment definition checks.<br>This setting is optional, and the default value is **1**. | 0 |

### Sample Script

Below is a sample script file for the Validity Check API process.

```
[Process017]
ProcessID=ValidityCheck
Project=DEMOADV
BusinessValidation=1
ResourceCodeAssignmentValidation=1
AncillaryFilesValidation=1
DataAnomalyValidation=1
ProjectApportionmentDefinitionValidation=1
```

*wInsight Export Process*

Use the wInsight Export API process to export Cobra data to wInsight in batch.

### Process Settings

Below are the settings you must define for the wInsight Export API process.

| Setting | Description | Sample Value |
|---|---|---|
| **ProcessID** | This setting informs Cobra to run the wInsight Export process. | wInsightExport |
| **ConfigurationName** | This setting refers to the name of the export configuration file.<br>This setting is required. | DemoAdvancedExport |
| **ConfigurationOwner** | If the user ID running the API process is not the owner of the configuration file, then you must define this setting in the API script.<br>This setting is optional. If not specified, this defaults to the user currently logged onto Cobra. | SYSADMIN |

| Setting | Description | Sample Value |
|---|---|---|
| **Project** | This setting refers to an alternative project to export from, using a specified configuration file.<br>This setting is required. By default, this is set to the project specified in the configuration file. | Demo Advanced |
| **ExportFile** | This setting refers to the name of the file containing the exported wInsight data.<br>This setting is optional. | c:\My Documents\spaceshuttle - nov07.xml |
| **wInsightContractName** | This setting refers to the name that is used for the contract in wInsight.<br>This setting is optional. If this setting is not specified, Cobra uses the wInsight Contract Name saved in the configuration file. | SpaceShuttle |

### Sample Script

Below is a sample script file for the wInsight Export API process.

```
[Process006]
ProcessID=wInsightExport
ConfigurationName=DemoAdvancedExport
ConfigurationOwner=SYSADMIN
Project=Demo Advanced
ExportFile=c:\My Documents\spaceshuttle - nov07.xml
wInsghtContractName=SpaceShuttle
```

## Project Template Creation

You can create a project from a project template by specifying information in an XML configuration file and using the Cobra API.

### Required Components

This feature requires the following components:

- A project template with associated template files.
- An XML configuration file that defines the additional changes to be made to the created project.
- An API process definition that initiates the creation of the new project.

### Process for Creating a Project Template

When you create a new project from a project template, several steps take place:

The API script initiates the new project creation process.

The XML configuration file is parsed.

Information for the new project is gathered by using information from the XML configuration file and template files.

The new project and supporting files are created.

## Required Template Files

A number of template files must exist before you can create a new project from a project template.

### Project

This is a template project. The project should have two project-level code fields defined, with the following labels:

- **Code field 1**: Home Currency
- **Code field 2**: Project Type

### Calendar

This is a template calendar. This calendar can be assigned to the template project or identified using the **TemplateCalendarName** setting.

### Rate File

This is a template rate file.

This rate file may be assigned to the template project or identified using the **TemplateRateFileName** setting.

### Resource Files

You need multiple resource files supporting various combinations of home currency and units.

- There must be one resource file for each possible combination of home currency/units.
- A relevant resource file will be chosen by the project creation process.
- The resource assigned to the template project is ignored unless the **CopyProjectBEFile** setting is used.

### Home Currency Code File

This is a code file containing a list of valid home currency codes.

### Structure File

This is a code file that will be assigned as the CA1 structure on the new project.

### XML Configuration File

You can define settings in an XML configuration file to be used when you create a new project from a project template.

**ContractNo**

This is a one to six digit number that is used as:

- The new project's name (unless the **ProjectName** setting is used).
- The **Contract Number** field in the project (viewed on the Contract Information page in the Program Directory).

> **Note:** This number can be between one and six digits long. This setting is required if **ProjectName** is not specified.

**ProjectName**

- This setting refers to the new name of the project.
- If the ProjectName is not specified, the **ContractNo** setting is used for the name of the project.

**HomeCurrency**

This is a three-digit code indicating the home currency of the new project.

- The value specified must be a valid value in the **HomeCurrencyCodeFile** setting.
- This value is assigned to a project code field that uses the label **Home Currency**. If there is no project code field with this label, the value is not assigned.
- If not specified, the **HomeCurrency** field is set to the application option **HomeCurrencyDefault** by default.

**HomeCurrencyCodeFileName**

- This is the name of the code file containing the list of valid **HomeCurrency** values.
- If not specified, the **HomeCurrencyCodeFileName** field is set to the application option **HomeCurrencyCodeFileNameDefault** by default.

**Units**

This value is used to determine the resource file a project will use.

- This setting can have either of the following values:

  **E**: English

  **M**: Metric
- If not specified, this field is set to the application setting **UnitsDefault** by default.

**ScheduledStartDate**

This is the scheduled start date for the project.

- The date format must be consistent with Cobra's date format.
- This value is assigned to the project's scheduled start date.

**ScheduledFinishDate**

This is the scheduled finish date for the project.

- The date format must be consistent with Cobra's date format.
- This value is assigned to the project's scheduled finish date. It is also assigned to the project's estimated finish date.

**ProjectType**

This is a code indicating the project type.

- This value is assigned to a project code field that uses the label **Project Type**.
- The value specified must be a valid value in the **ProjectTypeCodeFile** setting.
- If there is no project code field with this label, the value is not assigned.
- If not specified, the **ProjectType** field is set to the application option **ProjectTypeDefault** by default.

**ProjectTypeCodeFile**

- This is the name of the code file containing the list of valid **ProjectType** values.
- If not specified, the **ProjectTypeCodeFile** is set to the application option **ProjectTypeCodeFileDefault** by default.

**TemplateCalendarName**

This is the template calendar that is copied to create the calendar for the new project.

- If this setting is not specified, the calendar assigned to the template project (ProjectTemplate file) is used.
- Periods that occur between the scheduled start and finish dates are copied. If the scheduled start date does not occur on a period date, the period before the start date is also copied.
- All calendar sets in the template are copied into the new calendar.
- An additional period is added one day before the first period in the new calendar and assigned the label **start** in calendar set 0.
- **Previous** and **Todate** labels are assigned to the first and second periods respectively in calendar sets 18 and 19.
- The **atcomplete** label is assigned to the last period in calendar sets 18 and 19.

**TemplateRateFileName**

This setting specifies an alternative rate file to assign to the new project.

- This setting is optional.

- It is copied to create the class rate files for the new project.
- If this setting is not specified, the rate file assigned to the template project (ProjectTemplate file) is used on the new project and as the source rate file when creating new rate files to assign to classes.

### ClassRateFile

This setting is a parent node for a <class> and <ratefile name> pair.

- There can be multiple **ClassRateFile** parent nodes.
- If specified, a new rate file is created from the template rate file and assigned to the class in the newly created project.
- The class must refer to an existing class in the template project.
- A special wildcard name can be used for the rate file name so that a name is constructed using the **Contract number** plus the **Class name.**
- Example:

```
<ClassRateFiles>
<ClassRateFile>
<Class>CB</Class>
<RateFileName>{project}{class}</RateFileName>
</ClassRateFile>
</ClassRateFiles>
```

> **Note:** This sample creates a new rate file for class CB with the name of the project and the class name. If the new project name is **123456**, a rate file called **123456CB** is created by copying the rate file from the master rate file, and then assigning it as the rate file in class CB.

- Initially, only the special tokens {project} and {class} are supported.
- If a rate file with the same name already exists, the existing rate file is used.

### UseTemplateProjectBEFile

- If this setting is set to **true**, the resource file assigned to the template project is used for the new project.
- If this setting is not defined or set to any value other than **true**, the process calculates the resource assignment file to use, as specified in this document.
- This setting is optional.

### CustomHook

This is a single custom hook definition.

- **HookFileName**: This is the fully qualified name of the custom routine that runs. The filename should include the extension.
- **HookType**: Select the type of routine to run:

- **P**: Compiled Foxpro procedure (ending in .fxp)
- **S**: Foxpro script
- **E**: exe

Types **P** and **S** must accept a single parameter object. Hook programs of type **E** are not passed a parameter.

- The hook is called at the end of the Copy process and is passed a parameter object containing data relevant to the creation process.

### API Script to Create a New Project from a Project Template

When you create a new project from a project template, the process section of the API script must refer to the XML configuration file containing relevant settings.

The process section must contain this information:

- **ProcessID**: CreateProjectFromTemplate
- **ConfigurationFile**: The name of the XML configuration file to use when creating the new project.

### Application Settings

When you create a new project from a project template, you can use a number of global settings.

These settings are grouped under the display category **Template Project Defaults**, with an internal category name of **TemplateProject**.

| Current Setting ID | Setting ID in Cobra 5.x |
|---|---|
| **UnitsDefault** | ProjectCode1t |
| **ProjectTypeDefault** | ProjectCode2 |
| **ProjectTypeCodeFileNameDefault** | Not supported |
| **HomeCurrencyDefault** | HomeCurrency |
| **HomeCurrencyCodeFileNameDefault** | Not supported |

### Additional Project Files

Below are the additional project files that are created when you create a new project from a project template.

If security is enabled in Cobra, any file created by this process is assigned security in the same way they are if they are created through the Cobra interface.

#### Calendar File

When a new project is created in Cobra with the option to copy the calendar, a calendar with the same name as the project is created. If the calendar already exists, this process uses the existing calendar and does not create a new calendar.

### Resource File

The new project is assigned an existing resource assignment file. The name of the resource assignment file to assign is determined by the **Units** and **Home Currency** values selected. These are used to build a name with the following format: MBE_CCCU.

where:

- **CCC**: A three-letter home currency designation
- **U**: The unit designation (**E** or **M**)

### Code Structure

The code structure assigned to the **CA1** field on the template project is copied and given a new name using the format {project name}TT.

- This structure is assigned to the **CA1** structure field on the new project.

  **Example**: if the contract number is **123456**, a structure file named **123456TT** is created.

  > **Note:** If a project name longer than six characters is specified in the XML file, the **TT** is truncated or ignored.

- If an existing code structure exists with the same name, the new code file is not created and the existing structure file is assigned to the **CA1** field.

### Existing/Missing Files

- Unless otherwise specified, any files being created that already exist are overwritten.
- If any template file needed by the creation process does not exist, the creation process is aborted.

> **Note:** If security is enabled in Cobra then any file created by this process is assigned security in the same way they are if they are created through the Cobra interface.

## XML Configuration File Sample

This is an example that shows the XML elements in a sample XML configuration file without any node values.

```
<Cobra>
<CreateProjectFromTemplate>
<TemplateProjectName></TemplateProjectName>
<ContractNo></ContractNo>
<ProjectName></ProjectName>
<HomeCurrency></HomeCurrency>
<ScheduledStartDate></ScheduledStartDate>
<ScheduledFinishDate></ScheduledFinishDate>
<ProjectCode1></ProjectCode1>
<ProjectCode2></ProjectCode2>
<ClassRateFiles>
<ClassRateFile>
<Class></Class>
```

```
<RateFileName></RateFileName>
<Class></Class>
<RateFileName></RateFileName>
</ClassRateFile>
</ClassRateFiles>
<TemplateCalendarName></TemplateCalendarName>
<TemplateRateFileName></TemplateRateFileName>
<TemplateResourceFileName></TemplateResoruceFileName>
<CustomHooks>
<CustomHook>
<FileName></FileName>
<FileType></FileType>
</CustomHook>
<CustomHook>
<HookFileName></HookFileName>
<HookType></HookType>
</CustomHook>
</CustomHooks>
</CreateProjectFromTemplate>
</Cobra>
```

### Hook Program Methods

This parameter object contains methods that the hook program can use to get access to data used by the project creation process.

| Method Name | Parameters | Returns | Notes |
|---|---|---|---|
| **GetXMLConfigObject()** | N/A | Object | This method returns the **XMLConfig** object, which provides read access to the XML configuration file values. |
| **GetMsgLoggerObject()** | N/A | Object | This method returns the **MsgLogger** object, which allows messages to be added to the process log. |
| **SetSuccess(Boolean)** | VFP Boolean | N/A | This method sets whether the hook program is successful. Calling SetSuccess and passing a value of **false** does not stop the creation process (it has already completed by the time the hook is called), but it prevents any successive |

| Method Name | Parameters | Returns | Notes |
|---|---|---|---|
| | | | custom hooks from being called. |

### XML Configuration Object Interface

Use this table to see property names and their data types for the properties defined in the XML configuration file.

These properties should never be set by a custom hook program.

| Property Name | Data Type | Notes |
|---|---|---|
| **TemplateProjectName** | Char | |
| **ContractNo** | Char | |
| **ProjectName** | Char | |
| **Units** | Char | |
| **HomeCurrency** | Char | |
| **HomeCurrencyCodeFileNam e** | Char | |
| **ScheduledStartDate** | Date | |
| **ScheduledFinishDate** | Date | |
| **ProjectType** | Char | |
| **ProjectTypeCodeFileName** | Char | |
| **ClassRateFiles** | Object | Collection of class/rate file objects |
| **TemplateCalendarFileName** | Char | |
| **TemplateRateFileName** | Char | |
| **TemplateCA1Structure** | Char | |
| **UseTemplateBEFile** | Logical | |

### ClassRateFiles Collection

The **ClassRateFiles** collection property is a collection of **ClassRateFile** objects.

A **ClassRateFile** object has the following properties:

| Property Name | Data Type | Notes |
|---|---|---|
| **ClassId** | Char | This is the class ID. |

| Property Name | Data Type | Notes |
|---|---|---|
| **RateFileName** | Char | This is the name of the Cobra Rate File being assigned to the class. |

### MsgLogger Object Interface

A custom hook can use the message logger object to add messages to the message log.

The **MsgLogger** object provides the following methods:

| Method Name | Parameters | Notes |
|---|---|---|
| **AddMessage(string)** | **String**: The message to add | |
| **AddWarningMessage(string)** | **String**: The warning message to add | Warning messages are prefixed with a '[Warning]' tag. |
| **AddErrorMessage(string)** | **String**: The error message to add | Error messages are prefixed with a '[Error]' tag. |

## Procedures

Follow the procedures in this section to manage API scripts.

### Run the API Script

Use this procedure to run an API script.

**To run an API script:**

- On the Cobra Command line, enter the following:

```
Cobra.Api.exe script:<fully qualified path of the script file>
```

> **Note:** You must indicate the fully qualified path of the script file in addition to its filename. An additional parameter of user:<userid/pwd> for explicit user login can be included. This setting will override the server's authentication setting.user:<userid/pwd> .

Example:

```
Cobra.Api.exe script:C:\Cobra8.x\Samples\batch.txt
user:EPM/Deltek
```

### Create Windows Shortcut for the API Script

Use this procedure to create a Windows shortcut for the API script.

**To create a Windows shortcut for the API script:**

1. Right-click an empty area on the Windows Desktop. On the shortcut menu, click **New** » **Shortcut**.
   The Create Shortcut window displays.
2. Click **Browse**.
3. Navigate to the directory where Cobra is installed and select COBRA.API.EXE.
4. Click **Open**.
5. On the command line, place the cursor after the quotation mark at the end of the command. Enter the following:

   ```
   user:<username>/<password> script:<path of script file>
   ```

   where username and password refer to your Cobra login credentials.

   > **Note:** You do not need to supply the user name and password credentials if Windows authorization is configured.

6. Click **Next**.
7. Enter a name for the shortcut.
8. Click **Finish**.

## Security

System administrators can use Cobra security features to grant or restrict users' access to data and processes.

This table provides information on the locations where Cobra security is maintained.

| Tool | Description |
|---|---|
| EPM Security Administrator (EPM SA) | Use this tool to set up users, groups, and roles that are shared across all Deltek PPM products, including Cobra.<br>**Attention:** For more information, see the EPM SA Help System. |
| Access Control Tabs and Pages | Each type of file in Cobra (project, calendar, resource, rate, code, report, and configuration) has a Properties dialog box and New File Wizard, which contain Access Control. You use the Access Control of each file type to secure the file and assign access rights to either a |

| Tool | Description |
|---|---|
| | user or a group of users. When you assign a group access to a file, the primary role of the user will be used to determine what type of access they have while in the file. For example, the primary role for each user in the group will determine if the user can edit the budget within the project. |
| Change Ownership and Access Rights Dialog Box | You can change ownership and access control information of an object, if you are the owner of an object or a SYSADMIN user, using the Change Owner and Access Rights dialog box . This allows the owner or SYSADMIN to change ownership and access rights for multiple entities at once. |
| Configuration Security Dialog Box | You use this dialog box set the security for saved configurations. |

### Users

The term user refers to an individual who has rights to log into Cobra.

### Roles

The term role describes a position, such as Analyst, CAM, or Project Manager, and the type of operations a user in that position can perform, such as accessing menu items, tabs within a dialog box, or even elements of a view, such as actual costs.

A user has a primary role, which is defined on their record in the EPM SA and can be overridden if the user serves in a different capacity on another project. You can override a user's primary role by entering the user's user ID on the Access Control tab and providing an overriding role. For example, assume that Jack is primarily a CAM, but on one project he serves as Analyst. For that project, specify that Jack has an overriding role of Analyst.

Similarly, you can provide an overriding role for an entire group. For example, you can give the PMO the overriding role of SYSADMIN. An overriding role takes precedence over a user's primary role or any role assigned to a group to which the user belongs.

- **Default**: This role gives users and group’s full rights to an entity. The SYSADMIN can modify details in this profile.
- **SYSADMIN**: This role gives users and group’s full access rights to an entity. This role The user or group assigned this role has full access rights to a contract.
- **Owner_Delegate**: This role provides a method to delegate ownership rights for individual files, allowing other users to act as the owner when the file owner is not available. Users in this group have the same access control to a file as the user assigned as the Owner. It also allows sharing of file backups across organizations without requiring users to be in the SYSADMIN group.

  The **Owner_Delegate** affects the following areas in Cobra:

- **Object Security**: Owner delegates of an object have the same rights as the owner of the object and has the ability to update the access control information for an object, but do not have the ability to change the owner of the object.
- **Project Baseline Security**: Owner delegates of a project may edit the access control information of the project baselines.
- **Restore Process**: Owner Delegates have special rights that allow them to restore an object that they do not have rights to if they currently have the Owner_Delegate role on an existing object with the same name in the database. This allows the Owner_Delegate to restore backups from previous versions of the software, which do not support the Owner_Delegate role. The restore process also transfers any existing Owner_Delegate assignments on existing objects to the restored objects as part of the restore process.

### Groups

The term group usually represents a major program or project in an organization, or represents a functional group, such as the project management office. You assign users to groups to provide quick access to data. Users can have different roles in a group.

In EPM SA, the SYSADMIN and GUEST groups are created automatically. You can find these groups in the Group list.

- **WORLD**: All users that you define in EPM SA automatically become members of the WORLD group. This group, however, does not exist in the Group list in EPM SA. You cannot remove or add users or define security permissions for this group. When you assign the WORLD group on the Access Control tab, you give all users full access to an entity and to all demo data.
- **SYSADMIN**: Users in this group have rights to all menus in PPM products, including the Access Control tab used to set access control to files. Members of this group also have access to the EPM SA.

### Example of Security Settings

For example, assume that you have eight users. You add these eight users through the EPM SA, using Active Directory.

A user's primary role defines the operations that the user can perform (for example, update baselines, set budget equal to actual costs, and update data). You assign one of the following primary roles to each user:

- **Scheduler**: This role is a super user of Open Plan, with limited access to baseline and cost information.
- **Analyst**: This role is a super user of Cobra, with access to all areas of the application.
- **CAM**: CAM stands for Control Account Manager, a technical person who has limited access to processes but is essential for providing status and details, such as explanations of variances.
- **Project Manager**: This role is a user who has read access to all data, but has limited rights to modify the data.

For each of these primary roles, you define the menu options to which the user has access. For example, an Analyst may be allowed to perform processes such as Replan, where the actual cost is set as equal to the budget. A CAM may not be permitted to perform this process.

Assume that your company currently has two major projects. You create two groups, one for each project, and assign users to groups based on the projects on which they are working. To prevent users from project A from seeing data for project B, use the Access Control grid to specify the groups that have rights to access project B data.

## EPM Security Administrator Functions

The Deltek EPM Security Administrator (EPM SA) is installed when you perform the Administrator Workstation installation of Cobra, or as part of the PM Compass implementation.

The EPM SA allows you to share users, groups, and product license information across the entire Deltek PPM product suite.

You must be a SYSADMIN user or a member of the SYSADMIN group to access EPM SA. When you first install Cobra, only the SYSADMIN user can access the EPM SA.

**Note:** The default user ID is **SYSADMIN** and the default password is **password**.

### Disable Logins

System administrators can use the EPM SA tool to prevent users from logging onto Cobra. This function is useful if, for example, you need to perform maintenance on the database. If even one user is logged on, the maintenance cannot be performed.

When users try to log into Cobra, they receive a message stating that the system administrator has disabled logins to the data source. Clearing the message returns the users to the Cobra Login dialog box, where they can cancel the login attempt completely or use the Data Tool to select another data source.

### Display Login Message

System administrators can use the EPM SA tool to display a message that all users see when they log onto Cobra. This function is useful, for example, to warn users of scheduled downtime for upcoming database maintenance.

### Terminate a Session

System administrators can use the EPM SA tool to remotely terminate the Cobra session for any user logged onto Cobra. If the workstation is processing data, the Terminate Session function is blocked. Blocking processes are processes that must finish before termination can take place:

- Restore
- Backup
- Ancillary Data Integration
- Apportionment Mapping Integration
- Load Actuals Integration
- Schedule Integration

- Top Down Planning
- Calculate Forecast
- Advance Calendar
- Calculate Progress
- Recalc
- Reclass
- Replan
- Update Totals
- Freeze Forecast
- Validity Check
- Respread
- Update OP Resources
- Slip
- Rebuild Hierarchy

**Send a Message to Users**

System administrators can use the EPM SA tool to send a message to any user, or all users, logged onto Cobra. This function is useful, for example, if the system administrator needs to inform all users to log out so that database maintenance can be performed.

**Turn Windows Authentication On or Off**

System administrators can use the EPM SA tool to turn a Cobra user's Windows authentication on or off.

**Set Maximum Time of Inactivity**

System administrators can use the EPM SA tool to set the maximum time before Cobra closes due to a user's inactivity.

**Set a Maximum Number of Login Tries**

System administrators can use the EPM SA tool to set the maximum number of tries allowed for a user to log onto Cobra before it closes.

See the EPM SA help system for instructions for performing functions such as:

- Creating a list of users using the Active Directory
- Creating groups and assigning users to the groups
- Defining roles to secure menu options
- Maintaining license information and providing users with access to applications

## Procedures

Follow the procedures in this section to perform basic EPM SA functions.

### Run the EPM Security Administrator

Run the EPM Security Administrator to set up users, groups, and roles that are shared across all Deltek PPM products.

**To run the EPM SA tool:**

- Click the Start menu, and click **Deltek Cobra X.x** » **Deltek EPM Security Administrator**.

  If you are a PM Compass user, the Deltek EPM Security Administrator is accessed from a different URL than PM Compass. By default, the URL is http://<servername>/EPMSAClient.

### Disable Logins

Use the EPM SA to prevent users from logging onto Cobra.

**To prevent users from logging onto Cobra:**

1. Log onto EPM SA and click Cobra in the list of products in the Explorer pane.
2. In the **Logins** pane of the Product Details form, click **Disable Logins**.

   When users try to log into Cobra, they receive a message stating that the system administrator has disabled logins to the data source. Clearing the message returns the users to the Cobra Login dialog box, where they can cancel the login attempt completely or use the Data Tool to select another data source.

### Display a Login Message

Use the EPM SA to display a message that all users see when they log onto Cobra

**To display a login message:**

1. Log onto EPM SA and click **Cobra** in the list of products in the Explorer pane.
2. Click **Login Message** and enter a message in the Login Message box.

### Terminate a Session

Use the EPM SA to remotely terminate the Cobra session for any user logged onto Cobra.

**To terminate a user's session:**

1. Log onto EPM SA and click **Cobra** in the list of products in the Explorer pane.
2. In the Users pane, select a user or users and click **Terminate Session**.

When a user's session is terminated, the user receives a warning that Cobra has been terminated by the system administrator and will automatically close in 10 seconds. Any unsaved changes to Cobra are lost and the user cannot perform any actions in Cobra.

**Note:** You cannot use the Terminate Session function to terminate a running API process or Web service request. Use the Disable Logins function to prevent a new API process or Web service request from starting.

### Send a Message to Users

Use the EPM SA to send a message to any users, or all users logged onto Cobra.

**To send a message to users:**

1. Log onto EPM SA and click **Cobra** in the list of products in the Explorer pane.
2. In the Users pane, select the recipient or recipients of the message and click **Send Message.**

### Turn Windows Authentication On or Off

Use the EPM SA to turn a Cobra user's Windows authentication on or off.

**To turn a user's Windows authentication on or off:**

1. Log onto EPM SA and click **Cobra** in the list of products in the Explorer pane.
2. On the menu bar, click **Tools** » **Authentication Options**.
   - To turn on Windows authentication, select the following options:
     - **Authentication Mode**: Windows
     - **Authentication Type**:
       - Windows User Name (User)
       - Windows Domain\User Name [Domain\User]
       - Windows User Principal Name (user@domain.com)

     **Note: Windows User Principal Name** authentication option is not yet supported in Cobra. Refer to KB Article # 88504 in the Knowledge Center of the Deltek Support Center.

     **Attention:** Refer to the Authentication Options Dialog Box topic in the EPM SA Help System for more information on authentication modes and authentication types.
   - To turn off Windows authentication, select the following option:
     - **Authentication Mode**: Basic

### Set Maximum Time of Inactivity

Use the EPM SA to set the maximum time before Cobra closes due to a user's inactivity.

**To set the maximum time of inactivity:**

1. Log onto EPM SA and click **Cobra** in the list of products in the Explorer pane.
2. On the menu bar, click **Tools** » **Authentication Options**.
3. Enter a numeric value of 0 through 999 in the **Max Time of Inactivity** field.

   By default, the maximum time is 30 minutes. If your session is inactive for 30 minutes, Cobra displays a dialog box asking you to click **Close** to continue with your current session or your session will be terminated automatically. To prevent this from ever happening, set the **Max Time of Inactivity** field to **0**. A value of **0** means that your session never expires.

### Set a Maximum Number of Login Tries

Use the EPM SA to set the maximum number of tries allowed for a user to log into Cobra before it closes.

**To set the maximum number of login tries:**

1. Log onto EPM SA and click **Cobra** in the list of products in the Explorer pane.
2. On the menu bar, click **Tools** » **Authentication Options**.
3. Enter a numeric value of 0 through 999 in the **Max Login Retries** field.

   If the value in this field is greater than 0 and authentication fails, Cobra redisplays the login dialog box. If the value in this field is equal to 0 and authentication fails, Cobra will not start. By default, the maximum number of login retries is 3.

## Change Ownership and Access Rights

You can change ownership and access control information of an object, if you are the owner of an object or a SYSADMIN user, using the Change Owner and Access Rights dialog box .

This feature allows the owner or SYSADMIN to change ownership and access rights for multiple entities at once. This makes it easier to manage access rights when someone changes roles, or when access rights need to be updated across multiple entities.

To secure access to the dialog box, click **File** » **Manage** » **Owner and Access Rights** in the EPM SA tool.

Using the appropriate option, you can filter the display of objects in the dialog box by owner and object type. You can also sort the displayed objects by column in either ascending or descending alphabetical order by clicking the column heading.

## Change Ownership and Access Rights Dialog Box

Use this dialog box to change the owner and access control of an object, if you are the owner of an object or a SYSADMIN user.

### Contents

| Field | Description |
|---|---|
| **Owner** | By default, this field displays the current logged in user ID. Changing the value for this field updates the display in the grid to objects owned by the selected user ID.<br>You can change the user ID by clicking and selecting another user ID in the Users Lookup dialog box. |
| **Objects** | Click this field to display the object types that can be secured using this dialog box. Your options are as follows:<br>▪ All Objects<br>▪ Batch Report<br>▪ Calendar File<br>▪ Code File<br>▪ Configuration<br>▪ Master Project<br>▪ Project<br>▪ Rate File<br>▪ Report<br>▪ Resource File<br>▪ View<br>You can filter the objects displayed on the grid by selecting an object type from the drop-down list. The default is **All Objects**. Selecting **Projects** displays both master and non-master projects owned the selected user ID. |
| **Object Grid** | This grid contains columns that display information for objects owned by the selected user ID.<br>▪ **Name**: This column displays the name of the object.<br>▪ **Object**: This column displays the object type.<br>▪ **Type**: This column displays the configuration type for configurations and the report type for reports.<br>▪ **Description**: This column displays a description of the selected object.<br>Selecting an object or objects from the grid enables the Change Owner and Change Access Rights buttons. |

| Field | Description |
|---|---|
| **Change Owner** | Click this button to display the Change Owner dialog box, which you use to change the owner of an object. |
| **Change Access Rights** | Click this button to display the Change Access Rights dialog box, which you use to change the access control information of an object. |

### Display the Change Ownership and Access Rights Dialog Box

Use this procedure to display the Change Ownership and Access Rights dialog box.

**To display the Change Ownership and Access Rights dialog box:**

- Click » **Manage** » **Owner and Access Rights**.

## Procedures

Follow the procedures in this section to change ownership and access rights of an object.

### Change the Owner of an Object

Assign a new owner to the selected object or objects using the Change Owner dialog box.

**To change the owner of the selected object or objects:**

1. Click » **Manage** » **Owner and Access Rights**.
2. In the Change Owner and Access Rights dialog box, do the following:
   - In the **Owner** field, select a user ID.
   - In the **Objects** field, select the object type that you want to filter and display in the grid.
   - Select the object or objects for which you want to change the owner, and click **Change Owner**.
3. In the Change Owner dialog box, click in the **New Owner** field to select a new owner for the selected object or objects, and click **OK**.
4. Click **Close** in the Change Owner and Access Rights dialog box.

### Change the Access Rights of an Object

Update the access rights assigned to the selected object or objects or remove a group or user from the access control list of the selected object or objects using the Change Access Rights dialog box.

**To change the access rights assigned to an object or objects:**

1. Click » **Manage** » **Owner and Access Rights**.
2. In the Change Owner and Access Rights dialog box, do the following:
   - In the **Owner** field, select a user ID.
   - In the **Objects** field, select the object type that you want to filter and display in the grid.
   - Select object or objects for which you want to change the access rights, and click **Change Access Rights**.

   In the Change Access Rights dialog box, you can update the access rights or remove a group or user from the access control list of the selected object or objects.
3. To remove a group or user from the access control list of the selected object or objects, do the following:
   - In the Delete From Access Lists section, select **Group** or **User**.
   - Click , select a group or user on the Lookup dialog box, and click **Delete** .
4. To update the access rights assigned to the selected object or objects, do the following:
   - In the **Selected Objects Access Control** grid, add or delete the desired group or user with specific roles.
   - Select **Add to Access Lists** or **Replace Access Lists**, and click **Update Access Control**.
5. Click **Close**.
6. Click **Close** in the Change Owner and Access Rights dialog box.

## Access Control

After performing the basic security setup in EPM SA, access control to data is defined in Cobra.

Each type of file in Cobra (project, calendar, resource, rate, code, report, and configuration) has a Properties dialog box and New File wizard, which contain the Access Control tab or the Access Control page. You use the Access Control tab or the Access Control page of each file type to secure the file and assign access rights to either a user or a group of users. When you assign a group access to a file, the primary role of the user will be used to determine what type of access they have while in the file. For example, the primary role for each user in the group will determine if the user can edit the budget within the project.

| File | Access Control Tab | Access Control Page |
|---|---|---|
| **Project** | Access Control Tab of the Project Properties Dialog Box | Access Control Page of the New Project Wizard |
| **Calendar** | Access Control Tab of the Calendar File Properties Dialog Box | Access Control Page of the New Calendar File Wizard |
| **Code** | Access Control Tab of the Code File Properties Dialog Box | Access Control Page of the New Code File Wizard |
| **Rate** | Access Control Tab of the Rate File Properties Dialog Box | Access Control Page of the New Rate File Wizard |
| **Report** | Access Control Tab of the Report Properties Dialog Box<br>Access Control Tab of the Add Batch Report Dialog Box<br>Access Control Tab of the Edit Batch Report Dialog Box | Access Control Page of the Report Wizard |
| **Integration Configuration** | Configuration Security Dialog Box | Access Control Page of the Integration Wizard - Actuals<br>Access Control Page of the Integration Wizard - Ancillary<br>Access Control Page of the Integration Wizard - Scheduling Tools |
| **wInsight Configuration** | | Access Control Page of the wInsight Wizard |
| **Cost Data Configuration** | | Access Control Page of the Cost Data Wizard |

To provide access control to a file, you must be a member of the SYSADMIN group or the owner of a file.

| Field | Description |
|---|---|
| **Owner** | This field displays the user ID of the owner of the file. By default, this field displays the user ID of the user creating the file. You can only assign a single owner to each file.<br>**Note:** This field is always disabled regardless of whether you are the owner of the file, or a member of the SYSADMIN group. To change the **Owner** field of a particular file, use the Access Control tab of the file's Properties dialog box. |

| Field | Description |
|---|---|
| **User** | Users refer to individuals who can be given the right to open and view the file.<br>Users must have update access to a project and its ancillary files in order to run the integration against it or to update the configuration settings. |
| **Group** | Groups are composed of individual users and provide a convenient way of assigning multiple user rights to the file. A user can be a member of any number of groups.<br>The SYSADMIN group is a special group that has access to administrative information.<br>Use the WORLD group to easily provide access to all users. For example, use this group to provide all users with read access to the integration configuration. All users you define in the EPM Security Administrator (EPM SA) automatically become members of the WORLD group in Cobra. Since this special group does not require you maintain the users, you cannot select the WORLD group in the Group list in EPM SA. |
| **Role** | Roles define the permissions of a user set in EPM SA. Changing this field does not override the primary role defined in EPM SA. |
| **Read Only** | This option, when selected, allows the creator of the file (or any member of the SYSADMIN group) to provide a user or a group with **Read Only** access to the file.<br>**Note:** For existing file, only the owner or any member of the SYSADMIN group can change the security settings, and delete and restore a file. You can assign multiple users, groups, or roles to a file. |

## Windows Authentication

When turned on, Cobra implements Windows authentication on the selected data source during initial login to the application. This is also implemented when switching to a different data source during re-login to the application.

If you use Windows authentication, your users' access to Cobra is based on their Windows credentials instead of a different set of Cobra credentials.

To set up Windows authentication, use the Authentication Options dialog box in the EPM Security Administrator. Refer to the Turn Windows Authentication On or Off topic for more information and the EPM Security Administrator Help System for more information.

You have three options for using Windows Authentication to verify credentials when users attempt to log into Cobra.

| Authentication Mode | Description | Deployment Type |
|---|---|---|
| **Windows User Name authentication** | This mode uses the authenticated Windows User Name and validates it against the Cobra user list. The Windows User Name is used as the Cobra login ID. The Windows Domain is not validated.<br>This mode is the same as the Windows Authentication option used in Cobra 5.1 SP1 and earlier. | Standalone, Client/Server, N-tier |
| **Windows Domain and User Name authentication** | This mode uses the authenticated Windows Domain and User Name and validates both against the Cobra user list. Each Cobra user must have a Domain name assigned to his or her user record. The Windows User Name is used as the Cobra login ID. | Standalone, Client/Server, N-tier |
| **Windows Domain and User Name authentication plus role authentication with communication security** | This mode is the same as Windows Domain and User Name authentication but also supports further restricting access to Cobra through the use of a Windows Security Group (role), and supports security on communication between the client and server.<br>This mode requires additional configuration through the communication configuration files used by n-tier deployments. | N-tier |

## Windows Domain and User Name Authentication Plus Role Authentication

One of your options for authenticating a user's credentials at login is Windows Domain and User Name authentication, plus role authentication and communication security. This authentication is available only for n-tier deployments.

In an n-tier deployment, clients connect to an application server and the application server connects to the database. The authentication occurs between the client and server. Cobra uses configuration files found on both the client machines and application server to enable Windows authentication. Authentication only supports authenticating users who are members of the same domain as the application server.

After Windows Authentication is configured, Cobra performs the following actions:

- When a user starts a Cobra client, the client attempts to connect to the application server. The Windows User Identity from the client Windows machine (which includes the user ID and Domain) is passed to the server, where it is authenticated against the Active Directory of the server. This authentication process is controlled by Windows Communication Foundation (WCF). If authentication fails, the Cobra login will fail and the user will not be able to gain access to Cobra.

  **Attention:** For more information, go to the Deltek Support Center site and check the Knowledge Base article about the WCF feature of Cobra.

- Once the user is successfully authenticated against Active Directory, the Cobra n-tier service validates the Windows User Identity against any roles specified in the configuration file of the Cobra n-tier service. If one or more roles are specified, and the Windows User does not have one or more of those Windows roles assigned, the Cobra login will fail and the user will not be able to gain access to Cobra.
- If Active Directory and role authentication succeed, the Cobra n-tier service uses the User ID and Domain of the Windows User and validates them against the list of users in the Cobra database. If a matching entry cannot be found, the Cobra login will fail and the user will not be able to gain access to Cobra.
- If a Cobra user is found with a matching User ID and Domain, the user is logged into Cobra.

## Configure Windows Authentication in an N-Tier Deployment

Follow these steps to set up Windows authentication in an n-tier deployment.

**To configure Windows Authentication in an n-tier deployment:**

1. Enable the **Windows Authentication** option in the EPM Security Administrator (EPM SA) tool.
2. Update the record of each user in EPM SA with the domain name.
3. Start the Cobra application.

   **Attention:** For more information, see the EPM Security Administrator help system.

## Configuring Windows Authentication Using the Configuration Files

You can configure Windows authentication by adding netTcpBinding or wsHttpBinding to the configuration files.

The Cobra workstation installation (both for new installations and upgrades) deploys the Cobra.WinUI.exe.config and Cobra.api.exe config files from the Cobra n-tier server to user workstations. This deployment helps administrators enable Cobra support for the Microsoft Windows Communication Foundation (WCF) enhanced Windows authentication security settings.

The security changes to client configuration files must be applied to the Cobra server and deployed to each Cobra n-tier client before you can successfully connect to the server.

### wsHttpBinding Configuration

Use the wsHttpBinding configuration to send data in an encrypted and secured manner.

When configuring wsHttpBinding in an n-tier deployment, you must perform a set of procedures on the Cobra application server and on each client workstation that connects to the Cobra application server.

**Cobra and Server Folders Procedures**

Use the following procedures in configuring the files in the Server folder:

1. Edit the Ideablade.Ibconfig file in the Server folder.
2. Configure Windows authentication using EPM SA.
3. Configure the service parameters.

Use the following procedures in configuring the files in the Cobra folder:

1. Edit the Ideablade.Ibconfig file in the Cobra folder.
2. Modify the Cobra.WinUI.Exe.config file in the Cobra folder.

**Workstation Folder Procedures**

Use the following procedures to configure the files on each client workstation that connects to the Cobra application server:

1. Edit the Ideablade.Ibconfig file in the Workstation folder.
2. Modify the Cobra.WinUI.exe.config file in the Workstation folder.
3. Modify the Cobra.Api.exe.config file in the Workstation folder.

*Procedures*

Use these procedures to manage the wsHttpBinding configuration on the Cobra application server.

Edit the Ideablade.Ibconfig file in the Server Folder

Use this procedure to edit the Ideablade.Ibconfig file in the Server folder.

**To edit the Ideablade.Ibconfig file in the Server folder:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Server folder (for example, C:\Program Files (x86)\Deltek\Cobra\Server).
4. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
5. Update the remoting parameters by setting the **remotePersistenceEnabled** setting to **false**.

| Before |
| --- |
| <remoting><br><remotePersistenceEnabled>true</remotePersistenceEnabled><br><communicationsTechnology>Wcf</communicationsTechnology><br><remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL><br><serverPort>9009</serverPort><br><serviceName>PersistenceService</serviceName><br><serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds><br><proxyPort>0</proxyPort><br></remoting> |

| After |
| --- |
| <remoting><br><remotePersistenceEnabled>**false**</remotePersistenceEnabled><br><communicationsTechnology>Wcf</communicationsTechnology><br><remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL><br><serverPort>9009</serverPort><br><serviceName>PersistenceService</serviceName><br><serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds><br><proxyPort>0</proxyPort><br></remoting> |

6. Start the Ideablade Persistence Server service.

Configure Windows Authentication in an N-Tier Deployment

Follow these steps to set up Windows authentication in an n-tier deployment.

**To configure Windows Authentication in an n-tier deployment:**

1. Enable the **Windows Authentication** option in the EPM Security Administrator (EPM SA) tool.
2. Update the record of each user in EPM SA with the domain name.
3. Start the Cobra application.

   **Attention:** For more information, see the EPM Security Administrator help system.

Configure the Service Parameters (wsHttpBinding)

Use this procedure to configure the service parameters in order to use the wsHttpBinding configuration.

**To configure the service parameters to use wsHttpBinding:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Server folder (for example, C:\Program Files (x86)\Deltek\Cobra\Server).
4. Locate the ServerService.exe.config file and open it using a text editor (such as Notepad).
5. Update the endpoints to use the security protocol required to enable Windows authentication.
   a) Change the **binding** tag value from **customBinding** to **wsHttpBinding**.
   b) Change the **bindingConfiguration** tag value from **compressedBinaryBinding** to **wsCustom**.
   c) Uncomment the **identity** tags for both endpoints.

**Before**

```
<service name="PersistenceService" behaviorConfiguration="Behavior1">
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceService"
binding="customBinding" bindingConfiguration="compressedBinaryBinding"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>-->
</endpoint>
</service>
<service name="IdeaBlade.Persistence.Wcf.WcfPersistenceServer"
behaviorConfiguration="Behavior1">
```

**Before**

```
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceServer"
binding="customBinding" bindingConfiguration="compressedBinaryBinding"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>-->
</endpoint>
</service>
```

**After**

```
<service name="PersistenceService" behaviorConfiguration="Behavior1">
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceService"
binding="wsHttpBinding" bindingConfiguration="wsCustom"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>
</endpoint>
</service>
<service name="IdeaBlade.Persistence.Wcf.WcfPersistenceServer"
behaviorConfiguration="Behavior1">
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceServer"
binding="wsHttpBinding" bindingConfiguration="wsCustom"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>
</endpoint>
</service>
```

6. Verify that the **MaxBufferPoolSize** of **wsCustom** binding within the **wsHttpBinding** is set to **0.**

**Before**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00"
receiveTimeout="10:01:00" sendTimeout="10:01:00"
maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647"/>
</binding>
```

**Before**

```
</wsHttpBinding>
```

**After**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00"
receiveTimeout="10:01:00" sendTimeout="10:01:00" maxBufferPoolSize="0"
maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647"/>
</binding>
</wsHttpBinding>
```

7. Configure application settings to enable Windows authentication.
   a) Change the **PerformDomainAuthentication** setting value from **false** to **true**.
   b) Add a list of domain groups to the **Role** setting to only allow members of those groups to access Cobra.

**Before**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="false" />
<add key="Roles" value="" />
</appSettings>
```

**After**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="true />
<add key="Roles" value="BUILTIN\Administrators" />
</appSettings>
```

8. Start the Ideablade Persistence Server service.

Edit the Ideablade.Ibconfig file in the Cobra Folder

Use this procedure to edit the Ideablade.Ibconfig file in the Cobra folder.

**To edit the Ideablade.Ibconfig file in the Cobra folder:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory (for example, C:\Program Files (x86)\Deltek \Cobra).
4. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
5. Update the remoting parameters by setting the **remotePersistenceEnabled** setting to **true**.

**Before**

```
<remoting>
<remotePersistenceEnabled>false</remotePersistenceEnabled>
<communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

**After**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
<communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

6. Start the Ideablade Persistence Server service.

Modify the Cobra.WinUI.Exe.Config File in the Cobra Folder

Use this procedure to modify the Cobra.WinUI.exe.config file in the Cobra folder in order to use wsHttpBinding.

**To edit the Cobra.WinUI.exe.config file in the Cobra folder:**

1. Navigate to the Cobra installation directory (for example, C:\Program Files (x86)\Deltek \Cobra).
2. Locate the Cobra.WinUI.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the **binding** tag value for each endpoint from **customBinding** to **wsHttpBinding**.
   b) Change the **bindingConfiguration** tag value for each endpoint from **compressedBinaryBinding** to **wsCustom**.
   c) Uncomment the **identity** tags for both endpoints.

**Before**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</client>
```

**After**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="wsHttpBinding" bindingConfiguration="wsCustom" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
```

**After**

```
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="wsHttpBinding" bindingConfiguration="wsCustom" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
</client>
```

4. Verify that **MaxBufferPoolSize** is set to **0** in **wsHttpBinding**.

**Before**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00" receiveTimeout="10:01:00" sendTimeout="10:01:00" maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647" />
</binding>
</wsHttpBinding>
```

**After**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00" receiveTimeout="10:01:00" sendTimeout="10:01:00" maxBufferPoolSize="0"
maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647" />
</binding>
</wsHttpBinding>
```

5. Uncomment the **system.net** tag on both endpoints.

| Before |
| --- |
| <!--<system.net><br><connectionManagement><br><add address="*" maxconnection="8" / ><br></connectionManagement><br></system.net>--> |

| After |
| --- |
| **<system.net>**<br><connectionManagement><br><add address="*" maxconnection="8" / ><br></connectionManagement><br>**</system.net>** |

*Procedures*

Use these procedures to manage the wsHttpBinding configuration on each client workstation that connects to the Cobra application server.

Edit the Ideablade.Ibconfig file in the Workstation Folder

Use this procedure to edit the Ideablade.Ibconfig file in the Workstation folder.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Ideablade.Ibconfig file in the Workstation folder:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
4. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
5. Update the remoting parameters by setting the **remotePersistenceEnabled** setting to **true**.

| Before |
| --- |
| <remoting><br><remotePersistenceEnabled>false</remotePersistenceEnabled><br><communicationsTechnology>Wcf</communicationsTechnology><br><remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL> |

**Before**

```
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

**After**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
<communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

6. Start the Ideablade Persistence Server service.

Modify the Cobra.WinUI.Exe.Config File in the Workstation Folder

Use this procedure to modify the Cobra.WinUI.exe.config file on each client workstation that connects to the Cobra application server in order to use wsHttpBinding.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Cobra.WinUI.exe.config file in the Workstation folder:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Cobra.WinUI.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the **binding** tag value for each endpoint from **customBinding** to **wsHttpBinding**.
   b) Change the **bindingConfiguration** tag value for each endpoint from **compressedBinaryBinding** to **wsCustom**.
   c) Uncomment the **identity** tags for both endpoints.

**Before**

```
<client>
```

**Before**

```
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</client>
```

**After**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="wsHttpBinding" bindingConfiguration="wsCustom" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="wsHttpBinding" bindingConfiguration="wsCustom" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
</client>
```

4. Verify that **MaxBufferPoolSize** is set to **0** in **wsHttpBinding**.

**Before**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00" receiveTimeout="10:01:00" sendTimeout="10:01:00" maxReceivedMessageSize="2147483647">
```

**Before**

```
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647" />
</binding>
</wsHttpBinding>
```

**After**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00"
receiveTimeout="10:01:00" sendTimeout="10:01:00" maxBufferPoolSize="0"
maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647" />
</binding>
</wsHttpBinding>
```

5. Uncomment the **system.net** tag on both endpoints.

**Before**

```
<!--<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>-->
```

**After**

```
<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>
```

Modify the Cobra.Api.Exe.Config File in the Workstation Folder

Use this procedure to modify the Cobra.Api.exe.config file on each client workstation that connects to the Cobra application server in order to use wsHttpBinding.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Cobra.Api.exe.config file in the Workstation folder:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Cobra.Api.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the **binding** tag value for each endpoint from **customBinding** to **wsHttpBinding**.
   b) Change the **bindingConfiguration** tag value for each endpoint from **compressedBinaryBinding** to **wsCustom**.
   c) Uncomment the **identity** tags for both endpoints.

**Before**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</client>
```

**After**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="wsHttpBinding" bindingConfiguration="wsCustom" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
```

**After**

```
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="wsHttpBinding" bindingConfiguration="wsCustom" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
</client>
```

4. Verify that **MaxBufferPoolSize** is set to **0** in **wsHttpBinding**.

**Before**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00" receiveTimeout="10:01:00" sendTimeout="10:01:00" maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647" />
</binding>
</wsHttpBinding>
```

**After**

```
<wsHttpBinding>
<binding name="wsCustom" closeTimeout="10:01:00" openTimeout="10:01:00" receiveTimeout="10:01:00" sendTimeout="10:01:00" maxBufferPoolSize="0"
maxReceivedMessageSize="2147483647">
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
<readerQuotas maxDepth="2147483647"
maxNameTableCharCount="2147483647" maxBytesPerRead="2147483647"
maxArrayLength="2147483647" maxStringContentLength="2147483647" />
</binding>
```

**After**

```
</wsHttpBinding>
```

5. Uncomment the **system.net** tag on both endpoints.

**Before**

```
<!--<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>-->
```

**After**

```
<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>
```

### netTcpBinding Configuration

Use the netTcpBinding configuration to send data in an encrypted and secured manner. The netTcpBinding configuration provides faster performance than the wsHttpBinding configuration.

You can choose between Message level authentication, which provides the same security level as the wsHttpBinding configuration, and Transport level authentication, which provides faster performance.

*netTcpBinding Message Level Authentication*

The netTcpBinding Message level authentication provides the same security level as the wsHttpBinding configuration.

When configuring netTcpBinding Message level authentication in an n-tier deployment, you must perform a set of procedures on the Cobra application server and on each client workstation that connects to the Cobra application server.

**Server Folder Procedures**

Use the following procedures in configuring the files in the Server folder:

1. Edit the Ideablade.Ibconfig file in the Server folder.
2. Configure Windows authentication using EPM SA.
3. Configure the service parameters.

### Workstation Folder Procedures

Use the following procedures to configure the files on each client workstation that connects to the Cobra application server:

1. Edit the Ideablade.Ibconfig file in the Workstation folder.
2. Modify the Cobra.WinUI.exe.config file in the Workstation folder.
3. Modify the Cobra.Api.exe.config file in the Workstation folder.

Procedures

Use these procedures to manage the netTcpBinding Message level authentication on the Cobra application server.

Edit the Ideablade.Ibconfig file in the Server Folder (netTcpBinding)

Use this procedure to edit the Ideablade.Ibconfig file in the Server folder.

**To edit the Ideablade.Ibconfig file in the Server folder:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Server folder (for example, C:\Program Files (x86)\Deltek\Cobra\Server).
4. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
5. Update the remoting parameters by setting the **remotePersistenceEnabled** setting to **false** and changing the protocol of the **remoteBaseURL** value from **http** to **net.tcp**.

**Before**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

**After**

```
<remoting>
<remotePersistenceEnabled>false</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>net.tcp://<COBRA SERVER NAME></remoteBaseURL>
```

| After |
| --- |
| <serverPort>9009</serverPort><br><serviceName>PersistenceService</serviceName><br><serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds><br><proxyPort>0</proxyPort><br></remoting> |

Configure Windows Authentication in an N-Tier Deployment

Follow these steps to set up Windows authentication in an n-tier deployment.

**To configure Windows Authentication in an n-tier deployment:**

1. Enable the **Windows Authentication** option in the EPM Security Administrator (EPM SA) tool.
2. Update the record of each user in EPM SA with the domain name.
3. Start the Cobra application.

**Attention:** For more information, see the EPM Security Administrator help system.

Configure the Service Parameters (netTcpBinding Message Level)

Use this procedure to configure the service parameters in order to use the netTcpBinding Message level authentication.

**To configure the service parameters in order to use the netTcpBinding Message level authentication:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Server folder (for example, C:\Program Files (x86)\Deltek\Cobra\Server).
4. Locate the ServerService.exe.config file and open it using a text editor (such as Notepad).
5. Update the endpoints to use the security protocol required to enable Windows authentication.
   a) Change the address protocol value for each endpoint from **http** to **net.tcp**.
   b) Change the binding tag from **customBinding** to **netTcpBinding**.
   c) Change the binding configuration tag from **compressedBinaryBinding** to **WindowsClientOverTcp**.
   d) Uncomment the netTcpBinding section.
   e) Change the netTcpBinding security mode from **Transport** to **Message**.

f) Uncomment the identity tags for both endpoints.

**Before**

```
<service name="PersistenceService" behaviorConfiguration="Behavior1">
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceService"
binding="customBinding" bindingConfiguration="compressedBinaryBinding"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>-->
</endpoint>
</service>
<service name="IdeaBlade.Persistence.Wcf.WcfPersistenceServer"
behaviorConfiguration="Behavior1">
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceServer"
binding="customBinding" bindingConfiguration="compressedBinaryBinding"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>-->
</endpoint>
</service>
<!--<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
```

**Before**

```
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Tranport">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>-->
```

**After**

```
<service name="PersistenceService" behaviorConfiguration="Behavior1">
<endpoint address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceService"
binding="netTcpBinding" bindingConfiguration=WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>
</endpoint>
</service>
<service name="IdeaBlade.Persistence.Wcf.WcfPersistenceServer"
behaviorConfiguration="Behavior1">
<endpoint address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceServer"
binding="netTcpBinding" bindingConfiguration="WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>
</endpoint>
</service>
<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
```

**After**

```
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
```

6. Configure application settings to enable Windows Authentication.
   a) Change the **PerformDomainAuthentication** setting value from **false** to **true**.
   b) Add a list of domain groups to the **Role** setting to only allow members of those groups to access Cobra.

**Before**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="false" />
<add key="Roles" value="" />
</appSettings>
```

**After**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="true" />
<add key="Roles" value="BUILTIN\Administrators" />
</appSettings>
```

7. Start the Ideablade Persistence Server service.

Procedures

Use these procedures to manage the netTcpBinding Message level authentication on each client workstation that connects to the Cobra application server.

Edit the Ideablade.Ibconfig file in the Workstation Folder (netTcpBinding)

Use this procedure to edit the Ideablade.Ibconfig file in the Workstation folder.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Ideablade.Ibconfig file in the Workstation folder:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
3. Change the protocol of the **remoteBaseURL** value from **http** to **net.tcp**.

**Before**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

**After**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>net.tcp://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

Modify the Cobra.WinUI.Exe.Config File in the Workstation Folder (netTcpBinding Message Level)

Use this procedure to modify the Cobra.WinUI.exe.config file on each client workstation that connects to the Cobra application server in order to use the netTcpBinding Message level authentication.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Cobra.WinUI.exe.config file in order to use the netTcpBinding Message level authentication:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Cobra.WinUI.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the address protocol value for each endpoint from **http** to **net.tcp**.
   b) Change the binding value for each endpoint from **customBinding** to **netTcpBinding**.
   c) Change the binding configuration value for each endpoint from **compressedBinaryBinding** to **WindowsClientOverTcp**.
   d) Uncomment the **netTcpBinding** section.
   e) Change the **netTcpBinding** security mode from **Transport** to **Message**.
   f) Uncomment the identity tag on both endpoints.

**Before**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</client>
<!--<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
```

**Before**

```
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Transport">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>-->
```

**After**

```
<client>
<endpoint name="PersistenceService" address="net.tcp://<COBRA SERVER
NAME>:9009/PersistenceService" binding="netTcpBinding"
bindingConfiguration="WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></
servicePrincipalName></identity>
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="net.tcp://<COBRA SERVER
NAME>:9009/PersistenceServer" binding="netTcpBinding"
bindingConfiguration="WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></
servicePrincipalName></identity>
</endpoint>
</client>
```

**After**

```
<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
```

4. Uncomment the **system.net** tag on both endpoints.

**Before**

```
<!--<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>-->
```

**After**

```
<system.net>
<connectionManagement>
<add address="*" maxconnection="8" />
</connectionManagement>
</system.net>
```

Modify the Cobra.Api.Exe.Config File in the Workstation Folder (netTcpBinding Message Level)

Use this procedure to modify the Cobra.Api.exe.config file on each client workstation that connects to the Cobra application server in order to use the netTcpBinding Message level authentication.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Cobra.api.exe.config file in order to use the netTcpBinding Message level authentication:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Cobra.Api.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the address protocol value for each endpoint from **http** to **net.tcp**.
   b) Change the binding value for each endpoint from **customBinding** to **netTcpBinding**.
   c) Change the binding configuration value for each endpoint from **compressedBinaryBinding** to **WindowsClientOverTcp**.
   d) Uncomment the **netTcpBinding** section.
   e) Change the **netTcpBinding** security mode from **Transport** to **Message**.
   f) Uncomment the identity tag on both endpoints.

**Before**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
<!-- One endpoint per data source extension -->
```

**Before**

```
<endpoint name="PersistenceServer" address="http://<COBRA SERVER
NAME>:9009/PersistenceServer" binding="customBinding"
bindingConfiguration="compressedBinaryBinding"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></
servicePrincipalName></identity>-->
</endpoint>
</client>
<!--<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Transport">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>-->
```

**After**

```
<client>
```

**After**

```
<endpoint name="PersistenceService" address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceService" binding="netTcpBinding" bindingConfiguration="WindowsClientOverTcp" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceServer" binding="netTcpBinding" bindingConfiguration="WindowsClientOverTcp" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
</client>
<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Message">
```

**After**

```
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
```

4. Uncomment the **system.net** tag on both endpoints.

**Before**

```
<!--<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>-->
```

**After**

```
<system.net>
<connectionManagement>
<add address="*" maxconnection="8" />
</connectionManagement>
</system.net>
```

*netTcpBinding Transport Level Authentication*

The netTcpBinding Transport level authentication provides faster performance than the Message level authentication.

When configuring netTcpBinding Transport level authentication in an n-tier deployment, you must perform a set of procedures on the Cobra application server and on each client workstation that connects to the Cobra application server.

### Server Folder Procedures

Use the following procedures in configuring the files in the Server folder:

1. Edit the Ideablade.Ibconfig file in the Server folder.
2. Configure Windows authentication using EPM SA.
3. Configure the service parameters.

### Workstation Folder Procedures

Use the following procedures to configure the files on each client workstation that connects to the Cobra application server:

1. Edit the Ideablade.Ibconfig file in the Workstation folder.
2. Modify the Cobra.WinUI.exe.config file in the Workstation folder.

3. Modify the Cobra.Api.exe.config file in the Workstation folder.

Procedures

Use these procedures to manage the netTcpBinding Transport level authentication on the Cobra application server.

Edit the Ideablade.Ibconfig file in the Server Folder (netTcpBinding)

Use this procedure to edit the Ideablade.Ibconfig file in the Server folder.

**To edit the Ideablade.Ibconfig file in the Server folder:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Server folder (for example, C:\Program Files (x86)\Deltek\Cobra\Server).
4. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
5. Update the remoting parameters by setting the **remotePersistenceEnabled** setting to **false** and changing the protocol of the **remoteBaseURL** value from **http** to **net.tcp**.

**Before**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

**After**

```
<remoting>
<remotePersistenceEnabled>false</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>net.tcp://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

Configure Windows Authentication in an N-Tier Deployment

Follow these steps to set up Windows authentication in an n-tier deployment.

**To configure Windows Authentication in an n-tier deployment:**

1. Enable the **Windows Authentication** option in the EPM Security Administrator (EPM SA) tool.
2. Update the record of each user in EPM SA with the domain name.
3. Start the Cobra application.

   **Attention:** For more information, see the EPM Security Administrator help system.

Configure the Service Parameters (netTcpBinding Transport Level)

Use this procedure to configure the service parameters in order to use the netTcpBinding Transport level authentication

**To configure the service parameters in order to use the netTcpBinding Transport level authentication:**

1. Click **Start** » **Windows Administrative Tools** » **Services**.
2. In the Services window, locate the Ideablade Persistence Server service, right-click it, and click **Stop**.
3. Navigate to the Cobra installation directory and open the Server folder (for example, C:\Program Files (x86)\Deltek\Cobra\Server).
4. Locate the ServerService.exe.config file and open it using a text editor (such as Notepad).
5. Update the endpoints to use the security protocol required to enable Windows authentication.
   a) Change the address protocol value for each endpoint from **http** to **net.tcp**.
   b) Change the binding tag from **customBinding** to **netTcpBinding**.
   c) Change the binding configuration tag from **compressedBinaryBinding** to **WindowsClientOverTcp**.
   d) Uncomment the netTcpBinding section.
   e) Change the netTcpBinding security mode from **Message** to **Transport**.
   f) Uncomment the identity tags for both endpoints.

| Before |
| --- |
| <service name="PersistenceService" behaviorConfiguration="Behavior1"><br><endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService"> |

**Before**

```
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</service>
<service name="IdeaBlade.Persistence.Wcf.WcfPersistenceServer" behaviorConfiguration="Behavior1">
<endpoint address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</service>
<!--<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
```

**Before**

```
</binding>
</netTcpBinding>-->
```

**After**

```
<service name="PersistenceService" behaviorConfiguration="Behavior1">
<endpoint address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceService"
binding="netTcpBinding" bindingConfiguration=WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>
</endpoint>
</service>
<service name="IdeaBlade.Persistence.Wcf.WcfPersistenceServer"
behaviorConfiguration="Behavior1">
<endpoint address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceServer"
binding="netTcpBinding" bindingConfiguration="WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></
identity>
</endpoint>
</service>
<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
```

**After**

```
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Transport">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
```

6. Configure application settings to enable Windows Authentication.
   a) Change the **PerformDomainAuthentication** setting value from **false** to **true**.
   b) Add a list of domain groups to the **Role** setting to only allow members of those groups to access Cobra.

**Before**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="false" />
<add key="Roles" value="" />
</appSettings>
```

**After**

```
<appSettings>
<add key="ConcurrentProcesses" value="8" />
<add key="PerformDomainAuthentication" value="true" />
<add key="Roles" value="BUILTIN\Administrators" />
</appSettings>
```

7. Start the Ideablade Persistence Server service.

Procedures

Use these procedures to manage the netTcpBinding Transport level authentication on each client workstation that connects to the Cobra application server.

Edit the Ideablade.Ibconfig file in the Workstation Folder (netTcpBinding)

Use this procedure to edit the Ideablade.Ibconfig file in the Workstation folder.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Ideablade.Ibconfig file in the Workstation folder:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Ideablade.Ibconfig file and open it using a text editor (such as Notepad).
3. Change the protocol of the **remoteBaseURL** value from **http** to **net.tcp**.

**Before**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>http://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

**After**

```
<remoting>
<remotePersistenceEnabled>true</remotePersistenceEnabled>
communicationsTechnology>Wcf</communicationsTechnology>
<remoteBaseURL>net.tcp://<COBRA SERVER NAME></remoteBaseURL>
<serverPort>9009</serverPort>
<serviceName>PersistenceService</serviceName>
<serverDetectTimeoutMilliseconds>-1</serverDetectTimeoutMilliseconds>
<proxyPort>0</proxyPort>
</remoting>
```

Modify the Cobra.WinUI.Exe.Config File in the Workstation Folder (netTcpBinding Transport Level)

Use this procedure to modify the Cobra.WinUI.exe.config file on each client workstation that connects to the Cobra application server in order to use the netTcpBinding Transport level authentication.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Cobra.WinUI.exe.config file in order to use the netTcpBinding Transport level authentication:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).

2. Locate the Cobra.WinUI.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the address protocol value for each endpoint from **http** to **net.tcp**.
   b) Change the binding value for each endpoint from **customBinding** to **netTcpBinding**.
   c) Change the binding configuration value for each endpoint from **compressedBinaryBinding** to **WindowsClientOverTcp**.
   d) Uncomment the **netTcpBinding** section.
   e) Change the **netTcpBinding** security mode from **Message** to **Transport**.
   f) Uncomment the identity tag on both endpoints.

**Before**

```
<client>
<endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService"
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>-->
</endpoint>
</client>
<!--<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
```

**Before**

```
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>-->
```

**After**

```
<client>
<endpoint name="PersistenceService" address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceService" binding="netTcpBinding" bindingConfiguration="WindowsClientOverTcp" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
<!-- One endpoint per data source extension -->
<endpoint name="PersistenceServer" address="net.tcp://<COBRA SERVER NAME>:9009/PersistenceServer" binding="netTcpBinding" bindingConfiguration="WindowsClientOverTcp" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>
</endpoint>
</client>
<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
```

**After**

```
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Transport">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
```

4. Uncomment the **system.net** tag on both endpoints.

**Before**

```
<!--<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>-->
```

**After**

```
<system.net>
<connectionManagement>
<add address="*" maxconnection="8" />
</connectionManagement>
</system.net>
```

Modify the Cobra.Api.Exe.Config File in the Workstation Folder (netTcpBinding Transport Level)

Use this procedure to modify the Cobra.Api.exe.config file on each client workstation that connects to the Cobra application server in order to use the netTcpBinding Transport level authentication.

You must perform this procedure on each client workstation that connects to the Cobra application server.

**To edit the Cobra.api.exe.config file in order to use the netTcpBinding Transport level authentication:**

1. Navigate to the Cobra installation directory and open the Workstation folder (for example, C:\Program Files (x86)\Deltek\Cobra\Workstation).
2. Locate the Cobra.Api.exe.config file and open it using a text editor (such as Notepad).
3. Change the configuration file settings to conform to the protocol required by the Cobra application server.
   a) Change the address protocol value for each endpoint from **http** to **net.tcp**.
   b) Change the binding value for each endpoint from **customBinding** to **netTcpBinding**.
   c) Change the binding configuration value for each endpoint from **compressedBinaryBinding** to **WindowsClientOverTcp**.
   d) Uncomment the **netTcpBinding** section.
   e) Change the **netTcpBinding** security mode from **Message** to **Transport**.
   f) Uncomment the identity tag on both endpoints.

| Before |
| --- |
| <client><br><endpoint name="PersistenceService" address="http://<COBRA SERVER NAME>:9009/PersistenceService" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService"<br><!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>--><br></endpoint><br><!-- One endpoint per data source extension --><br><endpoint name="PersistenceServer" address="http://<COBRA SERVER NAME>:9009/PersistenceServer" binding="customBinding" bindingConfiguration="compressedBinaryBinding" contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer"><br><!--<identity><servicePrincipalName value="Local Network"></servicePrincipalName></identity>--><br></endpoint><br></client><br><!--<netTcpBinding> |

**Before**

```
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Message">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>-->
```

**After**

```
<client>
<endpoint name="PersistenceService" address="net.tcp://<COBRA SERVER
NAME>:9009/PersistenceService" binding="netTcpBinding"
bindingConfiguration="WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceService">
<identity><servicePrincipalName value="Local Network"></
servicePrincipalName></identity>
</endpoint>
<!-- One endpoint per data source extension -->
```

**After**

```
<endpoint name="PersistenceServer" address="net.tcp://<COBRA SERVER
NAME>:9009/PersistenceServer" binding="netTcpBinding"
bindingConfiguration="WindowsClientOverTcp"
contract="IdeaBlade.Persistence.Wcf.IWcfPersistenceServer">
<identity><servicePrincipalName value="Local Network"></
servicePrincipalName></identity>
</endpoint>
</client>
<netTcpBinding>
<binding name="WindowsClientOverTcp"
closeTimeout="10:01:00"
openTimeout="10:01:00"
receiveTimeout="10:10:00"
sendTimeout="10:01:00"
transactionFlow="false"
transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard"
listenBacklog="10"
maxBufferPoolSize="2147483647"
maxBufferSize="2147483647"
maxConnections="10"
maxReceivedMessageSize="2147483647">
<readerQuotas maxDepth="32"
maxStringContentLength="2147483647"
maxArrayLength="2147483647"
maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647" />
<reliableSession ordered="true"
inactivityTimeout="10:10:00"
enabled="false" />
<security mode="Transport">
<transport clientCredentialType="Windows" />
</security>
</binding>
</netTcpBinding>
```

4. Uncomment the **system.net** tag on both endpoints.

**Before**

```
<!--<system.net>
<connectionManagement>
<add address="*" maxconnection="8" / >
</connectionManagement>
</system.net>-->
```

**After**

```
<system.net>
<connectionManagement>
<add address="*" maxconnection="8" />
</connectionManagement>
</system.net>
```

## Procedures

Use these procedures to deploy the configuration files in an n-tier deployment with a new installation or an upgrade installation.

*Deploy Configuration Files for Windows Authentication with an Upgrade Installation*

You must apply the security changes in the client configuration files to the Cobra server and deploy them to each Cobra n-tier client before you can successfully connect to the server.

**To update client configuration files when you upgrade your version of Cobra:**

1. On the Cobra n-tier server, navigate to the Cobra Installation directory where the Cobra client configuration files reside. The default installation location is C:\Program Files (x86)\Deltek\Cobra.
2. Edit the Cobra.WinUi.exe.config and Cobra.api.exe.config files as needed.
3. If you have previously edited the configuration files and stored them in another location, copy and paste them into the Cobra installation directory before you perform the Cobra server upgrade.

   During the server installation, the installer will copy the two configuration files from this location to the shared workstation folder.

*Deploy Configuration Files for Windows Authentication with a New Installation*

If you plan to use Windows authentication, you must deploy the client configuration files, which contain security changes, after you install Cobra on an n-tier server.

**To update client configuration files when you install Cobra for the first time:**

1. Navigate to the Cobra Installation directory where the Cobra client configuration files reside. The default installation location is C:\Program Files (x86)\Deltek\Cobra.

2. Edit the Cobra.WinUi.exe.config and Cobra.api.exe.config files as needed.
3. Copy the client configuration files you edited in the Cobra folder into the shared workstation folder.

   This is the folder that was created by the Cobra installer. It is where Cobra client installers are saved for distribution to end-user machines.

   Future server upgrades will transfer the Cobra.WinUi.exe.config and Cobra.api.exe.config files from the Cobra folder on the server to the shared workstation folder.

## Cobra Database

A data source is a named connection to a database. Before you can build a connection to a database, you must first have a database to which you connect.

A data source contains information about the database location and the database type.

Cobra supports the following databases:

- Oracle®
- Microsoft SQL Server®

**Attention:** For more information on the supported versions of each database type, see the *Deltek Cobra Installation Guide*.

Cobra 8.1 and earlier versions used a configuration file called IdeaBlade.ibconfig (located in the Cobra folder) to store data sources information. Beginning with 8.2, data sources information is stored in the Datasources.dat file. When upgrading from version 8.1 or lower, the Cobra installation reads the content of the IdeaBlade.ibconfig file and then transfers the connection information from there to the Config.dat and Datasources.dat files

**Attention:** For more information on these configuration files, see the Data Tool Help System which you can access from within the tool.

## Data Tool

Use the Cobra Data Tool to create or update connection information, load system data (such as reports, menu items, and required users and groups) during the installation process, define data link properties to the Cobra database, and define result field names.

Result field names are used to define the results that can be added to resource calculations.

You must log in as an administrator to use the Data Tool. To display the tool, click the Start menu, and locate **Deltek Cobra X.x » Deltek Cobra Data Tool**.

**Attention:** For more information on how to use the tool, see the Data Tool Help System which you can access from within the tool, or from the Cobra folder.

## ODBC DSN

Cobra 8.1 and earlier versions relied on an explicit Open Database Connectivity Data Source Name (ODBC DSN) definition when connecting to a database to run application processes, such as integration, backup, and restore.

Cobra 8.2 and later versions no longer have this requirement. Instead, Cobra dynamically creates a connection that the application processes will use to connect to the database.

Cobra will still use an explicit ODBC DSN if specified in your Data Tool connection. If you upgrade from an older version to 8.2, Cobra will continue to use the ODBC DSN associated with your connection. To remove this reliance on the ODBC DSN, you can create and use a new connection using the Data Tool, or you can modify the Datasources.dat file to remove the DSN option.

If you encounter errors when running application processes, see the log files to get more information. If the error is connection string or driver related, you may need to check if a valid driver is installed, or if the connection options defined in the Datasources.dat are correct. For other errors, which are most likely returned from the database server you are using, search the Web for troubleshooting steps.

**Attention:** For more information on ODBC connection, see the "Configure the ODBC Connection" section of the *Deltek Cobra Installation Guide*. For more information on data sources, see the Data Tool Help System which you can access from within the tool or from the Cobra folder.

# Cobra Developer Resources

Developer resources are available for Cobra versions 8.3 and 8.4. Use the links below to access the documentation system for each version.

- Cobra 8.4 Developer Resources
- Cobra 8.3 Developer Resources

## Cobra Web Service

The Cobra Web Service allows you to create applications that can programmatically execute Cobra functions over the network.

**Attention:** To know the supported processes, operations, and data for creation, deletion, and retrieval, see Supported Processes, Operations, and Data.

The Cobra Web Service consists of two parts: the Cobra Web Service host and the Cobra Web Service ClientAPI.

### Cobra Web Service Host

The Cobra Web Service host is a Simple Object Access Protocol (SOAP) based Windows Communication Foundation (WCF) service which exposes Cobra functions over the network.

### Cobra Web Service ClientAPI

The Cobra Web Service ClientAPI is a .NET dynamic link library which consumes the WCF service. Deltek recommends that application developers use this library in their applications.

Use the link below to display the Web Service ClientAPI Help. Alternatively, you can navigate to the **Help** » **API** subfolder of the Cobra installation folder.

Deltek Cobra Web Services ClientAPI Help

### Utilizing the Cobra Web Service

This table summarizes the steps you need to perform to utilize the Cobra Web Service.

**Important:** The Cobra Web Service is intended to be utilized by an application developer with knowledge in Windows Communication Foundation (WCF) and .NET Framework.

| Step | Procedure | Notes |
|---|---|---|
| **1** | Deploy the Cobra Web Service host. | This step is required. |
| **2** | Configure the Cobra Web Service when using Windows authentication . | This step is required only if you are using Windows authentication. You do not need to perform this step if you are using SQL Server Authentication (username/ password) in your data source. |
| **3** | Deploy the Cobra Web Service ClientAPI. | This step is required only if you are going to utilize the Cobra Web Service ClientAPI in your application. |
| **4** | Create a Visual Studio project and add the ClientAPI files as reference. | |
| | **Attention:** To better understand how to use the Cobra Web Service ClientAPI in your application, Cobra provides a sample ClientAPI file which contains examples on how to authenticate and call Cobra processes through Cobra Web Service ClientAPI. Refer to Cobra Web Service ClientAPI Example for step-by-step explanation. | |

### Cobra Web Service Management Tool

Cobra is shipped with the Cobra Web Service Management Tool that you can use to configure instances and gateway endpoints through an intuitive user interface.

**Attention:** For more information about the tool and how to use the it, see Cobra Web Service Management Tool.

## Supported Processes, Operations, and Data

The Cobra Web Service supports a number of processes, operations, and data for creation, deletion, and retrieval.

### Supported Processes

The following table lists the processes that are available through the Cobra Web Service.

| Cobra Process | Location in the ClientAPI Reference Help |
|---|---|
| **Acumen Export** | Acumen Export Method |
| **Advance Calendar** | Advance Calendar Method |
| **Calculate Apportionment** | Calculate Apportionment Method |
| **Calculate Forecast** | Calculate Forecast Method |
| **Calculate Progress** | Calculate Progress Method |
| **Copy Project** | Copy Project Method |
| **Get Time-Phased Spread** | Get Time Phased Spread Method |
| **Integrate Actual Costs** | Integrate Actual Costs Method |
| **Integrate Project Data** | Integrate Project Data Method |
| **Move Work Package** | Move Work Package Method |
| **Recalculate** | Recalculate Method |
| **Reclass** | Reclass Method |
| **Replan** | Replan Method |
| **Respread** | Respread Method |
| **Reconcile Log** | Reconcile Log Method |
| **Rolling Wave** | Rolling Wave Method |
| **Update Totals** | Update Totals Method |
| **wInsight Export** | wInsight Export Method |

### Supported Operations

The following table lists the operations that are available through the Cobra Web Service.

| Operation | Location in the ClientAPI Reference Help |
|---|---|
| **About Cobra Web Services** | About Method |
| **Get Environment Details** | GetEnvironmentDetails Method |
| **Upload File** | Upload File Method |
| **Verify Integrity** | Verify Integrity Method |

### Supported Data for Creation and Deletion

The following table lists the data that can be created and deleted through the Cobra Web Service.

| Data | Location in the ClientAPI Reference Help |
|---|---|
| **Create Class** | Create Class Method |
| **Create Control Account** | Create Control Account Method |
| **Create Work Package** | Create Work Package Method |
| **Copy Work Package** | Copy Work Package Method |
| **Move Work Package** | Move Work Package Method |
| **Delete Resource Assignment** | Delete Resource Assignment Method |
| **Delete Work Package** | Delete Work Package Method |
| **Delete Project** | Delete Project Method |

### Supported Data for Retrieval

The following table lists the data that can be retrieved through the Cobra Web Service.

| Information | Location in the ClientAPI Reference Help |
|---|---|
| **Projects** | Get Projects Method |
| **Master Projects** | Get Master Projects Method |
| **Master and Sub Projects** | Get Master And Sub Projects Method |
| **Project Properties** | Get Project Properties Method |
| **Project Classes** | Get Project Classes Method |
| **Resource Files** | Get Resource Files Method |
| **Resource File Properties** | Get Resource File Properties Method |
| **Resources** | Get Resources Method |
| **Process Log Files** | Get Process Logs Method |

## Deploying the Cobra Web Service

To start using the Cobra Web Service, you must deploy the Cobra Web Service host.

To use the Cobra Web Service in your application, you must deploy the ClientAPI files.

> **Note: For Costpoint users**: If you are already using Costpoint's update to the Cobra integration using the Web Service, the Cobra Web Service is already installed.

This table summarizes the steps you need to perform to deploy the Cobra Web Service.

| Step | Procedure | Notes |
|---|---|---|
| 1 | Deploy the Cobra Web Service host . | Use this procedure to configure and deploy the Cobra Web Service host on the machine where Cobra is installed in order to start using the Cobra Web Service. |
| 2 | Configure the Cobra Web Service when using Windows authentication. | Use this procedure to configure the Cobra Web Service if you are using Windows authentication. This step is not required if you are using SQL Server Authentication (username/ password) in your data source. |
| 3 | Deploy the Cobra Web Service ClientAPI. | Use this procedure to configure the Cobra Web Service ClientAPI in your application.<br>To further understand how to use the Cobra Web Service ClientAPI files, see Using the Cobra Web Service ClientAPI in Your Application and Cobra Web Service ClientAPI Example. |

### Deploy the Cobra Web Service Host

The Cobra Web Service host must be configured and deployed on the machine where Cobra is installed.

Since the Cobra Web Service runs through the network, it is required to allow the machine that hosts the web service to listen to the applications from remote machines. By default, the host listens to port 8116 using the Transmission Control Protocol (TCP).

Use this procedure as well in hosting the Cobra Web Service instances for the Concurrency feature.

**To configure and deploy the Cobra Web Service host:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane under the Instances tree, click **<New Instance>**.
3. In the Cobra Web Service Instance Settings, perform the following steps:

a) In the **Config File** field, locate the Cobra.WebService.Host.exe.config file in the Cobra installation directory.

b) Enter the Cobra Web Service instance name in the **Name** field by using a unique name that represents the Cobra Web Service instance.

When you are installing multiple instances of the Cobra Web Service, Deltek recommends using names that can be easily identified for each instance. For example, include the port number dedicated to the instance such as Cobra Web Service 8116.

c) Optionally, enter a description for the instance in the **Description** field.

d) Enter the appropriate values in the **Host**, **Protocol**, and **Port** fields.

If you are configuring the instance for SSL, you must first bind the port to the Windows Server Certificates.

> **Attention:** For more information, see Configuring Cobra Web Service to Use Secure Socket Layers.

e) If you are deploying the Cobra Web Service host to support Costpoint-Cobra integration, select the **Open endpoint for Deltek Costpoint** checkbox, and enter the port number in the **Port** field.

4. Click the **Save** button to save the settings in the configuration file.
5. In the toolbar, click the **Install** button to deploy the instance.

> **Attention:** For more information, see “Toolbar” in Left Pane of the Cobra Web Service Management Tool.

6. Check whether the host is running properly.

a) Copy the URL in the **Address** field, and remove the trailing **‘/service’**.

b) Browse the address in an internet browser.

If the host is running, the page displays that you have created a service and provides details on how to test the service. If the page is not displayed, the host is either not configured correctly or is not running in Windows Services.

> **Attention:** If you are using Windows authentication, see Configure the Cobra Web Service When Using Windows Authentication. If you want to configure the Cobra Web Service ClientAPI in your application, see Deploy the Cobra Web Service ClientAPI.

> **Attention:** For more information, see Configure a New Instance.

### Configure the Cobra Web Service When Using Windows Authentication

This step is not required if you are using SQL Server Authentication (username/password) in your data source.

If you are using Windows Authentication to connect to your data source, perform one of the steps below.

- Provide access to the [NT Authority\System] user to the database
- Create a Service Account that will be used by the Cobra Web Service

*Provide Access to the [NT Authority\System] User to the Database*

If you run the Cobra Web Services using the default logon/local system, it will use the [NT Authority\System] user.

By default, the [NT Authority\System] user has no access to the database and will need to be given access for the Cobra Web Service to work.
You only need to grant access to the [NT AUTHORITY\SYSTEM] user to the database that is defined in your data source.

> **Attention:** For more information on the steps to grant access to the service account, see Grant the Service Account Access to the Database.

*Create a Service Account for the Cobra Web Service*

Use this procedure to create a service account that will be used by the Cobra Web Service.

**To create a service account:**

1. Create a Service Account with Administrator access by performing the following steps:
   a) On your keyboard, press the Windows key, and type and click "Edit local users and groups".
   b) On the Local users and groups window, right-click the Users folder and select **New User**.
   c) On the New User form, enter or specify the user details.
   d) Clear the **User must change password at next logon** option and click **Create**.
   e) To provide an administrator rights, double-click the newly created user.
   f) In the User Properties dialog box, click the Members of tab and click **Add**.
   g) On the Select groups window, click **Advanced** and then **Find Now**.
   h) In the list, look for **Administrators** and double-click it.
   i) Click **OK** to close the Select groups window and click **OK** to complete the process.
2. Grant the service account access to the database.

   > **Attention:** For more information, see Grant the Service Account Access to the Database.

3. Set up the login account for the Cobra Web Service by performing the following steps:
   a) On your keyboard, press the Windows key and type and click "Services".
   b) In the Services dialog box, locate **Cobra Web Service,** right-click it, and click **Stop**.

c) Right-click **Cobra Web Service** again and click **Properties**.

d) In the Properties dialog box, click the Log On tab and select **This account**.

e) Click **Browse** and locate the service account you created in Step 1.

f) Enter the password and click **OK**.

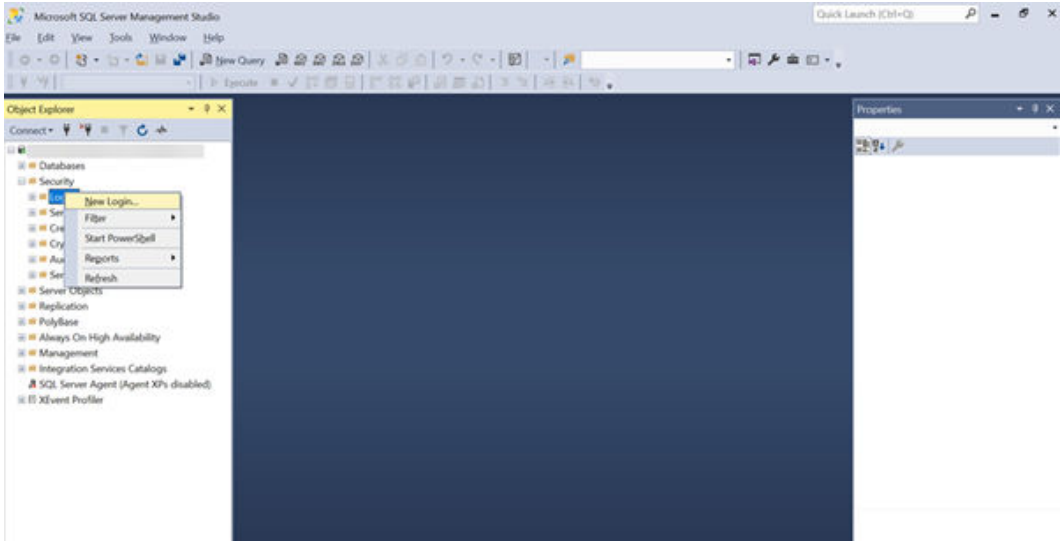
g) In the Services dialog box, locate **Cobra Web Service,** right-click it, and click **Start**.

*Grant the Service Account Access to the Database*

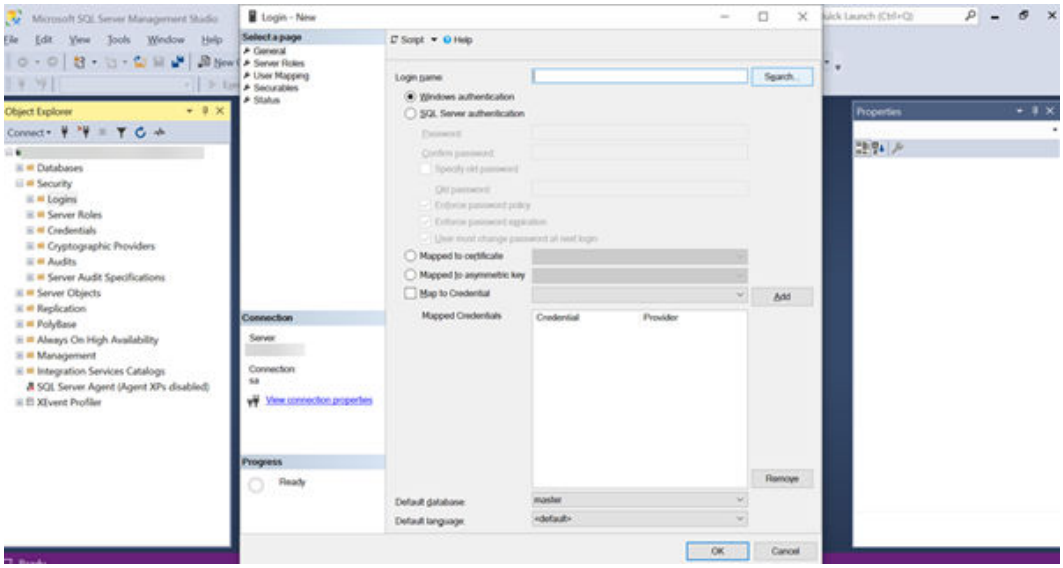
Use this procedure to grant database access to the service account that you created for the Cobra Web Service.

**To grant the service account access to the database:**

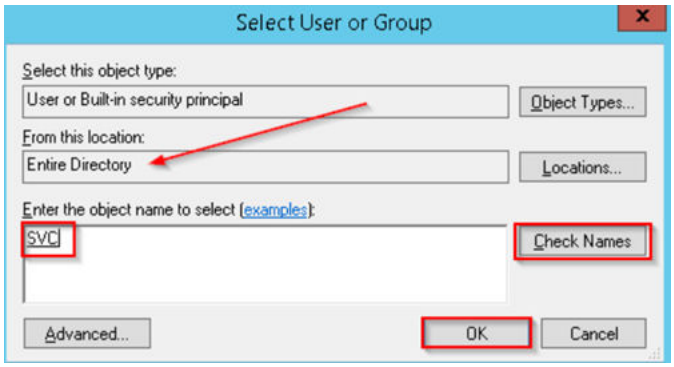
1. Open SQL Management Studio and log in using a SYSADMIN account.
2. Expand the Security folder, right-click **Logins**, and click **New Login**.



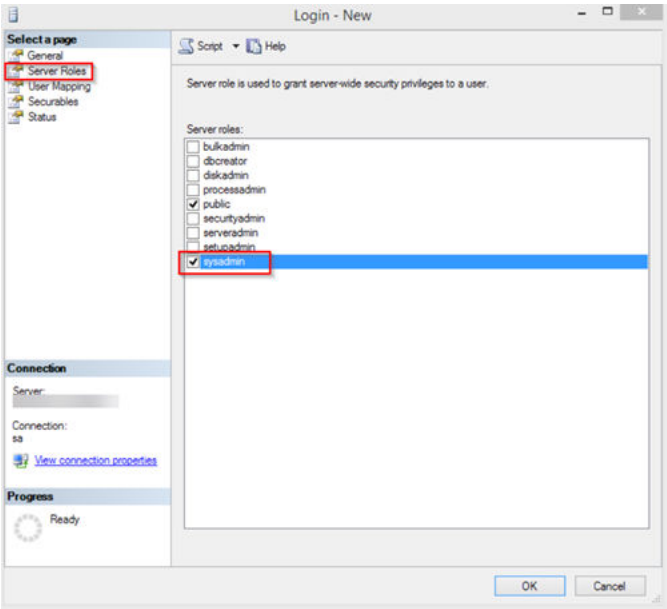

3. On the Login-New screen, click **Search** next to the **Login name** field.



4. In the Select User or Group dialog box, perform the following:
   a) Click **Locations** and select **Entire Directory** in the list.
   b) In the **Enter the object name to select** field, enter the service account user name that you created, and click **Check Names**.
   c) Click **OK**.




5. On the Login-New screen, perform the following:
   a) In the Select a page pane, click **Server Roles**.
   b) In the Server roles pane, select **sysadmin**.
   c) Click **OK** to complete the process.




## Deploy the Cobra Web Service ClientAPI

The Cobra Web Service ClientAPI files reside in the Cobra Web Service ClientAPI subfolder of Cobra folder. You must configure these files before you deploy them to the application developers.

**To configure the Cobra Web Service ClientAPI file:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane in the Instances tree, select the instance that will be consumed by your application.
3. Verify that the instance status is **Running**.
4. In the Cobra Web Service Instance Settings in the right pane, click the **Generate ClientAPI Configuration File** button, and locate the Cobra Web Service ClientAPI subfolder in the Cobra installation directory.
5. Click **Yes** when prompted to overwrite the file.

   Once the configuration file has been modified to point to the machine running the Cobra Web Service host, you can now distribute the files in the **<Cobra Installation Directory>\Web Service ClientAPI** folder to the application developers.

   **Attention:** To further understand how to use the Cobra Web Service ClientAPI files, see Using the Cobra Web Service ClientAPI in Your Application and Cobra Web Service ClientAPI Example.

### Remove the Cobra Web Service Host from Windows Services

Uninstall the Cobra Web Service host to remove it from Windows Services.

**To remove the Cobra Web Service host from Windows Services:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane in the Instances tree, select the instance that you want to remove.
3. In the toolbar, click the **Uninstall** button to remove the instance.

   **Attention:** For more information, see “Toolbar” in Left Pane of the Cobra Web Service Management Tool.

   If the removal process is successful, the instance will be removed from the Instances tree.

   **Attention:** For more information, see also Uninstall an Instance or the Gateway.

## Using the Cobra Web Service ClientAPI in Your Application

To utilize the Cobra Web Service ClientAPI in your application, you need to set up your .NET project by adding the ClientAPI files as references in Visual Studio Projects.

The Cobra Web Service ClientAPI uses the following files:

- **Cobra.Model.WebService.dll**: This is a .NET dynamic link library file that contains contract objects that are being exchanged by the Cobra Web Service host and the Cobra Web Service Client API.
- **Cobra.WebService.ClientAPI.dll**: This is a .NET dynamic link library file that contains objects used to call Cobra functionalities on the Cobra Web Service host.
- **Cobra.WebService.ClientAPI.dll.config**: This is a configuration file that contains the network location and settings used by the library file to communicate with the host. Use the Cobra Web Service Management Tool to generate this file.

  **Attention:** For more information, see Deploy the Cobra Web Service ClientAPI.

- **Cobra.Model.WebService.xml** and **Cobra.WebService.ClientAPI.xml**: These are code documentation XML files. These files can be used by Visual Studio to provide IntelliSense of code documents of objects found in the libraries.

### Add the ClientAPI Files as Reference in Visual Studio Projects

After creating a Visual Studio project, you can use the ClientAPI files by adding them as references.

**To add ClientAPI files as reference in Visual Studio Projects:**

1. Load an existing solution or project or create a new one in Visual Studio.
2. In the Solution Explorer window, right-click the project that will use the ClientAPI, and click **Add Reference** menu.
3. In the Add Reference window, click the Browse tab.
4. Navigate to the folder where the ClientAPI files reside, and click the **Cobra.WebService.ClientAPI.dll** file.
5. In the Add Reference window, click **OK**.

   The **Cobra.WebService.ClientAPI** file displays in the References node of the project in the Solution Explorer window.
6. In the Solution Explorer window, right-click the project, and select **Add** » **Existing Item** menu.
7. In the Add Existing Item window, navigate to the folder where the ClientAPI files resides, and select the **Cobra.WebService.ClientAPI.dll.config** file.
8. In the Add Existing Item window, click **OK**. The **Cobra.WebService.ClientAPI.dll.config** file displays under the project in the Solution Explorer window.
9. Right-click the **Cobra.WebService.ClientAPI.dll.config** file under the project, and select **Properties**.
10. In the Properties window, change the value of **Copy to Output Directory** to **Copy if newer**.
11. Save the project by clicking **File** » **Save All** on the menu bar.

    You can now use the objects of ClientAPI in your project.

### Explaining the Cobra Web Service ClientAPI

This section further explains the Cobra Web Service ClientAPI.

*Connecting to the Cobra Web Service Host*

Connect to the Web Service host in order to use the Cobra Web Service and create applications that can execute Cobra functionalities over the network.

The first step in using the ClientAPI is to create an instance of the CobraServices class. This is a root class that consumes the Cobra Web Service host. You can construct this class the same way you normally create an object from a class by using the new keyword. For example:

```
CobraServices cobraServices = new CobraServices();
```

### Authenticating Cobra

The Cobra Web Service supports native and Windows authentication.

### Providing Cobra Username, Password, and Data Source

If Cobra is configured to use native authentication, you need to define the Cobra user on the instance of the CobraServices class. The user can be specified in the ServiceIdentityData property. Cobra username must be specified on the ServiceIdentityData.Username property. The password must be defined in the ServiceIdentityData.SecurePassword property that can be achieved in two ways:

- Initialize an instance of SecurePassword class using a SecureString object that contains the password. For more information about SecureString class, refer to MSDN documentation.
- Initialize an instance of SecurePassword class and call the AppendChar(char) method to append each character of the password. For example:

If Cobra is configured in a standalone or server-deployment environment and has multiple data sources, the data source must be specified on the ServiceIdentityData.DataSourceKey property.

```
cobraServices.ServiceIdentityData.Username = "SYSADMIN";
cobraServices.ServiceIdentityData.SecurePassword = new
SecurePassword();
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('p');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('a');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('s');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('s');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('w');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('o');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('r');
cobraServices.ServiceIdentityData.SecurePassword.AppendChar('d');
cobraServices.ServiceIdentityData.DataSourceKey = "COBRA";
```

**Note:** The ServiceIdentityData.Password property has been marked as obsolete because using this property allocates the password in the heap memory that can be inspected using third party tools and represents a security issue. It is highly recommended to use the ServiceIdentityData.SecurePassword property instead.

### Authenticating Windows

If Cobra is configured to use Windows Authentication, you do not need to supply the Cobra username and password to the ServiceIdentityData property on the instance of CobraServices class. The Cobra Web Service ClientAPI automatically transfers your Windows credentials to the Cobra Web Service host. The Cobra Web service host uses the Windows credentials as the Cobra user.

**Attention:** See Turn Windows Authentication On or Off.

You still need to supply the data source on the ServiceIdentityData.DataSourceKey property in the instance of CobraServices class if Cobra is configured in a standalone or server-deployment environment and has multiple data sources.

### Calling the Login Operation to Connect to the Cobra Web Service Host

Since the CobraServices class is responsible in consuming the Cobra Web Service host, the instance of the class should be connected to the Cobra Web Service before you could perform some Cobra actions like running Advance Calendar, Calculate Progress, or Calculate Forecast. To connect to the Cobra Web Service, you must invoke the Login method. For example:

```
LoginResult loginResult = cobraServices.Login();
```

This will always be true in the current version of Cobra Web Service. The LoginResult class also contains a String property named ErrorMessage, which currently is always empty.

The Login method returns an instance of LoginResult class that contains a Boolean property named Success. The Success property determines if the Login method succeeds. In the current version of the Cobra Web service, this will always be true. In the future version, the value of this property will identify whether the Cobra user is valid or not. The LoginResult class also contains a String property named ErrorMessage. In the future versions, this will contain the error messages and the causes of validation failures.

To be compatible in the future version, it is recommended to check for the value of these properties before doing any Cobra actions. For example:

```
if (loginResult.Success) {
// Run processes here.
}
else {
MessageBox.Show(loginResult.ErrorMessage, "Login Failed",
MessageBoxButtons.Ok, MessageBoxIcons.Error);
```

*Creating Service Operations Classes*

Service operation classes are classes that provide the mechanism to call operations to the Cobra Web Service. In the Cobra Web Service ClientAPI, related operations are grouped into separate service operation classes.

There are three service operations classes available in the current release of the Cobra Web service.

- **ProjectOperations class**: The ProjectOperation class provides mechanism to perform project-related operations. Some of the operations available are Advance Calendar, Calculate Forecast, and Calculate Progress.
- **Integration class**: The Integration class provides mechanism to perform integration, such as Integrate Actual Costs.
- **ProcessLogOperations class**: The ProcessLogOperation class provides mechanism to retrieve process log files.

To create an instance of the service operation class, you must call the CreateServiceOperations<TServiceOperations>() method in the instance of CobraServices class. Below is a sample script:

```
// Create an instance of ProjectOperations class.
ProjectOperations projOps =
cobraServices.CreateServiceOperations<ProjectOperations>();
// Create an instance of Integration class.
Integration integration =
cobraServices.CreateServiceOperations<Integration>();
// Create an instance of ProcessLogOperations class.
ProcessLogOperations processLogOps =
cobraServices.CreateServiceOperations<ProcessLogOperations>();
```

*Running the Process or Operation*

Service operation classes contain methods that you can call to run operations. These methods accept a service argument class as a parameter. The service argument class contains options that indicate the behaviors of the operation.

**Creating Service Argument Classes**

Service operations classes have a method to create an instance of service argument classes. For the ProjectOperation class, the method is:

```
CreateProjectOperationsServiceArguments<TProjectOperationsServiceArgu
ments>().
```

For Integration class, the method is:

```
CreateIntegrationServiceArguments<TIntegrationServiceArguments>().
```

You need to specify the type of service argument class to create and that type depends on the operation you would like to run. For example, if you want to run Advance Calendar, you need to specify the type of AdvanceCalendarServiceArguments class.

```
// Create an instance of AdvanceCalendarServiceArguments class
// to be used in Advance Calendar
AdvanceCalendarServiceArguments advCalArgs =
projOps.CreateProjectOperationsServiceArguments
<AdvanceCalendarServiceArguments>();
// Create an instance of IntegrateActualCostsServiceArguments class
// to be used in Integrate Actual Costs
IntegrateActualCostsServiceArguments intActualsArgs = integration.
CreateIntegrationServiceArguments<IntegrateActualCostsServiceArgument
s>();
```

To know what the type of each operation is, you can examine the parameter of the methods in the service operation classes.

Once you have the instance of the service argument classes, you can assign values to the options. These options are the properties of the class. For example, to run the Advance Calendar

on Demo project, you need to specify that in the instance of AdvanceCalendarServiceArguments class:

```
advCalArgs.Project = "Demo";
```

You can specify values on other options. For example, if you want to use the status date as actual start date for LoE and you want to include forecast in update totals, you can set true to the following properties:

```
advCalArgs.UseStatusDateAsActualStartDateForLoE = true;
advCalArgs.IncludeForecastInUpdateTotals = true;
```

For the instance of IntegrateActualCostsServiceArguments class, an example would be to define the configuration name.

```
intActualsArgs.ConfigurationName = "LoadDemoActualsConfig";
```

### Calling on the Operations

Operations are represented in the service operation classes as methods. For example, in the ProjectOperations class, there is a method AdvanceCalendar(). If you want to run Advance Calendar on a specific project, you need to create an instance of the AdvanceCalendarServiceArguments class, set the name of the project to that instance, and call the AdvanceCalendar() method passing the instance of AdvanceCalendarServiceArguments class. The above section demonstrated the first two steps, the last step would be:

```
ServiceResult advCalResult = projOps.AdvanceCalendar(advCalArgs);
```

This sample script runs the Integrate Actual Costs:

```
ServiceResult intActualsResult =
integration.IntegrateActualCosts(intActualsArgs);
```

### Examining the Result from Operations

When you call on operations, the methods return an instance of ServiceResult class. This class contains information and messages resulting from the operation.

The service result class contains a Boolean property named Success. This property specifies if the operations have been completed successfully. You can check this before running other operations:

```
ServiceResult advCalResult;
ServiceResult intActualsResult;
advCalResult = projOps.AdvanceCalendar(advCalArgs);
if (advCalResult.Success
intActualsResult = integration.IntegrateActualCosts(intActualsArgs);
```

In the above example, it will not call on the Integrate Actual Costs if the Advance Calendar failed.

There are two methods in the ServiceResult class that relate to the messages resulting from the operation. The GetMessageCount() method returns the number of messages and the

GetMessages() method returns the messages. These two methods accept MessageType enum flags as a parameter. The current version contains four flags for the MessageType enum: ValidationWarning, ValidationError, Warning and Error. ValidationWarning and ValidationError are messages returned when the operations validated the service arguments. The Cobra Web Service returns warning and error messages.

To get the number of errors from the Cobra Web Service:

```
if (!intActualsResult.Success) {
int errorCount = intActualsResult.GetMessageCount(MessageType.Error);
MessageBox.Show(string.Format("Advance Calendar failed with {0}
errors", errorCount), "Operation Failed");
```

The GetMessages() method returns an array of ServiceMessage class. The ServiceMessage class contains the MessageType and the Message property. For example:

```
ServiceMessage[] warningMessages =
intActualsResult.GetMessages(MessageType.ValidationWarning |
MessageType.Warning);
StringBuilder warningMessagesString = new StringBuilder();
foreach (ServiceMessage warningMessage in warningMessages) {
warningMessagesString.AppendLine(string.Format("{0}: {1}",
warningMessage.MessageType, warningMessage.
Message));
MessageBox.Show(warningMessagesString.ToString(), "Operation
Warnings");
```

In the above example, both the ValidationWarning and Warning flags are specified in the GetMessages() method by using the bitwise OR operator '|'. The GetMessages() method will return both messages from ValidationWarning and Warning flags. You can also use the bitwise OR operator in the GetMessageCount() method.

The ServiceResult class also contains a string ProcessLogUid property. This property specifies the Uid of the Process Log. You can use the value of this property to query the details of the process in the process log.

In the event that when a process is running in the Cobra Web Service host machine and an unhandled exception occurs, the Exception property of the ServiceResult class will contain the exception information.

*Retrieving Data*

Service operation classes that support retrieving data contain methods to retrieve Cobra data. These methods accept a filter class as a parameter. The filter class contains options that indicate the behavior of retrieving data.

### CreatingFilter Classes

Service operation classes have methods to create an instance of filter classes. In the ProcessLogOperations class, the method is:

```
CreateProcessLogFilter()
```

Calling this method returns the filter class.

```
// Create an instance of ProcessLogFilter class.
ProcessLogFilter processLogFilter =
processLogOps.CreateProcessLogFilter();
```

Once you have the instance of the filter classes, you can assign values to the options which are the properties of the class. For example, to retrieve the process log file of a particular Process Log Uid, you need to specify the Uid in the instance of ProcessLogFilter class.

```
processLogFilter.Uid = advCalResult.ProcessLogUid;
```

### Calling on the Operations to Retrieve Data

Service operations classes that support retrieving data contain methods to retrieve data. For example, in the ProcessLogOperations class, there is a method called GetProcessLogs(). This method accepts a filter class and an instance of the ProcessLogFilter class.

```
// Retrieve process log files.
IEnumerable<ProcessLog> processLogs =
processLogOps.GetProcessLogs(processLogFilter);
```

### Examining Entity Classes

The data retrieved in the Cobra Web Service Client API is stored in an enumerable list of an entity class:

```
// Retrieve process log files.
IEnumerable<ProcessLog> processLogs =
processLogOps.GetProcessLogs(processLogFilter);
```

In this example, the ProcessLog class is an entity class that represents the process log file. You can examine the properties of the entity classes for the actual data.

*Logging Out of the Cobra Web Service Host*

Deltek recommends closing the connection to the Cobra Web Service host.

Use the Logout() method on the instance of the CobraServices class to close the connection.

```
cobraServices.Logout();
```

In the future version of Cobra, the Logout() method will also log out the user from Cobra.

## Cobra Web Service ClientAPI Example

This section shows how to use the Cobra Web Service ClientAPI by utilizing the ClientAPI sample file that is included with the Cobra installation.

### Sample ClientAPI Zip File

The SampleClientAPI.zip file, located in the Cobra installation folder, contains examples on how to authenticate and call Cobra processes.

### Cobra Project

The Sample Client API file uses the “Demo” project. Restore the project using the backup provided in **<Cobra Installation Folder>/Samples/Backup/Demo.cmp**.

> **Attention:** For more information on how to restore a project, see Restore Data from a Backup File.

### Actual Cost Integration File

The Sample Client API file contains an example about calling the Actual Cost Integration process that uses the LoadDemoActualsConfig Integration file. This does not have a backup file so you need to manually create it.

> **Attention:** For more information, see Create a Sample Actual Cost Integration File.

If you are not interested in this step, add comment tags to Lines 35-37 of the Program.cs file found in the SampleClientAPI folder.

### Summary of Steps

The steps you need to perform are summarized in the following table.

> **Note:** Perform these steps on the same machine where you installed Cobra.

| Step | Description | Notes |
|---|---|---|
| 1 | Install Cobra. | See the *Deltek Cobra Installation Guide*. |
| 2 | Install Visual Studio 2012 (or higher) or any C# Code Editor. | You will use this application to run the SampleClientAPI in Step 6. |
| 3 | Deploy the Cobra Web Service host. | See Deploy the Cobra Web Service Host. |
| 4 | Configure the Cobra Web Service when using Windows Authentication.<br>**Note:** This step is optional. | See Configure the Cobra Web Service When Using Windows Authentication. |
| 5 | Extract the SampleClientAPI.zip file. | Navigate to **Cobra Installation Folder** » **Samples** » **Web Service ClientAP**, locate the |

| Step | Description | Notes |
|---|---|---|
| | | SampleClientAPI.zip file, and extract it (either on the same or another location). |
| 6 | Run the SampleClientAPI files. | See Run the SampleClientAPI Files. After running the application, see Explaining the SampleClient API Code to better understand each part of the code. |

### Create a Sample Actual Cost Integration File

Use this procedure to create a sample actual cost integration file that you will be used to call the Actual Cost Integration process when running the SampleClientAPI files.

**Attention:** For more information, see Integration Wizard -Actual Costs.

**To create a sample actual integration file:**

1. Log into Cobra.
2. In the Cobra Explorer, click the Integration tab.
3. In the Import group, click **Actual Cost**.
4. On the Integration Configuration page, select **Create a new integration** and click **Next**.
5. On the File Selection page, perform the following actions:
   a) Click the **Project** field, and select **Demo**.
   b) Select **Actual cost file**, navigate to **Cobra Installation Folder** » **Samples** » **Transaction Files**, and select **Actuals Transaction File for Demo Month 1 Format 1.csv**.
   c) Click **Next**.
6. On the Field Mapper page, select the **Files contains a header row** checkbox.
7. On the Class and Results page, click the **Class** field, select **Actual**, and click **Next**.
8. On the Included Costs page, select **Cumulative Costs**, clear the **Zero unreferenced actual costs** checkbox, and click **Next**.
9. On the Options page, select all checkboxes, and click **Next**.
10. On the Save and Load page, perform the following actions:
    a) Clear the **Load data now?** checkbox.
    b) Select the **Save your configuration?** checkbox.
    c) In the **Configuration Name** field, enter **LoadDemoActualsConfig**, and click **Next**.

    **Note:** If the file already exists, click **Yes** to overwrite it.

11. Click **Next** on the succeeding pages to complete the process.

### Run the SampleClientAPI Files

Use this procedure to run the SampleClientAPI files.

**To run the SampleClientAPI files:**

1. Navigate to the folder where you extracted the SampleClientAPI.zip files and open **SampleClientAPI.sln**.
2. Configure the Cobra.WebService.ClientAPI.dll.config to your Cobra Web Service instance.
   a) Open the Cobra.WebService.ClientAPI.dll.config file.
   b) Navigate to Line 35 or locate the following entry.

```
<endpoint address="http://localhost:8116/CobraWebService/
service"
binding="basicHttpBinding"
bindingConfiguration="defaultBinding"
contract="Cobra.WebService.ICobraServices"
name="BasicHttpBinding_ICobraServices"
behaviorConfiguration="CobraWebServiceBehavior" />
```

   c) Update the address tag to point to your Cobra Web Service instance.
3. Run the application.

> **Attention:** To better understand each part of the code, see Explaining the SampleClient API Code.

### Explaining the SampleClientAPI Code

This topic further explains the sample code and its parts.

The sample code is divided into five major parts.

1. Authentication/Login
2. Calling the Advance Calendar Process
3. Calling the Actual Cost Integration
4. Running the Update Totals
5. Retrieving the Process Logs

#### Authentication/Login

You can login to the Cobra Web Service by creating an instance of CobraServices Class class that provides a mechanism to consume the Cobra Web Service host. CobraServices.ServiceIdentityData Property contains the Username, SecurePassword, and Datasource of the Cobra user. Datasource is required if Cobra is configured in a standalone or

server-deployment environment and has multiple data sources. After setting up the ServiceIdentityData, you can now call the CobraServices.Login Method. This authenticates the user and transitions the state to the Opened state.

### Advance Calendar

You can run advance the calendar by creating an instance of ProjectOperations Class using the CobraServices.CreateServiceOperations Method. The ProjectOperations class has operations related to project like AdvanceCalendar, CalculateProgress, CopyProject, and so on. To advance a calendar, create an instance of AdvanceCalendarServiceArguments Class by calling the ProjectOperations.CreateProjectOperationsServiceArguments Method and set the options like Project, IncludeForecastInUpdateTotals, Log, and so on. Then, you can call the ProjectOperations.AdvanceCalendar Method and pass the AdvanceCalendarServiceArguments instance you have created. This will run the Advance Calendar with the options you have set and return a ServiceResult Class. The CheckResult method will check and print the data from the ServiceResult in the console.

### Integrate Actual Costs

You can run integrate actual cost by creating an instance of Integration Class using the CobraServices.CreateServiceOperations Method. The Integration class has operations related to integration like IntegrateActualCosts, IntegrateProjectData, and so on. To integrate actual costs, create an instance of IntegrateActualCostsServiceArguments Class by calling the Integration.CreateIntegrationServiceArguments Method and set the options like ConfigurationName, DatabaseTable, ConnectionName, and so on. Then, you can call the Integration.IntegrateActualCosts Method and pass the IntegrateActualCostsServiceArguments instance you have created. This will run the Integrate Actual Costs with the options you have set and return a ServiceResult Class. The CheckResult method will check and print the data from the ServiceResult in the console.

### Update Totals

You can run update totals by creating an instance of ProjectOperations Class using the CobraServices.CreateServiceOperations Method. The ProjectOperations class has methods related to operations of a project like UpdateTotals, CalculateProgress, AdvanceCalendar, and so on. To update totals, create an instance of UpdateTotalsServiceArguments Class by calling the ProjectOperations.CreateProjectOperationsServiceArguments Method and set the options like Project, Log, and so on. Then, you can call the ProjectOperations.UpdateTotals Method and pass the UpdateTotalsServiceArguments instance you have created. This will run the Update Totals with the options you have set and return a ServiceResult Class. The CheckResult method will check and print the data from the ServiceResult in the console.

### Retrieve Process Logs

You can retrieve process logs by creating an instance of ProcessLogOperations Class using the CobraServices.CreateServiceOperations Method. The ProcessLogsOperations class has operations related to processing logs like GetProcessLogs. To retrieve the process logs, create an instance of ProcessLogFilter Class by calling the ProcessLogOperations.CreateProcessLogFilter Method and set the options like Project, Context, DateRange, and so on. Then, you can call the ProcessLogOperations.GetProcessLogs Method

and pass the ProcessLogFilter instance you have created. This will return an IEnumerable<ProcessLog>.

## Cobra Web Service Log

You can use the Cobra Web Service Debug log or the WCF Trace log to troubleshoot Cobra Web Service issues.

### Cobra Web Service Debug Log

The Cobra Web Service generates the Debug log file **WebServiceDebugLog_<port>.xml**, where **<port>** is the port in the Cobra Web Service URL.

### WCF Trace Log

You can optionally turn on the WCF Trace log for instances with issues but are not displayed or generated in the Web Service Debug log, such as tracing connection issues. Deltek may request you to turn on this log to properly diagnose such issues.

> **Attention:** For more information, see Enable the WCF Trace Log.

#### Enable the WCF Trace Log

Use this procedure to enable the WCF Trace log.

**To enable the WCF Trace log:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   > **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane under the Instances tree, select the first instance with issues.
3. In the toolbar, click the **Stop** button.

   > **Attention:** For more information, see “Toolbar” in Left Pane of the Cobra Web Service Management Tool.

4. Verify that the instance status is **Stopped**.
5. In the Cobra Web Service Instance Settings, select the **Enable WCF Trace** checkbox.
6. In the **Log File** field, specify the WCF Trace log file.

   If you are enabling the WCF Trace log in multiple instances, Deltek recommends specifying different log file for each instance, and using names that can be easily identified for each instance. For example, include the port number dedicated to the instance such as CWSTraceLog_8116.svclog.

7. Click the **Save** button to save your changes.
8. In the toolbar, click the **Run** button.

9. Verify that the instance status is **Running**.
10. Repeat Steps 2 to 9 for other instances that you think are having issues. If you are not sure which instances are having issues, enable the WCF Trace Log in all instances.

## Other Distribution Files

In addition to the ClientAPI files, there are other distribution files related to the Cobra Web Service.

These distribution files are as follows:

- **Sample ClientAPI**: You can find a sample project that uses the Cobra Web Service ClientAPI binaries in the **Sample** » **Web Service ClientAPI** subfolder of the Cobra folder. The sample project (SampleClientAPI.sln) demonstrates how to use the Cobra Web Service ClientAPI as well examples on how to authenticate and call Cobra processes.

  **Attention:** For more information, see Cobra Web Service ClientAPI Example.

- **Cobra Web Service ClientAPI Reference Help Files**: Use the link below to display the Web Service Client API Help.

  Deltek Cobra Web Services Client API Help

  Alternatively, you may navigate to the **Help** » **API** subfolder of the Cobra installation folder.

  Application developers can use this reference file to help them develop solutions using the Cobra Web Service ClientAPI.

## Deltek Products That Utilize the Cobra Web Service

Cobra Web Service is utilized by Deltek products to automate and execute Cobra processes.

- **Costpoint**: The Costpoint to Cobra Integration automates the loading of actual costs from Costpoint to Cobra.

  **Attention:** For more information, see the *Deltek Costpoint to Cobra Integration Technical Guide*.

  **Note:** Costpoint introduces updates to the Cobra integration that utilizes the Cobra Web Service beginning with version 7.1.1.

- **PM Compass**: The PM Compass Change Management process integrates with Cobra using Cobra Web Service (Cobra Engine) on the PM Compass Server to execute Cobra processes. During the Change Management process, workflow step actions run Cobra processes such as the Integration Wizard, Reclass, Recalc, Advance Calendar, and Rolling Wave.

  **Attention:** For more information, see the "Integrating with Cobra" section of the *Deltek PM Compass Technical Installation Guide*.

## Troubleshooting Cobra Web Service Issues

This section provides errors that you may encounter when using Cobra Web Service as well as possible solutions.

### The encryption type requested is not supported by the KDC

Cobra Web Service with Windows authentication requires encryption algorithms. If the service account that you created for the Cobra Web Service is not properly configured to support these algorithms, the Cobra Web Service log displays an error.

The error is: "System.ComponentModel.Win32Exception: The encryption type requested is not supported by the KDC."

**To view the debug log and determine the error:**

1. Navigate to the following folder of the machine where the Cobra Web Service is configured and deployed: <Dedicated Windows Account>\Documents\Deltek\Cobra\Log.

   **Note:** Basically, this is the machine where Cobra is installed. If you are using concurrency, this is the Cobra Concurrency machine.

2. Locate the following file and open it using a text editor (such as Notepad) and look for the error message.
   - WebServiceDebugLog_<port>.xml

     **Note: <port>** is the port in the Cobra Web Service URL.

   - WebServiceGatewayDebugLog.xml file (if you are using concurrency)
3. Refer to the following table for the error message and its solution.

| | |
|---|---|
| **Error Message** | System.ComponentModel.Win32Exception : The encryption type requested is not supported by the KDC. |
| **Description** | The error is usually encountered if you are using Cobra Web Service with Windows authentication and the service account you created is not properly configured to support encryption algorithms. |

| Solution | Details |
|---|---|
| Enable the AES encryption for the service account. | **To enable AES encryption:**<br>1. Open **Active Directory Users and Computers**.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security** |

| Solution | Details |
|---|---|
| | **Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. Click the Account tab.<br>5. Under **Account** options, select one or both of the following:<br>▪ This account supports Kerberos AES 128 bit encryption.<br>▪ This account supports Kerberos AES 256 bit encryption.<br>6. Click **OK**. |
| Configure the network security using the Group Policy Management console. | **To configure the network security:**<br>1. Open the Group Policy Management console and edit a new or existing GPO.<br>2. In the Group Policy Management Editor, expand **Computer Configuration** » **Policies** » **Windows Settings** » **Security Settings** » **Local Policies** » **Security Options**.<br>3. Right-click **Network security: Configure encryption types allowed for Kerberos** and click **Properties**.<br>4. On the Security Policy Setting tab, select the **Define these policy settings** checkbox.<br>5. Select the following options:<br>▪ RC4_HMAC_MD5<br>▪ AES128_HMAC_SHA1<br>▪ AES256_HMAC_SHA1<br>▪ Future encryption types<br>6. Click **OK**. |

**Additional Information**

Refer to the following articles from Microsoft:

- SharePoint server configuration requirements to support Kerberos AES encryption if errors occur

- SCCM: "The encryption type requested is not supported by the KDC" Error

# Cobra Web Service Management Tool

Managing Cobra Web Service instances and gateway endpoints require you to perform several tasks and use different interfaces.

To install an instance, you need to modify the configuration files and run a command line. To reconfigure an instance, you need to stop the service, modify the configuration file, and start the service again. These methods are sometimes susceptible to errors that may break the instance or gateway endpoints.

The Cobra Web Service Management Tool is created to streamline and automate the methods by providing the following functions:

- Set up the Cobra Web Service instances and gateway endpoints through an intuitive user interface
- Install and delete instances and gateway endpoints without using the Windows command line
- Start, restart, and stop instances and gateway endpoints without accessing Windows Services Manager (Services MMC)

The Cobra Web Service Management Tool does not include managing SSL certificates needed to set up the Cobra Web Service instances and gateway endpoints that use the HTTPS protocol. To support SSL in Cobra Web Service instances and gateway, you must bind the HTTPS ports to be used by these services to Windows Server Certificates. See Configuring Cobra Web Service to Use Secure Socket Layers.

In addition, the Cobra Web Service Gateway Configuration Tool, previously a stand-alone tool, has been merged into this tool.

**Note:** The Cobra Web Service Management Tool is available beginning with Cobra 8.4 Cumulative Update 11 and higher. SSL is a term commonly used when referring to both Secure Sockets Layer technology and its successor, Transport Layer Security (TLS). Although you may see references to SSL in this guide and in the application's user interface, all Deltek applications use current TLS protocols to provide protected connections between web servers and web browsers.

## Cobra Web Service Management Tool Interface

The Cobra Web Service Management Tool consists of two panes: the left pane and the right pane.

The left pane contains the following sections:

- Toolbar
- Instances Tree
- Gateway Tree

The section displayed in the right pane of the Cobra Web Service Management Tool depends on what is selected in the left pane.

- If an instance or **<New Instance>** is selected in the left pane of the tool, the Cobra Web Service Instance Settings displays in the right pane.
- If the gateway is selected in the left pane of the tool, the Cobra Web Service Gateway Settings displays in the right pane.

When you launch the Cobra Web Service Management Tool, it performs the following actions:

- Retrieves all services that execute the Cobra.WebService.Host.exe in Windows Services
- Reflects the status of each instance
- Locates the Cobra.WebService.Gateway.Host.exe in Windows Services
- Loads the Cobra.WebService.Gateway.Host.exe.config file into the Cobra Web Service Gateway Settings

### Left Pane of the Cobra Web Service Management Tool

The left pane of the Cobra Web Service Management Tool contains the toolbar, the Instances tree, and the Gateway tree.

#### Toolbar

The toolbar bar contains buttons that you use to perform tasks in managing the Cobra Web Service instances and the Cobra Web Service Gateway.

**Note:** Succeeding instances of Cobra Web Service instances and Cobra Web Service Gateway display instances and gateway respectively.

| Button | Description |
|---|---|
| **Install** | Click this button to install an instance or the gateway in Windows Services.<br>▪ This button is disabled if the Instance tree, an instance, or the Gateway tree is selected.<br>▪ This button is enabled if <New Instance> is selected. If a new instance is successfully installed, the entry is replaced with the new instance name, and a new **<New Instance>** is added to the Instances tree.<br>▪ This button is enabled if the gateway is selected, and it is not yet installed in Windows Services. Clicking this button installs the gateway in Windows Services.<br>▪ This button is disabled if the gateway is selected, and it is already installed in Windows Services. |

| Button | Description |
| --- | --- |
| **Uninstall** | Click this button to uninstall the selected instance or the gateway from Windows Services.<br>▪ This button is disabled if the Instance tree, **<New Instance>**, or the Gateway tree is selected.<br>▪ This button is enabled if an instance is selected. Clicking this button uninstalls the instance from Windows Services. If the instance is successfully uninstalled, the instance is removed from the Instances tree.<br>▪ This button is disabled if the gateway is selected, and it is not yet installed in Windows Services.<br>▪ This button is enabled if the gateway is selected, and it is already installed. Clicking this button uninstalls the gateway from Windows Services. If the gateway is successfully uninstalled from Windows Services, its status is changed to **Not Installed.**. |
| **Start** | Click this button to run the selected instance or the gateway.<br>▪ This button is disabled if the Instance tree, **<New Instance>,** or the Gateway tree is selected.<br>▪ This button is disabled if the gateway is selected, and it is not yet installed in Windows Services.<br>▪ This button is disabled if an instance or the gateway is selected, and its status is **Running**.<br>▪ This button is enabled if an instance or the gateway is selected, and its status is **Paused** or **Stopped**. Clicking this button starts or resumes the instance or the gateway in Windows Services. If the instance or the gateway is successfully started or resumed, its status is |

| Button | Description |
|---|---|
| | changed to **Running**. Otherwise, the following error message displays: "Failed to start [or resume] the instance. Please see the event log." |
| **Stop** | Click this button to stop the selected instance or the gateway.<br>▪ This button is disabled if the Instance tree, **<New Instance>**, or the Gateway tree is selected.<br>▪ This button is disabled if the gateway is selected, and it is not yet installed in Windows Services.<br>▪ This button is disabled if an instance or the gateway is selected, and its status is **Stopped**.<br>▪ This button is enabled of an instance, or the gateway is selected, and its status is **Running** or **Paused**. Clicking this button stops the instance or the gateway in Windows Services and then changes its status to **Stopped**. |
| **Restart** | Click this button to restart the selected instance or the gateway.<br>▪ This button is disabled if the Instance tree, **<New Instance>**, or the Gateway tree is selected.<br>▪ This button is disabled if the gateway is selected, and it not yet installed in Windows Services.<br>▪ This button is disabled if an instance or the gateway is selected, and its status is **Stopped**.<br>▪ This button is enabled if an instance or the gateway is selected, and its status is **Running** or **Paused**. Clicking this button restarts the instance or the gateway in Windows Services and changes its status to **Running**. |
| **Refresh** | Click this button to refresh the status of the defined instances or the gateway. |

### Instances Tree

The Instances tree displays the instances installed in Windows Services. Each instance entry contains the following columns.

| Column | Description |
|---|---|
| **Name** | This column displays the unique name of the instance in Windows Services. |
| **Status** | This column displays the status of the instance.<br>▪ **Running**: This status indicates that the instance is running in Windows Services.<br>▪ **Paused**: This status indicates that the instance is paused in the Windows Services.<br>▪ **Stopped**: This status indicates that the instance is stopped in the Windows Services. |

The Instances tree has **<New Instance>**, which you use to configure a new instance before installing it. Its status is always Not Installed.

**Note:** You can expand or collapse the Instances Tree by clicking the **+** or the **–** icon.

### Gateway Tree

The Gateway tree only contains one child, which is the Cobra Web Service Gateway.

| Column | Description |
|---|---|
| **Name** | This column displays Cobra Web Service Gateway. |
| **Status** | This column displays the status of the gateway.<br>▪ **Not Installed**: This status indicates that the gateway is not installed in the Windows Services.<br>▪ **Running**: This status indicates that the gateway is installed and running in Windows Services.<br>▪ **Paused**: This status indicates that the gateway is installed and paused in Windows Services.<br>▪ **Stopped**: This status indicates that the gateway installed and stopped in the Windows Services. |

### Right Pane of the Cobra Web Service Management Tool

The section displayed in the right pane of the Cobra Web Service Management Tool depends on what is selected in the left pane.

- If an instance or **<New Instance>** is selected in the left pane of the tool, the Cobra Web Service Instance Settings displays in the right pane.
- If the gateway is selected in the left pane of the tool, the Cobra Web Service Gateway Settings displays in the right pane.

*Cobra Web Service Instance Settings*

The right pane displays the Cobra Web Service Instance Settings if an instance or **New Instance** is selected in the Instances tree.

If an instance is selected, the tool loads the configuration file settings into the right pane. If **<New Instance>** is selected, all fields in the right pane are blank.

The Cobra Web Service Gateway Settings interface is described in the following tables.

| Field | Description |
|---|---|
| **Name** | This field displays the unique name of the instance in Windows Services.<br>▪ This field is required.<br>▪ This field is editable if **<New Instance>** is selected in the Instances tree.<br>▪ This field is read-only if an instance is selected in the Instances tree. |
| **Description** | This field displays the description of the instance in Windows Services.<br>▪ This field is optional.<br>▪ This field is editable if **<New Instance>** is selected in the Instances tree.<br>▪ This field is read-only if an instance is selected in the Instances tree. |
| **Config File** | This field displays the configuration file assigned to the instance. This file must reside in the same folder as the Cobra.WebService.Host.exe file.<br>▪ This field is required.<br>▪ This field is editable if <**New Instance>** is selected in the Instances tree. |

| Field | Description |
| --- | --- |
| | ▪ This field is read-only if an instance is selected in the Instances tree. |

### Endpoint Group Box

| Field | Description |
| --- | --- |
| **Host** | This field displays the host name of the endpoint of the instance.<br>▪ This field is required.<br>▪ This field is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree.<br>▪ This field is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree.<br>**Note:** When configuring this instance to use SSL, supply the Subject from Windows Server Certificate intended for Server Authentication. For more information, see Configuring Cobra Web Service to Use Secure Socket Layers. |
| **Protocol** | This field displays the protocol of the endpoint of an instance, which can be **HTTP** or **HTTPS**.<br>▪ This field is required.<br>▪ This field is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree.<br>▪ This field is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree. |
| **Port** | This field displays the port number of the endpoint of an instance.<br>▪ This field is required.<br>▪ This field is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree. |

| Field | Description |
| --- | --- |
| | ▪ This field is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree.<br><br>**Note:** You must ensure that the port number does not conflict with the port number from other endpoints in instances or other systems. The Cobra Web Service Management Tool will not validate it.<br><br>**Note:** When configuring the instance to use SSL, supply the port that was binded with the Windows Server Certificate intended for Server Authentication. For more information, see Configuring Cobra Web Service to Use Secure Socket Layers. |
| **Address** | This field displays the address of the endpoint of the instance, which is generated using the **Host**, **Protocol**, and **Port** settings. This setting is always read-only. |
| **Open endpoint for Deltek Costpoint Integration** | This checkbox determines whether an endpoint will be open for the Costpoint-Cobra Integration.<br><br>▪ This checkbox is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree.<br><br>▪ This checkbox is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree. |
| **Port** | This field displays the port number of the endpoint for the Costpoint-Cobra Integration.<br><br>▪ This field is disabled if the **Open endpoint for Deltek CostPoint Integration** checkbox is cleared.<br><br>▪ This field is required unless it is disabled.<br><br>▪ This field is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree. |

| Field | Description |
| --- | --- |
| | ▪ This field is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree.<br><br>**Note:** You must ensure that the port number does not conflict with the port number from other endpoints in instances or other systems. The Cobra Web Service Management Tool will not validate it. |
| **Address** | This field displays the address of the endpoint for the Costpoint-Cobra Integration, which is generated using the **Host**, **Protocol**, and **Port** settings. This setting is always read-only. |

### Logging Group Box

| Field | Description |
| --- | --- |
| **Enable WCF Trace Log** | Select this checkbox to allow the instance to write WCF Trace logs.<br><br>▪ This checkbox is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree.<br><br>▪ This checkbox is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree.<br><br>**Attention:** For more information, see Enable the WCF Trace Log. |
| **Log File** | This field is required if the **Enable WCF Trace Log** checkbox is selected.<br><br>▪ This field is required unless it is disabled.<br><br>▪ This field is disabled if the **Enable WCF Trace Log** checkbox is cleared.<br><br>▪ This field is read-only if an instance with **Paused** or **Running** status is selected in the Instances tree. |

| Field | Description |
| --- | --- |
| | ▪ This field is editable if **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree.<br>▪ This field displays the path and file to which the instance will write the WCF Trace logs. The path of the file must exist while file may or may not exist. |

**Save**

Use this button to save the settings in the configuration file.

This button is disabled if an instance with **Paused** or **Running** status is selected in the Instances tree.

If **<New Instance>** or an instance with **Stopped** status is selected in the Instances tree:

- This button initially disabled.
- If you make changes to any of the fields, this button becomes enabled.
- If you click this button, the changes are saved, and this button becomes disabled again.

**Cancel**

Use this button to revert the changes you made and reload the previous settings from the configuration file. This button is disabled if an instance with **Running** or **Paused** status is selected in the Instances tree. If **<New Instance**> is selected in the Instances tree, this button initially disabled.

**Generate ClientAPI Configuration File**

This button is enabled if the instance is selected in the Instances tree. Click this button to generate the configuration file for the ClientAPI. Upon clicking, the tool displays a prompt with the location where the Cobra.WebService.ClientAPI.dll.config file will be generated. If the file already exists, it will be overwritten.

*Cobra Web Service Gateway Settings*

The right pane displays the Cobra Web Service Gateway Settings if the gateway is selected in the left pane of the tool.

Use the fields in this pane to define the Cobra Web Service endpoints that you will use for the concurrency feature so that the Cobra Web Service Gateway can identify their URLs and make the connection.

The Cobra Web Service Gateway Settings interface is described in the following tables.

**Gateway Endpoint Group Box**

This group box displays the address of the gateway's listening endpoint.

| Field | Description |
| --- | --- |
| **Host** | This field displays the host name of the gateway's listening endpoint, which is usually the machine name.<br>▪ This field is required.<br>▪ This field is read-only if the gateway is installed, and the status is **Running** or **Paused**.<br>▪ This field is editable if the gateway is not installed, or the status is **Stopped**.<br>**Note:** When configuring this instance to use SSL, supply the Subject from Windows Server Certificate intended for Server Authentication. For more information, see Configuring Cobra Web Service to Use Secure Socket Layers. |
| **Protocol** | This field displays the protocol of the gateway's listening endpoint, which can be HTTP or HTTPS.<br>▪ This field is required.<br>▪ This field is read-only if the gateway is installed, and the status is **Running** or **Paused**.<br>▪ This field is editable if the gateway is not installed, or the status is **Stopped**. |
| **Port** | This field displays the port number of the gateway's listening endpoint.<br>▪ This field is required.<br>▪ This field is read-only if the gateway is installed, and the status is **Running** or **Paused**.<br>▪ This field is editable if the gateway is not installed, or the status is **Stopped**.<br>**Note:** You must ensure that the port number does not conflict with the port number from other endpoints in instances or other systems. The Cobra Web Service Management Tool will not validate it. |

| Field | Description |
|---|---|
| | **Note:** When configuring the instance to use SSL, supply the port that was binded with the Windows Server Certificate intended for Server Authentication. For more information, see Configuring Cobra Web Service to Use Secure Socket Layers. |
| **Address** | This field displays the address of the endpoint of the gateway, which is generated using the **Host**, **Protocol**, and **Port** settings. This setting is always read-only.<br>**Note:** When using the Concurrency feature, this is the address of the gateway's listening endpoint to which the PM Compass Process Server must connect. |

### Cobra Web Service Endpoints Grid

This grid displays the different Cobra Web Service endpoints to which the gateway will connect. This grid is read-only if the gateway is installed, and the status is **Running** or **Paused**. This grid is editable if the gateway is not installed, or the status is **Stopped**.

**Note:** You must define at least one endpoint to install the gateway to Windows Services.

Each endpoint in the grid has the following fields.

| Field | Description |
|---|---|
| **Name** | This field displays the unique name of the endpoint. |
| **Address** | This field displays the addresses of the endpoint. |
| **UPN** | If the Cobra Web Service is located on a remote machine that runs on the Windows Domain Account that does not have access to the Service Principal Name (SPN), use this field to specify the User Principal Name (UPN) of the running Windows domain account. This will be the Identity of each remote Cobra Web Service. This field is optional.<br>**Attention:** See The server was unable to process the request due to an internal error. |

### Logging Group Box

Use this group box to set up the WCF Trace logging of the gateway.

| Field | Description |
|---|---|
| **Enable WCF Trace Log** | Select this checkbox to allow the gateway to write WCF Trace logs. This checkbox is read-only if the gateway is installed, and the status is **Running** or **Paused**.<br>**Attention:** For more information, see Enable the WCF Trace Log. |
| **Log File** | This field is required if the **Enable WCF Trace Log** checkbox is selected.<br>▪ This field is read-only if the gateway is installed, and the status is **Running** or **Paused**.<br>▪ This field is editable if the gateway is not installed, or the status is **Stopped**.<br>▪ This field displays the path and file to which the instance will write the WCF Trace logs. The path of the file must exist while file may or may not exist. |

### Save

Use this button to save the settings in the configuration file. This button is disabled if the gateway is installed, and the status is **Running** or **Paused**.

If the gateway is not installed or the status is **Stopped**:

- This button initially disabled.
- If you make changes to any of the fields, this button becomes enabled.
- If you click this button, the changes are saved, and this button becomes disabled again.

### Cancel

Use this button to revert the changes you made and reload the previous settings from the configuration file. This button is disabled if the gateway is installed, and the status is **Running** or **Paused**.

If the gateway is not installed or the status is **Stopped**:

- This button initially disabled.
- If you make changes to any of the fields, this button becomes enabled.
- If you click this button, the changes are saved, and this button becomes disabled again.

**Generate ClientAPI Configuration File**

This button is enabled if the gateway is installed. Click this button to generate the configuration file for the ClientAPI. Upon clicking, the tool displays a prompt with the location where the Cobra.WebService.ClientAPI.dll.config file will be generated. If the file already exists, it will be overwritten.

## Procedures

Follow the procedures in this section to perform different tasks using the Cobra Web Service Management Tool.

### Configure a New Instance

Use this procedure to configure a new Cobra Web Service instance in Windows Services using the Cobra Web Service Management Tool.

**To configure a new instance:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane under the Instances tree, click **<New Instance>**.
3. In the Cobra Web Service Instance Settings, enter or select the values in the appropriate fields.

   **Note:** If you are hosting multiple instances of the Cobra Web Service, Deltek recommends using a unique name and/or description for each instance.

4. Click **Save**.

   The new instance displays in the Instances tree.

5. To install the instance in Windows Services, select it, and click **Install** in the toolbar.
6. To run the instance in Windows Services, select it, and click **Start** in the toolbar.

   **Attention:** For more information, see Deploy the Cobra Web Service Host. and "Toolbar" in the Left Pane of the Cobra Web Service Management Tool.

### Configure the Gateway

Use this procedure to configure the Cobra Web Service gateway in Windows Services using the Cobra Web Service Management Tool.

**To configure the gateway:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

> **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane under the Gateway tree, click **Cobra Web Service Gateway**.
3. In the Cobra Web Service Gateway Settings, enter or select the values in the appropriate fields.
4. Click **Save**.

   The gateway displays in the Gateway tree.
5. To install the gateway in Windows Services, select it, and click **Install** in the toolbar.
6. To run the gateway in Windows Services, select it, and click **Start** in the toolbar.

> **Attention:** For more information, see "Toolbar" in Left Pane of the Cobra Web Service Management Tool.

### Uninstall an Instance or the Gateway

Use this procedure to uninstall an instance or the gateway in Windows Services using the Cobra Web Service Management Tool.

**To uninstall an instance or the gateway:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   > **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.
2. In the left pane, do one of the following:
   - Click an instance in the Instances tree.
   - Click **Cobra Web Service Gateway** in the Gateway tree.
3. Click **Uninstall** in the toolbar.

   If successful, the instance is removed from the Instances tree, or the gateway status is changed to **Not Installed**.

   > **Attention:** For more information, see Remove the Cobra Web Service Host from Windows Services and "Toolbar" in Left Pane of the Cobra Web Service Management Tool.

### Stop an Instance or the Gateway

Use this procedure to stop an instance or the gateway in Windows Services using the Cobra Web Service Management Tool.

**To stop an instance or the gateway:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane, do one of the following:
   - Click an instance in the Instances tree.
   - Click **Cobra Web Service Gateway** in the Gateway tree.
3. Click **Stop** in the toolbar.

   The instance or the gateway status is changed to **Stopped**.

   **Attention:** For more information, see “Toolbar” in Left Pane of the Cobra Web Service Management Tool.

### Restart an Instance or the Gateway

Use this procedure to restart an instance or the gateway in Windows Services using the Cobra Web Service Management Tool.

**To restart an instance or the gateway:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane, do one of the following:
   - Click an instance in the Instances tree.
   - Click **Cobra Web Service Gateway** in the Gateway tree.
3. Click **Restart** in the toolbar.

   The instance or the gateway status is changed to **Running**.

   **Attention:** For more information, see “Toolbar” in Left Pane of the Cobra Web Service Management Tool.

### Enable the WCF Trace Log

Use this procedure to enable the WCF Trace log.

**To enable the WCF Trace log:**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.

2. In the left pane under the Instances tree, select the first instance with issues.
3. In the toolbar, click the **Stop** button.

   **Attention:** For more information, see “Toolbar” in Left Pane of the Cobra Web Service Management Tool.

4. Verify that the instance status is **Stopped**.
5. In the Cobra Web Service Instance Settings, select the **Enable WCF Trace** checkbox.
6. In the **Log File** field, specify the WCF Trace log file.

   If you are enabling the WCF Trace log in multiple instances, Deltek recommends specifying different log file for each instance, and using names that can be easily identified for each instance. For example, include the port number dedicated to the instance such as CWSTraceLog_8116.svclog.

7. Click the **Save** button to save your changes.
8. In the toolbar, click the **Run** button.
9. Verify that the instance status is **Running**.
10. Repeat Steps 2 to 9 for other instances that you think are having issues. If you are not sure which instances are having issues, enable the WCF Trace Log in all instances.

## Configuring the Cobra Web Service to Use Secure Socket Layers

To support Secure Socket Layers (SSL) in Cobra Web Service instances and gateway, the HTTPS ports to be used by these services must be bound to Windows Server Certificates.

To bind the HTTPS ports, you must perform the following steps:

- Obtain the Authentication Certificate Information on the Cobra Web Service machines
- Bind the Windows Server Certificate to the Cobra Web Service HTTPS ports
- Configure the Cobra Web Service instances and/or gateway using Cobra Web Service Management Tool

**Note:** SSL is a term commonly used when referring to both Secure Sockets Layer technology and its successor, Transport Layer Security (TLS). Although you may see references to SSL in

this guide and in the application's user interface, all Deltek applications use current TLS protocols to provide protected connections between web servers and web browsers.

## Obtain the Authentication Certificate Information on the Cobra Web Service Machines

Use this procedure to obtain the Authentication Certificate Information on the Cobra Web Service machines.

**To obtain the Authentication Certificate Information on the Cobra Web Service machines:**

1. Open the Certificates MMC Snap-In and navigate to the following folder location: **Certificates (Local Computer)** » **Personal** » **Certificates**.
2. Open the Windows Server Certificate intended for Server Authentication.

   **Attention:** For more information, refer to https://docs.microsoft.com/en-us/dotnet/framework/wcf/feature-details/how-to-view-certificates-with-the-mmc-snap-in. If your server does not have a certificate, you need to obtain one before you proceed with this procedure. For more information, refer to https://docs.microsoft.com/en-us/dotnet/framework/wcf/feature-details/how-to-obtain-a-certificate-wcf.

3. On the Details tab of the certificate, copy the following:
   - **Thumbprint**: Remove all spaces and save this information to be used in binding the certificate.
   - **Subject**: This is usually the fully qualified name of the server.

   **Attention:** For more information, refer to https://docs.microsoft.com/en-us/dotnet/framework/wcf/feature-details/how-to-retrieve-the-thumbprint-of-a-certificate.

## Bind the Windows Server Certificate to the Cobra Web Service HTTPS Ports

Use this procedure to bind the Windows Server Certificate to the Cobra Web Service ports.

**To bind the Windows Certificate to the Cobra Web Service HTTPS ports:**

1. Launch the Command Prompt, and select **Run as administrator**.
2. Enter the following command:

   ```
   netsh http add sslcert ipport=0.0.0.0:<port> certhash=<server
   certificate thumbprint> appid={857f24c8-58fc-4102-98d7-
   d11ecaa9be39}
   ```

   where
   - **<port>** is the HTTPS port on which you choose to run the Cobra Web Service instance or gateway. For example:
     - 8122, which is the default HTTPS port of Cobra Web Service

    - 8108, which is the default port of Cobra Web Service Gateway
  - **<server certificate thumbprint>** is the Server Authentication Certificate Thumbprint saved when obtaining the Authentication Certificate Information on the Cobra Web Service machines. For example, 69dbb276109a62d90c0d1d436ddc2278ea56d86e.
3. If you are hosting multiple instances of Cobra Web Service for Cobra Concurrency feature, repeat step 2 using different port of each instance of Cobra Web Service. For example, bind port 8118, which is the default of the second instance of Cobra Web Service.

### Configure the Cobra Web Service Instances and/or Gateway using Cobra Web Service Management Tool

Use this procedure to configure the instances or the gateway using the Cobra Web Service Management Tool.

**To configure the instances or the gateway.**

1. Click **Start** » **Deltek Cobra X.x** » **Deltek Cobra Web Service Management Tool**.

   **Note:** Alternatively, navigate to the Cobra installation directory, locate **CWSManagementTool**, right-click it, and select **Run As Administrator** command from the shortcut menu.
2. Select the instance and/or the gateway services that will be configured to use SSL, or create a new instance.
3. In the **Host** field, enter the Server Authentication Certificate Subject you saved when obtaining the Authentication Certificate Information on the Cobra Web Service machines. For example, cobrawebserver.company.com.
4. In the **Protocol** field, select **HTTPS**.
5. In the **Port** field, enter the port that was bound to the Windows Server Certificate.

## Cobra Features for PM Compass Users

This section contains Cobra features available for PM Compass users.

These features are as follows:

- Concurrency When Running Cobra Processes
- BCR Analysis Report

## Concurrency in Cobra

Cobra processes can be run concurrently with the help of the PM Compass Process Server.

These Cobra processes include:

- Integration of a single import with multiple projects
- Apportionment calculations on batches of control accounts

- Progress calculations on batches of control accounts (Beginning with Cobra 8.4 Cumulative Updates 05)
- Forecast calculations on batches of control accounts (Beginning with Cobra 8.4 Cumulative Updates 10)

To fully understand the requirements and the steps in setting up your environment to run a concurrent process, refer to Deltek PM Compass and Cobra Concurrency Solution Setup and Configuration Guide.

**Note:**

- The concurrency feature is available only if you are running Cobra and PM Compass in your environment.
- The degree of concurrency you can achieve will depend on how you have configured your Cobra environment.
- The concurrency feature is not yet supported in the Cobra API.

## BCR Analysis Report

The Budget Change Request (BCR) Analysis report provides a summary and detailed information about the changes processed in a particular period.

The BCR Analysis report, which is generated in PM Compass, displays *before* and *after* data for change requests processed for a period and highlights any discrepancies; that is, data that was not processed as planned.

In order to run the BCR Analysis report, you must first set up the BCR Snapshot database using the Cobra Data Tool. The BCR Snapshot database must have a schema that matches your production or source database.

The required scripts to complete the steps in configuring the BCR Snapshot database are located in **<Cobra installation directory>\Samples\Cobra84PMCompassBCRScripts**.

**Attention:** The steps to set up the BCR Snapshot database are discussed in detail in “Appendix K: Managing BCR Snapshot Database” of the *Cobra 8.4 Installation Guide*.

Once the BCR Snapshot database is set up, open PM Compass and access the BCR Analysis Report form, where you can filter the data that you want to in the report, and run the report itself.

**Attention:** For more information, refer to the topics in the **Reports » BCR Analysis Report** node of the PM Compass Online Help.

**Important:** You can only generate the BCR Analysis report in PM Compass, not in Cobra.

# Advanced Topics

The topics in this section provides more information about Cobra.

## Multiple Sessions in Cobra

To prevent orphaned locks or sessions when running Cobra in a Terminal Services or a Citrix environment, you can configure Cobra to only allow a single instance for the same user on a single machine.

- If you are using Cobra 8.3 or lower, use the **ALLOWMULTIPLEINSTANCES** setting.
- iI you are using Cobra 8.4 or higher, use the **_CLEAREXISTINGLOCKS** setting.

**Attention:** For instructions on how to use these settings, refer to KB Article # 97977 in the Knowledge Center of the Deltek Support Center.

## Running Cobra with Command Line Parameters

You can use command line parameters that can be passed to Cobra applications and Cobra API.

### Common Parameters

This table lists the command line parameters that can be passed to Cobra applications.

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| **configfolder** | Use this parameter to launch Cobra application and specify the location of the Config.dat file and IdeaBlade.Ibconfig file if Cobra is not installed in the default installation location.<br>When you pass this parameter to Cobra or to any tool, you must specify the same location of the Config.dat file or the IdeaBlade.Ibconfig file. When you | Cobra | "<Cobra Installation Location>\DeltekCobra.exe" /configfolder:"<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\DeltekCobra.exe" /configfolder:C:\my cobra config |
| | | Database Upgrade Wizard | "<Cobra Installation Location>\Support\Utilities\DeltekCobra8xDatabaseUpgradeWizard.exe" /configfolder:<Target folder> | "C:\Program Files\Deltek\Cobra\Support\Utilities\DeltekCobra83DatabaseUpgradeWizard.exe" /configfolder:C:\my cobra config |

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| | use this parameter to start Cobra, you must also use this parameter in other Cobra applications (EXE applications) that support this parameter to make sure you are pointing to the same database.<br>By default, the Datasources.dat and the Config.dat files are found in the same location. In cases when the Datasources.dat file does not reside together with the Config.dat file, you must transfer the Datasources.dat file to the same location where the Config.dat file resides. Otherwise, you will be prompted to navigate to the location of the Datasources.dat file. This location will be saved in the Config.dat file.<br>**Attention:** For more information on these files, refer to the | | where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | |
| | | Data Tool | "<Cobra Installation Location>\DataTool.exe" /configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\DataTool.exe" /configfolder:C:\my cobra config |
| | | API | "<Cobra Installation Location>\Cobra.API.exe" configfolder:<Target folder><br>where **<Target folder>** is the location of the Config.dat or IdeaBlade.Ibconfig file | "C:\Program Files\Deltek\Cobra\Cobra.API.exe" configfolder:C:\my cobra config |

| Parameter | Description | Application | Syntax | Example |
|---|---|---|---|---|
| | Config.dat and Datasources.dat topics in the Data Tool Help System. | | | |

### API-Specific Parameters

This table lists the command line parameters that you can pass to the Cobra API.

| Parameter | Description | Syntax | Example |
|---|---|---|---|
| **user** | You use this parameter to specify the Cobra user and password using this parameter . This parameter is required unless when Cobra is configured to use Windows Authentication. | "<Cobra Installation Location> \Cobra.API.exe" user:<username> \<password> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" user:SYSADMIN \password |
| **script** | You use this parameter to specify the script file that contains the processes. This parameter is required. | "<Cobra Installation Location> \Cobra.API.exe" script:<fully qualified path of the script file> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" script:C:\CobraAPIScripts\batch.txt" |
| **logfile** | You use this parameter to specify a different filename for the API log file. If omitted, the log file filename will be Batch.Api.log.<br>This parameter does not support a fully qualified path. You can specify the log filename and the file will be created in the **<Logged In User>\My Documents\Deltek \Cobra\Logs** folder of the workstation where the Cobra API is running. | "<Cobra Installation Location> \Cobra.API.exe" logfile:<log file filename> | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" logfile:BatchProcess.log |

| Parameter | Description | Syntax | Example |
|---|---|---|---|
| **datasource** | You use this parameter to specify the data source to which the API would run the processes. If omitted, the API will use the last data source that was logged onto Cobra.<br>**Note:** If you omit the quotes in the datasource parameter, the application uses the IdeaBlade.Ibconfig or Config.dat file in the application's folder. The location of the Datasources.dat file is defined inside the Config.dat file. If the location of the Datasources.dat file is not specified in the Config.dat file, you must move the Datasources.dat file within the same folder where the Config.dat file is located. | "<Cobra Installation Location> \Cobra.API.exe" data source:<name of data source><br>**Note:** The <name of the data source> must be an existing data source. | "C:\Program Files \Deltek\Cobra \Cobra.API.exe" data source:DB2 |

**Attention:** For more information on the Config.dat and Datasources.dat files, see the Data Tool Help System.

## Pass Command Line Parameters using the New Application Shortcut

Use this procedure to pass command line parameters using a new shortcut icon for Cobra applications.

**To create a shortcut icon for Cobra applications:**

1. Right-click any empty area on the Windows desktop. On the shortcut menu, click **New** » **Shortcut**. The Create Shortcut dialog box displays.

2. Click **Browse** and navigate to the folder where the application is installed. Select the application and click **OK**.
3. In the **Type the location of the item** field, place the cursor after the closing quotation mark and add the command line parameter that you want to use. Refer to the Run Cobra with Command Line Parameters topic for the syntax and example.
4. Click **Next**.
5. Enter a name for the shortcut and click **Finish**.

## Additional User Fields

Cobra allows you to use additional user character, numeric, or date fields within the application.

When you finish configuring Cobra to support additional user fields, you can insert **User Character Fields [6-10]**, **User Numeric Fields [6-10]**, or **User Date Fields [6-10]** as additional columns in the Spreadsheet pane of the Project view, or select them on the pages of the Integration Wizard during integration.

### Configure Cobra to Support Additional User Fields

Use this procedure to configure Cobra to use additional user fields.

**To configure Cobra to use additional user fields:**

1. Navigate to the Cobra folder and drill down to the **Scripts\Create** folder: **<Cobra Installation Directory>\Scripts\<ServerType>Create**.

   For example:

   - **C:\Program Files (x86)\Deltek\Cobra\Scripts\SQLServer\Create** (if you are using a Microsoft SQL database)
   - **C:\Program Files (x86)\Deltek\Cobra\Scripts\Oracle\Create** (if you are using an Oracle database)

   **Note:** For client/server and n-tier deployments, you can find the script in the Cobra folder on the server.

2. Locate the required script and run it manually.
   - If you are using a SQL Server database, locate **Cobra_Enable_AdditionalUserFields_SqlServer.sql** and run it using SQL Server Management Studio.
   - If you are using an Oracle database, locate **Cobra_Enable_AdditionalUserFields_Oracle.sql** and run it using the Oracle SQL Developer.
3. Modify the length of the user fields.
   - If you are using a SQL Server database:

```
BEGIN

DECLARE @USERCHR_LENGTH INT = 100
DECLARE @TYPE VARCHAR(100)

SET @TYPE = 'NVARCHAR(' + CAST(@USERCHR_LENGTH as varchar) + ') NULL'
```

- If you are using an Oracle database:

```
DECLARE

unicode BOOLEAN := TRUE;
DEBUG   BOOLEAN := FALSE;
USERCHR_LENGTH  NUMBER  := 100;
--
```

**Note:** This step is optional.

4. If you are running Cobra in an n-tier setup, you must restart the IdeaBlade service.

**Attention:** For more information, refer to the "Restart the Service in an N-Tier Environment" sectiion in the *Deltek Cobra Installation Guide* .

5. Launch Cobra.

## Application Processes

Cobra provides a number of application processes to manage your projects and their data. These application processes are implemented using either Visual FoxPro or .NET technology.

Knowing which technology is used to implement an application process helps determine whether a process is affected by a certain scenario. For example, application processes implemented using Visual FoxPro technology can recognize settings in the cobra.process.cfg file. On the other hand, application processes implemented using .NET technology recognize settings that are stored in the database and are configured using the Cobra UI.

This table lists the application processes and the technology used to implement them.

| Application Process | Process ID | Technology |
|---|---|---|
| Actuals Integration | INTEGRATIONACTUALS | Visual FoxPro |
| Advance Calendar | ADVANCECALENDAR | Visual FoxPro |
| Align Time-phased Dates | ALIGNTPHASEDATES | Visual FoxPro |
| Ancillary Integration | INTEGRATIONANCILLARY | Visual FoxPro |
| ANSI EIA X12 Export | ANSIX12EXPORT | Visual FoxPro |
| Apportionment Definition Integration | INTEGRATEAPPORTIONMENT DEFINITION | .NET |

| Application Process | Process ID | Technology |
|---|---|---|
| Backup | BACKUP | Visual FoxPro |
| Calculate Apportionment | CALCULATEAPPORTIONMENT | Visual FoxPro |
| Calculate Forecast | CALCULATEFORECAST | Visual FoxPro |
| Calculate Progress | CALCULATEEARNEDVALUE | Visual FoxPro |
| Copy Project | COPYPROGRAM | Visual FoxPro |
| Cost Data Export | COSTDATAEXPORT | .NET |
| Export Calendar to Open Plan | EXPORTCALENDARTOOP | Visual FoxPro |
| Freeze Forecast | FREEZEFORECAST | Visual FoxPro |
| Project Audit | AUDITLOG | Visual FoxPro |
| Rebuild Hierarchy | REBUILDTAGS | Visual FoxPro |
| Recalc | GLOBALRECALC | Visual FoxPro |
| Reclass | RECLASS | Visual FoxPro |
| Rename/Copy/Move Control Account | CONTROLACCOUNT | Visual FoxPro |
| Rename/Copy/Move Work Package | WORKPACKAGE | Visual FoxPro |
| Replace Resources | REPLACERESOURCE | Visual FoxPro |
| Replan | REPLAN | Visual FoxPro |
| Report | REPORT | .NET |
| Resource Assignment Import/Export | RESOURCE ASSIGNMENT | Visual FoxPro |
| Respread | RESPREAD | Visual FoxPro |
| Restore | RESTORE | Visual FoxPro |
| Rolling Wave | ROLLINGWAVE | Visual FoxPro |
| Schedule Integration | INTEGRATION | Visual FoxPro |
| Slip | SLIP | Visual FoxPro |
| SQL Command Utility | SQLCOMMAND | Visual FoxPro |
| Top Down Planning | TOPDOWNPLANNING | Visual FoxPro |
| Update Codes | UPDATECODES | .NET |
| Update EAC | UPDATEEAC | Visual FoxPro |
| Update Open Plan Resources | UPDATEOPRESOURCES | Visual FoxPro |

| Application Process | Process ID | Technology |
|---|---|---|
| Update Totals | UPDATETOTALS | Visual FoxPro |
| Validate/Save As Master Project | MULTIPROGRAM | Visual FoxPro |
| Validity Check | VALIDITYCHECK | Visual FoxPro |
| wInsight Export | WINSIGHTEXPORT | Visual FoxPro |
| Zero-out Data | ZEROOUTDATA | .NET |

## Troubleshoot Issues with Saving to the IdeaBlade.ibconfig File in Cobra

Cobra stores some options in the IdeaBlade.ibconfig file, which allows it to remember your selection the next time you run the application.

However, there are cases when Cobra fails to save the option in the IdeaBlade.ibconfig file, which can occur in any of the following scenarios:

- The file is flagged as read-only.
- Cobra is installed in the Program Files directory and Windows User Access Control (UAC) is enabled.

To resolve this issue, perform any of the following actions:

- Clear the read-only flag in the IdeaBlade.ibconfig file.
- Run Cobra using a different IdeaBlade.ibconfig file.

### Clear the Read-only Flag in the IdeaBlade.ibconfig File

Check if you can change the read-only flag in the IdeaBlade.ibconfig file referenced by Cobra.

**To clear the read-only flag in the IdeaBlade.ibconfig file:**

1. Open Windows Explorer and locate the IdeaBlade.ibconfig file in Cobra installation directory.
2. Right-click the IdeaBlade.ibconfig file and select **Properties**.
3. Clear the **Read-only** field in the Attributes section on the General tab of the Properties dialog box.
4. Click **OK** to save the changes

### Run Cobra Using a Different IdeaBlade.ibconfig File

If you run Cobra without elevated privileges, you won't be able to modify the IdeaBlade.ibconfig file if it's located in a directory that requires elevated privileges.

In such cases, you can create a new copy of the IdeaBlade.ibconfig file in a different location and run Cobra using it.

**To run Cobra using a different IdeaBlade.ibconfig file:**

1. Copy the IdeaBlade.ibconfig file to a directory to which you have write access.
2. Run Cobra specifying the **configfolde**r command line parameter and pass the directory to the **configfolder** parameter.

   **Attention:** For more information, see Run Cobra with Command Line Parameters.

## Troubleshoot Oracle Error ORA-600 [kkqcscpcky:ficand] While Running Query with Parameter "_replace_virtual_columns=false"

Cobra processes such as Calculate Apportionment may encounter an Oracle error if you are using Oracle 19.3 or later.

**Error**: ORA-600 [kkqcscpcky:ficand] While Running Query with Parameter "_replace_virtual_columns=false"

**Cause**: This is a known Oracle issue tracked through Bug 31555800.

**Resolution**: Oracle recommends to update the "_replace_virtual_columns" setting in your database from **false** to **true**.

### Update the "_replace_virtual_columns" Setting

Use this procedure to update the**"_replace_virtual_columns"** setting in your Oracle database from **false** to **true**.

- This procedure must be performed by your database administrator.
- All users must log out of Cobra.

**To update the "_replace_virtual_columns" setting:**

1. Connect to the Oracle database using Oracle SQL Developer or any similar application.
2. To update the **"_replace_virtual_columns"** setting, run the following query:

```
alter system set "_replace_virtual_columns"=true; commit;
```

3. To verify that the **"_replace_virtual_columns"** setting is now set to **true**, run the following query:

```
SELECT NAME, VALUE FROM V$PARAMETER WHERE NAME =
'_replace_virtual_columns';
```

**Note:** Running this query must return a single row with the **VALUE** column set to **TRUE**.

## Data Dictionary

The Cobra Data Dictionary provides information about all available data tables, columns, and indexes in the Cobra database. You can view the data dictionary from within the Cobra Help system. You do not need to save it to your workstation.

To display the Cobra data dictionary, click the following link: Data Dictionary. You may also navigate to the **Help** » **DataDictionary** sub-folder of your Cobra installation folder.

**Attention:** You may also refer to the Deltek Cobra Data Structure Guide for more information on the Cobra tables.

# ACO

Administrative Contracting Officer

# Active Element

The element to which graphs and reports are linked. Only one element can be active at a time.

# Activity

Sometimes called a “Task”, an activity is an effort that occurs over time and consumes resources.

# Actuals

The costs actually incurred and recorded in accomplishing the work performed within a given time period. This is a special reporting set used in a number of standard reports and can change based on the terminology setting. By default in v4.x this set was titled ACWP. In v5.0, by default, is Actuals. This value appears in the Control Account pane of the Project View.

# ACWP

See Actual Costs

# Alias

See Result

# American National Standards Institute/ Electronic Industries Association Standard 748

Often referred to as ANSI/EIA-748, is an Earned Value standard that was developed by two private sector organizations, the ANSI and EIA. This is a revision of the C/SCSC criteria and was published in July of 1998.

# Apportioned Effort

Effort that by itself is not readily divisible into short-span work packages but which is related in direct proportion to measured effort.

# ASC

American Standards Committee

# Authorized Un-priced Work

An authorized change in a project's scope for which he estimated costs are not yet available.

# Authorized Work

That effort which has been defined and is on contract, plus that effort for which defined contract costs have not been agreed to but for which written authorization has been received.

# BAC

Budget at Completion

# Base

The first line of the calculation is called the base result. This is typically the value entered by the user or obtained from the scheduling system. The first line of the calculation is usually hours for labor and direct for material.

# Baseline

See Performance Measurement Baseline (PMB).

# Baseline Dates

The start and finish for the baseline or budget.

# BCWP

See Earned Value

# BCWS

See Budget

# Bill of Material

A list of everything that goes into an item. This document usually also includes estimated quantities.

# BOP

Beginning of Period

# Breakdown Structure

See Code Files

# Budget

The sum of the budgets for all work packages, planning packages, etc, scheduled to be accomplished (including in-process work packages), plus the amount of level of effort and apportioned effort scheduled to be accomplished within a given time period. This is a special reporting set used in a number of standard reports and can change based on the terminology setting. By default in v4.x this set was titled BCWS. In v5.0, by default, is Budget. This cost set also appears as the cumulative to date budget in the Control Account pane of the Project View.

# Budget Element (BE)

See Resource

# Budget Unit

See Base

# Burden

Labor and non-labor indirect costs that are usually distributed (allocated) over other labor and/or non-labor costs. These costs may contain both allowable, per the FAR, and unallowable, per the FAR, costs.

# C/SSR

Cost/Schedule Status Report

# CA

See Control Account

# CACO

Corporate Administrative Contracting Officer

# Calculated Field

A user-defined database field that contains a calculated value based on other database fields.

# Calculated Filter

A filter that compares the values in two fields of a contract element.

# Calendar

A user-supplied table of values that specifies how many working hours are available for each reporting period of a contract. Used in wInsight primarily to convert between hours and equivalent persons (EQP).

# CAM

Cost Account Manager

# CBB

Contract Budget Base. The negotiated contract cost plus the estimated cost of authorized unpriced work; or the Performance Measurement Baseline (PMB) plus Management Reserve.

# CBS

See RBS

# CFSR

Contract Funds Status Report

# Chart Item

A single line in a user-defined chart. A chart item specifies the field to be displayed and the line label and color.

# Chart Window

A window displaying a graph of contract performance.

# Classes

Classes in Cobra allow you to separate budget from forecast or original budget from different changes in scope.

# Closed

See Complete

# Code Files

There is no longer a distinction between hierarchical codes and flat code structures.

# Codes

Individual codes within a code file are now just called codes and not elements within a structure.

# Column Header

The first row in a Sort window column containing the column title. The cursor changes to a fat cross when the mouse pointer is over a column header. Clicking the column header with the mouse selects the column for copying or deleting. Double-clicking the column header displays a dialog box which can be used to view or edit the column properties.

# Column Sizer

The right edge of a Sort window column header. The cursor changes to a double-sided arrow when the mouse pointer is placed over the column sizer. Dragging the column sizer will resize the column. Double-clicking the column sizer sets the column to the minimum width that displays all column text without truncating.

# COM

Cost of Money

# Commitment

A future financial obligation usually associated with a purchase order having the status of “OPEN” or the equivalent.

# Compound Filter

A filter with two or more criteria.

# Constraint

A thing that must happen before another event can take place. Also known as a dependency.

# Contract Budget Base

CBB is total negotiated cost of a project. This figure can include estimates of authorized but unpriced work as well.

# Contract Data Requirements List

CDRL is a compilation of the data requirements that a contractor must submit to the government client.

# Contract Line Item Number

CLIN is a number used to identify a specific contract deliverable.

# Contract Target Cost

CTC is the cost for the contract and all authorized changes as of a specific date. This presentation usually also includes any management reserves.

# Contract Target Price

CTP is not unlike the CTC but it includes the estimated profit.

# Control Account

A management control point at which actual costs can be accumulated and compared to budgeted cost of work performed. A cost account is a natural control point for cost/schedule planning and control since it represents the work assigned to one responsible organizational element and one contract work breakdown structure (CWBS) element.

# Control Concepts

Earned Value applications usually include the concepts of Control Accounts, Control Account Plan and Control Account Managers. These concepts state where the Earned Value measurement is to take place and name the responsible parties.

# Cost Account

See Control Account

# Cost Control System

See Earned Value Management System

# Cost Reporting Set

See Cost Set

# Cost Set

A group of classes used for reporting. They are defined on the Project Properties dialog box.

# Cost Variance

A basic Earned Value metric representing the difference between earned value and the actual costs.

# Cost/Schedule Control System Criteria

C/SCSC is a set of thirty-five standards developed in the late 1960's to manage cost reimbursable type contracts. These standards were superseded in the mid-1990's by the criteria for Earned Value.

# Cost/Schedule Planning and Control Specifications

The C/SPCS is the US Air Force's precursor to the C/SCSC criteria.

# CPI

Cost Performance Index. The CPI is an index of contract performance calculated by dividing the Budgeted Cost of Work Performed (BCWP) by the Actual Cost of Work Performed (ACWP). It can be calculated with cumulative or current period data.

# CPR

The Cost Performance Report (CPR) consists of five formats generated by the contractor to report performance to date, identify and explain significant cost and schedule variances, identify future man loading requirements, and explain changes to the Performance Measurement Baseline.

# Critical Path

A type of scheduling system that is based on the shortest path from the beginning to the end of the project. Changes in the critical path thus affect the projected project completion date.

# Critical Path Analysis

See Network Schedule

# CSV Exception

An element for which the cost variance, schedule variance, or variance at complete exceeds the Format 5 reporting threshold.

# CV

Cost Variance in dollars, hours, or equivalent persons (EQP Equivalent Persons/Heads)/heads.

# CV%

Cost Variance Percentage. The difference between the actual and budgeted cost of work performed, expressed as a percentage of BCWP. Cost variance percentage is calculated by dividing the CV by the BCWP.

# CWBS

Contract Work Breakdown Structure. The complete WBS for a contract, developed and used by a contractor within the guidelines of MIL STD-881 (latest revision) and according to the contract work statement.

# DAB

Defense Acquisition Board

# Data Set

A data set is defined as a selection of a contract, period of data, structure (WBS, OBS, IPT, etc.), and units (Dollars, Hours, EQP, etc.). A data set may have multiple Sort windows, charts, and reports associated with it.

# Data Source

A named connection to a database that includes information about the location and type of database.

# DCAA

Defense Contract Audit Agency

# DCMA

Defense Contract Management Agency

# Direct Cost

Those costs that are identified with a specific cost objective such as a task to be performed. These are differentiated from Indirect Costs which by definition are not able to be associated or attributed to a specific task or project and are thus usually allocated by means of cost pools, service centers or similar mechanisms.

# DoD

Department of Defense

# DTD

Document Type Definition

# EAC (Estimate at Completion)

See Forecast

# Early Dates

The start and finish dates for a forecast class with the **Forecast Dates** option set to **Early**. This date set is useful in creating the "best case" forecast.

# Earned Value

The sum of the budgets for completed work packages and completed portions of open work packages, plus the applicable portion of the budgets for level of effort and apportioned effort. This is a special reporting set used in a number of standard reports and can change based on the terminology setting. By default in v4.x this set was titled BCWP. In v5.0, it is, by default, titled Earned. This value appears in the Control Account pane of the Project View.

# EDI

Electronic Data Interchange

# Element Filter

A filter applied at the database level, prior to loading a data set.

# Element Separator

In an X12 a character (usually, ‘*’, or ‘-’) used to separate data elements within a set of related data (a segment).

# Elements

See Codes

# EOC

Element of Cost

# EOP

End of Period

# EQP

Equivalent Persons/Heads

# ESAR

Extended Subsequent Application Review

# Estimate Dates

See Forecast Dates

# ETC (Estimate to Complete)

The best estimate you have of the costs that will be incurred in completing a project.

# EV

See Earned Value

# EVM

Earned Value Method

# EVMIG

Earned Value Management Implementation Guide

# EVMS

Earned Value Management System

# EVT

Earned Value Technique (EVT) or Progress Technique is the method that Cobra uses to estimate earned value. Different methods are appropriate to different work packages, either due to the nature of the work or to the planned duration of the work package. Cobra supports all commonly used progress techniques.

# Field Name

The results of a calculation are stored in the T-PHASE table with this as the column name, ex., GANDA.

# Filter

A set of one or more tests applied to a contract element to determine if it should be displayed.

# Filter Group

One or more filter criteria evaluated together, before being logically combined with the results of other tests or groups. Within a filter group, ‘Ands’ are evaluated before ‘Ors’. Within a filter, filter groups are evaluated in the order in which they appear.

# Filter Item

A single test applied to a contract element to determine if it should be displayed. A filter is composed of one or more filter items in a specific order.

# Focus Rectangle (wInsight)

A rectangle in a Sort window surrounding the current row and column. The rectangle can be moved by clicking on another cell with the mouse, or by scrolling with the ARROW keys. The rectangle is not visible unless the Sort window is active.

# Forecast

Estimate at Completion. Actual direct costs, plus indirect costs allocable to the contract, plus the estimate of cost (direct and indirect) for authorized work remaining. This is a special reporting set used in a number of standard reports and can change based on the terminology setting. By default in v4.x this set was titled EAC. In v5.0, by default, is Forecast. This value appears in the Control Account pane of the Project View. If you use the Project Option to Scale EAC, the value used for scaling is contained in this field.

# Forecast Dates

The start and finish dates for the forecast. When you create a forecast class, you have the option to choose the Forecast dates set of either **Forecast**, **Early**, or **Late**. The class definition determines which set of dates is used.

# Front Loading

The practice of over-spending at the inception of a project and thereby starving later tasks by effectively reducing their available funding. The reasons for this practice are various but in general it is a gamble not to be recommended.

# FY

Fiscal Year

# G&A

General and Administrative expenses. A form of indirect expenses incurred for the administration of a company, including senior executive expenses. Such expenses are spread over the total direct and burden costs for the company. In v4.7, the Results displayed were the actual column names which didn’t support characters such as the ampersand (&). GANDA stood for G AND A. In v5 G&A is used.

# GANDA

See G&A

# Gantt Chart

A widely used scheduling system developed in the first part of the 20th century by the eponymous Mr. Gantt. A Gantt chart is a schedule that represents the components of a project as horizontal bars with beginning and end points. These may or may not be further refined by using arrows to indicate task dependencies.

# HTML

Hypertext markup Language

# IBR

Integrated Baseline Review

# In Progress

Work that has been started but not yet completed. This can be a project or creative work such as a book, song, or film. In manufacturing, this can refer to inventory that has been worked on such that it is no longer viable as raw material but cannot be sold yet as a finished product.

# Indirect Costs

Costs that are not readily subject to treatment as direct costs because of their incurrence for common or joint objectives. This term is further defined in FAR 31.203.

# Interactive Filter

A filter that prompts the user for a test value before the filter is applied.

# Internal Replanning

Replanning action, performed by the contractor for remaining effort within the recognized Total Allocated Budget.

# IPD

Integrated Product Development

# IPT

Integrated Product Team

# Jet (Database)

A popular, file-based database engine developed by Microsoft Corporation.

# JIG

Joint Implementation Guide

# Labor Rate Variance

The difference between the budgeted or planned labor rates and the actual rates.

# LAN

Local Area Network

# Late Dates

The start and finish dates for a forecast class with the **Forecast Dates** option set to **Late**. This date set is useful in creating the "worst case" forecast.

# Latest Revised Estimate At Completion (LRE)

An updated and most recent Estimate at Completion (EAC).

# Level of Effort (LOE)

Generally refers to work, such as administrative labor, not easily associated with specific cost objectives.

# Management Chart

A chart which allows only partial customization. Some are available only at the total contract level (Level 1). Some cannot display color thresholds backgrounds. Management charts cannot be created.

# Management Reserve (MR)

A generic reference to a contingency fund set aside by management to deal with the unexpected. This reserve is normally a part of the contract's base budget.

# Menu Bar

The row of text near the top of the main window, containing drop lists of commands. It is located directly above the Toolbar The Menu Bar includes menus and commands for the particular application and includes menus and commands for the particular application.

# Milestone

A major event in the life of a project that often triggers other actions such as the generation of an invoice or the recognition of revenue.

# MR

Management Reserve is synonymous with Management Reserve Budget. An amount of the Total Allocated Budget withheld for management control purposes rather than designated for the accomplishment of a specific task or set of tasks. It is not a part of the Performance Measurement Baseline (PMB).

# MS

Microsoft

# NASA

National Aeronautics and Space Administration

# Negotiated Contract Cost

The estimated cost negotiated in a cost-plus-fixed-fee contract, or the negotiated contract target cost in either a fixed-price incentive contract or a cost-plus-incentive-fee contract.

# Network Schedule

A schedule format in which the activities and milestones are represented along with the interdependencies between activities. It expresses the logic of how the project will be accomplished. Network schedules are the basis for critical path analysis a method for identification and assessment of schedule priorities and impacts.

# OBS (Organizational Breakdown Structure)

OBS is an inverted “tree” diagram that identifies organizational relationships in increasing detail as one moves down the “tree”. The OBS is used as a mechanism for assigning work responsibilities.

# ODBC

Open Database Connectivity. A standard protocol for reading, editing, and updating information in databases.

# OLE

Object Linking and Embedding

# OMB

Office of Management and Budget

# OPD

Open Plan Desktop

# Open

See In Progress

# OPP

Open Plan Professional

# OSD

Office of the Secretary of Defense

# OTB (Over Target Baseline)

A PMB resulting from a formal reprojecting by the contractor, with customer approval, which establishes budget allocation in excess of the Contract Budget Base (CBB).

# P3

Primavera Project Planner

# PCO

Procuring Contracting Officer

# Pending Dates

The start and finish for a budget class with the **Budget Dates** field set to **Pending Dates**. This alternate set of budget dates is helpful for change management.

# Performance Measurement Baseline (PMB)

The time-phased budget plan against which contract performance is measured. It is formed by the budgets assigned to scheduled cost accounts and the applicable indirect budgets. For future effort, not planned to the cost account level, the Performance Measurement Baseline also includes budgets assigned to higher level CWBS elements, and undistributed budgets. It equals the Total Allocated Budget (TAB) less Management Reserve (MR).

# Performing Organization

The organization that does the work.

# PF

Performance Factor. A value, usually based on performance to date, which is divided into the budgeted cost of work remaining to arrive at an Estimate To Complete (ETC). A performance factor less than 1 suggests that the remaining work will cost more than budgeted.

# Planned

Work with allocated budget but which has not started yet.

# Planned Value

The budgeted cost of the work to be accomplished within a given period of time. This is usually a summary figure that incorporates multiple budgeted values, level of effort, and apportioned costs scheduled into a single figure. It is also known as the Budgeted Cost of Work Scheduled or the BCWS.

# PMJEG

Performance Measurement Joint Executive Group

# PMR

Project Management Review

# PMT

See EVT

# PP

Planning Package. A logical aggregation of work within a cost account, normally the far-term effort, that can be identified and budgeted in early baseline planning, but is not yet defined into work packages.

# Price Variance

This figure represents the differential between the actual and budget non-labor costs.

# Prime (dollars)

Direct costs associated with a task.

# Project

A project is a collection of projects usually corresponding to a contract. A project in generic terms is a set of activities directed to an overall goal. Cobra helps you manage projects; however, you open and perform data entry in a project and use the Explorer view and reports to manage at the project level.

# RAM

Responsibility Assignment Matrix

# Range Filter

A filter specifying a range of matching values with the Within or Not Within test.

# RBS (Resource Breakdown Structure)

Resource Breakdown Structure (RBS) is a feature of hierarchical resources.

# Re-planning

A change in the original plan for accomplishing a project's objectives. Re-planning can either be initiated by the contractor or the customer. The first is known as internal re-planning and the second as external re-planning.

# Reprogramming

Replanning of the effort remaining in the contract, resulting in a new budget allocation which exceeds the Contract Budget Base (CBB).

# Resource

In Cobra, resources consist of the people, materials, or other entities needed to do the work of the project. For example, Engineer, Technician, Travel, and Pipe can all be resources in Cobra. Resources are typically assigned to a work package, but can also be defined at the control account level. When a resource is assigned to a work package or control account, they are called resource assignments.

# Result

See Field Name

# Result Code

Used for creating reports, exporting wInsight XML files, and exporting data in ANSI EIA X12 format. Used in reports like the IPMR report, which drops G&A and COM to the bottom line, and in the wInsight Export wizard.

# RFP

Request for Proposal

# Rollup

The operation or procedure of summing direct and indirect costs up the contract structure.

# Row Header

The first column in a Sort window row. The cursor changes to a fat cross when the mouse is over a row header Clicking in the row header with the mouse selects the row for copying.

# RTF

Rich Text Format. A text formatting standard widely used in Microsoft Windows applications. RTF .documents store tab settings, margins, fonts, paragraph alignment and other formatting information with the document text using ordinary text characters.

# Rubber Baselining

As its name implies, rubber baselining is a practice to be avoided since it is usually employed to mask an emerging over-run by moving future budgeted amounts into the current period.

# SAR

Subsequent Application Review

# Schedule

A plan which defines when specified work must be done to accomplish project objectives on time.

# Schedule Performance Index

The ratio of the planned value (PV) to the actual value (EV) of the work performed.

# Schedule Variance

The difference between the earned value and the planned value.

# Scheduled Dates

See Baseline Dates

# Segment Separator

In an X12 transfer file, a character (usually the new-line character) used to separate a related set of data (a segment).

# SMS

Microsoft's Systems Management Server

# SPI

Schedule Performance Index. The SPI is an index on contract performance calculated by dividing the BCWP by the BCWS. It can be calculated with cumulative or current period data.

# Standard EAC Formula

All statistical forecasts used in wInsight can be expressed in the following standard form: (BAC – BCWP_CUM_CP) / (PF) + ACWP_CUM_CP where PF is a performance factor which depends on the particular forecast.

# SV

Schedule Variance in dollars, hours, or equivalent persons (EQP)/heads. The difference between the budgeted cost of work scheduled and performed, expressed in dollars, hours, or EQP. Schedule variance is calculated by subtracting the Budgeted Cost of Work Scheduled (BCWS) from the Budgeted Cost of Work Performed (BCWP).

# SV%

Schedule Variance Percentage. The difference between the budgeted cost of work scheduled and performed, expressed as a percentage of Budgeted Cost of Work Scheduled (BCWS).

# TAB

Total Allocated Budget. The sum of all budgets allocated to the contract. Total Allocated Budget consists of the Performance Measurement Baseline (PMB) and all Management Reserve (MR). The TAB will reconcile directly to the Contract Budget Base (CBB). Any differences will be documented as to quantity and cause.

# TC

To Complete

# TCPI-BAC

To Complete Performance Index to the Budget at Completion. The TCPI-BAC indicates the level of efficiency at which work remaining must be accomplished to achieve the budget value. Comparing the CPI to the TCPI-BAC provides a good indication as to whether the budget can be achieved.

# TCPI-EAC

To Complete Performance Index to the Estimate at Completion. The TCPI-EAC indicates the level of efficiency at which the work remaining must be accomplished to achieve the Estimate at Completion value. Comparing the CPI to the TCPI-EAC provides a good indication as to whether the EAC can be achieved.

# Toggle Field

A set of database fields which have a dollar/hour/EQP/etc., relationship, a current/cumulative relationship, or both. Toggle fields appear under a single name but display different values depending on the context.

# Tool Tip

A small pop-up window that appears briefly when the mouse is positioned over a toolbar button or chart window, data point, or Contract Tree window performance indicator. The tool tip provides a text description of the item underneath the cursor.

# Toolbar

A row of buttons located directly below the Menu Bar which provide quick access to commonly used functions. Toolbars can float freely or be docked to the bottom or sides of the main window.

# Transfer File

A formatted text file containing contract information and contract data; used to transfer the data from one contract database to another, usually at a different location. wInsight Administrator and wInsight with the wInsight Utility Pack support two transfer file formats, the ASC X12 Transaction Set 839 EDI Transfer File (X12 File), and an XML transfer file (CSSI's file specification).

# UB

Undistributed Budget. Budget applicable to contract effort which has not yet been identified to Contract Work Breakdown Structure (CWBS) elements at or below the lowest level of reporting to the Government.

# UserVACTr

User Variance at Completion Trend—This is user defined variance that can be set in wInsight.

# VAC

Variance at Completion in dollars, hours, or equivalent persons (EQP)/heads. The difference between the Budget at Completion (BAC) and the Estimate at Completion (EAC). The Variance at Completion is calculated by subtracting the EAC from the BAC.

# VAC%

Variance at Completion Percent. The difference between the Budget at Completion (BAC) and the Estimate at Completion (EAC), expressed as a percentage of BAC.

# VACTr

Variance at Completion trend

# VAN

Value Added Network

# VAR

Variance Analysis Report. The VAR is a formal report that is required when elements breach contractual reporting thresholds for cost, schedule, or variance at completion.

# WBS (Work Breakdown Structure)

The WBS is a hierarchical, product oriented division of hardware, software, services, and other work tasks which organizes, defines, and graphically displays the product to be produced as well as the work to be accomplished to achieve the specified product. An inverted tree structure that is composed of all of the discrete elements of a specific project. Each level represents the work in increasing detail. At a minimum the WBS is: (A) The assignment of responsibility. (B) The development and assignment of cost estimates. (C)The allocation of resources. (D) The identification of dependencies. (E) Financial and other contract reporting. (F) Risk assessment and monitoring.

# Wildcard Filter

A filter with a test value containing one or more ‘?’s, which match any character, or a filter using the Begins With or Ends With tests.

# Window Pane Sizer

The edge of a window pane. The cursor changes to a double-sided arrow when the mouse pointer is placed over the edge of a window pane. Dragging the window pane edge will resize the window.

# Workspace

A particular collection and arrangement of windows, including the display options in force for each window. Multiple workspaces can be saved and automatically restored when the project is launched.

# WP (Work Package)

Detailed short-span jobs, or material items, identified by the contractor for accomplishing work required to complete the contract. One of a number of detailed jobs, the sum of which equals the work to be performed on the contract. A work package has the following characteristics: (A) It exists at the level at which the work is performed. (B) It is owned by a single organization. (C) It has a budget, usually in dollars and/or man-hours. (D) It has clear stop and start dates. (E) I can contain internal milestones. (F) It is integrated into a larger schedule for the total contract. (G) It does not overlap other work packages.

# Index

## C

## D

## E



## F

## G



## I



## K



## L



## M

## N



## O



## P

## Q



## R

## S



## T

## U



## V



## W



## X



## Z

# About Deltek

Better software means better projects. Deltek delivers software and information solutions that enable superior levels of project intelligence, management, and collaboration. Our industry-focused expertise makes your projects successful and helps you achieve performance that maximizes productivity and revenue.
www.deltek.com