Deltek

Deltek PM Compass 8.4

Installation Guide

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While Deltek has attempted to verify that the information in this document is accurate and complete, some typographical or technical errors may exist. The recipient of this document is solely responsible for all decisions relating to or use of the information provided herein.

The information contained in this publication is effective as of the publication date below and is subject to change without notice.

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Contents

Overview

This guide contains installation and setup information for the staff at your company who maintain the hardware and software required to install Deltek PM Compass.

Attention: For more complex topics related to the PM Compass deployment, including HTTP compression, reverse proxies, and integrated security, see the *Deltek PM Compass Advanced Administration Guide*.

If You Need Assistance

If you need assistance installing, implementing, or using PM Compass, Deltek makes a wealth of information and expertise readily available to you.

Customer Services

Deltek has always maintained close relationships with client firms, helping with their problems, listening to their needs, and getting to know their individual business environments. A full range of customer services has grown out of this close contact, including the following:

- Extensive self-support options through the Deltek Support Center
- Phone and email support from Deltek Customer Success analysts
- Technical services
- Consulting services
- Custom programming
- Classroom, on-site, and web-based training

You can find out more about these and other services from the Deltek Support Center.

Deltek Support Center

The Deltek Support Center is a support website for Deltek customers who purchase an Ongoing Support Plan (OSP).

The following are some of the many options that the Deltek Support Center provides:

- Search for product documentation, such as release notes, install guides, technical information, online help topics, and white papers
- Ask questions, exchange ideas, and share knowledge with other Deltek customers through the Deltek Support Center Community
- Access Cloud-specific documents and forums
- Download the latest versions of your Deltek products
- Search Deltek's knowledge base
- Submit a support case and check on its progress
- Transfer requested files to a Deltek Customer Success analyst
- Subscribe to Deltek communications about your products and services
- Receive alerts of new Deltek releases and hot fixes
- Initiate a Chat to submit a question to a Deltek Customer Success analyst online

Attention: For more information, see the online help on the Deltek Support Center site.

Access Deltek Support Center

To access the Deltek Support Center:

1. Go to http://support.deltek.com/.
2. Enter your Deltek Support Center Username and Password.
3. Click **Login**.

> **Note:** If you forget your username or password, you can click the **Need Help?** button on the login screen for help.

Downloading Deltek Products using Deltek Software Manager

You can use Deltek Software Manager (DSM) to download complete Deltek products, hot fixes, cumulative updates, and sub-releases. You can access DSM through the Deltek Support Center or use Deltek Software Manager Lite to download Deltek products.

Accessing DSM Lite

To access Deltek Software Manager Lite:

1. In your Web browser, go to https://dsm.deltek.com/DeltekSoftwareManagerLite.
2. Enter your Deltek Support Center Username and Password and click **Logon**.
3. When the Deltek Software Manager Lite page displays, select a product from the drop-down list.
4. Click the product type that you want to download.

What to Download

Download the following:

- The complete installation of PM Compass: Deltek PM Compass 8.4
- The Sub-release for Cobra that matches your install.
  - Deltek Cobra 8.4 Integration for PM Compass 8.4 (or)
  - Deltek Cobra 8.5 Integration for PM Compass 8.4 (or)
  - Deltek Cobra 8.6 Integration for PM Compass 8.4
- The Sub-release for Open Plan (even if you plan to use only Microsoft Project or Primavera):
  - Deltek Open Plan 8.6 Integration for PM Compass 8.4 (or)
  - Deltek Open Plan 8.7 Integration for PM Compass 8.4
- If you plan to use Open Plan: Deltek Open Plan Add-in for PM Compass 8.4
- If you plan to use Primavera: Primavera P6 Server Integration for PM Compass 8.4
- If you plan to use Microsoft Project: MSP Server Integration for PM Compass 8.4
- The most recent Hot Fix. For example: Deltek PM Compass 8.4 Cumulative Update 02
- All of the documentation available.

Accessing DSM from within the Deltek Support Center

To access DSM from within the Deltek Support Center:

1. In your web browser, go to https://deltek.custhelp.com.
2. Enter your Deltek Support Center **Username** and **Password**, and click **Login.**
3. When the Deltek Support Center page displays, click **Product Downloads**.
4. On the Deltek Software Manager screen, click **Launch Deltek Software Manager**.

5. Click **Settings** at the top right of the dialog box to use the Settings dialog box to specify the folder where you want to download Deltek products, and click **OK**.

   Note: When you log on for the first time, DSM asks you to select a default folder where Deltek products are to be downloaded.

   You can change this folder anytime in the Settings dialog box.

6. In the left pane, expand the Deltek product that you want to download, if it is not already expanded.
7. Select the following:
   a. The complete installation of PM Compass: Deltek PM Compass 8.4
   b. The Sub-release for Cobra that matches your install.
      i. Deltek Cobra 8.4 Integration for PM Compass 8.4 (or)
      ii. Deltek Cobra 8.5 Integration for PM Compass 8.4 (or)
      iii. Deltek Cobra 8.6 Integration for PM Compass 8.4
   c. The Sub-release for Open Plan (even if you plan to use only Microsoft Project or Primavera):
      i. Deltek Open Plan 8.6 Integration for PM Compass 8.4 (or)
      ii. Deltek Open Plan 8.7 Integration for PM Compass 8.4
   d. If you plan to use Open Plan: Deltek Open Plan Add-in for PM Compass 8.4
   e. If you plan to use Primavera: Primavera P6 Server Integration for PM Compass 8.4
   f. If you plan to use Microsoft Project: MSP Server Integration for PM Compass 8.4
   g. The hot fix: Deltek PM Compass Cumulative Update 02
   h. All of the documentation available.
8. In the table, select the option that corresponds to the Deltek product that you want to download.

   The right pane displays a message stating that the product has been added to the download queue.

   Note: To view the items in the download queue, click **View Download Queue** at the bottom of the left pane.

9. Click **Download** at the bottom of the left pane to download the product to the folder that you selected.

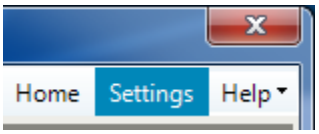
Subscribe to a Product Version in DSM

You can subscribe to a product in DSM so that you get an email every time an update is posted. You must subscribe to each version for which you want to receive email notifications. For example, you must subscribe separately to PM Compass 8.1 and PM Compass 8.2 if you want email notifications for both versions of the product.

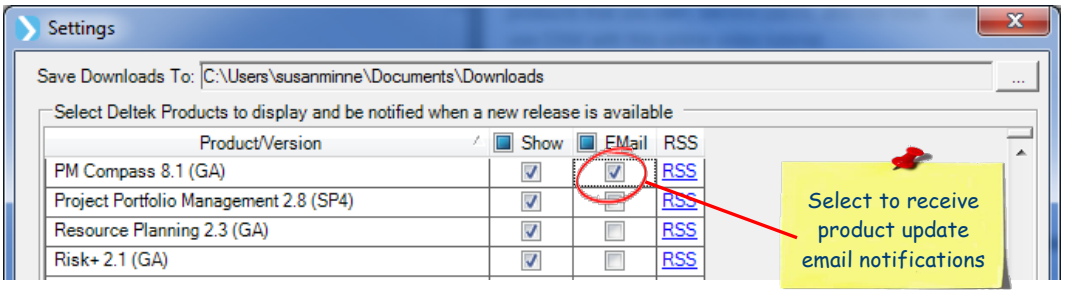
To subscribe to a product in Deltek Software Manager (DSM):

1. Log into DSM.

2. Click **Settings** in the top right corner of the window.



3. Scroll down to the product and version for which you want notifications and select the **Email** option.



4. Click **OK**.

When an update is posted, you will receive an email with the product name and release details and a Download link that launches Deltek Software Manager with the release pre-selected.

DSM Documentation and Troubleshooting

- To view the online help for Deltek Software Manager, click here.
- To view a tutorial on how to use Deltek Software Manager, click here.
- To view more information on troubleshooting Deltek Software Manager, click here.

Note: When you click a link, you will be asked to log into DSM if you are not already logged in.

License Information

When you download PM compass installation files from the DSM Lite or the DSM, an email containing the installation password and your license information are sent to your email address. Instructions on how to enter the license information are documented in Post-Installation Steps.

Before You Begin Deployment

Before you begin deployment, it is important to understand the following:

- Hardware and Software Requirements
- Logical Tiers
- Database Requirements
- Reporting Services

Hardware and Software Requirements

This section covers the hardware and software requirements for deploying PM Compass.

> **Attention:** Prior to proceeding with the installation, see "Appendix A: System Requirements" in this guide for a comprehensive overview of the software and hardware requirements.

Deltek Cobra and Open Plan

Prior to proceeding with the installation, you must upgrade Cobra to a supported version:

- Cobra 8.4 Cumulative Update 23 and higher
- Cobra 8.5
- Cobra 8.6

If you are using Deltek Open Plan, you must also upgrade it to one of these supported versions:

- Open Plan 8.6
- Open Plan 8.7

Deltek recommends that you make a backup of your production database before installing PM Compass.

To install a test version of PM Compass into a database that is not a production database, you have two options:

- Copy the production database to a new database, and confirm that Cobra and Open Plan are working correctly when connected to the new database. Then, install PM Compass into the new database. This method has the advantage of retaining all security, saved reports, projects, and other relevant data.
- Install PM Compass into a new database, and then restore the Cobra projects into the database.

If you upgrade Cobra or Open Plan after the PM Compass installation, download the sub-release integration installer for either Cobra or Open Plan, and install the integrations.

Logical Tiers Overview

PM Compass uses a multitier architecture. Various components of the PM Compass application are distributed to logical tiers for performance and scalability. Multiple tiers can exist on the same server.

The logical tiers are as follows:

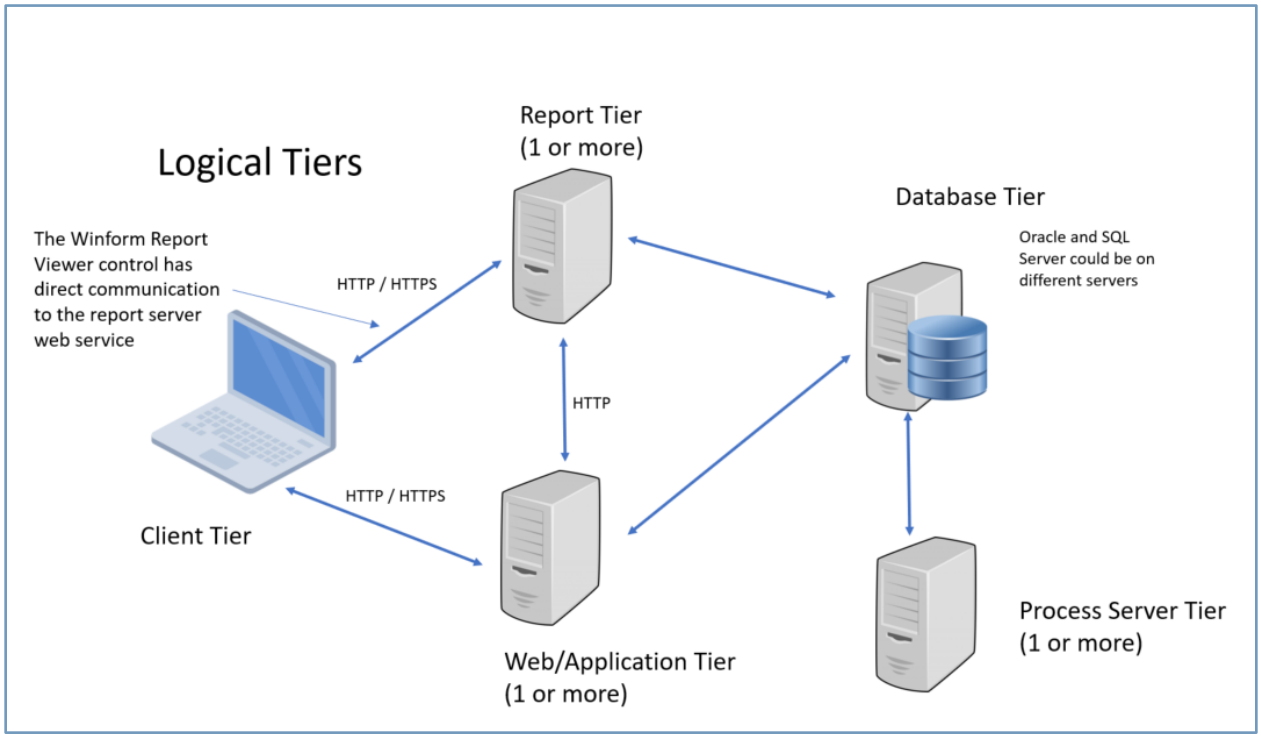
- **Client Tier**: This is PM Compass' user interface layer. It presents input data to the Application/Web server tier. PM Compass uses the ClickOnce deployment technology to check

for new updates on the Web/Application server each time the application is launched, the necessary client files are automatically installed into the local user's profile (%USERPROFILE%\Local Settings\Apps\2.0\...).

- **Web/Application Server Tier**: This tier performs PM Compass' functional process logic. After a request is sent by the client tier, this tier processes that request (such as retrieving stored data or performing a specific function) and then returns the result to the client tier. This tier also uses IIS to host the Deltek PM Compass and EPM Security Administrator applications.
- **Process Server Tier**: This tier allows the user to schedule processes and profiles to run automatically in the background. All reports and all scheduled alerts are examples of processes that can run on the Process server.
- **Report Server Tier**: This tier handles all reporting requests. It uses Microsoft SQL Server Reporting Services.
- **Database Tier**: This tier consists of Database servers where the PM Compass data is stored and retrieved. This can either be an Oracle database or a SQL Server database. PM Compass requires Open Plan and Cobra data stored in the same database as PM Compass. Your Oracle Database server should be on a separate server. All connections to your Database server are made from the Web/Application or Report server.

Logical Tier Model

The diagram below provides information about the logical tiers and technologies utilized at each tier of a Deltek PM Compass deployment. Logical tiers do not necessarily require a separate server for each tier. For example, a single-server deployment includes each of the tiers below installed and configured on the single server.



Logical Tier Model

Attention: For more information on other deployments and the following topics, see the *Deltek PM Compass Advanced Administration Guide:*

- Load Balancing
- Reverse Proxy
- Secure Socket Layer

Database Requirements

PM Compass data can be stored in a SQL Server database or an Oracle database. If you are not integrating with an existing Cobra or Open Plan database and are not upgrading an existing installation, you must create a new blank database before performing the installation. The installation will provide database script options for applying the PM Compass schema into the blank database. During the installation, you will be asked to provide the server and database name for the various components. If your database is not set to auto expand, make sure that there is enough space to accommodate the objects and data that PM Compass will be introducing.

PM Compass database is Unicode and uses case-insensitive indexes. When you are upgrading an existing Open Plan database to PM Compass, ensure that the database is Unicode-enabled and uses case-insensitive indexes.

Attention: For more information, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Sample Database

The PM Compass installation includes a backup of a sample database. This sample database serves as a valuable resource for learning how to use PM Compass and troubleshooting issues. If a Customer Success Analyst requests it, you can attempt to recreate an issue in the sample database. This process assists the analyst in determining whether the problem is data-related or if there is indeed an issue within PM Compass.

Attention: For more information, see "Using the Sample Database" in this guide.

SQL Server Reporting Services

PM Compass reporting requires SQL Server Reporting Services and a Microsoft SQL Server database even if you are storing your Cobra and PM Compass data in Oracle. The database component of Microsoft SQL Server Reporting Services requires certain settings.

Note: Review "Appendix C: Microsoft SQL Server Reporting Services" in this guide to make sure the report server database configuration is correct.

- **Oracle Database**: When PM Compass data is stored in an Oracle database, the sample database should be restored into the SQL Server database used by the SQL Reporting Services. When you perform the Report tier installation, the backup file containing the sample database is copied onto the Report server into the PM Compass installation location.

At the end of the Web/Application tier installation, you have the option to restore the sample database from the backup file on the Report server. If you choose to restore the sample database, even though you are on Web/Application server, the process restores the sample database into the SQL Server database engine used by the Report server.

- **Microsoft SQL Server Database**: When PM Compass data is stored in a Microsoft SQL Server database, the sample database can be restored into your SQL Server database engine. When you perform the Database tier installation, the backup file containing the sample database is copied onto the Database server into the PM Compass installation location.

  At the end of the Web/Application tier installation, you have the option to restore the sample database from the backup file located on the Database server. Even though you are performing the restore from the Web/Application server, in reality, the process to restore the sample database is being performed remotely on the Database server.

Permissions Required for Installing PM Compass

When performing the PM Compass installation, there are certain rights and privileges required for the person performing the installations on the server tiers.

Tier	Permissions Required
Web/Application Tier	The Domain Service Account utilized by the individual performing the installation must be: ▪ A member of the Local Administrator group on the server ▪ A member of the System Administrator group ▪ A Content Manager Roles in SQL Server Reporting Services on the Report server **Attention:** For more information, see "How to Give Your Account Proper Rights and Privileges in Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide. When proceeding with the Web/Application tier installation, you will encounter prompts to input credentials and connection details for the database. These credentials must possess the necessary privileges as outlined in the Database Requirements section.
Process Server Tier	The Domain Service Account utilized by the individual performing the installation must be part of the Local Administrator group on the server.
Report Server Tier	The Domain Service Account utilized by the individual performing the installation must be: ▪ A member of the Local Administrator group on the server ▪ A member of the System Administrator group ▪ A Content Manager Roles in SQL Server Reporting Services on the Report server **Attention:** For more information, see "How to Give Your Account Proper Rights and Privileges in Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide. When proceeding with the Web/Application tier installation, you will encounter prompts to input credentials and connection details for the database. These credentials must possess the necessary privileges as outlined in the Database Requirements section.
Database Server Tier	The Domain Service Account utilized by the individual performing the installation must be part of the Local Administrator group on the server. When proceeding with the Web/Application tier installation, you will encounter prompts to input credentials and connection details for the

Tier	Permissions Required
	database. These credentials must possess the necessary privileges as outlined in the Database Requirements section.

Domain Service Account Versus Default Local Account

Using a Domain Service Account has the advantage of access to network share, printers and allows you to control the account with group policies. For each of the installations, you should login as the Domain Service Account. If you do not login as a Domain Service Account, the PM Compass installer will create a default local account to run the various PM Compass processes:

- Running the application pool on the Web Server*.
- Running the Process Server service*.
- Accessing the Report Server Web Service.
- Accessing the SQL Server database.

If the servers are in a domain, Deltek recommends that you run the installation using the Domain Service Account. PM Compass will not create the default PM Compass local account if you perform the installation using a Domain account. Login to the server with that domain account before you launch the installation.

If you intend to integrate with Microsoft Project, you will need to use a Domain Service Account with access to network share of the Microsoft Project files and access rights to the Microsoft Project Server.

Attention: For more information, see "Appendix N: Integrating with Microsoft Project" in this guide.

If you choose to use a local account, you will need to run the installer on the Report server and Web server so that it will create the local DeltekPMCompass account on both servers. This will ensure that it will have access on both servers (same username/same password that will support pass-through authentication). During the installation, you will be asked for a password for the local account. You must make sure the password you enter meets the password policy for your local account. If you enter a password that does not meet the password policy, the installation will continue but you will get errors when loading reports and when you try to use the product.

Attention: For detailed steps to change the password or change the user to a Domain Service Account user, see "Appendix K: Configuring the Account Running the Services" in this guide.

File Share Requirements

PM Compass must access files on a server. For each of these file folders, the PM Compass Domain Service Account User must have read/write access. Some of the folders, for example the Import/Export folders, the end users need at least read access.

During the installation, you will be prompted to enter the shared UNC for some of these various folders. The remaining UNC files will be required for the post-installation configuration.

For all fields, you can create a central UNC path, for example, **\\<servername>\DeltekPMCompass** , and then create subfolders for each of the various files. While is possible to use the same folder for each of these settings, it is helpful to create separate folders for each of the following to simplify the management of the content, and to locate the needed files.

You should create these folders before starting the installation and apply the proper access rights. The table below contains the various folders, the necessary access rights, along with a link to the detailed information about where and how this folder will be used.

Folder	End User Access	Related Topics
Link files (such as Word documents and spreadsheets) to workflows, projects, and so on	Read and write access	▪ "Install the Web/Application Server" in this guide ▪ "Link Center" and "File Folders Tab of the System Settings Form" in the PM Compass Help System
Export data such as schedule data and work authorizations to a file	Read access	▪ "Install the Web/Application Server" in this guide ▪ "General Import and Export Overview" in the PM Compass Help System
Import schedule data from a CSV file	Read and write access	▪ "Install the Web/Application Server" in this guide ▪ "General Import and Export Overview" in the PM Compass Help System
.MPP files for integration with Microsoft Project	Read and write access	▪ "Install the Web/Application Server" in this guide ▪ "Configure PM Compass for Microsoft Project Integration" in the PM Compass Help System
MSP integration process logs (if integrating with MSP)	Read access	▪ "Install the Web/Application Server" in this guide ▪ "Appendix N: Integrating with Microsoft Project" in this guide ▪ "Configure PM Compass for Microsoft Project Integration" in the PM Compass Help System
Primavera integration process logs (if integrating with Primavera)	Read access	▪ "Install the Web/Application Server" in this guide ▪ "Log File Location for Primavera P6 Logs" in the PM Compass Help System
Cobra process log files such as integration process logs	Read access	▪ "Configure Cobra to Write Process Logs to a File" in this guide

Folder	End User Access	Related Topics
Cobra report template files	Read access Write access is required to modify report templates	▪ "Cobra Report Templates Folder Location" in this guide
A shared folder for Open Plan Citrix users	No access	▪ "Install the Web/Application Server" in this guide The installer will copy the PM Compass Web client ClickOnce Bypass files to a shared folder that the Open Plan client (running on a Citrix server) will use to launch the PM Compass client from (instead of from a browser).
A folder for a shared **databases.enc**	No access	By configuring a shared location for the database connection information, you can avoid the necessity of synchronizing changes across your servers. For more information, see "Configure a Shared Location for Databases.enc" in the *Deltek PM Compass Advanced Administration Guide*.

Configuring the Databases

This section covers topics about configuring the databases.

Connecting to the SQL Server Database

You must create a Microsoft SQL Server logon account, which can either be an existing Windows account or a Microsoft SQL Server username. The account requires the **db_owner** role membership in the Login Properties and User Mapping dialog box for the following databases:

- PM Compass database (if using SQL Server to store project data)
- ReportServer
- ReportServerTempDB

> **Attention:** For more information, see "How to Give Your Account Proper Access Rights and Privileges in Report Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide.

Prerequisites

Perform the following steps before proceeding with the installation.

1. Enable the TCP/IP and shared memory network protocols in the SQL Server configuration manager on the Microsoft SQL Server. All network protocols are installed by the SQL Server setup but may not be enabled.

   > **Attention:** For more information, see the following Microsoft articles:
   >
   > - "How to Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)"
   > - "Configure a Firewall for Report Server Access"
   > - "Configure a Windows Firewall for Database Engine Access"

2. Configure your SQL Server to listen on a port other than TCP 1433, and enable the SQL Server Browser service to enable PM Compass to connect to your Database server.

   Do one of the following:

   - Enable the SQL Server Browser service on the Database server.

Deltek Recommendation: If you disable the SQL Server browser service on your Database server and are not using TCP port 1433, Deltek strongly recommends that you use the SQL Server Client Network Utility (part of the Windows operating system) on the PM Compass server to tell it how to connect to the Database server using the correct port without having to specify the port number each time you make a connection.

Background Information: When you make connections to the SQL server, the PM Compass server tries to connect using TCP port 1433. If SQL Server was installed using a different port, the SQL Server browser service on the Database server directs the connection to the correct port number. If this service is disabled, the PM Compass server does not know how to connect unless you specify the port number each time you make a connection (for example, **DBServerA,2325**).

For more information, refer to KB article 89576 on the Deltek Support Center site.

- Verify the name of your SQL Server instance. During the installation of Microsoft SQL Server, Microsoft gives you the option to install database engine to the default instance (named MSSQLSERVER) or to a named instance that you specify.

  Note:

  - When connecting to the Default SQL Server Database Engine instance, use the name of your Database server. SQL Server automatically maps the default instance of the Database engine to the Server Name when accepting connections.
  - When connecting to a named instance of SQL Server database engine, specify the name of the SQL Server along with instance in the connection in the format of SERVERNAME\INSTANCENAME.
  - For instance, if your SQL Server is named SQLSERVER1 and you installed an instance named SQL2019, your server connection information would be SQLSERVER1\SQL2019.

  - If you do not know the name of your SQL Server instance or you are unable to connect to your Database server after installation, see the following Microsoft article: "How to Determine Whether the Database Engine Is Installed and Started".
  - If you plan to use a dedicated SQL Server username and password, verify that the SQL Server configuration settings for server authentication are set to **SQL Server and Windows Authentication** mode also known as **Mixed Mode**. If you are unable to connect to your SQL Server database and you have already performed the steps in the first two bullets, you should verify that the SQL Server security settings are properly configured.

    Attention: For more details, see the following Microsoft article: https://msdn.microsoft.com/en-us/library/ms188670(v=SQL.105).aspx. When performing the steps, ensure that you select the **SQL Server and Windows Authentication** mode option.

Storing PM Compass Data on an Oracle Database

If you intend to store your Cobra data on an Oracle database, take note of the following requirements:

- Install the Oracle database Standard or Enterprise editions.

- Contact your Oracle DBA to obtain the Oracle Server name/SID and the user credentials for the PM Compass database schema. Your DBA will need the following information in order to configure the account:

  A user ID with the following grants:

  GRANT CONNECT, RESOURCE TO <USER>

  GRANT CREATE TABLE TO <USER>

  GRANT CREATE VIEW TO <USER>

  GRANT CREATE TRIGGER TO <USER>

  GRANT CREATE ANY CONTEXT TO <USER>

  GRANT EXECUTE ON DBMS_RANDOM TO <USER>;

  > **Note:** Although granting rights to the Resource Role includes the CREATE TABLE and CREATE TRIGGER grants, you must still explicitly run all of the grant statements above to ensure that all functions of PM Compass (including database upgrade procedures) run correctly.
  >
  > The PM Compass installation queries the **session_privs** and **user_role_privs** tables to validate that all of these grants have been applied.

- Install the .NET framework on the following tiers:
  - Web/Application server
  - Process server
  - Report server
- Install the 64-bit and the 32-bit Administrator version of the Oracle client on the following tiers:
  - Web/Application server
  - Process server
- Install a 64-bit Administrator version of the Oracle client on the Report tier.
- The Oracle Server name/SID defined in tnsnames.ora must be the same on your PM Compass Application server, Report server, and Process server tiers.

Pre-Installation Checklists

This chapter includes a separate checklist for each of the following tiers:

- Database tier
- Report tier
- Web/Application tier
- Process server tier

Database Tier

PM Compass does not require any installation to be performed on the Oracle database server. Any connections that are needed are made to the database when you run the installer on your Web/Application server.

Deltek provides several deployment models. For all models, Deltek assumes that your Oracle database server is a separate machine. No installations are performed on this machine. All connections to your Database server are made from the Web/Application or Report server.

Step		Related Topics
1	Connect to the SQL Server database.	"Connecting to the SQL Server Database" in this guide
2	If you do not have Cobra, Open Plan or PM Compass, you must create a database before starting the installation.	"Storing PM Compass Data in an Oracle Database" in this guide
3	If you already have Cobra and/or Open Plan, review Appendix H for specific checks and possible changes that must be performed to ensure your existing database is compatible with PM Compass.	"Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide
4	Confirm Cobra and Open Plan are the correct versions.	"Cobra and Open Plan" under "Hardware and Software Requirements" in this guide

Report Tier

You must install the Report tier before the Application tier.

Step		Related Topics
1	Verify the Report server operating system, software, and hardware requirements.	"Appendix A: System Requirements" in this guide
2	Verify that your SQL Server database engine and reporting services installations meet the system requirements.	"Appendix A: System Requirements" in this guide

Step		Related Topics
3	Verify that you have at least 2 GB of disk space available for this installation.	
4	Configure Reporting Services with native mode. PM Compass only supports native mode.	" How to Configure Microsoft SQL Server Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide
	If reporting services are already configured, you need to know the Web Service URL and the name of the Report server databases during the installation.	"SQL Server Reporting Services" in this guide
5	Verify that the Domain Service Account has the proper rights and privileges in reporting services.	"How to Give Your Account Proper Rights and Privileges in Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide
6	If you experience connection errors to your Report server and have verified the previous steps, check that access is not blocked by Windows or your firewall.	"Configure a Firewall for Report Server Access"
7	Ensure that you have the following information prior to starting your installation: ▪ Reporting Database server\SQL instance name ▪ Report server database name ▪ Report server Web Service URL You can see this information in Reporting Services Configuration Manager when you select **Database** in the left pane.	"Database Requirements" in this guide "How to Connect to the Report Server" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide
8	Enable Microsoft .NET Framework and apply the supported version.	"Appendix A: System Requirements" in this guide

Web/Application Tier

Step		Related Topics
1	Verify the Web/Application server(s) operating system, software, and hardware requirements.	"Appendix A: System Requirements" in this guide
2	Verify that the Domain Service Account performing the installation is a member of the local Windows System Administrators group.	"Domain Service Account vs. Default Local Account" in this guide

Step		Related Topics
	This same Domain Service Account is used to run the PM Compass application in IIS on the server, Windows Services, and integrating PM Compass with other products. You will need to use this account when you perform PM Compass upgrades.	
3	Verify that you have at least 2 GB of disk space available for this installation.	
4	Enable Microsoft .NET Framework and apply the supported version.	"Appendix A: System Requirements" in this guide
5	If you have implemented Transport Layer Security (TLS), you will need to perform additional steps.	"Appendix S: Secure Transport Layer Security (TLS)" in this guide
6	Install Microsoft Internet Information Services (IIS) with ASP .NET enabled.	"Appendix B: Microsoft Internet Information Server (IIS) Installation on Windows Server" in this guide
7	Verify that you can connect to the SQL Server from your PM Compass application server.	"Connecting to the SQL Server Database" in this guide
8	Verify that the Domain Service Account performing the installation has proper access to the report tier.	"Required Rights for Report Server" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide
9	Ensure that you have one of the following: ▪ If using Windows Authentication, verify that the Domain Service Account performing the installation has proper access to the database. ▪ If you use a SQL Server username and password to access the databases, ensure that it is already created and correctly configured.	"Prerequisite Report Server and SQL Server Database Credentials" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide
10	**For Oracle Users only**: ▪ The Oracle client on the Web/Application and Process servers must be 64-bit; however, you also need to install a 32-bit Oracle client for the Cobra Web Service. ▪ Verify that the Oracle Server name/SID defined in tnsnames.ora is the same on your PM Compass Application server, Report server, and Process server tiers.	"Storing PM Compass on an Oracle Database" in this guide

Step		Related Topics
11	Note the PM Compass installation location on your Web server. You will need this information for the Process server tier.	
12	Note the shared UNC folders created to store files on the server.	"File Share Requirements" in this guide

Process Server Tier

Step		Related Topics
1	Verify the Process Server operating system, software, and hardware requirements.	"Appendix A: System Requirements" in this guide
2	Verify that the Domain Service Account performing the installation is a member of the local Windows System Administrators group.	"Domain Service Account vs. Default Local Account" in this guide
3	Verify that you have at least 2 GB of disk space available for this installation.	
4	If you have implemented Transport Layer Security (TLS), you will need to perform additional steps.	"Appendix S: Secure Transport Layer Security (TLS)" in this guide
5	Verify that you can connect to the SQL Server from your PM Compass server.	"Connecting to the SQL Server Database" in this guide
6	Enable Microsoft .NET Framework and apply the supported version.	"Appendix A: System Requirements" in this guide
7	Verify the location (path) of the existing databases.enc file on your Web server. During the installation, you will need to provide this information. The default location of this file is: C:\Program Files\Deltek\PM Compass\.	"Configure a Shared Location for Databases.enc" in the *Deltek PM Compass Advanced Administration Guide*
8	**For Oracle Users only:** ▪ The Oracle client on the Web/Application and Process servers must be 64-bit; however, you also need to install a 32-bit Oracle client for the Cobra Web Service. ▪ Verify that the Oracle Server name/SID defined in tnsnames.ora is the same on your PM Compass Application server, Report server, and Process server tiers.	

Step		Related Topics
9	If you are integrating with Deltek Open Plan, Microsoft Project, or Oracle Primavera P6, make sure that you review the integration and configuration requirements.	"Appendix M: Integrating with Open Plan" in this guide "Appendix N: Integrating with Microsoft Project" in this guide "Appendix O: Integrating with Primavera P6" in this guide

Installation Steps (PM Compass New Installs)

This chapter includes sections on the installation steps for different deployment models.

Installation/Deployment Models

When you install PM Compass, you are asked to select an installation model. There are three different models used to deploy PM Compass. The model you choose depends on your organization's needs with regard to size, cost considerations, security requirements, and fault tolerance. The following table provides information about each model. The installation steps for each model are included in this document. Once you decide which model you want to install, click the Installation Steps hyperlink to take you to the installation instructions for that model.

Deployment Model	Overview	When Would I Use This Model?
One-Server (Single Server) One-Server Installation Steps	Install PM Compass tiers (Web, Application, Process, Report, and Database server) on the same server. Optionally install database on a different server. Infrastructure security is not a concern with this model because all application usage is internal to the organization.	Deployment needs are simple. For example, you are installing PM Compass on a test server. All users are at a single location and will only access PM Compass in the office or over a Virtual Private Network (VPN) connection into the corporate network. Small organization (fewer than 25 employees) If your Web/Application server, Report server, and database tier are all on the same server, you must use this installation model.
Two-Server (Two-Tier) Configuration 1 Two-Server Installation Steps	Install the database and report components on one or more servers and the Web/Application and Process Server components on a separate server. In this configuration the PM Compass client application needs a direct connection to the Report server to run and view reports. Infrastructure security is not a concern with this model because all application usage is internal to the organization.	Your organization has one SQL Server license. All users are at a single location and will only access PM Compass in the office or over a Virtual Private Network (VPN) connection into the corporate network. Since the Database server is also on the Report server, it is not suitable for use in an environment with users accessing the application over the Internet without a VPN connection.

Deployment Model	Overview	When Would I Use This Model?
		Small to medium organization that may not have a technical staff. If your Report server is on the same server as your database tier, you must use this installation model.
Two-Server (Two-Tier) Configuration 2 Two-Server Installation Steps	Install the database component on a server and the Web/Application server , Process server, and Report server components on a separate server. Reporting services are installed on a server separate from the database engine.	Your organization has additional Microsoft SQL Server licenses and you split the Report server (Web Service) from the Database server hosting the Report server database. Users are accessing the application over the internet. Small to medium organization that may not have a technical staff. If your Web/Application server and your Report server are on the same server, you must use this installation model.
Three or More Servers Three or More Servers Installation Steps	Install any of the following: ▪ A single Database server ▪ One or more Report servers ▪ One or more Web/Application servers ▪ One or more Process servers	You have a large organization with many PM Compass users. Have a need for additional Report, Web/Application, or Process servers for load balancing, performance, security, or fault tolerance reasons. Organizations with proficient firewall management. Having each tier on a separate server enhances performance and scalability. In addition, it is easy to add additional servers after deployment. Require load balancing multiple servers for better performance.

Load Balancing

If you select three or more server installation, you can configure load balancing according to your vendor's (for example, Microsoft Windows Server) recommendations. Make sure that you set the affinity

to Single or Sticky (terminology depends on the vendor). This ensures that user sessions are maintained on the same server as long as a user remains logged on.

- **Configure Database Session State for PM Compass**: Session state information is typically stored in memory on the Web server in the IIS Application Pool process serving the application (w3wp.exe). Database session state is normally not a consideration unless you will be load balancing multiple front-end PM Compass Web/Application servers and you would like to isolate your user's session information from a failure or error on one Web server where their session information may be lost.

  One benefit of storing the session state in the database is that, when there is a Web Server failover, the work that was being performed at the time is not lost.

  > **Attention:** For more information, see "Configure Database Session State for PM Compass" in the *Deltek PM Compass Advanced Administration Guide*.

- **Configure a Shared Location for Databases.enc**: If your PM Compass deployment includes multiple Web/Application servers, or even just a dedicated Process server, configuring a shared location for the database connection information and credentials (databases.enc file) to eliminate the need to synchronize changes made to the databases.enc file across your servers.

  > **Attention:** For more information, see "Configure a Shared Location for Databases.enc" in the *Deltek PM Compass Advanced Administration Guide*.

- **Loading Reports onto Load Balanced SSRS Web Service Servers**: When you have multiple SSRS servers in a load balanced environment, they all have a common URL; therefore, you do not know to which Web server you are connecting. The only way to ensure that all SSRS Servers are updated with the latest PM Compass reports is to run a batch file that updates each individual SSRS Server by its NetBIOS or host name.

  > **Attention:** For more information, see "Loading Reports onto Load Balanced SSRS Web Service Servers" in the *Deltek PM Compass Advanced Administration Guide*.

One Server Installation Steps

One-server deployment is suitable for demonstration purposes or for small organizations. When you choose the one-server deployment model, you install all PM Compass tiers (Web, Application, Process, Report, and Database servers) on the same server.

The one-server deployment model allows you to use an existing database on a separate server. If your Oracle database is on a Unix platform, you cannot run the PM Compass installation database tier installation on your Unix server. During the installation of PM Compass on the Web/Application tier, you can use any of the options on the Script Options screen to connect to the database and apply the necessary scripts.

The steps in this section will guide you in installing PM Compass tiers on a single server. The method you use to create your PM Compass database file during installation depends on whether you are installing PM Compass for the first time or upgrading from a previous Deltek product.

To install PM Compass on one server:

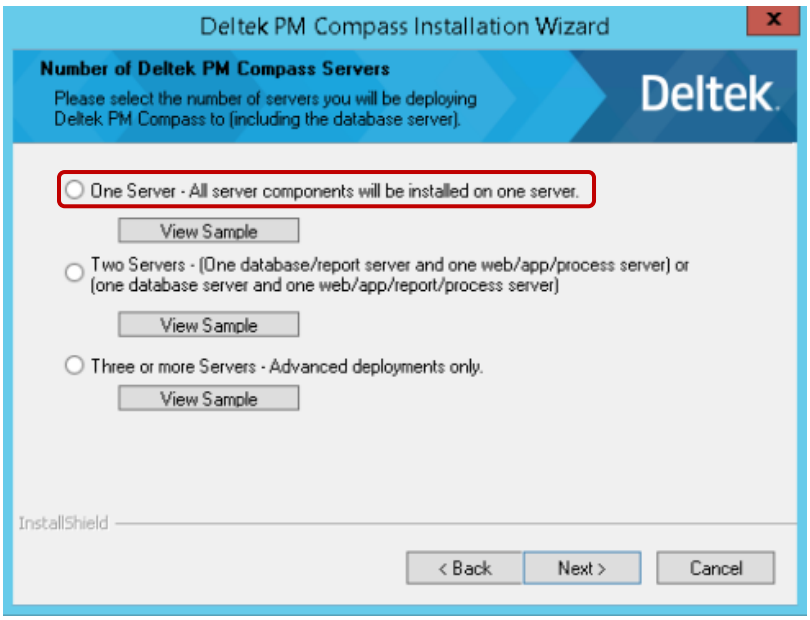
1. Log into the server as the Domain Service Account user.

If your server is not part of a domain, log in as a local account.

> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.

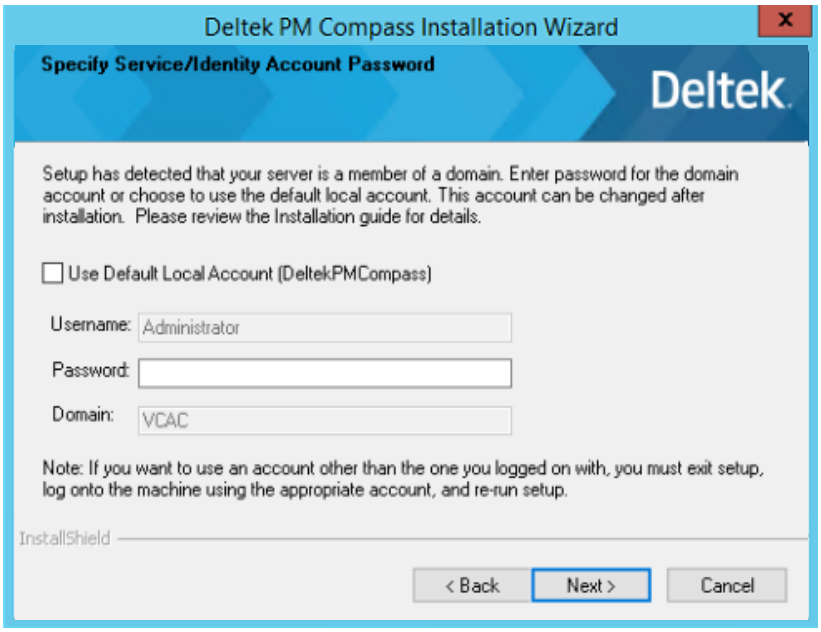
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Deltek PM Compass Installation Wizard screen, click **Next.**
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **One Server** option, and click **Next**.

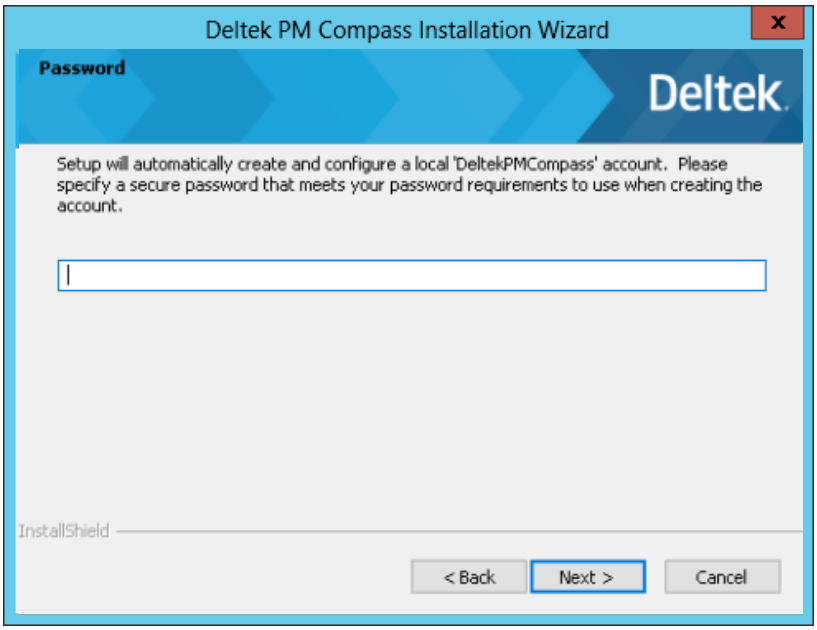


7. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
   - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:
     - Enter the password for the Domain Service Account, and click **Next**.
     - If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

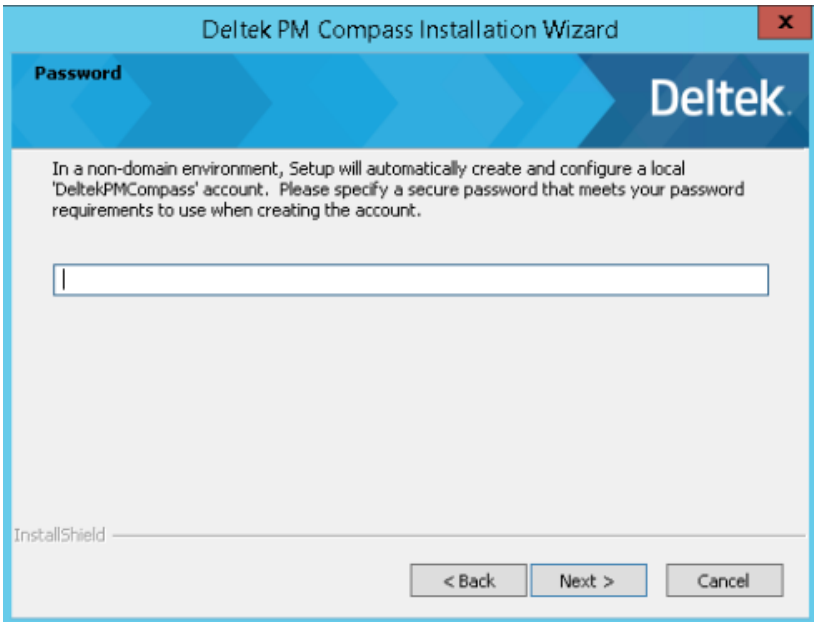
> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.



- If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass)** on the Specify Service/Identity Account Password screen, the Password screen displays.



Warning: You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.



After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

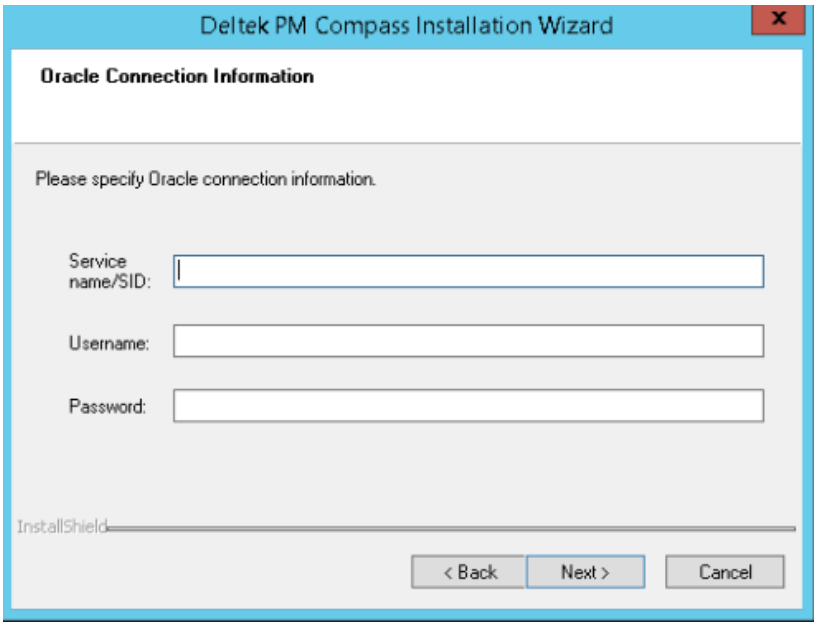
8. On the Database Platform screen, select **Oracle** or **Microsoft SQL Server**, and click **Next**.
9. The next screen depends on whether you selected **Oracle** or **Microsoft SQL Server**. Refer to the section below that corresponds to your selected database.

Oracle Database

The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

> **Attention:** For more information, see "Storing PM Compass Data on an Oracle Database" in this guide.

On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

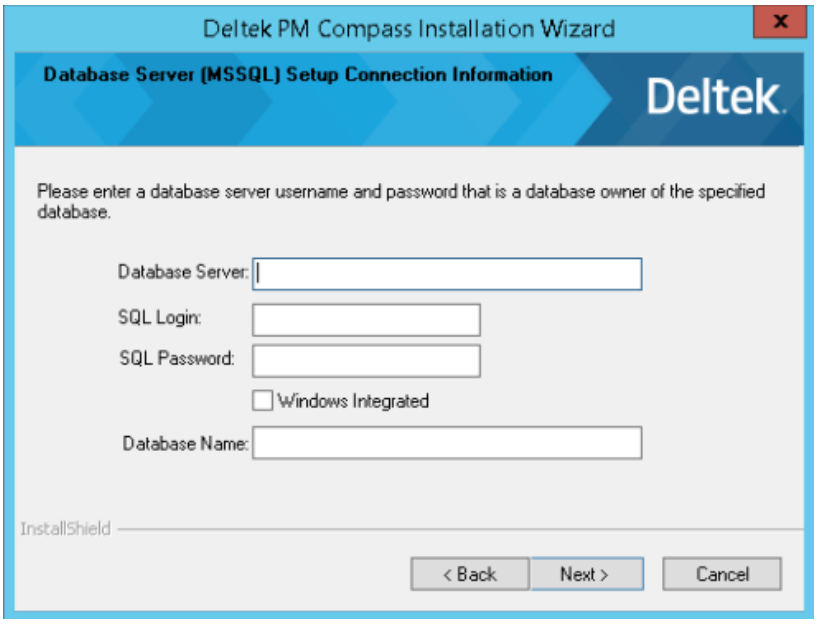
- SID is found in tnsnames.ora.
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

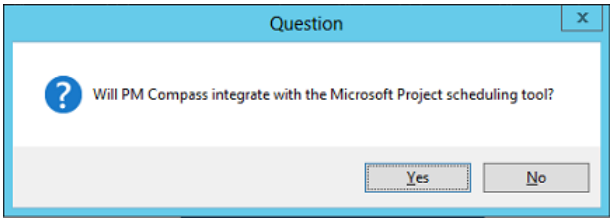
  - **SQL Password**: Enter the password associated with this SQL Login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

The following validations are performed:

- Username/password are correct.
- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

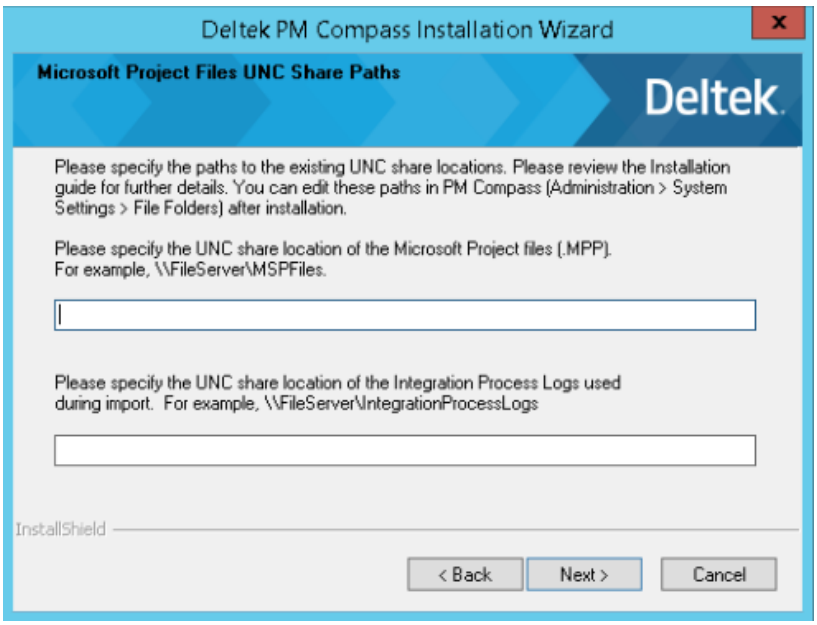
If any of these validations fail, the wizard displays a message, and the setup exits.

10. Choose whether PM Compass integrates with the Microsoft Project scheduling tool.



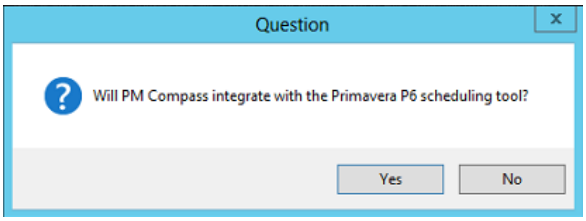
- If you are using Microsoft Project as a PM Compass scheduling tool, enter the UNC share location for the MSP Files and Process Logs folders, and click **Next**.
- If you are not using Microsoft Project as a PM Compass scheduling tool, leave the UNC Share Path fields blank, and click **Next**.

> **Attention:** To manually configure the system after the installation, see "Appendix N: Integrating with Microsoft Project" in this guide.

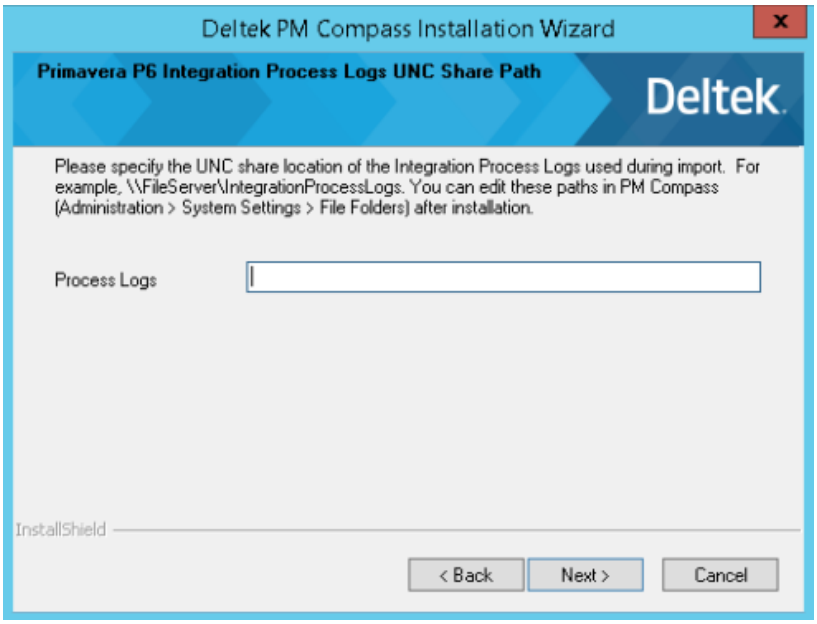


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

11. Choose whether PM Compass integrates with the Primavera P6 scheduling tool.

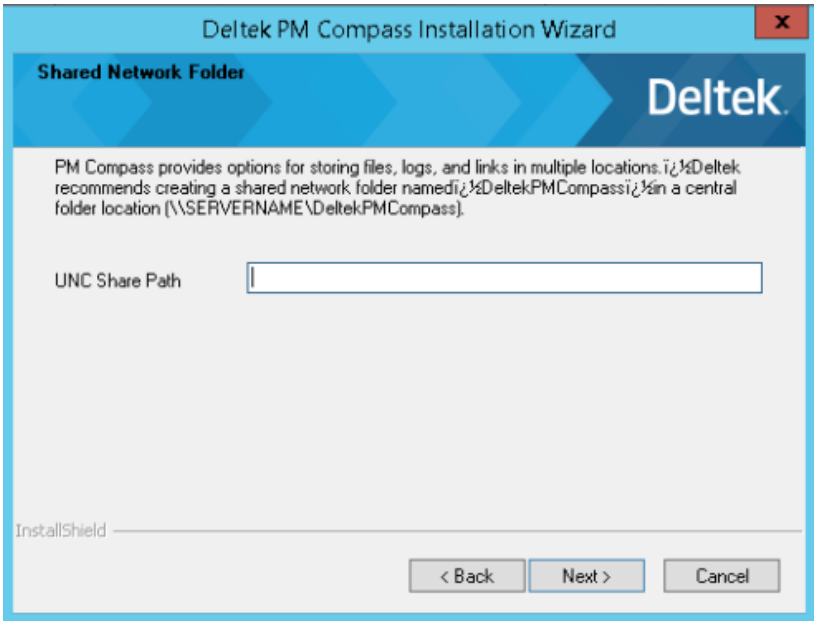


12. If you are integrating PM Compass with Primavera P6, specify the Primavera P6 UNC share location where you want to store the process logs on the Primavera P6 Integration Process Logs UNC Share Path screen. If the location for **MSPLogs** is already specified, the screen may not display.

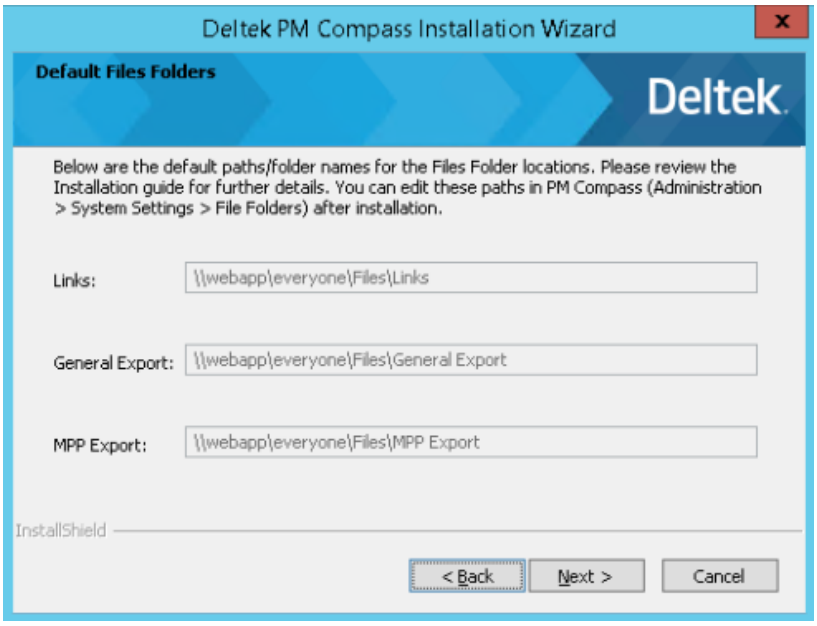


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

13. On the Shared Network Folder screen, specify the UNC share location where you want to store links, general export files, and MPP export files. For example, \\<servername>\DeltekPMCompass\.



14. On the Default Files Folders screen, the wizard displays the default Links, General Export, and MPP Export folder locations. You can edit these locations in PM Compass after the installation (**Administration » System Settings » File Folders tab**).



15. If the setup detects a script needs to be run, the Script Options screen displays allowing you to choose one the following options:
    - Automatically by the installation
    - Manually using a batch (.bat) file
    - Manually using .sql script files

    The screen that displays depends on whether you are using a new or existing database. Refer to the section below that corresponds to your database.

    Note: The PM Compass installation does not automatically back up your database before applying any scripts. Make a backup of your database before selecting any of the options on this screen.

    New Database

    If you have a new PM Compass database, or you are applying PM Compass for the first time to your Cobra or Open Plan database, the utility displays the Database Script Options screen.

    Select a database script option and click **Next**.

    - **Automatically run scripts during the installation — creates the PM Compass tables**: Select this option to create the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts after the installation.
    - **Create batch file (CreatePMCompassTables.bat) to run scripts manually**: Select this option to create the PM Compass database tables manually after installation using a batch file. The batch file is named **CreatePMCompassTables.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.
    - **I will manually run the scripts to create the PM Compass tables. No batch file will be created**: Select this option to manually create the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

> **Attention:** For more information, see "Run Scripts Manually on a SQL Database" under "Appendix G: Using Microsoft SQL Server with PM Compass" in this guide.

> **Note:** Database conversion log files are saved into the **<PM Compass Installation Directory>\Logs\ScriptLogs** folder. For more information, see "Conversion Log" under "Check the Log Files After Installation" in this guide.

Existing Database

If you have an existing PM Compass database, the utility displays the Database Upgrade Script Options screen.

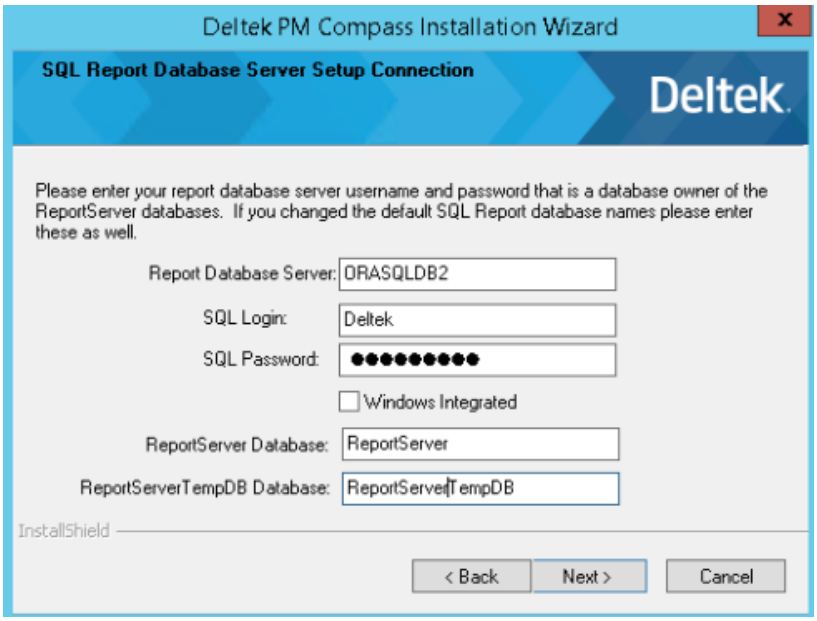
Select a database script option and click **Next**.

- **Automatically run upgrade scripts during the installation**: Select this option to upgrade the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts manually after the installation.
- **Create batch file (UpgradePMCompassDB.bat) to run scripts manually**: Select this option to upgrade the PM Compass database tables manually after installation using a batch file. The batch file is named **UpgradePMCompassDB.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

  If you select this option, the wizard displays a message reminding you to run the batch file and pointing you to the location of the file.
- **I will manually run the upgrade scripts. No batch file will be created**: Select this option to manually upgrade the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

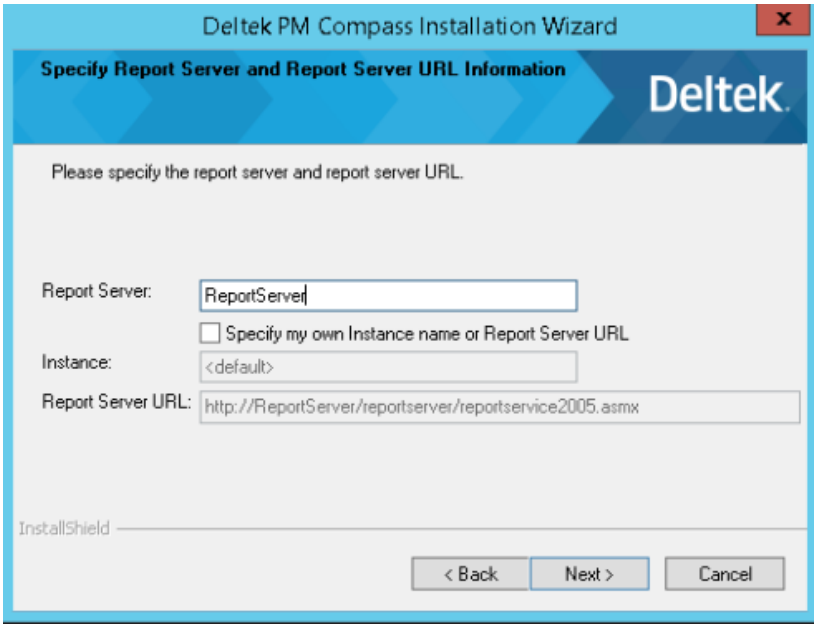
> **Attention:** For more information, see "Run Scripts Manually on a SQL Database" under "Appendix G: Using Microsoft SQL Server with PM Compass" in this guide.

16. If the SQL Report Database Server Setup Connection page displays, specify the connection to the SQL Report Database server.



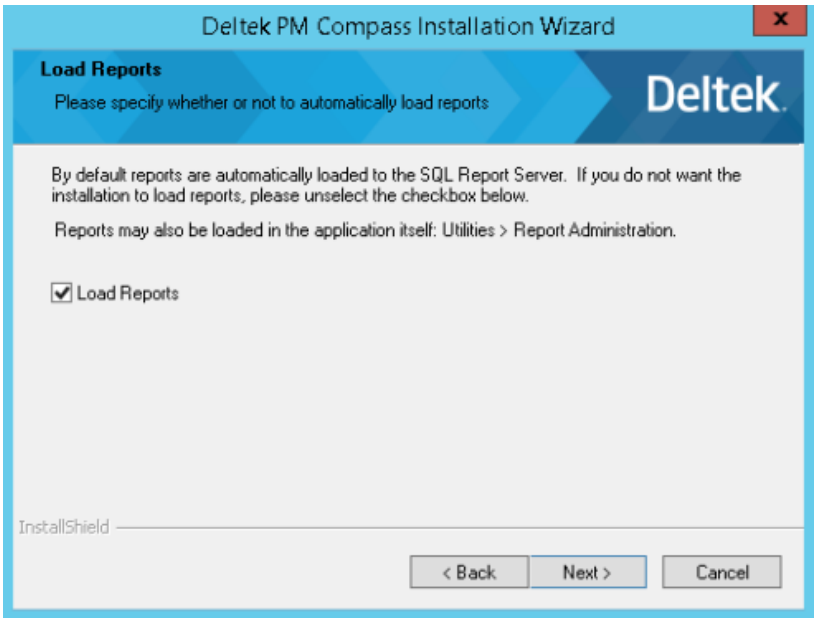
After you enter the required information and click **Next**, the setup connects to the Report server. If an error is encountered, a dialog box displays asking for the Report server and Report server URL information.

Enter the necessary information in the appropriate fields, and click **Next**.



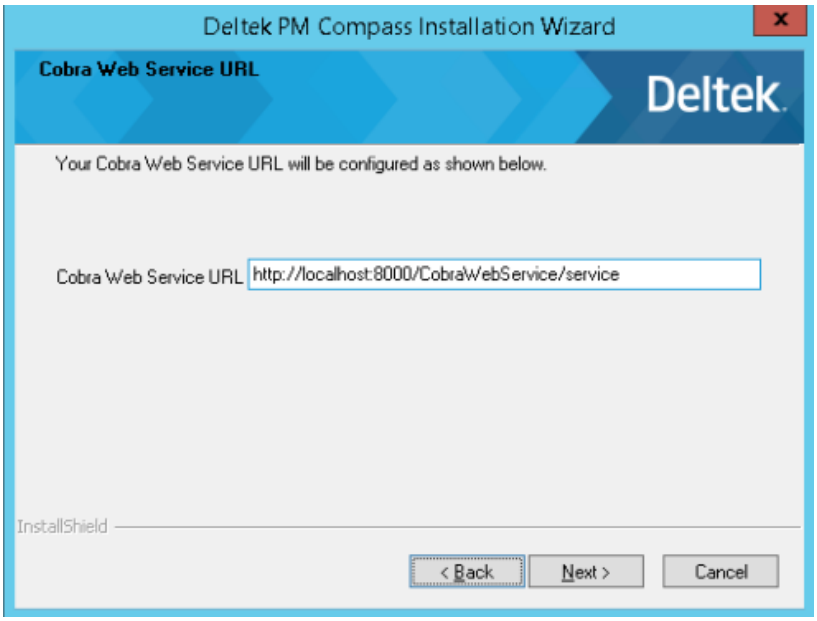
> **Attention:** For more information, see “Configure Microsoft SQL Server Reporting Services” under “Appendix C: Microsoft SQL Server Reporting Services” in this guide.
>
> If you are unfamiliar with the Reporting Services configuration settings, see “Connect to the Report Server” in the same appendix.

17. On the Load Reports screen, click **Next**.



18. If your Web server contains multiple web sites, the Specify Web Site screen displays. Select the website to which you will install PM Compass, and click **Next**.
19. On the Cobra Web Service URL screen, click **Next**.

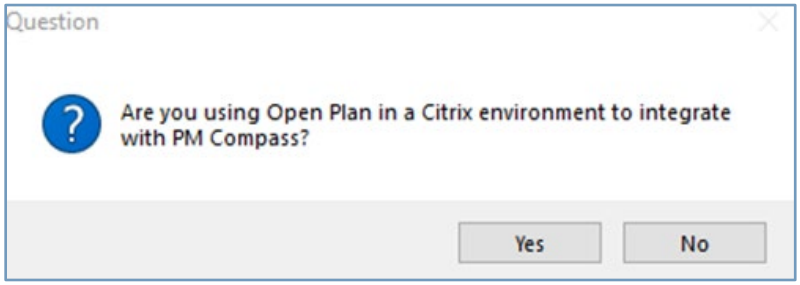
    By default, the wizard installs the Cobra Web Service on each Web/Application and Process server. Deltek strongly advises against making any changes to this.



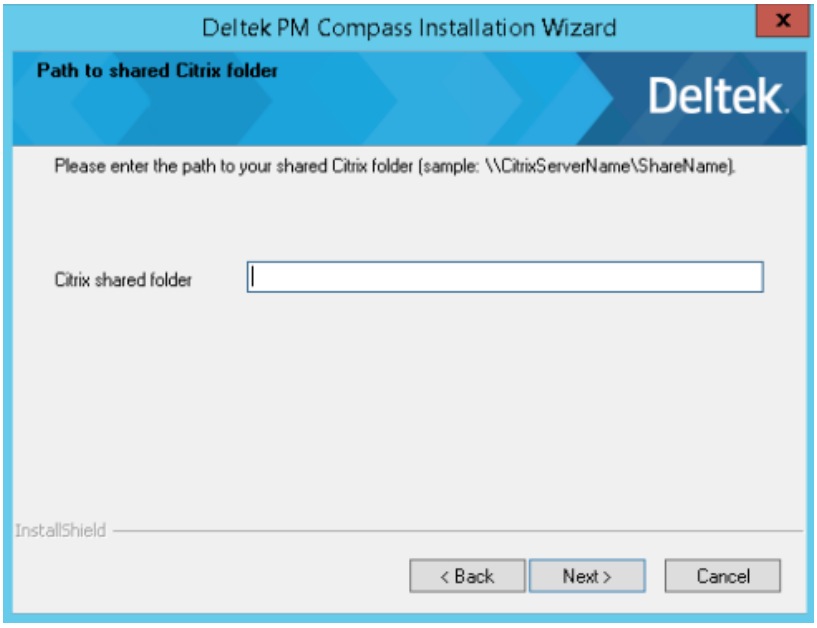
20. Choose whether PM Compass will be available for Citrix users.

> **Attention:** For additional information when deploying with Citrix, see "Using PM Compass with Citrix or Remote Desktop (ClickOnce Bypass)" in the *Deltek PM Compass Advanced Administration Guide*.

Click **Yes** if you are using Open Plan in a Citrix environment. The installer will copy the PM Compass Web client ClickOnce Bypass files to a shared folder. The Open Plan client, running on a Citrix server, will then use this folder to launch the PM Compass client instead of launching it from a browser.



On the Path to shared Citrix folder screen, enter the path to the shared Citrix folder, and click **Next**.



21. On the next screen, PM Compass displays a message informing you that you will have the option to restore a PM Compass sample database once the setup completes. Click **OK** to continue.
22. On the Start Copying Files screen, review the installation settings, and click **Next**.

    During the installation, the setup also loads the **report.rdl** files onto the Reporting Services Web Service. If the upload fails, the wizard displays an error message. Click **OK** to continue with the installation.

    Attention: For steps to reload reports manually after installation, see "Appendix E: Load Standard PM Compass Reports" and "Log Files Generated During the Report-Loading Process" in this guide.

23. After the setup, the OPTIONAL - Automatically Restore Sample Database screen displays. This provides you with the option to restore a sample or demonstration copy of the database.

- If you do not want to restore the sample database, select **No, do not restore at this time**, and click **Next**, then skip to the last step in this section.
- If you choose to restore the Sample database, select **Yes, restore now to begin the restoration**, and click **Next**.

> **Note:** If you prefer to restore the sample database later, you can restore it onto your Report Server database engine (Oracle) or Microsoft SQL Server database server (SQL Server) using the Deltek PM Compass Sample Database Restore Wizard. For more information, see "Appendix I: How to Run the Deltek PM Compass Sample Database Restore Wizard" in this guide.

- If you select **No**, see NEXT STEP: Installing Cumulative Updates/HotFix.

24. If you choose to restore the Sample Database, on the Deltek PM Compass Sample Database Restore Wizard screen, click **Next**.
25. If the SQL login that you entered previously is not a member of the System Administrator role, the Database Server (MSSQL) Setup Connection Information screen displays. Specify the SQL Server credentials that have SYSADMIN role membership in the Database server where the restore will take place, and click **Next**.
26. The Path to PM Compass installation folder screen shows the location of the backup files on the SQL Server Database server. Unless you have installed PM Compass onto a different drive or location, accept the default value, and click **Next**.
27. On the Ready to Install screen, click **Install**.
28. On the Deltek PM Compass Sample Database Restore Wizard Complete screen, click **Finish**.
29. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing PM Compass.

> **Note:** If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

NEXT STEP: Installing Cumulative Updates/HotFix.

Two Server Installation Steps

Use this model if you have a small to medium-sized organization that may not have a technical staff. There are two methods for installing PM Compass across two servers.

Configuration	Description
Configuration 1	Install the database and report components on one server, while placing the Web/Application and Process server components on a separate server. This configuration is commonly adopted by organizations with a single SQL Server license. It is suitable when all users are located at a single site and access PM Compass either within the office or via a VPN connection to the corporate network. In this model, infrastructure security is less critical, as all application usage remains internal to the organization.

Configuration	Description
	Small to medium-sized organizations without extensive technical staff often choose this method. The topics that cover this method are: ▪ Configuration 1 (Part 1) — Database and Report Installation for Two-Server Deployment ▪ Configuration 1 (Part 2) — Web/Application and Process Server Installation for Two-Server Deployment In a two-server deployment with Configuration 1, the Database and Report servers are on the same server. In this configuration, the PM Compass client application requires a direct connection to the Report server to run and view reports. However, since the Database server is also on the Report server, this setup is not suitable for use in an environment where users access the application over the Internet.
Configuration 2	Install the database and report components on one server, while placing the Web/Application and Process server components on a separate server. This configuration is commonly used by organizations with a single SQL Server license. It is suitable when all users are located at a single site and will access PM Compass either within the office or via a VPN connection to the corporate network. In Configuration 2, reporting services are installed on a server separate from the database engine. If you choose to split the Report server (Web Service) from the Database server hosting the Report Server database, you will need a Microsoft SQL Server license for the report server. The topics that cover this method are: ▪ Configuration 2 (Part 1) — Database Server Installation for Two-Server Deployment (Optional) ▪ Configuration 2 (Part 2) — Web/Application, Report, and Process Server Installation for Two-Server Deployment

Configuration 1 (Step 1) — Database and Report Server Installation for Two-Server Deployment

Follow this procedure to install the Database and Report server tier on a server.

> **Note:** You must review the Pre-Installation Checklists before you begin your installation.

To install the Database and Report servers for a two-server deployment:

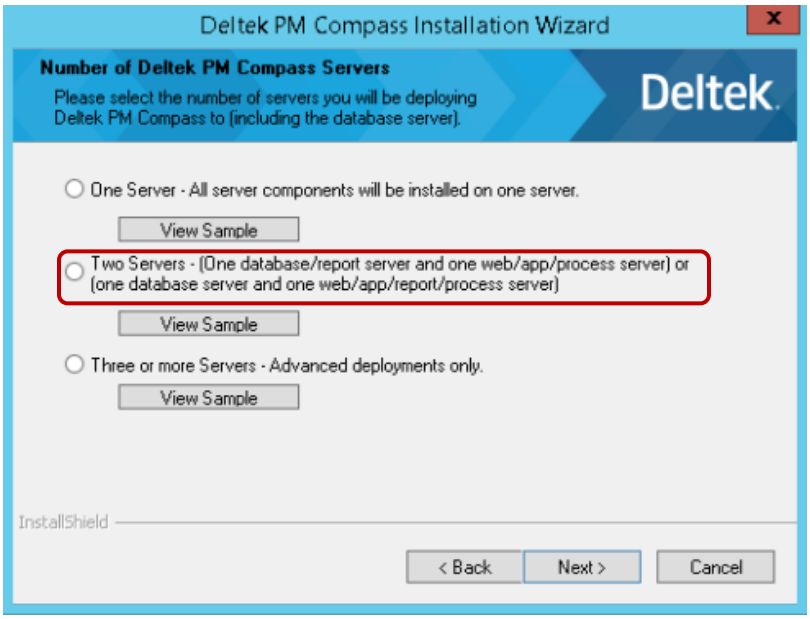
1. Log into the server that will serve as the Database and Report server as the Domain Service Account user.

   If your server is not part of a domain, log in as a local account.

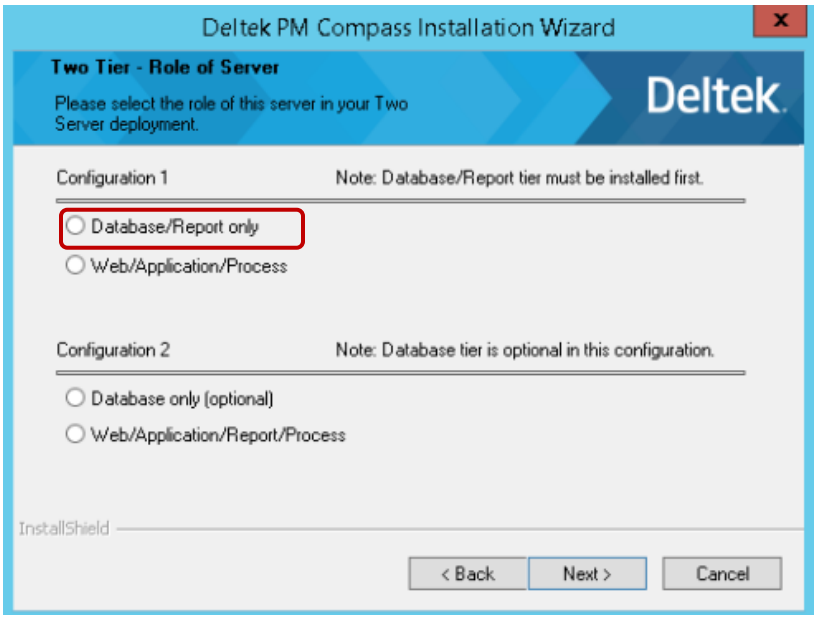
> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.

2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Two Servers** option, and click **Next**.

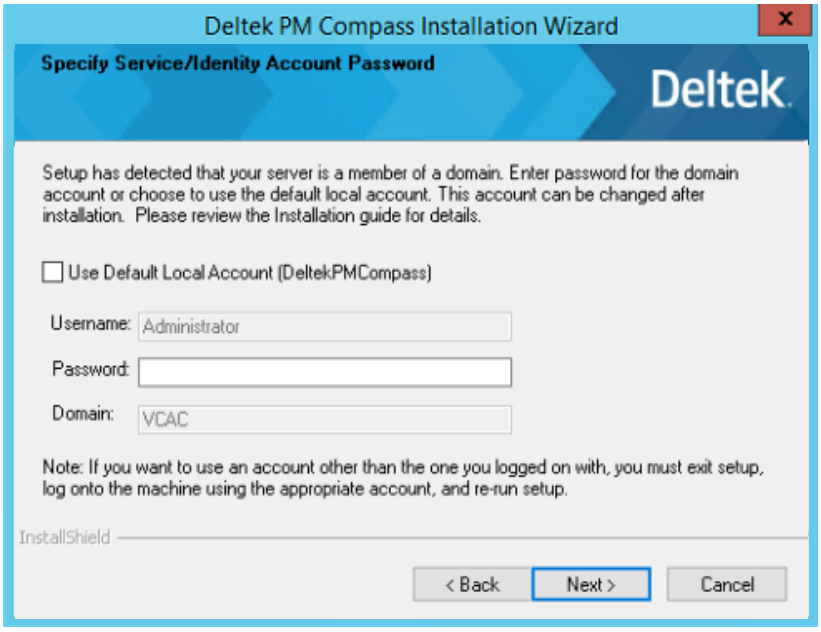


7. On the Two-Tier – Role of Server screen, select the **Database/Report** only option for Configuration 1, and click **Next**.

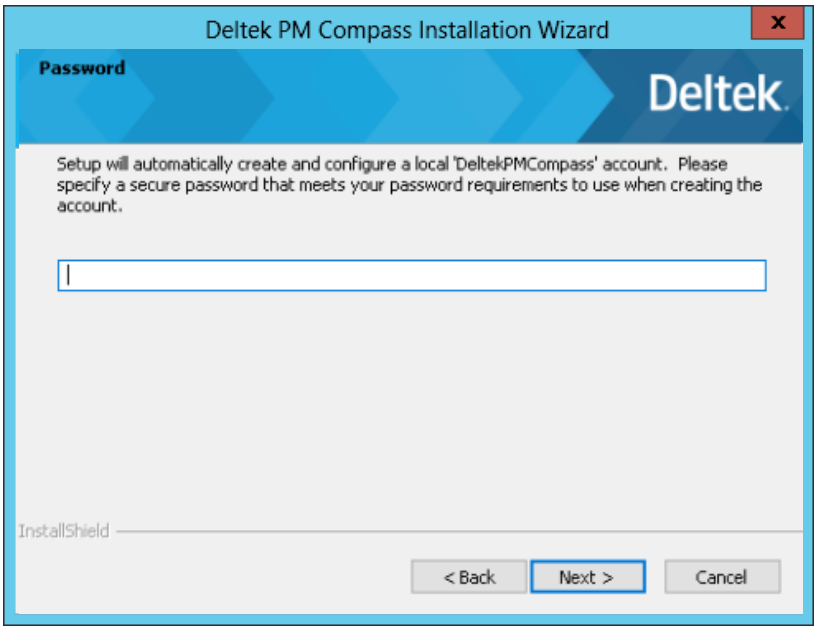


8. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
   - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:
     - Enter the password for the Domain Service Account, and click **Next**.
     - If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.



- If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass)** on the Specify Service/Identity Account Password screen, the Password screen displays.



Warning: You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.

After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

9. On the Database Platform screen, select **Oracle** or **Microsoft SQL Server**, and click **Next**.

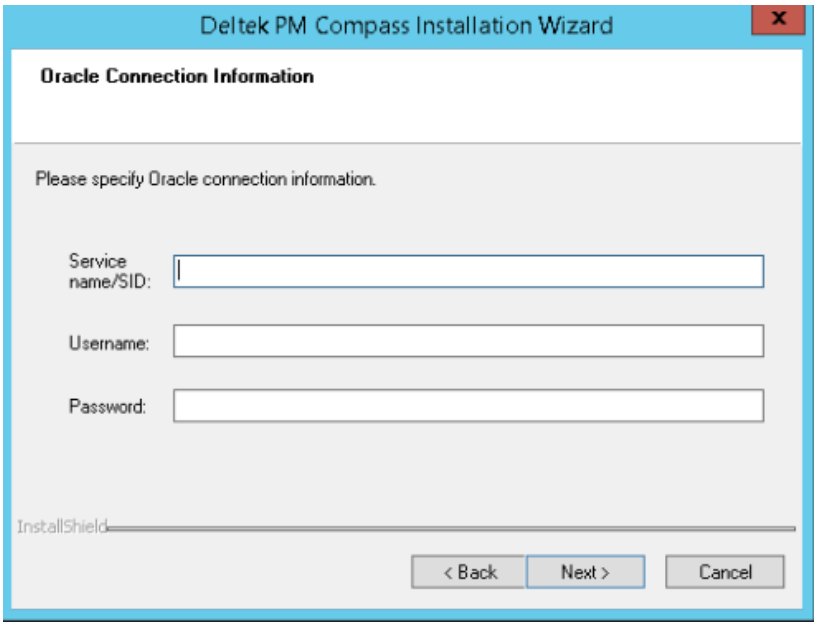
   The next screen depends on whether you selected **Oracle** or **Microsoft SQL Server**. Refer to the section below that corresponds to your selected database.

   Oracle Database

   The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

   Attention: For more information, see "Storing PM Compass Data on an Oracle Database" in this guide.

   On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

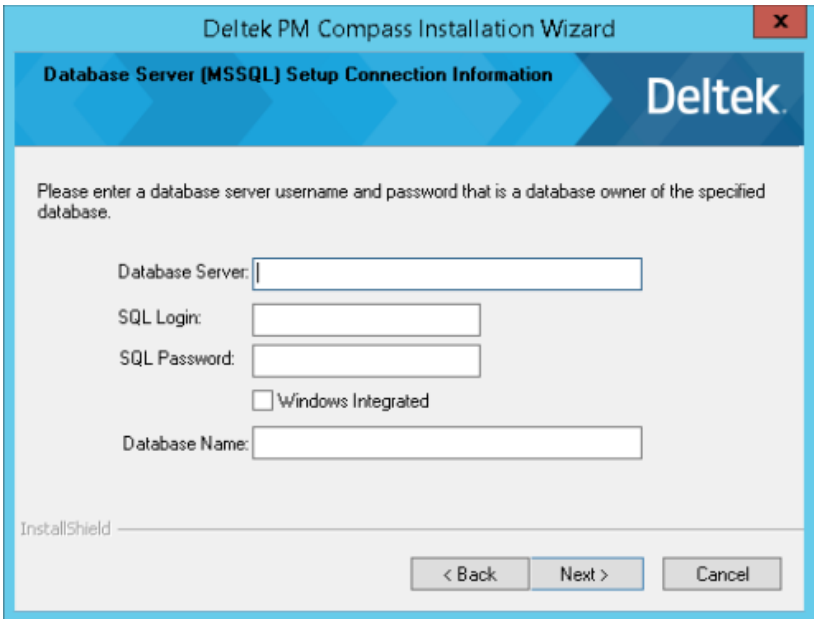
- SID is found in tnsnames.ora.
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

  - **SQL Password**: Enter the password associated with this SQL Login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

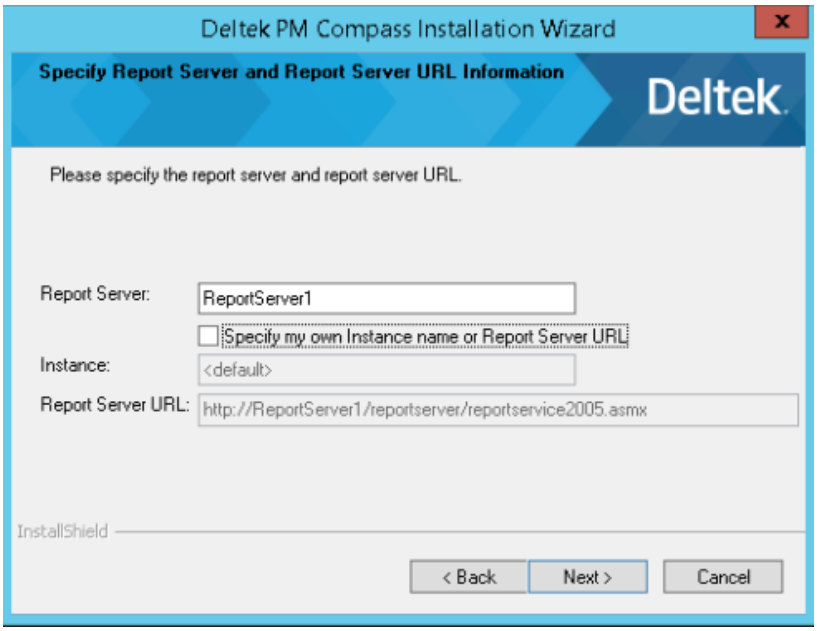
The following validations are performed:

- Username/password are correct.
- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

If any of these validations fail, the wizard displays a message, and the setup exits.

10. On the Specify Report Server and Report Server URL Information screen, enter the necessary information in the appropriate fields, and click **Next**.

    This screen displays if the setup is unable to determine the Report server information.



> **Attention:** For more information, see "Configure Microsoft SQL Server Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide.
>
> If you are unfamiliar with the Reporting Services configuration settings, see "Connect to the Report Server" in the same appendix.

11. On the Start Copying Files screen, review the installation settings, and click **Next**.
12. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing the Database and Report server tiers.

> **Note:** If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

Proceed to Configuration 1 (Part 2): Web/Application and Process Server Installation for Two-Server Deployment.

Configuration 1 (Step 2) — Web/Application and Process Server Installation for Two-Server Deployment

Follow this procedure to install the Web/Application and Process server tiers on a server. This is the second of two steps for the two-server deployment model, where the Database/Report servers are on one server, and the Web/Application and Process server tiers are on another server.

To install the Web/Application and Process servers for a two-server deployment:

1. Log into the server that will serve as the Web/Application and Process server as the Domain Service Account user.
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.

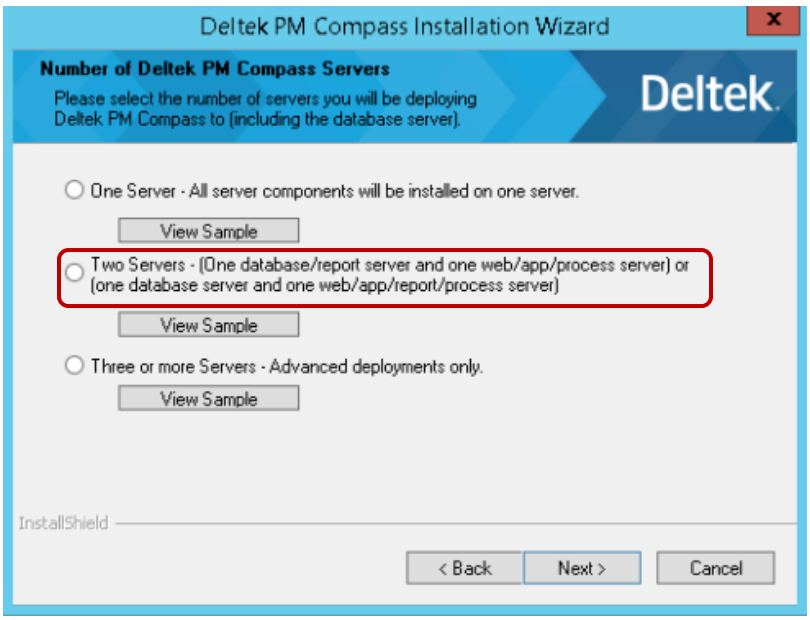
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.

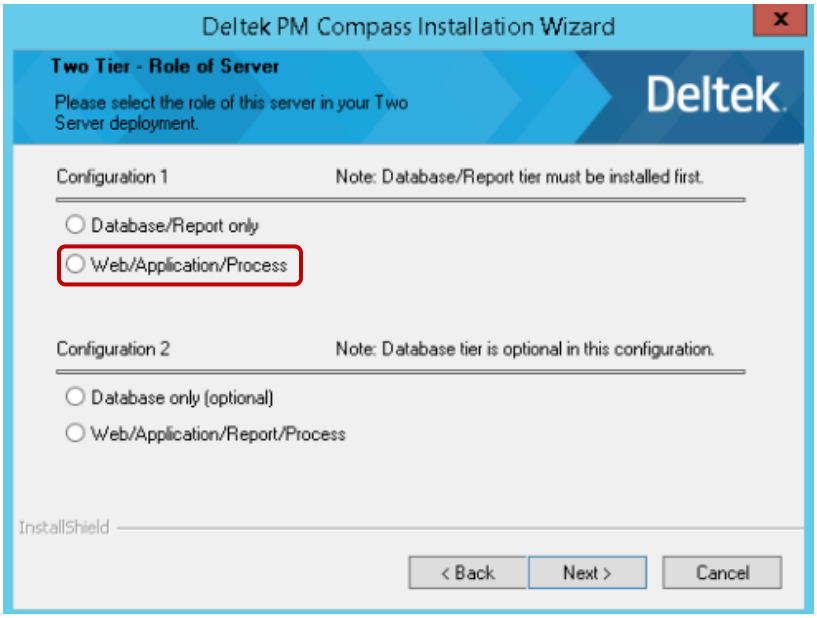
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.

5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.

6. On the Number of Deltek PM Compass Servers screen, select the **Two Servers** option, and click **Next**.

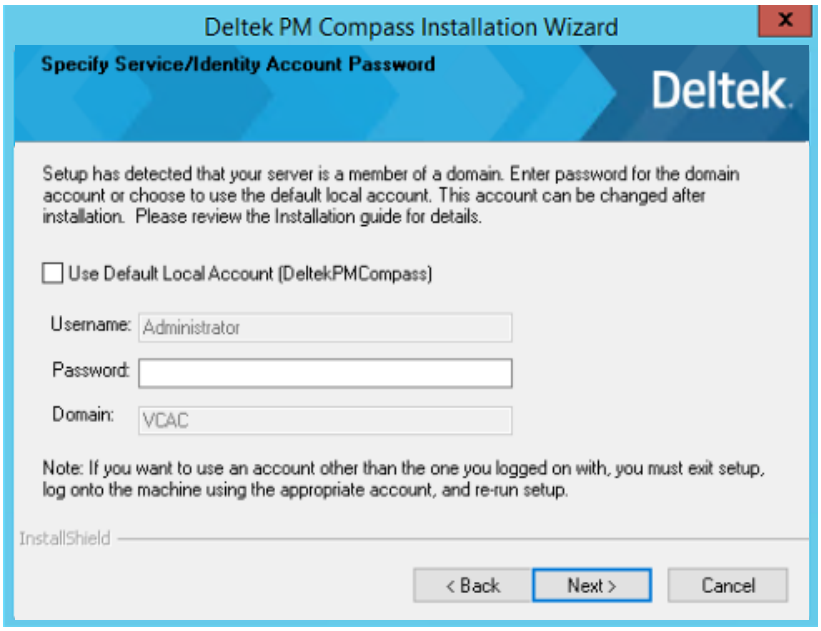


7. On the Two-Tier – Role of Server screen, select the **Web/Application/Process** option for Configuration 1, and click **Next**.

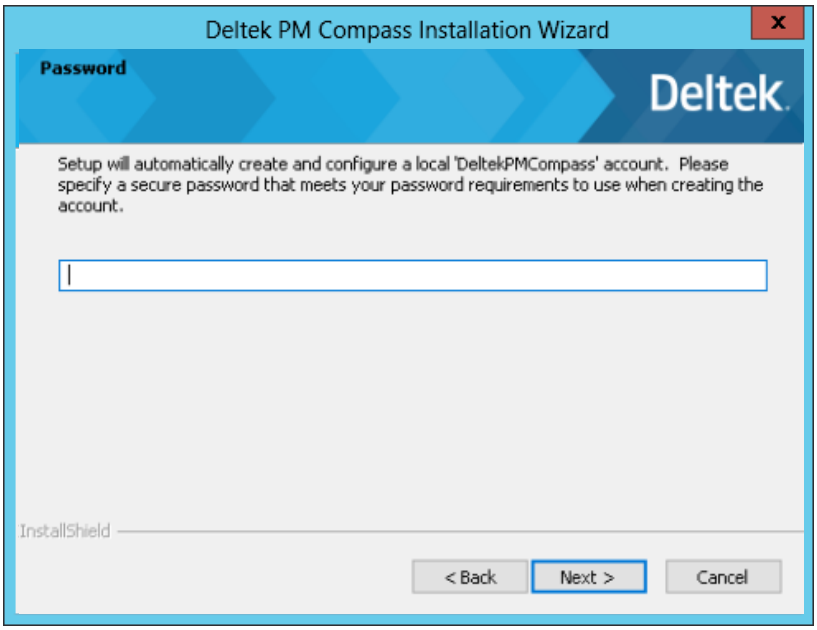


8. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
   - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:
     - Enter the password for the Domain Service Account, and click **Next**.
     - If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.



   - If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass**) on the Specify Service/Identity Account Password screen, the Password screen displays.



Warning: You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.

After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

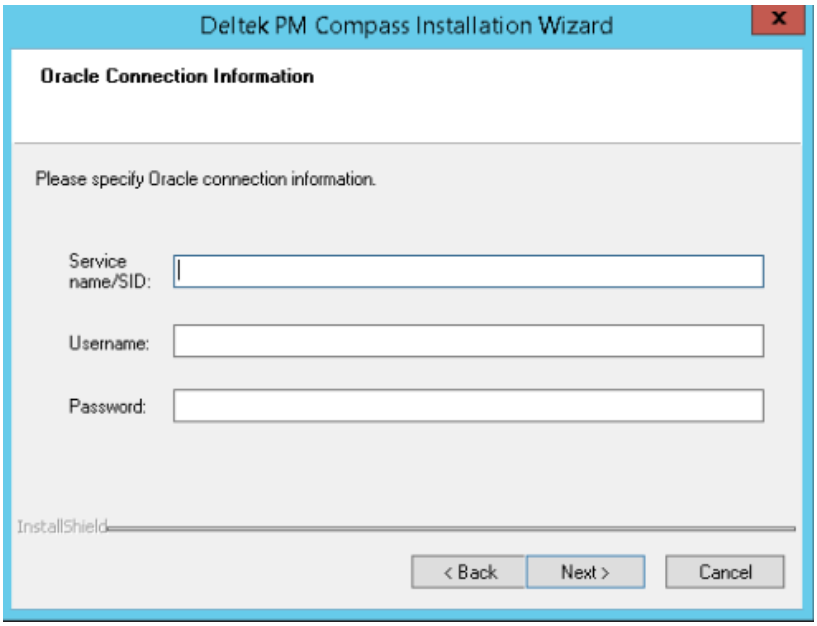
9. On the Database Platform screen, select **Oracle** or **Microsoft SQL Server,** and click **Next**.
10. The next screen depends on whether you selected **Oracle** or **Microsoft SQL Server**. Refer to the section below that corresponds to your selected database.

Oracle Database

The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

Attention: For more information, see "Storing PM Compass Data on an Oracle Database" in this guide.

On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

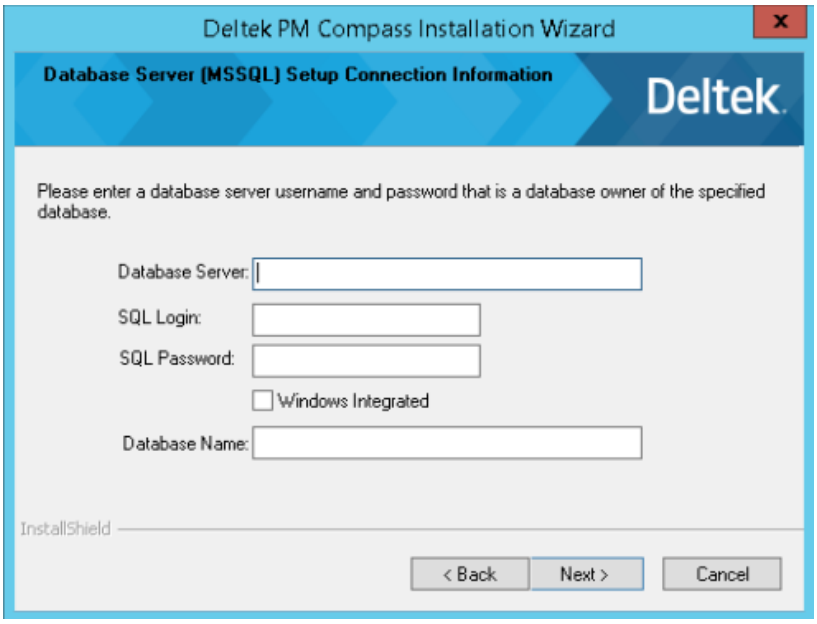
- SID is found in tnsnames.ora.
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

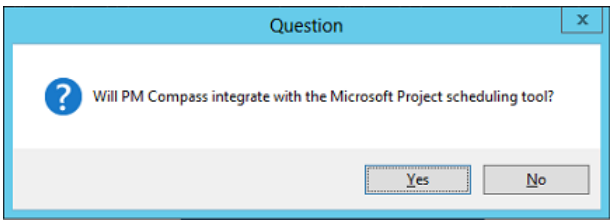
  - **SQL Password**: Enter the password associated with this SQL Login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

The following validations are performed:

- Username/password are correct.
- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

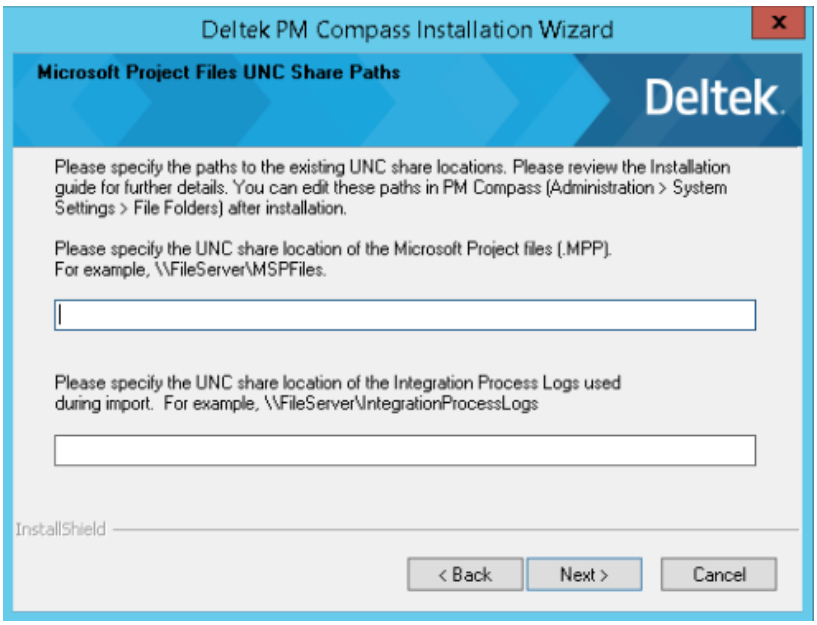
If any of these validations fail, the wizard displays a message, and the setup exits.

11. Choose whether PM Compass integrates with the Microsoft Project scheduling tool.



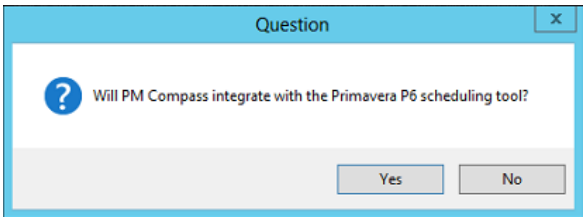
- If you are using Microsoft Project as a PM Compass scheduling tool, enter the UNC share location for the MSP Files and Process Logs folders, and click **Next**.
- If you are not using Microsoft Project as a PM Compass scheduling tool, leave the UNC Share Path fields blank, and click **Next**.

> **Attention:** To manually configure the system after the installation, see "Appendix N: Integrating with Microsoft Project" in this guide.

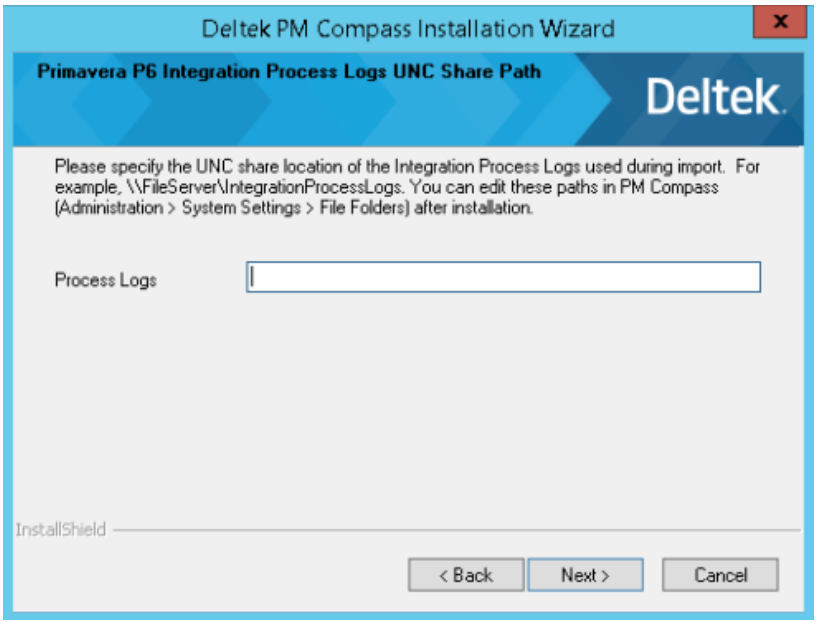


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

12. Choose whether PM Compass integrates with the Primavera P6 scheduling tool.

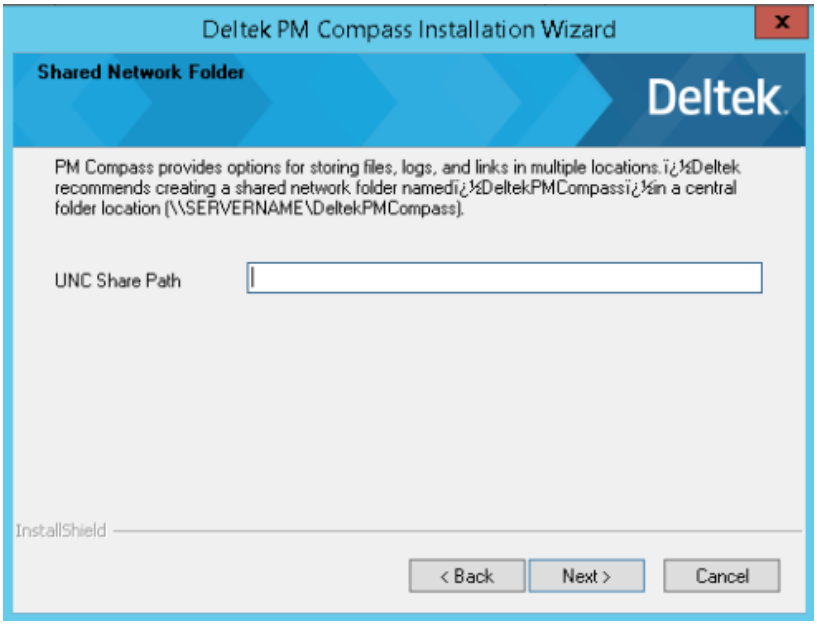


13. If you are integrating PM Compass with Primavera P6, specify the Primavera P6 UNC share location where you want to store the process logs on the Primavera P6 Integration Process Logs UNC Share Path screen. If the location for **MSPLogs** is already specified, the screen may not display.

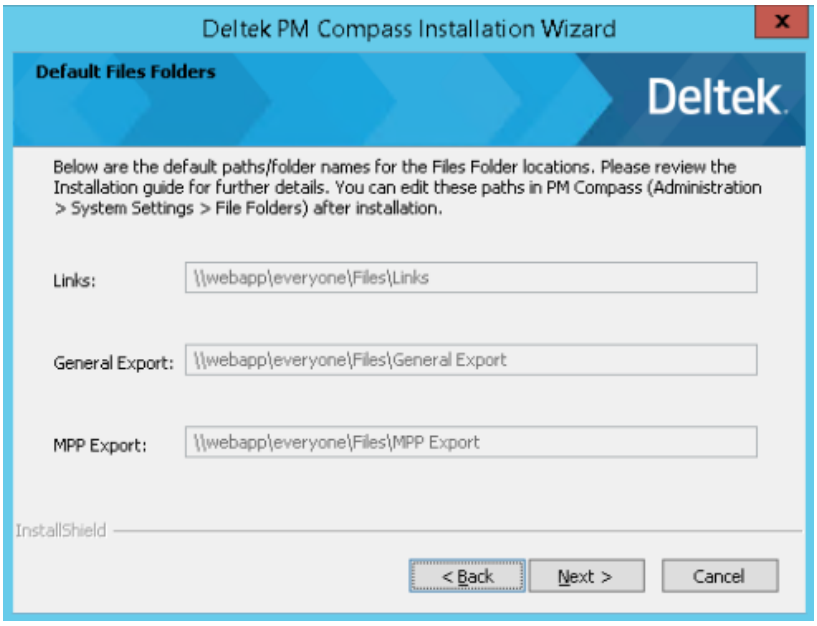


Attention: For information about the permissions required for these folders, see "File Share Requirements" in this guide.

14. On the Shared Network Folder screen, specify the UNC share location where you want to store links, general export files, and MPP export files. For example, \\<servername>\DeltekPMCompass\.



15. On the Default Files Folders screen, the wizard displays the default Links, General Export, and MPP Export folder locations. You can edit these locations in PM Compass after the installation (**Administration » System Settings » File Folders tab**).



16. If the setup detects a script needs to be run, the Script Options screen displays allowing you to choose one the following options:

    - **Automatically by the installation**
    - **Manually using a batch (.bat) file**
    - **Manually using .sql script files**

    The screen that displays depends on whether you are using a new or existing database. Refer to the section below that corresponds to your database.

    > **Note:** The PM Compass installation does not automatically back up your database before applying any scripts. Make a backup of your database before selecting any of the options on this screen.

    New Database

    If you have a new PM Compass database, or you are applying PM Compass for the first time to your Cobra or Open Plan database, the utility displays the Database Script Options screen.

    Select a database script option and click **Next**.

    - **Automatically run scripts during the installation — creates the PM Compass tables**: Select this option to create the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts after the installation.
    - **Create batch file (CreatePMCompassTables.bat) to run scripts manually**: Select this option to create the PM Compass database tables manually after installation using a batch file. The batch file is named **CreatePMCompassTables.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.
    - **I will manually run the scripts to create the PM Compass tables. No batch file will be created**: Select this option to manually create the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

> **Attention:** For more information, see "Run Scripts Manually on a SQL Database" under "Appendix G: Using Microsoft SQL Server with PM Compass" in this guide.

> **Note:** Database conversion log files are saved into the **<PM Compass Installation Directory>\Logs\ScriptLogs** folder. For more information, see "Conversion Log" under "Check the Log Files After Installation" in this guide.

Existing Database

If you have an existing PM Compass database, the utility displays the Database Upgrade Script Options screen.

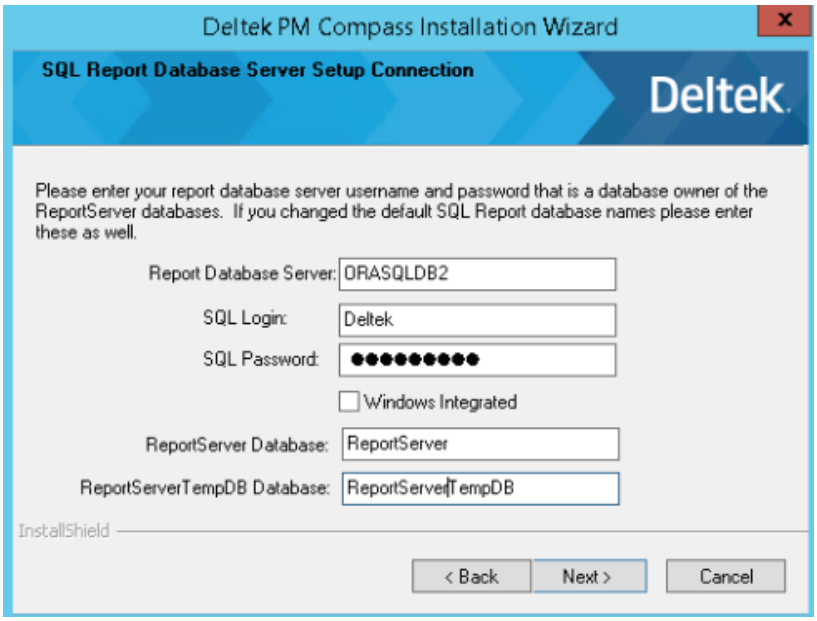
Select a database script option and click **Next**.

- **Automatically run upgrade scripts during the installation**: Select this option to upgrade the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts manually after the installation.
- **Create batch file (UpgradePMCompassDB.bat) to run scripts manually**: Select this option to upgrade the PM Compass database tables manually after installation using a batch file. The batch file is named **UpgradePMCompassDB.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

  If you select this option, the wizard displays a message reminding you to run the batch file and pointing you to the location of the file.
- **I will manually run the upgrade scripts. No batch file will be created**: Select this option to manually upgrade the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

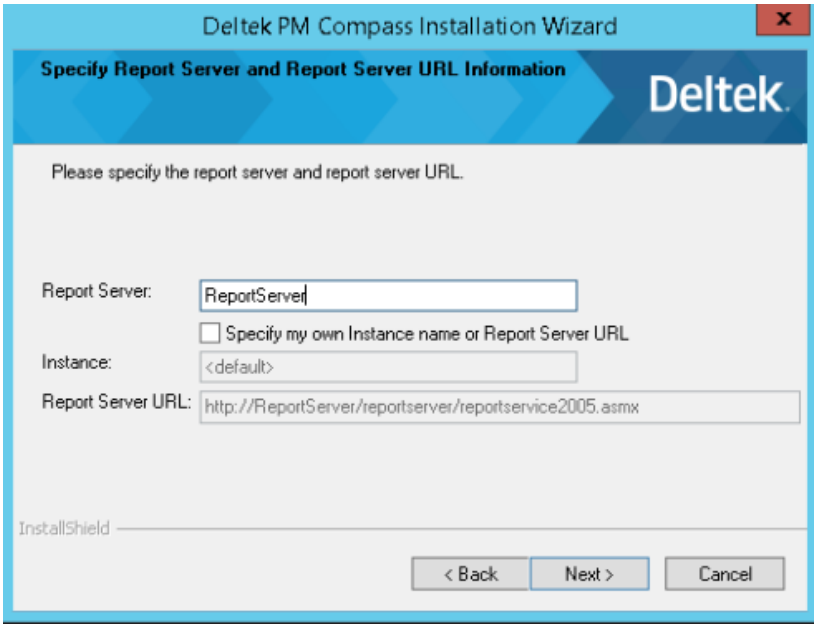
> **Attention:** For more information, see "Run Scripts Manually on a SQL Database" under "Appendix G: Using Microsoft SQL Server with PM Compass" in this guide.

17. If the SQL Report Database Server Setup Connection page displays, specify the connection to the SQL Report Database server.



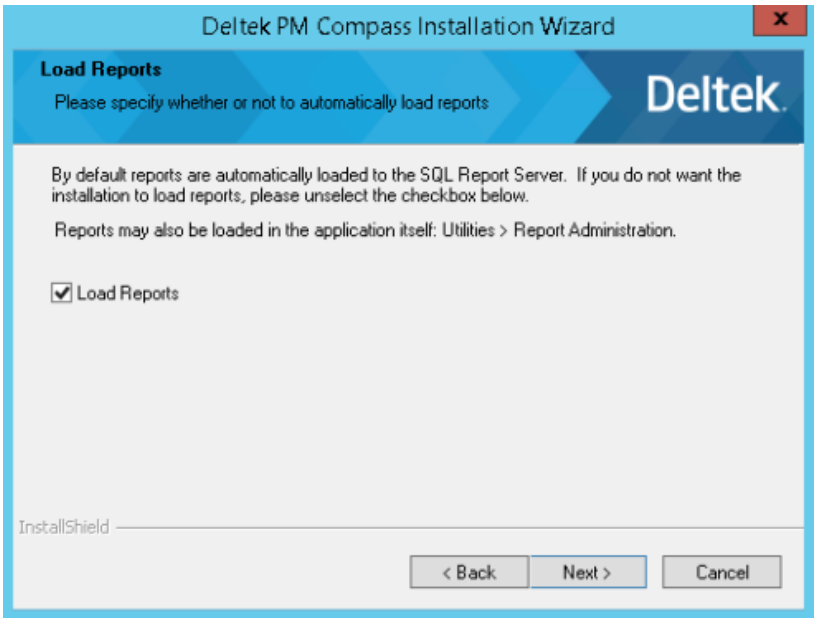
After you enter the required information and click **Next**, the setup connects to the report server. If an error is encountered, a dialog box displays asking for the Report server and Report Server URL information.

Enter the necessary information in the appropriate fields, and click **Next**.



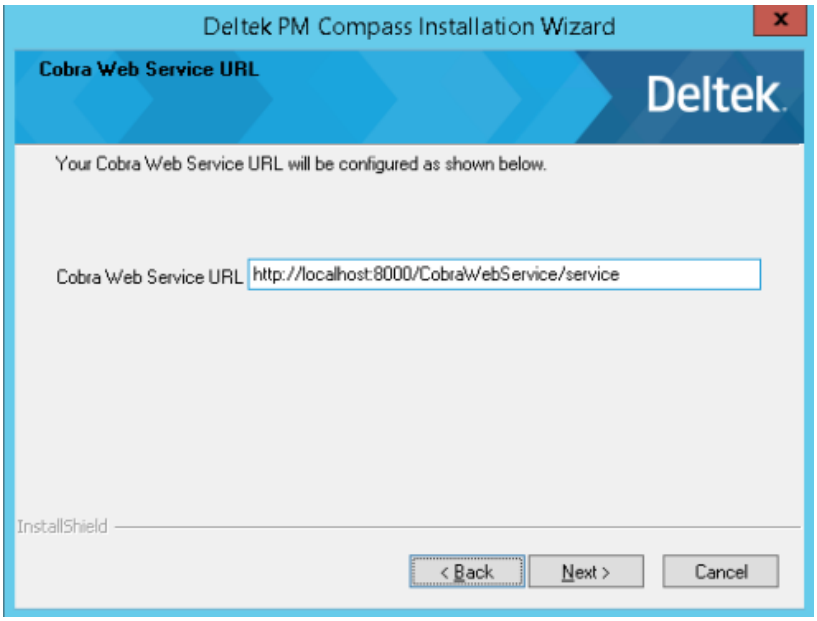
> **Attention:** For more information, see “Configure Microsoft SQL Server Reporting Services” under “Appendix C: Microsoft SQL Server Reporting Services” in this guide.
>
> If you are unfamiliar with the Reporting Services configuration settings, see “Connect to the Report Server” in the same appendix.

18. On the Load Reports screen, click **Next**.



19. If your Web server contains multiple web sites, the Specify Web Site screen displays. Select the website to which you will install PM Compass, and click **Next**.
20. On the Cobra Web Service URL screen, click **Next**.

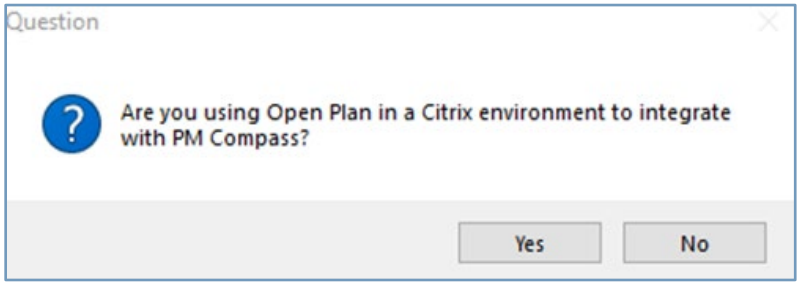
    By default, the wizard installs the Cobra Web Service on each Web/Application and Process server. Deltek strongly advises against making any changes to this.



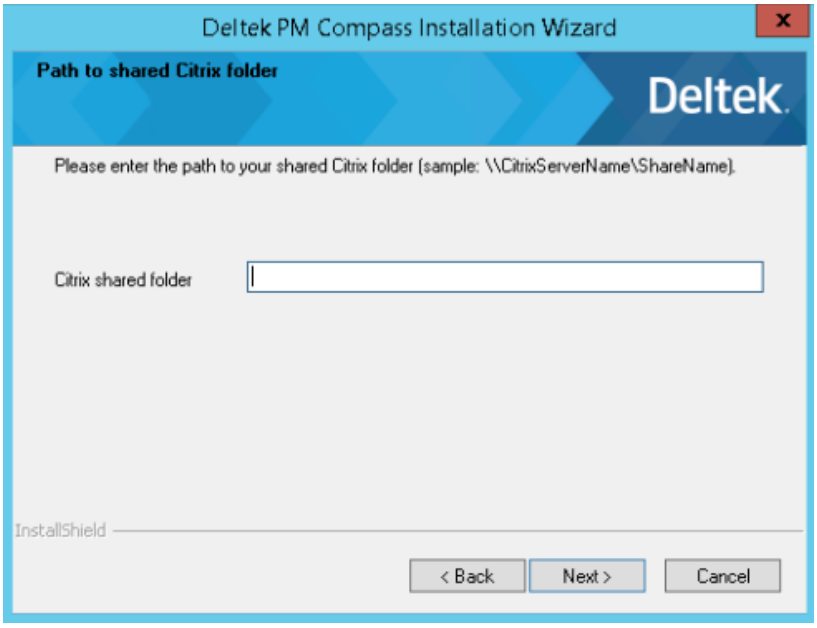
21. Choose whether PM Compass will be available for Citrix users.

> **Attention:** For additional information when deploying with Citrix, see "Using PM Compass with Citrix or Remote Desktop (ClickOnce Bypass)" in the *Deltek PM Compass Advanced Administration Guide*.

Click **Yes** if you are using Open Plan in a Citrix environment. The installer will copy the PM Compass Web client ClickOnce Bypass files to a shared folder. The Open Plan client, running on a Citrix server, will then use this folder to launch the PM Compass client instead of launching it from a browser.



On the Path to shared Citrix folder screen, enter the path to the shared Citrix folder, and click **Next**.



22. On the next screen, PM Compass displays a message informing you that you will have the option to restore a PM Compass sample database once the setup completes. Click **OK** to continue.
23. On the Start Copying Files screen, review the installation settings, and click **Next**.

    During the installation, the setup also loads the **report .rdl** files onto the Reporting Services Web Service. If the upload fails, the wizard displays an error message. Click **OK** to continue with the installation.

    > **Attention:** For steps to reload reports manually after installation, see "Appendix E: Load Standard PM Compass Reports" and "Log Files Generated During the Report-Loading Process" in this guide.

24. After the setup, the OPTIONAL - Automatically Restore Sample Database screen displays. This provides you with the option to restore a sample or demonstration copy of the database.

- If you do not want to restore the sample database, select **No, do not restore at this time**, and click **Next**, then skip to the last step in this section.
- If you choose to restore the Sample database, select **Yes, restore now to begin the restoration**, and click **Next**.

> **Note:** If you prefer to restore the sample database later, you can restore it onto your Report Server database engine (Oracle) or Microsoft SQL Server database server (SQL Server) using the Deltek PM Compass Sample Database Restore Wizard. For more information, see "Appendix I: How to Run the Deltek PM Compass Sample Database Restore Wizard" in this guide.

25. If you choose to restore the Sample Database, on the Deltek PM Compass Sample Database Restore Wizard screen, click **Next**.
26. If the SQL login that you entered previously is not a member of the System Administrator role, the Database Server (MSSQL) Setup Connection Information screen displays. Specify the SQL Server credentials that have SYSADMIN role membership in the Database server where the restore will take place, and click **Next**.
27. The Path to PM Compass installation folder screen shows the location of the backup files on the SQL Server Database server. Unless you have installed PM Compass onto a different drive or location, accept the default value, and click **Next**.
28. On the Ready to Install screen, click **Install**.
29. On the Deltek PM Compass Sample Database Restore Wizard Complete screen, click **Finish**.
30. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing the Web/Application and Process server tiers on the server.

> **Note:** If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

NEXT STEP: Installing Cumulative Updates/HotFix

Configuration 2 (Step 1) — Database Server Installation for Two-Server Deployment (Optional)

This installation step is optional:

- **Oracle**: Skip this step and proceed to Configuration 2 (Step 2).
- **SQL Server**: This step will copy the sample database to the database tier.

To install the Database server for a two-server deployment:

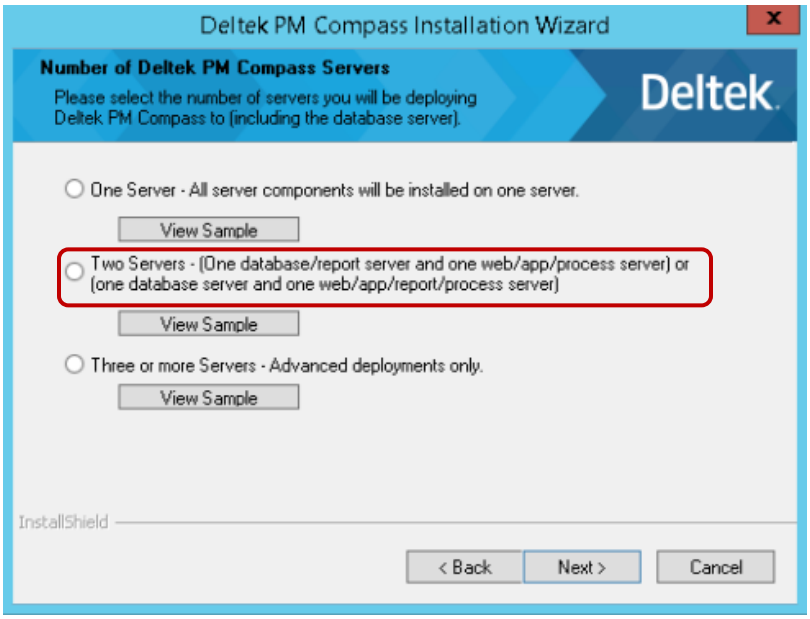
1. Log into the server as the Domain Service Account user.

   If your server is not part of a domain, log in as a local account.

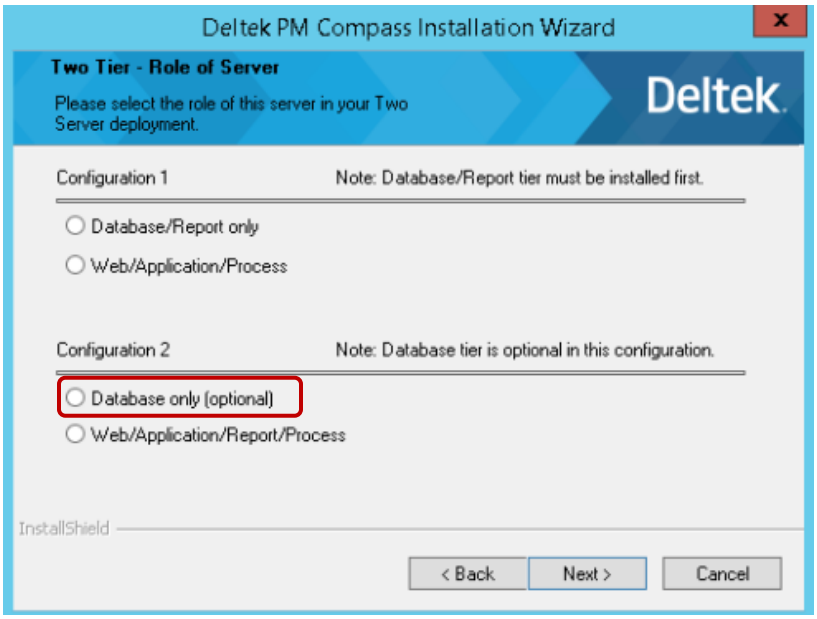
> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.

2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Two Servers** option, and click **Next**.



7. On the Two-Tier – Role of Server screen, select the **Database only** option in Configuration 2, and click **Next**.



8. On the Start Copying Files screen, review the installation settings, and click **Next**.
9. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

   If prompted, you can restart your computer after installing the database tier on the server.

> **Note:** If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

Proceed to Configuration 2 (Part 2): Web/Application, Report, and Process Server Installation for Two-Server Deployment to install the Web/Application, Report, and Process Servers on the second server.

Configuration 2 (Step 2) — Web/Application, Report, and Process Server Installation for Two-Server Deployment

Follow this procedure to install the Web/Application, Report, and Process server tiers on a server.

To install the Web/Application, Report, and Process servers for a two-server deployment:

1. Log into the server that will serve as the Database and Report server as the Domain Service Account user.

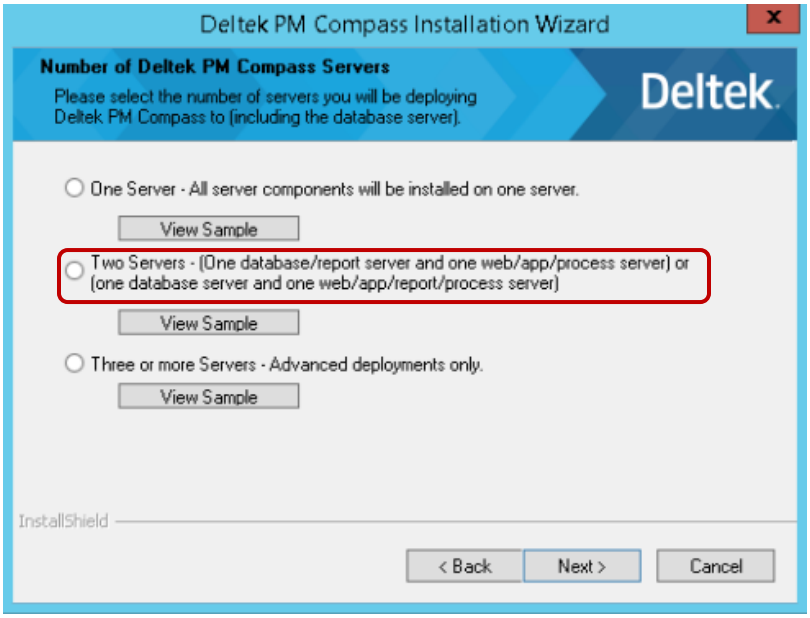
   If your server is not part of a domain, log in as a local account.

   > **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.

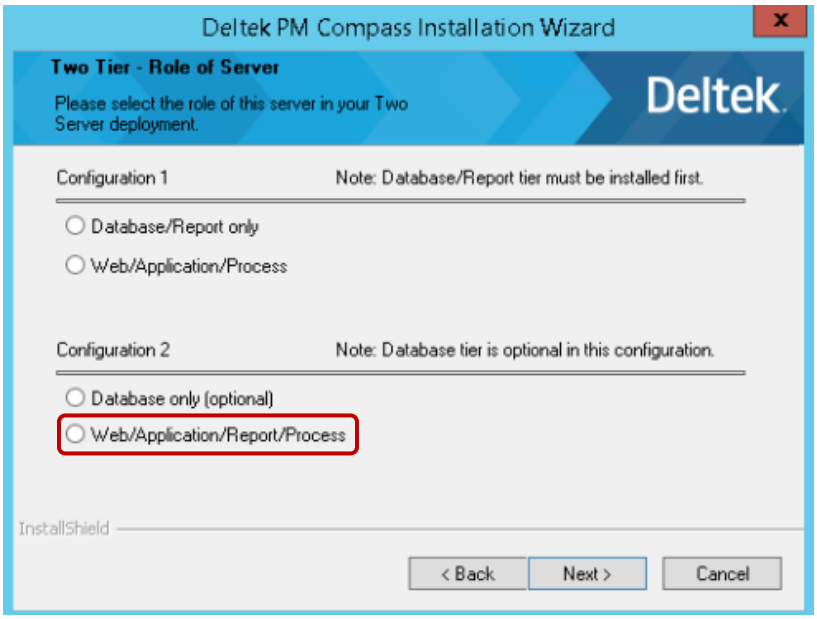
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.

4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Two Servers** option, and click **Next**.



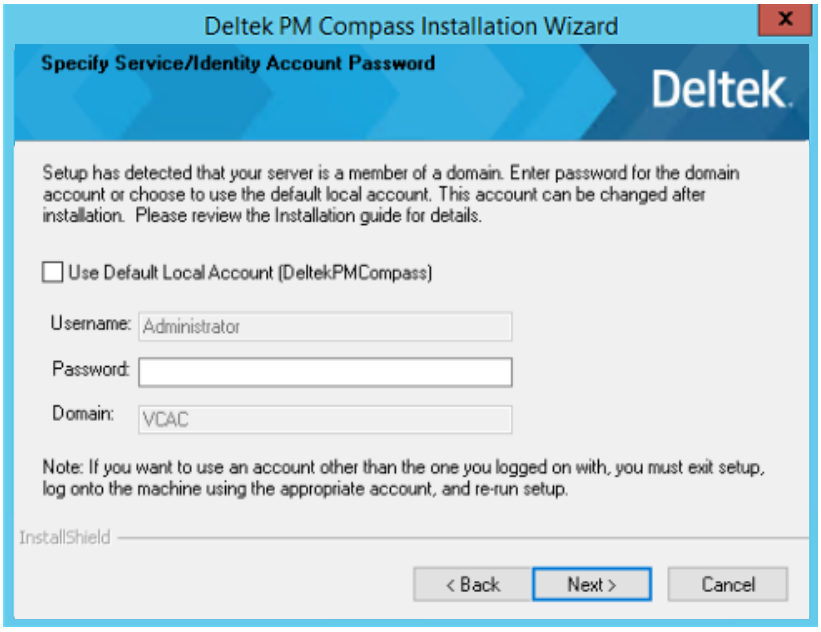
7. On the Two-Tier – Role of Server screen, select the **Web/Application/Report/Process** option for Configuration 1, and click **Next**.



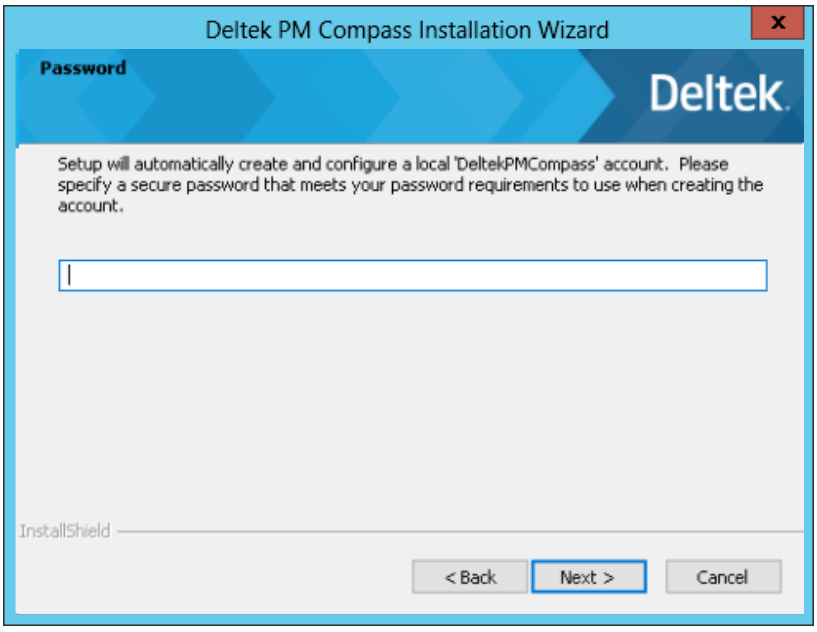
8. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
   - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:

- Enter the password for the Domain Service Account, and click **Next**.
- If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

Attention: For more information, see "Domain Service Account vs. Default Local Account" in this guide.



- If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass**) on the Specify Service/Identity Account Password screen, the Password screen displays.



> **Warning:** You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.

After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

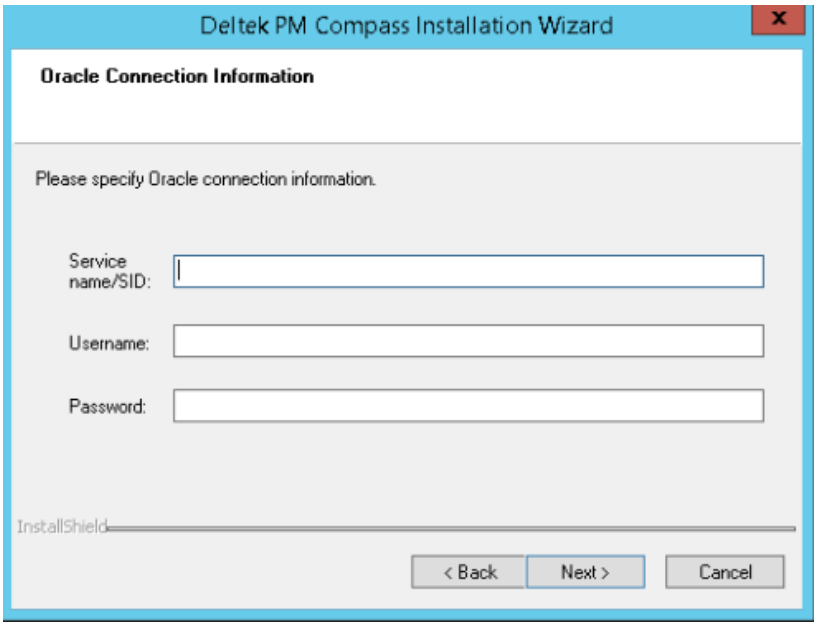
9. On the Database Platform screen, select **Oracle** or **Microsoft SQL Server,** and click **Next**.
10. The next screen depends on whether you selected **Oracle** or **Microsoft SQL Server**. Refer to the section below that corresponds to your selected database.

Oracle Database

The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

> **Attention:** For more information, see "Storing PM Compass Data on an Oracle Database" in this guide.

On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

- SID is found in tnsnames.ora.

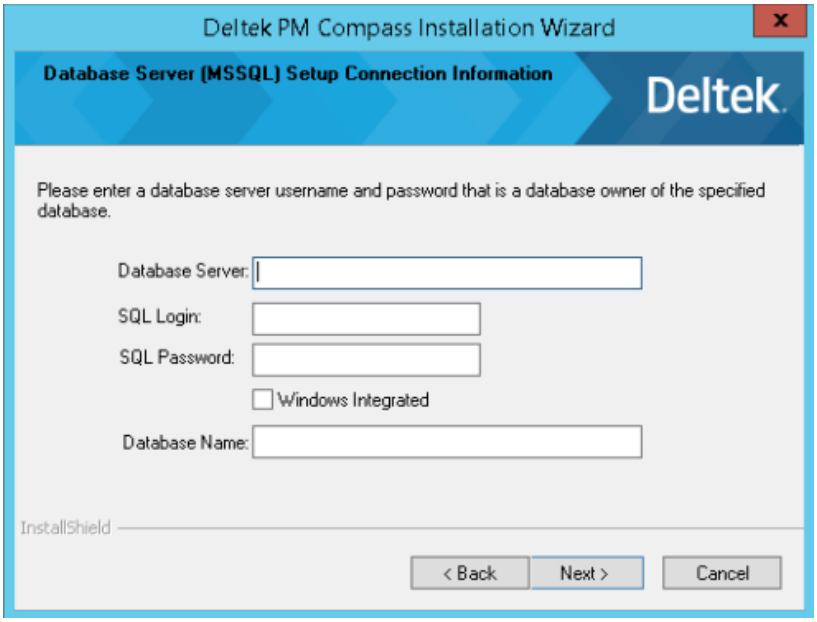
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

  - **SQL Password**: Enter the password associated with this SQL Login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

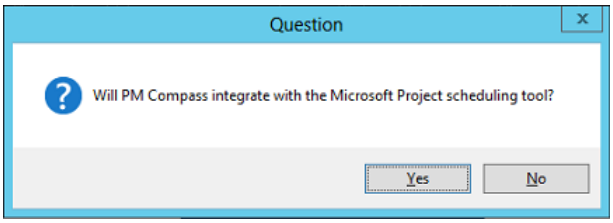
The following validations are performed:

- Username/password are correct.

- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

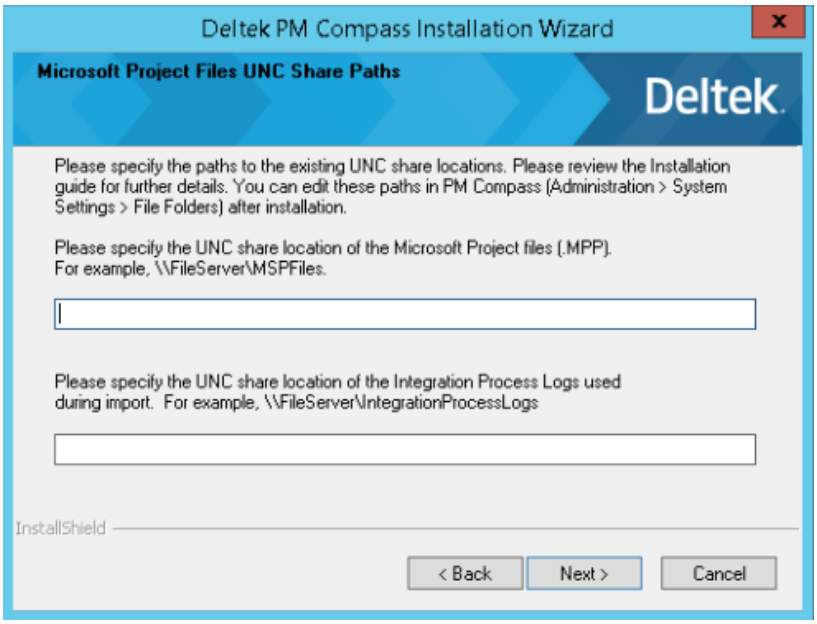
If any of these validations fail, the wizard displays a message, and the setup exits.

11. Choose whether PM Compass integrates with the Microsoft Project scheduling tool.



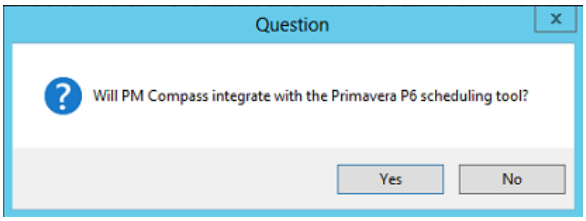
- If you are using Microsoft Project as a PM Compass scheduling tool, enter the UNC share location for the MSP Files and Process Logs folders, and click **Next**.
- If you are not using Microsoft Project as a PM Compass scheduling tool, leave the UNC Share Path fields blank, and click **Next**.

> **Attention:** To manually configure the system after the installation, see "Appendix N: Integrating with Microsoft Project" in this guide.

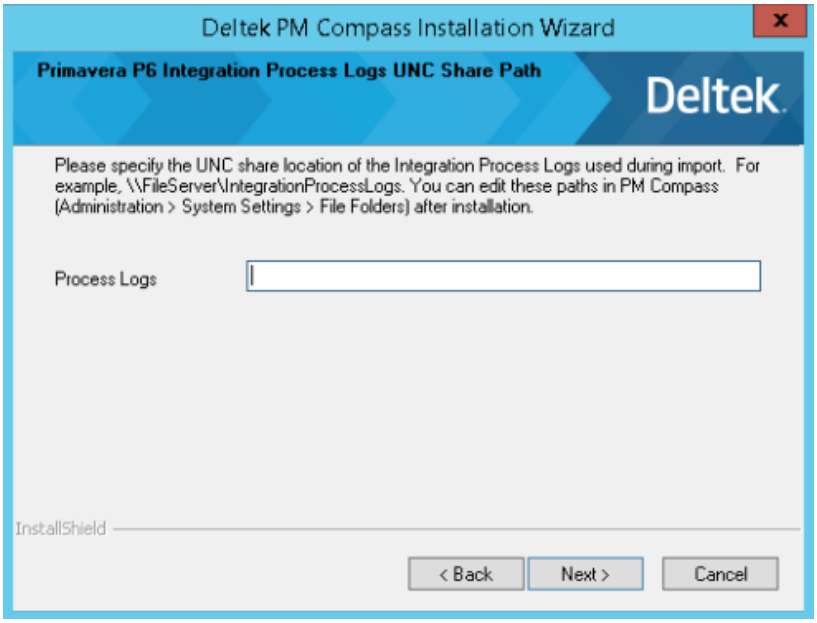


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

12. Choose whether PM Compass integrates with the Primavera P6 scheduling tool.

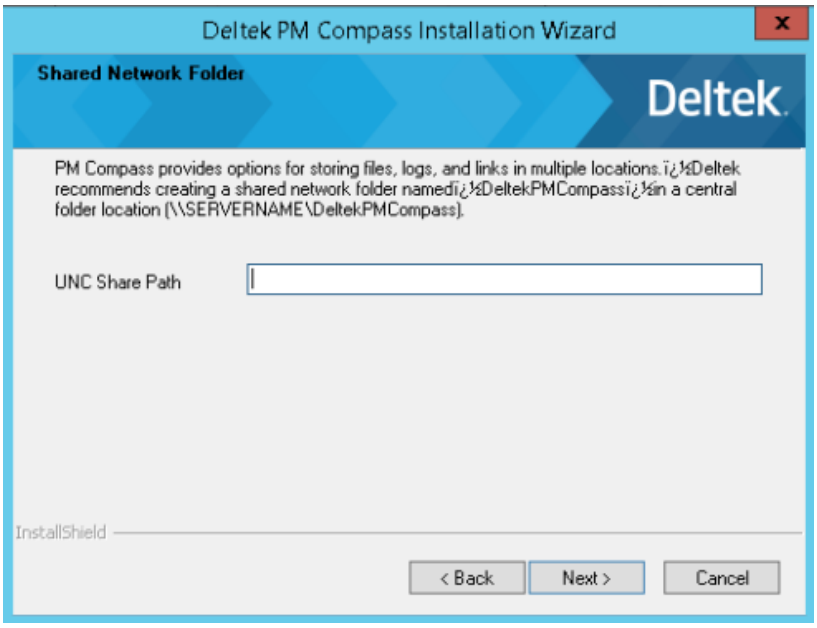


13. If you are integrating PM Compass with Primavera P6, specify the Primavera P6 UNC share location where you want to store the process logs on the Primavera P6 Integration Process Logs UNC Share Path screen. If the location for **MSPLogs** is already specified, the screen may not display.

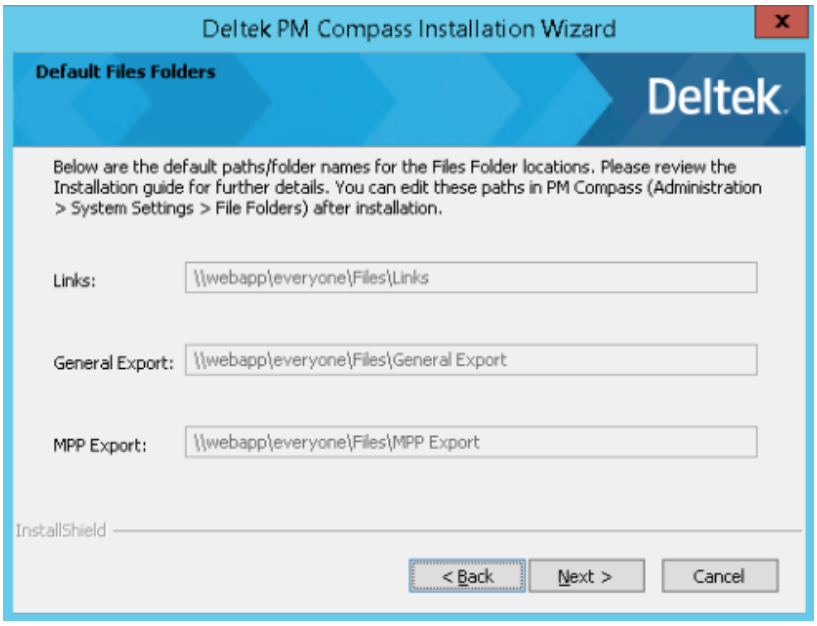


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

14. On the Shared Network Folder screen, specify the UNC share location where you want to store links, general export files, and MPP export files. For example, \\<servername>\DeltekPMCompass\.



15. On the Default Files Folders screen, the wizard displays the default Links, General Export, and MPP Export folder locations. You can edit these locations in PM Compass after the installation (**Administration » System Settings » File Folders tab**).



16. If you have an existing PM Compass database, the utility displays the Database Upgrade Script Options screen. Select a database script option and click **Next**.

    - **Automatically run upgrade scripts during the installation:** Select this option to upgrade the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts manually after the installation.
    - **Create batch file (UpgradePMCompassDB.bat) to run scripts manually**: Select this option to upgrade the PM Compass database tables manually after installation using a batch

file. The batch file is named **UpgradePMCompassDB.bat** and is located in the <PM Compass Installation Directory>\Databases\Scripts folder.

For example: C:\Program Files\Deltek\PMCompass\Scripts.

If this option is chosen, setup displays a message reminding you to run the batch file and pointing you to the location of the file.

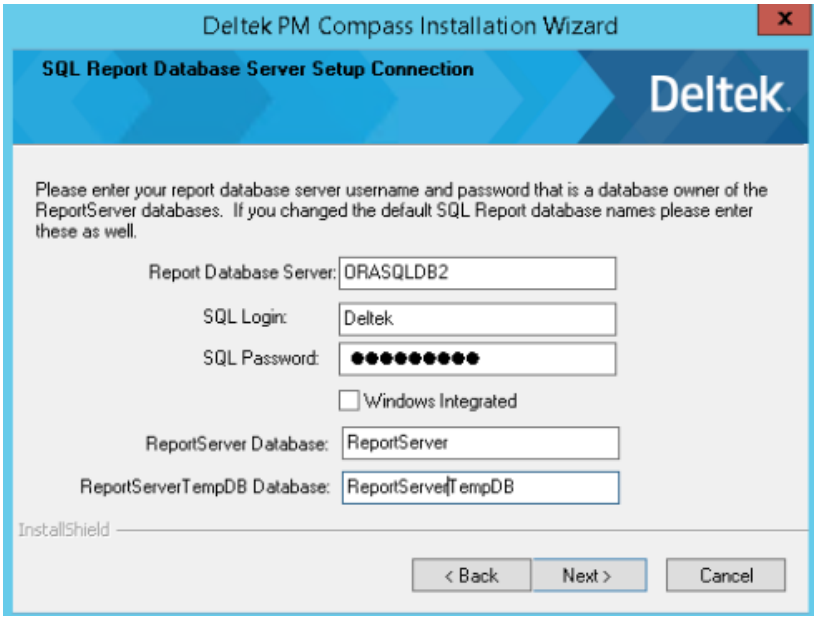
- **I will manually run the upgrade scripts. No batch file will be created:** Select this option to manually upgrade the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

> **Attention:** For more information, see Running Scripts Manually on SQL Databases.

Setup is ready to connect to the Report Server. PM Compass checks the Reporting Services Configuration Settings. Since this option is only for installing the Web/Application and Process server tiers, it does not have the connection information for your Report server.

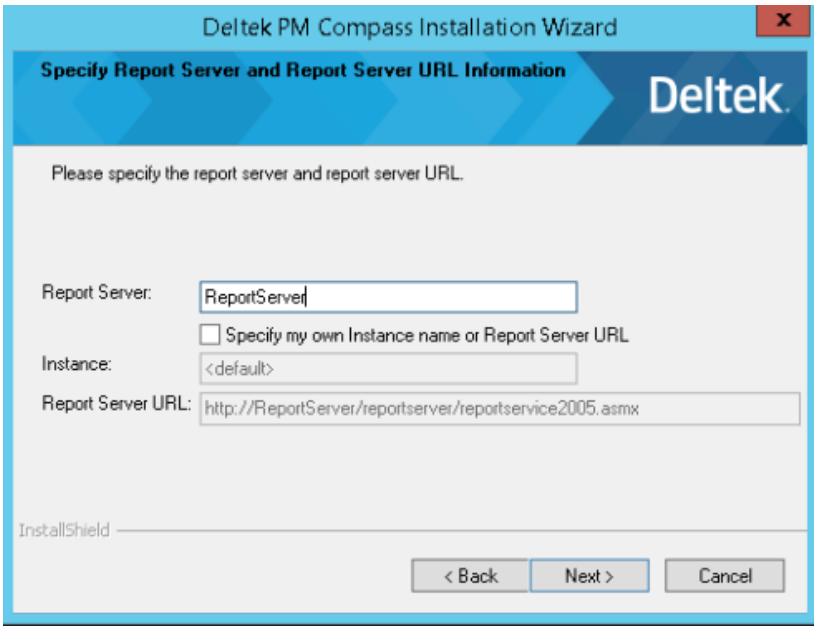
The PM Compass installation connects to the Report server and checks if it is the recommended version. If it is not the recommended version, a warning message informs you that setup is unable to validate all the information specified and to see the installation log for more details. Click **OK to** continue with the installation.

17. If the SQL Report Database Server Setup Connection page displays, specify the connection to the SQL Report Database server.

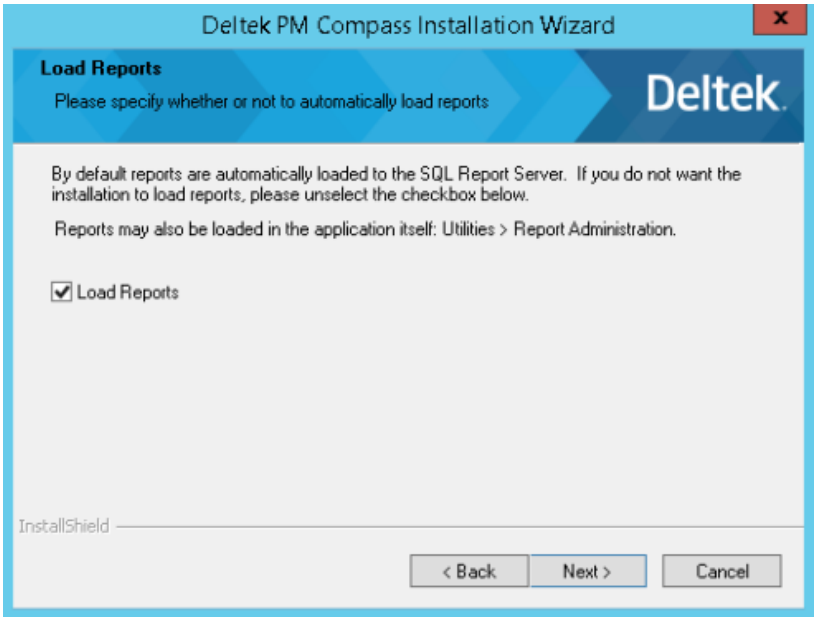


After you enter the required information and click **Next**, the setup connects to the Report server. If an error is encountered, a dialog box displays asking for the Report server and Report Server URL information.

Enter the necessary information in the appropriate fields, and click **Next**.



18. On the Load Reports screen, you can either select or clear the **Load Reports** checkbox.



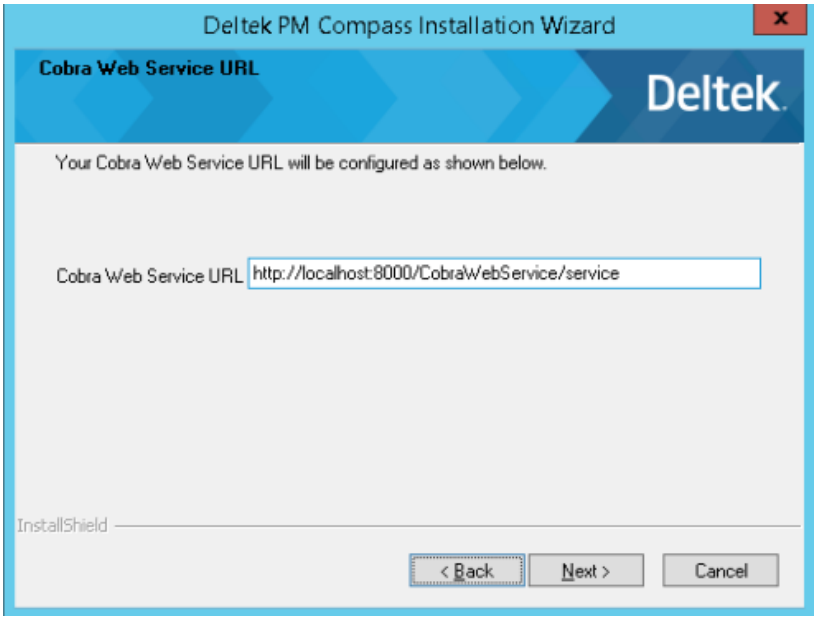
If you have multiple Web/Application servers connected to the same Report Server, you only need to load the reports the first time you run the installer on your first Web/Application server. You can clear the **Load Reports** checkbox on the subsequent Web/Application server installations since it reloads the same reports each time you run the installer on the additional Web/Application servers.

19. If your Web server contains multiple web sites, the Specify Web Site screen displays. Select the web site to which you will install PM Compass and click **Next**.

> **Note:** This screen does not display if you do not have multiple web sites on your server.

20. On the Cobra Web Service URL screen, click **Next**.

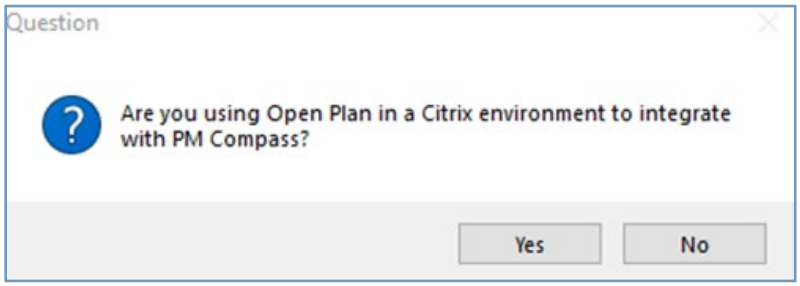
    By default, the wizard installs the Cobra Web Service on each Web/Application and Process server. Deltek strongly advises against making any changes to this.



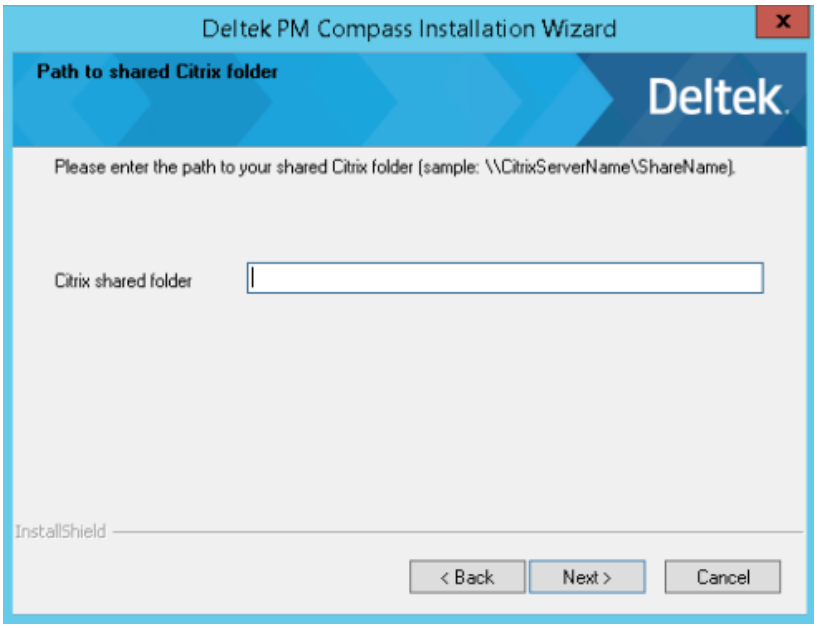
21. Choose whether PM Compass will be available for Citrix users.

> **Attention:** For additional information when deploying with Citrix, see "Using PM Compass with Citrix or Remote Desktop (ClickOnce Bypass)" in the *Deltek PM Compass Advanced Administration Guide*.

    Click **Yes** if you are using Open Plan in a Citrix environment. The installer will copy the PM Compass Web client ClickOnce Bypass files to a shared folder. The Open Plan client, running on a Citrix server, will then use this folder to launch the PM Compass client instead of launching it from a browser.



    On the Path to shared Citrix folder screen, enter the path to the shared Citrix folder, and click **Next**.



22. On the next screen, PM Compass displays a message informing you that you will have the option to restore a PM Compass sample database once the setup completes. Click **OK** to continue.
23. On the Start Copying Files screen, review the installation settings, and click **Next**.

    During the installation, the setup also loads the **report .rdl** files onto the Reporting Services Web Service. If the upload fails, the wizard displays an error message. Click **OK** to continue with the installation.

    > **Attention:** For steps to reload reports manually after installation, see "Appendix E: Load Standard PM Compass Reports" and "Log Files Generated During the Report-Loading Process" in this guide.

24. After the setup, the OPTIONAL - Automatically Restore Sample Database screen displays. This provides you with the option to restore a sample or demonstration copy of the database.
    - If you do not want to restore the sample database, select **No, do not restore at this time**, and click **Next**, then skip to the last step in this section.
    - If you choose to restore the Sample database, select **Yes, restore now to begin the restoration**, and click **Next**.

    > **Note:** If you prefer to restore the sample database later, you can restore it onto your Report Server database engine (Oracle) or Microsoft SQL Server database server (SQL Server) using the Deltek PM Compass Sample Database Restore Wizard. For more information, see "Appendix I: How to Run the Deltek PM Compass Sample Database Restore Wizard" in this guide.

25. If you choose to restore the sample database, on the Deltek PM Compass Sample Database Restore Wizard screen, click **Next**.
26. If the SQL login that you entered previously is not a member of the System Administrator role, the Database Server (MSSQL) Setup Connection Information screen displays. Specify the SQL

Server credentials that have SYSADMIN role membership in the Database server where the restore will take place, and click **Next**.

27. The Path to PM Compass installation folder screen shows the location of the backup files on the SQL Server Database server. Unless you have installed PM Compass onto a different drive or location, accept the default value, and click **Next**.
28. On the Ready to Install screen, click **Install**.
29. On the Deltek PM Compass Sample Database Restore Wizard Complete screen, click **Finish**.
30. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing the Web/Application, Report, and Process server tiers on the server.

Note: If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

NEXT STEP: Installing Cumulative Updates/HotFix

Install on Three or More Servers Steps

The Three or More Servers installation model is designed for large organizations with large processing requirements and load balancing needs. Firms deploying this model must have proficient firewall management.

In order to install PM Compass to run on three or more servers, you will log into each of the servers and run the installation tier from that server. During the installation, you will be asked which tier you are installing:

- **Database Server**: This installation is only run if you are storing your data on a SQL Server database. If you intend to store your data on an Oracle database, skip this step.
- **Report Server**: This installation will be performed in a server where SQL Server Reporting Services (SSRS) is to be installed. The server will be used to generate reports and dashpart reporting. If you are an Oracle user, the sample database backup will be copied to this server.
- **Process Server**: PM Compass has a Process server that looks for scheduled requests and performs actions such as completing a change request. You can have one or more Process servers to manage these requests.
- **Web/Application Server**: The PM Compass application is run on a server with IIS installed. The application server takes request from the client and makes requests to the following:
  - The Process server
  - The Cobra engine
  - The Open Plan engine

Typically, you disable the Process Server services on this server to free up resources for the application and the Cobra and Open Plan engines. This server can be load balanced using software or hardware.

Attention: For more information, see the *Deltek PM Compass Advanced Administration Guide*.

Note:

- The Database, Web/Application, and Report servers must all be on different servers.
- To implement the three or more servers deployment model, follow distinct installation procedures for each server: install the Web and Application tier on one server, the Report tier on a second server, and the Database tier on a third server.

Step 1: Install the Database Tier (Optional)

This installation step is optional.

- **Oracle**: Do not run any PM Compass installations on the Oracle Database server. Any connections that are needed are made to the database when you run the installer on your web/application server.

  NEXT STEP: See Step 2: Install the Report Server.

- **SQL Server**: You do not need to perform this installation if your database tier is on its own server unless you plan to use the sample database.
- If you are not using a Domain Service Account, you must run this installation to create a local account named **DeltekPMCompass** to match the default local account created by the installer on the Web/Application and Process server tiers.
- You must ensure that the password is the same for the local DeltekPMCompass account on each of the servers.
- You must add the account to the **db_owner** role in the ReportServer, ReportServerTempDB, and your PM Compass database.

Attention: For more information, see "How to Give Your Account Proper Rights and Privileges in Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide.

To install the Database tier for a three or more-server deployment:

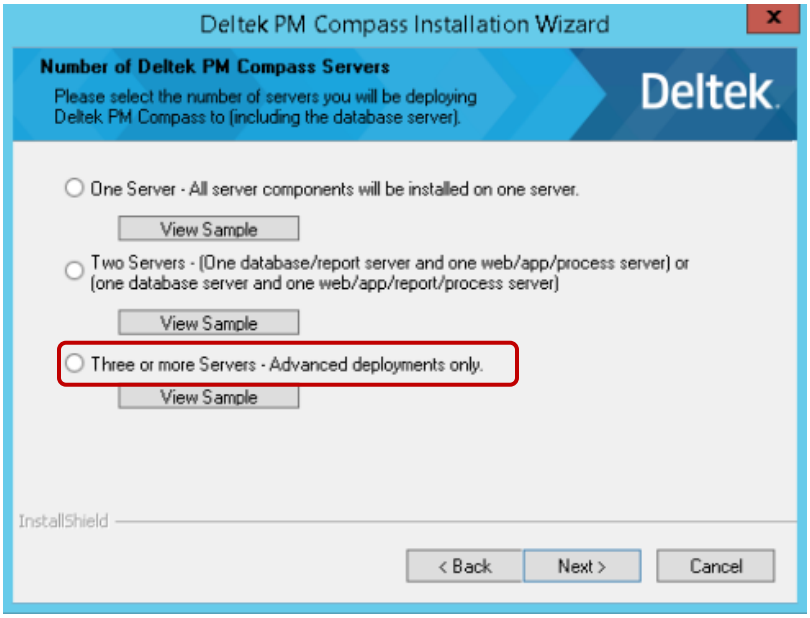
1. Log into the Database server as the Domain Service Account user.

   If your server is not part of a domain, log in as a local account.

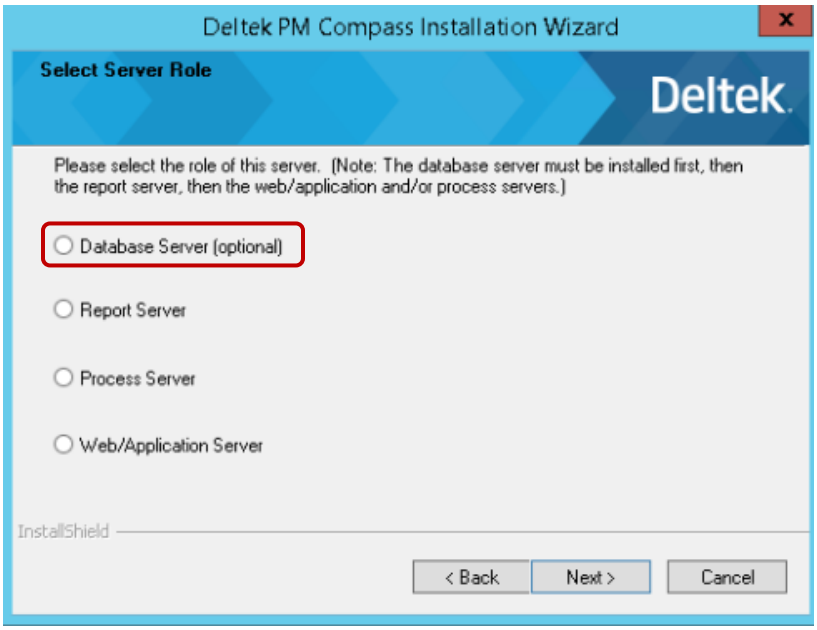
   Attention: For more information, see "Domain Service Account vs. Default Local Account" in this guide.

2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Three or More Servers** option, and click **Next**.



7. On the Select Server Role screen, select the **Database Server** option, and click **Next**.



8. On the Start Copying Files screen, review the installation settings, and click **Next**.
9. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

   If prompted, you can restart your computer after installing the database tier on the server.

Note: If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

Proceed to Step 2: Install the Report Server.

Step 2: Install the Report Server

Before you run the Report server installation, ensure that you have SQL Server Reporting Services (SSRS) installed and configured.

> **Attention:** For more information, see "Appendix C: Microsoft SQL Server Reporting Services" in this guide.

If you already have SSRS installed, verify that its configuration aligns with the information provided in this guide.

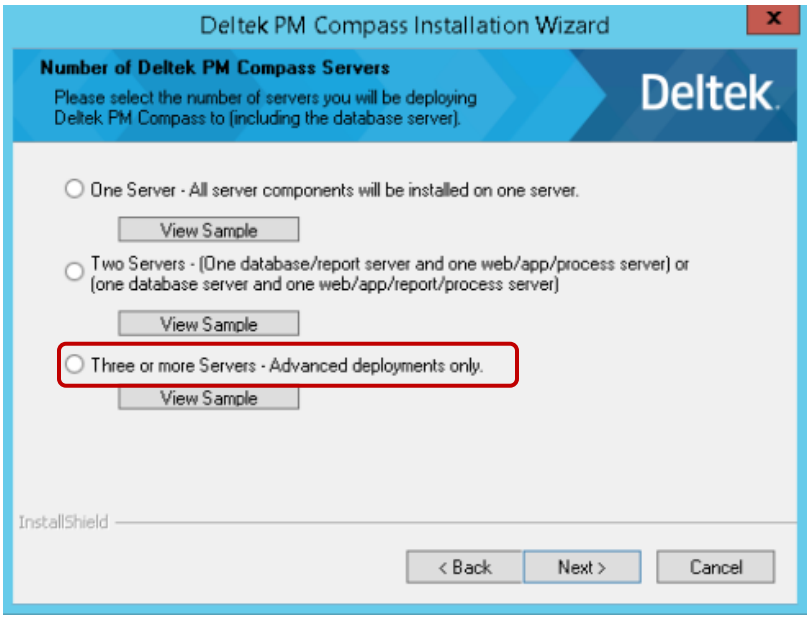
> **Attention:** For more information, see "Configure Microsoft SQL Server Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide.
>
> If you are unfamiliar with the Reporting Services configuration settings, see "Connect to the Report Server" in the same appendix.

Once you have confirmed proper SSRS installation and configuration, and you know how to connect to the Web Service, proceed with installing the Report server tier.

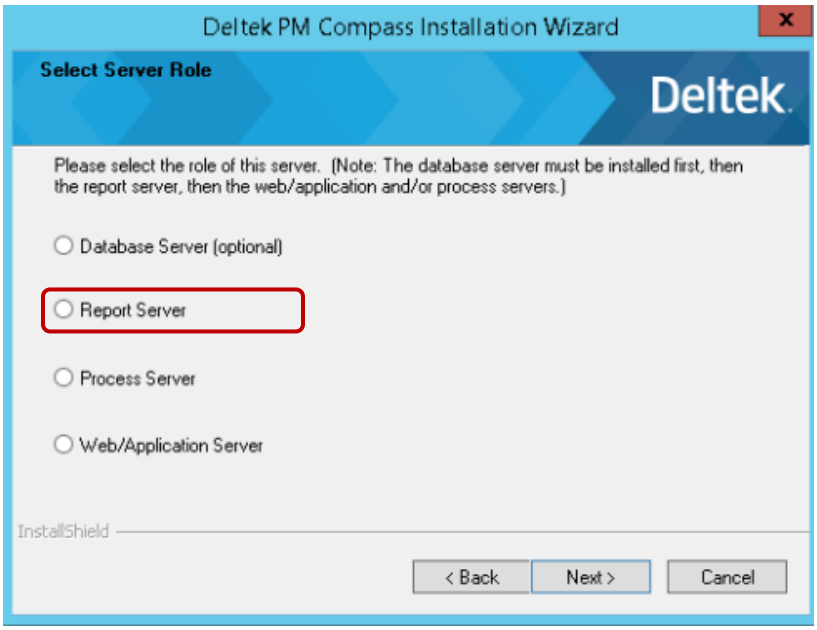
To install the Report server for a three or more-server deployment:

1. Log into the Report server as the Domain Service Account user.
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Three or More Servers** option, and click **Next**.



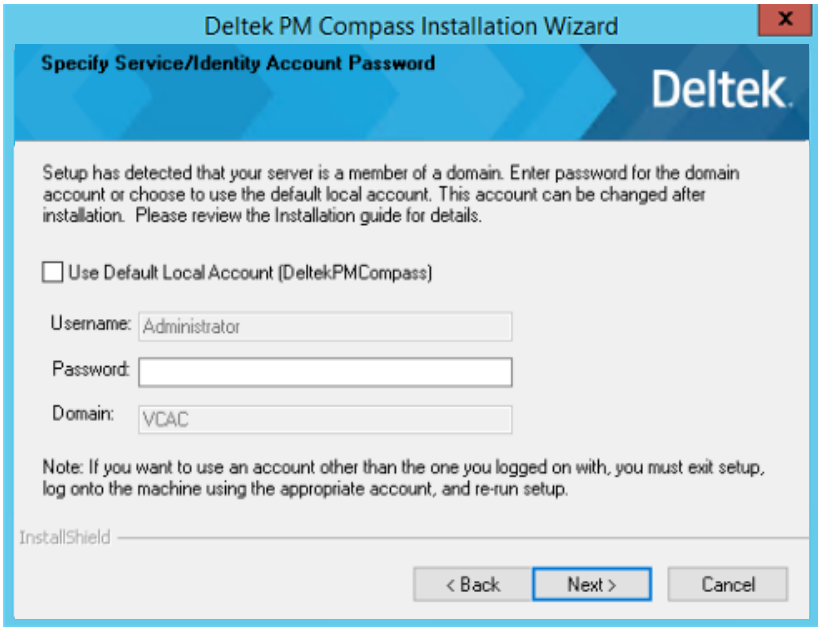
7. On the Select Server Role screen, select the **Report Server** option, and click **Next**.



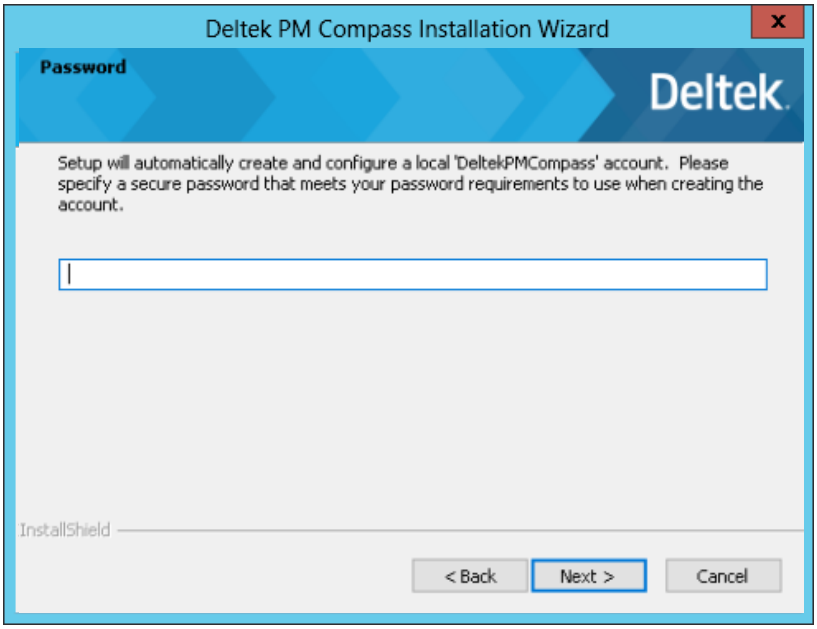
8. Setup displays a message asking if you have an Oracle database.
   - Select **Yes** to verify the Oracle version and client installation.
   - Select **No** to continue.
9. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
   - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:
     - Enter the password for the Domain Service Account, and click **Next**.

- If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

Attention: For more information, see "Domain Service Account vs. Default Local Account" in this guide.



- If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass**) on the Specify Service/Identity Account Password screen, the Password screen displays.

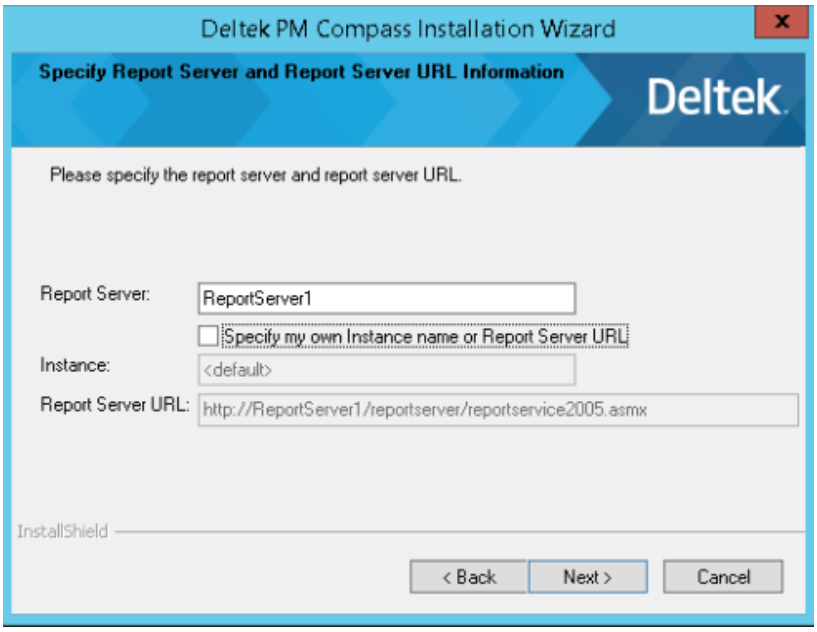


> **Warning:** You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.

After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

10. On the Specify Report Server and Report Server URL Information screen, enter the necessary information in the appropriate fields, and click **Next**.

    This screen displays if the setup is unable to determine the Report server information.



> **Attention:** For more information, see "Configure Microsoft SQL Server Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide.
>
> If you are unfamiliar with the Reporting Services configuration settings, see "Connect to the Report Server" in the same appendix.

11. On the Start Copying Files screen, review the installation settings, and click **Next**.
12. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing the Report server tier on the server.

> **Note:** If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

Proceed to Step 3: Install the Web/Application Server to install the Web/Application Server on a different server**.**

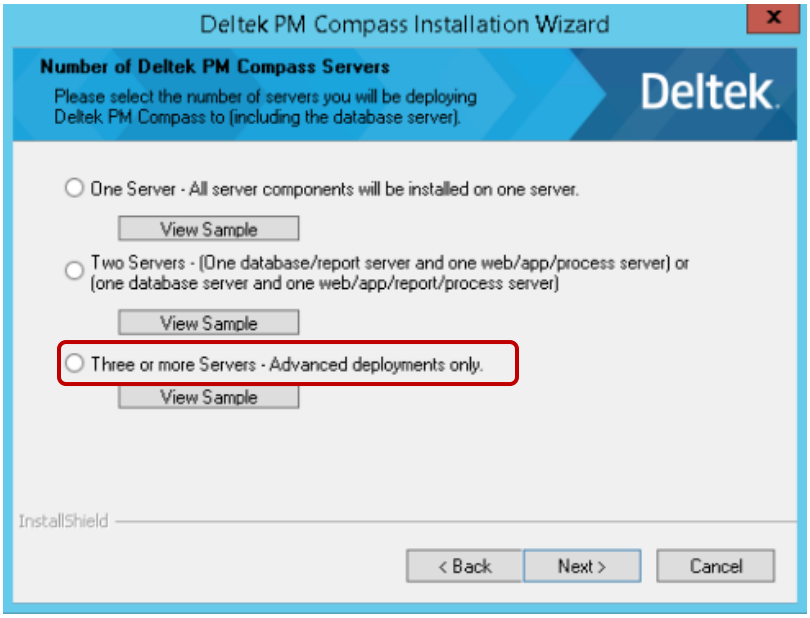
Step 3: Install the Web/Application Server

Follow this procedure to install the Web/Application server.

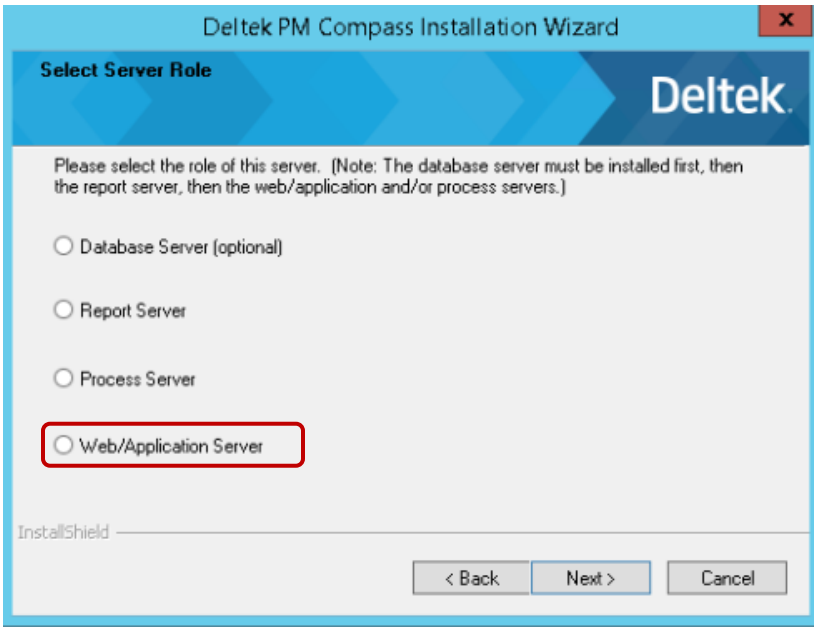
To install the Web/Application Server for a three or more-server deployment:

1. Log into the Web/Application server as the Domain Service Account user.
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Three or More Servers** option, and click **Next**.

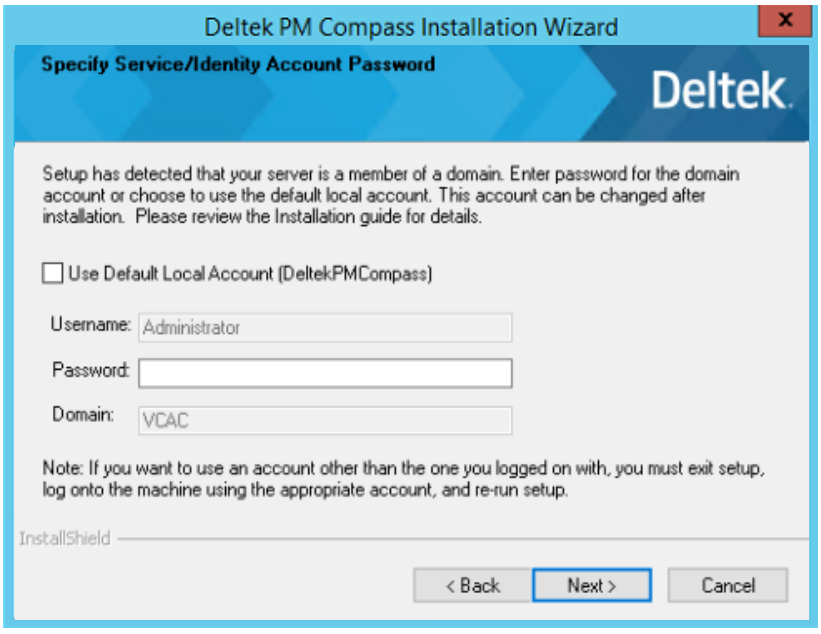


7. On the Select Server Role screen, select the **Web/Application Server** option, and click **Next**.

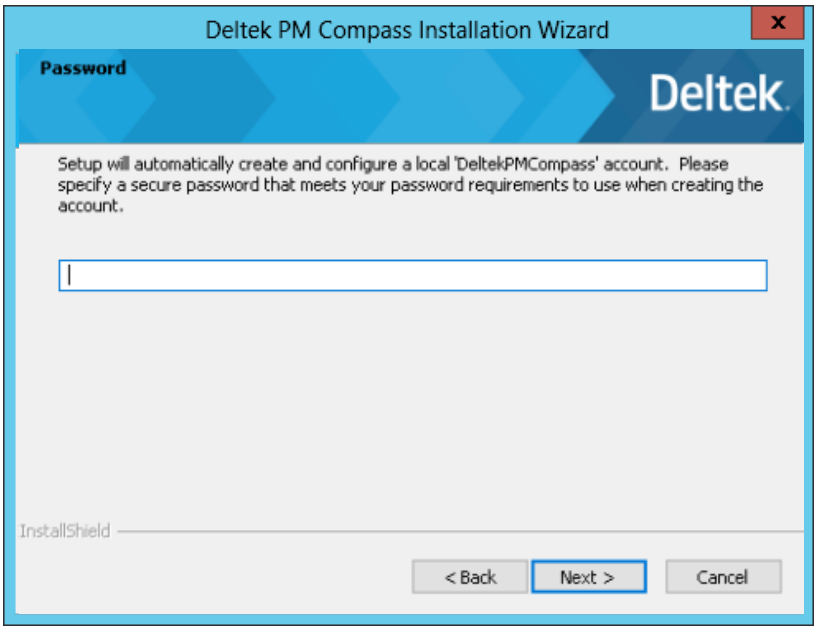


8. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
   - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:
     - Enter the password for the Domain Service Account, and click **Next**.
     - If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

> **Attention:** For more information, see "Domain Service Account vs. Default Local Account" in this guide.



- If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass)** on the Specify Service/Identity Account Password screen, the Password screen displays.



Warning: You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.

After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

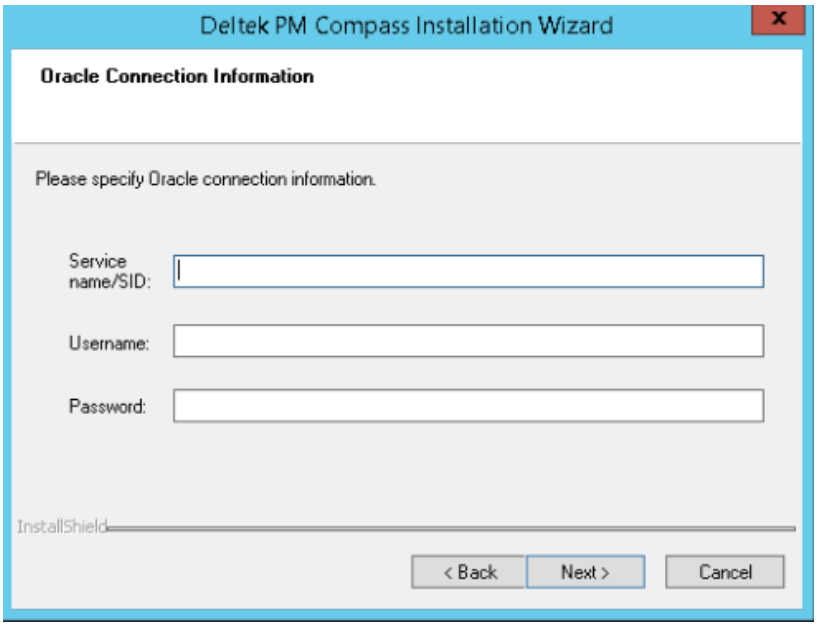
9. On the Database Platform screen, select **Oracle** or **Microsoft SQL Server,** and click **Next**.
10. The next screen depends on whether you selected **Oracle** or **Microsoft SQL Server**. Refer to the section below that corresponds to your selected database.

Oracle Database

The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

Attention: For more information, see "Storing PM Compass Data on an Oracle Database" in this guide.

On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

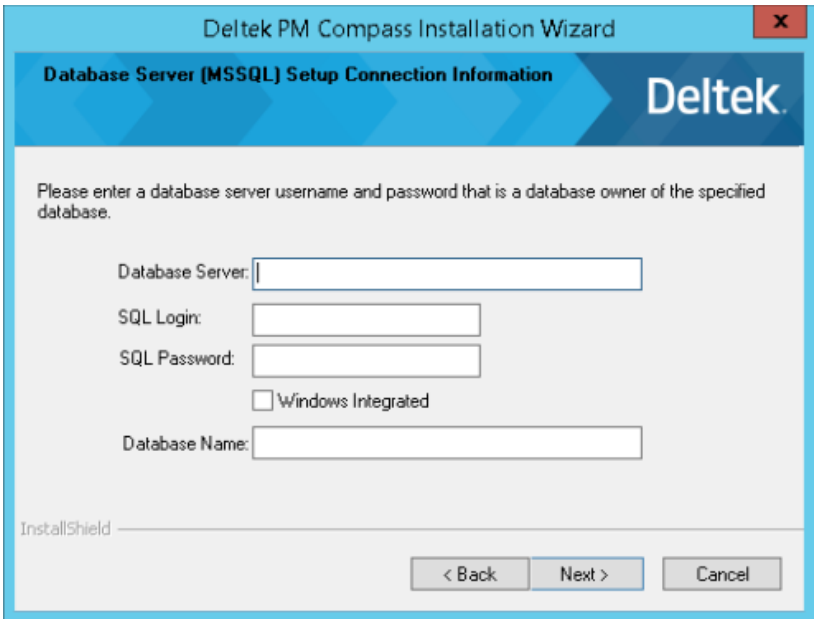
- SID is found in tnsnames.ora.
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

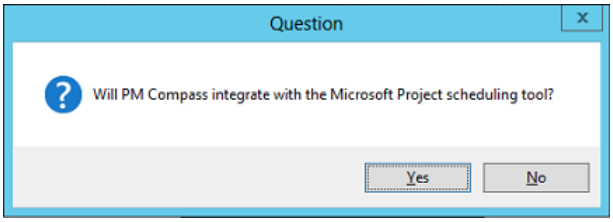
  - **SQL Password**: Enter the password associated with this SQL login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

The following validations are performed:

- Username/password are correct.
- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

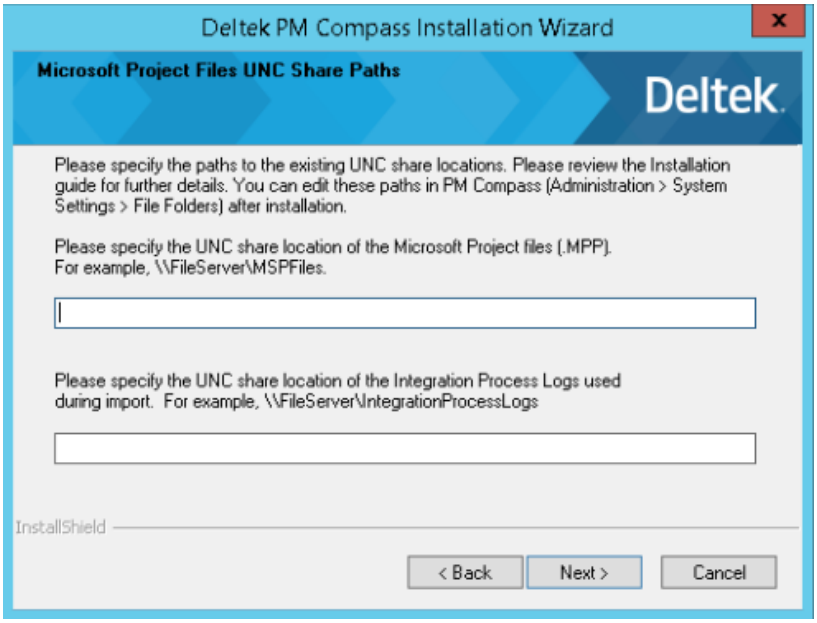
If any of these validations fail, the wizard displays a message, and the setup exits.

11. Choose whether PM Compass integrates with the Microsoft Project scheduling tool.



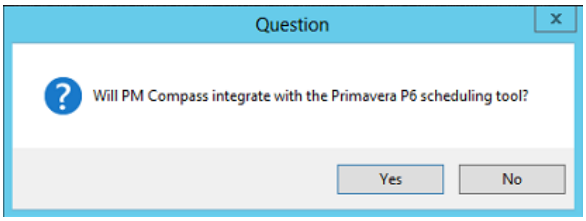
- If you are using Microsoft Project as a PM Compass scheduling tool, enter the UNC share location for the MSP Files and Process Logs folders, and click **Next**.
- If you are not using Microsoft Project as a PM Compass scheduling tool, leave the UNC Share Path fields blank, and click **Next**.

> **Attention:** To manually configure the system after the installation, see "Appendix N: Integrating with Microsoft Project" in this guide.

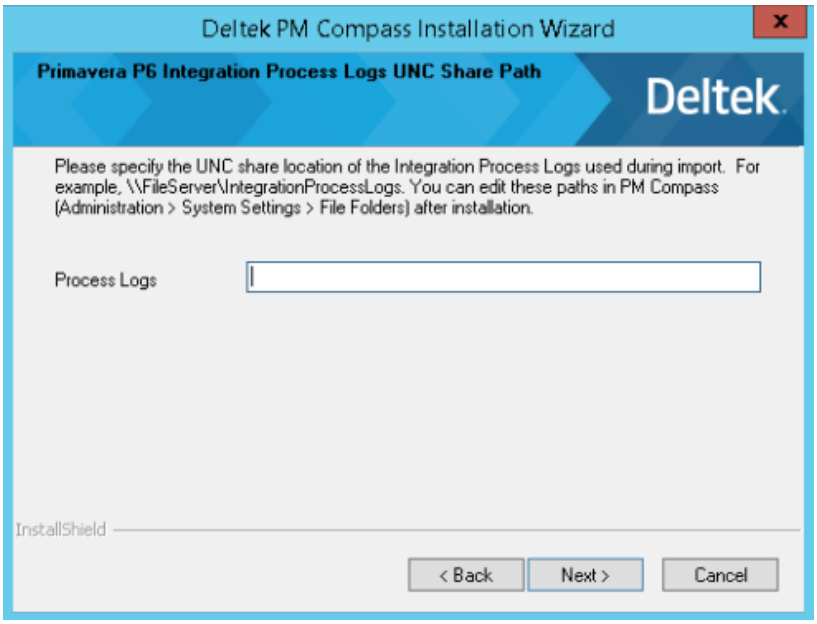


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

12. Choose whether PM Compass integrates with the Primavera P6 scheduling tool.

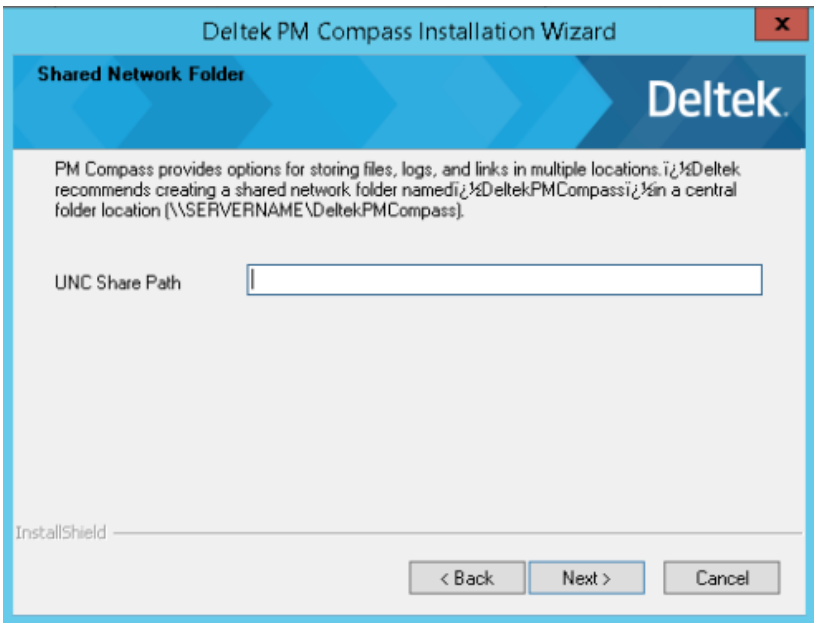


13. If you are integrating PM Compass with Primavera P6, specify the Primavera P6 UNC share location where you want to store the process logs on the Primavera P6 Integration Process Logs UNC Share Path screen. If the location for **MSPLogs** is already specified, the screen may not display.

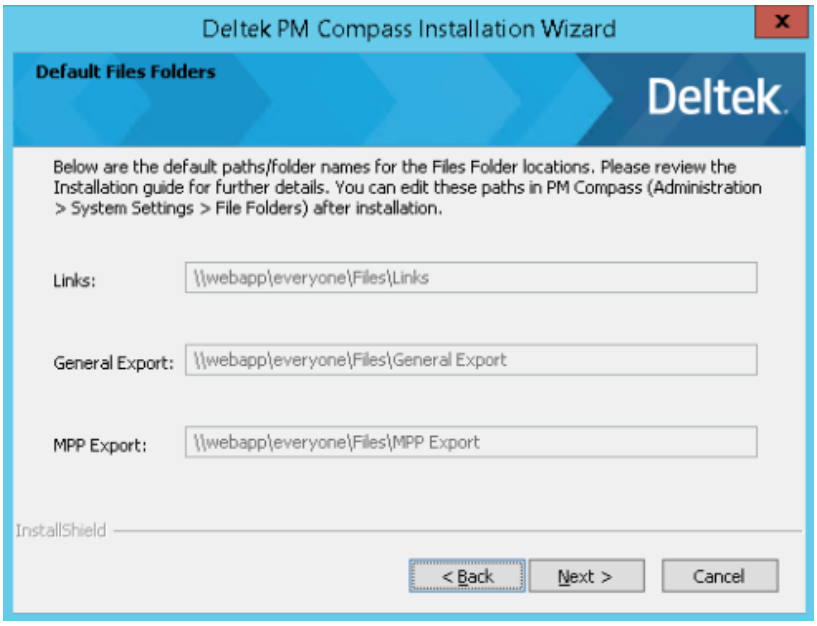


Attention: For information about the permissions required for these folders, see "File Share Requirements" in this guide.

14. On the Shared Network Folder screen, specify the UNC share location where you want to store links, general export files, and MPP export files. For example, \\<servername>\DeltekPMCompass\.



15. On the Default Files Folders screen, the wizard displays the default Links, General Export, and MPP Export folder locations. You can edit these locations in PM Compass after the installation (**Administration » System Settings » File Folders tab**).



16. If the setup detects a script needs to be run, the Script Options screen displays allowing you to choose one the following options:
    - Automatically by the installation
    - Manually using a batch (.bat) file
    - Manually using .sql script files

    The screen that displays depends on whether you are using a new or existing database. Refer to the section below that corresponds to your database.

    > **Note:** The PM Compass installation does not automatically back up your database before applying any scripts. Make a backup of your database before selecting any of the options on this screen.

    New Database

    If you have a new PM Compass database, or you are applying PM Compass for the first time to your Cobra or Open Plan database, the utility displays the Database Script Options screen.

    Select a database script option and click **Next**.

    - **Automatically run scripts during the installation — creates the PM Compass tables**: Select this option to create the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts after the installation.
    - **Create batch file (CreatePMCompassTables.bat) to run scripts manually**: Select this option to create the PM Compass database tables manually after installation using a batch file. The batch file is named **CreatePMCompassTables.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.
    - **I will manually run the scripts to create the PM Compass tables. No batch file will be created**: Select this option to manually create the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

> **Attention:** For more information, see "Run Scripts Manually on SQL Databases" under "Appendix G: Run Scripts Manually on a SQL Database" in this guide.

> **Note:** Database conversion log files are saved into the **<PM Compass Installation Directory>\Logs\ScriptLogs** folder. For more information, see "Conversion Log" under "Check the Log Files After Installation" in this guide,

Existing Database

If you have an existing PM Compass database, the utility displays the Database Upgrade Script Options screen.

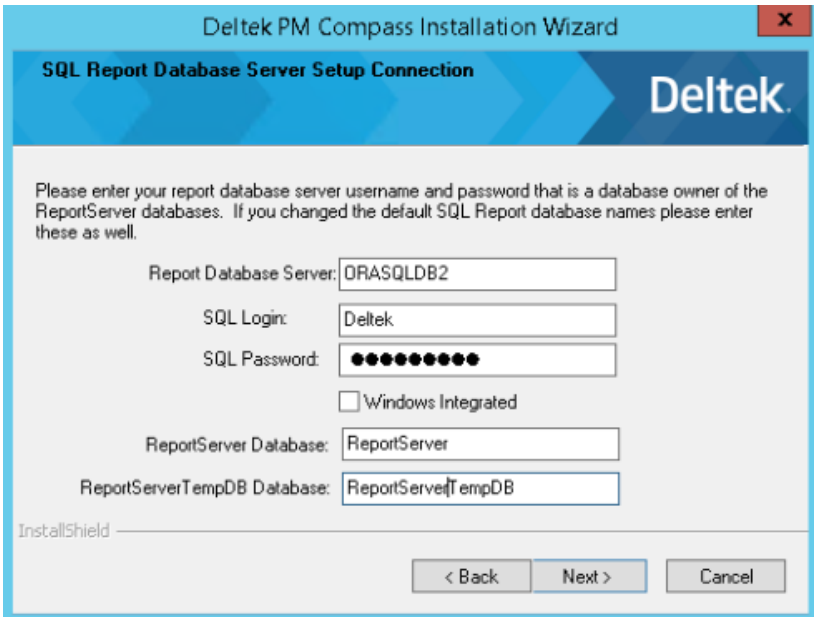
Select a database script option and click **Next**.

- **Automatically run upgrade scripts during the installation**: Select this option to upgrade the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts manually after the installation.
- **Create batch file (UpgradePMCompassDB.bat) to run scripts manually**: Select this option to upgrade the PM Compass database tables manually after installation using a batch file. The batch file is named **UpgradePMCompassDB.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

  If you select this option, the wizard displays a message reminding you to run the batch file and pointing you to the location of the file.
- **I will manually run the upgrade scripts. No batch file will be created**: Select this option to manually upgrade the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

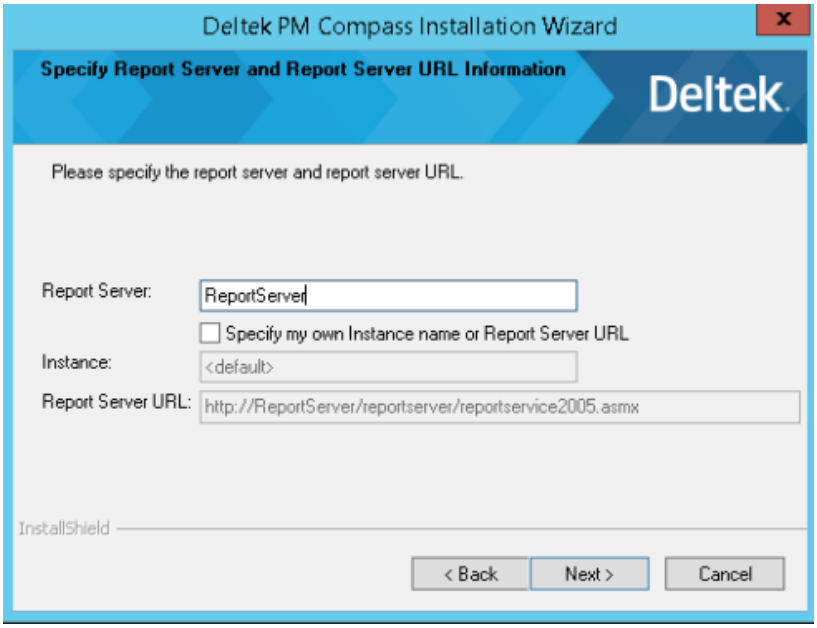
> **Attention:** For more information, see "Run Scripts Manually on SQL Databases" under "Appendix G: Run Scripts Manually on a SQL Database" in this guide.

17. If the SQL Report Database Server Setup Connection screen displays, specify the connection to the SQL Report Database server.



After you enter the required information and click **Next**, the setup connects to the Report server. If an error is encountered, a dialog box displays asking for the Report server and Report Server URL information.

Enter the necessary information in the appropriate fields, and click **Next**.

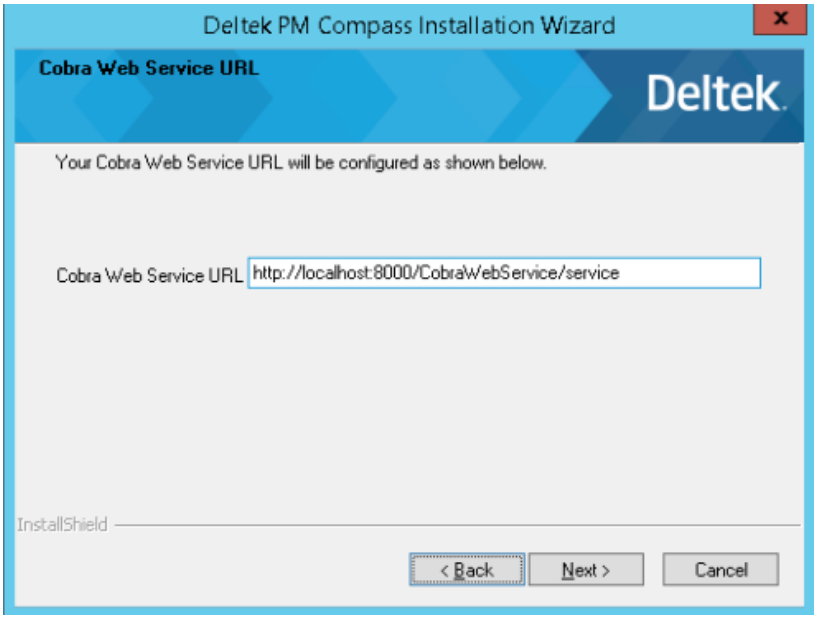


Attention: For more information, see “Configure Microsoft SQL Server Reporting Services” under “Appendix C: Microsoft SQL Server Reporting Services” in this guide.

If you are unfamiliar with the Reporting Services configuration settings, see “Connect to the Report Server” in the same appendix.

18. If your web server contains multiple web sites, the Specify Web Site screen displays. Select the website to which you will install PM Compass, and click **Next**.
19. On the Cobra Web Service URL screen, click **Next**.

    By default, the wizard installs the Cobra Web Service on each Web/Application and Process server. Deltek strongly advises against making any changes to this.



20. On the next screen, PM Compass displays a message informing you that you will have the option to restore a PM Compass sample database once the setup completes. Click **OK** to continue.
21. On the Start Copying Files screen, review the installation settings, and click **Next**.

    During the installation, the setup also loads the report .rdl files onto the Reporting Services Web Service. If the upload fails, the wizard displays an error message. Click **OK** to continue with the installation.

> **Attention:** For steps to reload reports manually after installation, see "Appendix E: Load Standard PM Compass Reports" and "Log Files Generated During the Report-Loading Process" in this guide.

22. After the setup, the OPTIONAL - Automatically Restore Sample Database screen displays. This provides you with the option to restore a sample or demonstration copy of the database.
    - If you do not want to restore the sample database, select **No, do not restore at this time**, and click **Next**, then skip to the last step in this section.
    - If you choose to restore the Sample database, select **Yes, restore now to begin the restoration**, and click **Next**.

> **Note:** If you prefer to restore the sample database later, you can restore it onto your Report Server database engine (Oracle) or Microsoft SQL Server database server (SQL Server) using the Deltek PM Compass Sample Database Restore Wizard. For more information, see "Appendix I: How to Run the Deltek PM Compass Sample Database Restore Wizard" in this guide.

23. If you choose to restore the Sample Database, on the Deltek PM Compass Sample Database Restore Wizard screen, click **Next**.
24. If the SQL login that you entered previously is not a member of the System Administrator role, the Database Server (MSSQL) Setup Connection Information screen displays. Specify the SQL Server credentials that have a SYSADMIN role membership in the Database server where the restore will take place, and click **Next**.
25. The Path to PM Compass installation folder screen shows the location of the backup files on the SQL Server Database server. Unless you have installed PM Compass onto a different drive or location, accept the default value, and click **Nex**t.
26. On the Ready to Install screen, click **Install**.
27. On the Deltek PM Compass Sample Database Restore Wizard Complete screen, click **Finish**.
28. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing the Web/Application tier on the server.

    Setup restores the database on the SQL Server Database server (or on the Report Database server if you have an Oracle database) and adds a new entry into Weblink for that database before returning control to the PM Compass Installation Wizard. The wizard will wait for the database to restore, which may take a few minutes.

> **Note:** If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For more information on the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

Proceed to Step 4: Install the Process Server to install the Process Server on a different server.

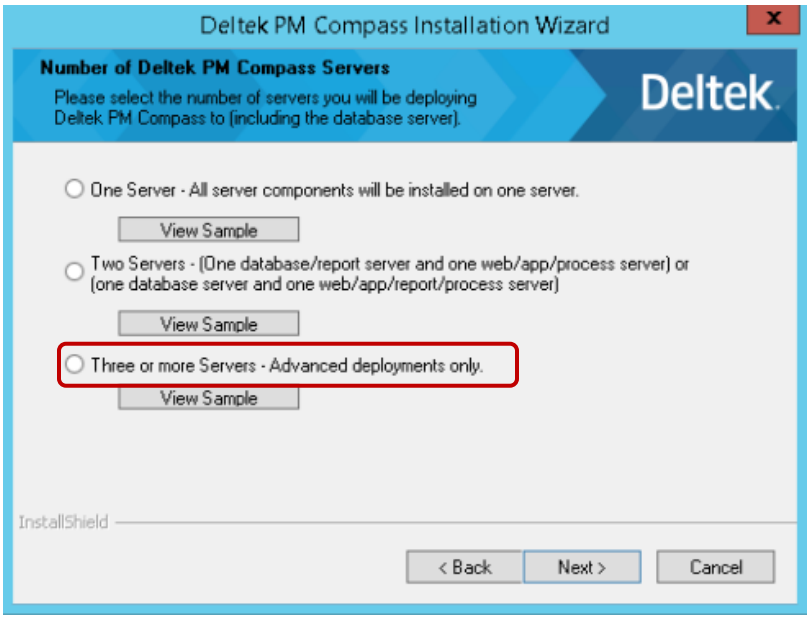
Step 4: Install the Process Server

Follow this procedure to install the Process server.

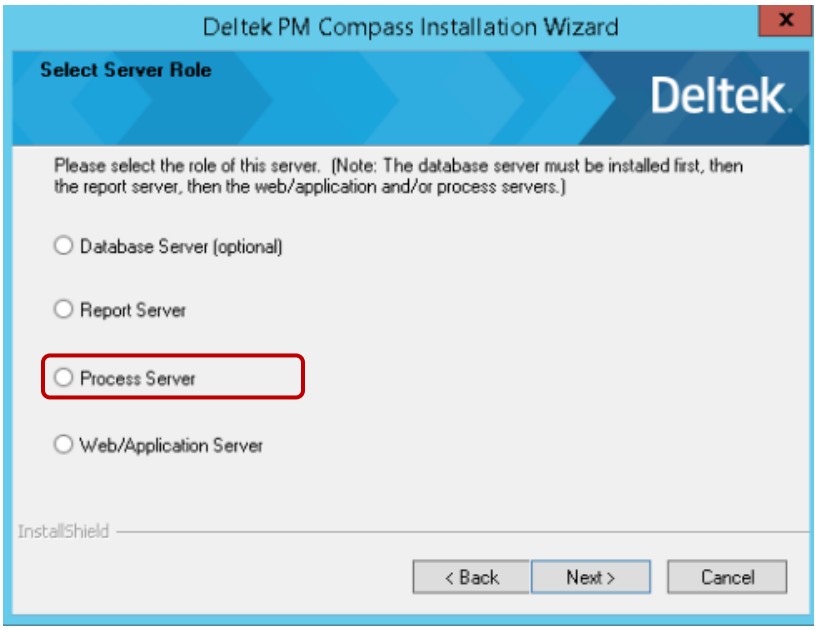
To install the Process server for a three or more-server deployment:

1. Log into the Process server as the Domain Service Account user.
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.

   This screen displays the items that the installation checks. If the criteria are not met for the particular tier, the wizard may display a message, or the setup may exit.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. On the Select Destination screen, specify the location where you want to install PM Compass and its components, and click **Next**.
6. On the Number of Deltek PM Compass Servers screen, select the **Three or More Servers** option, and click **Next**.



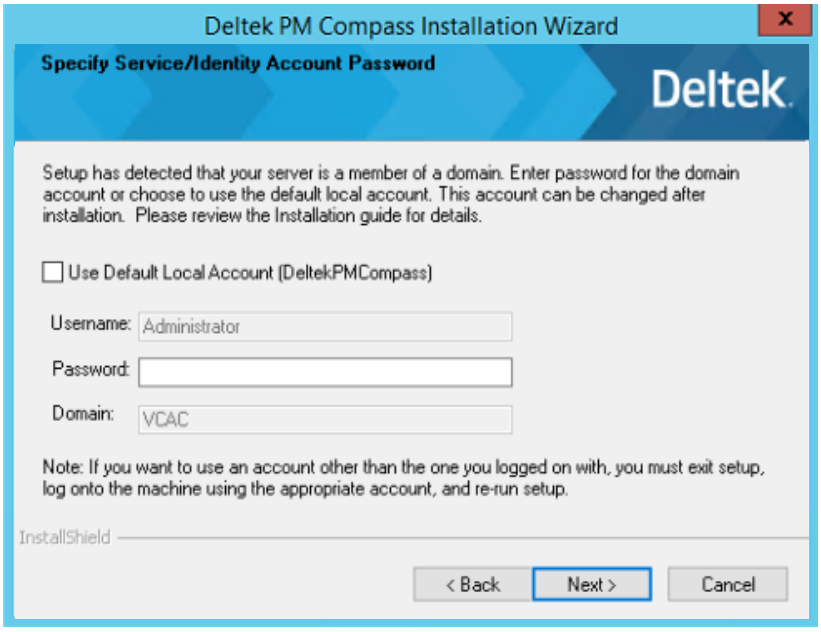
7. On the Select Server Role screen, select the **Process Server** option, and click **Next**.



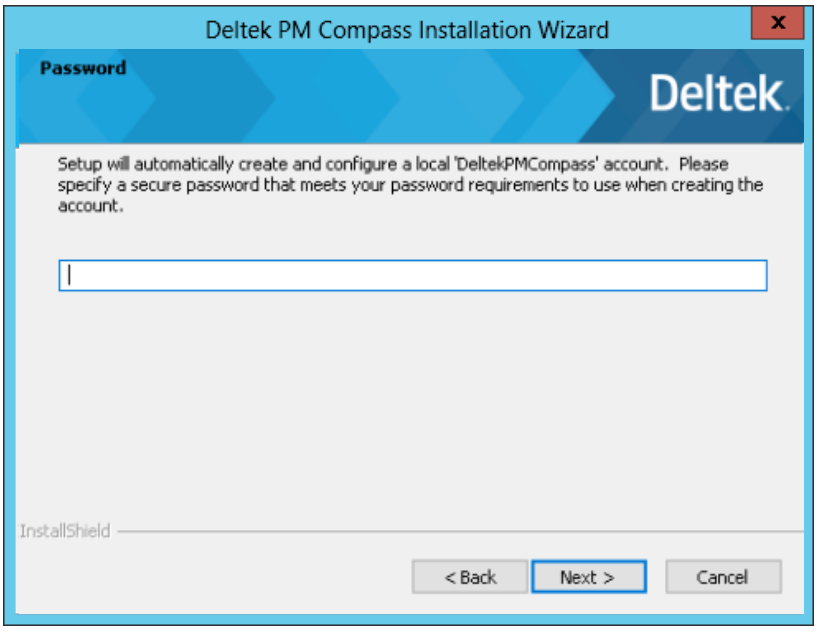
8. Setup displays a message asking if you have an Oracle database.
   - Select **Yes** to verify the Oracle version and client installation.
   - Select **No** to continue.
9. If IIS is enabled on the Process server, PM Compass displays a warning message stating that IIS is not required. Click **OK**.
10. During installation, PM Compass utilizes an account to execute application processes on the server. Setup prompts you to provide the password under one of two conditions.
    - If you are logged in using a Domain Service Account, the Specify Service/Identify Account Password screen displays. Do one of the following:

- Enter the password for the Domain Service Account, and click **Next**.
- If you do not want to use a domain account, select **Use Default Local Account (DeltekPMCompass),** and click **Next**.

Attention: For more information, see "Domain Service Account vs. Default Local Account" in this guide.



- If you are logged in as a local (non-domain) account, or if you selected **Use Default Local Account (DeltekPMCompass**) on the Specify Service/Identity Account Password screen, the Password screen displays.

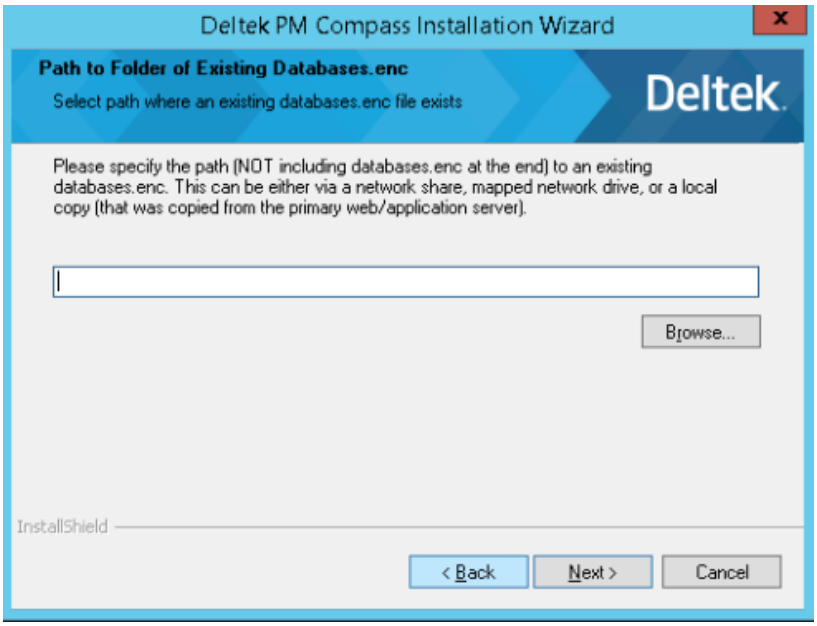


> **Warning:** You must specify a secure password for the account that meets the password policy. Setup does not save this password nor log it anywhere, so you must keep a record.

After you enter your password and click **Next**, you must enter it again to verify that you have entered it correctly, and click **Next**.

11. On the Path to Folder of Existing Databases.enc screen (for Weblink), click **Browse** to locate the Web server containing **databases.enc**, and click **Next**.

    The default location (if using the hidden administrative share) is: \\<web/application server>\C$\Program Files\Deltek\EPMSA\.



12. Setup displays a message that you need to copy **databases.enc** from the Web/Application server when changes are made to the file. Click **OK**.

    The **databases.enc** file resides on the Web/Application servers. During the installation of any dedicated Process server, this file is copied from the Web/Application server to those servers. Weblink maintains a list of databases that display on the Web/Application server when logging into PM Compass. In addition, it provides instructions to the dedicated Process server on how to connect to the Database and Report servers.

    Launch the Weblink utility on the Web/Application server.

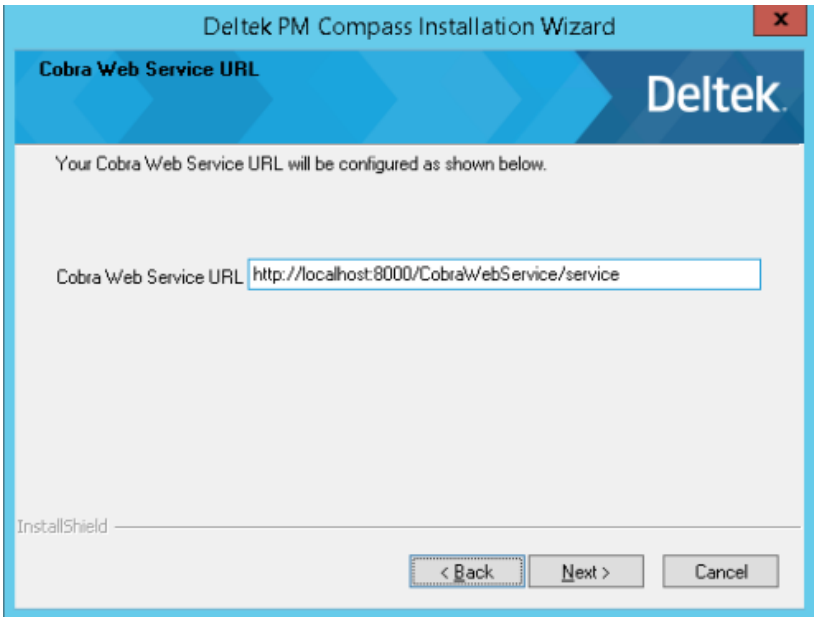
> **Note:** If you make changes in Weblink and you are not using a shared **databases.enc** file, you must copy the **databases.enc** file from the server where you used Weblink to all other Web/Application Server and Process Server servers and restart the Deltek PM Compass Process Server service on each server. This ensures that each server is using the same configuration.
>
> If you have multiple servers and you want to automate the process, Deltek has a script that you can use. Refer to KB article #85452. Deltek recommends that you test the script before using it on your production servers.
>
> For more information about shared **databases.enc**, see "Configure a Shared Location for Databases.enc" in the *Deltek PM Compass Advanced Administration Guide*.

The default location of the databases.enc file on the Web/Application servers as well as the dedicated Process server is "<C:\Program Files\Deltek\EPMSA>."

> **Note:** Deltek does not recommend creating a folder share to the PM Compass folder containing the **databases.enc** file on the Web server. Deltek recommends that you use the hidden administrative share to access the drive and folder.
>
> For example, **\\WebServerName\C$\Program Files\Deltek\PMCompass**.

13. On the Cobra Web Service URL screen, if you modified the Cobra Web Service installed by PM Compass to use a dedicated server, replace the **localhos**t entry with the name of your Cobra Web Service server. Otherwise, accept the entry or leave the field blank and click **Next**.

> **Note:** By default, the wizard installs the Cobra Web Service on each Web/Application and Process server. Deltek strongly advises against making any changes to this.



14. On the Start Copying Files screen, review the installation settings and click **Next**.
15. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

If prompted, you can restart your computer after installing the Process server tier on the server.

Note: If you encountered any errors during the installation, contact the Deltek Support Center and send the installation log file. For more information on the log file location, see "Temporary Log Files and the Log Files Folder" in this guide.

- Repeat this procedure for any server where you want to install additional Process servers.
- To add and configure dedicated Process servers in PM Compass, see "Step 2" in the Web/Application Server Post-Installation Checklist.

NEXT STEP: See Installing Cumulative Updates/HotFix.

Installing Cumulative Updates/HotFix

A single installer is created for each major release, such as PM Compass version 8.4, cumulative updates are released towards the end of each month. You must first run the installation for the release, and then apply any existing cumulative updates.

To install the cumulative update:

1. From the Deltek Software Manager, download the cumulative update from the HotFix section.
2. On each Application and Web server, launch the **PMCompass84CU<number>.exe**.

NEXT STEP: See Installing Sub-Releases.

Installing Sub-Releases

Each of these sub-releases must be installed:

- The sub-release for Cobra that matches your install. Either:
  - Deltek Cobra 8.4 Integration for PM Compass 8.4
  - Deltek Cobra 8.5 Integration for PM Compass 8.4
- The sub-release for Open Plan: Deltek Open Plan 8.6 Integration
  - If you plan to use only Microsoft Project or Primavera, install the most recent version of the Open Plan integration.
- If you plan to use Open Plan: Deltek Open Plan Add-in for PM Compass 8.4
- If you do not use Open Plan and:
  - You plan to use Primavera: Primavera P6 Server Integration for PM Compass
  - You plan to use Microsoft Project: MSP Server Integration for PM Compass

Install the Cobra Integration

The installation does install the Cobra Integration file that was released with the initial release of PM Compass 8.4. However, if Cobra is upgraded to a newer version, there is a sub-release of the Cobra Integration that you must install.

Install the **Cobra85IntegrationForPMCompass84.exe** file on each Web/Application and Process server tier.

To confirm the updated files were installed:

1. Navigate to C:\Program Files\Deltek\PMCompass\CobraEngine.
2. Right click **Cobra.Api.exe** and select **Properties**.
3. In the Properties dialog box, click the Details tab.
4. Confirm that the version matches the latest sub-release available on the Deltek Software Manager site.

> **Note:** Perform the procedures below on each Web/Application and Process server tier.

Install the Open Plan Integration Files

PM Compass uses the Open Plan Integration in the change management process. If you use Open Plan, you must install the Open Plan Integration downloaded from the DSM.

To install or upgrade the Open Plan Integration files:

1. Log into the first Web/Application server or Process server as Domain Service Account.
2. Launch the **Open Plan86IntegrationForPMCompass84.exe** file.
3. When the process completes, log into the next Web/Application server or Process server as Domain Service Account, and launch the installer until all servers have been updated.

You cannot copy the files from one server; you must run the installation because it performs the following steps on your server(s):

1. Stops the Deltek PM Compass Process Server service and the IIS Web Server.
2. Unregisters prior version files.
3. Removes prior version files.
4. Copies in new version files.
5. Registers new version files.
6. Restarts the Deltek PM Compass Process Server service and the IIS Web Server.

Install the Open Plan Add-in

If you are using Open Plan in the change management process, you must install the Open Plan Add-in on every client/desktop (not the PM Compass server) that will use change management.

- For a multi-user installation, the Open Plan Add-in must be installed on the file server where the Open Plan multi-user installation is located.
- For all other installation types (complete or Citrix, which is a complete installation), the Open Plan Add-in must be installed on the server where the Open Plan client is installed.

Attention: To ensure that each desktop has the correct version of Open Plan installed before installing the PM Compass Change Request Add-In, see "Client Software Requirements" in this guide.

Follow this procedure to install or upgrade the Open Plan Add-In. The Open Plan Add-In installation program will detect and upgrade any existing versions.

To install or upgrade the Open Plan Add-in:

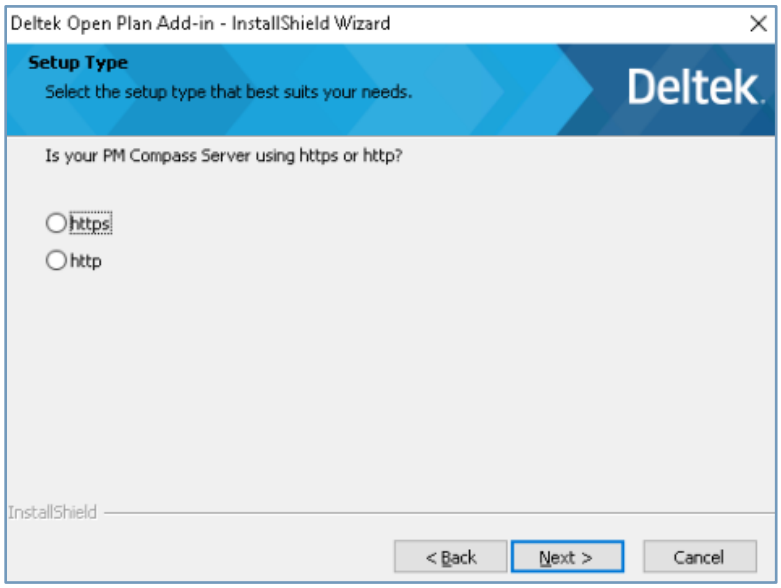
1. Launch the **DeltekOpenPlanAddinForPMC84.exe** file.

   Note: Before running this installation, you must close Open Plan. If Open Plan is running, a message will appear asking if you want the setup to close it. Click **Yes** to allow the setup to close Open Plan. If you click **No**, you need to save your work and close Open Plan manually before proceeding with the installation.

2. On the Welcome to the Deltek Open Plan Add-In Wizard screen, click **Next**.

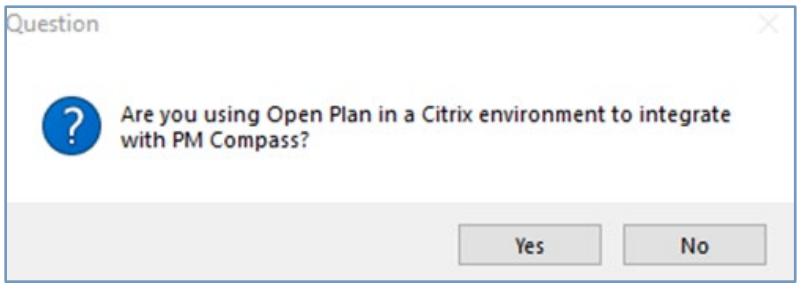
   Note: Due to enhanced security in Windows Server, Deltek recommends using the **Run as Administrator** option when launching installation executables, even if the logged-in user has local administrative rights. To do this, right click the installation executable file in Windows Explorer and select **Run as Administrator** to launch the program.

3. On the Setup Type screen, select whether your PM Compass server uses **https** or **http**.



Note: This screen displays only during new installation and based on whether you are using http or https URL connection to launch PM Compass.

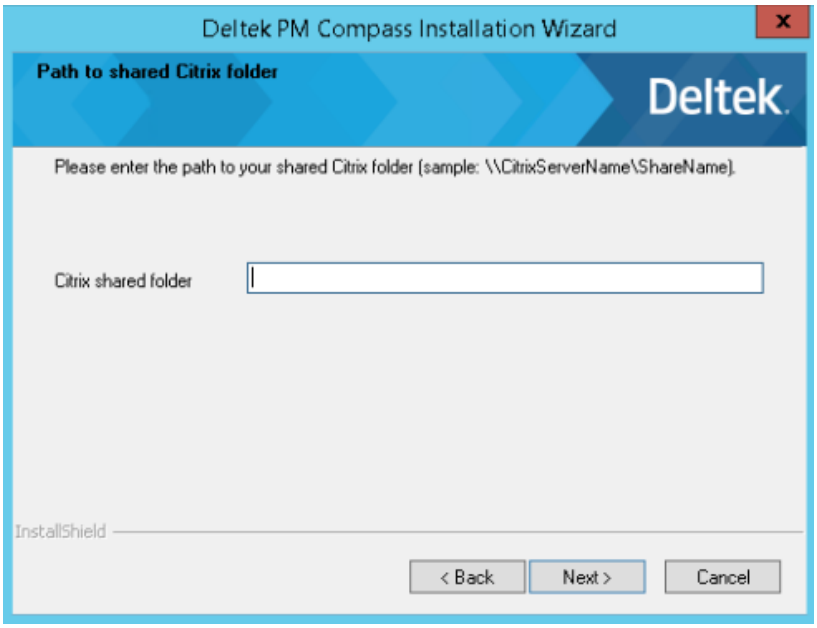
4. The installer displays a message asking if PM Compass is deployed with Citrix.



Click **Yes** if you are using Open Plan in a Citrix environment. The installer will copy the PM Compass Web client ClickOnce Bypass files to a shared folder. The Open Plan client, running on a Citrix server, will then use this folder to launch the PM Compass client instead of launching it from a browser.

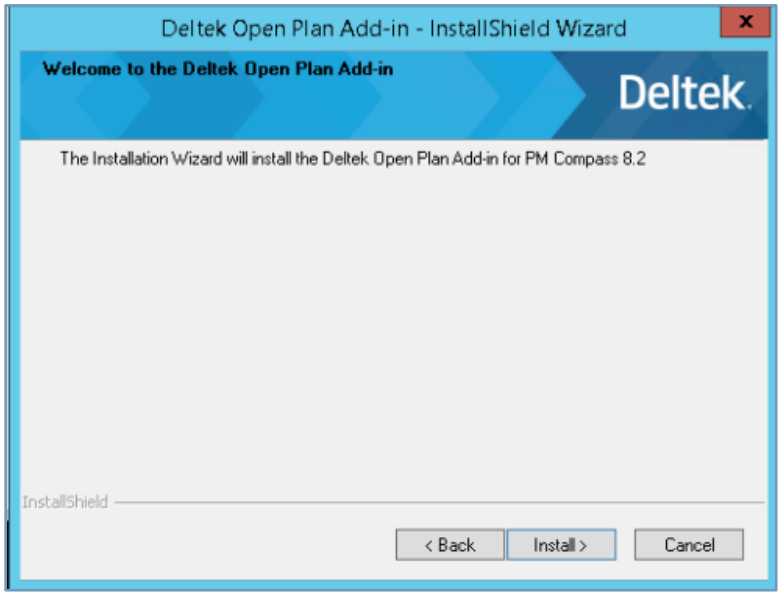
5. On the Path to shared Citrix folder screen, specify the shared folder containing the **ClickOnceBypassPMCompass** files, and click **Next.**

Note: In the **Citrix** field, you may enter a UNC path or a local path that points to the location of the extracted PM Compass client files.



Attention: For additional information when deploying with Citrix, see "Using PM Compass with Citrix or Remote Desktop (ClickOnce Bypass)" in the *Deltek PM Compass Advanced Administration Guide*.

6. On the Welcome to the Deltek Open Plan Add-In screen, click **Install** to begin the installation.



7. On the InstallShield Wizard Complete screen, click **Finish**.

Confirm the Open Plan Data Source on the Client

The Open Plan Data Source must use the same server's name, database name, and database username as entered into Weblink.

To confirm the Open Plan data source on the client:

- For Oracle, the Service name/SID (as defined in tnsnames.ora) and Username values must match the Weblink entries in PM Compass.
- For SQL Server, the Database Server, Database Name, and SQL Login values must match the Weblink entries in PM Compass.

Configure Open Plan for the PM Compass Add-In

For the Open Plan PM Compass Change Requests Add-in to work, it requires access to the PM Compass application server. During the installation of PM Compass, the Open Plan database is updated to include the PM Compass application URL. However, if you opted to update the databases manually during installation, the PM Compass application URL would not be added unless you executed the SQL statement on your database to include it.

Add or Edit the PM Compass Application Server Address on the Open Plan Database

Follow this procedure to add or edit the **_PMCWEBSERVICEURL** application setting in Open Plan. This setting must exactly match the application URL defined in PM Compass on the **Administration » System Settings » General tab**. In addition, you should access PM Compass using the same URL from a browser. For example: http://<pmcwebservername>/pmcompass.

To add the PM Compass application server address to the Open Plan database:

1. Log into Open Plan as a member of the SYSADMIN group or as the user SYSADMIN.
2. Click the product icon  and click **Preferences » Application**.
3. On the Advanced tab of the Application Preferences dialog box, click the **Defaults** button to display the System Preferences Defaults dialog box.
4. In the System Preferences Defaults dialog box, scroll down and look for the category titled **_PMCWEBSERVICEURL**.

   If this category does not exist, add it in the first blank row.
5. In the **Default Value** field, enter the PM Compass application server address.

   For example, enter **https://<pmcwebservername>/pmcompass** where **<pmcwebservername>** is replaced with the PM Compass Web/Application server name.
6. Click **OK**.

Install the Primavera Integration Files

PM Compass uses the Primavera Integration when integrating with Primavera.

Install the Primavera P6 Server Integration (latest version) For PM Compass 8.4 file on each Web/Application and Process server tier.

Install the Microsoft Project Integration Files

PM Compass uses the Microsoft Project Integration when integrating with Microsoft Project and Project Server.

Install the MSP Server Integration (latest version) For PM Compass 8.4 file on each Web/Application and Process server tier.

NEXT STEP: See Post-Installation Steps.

PM Compass Upgrade Installation Steps

This chapter includes sections related to upgrading PM Compass.

Deltek Cobra and Open Plan

Before upgrading, you must have Cobra upgraded to a supported version:

- Cobra 8.4 Cumulative Update 23 and higher
- Cobra 8.5

If you are using Deltek Open Plan, it must also be updated to one of the supported versions:

- Open Plan 8.6
- Open Plan 8.7

Deltek recommends that you make a backup of your production database before installing PM Compass.

To install a test version of PM Compass into a database that is not your production database, you have two options:

- Copy your production database to a new database and verify that Cobra and Open Plan function correctly when connected to it. Then, install PM Compass into the new database. This approach retains all security settings, saved reports, projects, and other data.
- Install PM Compass into a new database, then restore the Cobra projects into it.

Upgrading from PM Compass 8.1

PM Compass 8.1 was a 32-bit application. By default, Windows installs 32-bit applications into the C:\Program Files (x86) folder and 64-bit applications into the C:\Program Files folder. PM Compass 8.4 is a 64-bit application.

If you accepted the default installation path, the application would have been installed in the C:\Program Files (x86)\Deltek\PMCompass and C:\Program Files (x86)\Deltek\EPMSA folders.

Since Windows installs 64-bit applications in the C:\Program Files folder by default, upgrading from a default 32-bit installation location will not overwrite your existing files. Instead, it will install to the C:\Program Files folder or an alternate folder that you select during the installation.

The PM Compass upgrade installer detects your previous installation location. If that location is in an x86 folder, the installer copies the configuration files into the new location, updates them to use the new installation path, and renames the old PMCompass and EPMSA folders.

Encryption Settings

PM Compass features an encryption mechanism that provides an extra layer of security, surpassing the traditional SSL encryption recommended for PM Compass implementations. This mechanism ensures that in-flight data transmission remains uncompromised.

> **Note:** When upgrading from version 8.1 or earlier, you must manually add the configuration settings detailed in “Additional Security Configurations” of the *Deltek PM Compass Advanced Administration Guide* under **Secure the Web/Application Tier**.

Installation Order

When upgrading your installation, follow this sequence:

1. If you are upgrading Open Plan and/or Cobra along with PM Compass, upgrade those applications first.

   After upgrading, confirm that the products start correctly and have been successfully upgraded before installing PM Compass.
2. If you store your data in SQL Server, run the upgrade installation on the Database server.
3. Run the PM Compass installation on each of the Report servers.
4. Run the PM Compass installation on each of the Web/Application servers. If you have multiple application servers, you only need to run these prompted options once:
   - Apply the database scripts to your database.
   - Load the new and updated reports.
5. If you have a dedicated Process server, run the PM Compass installation on it.
6. If a cumulative update is available for the version you installed, run the cumulative update on each server in the same order as the regular installation.
7. Run each sub-release or integration install on every Web/Application server and Process server.

Upgrading from a Non-Default Installation Location

The PM Compass upgrade installer detects your previous installation location. If it is not the default folder (C:\Program Files (x86)\Deltek\PMCompass), the installer performs an in-place upgrade, overwriting the old files.

Domain Service Account

The upgrade must be performed using the same account that was used for the initial installation. If you log in with a different account, setup will display an error and exit the installation. You should log out and log back in as the user (domain service account owner) who performed the initial installation.

Attention: For information about changing the domain service account owner, see “Appendix K: Configure the Account Running the Services” in this guide.

Stop the PM Compass Process Server Processes

Prior to upgrading PM Compass, Deltek recommends stopping the PM Compass Process Server processes.

To stop the PM Compass Process Server processes:

1. Ensure that Process Server jobs are running, then stop all queues.
2. Ensure that no one is logged into EPM SA or PM Compass.
3. Stop the process server service on the dedicated Process server and on the Web server if that is also running.

4. If you have configured PM Compass to use a database session state, you will need to run a SQL query to clear out the session state:

a) Launch Weblink and click on the System Settings tab.

b) If the **Store Session State** field is set to:

- **In Database Server**: Run the **DELETE FROM FW_SessionState SQL** query against the database listed on the System Settings tab to clear out the session state entries in the database.
- **In Memory**: Continue with the PM Compass upgrade without running the query.

5. Upgrade PM Compass and restart the Process server.

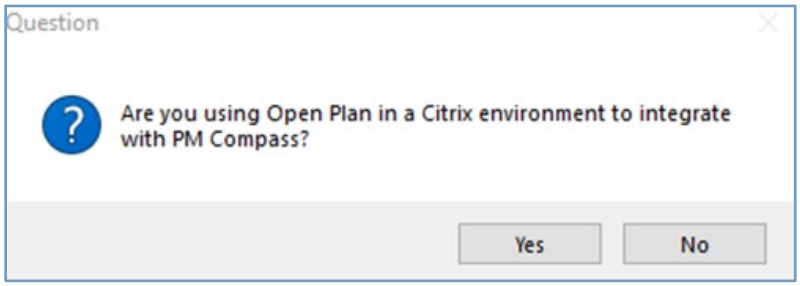
Upgrade PM Compass

Follow this procedure to upgrade PM Compass.

To upgrade PM Compass:

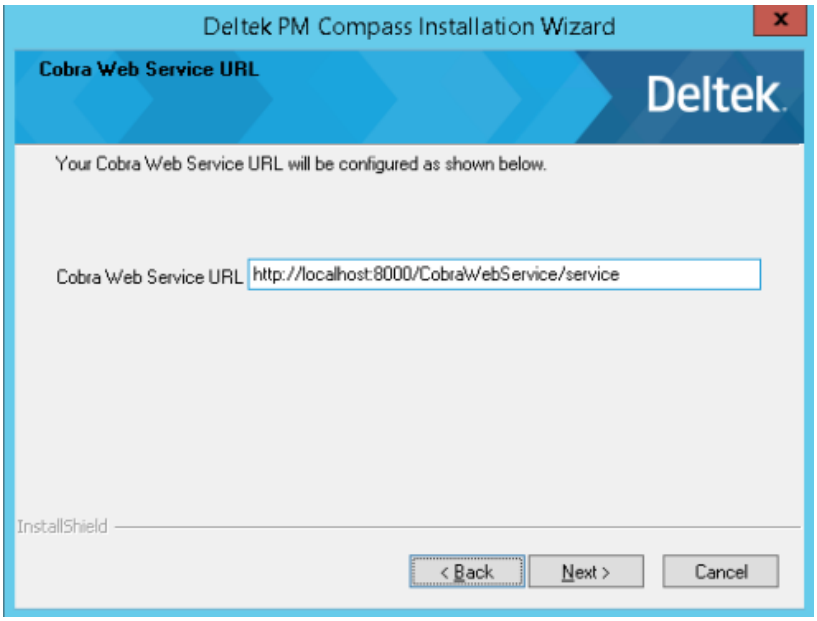
1. Log into the server as the Domain Service Account user.
2. Double-click the **DeltekPMCompass84.exe** file that you downloaded to run the installation.
3. On the Prerequisites screen, click **Next**.
4. On the Welcome to Deltek PM Compass Installation Wizard screen, click **Next**.
5. If you are installing on the database tier, the installer provides options for upgrading either just the reporting server or both the database and reporting server. Select the option that best fits your environment.

   If you are upgrading the web/app server as part of the deployment, the installer will skip to the Ready to Install screen and then proceed to the Load Reports screen. Select the **Load Reports** option if you want the PM Compass reports to be automatically reloaded into the Reporting Server. Otherwise, you will need to manually reload the reports after the upgrade.
6. The installer displays a message asking if PM Compass is deployed with Citrix.



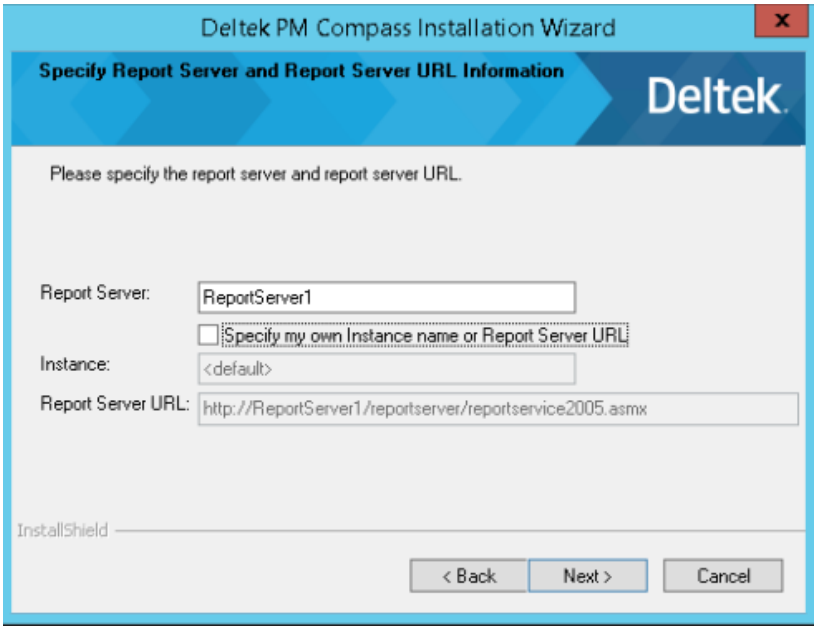
7. On the Cobra Web Service URL screen, click **Next**.

   By default, the wizard installs the Cobra Web Service on each Web/Application and Process server. Deltek strongly advises against making any changes to this.



8. On the Specify Report Server and Report Server URL Information screen, enter the necessary information in the appropriate fields, and click **Next**.

   Setup uses the default Report Server URL to initially check the configuration of Microsoft SQL Reporting Services on the Web server to the Reporting Services Web Service.



   If setup is unable to connect to the Reporting Service Web Service screen, it displays an error message indicating the connection failure and shows the Specify Report server and Report Server URL Information screen.

> **Attention:** For more information to connect to the Report Server, see "Appendix C: Microsoft SQL Server Reporting Services" in this guide. If your report server has already been configured and you are unsure of how to complete this screen, see "Connecting to the Report Server" in the same appendix.

9. The Password screen may appear depending on the version you are upgrading from or if you have changed the DeltekPMCompass account password. If it does not appear, skip to the next step.

   You must specify a secure password for the account that meets your company's security requirements.

   > **Warning:** Setup does not save this account or log it anywhere, so you should keep the details in a safe place.

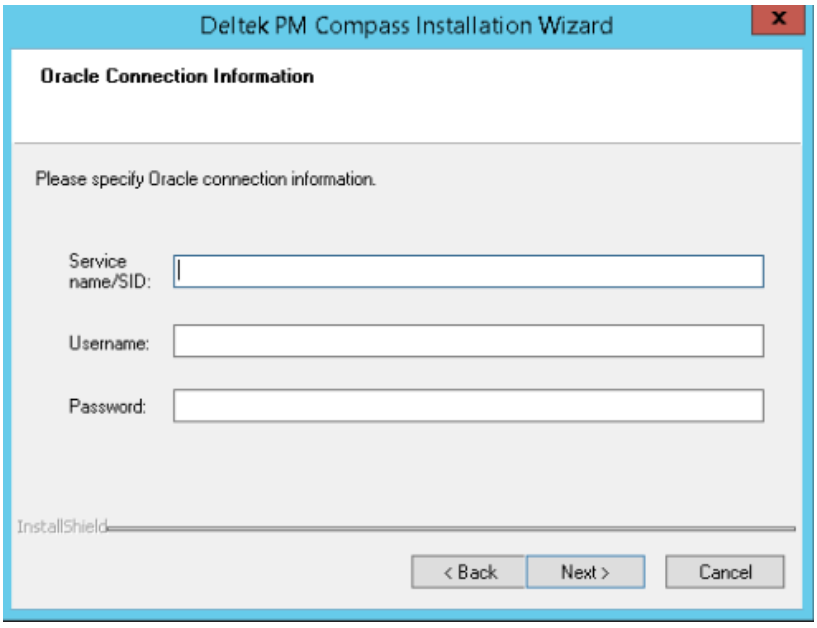
   After entering the password and clicking Next, you must re-enter the password to verify it and then click **Next**.

10. On the Database Platform screen, select your database platform and click **Next**.
11. The next screen depends on whether you selected **Oracle** or **Microsoft SQL Server**. Refer to the section below that corresponds to your selected database.

    Oracle Database

    The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

    > **Attention:** On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

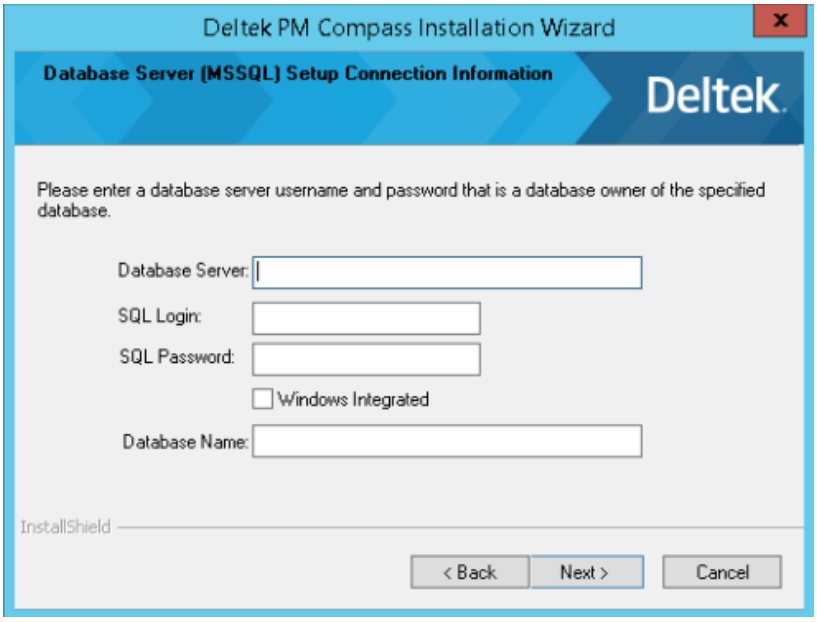
- SID is found in tnsnames.ora.
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
    - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

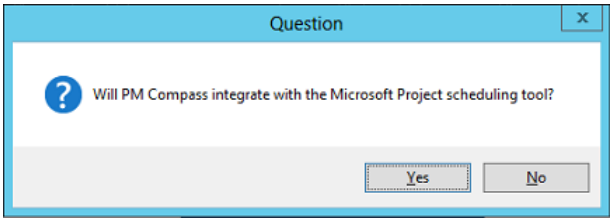
  - **SQL Password**: Enter the password associated with this SQL Login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

The following validations are performed:

- Username/password are correct.
- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

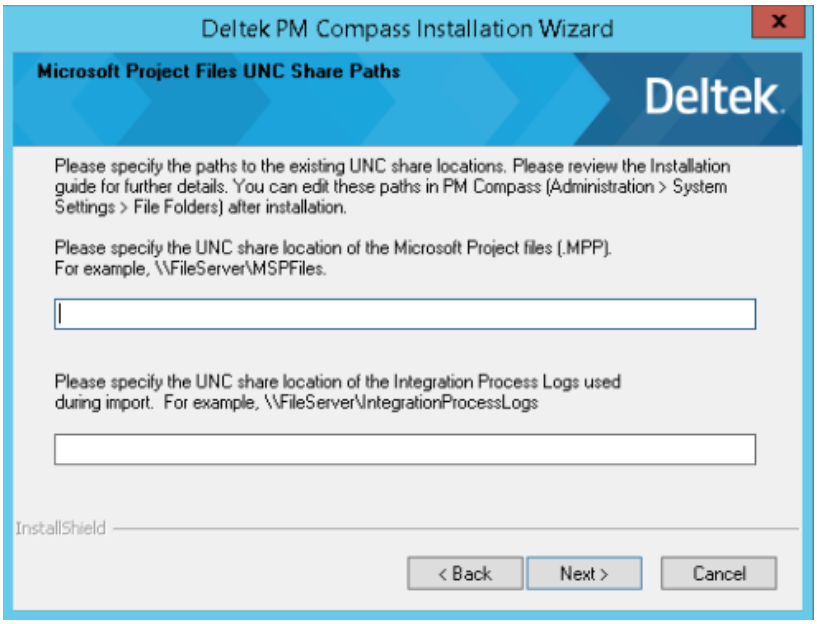
If any of these validations fail, the wizard displays a message, and the setup exits.

12. Choose whether PM Compass integrates with the Microsoft Project scheduling tool.



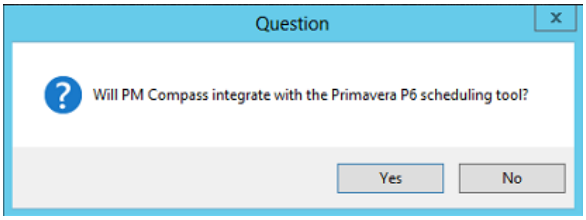
- If you are using Microsoft Project as a PM Compass scheduling tool, enter the UNC share location for the MSP Files and Process Logs folders, and click **Next**.
- If you are not using Microsoft Project as a PM Compass scheduling tool, leave the UNC Share Path fields blank, and click **Next**.

> **Attention:** To manually configure the system after the installation, see "Appendix N: Integrating with Microsoft Project" in this guide.

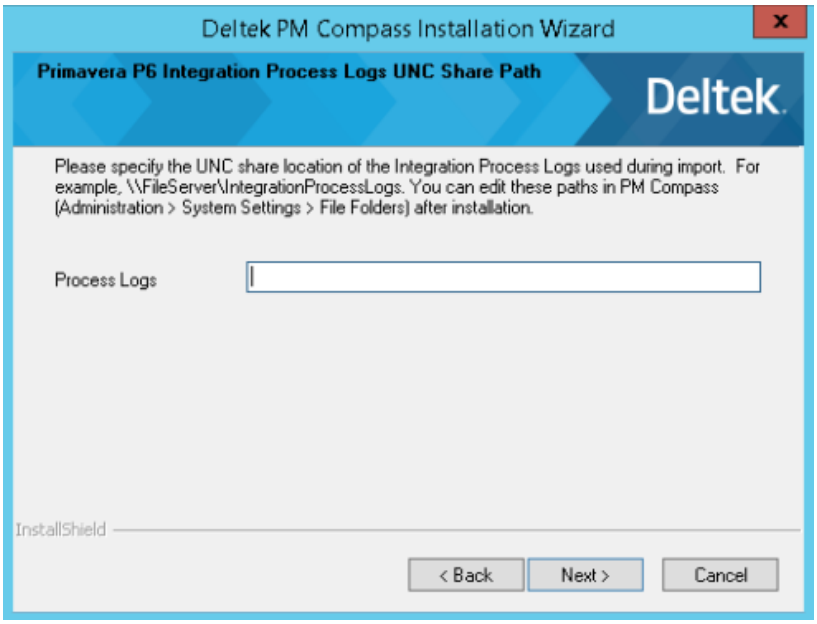


Attention: For information about the permissions required for these folders, see “File Share Requirements” in this guide

13. Choose whether PM Compass integrates with the Primavera P6 scheduling tool.

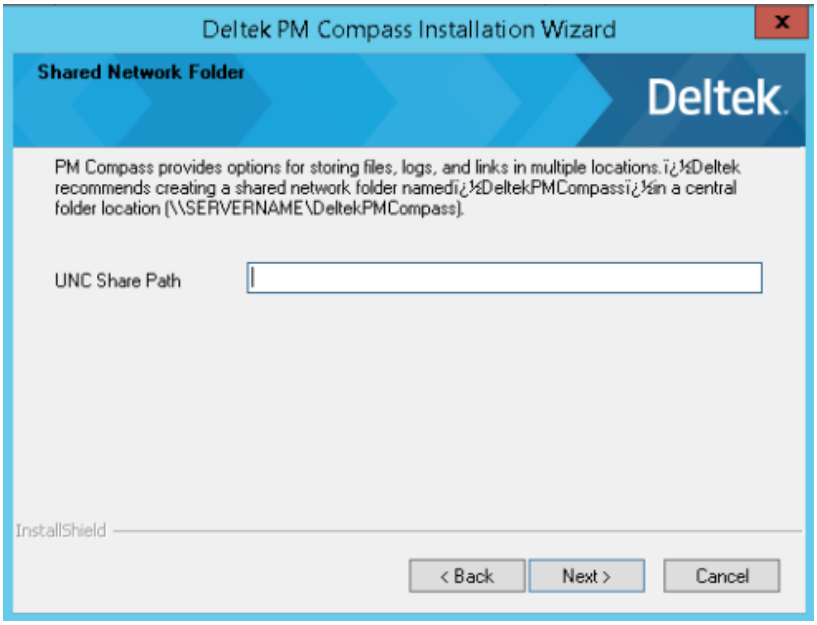


14. If you are integrating PM Compass with Primavera P6, specify the Primavera P6 UNC share location where you want to store the process logs on the Primavera P6 Integration Process Logs UNC Share Path screen. If the location for **MSPLogs** is already specified, the screen may not display.

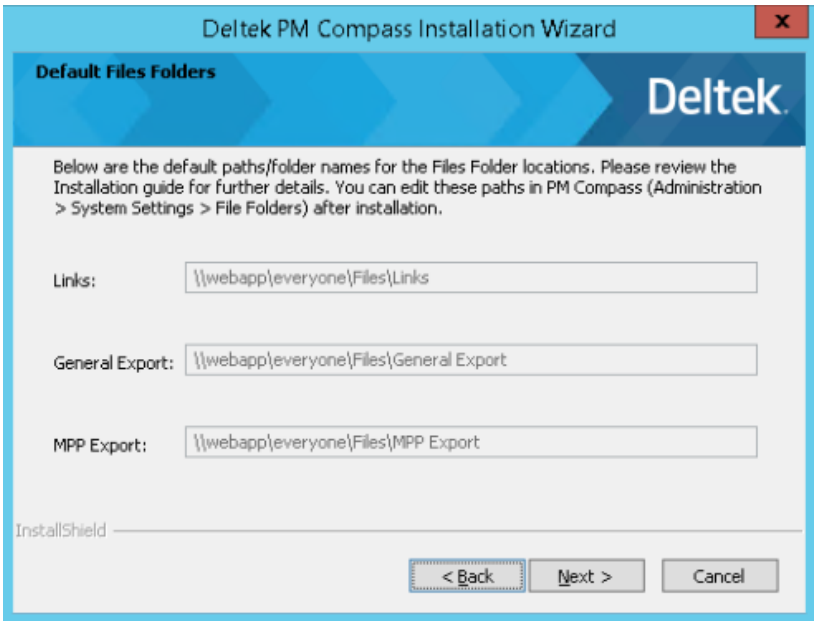


Attention: For information about the permissions required for these folders, see File Share Requirements.

15. On the Shared Network Folder screen, specify the UNC share location where you want to store links, general export files, and MPP export files. For example, \\<servername>\DeltekPMCompass\.



16. On the Default Files Folders screen, the wizard displays the default Links, General Export, and MPP Export folder locations. You can edit these locations in PM Compass after the installation (**Administration » System Settings » File Folders tab**).



17. If the setup detects a script needs to be run, the Script Options screen displays allowing you to choose one the following options:
    - Automatically by the installation
    - Manually using a batch (.bat) file
    - Manually using .sql script files

    Note: The PM Compass installation does not automatically back up your database before applying any scripts. Make a backup of your database before selecting any of the options on this screen.
18. On the Ready to Install screen, click **Install**.
19. On the Deltek PM Compass Sample Database Restore Wizard Complete screen, click **Finish**.
20. On the Deltek PM Compass Installation Wizard Complete screen, click **Finish**.

    If prompted, you can restart your computer after installing PM Compass.

Note: If you encountered any errors during the installation, contact Deltek Support Center and send the installation log file. For more information on the log file location, see “Temporary Log Files and the Log Files Folder” in this guide.

Install Cumulative Updates/HotFix

When you upgrade PM Compass, you must also apply any cumulative updates and updated sub-releases.

Attention: For detailed steps, see “Installing Cumulative Updates/HotFix” in this guide.

NEXT STEP: See Post-Installation Steps.

Post-Installation Steps

After successfully installing PM Compass, it is important to follow these post-installation steps to ensure everything is configured correctly and running smoothly.

Launch the PM Compass Components

This section includes topics about launching the PM Compass components.

Launch PM Compass Components from a Browser

Launch the following client components from Microsoft Edge:

- **PM Compass**: https://<servername>/PMCompass

  For example: https://servername.company.com/PMCompass
- **EPMSA**: https://<servername>/EPMSA

  For example: https://servername.company.com/EPMSA

Launch PM Compass from a Desktop Shortcut

You can launch PM Compass and the EPMSA client from your desktop using a shortcut. You must first move the shortcuts created by the installation on the application server to a shared location. Then, you can copy the shortcuts down to their client desktop.

Move the Shortcuts

Follow this procedure to move the shortcuts to a shared location.

To move the shortcuts:

1. On the Application server, click the Windows icon to display the **Start** menu.
2. Locate the Deltek PM Compass folder and expand the contents.
3. Right-click the Deltek PM Compass icon and select **More… and Open File Location**.
4. Copy the Deltek PM Compass shortcut to a shared UNC for which users will have access.
5. Access the **Administration** folder.
6. Copy the Deltek EPM Security Administrator to a shared UNC for which users will have access.
7. Navigate to the **<PMCompassInstallationFolder>\Support.**

   The default folder is C:\Program Files\Deltek\PMCompass\Support.
8. Copy the file **Compass.ico** to the shared UNC.
9. Copy the file **app-security.ico** to the shared UNC.

Edit the Shortcuts

Follow this procedure to edit the shortcuts to use the icon file in the shared location.

To edit the shortcuts:

1. In the shared location, locate the PM Compass shortcut.

2. Right-click the shortcut and select **Properties**.
3. On the Shortcut tab, click the **Change Icon** button.
4. Click the **Browse** button and select the compass.ico file in the shared location.
5. Close the Properties dialog box.
6. In the shared location, find the Deltek EPM Security Administrator shortcut.
7. Right click the shortcut and select **Properties**.
8. On the Shortcut tab, click the **Change Icon** button.
9. Click the **Browse** button and select the app-security.ico file in the shared location.
10. Close the Properties dialog box.

Notify the PM Compass Users

Send an email to PM Compass users. The email should contain a link to the shared path and instructions to drag the PM Compass shortcut to their desktop.

Launch Weblink

You must run Weblink on the Web/Application server using the shortcut created in the PM Compass installation folder.

Set or Confirm the IIS/.NET Globalization Culture Setting

You must that the.NET Globalization Culture setting for the PM Compass application in IIS is the same as the Region setting on the Process and Web/Application servers.

To confirm or set the culture setting for PM Compass and EPM SA in IIS:

1. From Administrative Tools, launch IIS Manager.
2. In the left pane, expand the web site (example, Default Web Site) that hosts the PM Compass application.
3. Select **PMCompass**.
4. In the right pane, in the ASP.NET section, double-click the **.NET Globalization** icon.
5. In the **Culture** field, confirm or select the culture.

   > **Note:** This setting must match the regional settings on the Process and Web/Application servers. Navigate to **Control Panel » Region**, and on the Formats tab, check the **Format** field. In addition, the regional settings on the servers must match the regional settings on the client machine.

6. If you make a change, click **Apply**.
7. In the left pane, select **EPM SA** and repeat steps 4 through 6.

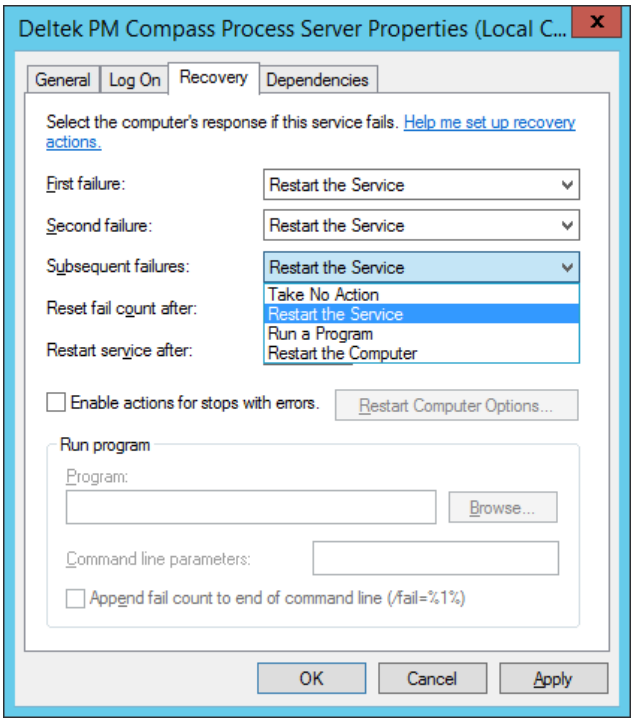
Set Up Recovery Actions for the PM Compass Process Server

Occasionally, the PM Compass Process Server may stop due to an error. To address this, you can set up Windows Services to automatically restart the service whenever this happens.

To configure Windows Services to automatically restart the Process Server service:

1. Navigate to **Control Panel » Administrative Tools » Services**.
1. Double-click the **Deltek PM Compass Process Server** service.
2. In the Recovery tab of the dialog box, select the action that you want to perform for the **First failure**, **Second failure**, and **Subsequent failures** options.

> **Note:** The default failure option when a service stop is set to **Take No Action**. Deltek recommends configuring the **First failure** and **Second failure** options to **Restart the Service**. For the **Subsequent failures** option, if you have a command line set up to notify administrators via email about service failures, you should configure it to send an email or another type of alert.



3. Click **Apply** and then click **OK**.

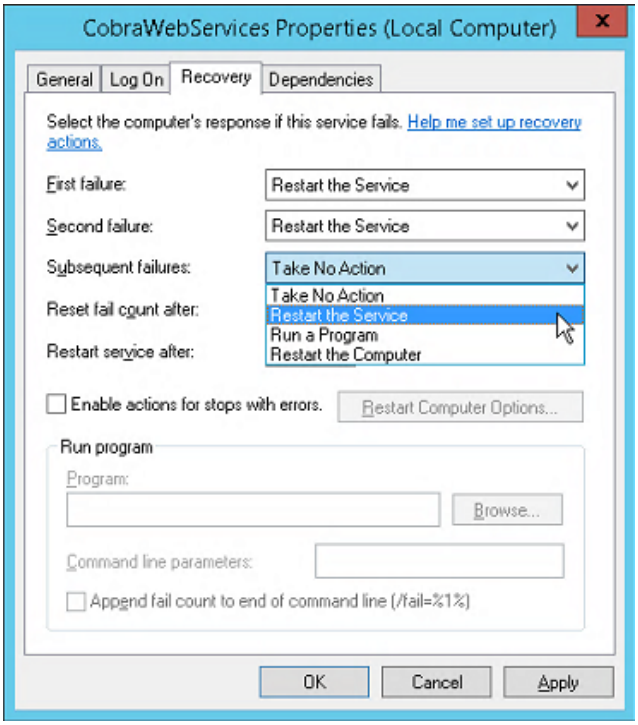
Set Up Recovery Actions for the Cobra Web Service

Occasionally, the Cobra Web Service may stop due to an error. To address this, you can set up Windows Services to automatically restart the service whenever this happens.

To configure Windows Services to automatically restart the Cobra Web Service:

2. Navigate to **Control Panel » Administrative Tools » Services**.
1. Double-click the **Cobra Web Service** service.
2. On the Recovery tab of the dialog box, select the action that you want to perform for the **First failure, Second failure**, and **Subsequent failures** options.

> **Note:** The default failure option when a service stop is set to **Take No Action**. Deltek recommends configuring the **First failure** and **Second failure** options to **Restart the Service**. For the **Subsequent failures** option, if you have a command line set up to notify administrators via email about service failures, you should configure it to send an email or another type of alert.



3. Click **Apply** and then click **OK**.

Disable the Dedicated Process Server

If you have a dedicated Process server and you do not want your Web server to pick up the Process Server jobs, you should disable the Deltek PM Compass Process Server service on the Cobra Web Server.

To disable the Deltek Process server:

1. Log into the Cobra Web Server as the Domain Service Account.
2. Navigate to **Control Panel » Administrative Tools » Services**.
3. Double-click the **Deltek PM Compass Process Server** service
4. On the General tab of the Deltek PM Compass Process Server Properties dialog box, change the **Startup Type** to **Disabled**.
5. Click **OK**.

Share the ItemTypeExport Folder on the Web Server

Once the installation is finished, you must share the **ItemTypeExport** folder on the PM Compass Web server and configure the appropriate access rights to allow users to access files generated by the ItemTypeExport feature.

To share the ItemTypeExport folder and assign access rights:

1. On the PM Compass Web server, create a network share on the **ItemTypeExport** folder located in the PM Compass installation folder.
2. Grant read permissions to the shared **ItemTypeExport** folder for the authorized users.

   The following NTFS permissions will automatically be added to the folder for the users:

   - Read & execute
   - List folder contents
   - Read

Confirm the Polling Interval and Max Concurrent Job Settings

The Polling Interval is used when processes are scheduled. It indicates how often PM Compass polls the Application server to check to see if something needs to be run. Under normal circumstances, a polling interval of 30 seconds (which is the default) improves performance and jobs are processed in a timely manner.

The **Max Concurrent Jobs** field limits the number of concurrent jobs running on the Process server. It is different from the **Maximum** field which sets the maximum number of jobs that can run concurrently for the selected queue, although the two do work together.

> **Attention:** For important information and examples about the **Max Concurrent Jobs** field and the difference between it and the **Maximum** field, see “Maximum Field vs. Max Concurrent Jobs Field” in the EPM SA Help System.

To confirm the Polling Interval and Max Concurrent Job settings:

1. On the Application server, click **Start » All Programs » Deltek PM Compass » Weblink**.
2. On the Weblink Login screen, enter the password.

   If this is the first time you are launching Weblink after installation, Weblink prompts you to set up a password.
3. On the System Settings tab, review the following:

   - **Polling interval (sec):** The interval in seconds at which the system polls databases for alerts and schedule jobs. You can enter a numeric value from 0 through 999. By default, this field displays **5**.
   - **Max Concurrent Jobs**: The maximum number of jobs that can run concurrently on the Process server, regardless of the actual number of jobs in a queue. You can enter zero (**0**) to have unlimited concurrent jobs. You can enter a numeric value from 1 through 999. By default, this value is set to **10**. The Process server will never run more than the number of concurrent jobs set here, regardless of the setting in the queue **Maximum** field.

4. If you make changes, click **Save**.

Configure Weblink

Follow this procedure to configure Weblink.

To configure Weblink:

1. On the Application server, click **Start » All Programs » Deltek PM Compass » Weblink**.
2. On the Weblink Login screen, enter the password.

   If this is the first time you are launching Weblink after installation, Weblink prompts you to set up a password.
3. On the Report Server tab, update the password for the DeltekPMCompass account.
4. On the System Settings tab, perform the following steps:
   - Enter the interval in seconds at which the system polls databases for alerts and schedule jobs. You can enter a numeric value from 0 through 999. By default, this field displays **5**.

     When you enter or modify the value, a message displays informing you to restart any Process server that needs to use the new setting.
   - Enter the maximum number of jobs that can run concurrently on the Process server, regardless of the actual number of jobs in a queue. You can enter zero (**0**) to have unlimited concurrent jobs. You can enter a numeric value from 0 through 999. By default, this field is **10**.

     If you run too many concurrent jobs, add additional load to your Database server and/or Report server. Deltek recommends that the total of all of the process queues (per server) does not exceed the number in the **Max Concurrent Jobs** field. If the total of all of your process queues (per server) does exceed the number in the **Max Concurrent Jobs** field, only the number of jobs as specified in the **Max Concurrent Jobs** field will run concurrently.

     When you enter or modify the value, a message displays informing you that you must restart any Process server that needs to use the new setting.
5. Click **Save**.
6. Restart the Deltek PM Compass Process Server service that will use these settings.

Configure Cobra to Write Process Logs to a File

During a change request, Cobra executes a process. If any errors or warnings occur, a link to the log is added to the Links tab of the workflow. To enable PM Compass users to view the process logs generated by PM Compass, you must configure Cobra to write process logs to a file. Once configured, you can use the Process Log Viewer in Cobra to view these logs.

> **Note:** For a Cobra n-tier deployment, you cannot configure Cobra to write process logs to a file. Instead, the process logs are stored in the database, and you will need to use Cobra to view them. In addition, you must know the failure time to search through the process logs for the relevant process during that period.

To configure Cobra to write process logs to a file:

1. In Cobra, click  » **Preferences » Application** and click the Data Access tab.

2. In the **Process Log** group box, perform the following steps:
   - Select **Write process logs to a text file** option to store the process log information to a text file in a local folder instead of the database. All Cobra processes will store the process log files in the specified location.
   - Enter the full path to the folder using a UNC format in the **Location** field. For example, \\<servername>\CobraProcessLogs.

   > **Attention:** For more information on the shared folder, see "File Share Requirements" in this guide.

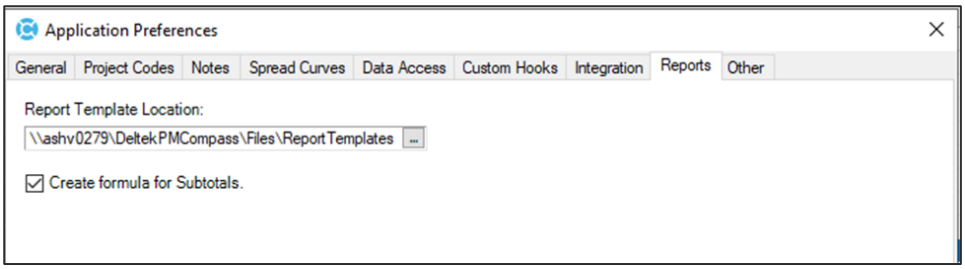
   > **Note:** Type or paste the path. Do not use the ellipses as it will not allow you to browse to the shared network folder.
3. Click **OK** to apply the change and close the dialog box.
4. Restart the Cobra Web Service.

Cobra Report Templates Folder Location

PM Compass can run Cobra reports to export data. In order for PM Compass to find the Cobra report templates, they have to be in a shared location.

During the Cobra client installation, the Cobra report templates are installed in the following location: **C:\Program Files (x86)\Deltek\Cobra\ReportTemplates**. Copy the Report Templates folder to any shared location. Deltek recommends that you place this folder in the same share as the Links, General Export, MPP Export, and Integration Process Logs default file folders.

You need to tell Cobra where the report templates are stored. In Cobra, click **» Preferences » Application**. On the Reports tab, enter the shared location of the Cobra report template folder in the **Report Template Location** field and click **OK**. Then, stop and restart the Cobra Web Service after you make this change.



> **Attention:** For more information on the shared folder, see "File Share Requirements" in this guide.

Microsoft Project and Primavera

Depending on your scheduling system, additional tasks may be required.

Attention:

- If you are using Microsoft Project as your scheduling system, review "Appendix N: Integrating with Microsoft Project" in this guide.
- If you are using Primavera P6 as your scheduling system, review "Appendix O: Integrating with Primavera P6" in this guide.

If you are using Primavera P6 as your scheduling system, review Appendix O: Integrating with Primavera P6.

Post-Installation Checklist

This chapter covers the post-installation checklist for PM Compass.

Recommended Secure Deployment of PM Compass

Step		Related Topics
1	Security is a critical part of any application. Applications must be secured against disclosure of confidential information, modification, destruction of data, misappropriation of resources, and compromise of accountability. Deltek recommends securing your PM Compass deployment.	"Secure Your PM Compass Deployment" in the *Deltek PM Compass Advanced Administration Guide*

Web/Application Server

Step		Related Topics
1	In Weblink, set the Weblink password, the **Polling Interval** value, and **Max Concurrent Jobs** value.	"Configure Weblink" under "Post-Installation Steps" in this guide
2	If you make changes to the **databases.enc** file and you are not using a shared **databases.enc** file, you must copy the changed **databases.enc** file to all other Web/Application server and Process server and then restart the Deltek PM Compass Process Server service on each server. This ensures that each server uses the same configuration. If you have multiple servers and you want to automate the process, Deltek has a script that you can use. Deltek recommends that you test the script before using it on your production servers.	KB article #85452 on the Deltek Support Center site "Configure a Shared Location for Databases.enc" in the *Deltek PM Compass Advanced Administration Guide*
3	Confirm that the supported Cobra and Open Plan integration files have been applied by accessing each Web/Application server.	"Installing Sub-Releases" in this release
4	In **Control Panel » Administrative Tools » Services**, verify the Domain service account used as the identity and confirm the services are running for the following: ▪ The Deltek PM Compass Process Server	"Domain Service Account vs Default Local Account" in this guide

Step		Related Topics
	▪ Cobra Web Service	
5	Configure your antivirus, intrusion detection, or malware prevention software to exclude the following folders and files: ▪ <PM Compass Installation Directory>\EPMSA\databases.enc file ▪ <PM Compass Installation Directory>\EPMSA\Web\Bin\ folder ▪ <PM Compass Installation Directory>\PMCompass\Web\web.config file ▪ <PM Compass Installation Directory>\PMCompass\Web\Bin\ folder	
6	If this is a new PM Compass installation, you must complete the following tasks: ▪ Perform these steps on the server tier: ▪ Set the IIS/.NET Globalization setting. ▪ Set up recovery actions for the PM Compass Process Server. ▪ Disable the Process server on the Web server. ▪ Share the **ItemTypeExport** folder on the Web server. ▪ Perform these steps on the client or server tier: ▪ Configure Cobra to write process logs to a file. ▪ Configure Cobra report templates to a shared location. ▪ Copy Cobra report templates to a shared location.	"Post-Installation Steps" in this guide
7	Configure the PM Compass servers to print to network printers.	"Appendix D: Printing in PM Compass" in this guide
8	Configure Weblink.	"Configure Weblink" under "Post-Installation Steps" in this guide

Dedicated Process Server

Step		Related Topics
1	See Steps 2 and 3 in the Web/Application Server post-installation checklist to view the settings that affect the Process server.	
2	Confirm that the supported Cobra and Open Plan integration files have been applied.	"Installing Sub-Releases" and "Installing Cumulative Updates/Hot Fix" in this guide
3	In **Control Panel » Administrative Tools » Services**, verify the Domain service account used as the identity and confirm the services are running for the following: ▪ The Deltek PM Compass Process Server ▪ Cobra Web Service	
4	Configure your antivirus, intrusion detection, or malware prevention software to exclude the following folders and files: ▪ <PM Compass Installation Directory>\EPMSA\databases.enc file ▪ <PM Compass Installation Directory>\EPMSA\Web\Bin\ folder ▪ <PM Compass Installation Directory>\PMCompass\Web\web.config file <PM Compass Installation Directory>\PMCompass\Web\Bin\ folder	
5	Confirm that the supported Cobra and Open Plan integration files have been applied by accessing each Web/Application server.	"Installing Sub-Releases" and "Installing Cumulative Updates/Hot Fix" in this guide
6	Perform the following steps on the server tier: ▪ Set the IIS/.NET Globalization setting. ▪ Set up recovery actions for the PM Compass Process Server.	"Post-Installation Steps" in this guide
7	To process scheduled jobs, ensure at least one server is running the Deltek PM Compass Process Server Windows Service. If you disable this service on the Web/Application server, you must specify at least one Process server and assign queues to it.	"Configuring the PM Compass Settings in EPM Security Administrator" in this guide

Step		Related Topics
8	Configure a dedicated Process server to pick and process jobs only from a specific queue.	"Appendix K: Configuring the Account Running the Services" in this guide

Client Tier (Workstation)

Step		Related Topics
1	Provide PM Compass users with the PM Compass and EPM SA URLs. ▪ **PM Compass**: Replace **servername** in the URL with your server's name (http://servername/pmcompassclient) ▪ **EPM SA**: Replace **servername** in the URL with your server's name (http://servername/epmsaclient)	
2	When you launch PM Compass or EPM SA, use the following credentials for new/sample databases are: ▪ **Username**: SYSADMIN ▪ **Password**: password	"Configuring the PM Compass Settings in EPM Security Administrator" in this guide
3	**For Open Plan users only** Perform the following steps: ▪ Verify that the version of Open Plan installed is supported by PM Compass. ▪ Verify that the Open Plan data source entries match those used by PM Compass for the database. Contact your system administrator for the connection details if Open Plan is not already configured.	"Appendix A: System Requirements" in this guide
4	**For Cobra users only** Perform the following steps: ▪ Specify the location of the process logs. ▪ Specify the location of the report templates.	"Configure Cobra to Write Process Logs to a File" and "Cobra Report Templates Folder Location" in this guide

Configuring the PM Compass Settings in EPM Security Administrator

Deltek EPM Security Administrator (EPM SA) helps you maintain license keys, users, groups, roles, and access to the various EPM applications. Since PM Compass is a role-based application, security is an integral part of the application. EPM SA allows you to define the security rights for PM Compass, Cobra, and Open Plan.

Use the procedures in this chapter to:

- Specify the Application servers.
- Create login IDs.
- Enter licenses and assign users to the license.
- Create and assign groups and roles.
- Configure system settings.

Note: These tasks are typically completed by a network administrator.

Log into EPM SA

Follow this procedure to log into EPM SA.

To log into EPM SA:

1. Launch Microsoft Edge and enter the URL of EPM SA.

   For example, http://<web server>/EPMSA/.

2. If the application does not load automatically, click the **Deltek EPM Security Administrator** link.
3. On the EPM SA Login screen:

a. Enter the user ID of SYSADMIN with a default password of password.

   PM Compass automatically creates a SYSADMIN account for administrative functions. This account does not use one of your purchased licenses.

b. In the **Database** field, select the database to which you want to log on.

   If you opted to restore a copy of the sample demonstration database during installation, you might see an additional “sample” database available when logging into EPM SA. Make sure to select the database where your data will be stored.

Enter Your New License Key

Follow this procedure to enter your license key in EPM SA.

To enter your license key:

1. Log into EPM SA.
2. On the **Navigation** menu, click **Products** » **Deltek PM Compass**.
3. Click the License tab.

4. In the **License** grid, click **Insert**, and enter the following details:
   - **Client Number**
   - **Organization Name**
   - **Activation Key**

   Note: This was emailed to you when you downloaded the PM Compass installation.

1. Click **Save**.

   The grid is populated with the License Mode, the number of licensed users, and so on.

Change the Default Password for the SYSADMIN User

Follow this procedure to change the default password for the SYSADMIN user.

To change the SYSADMIN user password:

1. Log into EPM SA.
2. In the left navigation pane, click **Security**, and click **Users**.
3. Search for the SYSADMIN user ID.
4. Click the Authentication tab.
5. Click **Set Password** and enter a password.

Create a User Login ID with SYSADMIN Privileges

Follow this procedure to create a login ID with SYSADMIN privileges.

To create a user login ID with SYSADMIN privileges:

1. Log into EPM SA.
2. In the left navigation pane, click **Security**, and click **Users**.
3. Click **New » New Record**.
4. On the General tab, perform the following steps:
   - Enter your appropriate values in the **Username**, **First Name**, and **Last Name** fields.
   - In **Primary Role**, select **SYSADMIN**. This gives you full access rights to configure the system.
   - Enter your email address.
5. On the Groups tab, click **Insert** and select **SYSADMIN**.
6. On the Authentication tab, click **Set Password**, and enter a password.
7. Click **Save**.

Create a User Login ID to Connect to Open Plan

If you are using Open Plan, you must create a specific username and password for PM Compass to connect to Open Plan. PM Compass utilizes this information to implement changes and execute

processes, such as time analysis, for projects managed by PM Compass. This login information is solely for processing purposes and is not used for access control.

These credentials are required regardless of whether you use Open Plan as your scheduling tool, as PM Compass relies on Open Plan functionality for all schedule changes and processes.

Note: If you are not using Open Plan, PM Compass automatically populates the username and password in EPM SA during installation. In this case, do not remove or edit the data in these fields as this will break the integration.

To create a user login ID to connect to Open Plan:

1. Log into EPM SA.
2. In the left navigation pane, click **Security** and then click **Users**.
3. Click **New » New Record**.
4. On the General tab, perform the following steps:
   - Enter your appropriate values in the **Username**, **First Name**, and **Last Name** fields.
   - In **Primary Role**, select **SYSADMIN**. This gives you full access rights to configure the system.
   - Enter your email address.
5. On the Groups tab, click **Insert** and select **SYSADMIN**.
6. On the Authentication tab, click **Set Password**, and enter a password.
7. Click **Save**.
8. In the left navigation pane, click **Configuration**, and click **System Settings**.
9. In **Credentials for PM Compass to Connect to Open Plan**, enter the username and password that you created.
10. Click **Save**.

Note: When you proceed with the steps to enter licenses and set up user access, you will need to assign the newly created user to an Open Plan license.

Configure the PM Compass System Settings

Follow this procedure to configure the system settings in EPM SA.

To configure the system settings:

1. Log into EPM SA.
2. In the left navigation pane, click **Configuration**, and click **System Settings**.
3. On the Email tab, enter the appropriate values in the following fields:
   - **Email Server**: Enter your email server IP address or server name.
   - **Port**: Enter the port (25 is the most common).
   - **SMTP Server Domain Authentication**: Enter an email address and password if your SMTP server requires domain authentication.

- **Default Help Desk Email**: In the top right corner of PM Compass, under the Help menu, you will find an option called Internal Help Desk. This feature allows end users to quickly email someone within your company who can assist with their issues. Enter the email address of the person in your company who should receive all user support request emails
- **Default Sender Email**: When the PM Compass workflow sends a user an email notification or error message, it will come from the address entered in this field. Deltek recommends creating a dedicated email address for this purpose, such as PMCompass@yourcompany.com, and using it as the default sender. During implementation, any replies to PM Compass emails will be directed to this account. One benefit of having a dedicated email address is that you can set up an Outlook rule to move emails from this address to a specific folder or forward them to designated individuals.

4. Click **Save**.
5. Click **Send Test Email to Default Help Desk** and check to confirm that your default help desk email received the test email.
6. On the Servers tab, confirm the PM Compass Application server is listed in the **Application Servers** grid. If you have multiple servers, confirm all servers are listed in the grid.
7. Click **Save**.

Create Groups for Data Access Control

Groups consist of individual users assigned to data objects, such as projects, within the applications. Typically, groups represent major programs, projects, or functional units like the project management office within an organization.

Users can have different roles within a group. For instance, if JDOE is part of the ENGINEERING group, and that group has the rights to create projects, JDOE can create a project.

The role assigned to a group determines what its users can do with the menu options. This allows you to enable or disable access to certain application features based on groups with multiple users, rather than a single role.

A user must belong to at least one group to log in to PM Compass.

> **Attention:** For more information about groups, including defining permissions for a group, see “Define Group Profiles" under **Managing Security** in the EPM SA Help System.

To create or edit a group:

1. Log into EPM SA.
2. In the left navigation pane, click **Security**, and click **Groups**.
3. On the Groups form toolbar, click **New**, and select from one of the following options:
   - **New Record**: Select this option to create a blank group record.
   - **Copy Current Record**: Select this option to copy the current group record to a new record. The copied group becomes populated with the original group information, except for the Group ID.
   - **Select Record to Copy**: Select this option to copy a record of another group. Selecting this option displays the Group Search dialog box. Selecting multiple records is not allowed. The copied record becomes populated with the original group information, except for the Group ID.

4. Enter or modify the necessary details.
5. Click **Save**.

Assign Roles and Groups to Users

After creating roles and groups, you must assign users to them.

To assign roles and groups to users:

1. Log into EPM SA.
2. In the left navigation pane, click **Security**, and click **Users**.
3. Use the navigation arrows or the **Search** field to locate the user.
4. On the General tab of the Users form, select a primary role for the user.
5. On the Groups tab, click **Insert**.
6. Use the Lookup dialog box to locate the group that you want to assign.
7. Select the group and click **Selec**t.

   Use CTRL+click or SHIFT+click to select and assign multiple groups.
8. Click **Select**.

   The group is added to the **Assigned Groups** grid.
9. Click **Save**.

Add Users to a Product

Before a user can log into PM Compass, Cobra, or Open Plan, they must be assigned to a product.

To add users to a product:

1. Log into EPM SA.
2. In the left navigation pane, click **Products**, and click **PM Compass**.
3. In the **Assigned Users** grid on the License tab, click **Insert**, and select users in the User Search dialog box.

   Use CTRL+click or SHIFT+click to select and assign multiple users.
4. Click **Select**.
5. Click **Save**.

Your license key specifies the number of licensed users. You can only select up to this number of licensed users in the grid.

Verifying the PM Compass Settings

Use the procedures in this chapter to verify the PM Compass settings.

Specify and Apply the Default Application URL

In PM Compass, enter the URL where Deltek PM Compass is installed to ensure hyperlinks in emails sent from PM Compass function correctly.

To specify and apply the default application URL:

1. In Microsoft Edge, enter the URL for PM Compass.

   For example, http://<web server>/PMCompass.
2. Click **Deltek PM Compass** or wait for the application to load.

   PM Compass will then display the Deltek PM Compass Logon dialog box.
   a. Enter a username and password that has SYSADMIN privileges.
   b. In the **Database** field, select the same database you selected in the EPM SA Login dialog box.
   c. Click **Login**.
3. In the PM Compass, click **Administration » System Settings**.
4. In the **Application URL** field on the General tab, enter the application URL.

   For example, http://<web server>/PMCompass.

> **Note:** When you use Model Changes, the system launches it using this URL.

Verify the PM Compass Components

Inside PM Compass, you can verify that the various components are configured correctly.

To verify components:

1. Login to PM Compass with the user ID you created and assigned as a member of the SYSADMIN group.
2. On the **Navigation** menu, click **Administration » System Settings**.
3. On the General tab, perform the following actions:
   a. Verify that the application URL is correct.
   b. In the **User to Resolve Workflow Failures** field, verify that the designated user is responsible for resolving workflow issues during implementation.
4. On the Verify Components tab, click **Verify**.

   As each component is verified, a **Passed** or **Failed** status is added to the line. If any record fails, click the hyperlinks to follow the steps to resolve the issue.

Next Steps

These tasks are usually carried out by a Control Account Manager or System Administrator.

Attention: For more information, see “Configuring PM Compass” in the PM Compass Help System.

Email Users

Email users to inform them that PM Compass has been installed. Include the hyperlink to access PM Compass and recommend that they add the URL as a favorite in Microsoft Edge. Alternatively, you can provide instructions for adding a shortcut to their desktop.

Using the Sample Database

Deltek recommends restoring a sample database to facilitate evaluation and testing. PM Compass includes a sample/demo SQL Server database. Upon installation, the following sample databases are placed in the <PM Compass Installation Directory>\Databases\Sample folder:

- **PMCompassSampleData84.bak**: This is the backup sample database.
- **PMCompassSampleSnapshot84.bak**: This is the backup sample snapshot database.

If you are using a SQL server, the sample databases are placed on the Database server. If you are using an Oracle server, the sample databases are placed on the Report server.

To use the sample databases, you must restore them first. After restoring the sample databases, configure them to run on your server.

> **Attention:** For detailed instructions, see "Appendix I: How to Run the Deltek PM Compass Sample Database Restore Wizard" in this guide.

To configure the sample databases:

1. In PM Compass, navigate to **Administration » System Settings**, and perform the following steps:
    a. Click the General tab and enter the application URL in the **Application URL** field.

    > **Attention:** For more information, see "General Tab of the System Settings Form" in the PM Compass Help System.

    b. Click the Files Folders tab and enter the shared folder location in the appropriate fields.

    > **Attention:** For more information about sharing the folder, see "File Folders Tab of the System Settings Form" in the PM Compass Help System and "File Share Requirements" in this guide.

2. Using the Cobra Data Tool on the client, create a data source for the sample database.
3. In Cobra, click  » **Preferences » Application**.
4. In the Application Preferences dialog box, perform the following steps:
    a. Click the Data Access tab, and perform the following steps in the Process Log group box:
        i. Select the **Write process logs to a text file** option.
        ii. Enter the full path to the folder using a UNC format in the **Location** field.
    b. Copy the Cobra report templates to a shared folder for which PM Compass has access rights.
    c. Click the Reports tab and enter the UNC path to the shared folder of Cobra report templates in the **Report Template Location** field.

    > **Attention:** For more information, see "Reports Tab of the Application Preferences Dialog Box" in the Cobra Help System.

5. In EPM SA, click **Configuration » Systems Settings**, and perform the following steps:
   a. On the General tab, enter the credentials for PM Compass to connect to Open Plan.

   The user must be a member of the SYSADMIN group.

   b. On the Servers tab, specify the Application server.
6. In PM Compass, click **Administration » System Settings**, click the Verify Components tab and then click **Verify**.

Log into the Sample Database

The sample database includes several users. The security settings allow the following users to log in:

User ID	Password	Project	Responsibility
SYSADMIN	password	All	
EVELYN		Inter-Planet Shuttle	PCA
JACK		Inter-Planet Shuttle	Control Account Manager
RICK		Inter-Planet Shuttle	Project Manager
ED		Inter-Planet Shuttle	IPT Lead
JANE		USS San Antonio	PCA
SAM		USS San Antonio	Control Account Manager
PAUL		USS San Antonio	Project Manager
FRED		USS San Antonio	IPT Lead
AL	password	All	The System Administrator

To log into the sample database:

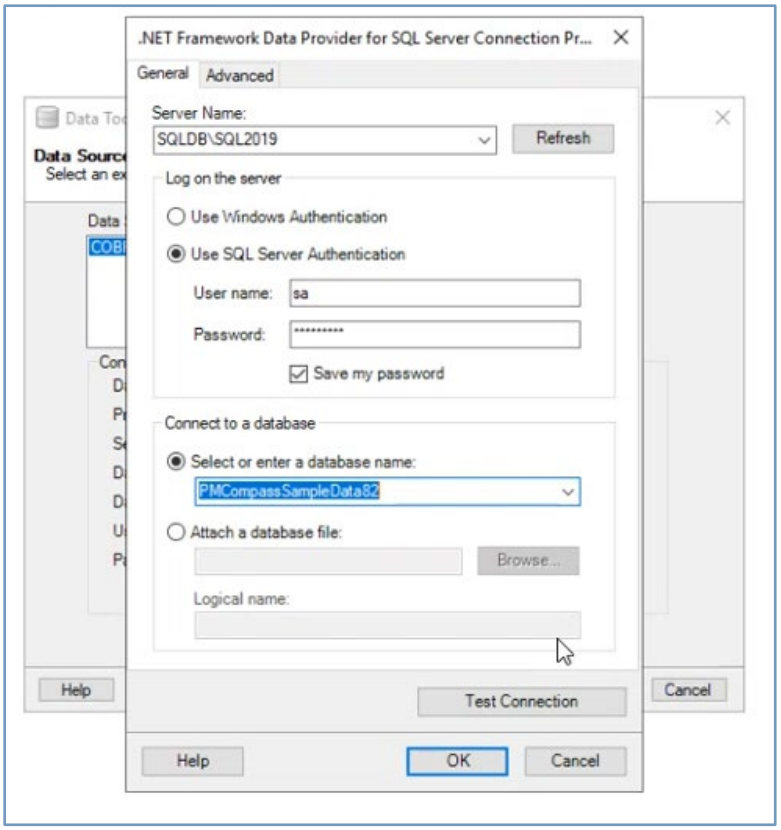
1. Access the PM Compass Login dialog box.
2. Enter one of the user IDs and passwords from the table above.
3. Select the sample database from the **Database** field and click **OK**.

Use the Sample Databases to Configure the BCR Snapshot Database

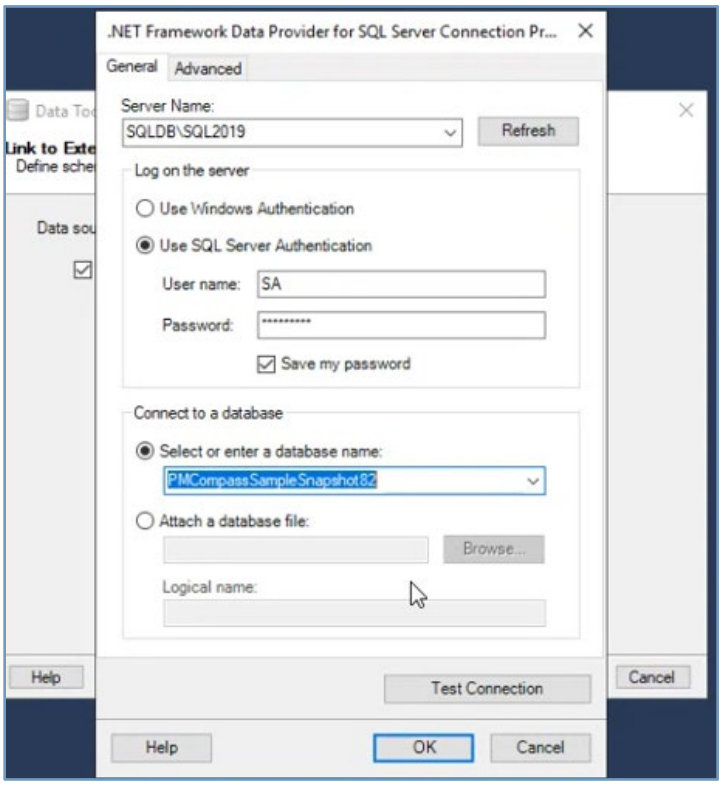
You can use the sample database to configure the BCR snapshot database.

To use the sample database in configuring the BCR snapshot database:

1. Restore the sample database.
2. Run the Deltek Cobra Data Tool as Administrator and perform the following steps:
   a. On the Data Sources page, add the **PMCompassSampleData84** data source to which you want to add a linked BCR Snapshot database.



   b. Navigate to the pages of the Cobra Data Tool Wizard by clicking **Next**.
   c. On the Link to External Database page, specify the connection details of the **PMCompassSampleSnapshot84** database using the same data provider as the sample database.



d. On the Confirmation page, click **Finish** when the "Link to External Database will be updated" message displays,

3. If the main database has additional user fields, you must add them to the BCR Snapshot database as well.
4. If you have previously run the **RecreateAsGlobalTempTables_Oracle.sql** script, you must run it again.
5. Add a data source to Open Plan. Press and hold the CTRL key and click the **Login** button.

Use the Sample Database with MSP Integration

You can use the PM Compass project titled **Vessel** (from the sample database) and the related sample .mpp file (**vessel.mpp**) to learn more about the MSP integration process.

To run the MSP integration process using the sample data:

1. Copy the **vessel.mpp** file into the MSP Files folder.

   This file is installed on the Web/Application server. The default location for this file is <Default Installation Directory>\Support\MSP. For example, C:\Program Files\Deltek\PM Compass\Support\MSP.
2. If you did not specify the UNC path to the MSP Files folder during installation, you will need to add it manually by running a database script. If you did specify the UNC path during installation, you can skip this step.

> **Attention:** For steps, see "Add or Edit the MSP Integration Folder UNC Paths" in this guide.
>
> If you have not yet created the folders, see "Create the MSP Files and Logs Folders and Configure the Security Settings" in this guide.

3. In PM Compass, display the Project Form view, click the Schedule Integration tab, and perform the following steps:
    a. Link the **vessel.mpp** file to the PM Compass Vessel project.
    b. Click **Run Now** to load the associated MSP file into PM Compass.
    c. Identify the assignee and approver.
    d. Click **Schedule** to schedule the creation of progress entries and notifications.

> **Attention:** For more information, see "Configure Progress for Microsoft Project" in the PM Compass Help System under **Projects**.
>
> For additional configuration information, see "Appendix N: Integrating with Microsoft Project" in this guide.

Using the PM Compass Help System

Once you have completed your PM Compass installation, you can refer to the PM Compass Help System for additional configuration guidance.

For instance:

- **Integration with Other Products**: Refer to this section to know about the setup and configuration information for each integrated product.
- **Workflow Type Configuration**: This section under **Administration » Workflow Type Configuration** includes information about:
  - Creating, deleting, and modifying workflow types
  - Adding and removing standard, custom, and source fields
  - Modifying forms using the Form Designer
  - Workflow concepts and procedures
- **Change Management Process**: This section under Workflows » Workflow Types » Change Management) steps you through the change request process in detail and includes links to related topics.
- **Progress**: This section under **Projects » Progress** includes topics that step you though the progress configuration process with links to related topics.

Troubleshooting the Installation

This chapter includes topics on troubleshooting installation-related issues.

Temporary Log Files and the Log Files Folder

All temporary log files are stored in the %localappdata% location (C:\Users\%username%\AppData\Local\), and a shortcut to the log file is added to the desktop. The log file name is similar to the executable file name but with a .txt extension.

Once the installation is complete, the desktop shortcut is deleted, and the log file is moved to a log subfolder in the PM Compass installation directory. This folder contains the installation log, as well as logs created when the installation loads reports into the Report server and any subsequent database conversions from the database upgrade utility.

Note: If you encounter any errors during the installation, contact the Deltek Support Center and provide them with the log file.

Check the Log Files After Installation

After completing the installation, Deltek recommends reviewing the database conversion log files for any errors. If you find any, contact the Deltek Support Center and provide them with the log file contents.

Conversion Log

During the conversion, the database conversion log files are saved with a .log extension in the <PM Compass Installation Directory>\Logs\ScriptLogs folder. For example: C:\Program Files\Deltek\PMCompass\Logs\ScriptLogs.

These log files contain the output of commands processed against your database and should be sent to Deltek if you encounter any errors during the database conversion. The logs are created when you select either the **Automatically run scripts during the installation** or **Create batch file to run scripts manually** option to apply the database changes.

The **Automatically run scripts during the installation** option also causes the setup to parse through the log file for errors. If any are identified, the setup will display a text window with the contents of the file and a warning that errors were encountered during the conversion.

If you chose to run the database scripts via the installation-created batch file or the product-specific batch files, there is an additional batch file named **Check_Errors.bat** located in each scripts sub-folder (Cobra, SQL, and Oracle) that you should also run. This batch file will check the log files created by each database script process and write any errors identified in those logs to an **Errors.txt** file in each scripts sub-folder.

PM Compass Database Upgrade Wizard Utility Log

If you updated any databases after the installation using the Database Upgrade Wizard Utility, ensure that a conversion log for each database was created. Match the time stamp of the conversion with the log file starting with **DeltekPMCompassDBUpgradeSetupLog...** and the time stamps of the files in the ScriptLogs folder to identify the scripts for the converted database. The name of the converted database can be found in the DeltekPMCompassDBUpgradeSetupLog.txt file.

Search for the following terms in the log file:

- msg
- timeout
- error
- ORA-

If you find any errors, contact the Deltek Support Center and provide them with the log file contents.

If you ran the database scripts using the utility's automatic option or the product-specific batch files, there is an additional batch file named **Check_Errors.bat** located in each ScriptLogs sub-folder. Run this batch file to check the log files created by each database script process. It will write any identified errors to an **Errors.txt** file in each scripts sub-folder. This text file will include the log file where the error was found, the line number of the error, and the error text.

Run the Database Scripts Manually

If you chose to run the database scripts manually using the installation-created batch file or the product-specific batch files, there is an additional batch file named **Check_Errors.bat** located in each scripts sub-folder (Cobra, SQL, and Oracle). You should also run this batch file. It will check the log files created by each database script process and write any identified errors to a file named **Errors.txt** in each scripts sub-folder. This text file will include the log file where the error was found, the line number of the error, and the error text.

Log Files Generated During the Report-Loading Process

If you encountered errors during the report-loading process of the installation but the installation continued, check the log file in the PM Compass\Logs folder named **DeltekMakoCMD_xx-XX.log** (where xx-XX represents the language of your loaded reports) to ensure the reports were loaded correctly. If there are errors, you can reload your reports by navigating to **Administration » Report** Administration and clicking **Load Report Files**.

Sample Database Restore Wizard

Deltek recommends that you review the **DeltekPMCompass_RestoreWizard_SetupLog**.txt log file to check for errors.

Unsupported Scenarios

Deltek does not support the following scenarios because they can cause significant issues in the performance, reliability, and functionality of your PM Compass application, as well as with other applications on your network.

- Deltek PM Compass and previous versions cannot be run at the same time on the same Web/Application server.
- You cannot perform a single-server deployment on the Microsoft Essentials Edition of Windows Server. Only the PM Compass SQL Server database tier and/or report tier can be installed on this server.
- You cannot install any PM Compass tier on the Microsoft ISA server or on any other software-based firewall (except Windows firewall).
- You cannot install any PM Compass tier on any server with Citrix configured as a Remote Desktop Session Host Server.
- Server administration via a remote desktop connection is fully supported.

- PM Compass does not support using desktop operating systems for production server installation.
- You cannot install any PM Compass tier on:
  - A Domain Controller
  - Any version of Microsoft Exchange Server
  - Any version of Microsoft SharePoint Server

Troubleshooting PM Compass

This chapter provides guidance on how to contact Deltek if you encounter issues during installation. It also includes a list of potential installation errors and their possible solutions.

Attention: For troubleshooting integration issues, see the following sections in this guide:

- "Troubleshooting Cobra Integration Issues"
- "Troubleshooting Open Plan Integration Issues"
- "Troubleshooting Microsoft Project Integration Issues"
- "Troubleshooting Primavera P6 Integration Issues"
- "Troubleshooting Oracle Issues"

Oracle Issues

If you encounter the error "ORA-01000: maximum open cursors exceeded," it indicates that certain processes have surpassed the default cursor count (1000).

To resolve this, increase the number of open cursors on the Oracle database.

For example:

```
alter system set open_cursors = 3000 scope-both;
```

"503 Service Unavailable" Error

If you encounter a "503 Service Unavailable" error when launching PM Compass, it indicates an issue with the user account running the PM Compass server components.

To resolve this, reconfigure the account running those components.

Attention: For more information and steps, see "Appendix K: Configure the Account Running the Services" in this guide.

Application Servers Not Identified in EPM SA

To run jobs in EPM SA, you need to specify the servers. The Application servers you list will then be available for selection as Process servers.

- **Application servers**: These servers handle user requests, such as saving user data and processing requests from the client application.
- **Process servers**: These servers manage scheduled jobs, including scheduled reports, queued integration processes, and workflows.

To add, edit, or delete an Application server:

1. Log into EPM SA using an account with SYSADMIN privileges.
2. On the **Navigation** menu, click **Configuration » System Settings**.
3. On the Servers tab, do one of the following:

- On the **Application Servers** grid toolbar, click **Insert** to add a new process queue or application server

  PM Compass adds a blank row where you can enter the name of the queue or server.
- In the **Application Servers** grid, select the queue and click **Delete** on the grid toolbar to delete an existing queue.

4. Complete or modify other fields on this form and click **Save**.

Attention: For more information, see "Servers Tab of System Settings" under **Managing Configuration » System Settings » Toolbar and Tabs** in the EPM SA Help System.

SSRS Reports Intermittently Hanging or Failing

If your reports are intermittently hanging or failing, the issue might be due to antivirus software monitoring the folder where SSRS temporary files are written. For a solution, refer to KB article 102261 on the Deltek Support Center site.

Attention: For additional information regarding Antivirus and SQL Server, see the following Microsoft article: Choosing Antivirus Software for Computers that run SQL Server.

Microsoft Edge Issue

If PM Compass does work with Microsoft Edge, confirm that you have enabled the ClickOnce flag in the Edge settings.

To enable the ClickOnce flag:

1. Display the Microsoft Edge browser.
2. In the address bar, enter **edge://flags/#edge-click-once**.
3. In the **ClickOnce Support** field, select **Enabled**.
4. Restart the browser.

Email Address for Logged-In User Fails

The workflow and other processes in PM Compass use email to notify users. Each PM Compass user must have a valid email address entered in EPM SA.

To correct the logged-in user email address:

1. Log into EPM SA using an account with SYSADMIN privileges.
2. On the **Navigation** menu, click **Configuration » System Settings**.
3. Use the **Search** field or navigation arrows to locate the user.
4. On the General tab, edit the **Email** field and click **Save**.
5. In PM Compass, verify the installed components again.

PM Compass Report Installation Errors

When installing reports in PM Compass, you may encounter various errors that can disrupt the process. Understanding the common issues and their solutions can help ensure a smooth installation and operation of your reports.

Installation Type	Problem	Possible Cause	Solution
Upgrade existing PM Compass installation	The connection between the Report Server database and Reporting Services URL fails	The account specified in Weblink does not have the appropriate rights to the Report server, Web server, Report Server databases, and PM Compass database.	Grant the Weblink account the necessary rights to the Report server or use a Weblink account that has the necessary rights to the report server.
All installation types	The connection between the Report Server database and Reporting Services URL fails.	The Report server did not respond in a timely manner and the connection timed out.	Launch PM Compass and reload the reports. **Attention:** For steps to resolve this issue, see "Reload Reports" and "Refresh Printers" in this guide.

PM Compass Tier Installation Messages

This section provides documentation on messages that may appear during the installation of PM Compass tiers, along with brief explanations and tips on how to proceed.

Run Reports

Follow this procedure if you get an invalid user error when running reports.

1. Launch Deltek Weblink.
2. Select your database.
3. On the Report Server tab, if your Report Server database connection is configured for Windows Authentication, clear and then select the **Windows Authentication** option to refresh the details.
4. Save the changes.

Connecting to the Report Server During Installation

If you encounter errors connecting to the Report server during installation, review the steps in "Important Information about Configuring Report Services" in this guide.

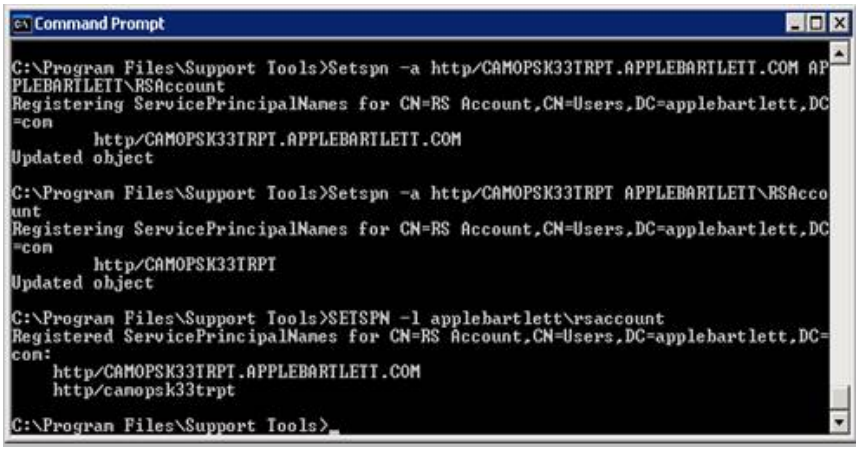
One potential cause of the 401 error is an invalid username/password combination. If the credentials are correct but the 401 error persists, the solution may involve creating a Service Principal Name (SPN) and disabling Kerberos authentication. When the Report server service account is configured as a domain account, Reporting Services defaults to using Kerberos Authentication.

To prevent HTTP 401 errors when installing the PM Compass Web Tier, testing Weblink connections to Reporting Services, or loading reports in PM Compass, perform one of the following:

- Create an SPN for the account.
- Turn off Kerberos authentication in the **rsreportserver.config** file on the Report server.
- Configure an SPN, logon to a domain controller as a domain administrator and complete the steps in the following Microsoft link: https://msdn.microsoft.com/en-us/library/cc281382.aspx.

  Note: Do not specify a port in the command syntax as suggested by Microsoft.

  The screenshot below illustrates the syntax used to add an SPN (**setspn -a**) for the Report server's NETBIOS and FQDN names with a domain account, as well as the syntax to list (**setspn -l**) the registered SPNs for the domain account. In this example, the domain is **applebartlett.com**, the Report server name is **CAMOPSK33TRPT**, and the account name is **RSAccount**.



- Alternatively, instead of setting an SPN, you can configure the **RSReportServer.config** file with the following XML structure to specify NTLM only. This approach is suitable for deployments that do not support Kerberos or to work around Kerberos authentication errors (HTTP 401 errors). By default, this file is located in the Reporting Services installation folder, within the \Reporting Services\ReportServer subdirectory:

<AuthenticationTypes>

<RSWindowsNTLM />

</AuthenticationTypes>

Attention: For details about Kerberos-related authentication issues and additional steps on how to edit the **RSReportServer.config** file in the following Microsoft Reporting Services documentation: https://msdn.microsoft.com/en-us/library/cc281253.asp.

Running Large Reports (SQL Server Reporting Services (SSRS) Reports)

Running large reports can take a significant amount of time to complete. When you preview large reports from PM Compass (**Reports » <report category> » <report> » Preview**), the connection to the server

may time out before the report finishes. If you encounter a timeout error, Deltek recommends scheduling the report to run on the Process server. This creates an archive of the report that you can view in your dashboard once it is complete. To do this, click **Schedule** on the Reporting toolbar to display the Schedule dialog box.

When scheduling the report, you can select **Send Process Status Email Alert to Submitter** to receive an email notification when the report finishes or fails. Once the report is completed, you can view it by clicking on the Archived Reports tab (**Reports » <report category>).** If the report fails (and does not appear on the Archive tab), you can check the Report Logging tab (**Administration » Report Administration)** to locate the report. If it has failed, the Status column will display **rsInternalError**.

If you encounter any errors when running reports and need to troubleshoot them, you can find additional details in the SQL Server Reporting Services log files on the Report server. Your administrator can review these logs. Microsoft provides information on what is stored in the logs, where to find them, and how to configure them.

SQL Logging and SQL Exceptions

You can enable two modes for logging in PM Compass:

- **SQL Exceptions**: This mode provides details when an error occurs. It is recommended that this be enabled in a development environment when you are testing new releases. If the error occurs, it will be logged, and you will not have to spend time recreating the error.
- **SQL Logging**: This mode is verbose logging that captures every query and the time it takes to execute the query. This logging is helpful when determining performance issues. This logging should only be enabled when determining performance issues.

Attention: For more information, see the “Logging and Exception Tracing” topics in the PM Compass Help System.

Enabling logging in the production environment is not recommended for long periods as logging can impede performance. You can enable logging by editing the **web.config** file. If you enter a valid path for logging, the SQL Exceptions will be logged. Setting **SQLLogging** to **Y** in the file will provide more detailed logging used for performance testing.

Note: Make sure that all users are logged out of PM Compass before making these changes. When changes are made, all users will automatically be logged out.

To enable SQL exceptions:

1. Create the folder to store logging.

   The logging folder must be shared. Deltek recommends creating a new logs folder called **SqlLogs** on the same level as the folder where you store your Integration Process logs.

   For example, if this is your Integration Files folder**: \\<servername>\<Deltek folder>\ProcessLogs**, then you create your **SqlLogs** folder here: **\\<servername>\<Deltek folder>\SqlLogs**.

   To see the location of your Integration Process logs, log into PM Compass, navigate to **Administration » System Settings,** and click the File Folders tab.

2. Locate the **web.config** file, which is located in the web folder of the PM Compass installation directory, and open it using Notepad or any other text editor.

3. In the **<appSettings>** section, add or locate the following lines:

```
<add key="SQLLogDirectory" value="<log path>" />
<add key="SQLLogging" value="<Y/N>" />
```

4. To enable SQL exceptions, modify the following line to include the folder in Step 1.

```
<add key="SQLLogDirectory" value="<log path>" />
```

For example:

```
<add key="SQLLogDirectory"
value="\\<server>\DeltekPMCompass\Files\Links\SQLLogs " />
```

5. To include SQL logging, modify these lines to include the folder in Step 1 and set the value to **Y**.

```
<add key="SQLLogDirectory" value="<log path>" />
<add key="SQLLogging" value="<Y/N>" />
```

For example:

```
<add key="SQLLogDirectory"
value="\\<server>\DeltekPMCompass\Files\Links\SQLLogs" />
<add key="SQLLogging" value="Y"/>
```

6. Save and close the **web.config** file.
7. Restart IIS by performing the following actions:
   a. On the **Start** menu, click **Run**.
   b. Enter **inetmgr** and click **OK** to open IIS.
   c. Locate the PM Compass Web application and restart it.

   By default, this is under **Default Web Site**.

How PM Compass Writes SQL logs and SQL Exceptions

The table below shows the conditions under which PM Compass writes logs for SQL and SQL exceptions.

SQLLogging	SQLLogDirectory Value	Will Write SQL Logs?	Will Write SQL Exceptions?
Y	Not specified or folder does not exist	No	No
N	Valid path entered	No	Yes
Y	Valid path entered	Yes	Yes
N	Not specified or folder does not exist	No	No

Log Format for Query Without Exception (One Line Per SQL Execution)

[Time Started] [SQL Query] [Elapsed Time] [Number of records returned/Affected records]

Sample Log Content

```
2019-11-21T17:05:04.888    SELECT CostSystem FROM CAM_SystemSettings  0.001   1
```

Log Format for Queries with Exception (One Line Per SQL Execution)

[Time Started] [SQL Query] [Elapsed Time] ERR:[Exception Error] [Call Stack]

Sample Log Content

```
2018-11-21T17:05:04.888    SELECT CostSystem FROM CAM_SystemSettings ERR: ORA-00001:
unique constraint (PMC82COB82CU5ORAUPG.CAM_ITEMUPDATESTATUSPK) violated    at
Oracle.DataAccess.Client.OracleException.HandleErrorHelper(Int32 errCode,
OracleConnection conn, IntPtr opsErrCtx, OpoSqlValCtx* pOpoSqlValCtx, Object src,
String procedure, Boolean bCheck)   at
Oracle.DataAccess.Client.OracleException.HandleError(Int32 errCode, OracleConnection
conn, String procedure, IntPtr opsErrCtx, OpoSqlValCtx* pOpoSqlValCtx, Object src,
Boolean bCheck) at Oracle.DataAccess.Client.OracleCommand.ExecuteNonQuery()   at
Deltek.Framework.Ancestors.Server.ParameterizedCommand.ExecuteCommand(Object[]
parameterValues) in
C:\Development\FrameworkDotNet\production\46PMC82\VB\Server\Ancestors\ParameterizedCom
mand.vb:line 155
```

Using Windows Event Viewer to Troubleshoot Cobra Web Service

If you come across unhandled exceptions in Cobra Web Service, you can locate an entry in the Windows Event Viewer under **Applications and Service Logs » Microsoft » Windows » Application Server-Applications » Operational log**.

Sending Installation Log Files to Deltek

If you encounter any problems while installing Deltek PM Compass, contact Deltek Support Center for assistance. To help us resolve your installation issues as quickly as possible, send all installation log files to Deltek when requesting assistance with troubleshooting an installation.

> **Note:** Make sure to take note of any error messages that appear when errors occur. If possible, capture screenshots and send the screenshot files to Deltek.

> **Attention:** For more information, see "Temporary Log Files and the Log Files Folder" in this guide.

UNC Shared Folders

If you encounter an error during installation that the UNC share folders cannot be created, check the following:

- Ensure that the UNC path specified is a valid path.
- Ensure that the account running the PM Compass Application pool in IIS has proper privileges to read and write to the share.
- Ensure that the account running the PM Compass Process Server Windows Service on the Web server and any Process servers also has the proper privileges to read and write to the UNC path.

If necessary, you have the option to edit the folders in PM Compass (**Administration » System Settings » File Folders**).

TemplateFile Missing" Error

If the ReportTemplates folder created during Cobra installation is missing, it can result in a “TemplateFile missing” error during a PM Compass export. When encountering this error, verify that the **Report Template Location** field on the Reports tab of the Application Preferences dialog box in Cobra is correctly set. In addition, ensure that a network share is configured to allow all installations of Cobra Web Service to access report templates. The user account running the Cobra Web Service Windows Service must have at least read rights to the Report Templates folder. Remember that the setting in the **Report Template Location** field is saved per database, so any changes require repetition for each database. After making the change, stop and restart both Cobra Web Service and the PM Compass Process server.

Appendix A: System Requirements

Deltek recommends that you carefully consider the system requirements necessary to run PM Compass properly.

Server Software Requirements

Various parts of the PM Compass application are distributed to logical tiers for performance, scalability, and security purposes. These logical tiers are distinct technologies required to run PM Compass, such as Report server software or Web server software. They may or may not be hosted on the same server. The method you use to distribute PM Compass's logical tiers across multiple tiers or actual server depends on your organization's needs.

The software requirements for each logical tier are listed in the tables below.

- **Supported Versions**: Supported versions are the currently actively tested versions of technologies used to deploy PM Compass. Except for the Deltek Integrated Products, these technologies are not directly supported by Deltek. Changes to these technologies occur at the discretion of the individual technology vendors.
- **Compatible Versions**: Compatible versions are the recent previously supported and tested technologies used to deploy PM Compass. These are not actively being tested but are believed to be compatible with PM Compass. Deltek does not recommend these technologies for new deployments but will make its best effort to answer questions concerning these technologies. These technologies may not be available for troubleshooting at Deltek.

Supported Deployment Technology	Compatible Deployment Technology
Database Server (Oracle)	
The supported minimum software requirements for a complete installation of Deltek PM Compass database tier with Oracle include: **Operating System** ▪ Microsoft Windows Server 2022 ▪ Microsoft Windows Server 2019 ▪ Microsoft Windows Server 2016 **Database Platform** Oracle Databases Standard/Enterprise) ▪ Oracle RDBMS 19.10 or higher JServer Java Virtual Machine Required	**Operating Systems** ▪ UNIX supported with Oracle Databases ▪ Standard and Enterprise editions supported ▪ 64 bit (x64) Database Server supported ▪ JServer Java Virtual Machine ▪ Supported on Linux, Unix, and Exadata
Database Server (Microsoft SQL Server) *64-bit only*	
The supported minimum software requirements for a complete installation of Deltek PM Compass database tier with Microsoft SQL Server include: **Operating System**	

Supported Deployment Technology	Compatible Deployment Technology
▪ Microsoft Windows Server 2022 ▪ Microsoft Windows Server 2019 ▪ Microsoft Windows Server 2016 **Database Platform** ▪ Microsoft SQL Server 2019 ▪ Microsoft SQL Server 2017 ▪ Microsoft SQL Server 2016 **Other** ▪ Microsoft .NET Framework 4.8 (Required for the optional installer) **Database Compatibility Level** ▪ Microsoft SQL Server 2017 (150) ▪ Microsoft SQL Server 2017 (140) ▪ Microsoft SQL Server 2016 (130) ▪ Microsoft SQL Server 2019 (150)	
AI Model Provider (Beginning with PM Compass 8.4 Cumulative Update 10)	
▪ Microsoft Azure OpenAI GPT-35-Turbo ▪ Microsoft Azure OpenAI GPT-4-Turbo ▪ Microsoft Azure Government Cloud GPT-35-Turbo ▪ Microsoft Azure Government Cloud GPT4-Turbo	
The supported minimum software requirements for a complete installation of Deltek PM Compass Report server tier with Microsoft SQL Server include: **Operating System** ▪ Microsoft Windows Server 2022 ▪ Microsoft Windows Server 2019 ▪ Microsoft Windows Server 2016 **Report Server** ▪ Microsoft SQL Server Reporting Services 2019 ▪ Microsoft SQL Server Reporting Services 2017 ▪ Microsoft SQL Server Reporting Services 2016 ▪ Microsoft SQL Server Reporting Services 2019 **Oracle Client** - (For Oracle databases only)	

Supported Deployment Technology	Compatible Deployment Technology
(64-bit/x64) ▪ Must match OS Platform ▪ Version must match Oracle database server. ▪ 19c (64-bit only) ▪ Oracle **Server name/SID** defined in **tnsnames.ora** must be the same on your PM Compass Application, Report, and Process server tiers. **Other** ▪ Microsoft .NET Framework 4.8 ▪ Microsoft Visual C++ 2017 Redistributable Package (x86 and x64) ▪ Microsoft Visual C++ 2013 x64 Update 5 (12.0.30501.0 or higher) https://www.microsoft.com/en-us/download/details.aspx?id=40784 Required when running PM Compass client on the Web server	

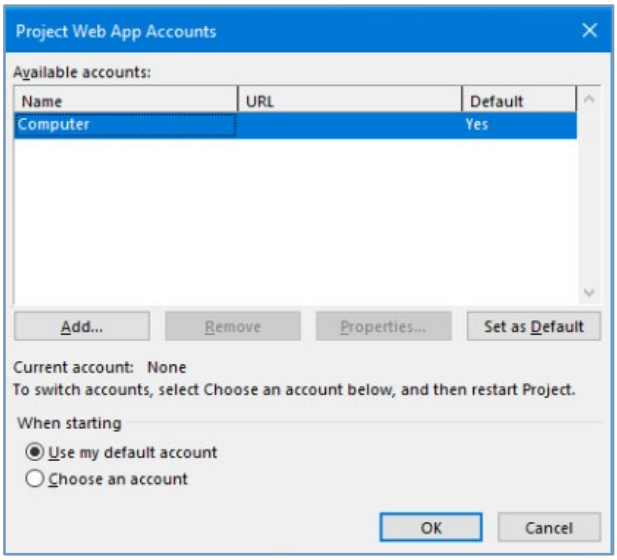
Web and Process Servers Software Requirements

Supported Deployment Technology	Compatible Deployment Technology
Web Server	
The supported minimum software requirements for a complete installation of Deltek PM Compass Web tier include:	
Operating System ▪ Microsoft Windows Server 2022 - With Microsoft Internet Information Services (IIS) 10.0 Role enabled ▪ Microsoft Windows Server 2019 - With Microsoft Internet Information Services (IIS) 10.0 Role enabled ▪ Microsoft Windows Server 2016 - With Microsoft Internet Information Services (IIS) 8.5 Role enabled	
Transport Layer Security (TLS) If you have implemented TLS, review Appendix S: Secure Transport Layer Security (TLS).	
Oracle Client - For Oracle databases only You must install both the 32-bit and 64-bit Oracle client on the Web server.	

Supported Deployment Technology	Compatible Deployment Technology
▪ Version must match the Oracle database server. ▪ 19c (Deltek recommends 19.3 or higher[1]) ▪ Oracle **Server name/SID** defined in **tnsnames.ora** must be the same on your PM Compass Application, Report, and Process server tiers. **Note:** ▪ You must install the supported .NET Framework before installing the Oracle client. ▪ [1]The Oracle client installations do not register the data access components. See "Register your Oracle Client" section in "Appendix F: Using Oracle with PM Compass" of this guide for details to register the Oracle data components to avoid an error in the PM Compass application when it tries to connect to the Oracle database.	
SQL Server Database Drivers - For SQL Server databases only (32-bit and 64-bit) ▪ Microsoft OLE DB Driver 19 for SQL Server (x64) ▪ Microsoft ODBC Driver 17.3 for SQL Server ▪ Microsoft Command Line Utilities 15 for SQL Server ▪ Microsoft SQL Server 2012 Native Client ▪ Microsoft Visual FoxPro OLEDB Provider	

Optional Scheduling Integration with Microsoft Project Files (.mpp files)
For PM Compass to integrate with Microsoft Project files (.mpp files):
▪ You must install one of the following on the PM Compass server:
  ▪ Microsoft Project Professional 2013 (on Windows Server 2016 and 2019)
  ▪ Microsoft Project Professional 2016 (on Windows Server 2022)
  ▪ Microsoft Project Professional 2019
  ▪ Microsoft Project Professional 2021
  ▪ Microsoft Project Professional 2024
Microsoft Project Professional 2019, 2021, and 2024 are supported for **.mpp files** only.	

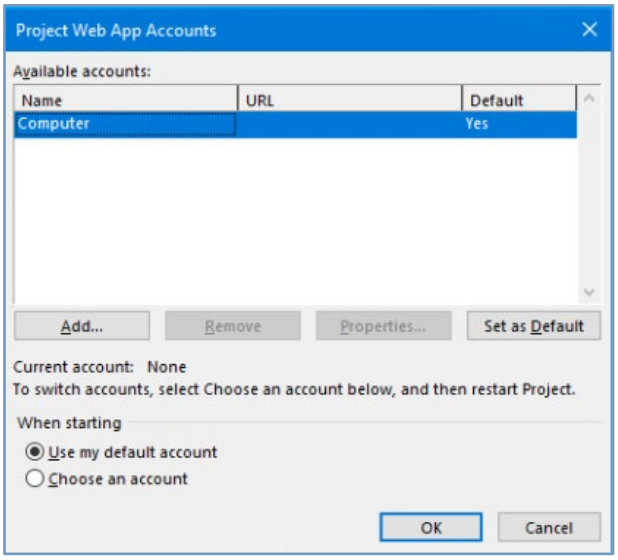
Supported Deployment Technology	Compatible Deployment Technology

Microsoft Project Standard is also supported for those versions.
 	
AND
 	
▪ You must configure the Project Server accounts on the Project Web App Accounts setting menu by selecting the following:
  ▪ **Computer Account**
  ▪ **Set as Default**
 	
 	

Optional Scheduling Integration with Microsoft Project Server (Project Web Application versions 2013 or 2016 only) For PM Compass to integrate with Microsoft Project Server, the PM Compass server requires Microsoft Project Professional 2013 SP1 64-bit version only with update from Nov 10, 2015 applied on the server. **Supported:** ▪ Connection to Project Server 2016 using Project Professional 2013 ▪ Project Professional 2013 with Project Web Application 2013 **Not supported**: ▪ Connection to Project Server 2019 using Project Professional 2013 ▪ Connection to Project Server with Project Professional 2016 or higher	

Supported Deployment Technology	Compatible Deployment Technology
Warning: PM Compass supports integrating and connecting to Microsoft Project Server, but it REQUIRES that the Microsoft Project Professional 2013 64-bit client be installed on the PM Compass Web/Application and Process servers. Do not install Microsoft Project Professional 2016 on the PM Compass Web/Application and Process servers. Microsoft Windows Server 2022 does not support Microsoft Project Professional 2013 installation and license activation. PM Compass does not support connection to Project Web Application 2019.	
Optional Scheduling Integration with Oracle Primavera ▪ Oracle Primavera P6 EPPM 21.12 ▪ Oracle Primavera P6 EPPM 20.12 ▪ Oracle Primavera P6 EPPM 19.12 ▪ Oracle Primavera P6 EPPM 18.8 ▪ Oracle Primavera P6 EPPM 17.12	**Oracle Primavera** ▪ Oracle Primavera P6 EPPM 16.2 with Patch Set 12
Other ▪ **Regional Language**: The **Format** field (on the Formats tab under **Control Panel » Region**) on the server should be the same as the end user's setting. ▪ **Solid PDF Converter**: PM Compass installs it if not detected during installation. ▪ **SSL Supported**: Steps to configure PM Compass for use with SSL are detailed in the "Configure the Secure Sockets Layer (SSL)" section of the *Deltek PM Compass Advanced Administration Guide*. The SSL architecture of PM Compass is such that, if you are using SSL for PM Compass, you must use SSL for Reporting Services. You cannot run SSL for PM Compass without an SSL binding configured for Reporting Services. You cannot run PM Compass without SSL and still use SSL for Reporting Services. ▪ Microsoft Visual C++ 2017 Redistributable Package ▪ Microsoft .NET Framework 4.8	
Process Server	
The supported minimum software requirements for a complete installation of Deltek PM Compass Process server tier include:	

Supported Deployment Technology	Compatible Deployment Technology
Operating System ▪ Microsoft Windows Server 2022 ▪ Microsoft Windows Server 2019 ▪ Microsoft Windows Server 2016	
Transport Layer Security (TLS) If you have implemented TLS, review Appendix S: Secure Transport Layer Security (TLS).	
Oracle Client - For Oracle databases only You must install both the 32-bit and 64-bit Oracle client on the Web server. ▪ Version must match the Oracle database server. ▪ 19c (Deltek recommends 19.3 or higher[1]) ▪ Oracle **Server name/SID** defined in **tnsnames.ora** must be the same on your PM Compass Application, Report, and Process server tiers. **Note:** ▪ You must install the supported .NET Framework before installing the Oracle client. ▪ [1]The Oracle client installations do not register the data access components. See "Register your Oracle Client" section in "Appendix F: Using Oracle with PM Compass" of this guide for details to register the Oracle data components to avoid an error in the PM Compass application when it tries to connect to the Oracle database.	
SQL Server Database Drivers - For SQL Server databases only (32-bit and 64-bit) ▪ Microsoft OLE DB Driver 19 for SQL Server (x64) ▪ Microsoft ODBC Driver 17.3 for SQL Server ▪ Microsoft Command Line Utilities 15 for SQL Server ▪ Microsoft SQL Server 2012 Native Client ▪ Microsoft Visual FoxPro OLEDB Provider	
Optional Scheduling Integration with Microsoft Project Files (.mpp files)	

Supported Deployment Technology	Compatible Deployment Technology
For PM Compass to integrate with Microsoft Project files (**.mpp files** only): ▪ You must install one of the following on the PM Compass server: ▪ Microsoft Project Professional 2013 (on Windows Server 2016 and 2019) ▪ Microsoft Project Professional 2016 (on Windows Server 2022) ▪ Microsoft Project Professional 2019 ▪ Microsoft Project Professional 2021 ▪ Microsoft Project Professional 2024 Microsoft Project Professional 2019, 2021, and 2024 are supported for **.mpp files** only. Microsoft Project Standard is also supported for those versions. **AND** ▪ You must configure the Project Server accounts on the Project Web App Accounts setting menu by selecting the following: ▪ **Computer Account** ▪ **Set as Default** 	
Optional Scheduling Integration with Microsoft Project Server (Project Web Application versions 2013 or 2016 only) For PM Compass to integrate with Microsoft Project Server, the PM Compass server requires Microsoft Project Professional 2013 SP1	

Supported Deployment Technology	Compatible Deployment Technology
64-bit version only with update from Nov 10, 2015 applied on the server. **Supported:** ▪ Connection to Project Server 2016 using Project Professional 2013 ▪ Project Professional 2013 with Project Web Application 2013 **Not supported**: ▪ Connection to Project Server 2019 using Project Professional 2013 ▪ Connection to Project Server with Project Professional 2016 or higher **Warning:** PM Compass supports integrating and connecting to Microsoft Project Server, but it REQUIRES that the Microsoft Project Professional 2013 64-bit client be installed on the PM Compass Web/Application and Process servers. Do not install Microsoft Project Professional 2016 on the PM Compass Web/Application and Process servers. Windows Server 2022 does not support Microsoft Project Professional 2013 installation and license activation. PM Compass does not support connection to Project Web Application 2019.	
Optional Scheduling Integration with Oracle Primavera ▪ Oracle Primavera P6 EPPM 21.12 ▪ Oracle Primavera P6 EPPM 20.12 ▪ Oracle Primavera P6 EPPM 19.12 ▪ Oracle Primavera P6 EPPM 18.8 ▪ Oracle Primavera P6 EPPM 17.12	**Oracle Primavera** ▪ Oracle Primavera P6 EPPM 16.2 with Patch Set 12
Other ▪ **Regional Language**: The **Format** field (on the Formats tab under **Control Panel » Region**) on the server should be the same as the end user's setting. ▪ **Solid PDF Converter**: PM Compass installs it if not detected during installation. ▪ **SSL Supported**: Steps to configure PM Compass for use with SSL are detailed in the "Configure the Secure Sockets	

Supported Deployment Technology	Compatible Deployment Technology
Layer (SSL)" section of the *Deltek PM Compass Advanced Administration Guide*. The SSL architecture of PM Compass is such that, if you are using SSL for PM Compass, you must use SSL for Reporting Services. You cannot run SSL for PM Compass without an SSL binding configured for Reporting Services. You cannot run PM Compass without SSL and still use SSL for Reporting Services. ▪ Microsoft Visual C++ 2017 Redistributable Package ▪ Microsoft .NET Framework 4.8	

Client Software Requirements

Supported Deployment Technology	Compatible Deployment Technology
Client Operating Systems	
The supported minimum software requirements for the PM Compass Workstation include: **Operating Systems** (32-bit or 64-bit/x64) ▪ Microsoft Windows 11 ▪ Microsoft Windows 10 **Citrix** ▪ XenApp 7.x (Win Svr 2016) ▪ XenApp 7.x (Win Svr 2019)	▪ Microsoft Windows 8.1
Microsoft Internet Explorer ▪ Microsoft Internet Explorer 11 **Microsoft Edge** ▪ Microsoft Edge v87 (Nov 2020 or later) **Note:** You can launch PM Compass from Edge if ClickOnce is enabled. ClickOnce is enabled by default from Edge build 87 (Nov 2020). **Google Chrome** ▪ Google Chrome	

Supported Deployment Technology	Compatible Deployment Technology
Note: You can launch PM Compass from Chrome with a chrome web store third-party ClickOnce extension. For example, Windows ReMix ClickOnce helper, Meta4 ClickOnce Launcher, or ClickOnce for Google Chrome by Menarva.	
Microsoft Excel ▪ Microsoft Excel 2021 ▪ Microsoft Excel 2019 ▪ Microsoft Excel 2016 ▪ Microsoft Excel 2013 ▪ Microsoft Excel 365 **Microsoft Word** ▪ Microsoft Word 2021 ▪ Microsoft Word 2019 ▪ Microsoft Word 2016 ▪ Microsoft Word 2013 ▪ Microsoft Word 365 **Microsoft Project** ▪ Microsoft Project Professional 2019 ▪ Microsoft Project Standard 2019 ▪ Microsoft Project Professional 2016 **Warning:** [1]PM Compass supports integrating and connecting to Microsoft Project Server but it REQUIRES that the Microsoft Project Professional 2013 64-bit client be installed on the PM Compass Web/Application and Process servers. ▪ Microsoft Project Professional 2013 SP1 with the Nov. 10, 2015 update applied ▪ Microsoft Office 365 is supported but requires the full product installation ▪ Adobe Reader or compatible PDF Reader (for exporting reports in PDF format)	

Supported Deployment Technology	Compatible Deployment Technology
Note: PM Compass supports integration with Microsoft Office with exporting of lists and reports to Excel, and reports to Word.	
▪ Microsoft .NET Framework 4.8 ▪ Microsoft Visual C++ 2013 x64 Update 5 (12.0.30501.0 or higher) https://www.microsoft.com/en-us/download/details.aspx?id=40784	

Deltek Product Integration

Supported Deployment Technology	Compatible Deployment Technology
Deltek Product Integration	
The versions listed below are the minimum supported versions installed on Client machines. Subsequent cumulative update (CU) releases within the listed major/minor release will be supported unless otherwise noted. Subsequent major/minor releases are not supported **Deltek Cobra[1]** ▪ Cobra 8.7 (Beginning with PM Compass 8.4 Cumulative Update 18) ▪ Cobra 8.6 (Beginning with PM Compass 8.4 Cumulative Update 15) ▪ Cobra 8.5 ▪ Cobra 8.4 Cumulative Update 23 or later **Note:** [1]Cobra Web Service updates are included in the PM Compass Web and Process server installation. Cobra Web Service uses port 8000. For more information, see the *Deltek PM Compass Advanced Administration Guide*.	
Deltek Open Plan 64-bit ▪ Open Plan 8.8 (Beginning with PM Compass 8.4 Cumulative Update 19) ▪ Open Plan 8.7 (Beginning with PM Compass 8.4 Cumulative Update 06)	

Supported Deployment Technology	Compatible Deployment Technology
▪ Open Plan 8.6 **Deltek Open Plan Add-In for PM Compass** ▪ Open Plan Add-In for PM Compass 8.4 **Integration Installers** Installs the appropriate integration files on the PM Compass Web/Application and Process servers. The files are located in DSM under the PM Compass folder in the Sub-Release section. ▪ Cobra 8.6 Integration for PM Compass 8.4 ▪ Cobra 8.5 Integration for PM Compass 8.4 ▪ Cobra 8.4 Integration for PM Compass 8.4 ▪ Open Plan 8.7 Integration for PM Compass 8.4 ▪ Open Plan 8.6 Integration for PM Compass 8.4 ▪ MSP Server Integration for PM Compass 8.4 (Provides Project Server Integration with Progress support for non-Open Plan users) ▪ Primavera P6 Server Integration for PM Compass 8.4 (Provides Primavera P6 Server Integration with Progress support for non-Open Plan users)	

Open-Source Software

This table describes the open-source software included in PM Compass.

Software	Company
Oracle Data Access Components 4.122.1.20161216	Oracle
Pcrypt	Public domain Password encryption based on D3DES
Newtonsoft Json.NET 12.0.3.23909	Newtonsoft

PM Compass Architecture

PM Compass is a 64-bit (x64) application. Cobra Web Service is a 32-bit application that runs in WOW64 mode on 64-bit servers.

.NET Framework

PM Compass's server-side architecture uses Microsoft's .NET framework. The .NET framework v4.8 must be installed on the client and the Web server. In addition, you must install the .NET framework before installing the Oracle client.

.NET is Microsoft's name for a set of software technologies developed to connect information, people, systems, and devices.

> **Attention:** For more information, see https://www.microsoft.com/net/.

The .NET framework gives users the power to extend PM Compass's reach — by developing applications that integrate with PM Compass, calling Web Service from within PM Compass, and communicating with PM Compass through mobile devices.

Deltek's main client application is deployed using the ClickOnce technology, which requires Microsoft .NET Framework.

> **Note:** You can download the Microsoft .NET Framework from this link: https://www.microsoft.com/en-us/download/details.aspx?id=42642.

Using Microsoft Edge in Dashparts and Custom Menu Items

If you are going to use Microsoft Edge in dashparts and custom menu items, Deltek recommends installing Microsoft Edge WebView2 Runtime, a control that utilizes Microsoft Edge as a rendering engine, on the client machine.

> **Attention:** For more information on Microsoft Edge WebView2 Runtime, see https://docs.microsoft.com/en-us/microsoft-edge/webview2/.

WebView2 Runtime is automatically installed if you are using any of the following products:

- **Windows 10 version 21H1 or later**

  > **Attention:** For more information, see https://docs.microsoft.com/en-us/deployoffice/webview2-install.

- **Office 365**

  > **Note:** Microsoft Edge WebView2 Runtime is displayed on **Apps & features**.

PM Compass automatically detects if WebView2 Runtime is installed when displaying web pages on http dashparts. Otherwise, PM Compass uses the previous Web browser control that utilizes Internet Explorer as a rendering engine.

Install Microsoft Edge WebView2

When generating the Assisted Explanation of Variance (EoV)workflow, a blank screen may be displayed with no details. In addition, clicking the **Print** button may return an error on that screen. This issue may be caused by the Edge WebView2 Runtime not being installed or possibly being corrupted.

Follow this procedure to install Microsoft Edge WebView2.

To install Microsoft Edge WebView2:

1. Navigate to the Download the WebView2 Runtime site.
2. Download the Evergreen Standalone Installer x64 and install it on the client machine that is unable to view the Assisted EOV.
3. Restart PM Compass on the client machine.

Hardware Sizing Considerations

There are several factors that go into sizing an appropriate server infrastructure. The number of concurrent users accessing the system at any given time, the amount of data being analyzed, and growth expectations all have an impact on the initial sizing plans. The hardware profiles are intended as a starting point for deployment. It is expected that our clients will use the product in many different ways. Plans for future releases, and client customizations will all impact the growth and scaling of the overall solution. Further in-depth discussion of the business needs of the solution during implementations of application will provide final guidance on hardware requirements.

Memory Requirements for a Typical/Average Use

Below are details on the memory footprint of the product.

Tier	Memory*
Client Tier	▪ 200 MB - 250 MB for PMC when progressing a single project with 500 – 1,000 activities
Application Tier (Citrix/Terminal Server only)	▪ 75 MB – 100 MB per concurrent user.
Reporting Tier	▪ 350MB – 500MB for PM Compass per concurrent user per report when running reports with 900 activities and 75-100 control accounts with 300-400 work packages.
Database Tier	▪ Database instance memory should be 10% - 15% of the database size. For example, if database size is expected to be 500GB then allocate 50GB - 75GB memory.

* Per concurrent client instance and in addition to any memory needed for the operating system and other applications that may run in parallel with this product.

Definition of Typical/Average Use

A user using PM Compass when progressing a single project (500 – 1,000 activities) using the Progress view.

Hardware Requirements

The number of people using PM Compass, the PM Compass processes they are using, and the size of your database all have an effect on the hardware and software requirements for your servers.

Note: Specific server hardware configurations may have an impact on your overall Deltek product licensing requirements. It is recommended you confirm with a Deltek Technical Sales Engineer if the server hardware you plan to deploy is in line with your Deltek license agreement and how overall server infrastructure expansion in the future may affect your Deltek licensing.

Single-Server Deployment (One Server)

The following table lists the recommended minimum hardware requirements for a PM Compass single deployment.

Installation for 1 to 25 Concurrent Users

Tier	Hardware Required	Determining Factors
Database / Web / Application / Reporting Tier	**Server Class Machine** ▪ 2 x Logical Processor ▪ 2.8 GHz or faster CPU ▪ 16GB Physical Memory	

Two-Server Deployment (Two Servers)

The following table lists the recommended minimum hardware requirements for a PM Compass two-server deployment.

Installation for 25 to 200 Concurrent Users

Tier	Hardware Required	Determining Factors
Database Tier/Reporting Tier *The report tier can be installed on either the Web server or the SQL Server. Additional SQL licensing costs may be incurred if installing SQL Reporting Services on PM Compass web tier.	**Server Class Machine** ▪ 1 - 2 x Logical Processor 2.6 GHz or faster CPU ▪ 8+ GB Physical Memory	▪ Database Size ▪ Database Growth
Web/Application/Reporting Tier *The report tier can be installed on either the Web server or the SQL Server. (Additional SQL licensing costs may be incurred if installing SQL Reporting Services on PM Compass web tier.	**Server Class Machine** ▪ 1 - 2 x Logical Processor 2.6 GHz or faster CPU ▪ 8+ GB Physical Memory	▪ Total Users ▪ Power Users ▪ User Location ▪ Database Size

Three-or-More Server Deployment (Three or More Servers)

The following table lists the recommended minimum hardware requirements for a PM Compass three-or-more server deployment.

Installation for 200+ Concurrent Users

The three-or-more-servers installation model is designed for large organizations. There might be additional Report, Application, or Web servers required for load balancing, performance, security, or fault tolerance reasons. You can use additional servers to run multiple reports, application, or Web servers on additional servers. Contact your Deltek Technical Services representative for instructions.

Tier	Hardware Required	Determining Factors
Database Tier	**Server Class Machine** ▪ 2 x Logical Processor 2.8 GHz or faster CPU ▪ 16+ GB Physical Memory	▪ Database Size ▪ Database Growth ▪ PM Compass Processes
Reporting Tier *Additional SQL licensing costs may be incurred if installing SQL Reporting Services on a dedicated Report server.	**Server Class Machine** ▪ 2 x Logical Processor 2.6 GHz or faster CPU ▪ 16+ GB Physical Memory	▪ Power Users ▪ Database Size
Web/Application Tier	**Server Class Machine** ▪ 2 x Logical Processor 2.6 GHz or faster CPU ▪ 8+ GB Physical Memory	▪ Total Users ▪ Power Users ▪ User Location ▪ PM Compass Processes

Workstation Deployment (Client Tier)

The following table lists the recommended minimum hardware requirements for the client tier (web application only).

Client Tier	Hardware Required	Determining Factors
Minimum	▪ Intel 1.8 GHz or higher ▪ 2 GB RAM ▪ 40 GB Hard Drive ▪ 1024x768 SVGA Video Display	Usage (for web application only, not for workstations running the Smart Client application)
Recommended	▪ Intel 2.0 GHz or higher ▪ 2 GB RAM ▪ 40 GB Hard Drive	Usage

Platform Virtualization

Platform Virtualization is a technology that allows multiple operating systems and platforms to run simultaneously as separate virtual servers on a single set of server hardware.

Deltek recognizes the growing use of virtual environments by our customers. Virtual environment software, such as VMware®, resides in the hardware layer underneath the operating system and is used by customers to partition a single server into a multiple server/multiple operating system environment.

Support of Virtual Environments

Deltek supports customers who run its products on any of the supported native operating systems (whereby “native operating systems” means any operating system specified in the Deltek Product Support Compatibility Matrix available on the Deltek Support Center site), irrespective of whether or not they are running in a cloud and/or a virtualized environment. However, Deltek does not have the capacity to rigorously test its products inside the many available cloud and virtualized environments.

Each cloud and virtual environment software supports a set of operating systems and hardware certified by the software operating system and cloud/hardware vendors. The customer and virtualization vendor are responsible for any interactions and/or issues that arise at the hardware or operating system layer as a result of their use of a cloud-based environment and/or virtualization software. Virtualization software is supplied in both production and non-production versions. Deltek will only support the use of its products inside virtualization products that are recommended by the virtualization vendors for enterprise production use, and as further described below.

Troubleshooting and Fixes

The following requirements apply to those Deltek customers who experience issues with the Deltek software while using such products inside cloud and/or virtual environments:

- Deltek customers will not be required to recreate and troubleshoot every issue in a non-cloud or non-virtualized environment.
- Deltek may request its customers to diagnose issues in a native certified operating system environment without the use of virtualization and/or within a non-cloud-based environment. Deltek will only make this request when there is reason to believe that the cloud or virtual environment is a contributing factor to the issue.
- Software problems will only be fixed if they can be replicated in a dedicated local hardware and operating system environment without the use of virtualization.

Deltek Support Center is unable to accept virtual images from customers in order to evaluate problems in deployments using virtualization.

Performance

The use of cloud-based environment and/or virtualization software adds software overhead which may impact performance or scalability of all Deltek software products. Customer should not interpret any Deltek performance recommendations for the Deltek software on a dedicated hardware platform as directly applicable to one or more cloud or virtual environments running on the same or similar hardware. The customer should consult with its cloud and/or virtualization software vendor with respect to virtual system performance and tuning.

Recommendation

Deltek will continue to develop knowledge about the use of virtualization software solutions as these solutions continue to mature and extend into our user communities' information technology infrastructure. Deltek strongly recommends that its customers deploy the Deltek software in a nonproduction environment when initially utilizing virtualization technology as a first step. By doing so, the customer will allow for resolution of any issues and customer specific performance data to be developed for the virtual environment solution, without having an adverse impact on production operations. Contact Deltek Support Center for additional information on use of the Deltek software in a virtualized environment.

Using PM Compass with Citrix or Remote Desktop

Note: If you are running Model Changes which is part of the integrated BCR process and Open Plan is running in a Citrix environment, then you will need to follow the steps in the "Using PM Compass with Citrix or Remote Desktop (ClickOnce Bypass)" in the *Deltek PM Compass Advanced Administration Guide.*

This is required because the Open Plan Client process and the PM Compass web client must be running in the same user session on the same server.

If Open Plan is running on a Citrix box, then the PM Compass client will also need to be launched on the Citrix box launched from within Open Plan.

The Deltek PM Compass Smart Client Web application uses the Microsoft .NET Framework ClickOnce deployment technology which makes it easy for administrators to deliver Windows-based applications to end-users by sending them a URL. However, in cases where Citrix is used, the ClickOnce deployment behavior may not be supported by Microsoft or Citrix.

Attention: For more information about the Smart Client ClickOnce Deployment Options, see "Using PM Compass with Citrix or Remote Desktop (ClickOnce Bypass)" in the *Deltek PM Compass Advanced Administration Guide*.

Unsupported Scenarios

Deltek does not support the following scenarios because they can cause significant issues in the performance, reliability, and functionality of your PM Compass application, as well as with other applications on your network.

- Deltek PM Compass and previous versions cannot be run at the same time on the same Web/Application server.
- You cannot perform a single-server deployment on the Microsoft Essentials Edition of Windows Server. Only the PM Compass SQL Server database tier and/or report tier can be installed on this server.
- You cannot install any PM Compass tier on the Microsoft ISA server or on any other software-based firewall (except Windows firewall).
- You cannot install any PM Compass tier on any server with Citrix configured as a Remote Desktop Session Host Server.
- Server administration via a remote desktop connection is fully supported.

- PM Compass does not support using desktop operating systems for production server installation.
- You cannot install any PM Compass tier on:
  - A Domain Controller
  - Any version of Microsoft Exchange Server
  - Any version of Microsoft SharePoint Server

Appendix B: Microsoft Internet Information Service (IIS) Installation on Windows Server

This chapter covers topics on IIS installation.

Check If Microsoft (IIS) Is Already Installed

If you have already enabled the Web Server role on your Web server, you need to check the features and role services.

To check the features and role services on Windows Server 2016 or 2019:

1. Launch Server Manager.
2. In the left menu, click **IIS**.

   If the IIS option is not listed, perform the steps for installing Microsoft IIS for the first time.
3. In the **Roles and Features** group, verify that all of the required role services are installed.

> **Attention:** For more information, see Step 11 in "Install Microsoft IIS For the First Time" below.

Install Microsoft IIS For the First Time

Follow this procedure to install Microsoft IIS for the first time. These steps are necessary for proper detection of ASP.NET.

To install Microsoft IIS on Windows Server 2016 or 2019:

1. Log onto Microsoft Windows Server as a domain or local administrator.
2. Launch Server Manager.
3. Click **Manage » Add Roles and features**.
4. On the Before you begin screen of the Add Roles and Features Wizard, click **Next**.
5. On the Select installation type screen, select **Role-based or feature-based installation** and click **Next**.
6. On the Select destination server screen, select your server and click **Next**.
7. On the Select server roles screen, select **Web Server (IIS)**.
   a. In the Add Roles and Features Wizard dialog box, click **Add Features**.
8. On the Select server roles screen, click **Next**.
9. On the Select Features screen, expand **.NET Framework 4.x Features**, select **.NET Framework 4.x and ASP.NET 4.x**, and click **Next**.
10. On the Web Server Role (IIS) screen, click **Next**.
11. On the Select role services screen, enable the following sub-options:
    - Web Server

- **Common HTTP Features**
  - Default Document
  - Directory Browsing
  - HTTP Errors
  - Static Content
  - HTTP Redirection
- **Health and Diagnostics**
  - HTTP Logging
  - Request Monitor
- **Performance**
  - Static Content Compression
- **Security**
  - Windows Authentication
  - Request Filtering
- **Application Development**
  - .NET Extensibility 4.x
  - ASP.NET 4.x

> **Note:** The Add Roles and Features Wizard dialog box displays when you select this option. Click the **Add Features** button.)

  - ISAPI Extensions
  - ISAPI Filters
- **Management Tools**
  - IIS Management Console
  - IIS Management Scripts and Tools

12. Click **Next**.
13. In the Confirm Installation Instructions dialog box, click **Install** to begin the process.

> **Note:** On the Confirm installation selections screen, if a message displays about specifying an alternate source path, see the Microsoft KB article # 2734782 (Method 2).

14. In the Installation Results dialog box, click **Close**.

> **Note:** If you have not applied the supported version of Microsoft.NET on your server, make sure you install it before beginning the PM Compass installation.

Enable the IIS Feature from a PowerShell Console

As an alternative to the graphical user interface, you can enable IIS components from a PowerShell console.

To enable IIS from a PowerShell console:

1. Right-click on the Windows Start Menu and select one of the following options (whichever appears:

- **Windows PowerShell (Admin)**
- **Command Prompt (Admin)**
  - Enter **PowerShell** and click **Enter.**

2. In the PowerShell console, run the following command:

```
Install-WindowsFeature -Name Web-Server,Web-Http-Redirect,Web-Request-
Monitor,Web-Windows-Auth,Web-Net-Ext45,Web-Asp-Net45,Web-ISAPI-Ext,Web-ISAPI-
Filter,Web-Scripting-Tools –IncludeManagementTools
```

Appendix C: Microsoft SQL Server Reporting Services

Microsoft SQL Server Reporting Services (SSRS) is a server-based reporting platform that you can use to create and manage tabular, matrix, graphical, and free-form reports that contain data from relational and multidimensional data sources. The reports that you create can be viewed and managed over a World Wide Web-based connection. SSRS includes the following core components:

- A complete set of tools that you can use to create, manage, and view reports.
- A Report server component that hosts and processes reports in a variety of formats. Output formats include HTML, PDF, TIFF, Excel, CSV, and more.
- An API that allows developers to integrate or extend data and report processing in custom applications or create custom tools to build and manage reports.

The reports that you build can be based on relational or multidimensional data from SQL Server, Analysis Services, Oracle, or any Microsoft .NET data provider such as ODBC or OLE DB. You can create tabular, matrix, and free-form reports. You can also create ad hoc reports that use predefined models and data sources.

SSRS use URLs to access the Report Server Web Service and Report Manager. Before you can use either application, you must configure at least one URL each for the Web Service and Report Manager. SSRS provides default values for both application URLs that work well in most deployment scenarios, including side-by-side deployments with other Web services and applications.

SSRS use a SQL Server database for internal storage. The database is a required component. It is used to store reports, session data, resources, and server metadata.

The migration to this new tool includes such benefits as:

- **Ease of Deployment and Management**: SSRS is embedded in the SQL Server the database clients already use. This streamlines deployment and updates and provides a platform for delivery of new functionality for years to come.
- **Industry Leading Platform**: SSRS is fast becoming one of the leading Business Intelligence (BI) platforms in the market.
- **Better Technology Alignment with PM Compass:** SSRS aligns well with the rest of the Microsoft centric technology strategy for PM Compass.

Note: Scale-out configuration of SSRS is supported and provides a load balanced configuration for scalability. This requires the Enterprise Edition of SQL Server.

Additional Information about SSRS

The best way to learn about SSRS and how to configure it is through the documentation included with your SQL Server (Books Online, Microsoft Labs, and so on). The following links provide steps for configuring the latest versions of SSRS:

- For SQL Server Setup, Install and Upgrade (How-to Topics):

  https://msdn.microsoft.com/en-us/sqlserver/ff625277
- For Configuring SQL Server Reporting Services (How-to Topics):

  https://msdn.microsoft.com/en-us/library/bb934490

The following links provide additional information about Reporting Services:

- Reporting Services Overview and Tutorials:

  https://msdn.microsoft.com/en-us/library/ms159106.aspx
- Demos, Videos, Virtual Labs, Webcasts:

  https://msdn.microsoft.com/en-us/sqlserver
- Registering the Managed ODP.NET for the RDL Reports:

  https://learn.microsoft.com/en-us/sql/reporting-services/report-data/

If your reports are intermittently hanging or failing, the issue may be caused by the antivirus software monitoring the folder where the SSRS temporary files are being written.

Attention: For a solution, refer to KB article #102261 on the Deltek Support Center site.

Attention: For additional information regarding Antivirus and SQL Server, see the following Microsoft article: Choosing Antivirus Software for Computers that Run SQL Server.

PM Compass Report Management and Delivery Platform

PM Compass uses SSRS as the report management and delivery platform.

There are several things to consider when you are planning a PM Compass implementation.

- SSRS must be installed and configured to connect to the Report Server before installing PM Compass.
- The Microsoft SQL Server Edition and type of licensing purchased may impact your SSRS deployment options.
- PM Compass utilizes the SSRS's WinForm Report Viewer control to display reports. This control necessitates a direct connection to the server hosting the SSRS Web Service via Port 80. Consequently, if your server is accessible from the internet, both your Report server and potentially your Database server (if they are on the same machine) will be directly exposed to the Internet, posing a security risk to your data. In addition, an external fully qualified domain name (FQDN) is required for external users to resolve the Report server.

  Note: A reverse proxy that uses Microsoft's Application Request Routing (ARR) extension for IIS allows the direct forwarding of requests through the PM Compass Web server to the Reporting Services Web Service, with responses going back to your Internet clients. This configuration resolves all of the issues identified above.

  For more information about creating a reverse proxy, see the *Deltek PM Compass Advanced Administration Guide*.
- When storing PM Compass data in an Oracle database, the Report server must have the Oracle client installed and configured to connect to the PM Compass database. Once this setup is selected, the sample database will be restored into a database on the Reporting Server.

Microsoft SQL Server Editions

This section discusses topics related to using the SQL Server Editions.

SQL Server Workgroup and Express Editions

Users of SQL Server Workgroup Edition and SQL Server Express Edition with Advanced Services (SQL Server Express) should note the following:

- PM Compass does not support SQL Server Express Edition.
- The Report server database must be hosted on the local machine running the SQL Server database engine instance. Remote SQL Server instances cannot be used to host the Report Server database.
- Data sources used in a report must also be SQL Server databases running on the local machine with the SQL Server database engine instance. Remote data sources or other data source types are not supported. To use additional data source types, a different edition of SSRS is required. This means your PM Compass database must reside on the same machine as your Report Server databases.
- If your PM Compass data is stored in Oracle or on a different Database server from your Reporting Services server, you cannot use the Workgroup Edition of SQL Server. This edition requires that both the source data (where your PM Compass data is stored) and the Report server be on the same machine.
- Report history snapshots are not supported in the Web edition of the SQL Server database. At least the Standard edition of SQL Server is required.
- You will either use the Single-Server Deployment Model or Configuration 1 of the Two-Server Deployment Model.

SQL Server Standard, Business Intelligence, and Enterprise Editions

Users of SQL Server Standard, Business Intelligence, or Enterprise Editions should note the following:

- The report snapshots feature in SSRS requires at least the Standard edition of SQL Server.
- If you choose to separate the Report server (Web Service) from the Database server hosting the Report Server database, an additional Microsoft SQL Server license is required.

  Attention: For more information, see "Report Server Licensing Requirements" in this guide.

- Report Server scale-out deployment, which involves multiple Report Server instances sharing a single Report Server database, is only available in the Microsoft SQL Server Enterprise Edition.

  Attention: For the list of features supported by the editions of SQL Server, see https://msdn.microsoft.com/en-us/library/cc645993.aspx.

SSRS and Your Deployment Model Options

When planning your deployment of SSRS, it is important to consider the capabilities and requirements of your SQL Server Edition. Here are the options based on different editions:

- **Two-Server Deployment**: Your SQL Server Edition and licenses will determine your two-server deployment configuration.
- **WorkGroup Edition**: This edition requires that the Report Server database used by Reporting Services and any external data sources (such as the PM Compass database) reside on the same machine. If you have this edition, you will migrate to either a single-server deployment model or the two-server model (Configuration 2).

  Attention: For more information, see "Installation/Deployment Models" in this guide.

- **Standard and Enterprise Editions**: These editions support having the PM Compass database on a separate Database server from the server hosting the reporting services Report Server database, allowing for deployments on two or more tiers.

  Attention: For these editions, review the license information and link in the "Report Server Licensing Requirements" section below to determine if you have the appropriate number of SQL Server licenses.

Report Server Licensing Requirements

The deployment method for your Report Server depends on the edition and licenses of your Microsoft SQL Server database. If you intend to host your Reporting Services Web Service on a different machine from the reporting services Report Server database, you need to verify that your SQL Server edition and licenses support this configuration.

Attention: For detailed information on the licensing options available with SQL Server and Reporting Services, refer to the following Microsoft article: SQL Server Licensing Options.

Licensing Impacts on Functionality

The table in this section outlines the licensing implications and impacts on functionality associated with the commonly used editions of Microsoft SQL Server available on the market today and supported by PM Compass.

Note: The Express edition is not supported.

Functionality	Workgroup	Standard	Enterprise
Custom Reporting			
Report Builder	✓	✓	✓
Report Models for Report Builder	✓	✓	✓
Report Designer		✓	✓

Functionality	Workgroup	Standard	Enterprise
Standard Reporting			
Access to All Standard Reports	✓	✓	✓
Report History (Previously Run)		✓	✓
Email Reports	✓	✓	✓
Email Report Links		✓	✓
Schedule Reports	✓	✓	✓
Schedule and Report History		✓	✓
Search and Download in Preview	Workgroup does not have the XML support needed for this feature	✓	✓

Attention: For more details about Microsoft SQL Server editions, see https://www.microsoft.com/sqlserver/en/us/product-info/compare.aspx.

Configure Microsoft SQL Server Reporting Services

Follow this procedure to configure your initial SSRS setup. This step is only necessary for PM Compass to verify SSRS. PM Compass will use the accounts specified on the Report Server tab in Weblink to connect to Reporting Services.

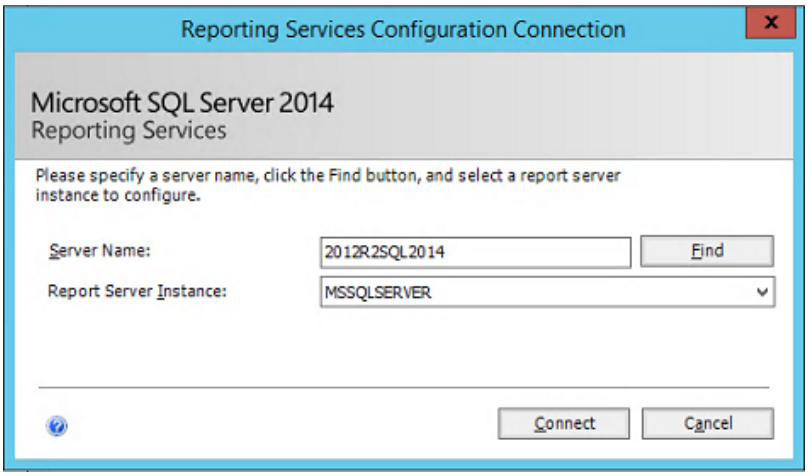
By default, SSRS is configured during the PM Compass installation. These steps are only required if you did not configure reporting services during the installation.

Attention: For additional information about configuring Report Services, see "Important Information about Configuring Report Services" in this guide.

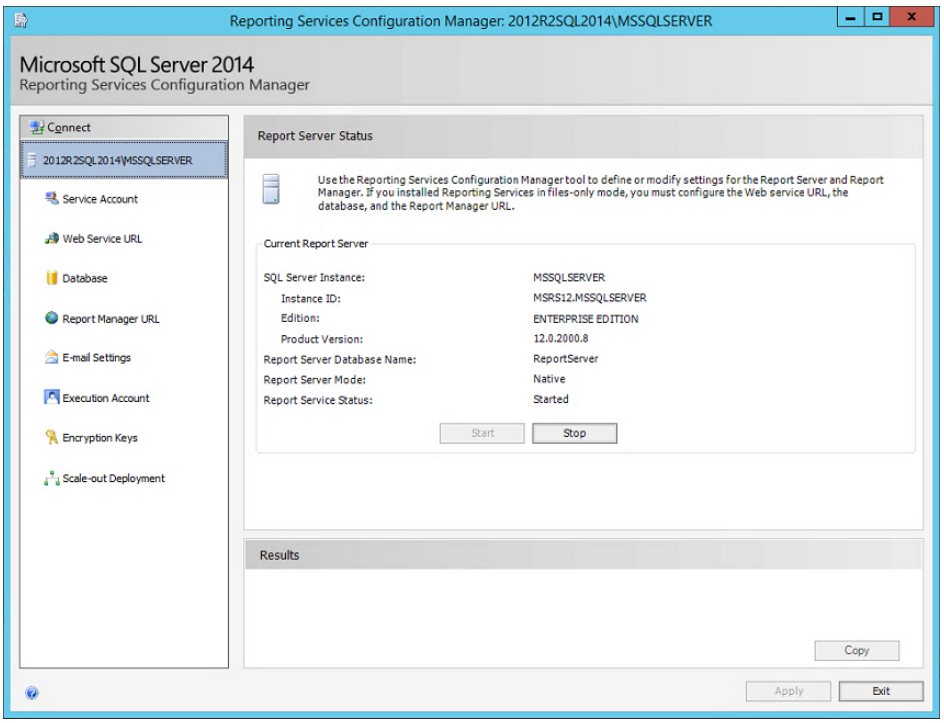
To configure your initial SSRS setup:

1. Click **Start » All Programs » Microsoft SQL Server <version> » Configuration Tools » Reporting Services Configuration Manager** to launch the Reporting Services Configuration Wizard.
2. In the Reporting Services Configuration Connection dialog box, select your SSRS instance name and click **Connect**.

   Note: If you have multiple installations of reporting services, you may see more than one instance. **MSSQLServer** is the default instance.



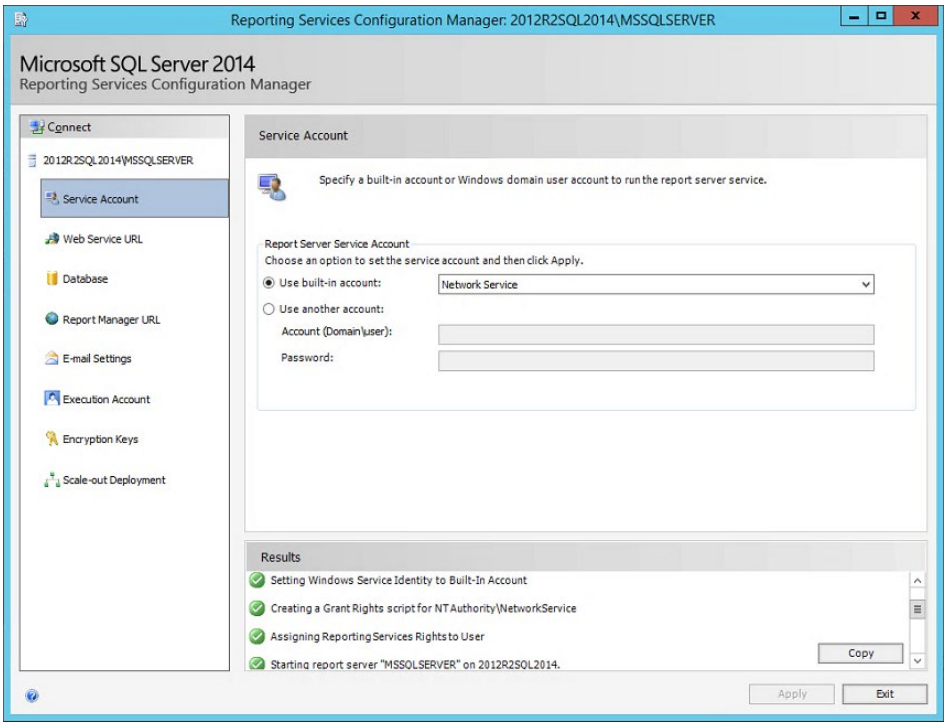
3. If the reporting services instance is not already running, navigate to the Report Server Status pane of the Reporting Services Configuration Manager dialog box, click **Start** to start the reporting services instance.



4. In the Service Account pane, select the appropriate account in the **Use built-in account** field, and click **Apply**.

   Microsoft recommends using the Network Service account.

   The Service Account pane displays the results in the bottom pane.



Attention: For additional information on choosing a service account, see the "Service Account Reporting Services Configuration" topic in SQL Server Books Online.

If you have configured the Report Server Service Account to be a domain account, SSRS will use Kerberos Authentication by default.

Attention: For additional information, see "Report Tier" under "Pre-Installation Checklists" in this guide.

5. In the Web Service URL pane, click **Apply** to accept the default values.

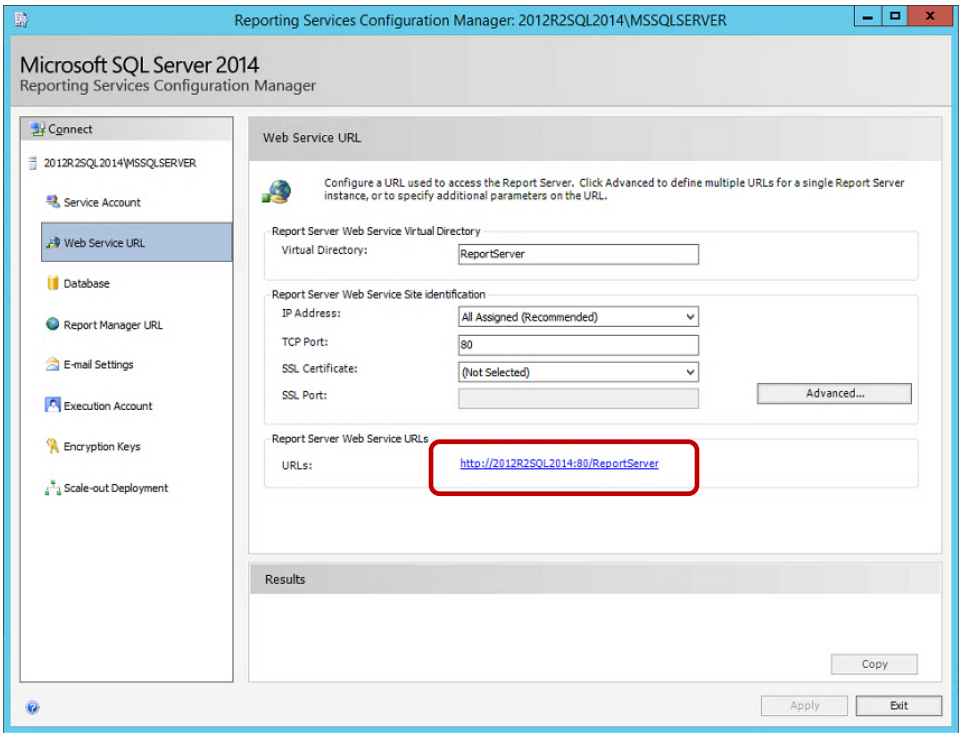
   The default value for Virtual Directory is **ReportServer**. If you installed Report Server as an instance, the virtual directory usually starts with **ReportServer** separated by a character, such as an underscore or dollar sign, and the instance name to differentiate itself from the others.

   Note: PM Compass uses the Report Server Web Service URL at the bottom of the dialog box as part of its test connection URL when it tries to connect to the Report server.

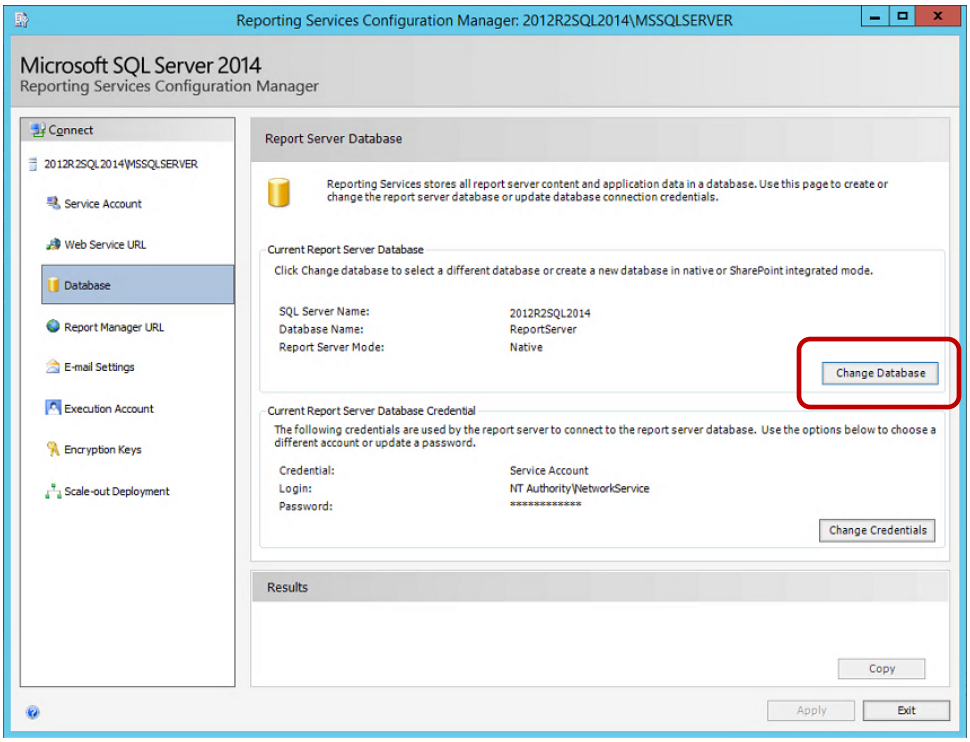
   SSRS does not require you to enable IIS.

6. Take note of the Report Server Web Service URL displayed in the Web Service URL dialog box. This information may be needed if PM Compass cannot connect to the Report Server during installation and requests the correct path.

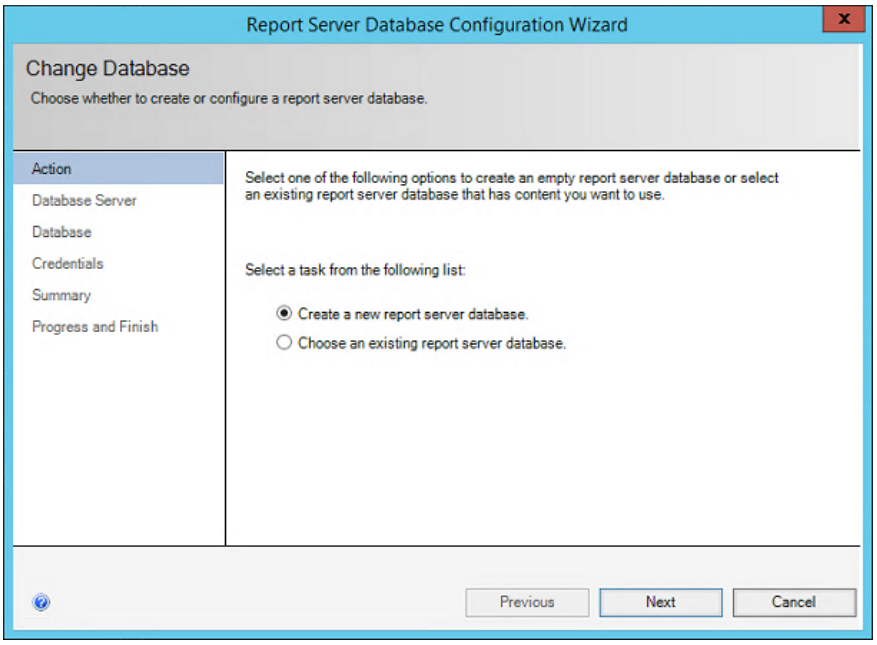
   Click **Apply** to accept your settings. If the settings are correct, the Results pane displays the status.



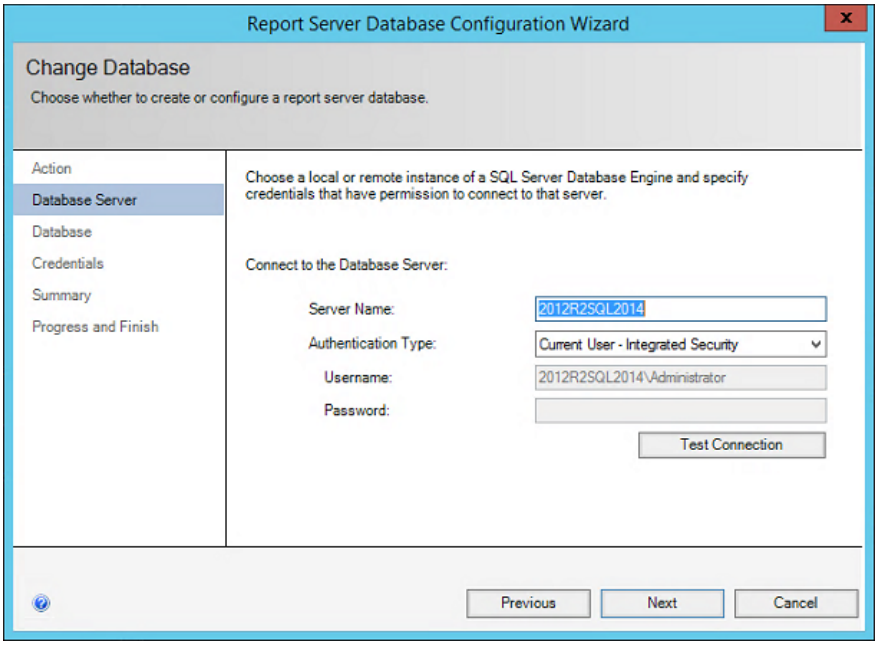
7. In the Report Server Database pane, click **Change Database** to display the Change Database screen of the Report Server Database Configuration Wizard.



8. On the Change Database screen, select whether to create a new report server database or use an existing one. For a new installation, select **Create a new report server database** and click **Next**.



9. Enter the Database server name and a user account that has the appropriate privilege to create or select the database and assign the required rights.

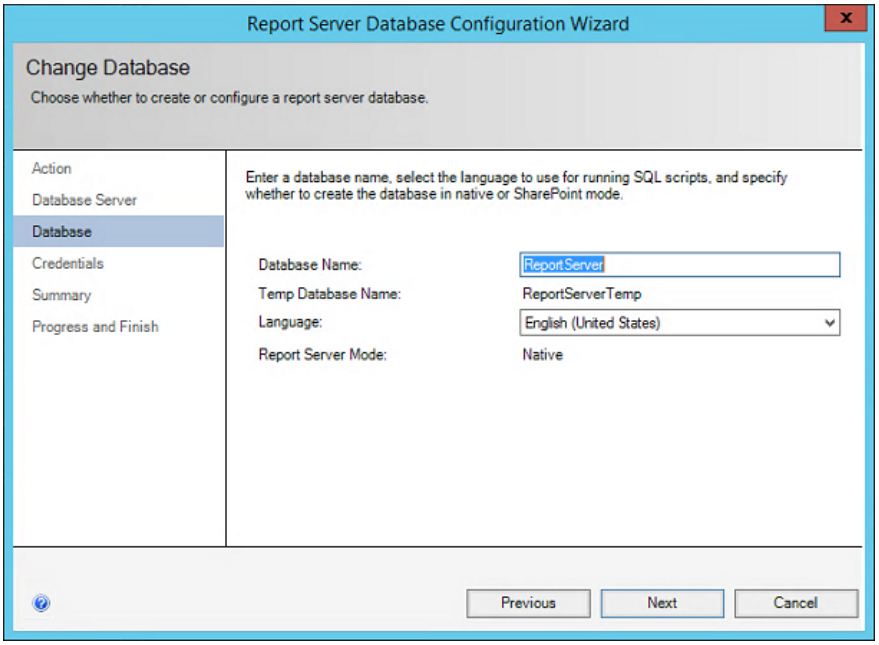


   a. Click **Test Connection** to test your credentials. Make the corrections as necessary if the server's name or the user credentials are incorrect.

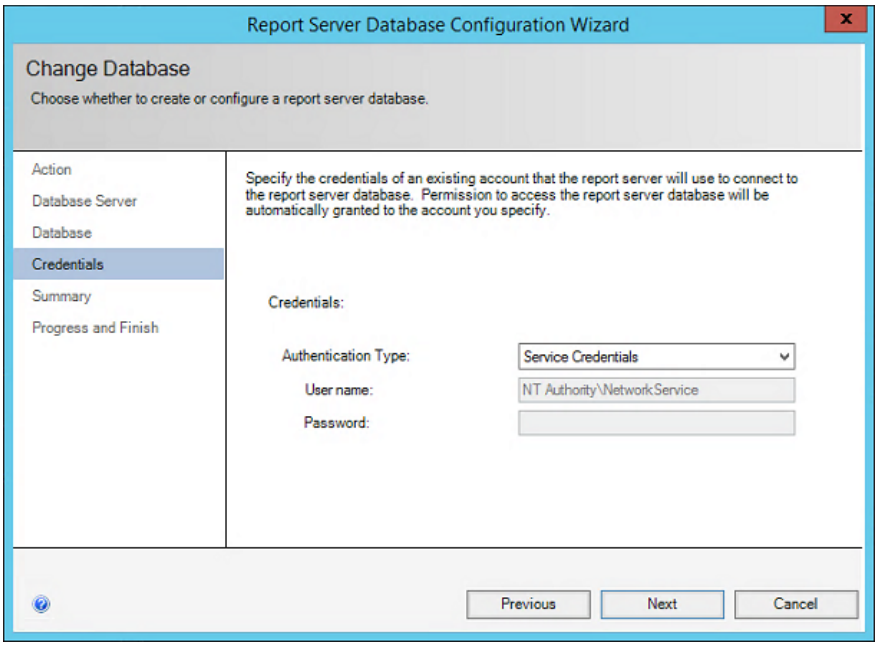
b. Click **OK** when you have connected successfully to the database to go back to the Change Database of the screen of the Report Server Database Configuration Wizard.

10. In the Database pane, accept the default values and click **Next**.

> **Note:** Only Native Mode is supported. Select **Native Mode** if it is not selected by default.

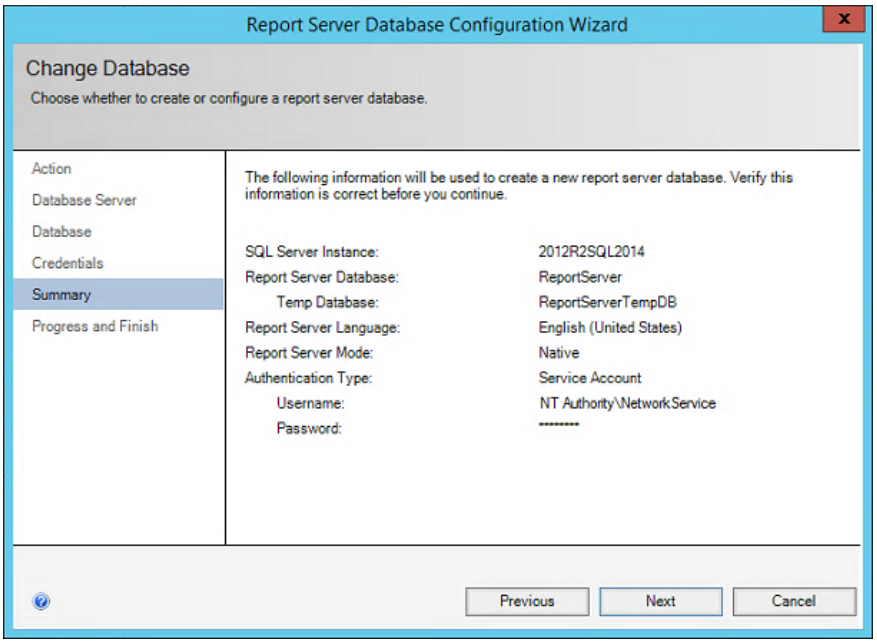


11. In the Credentials pane, specify the type of credential and accounts for the SSRS connections to the database and click **Next**.

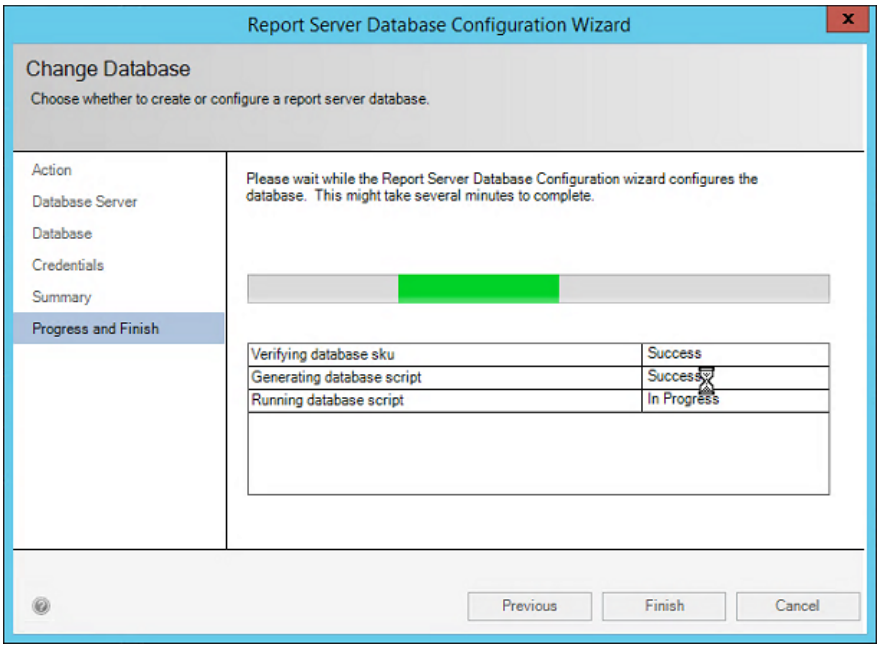


The summary of the changes that you made is displayed.

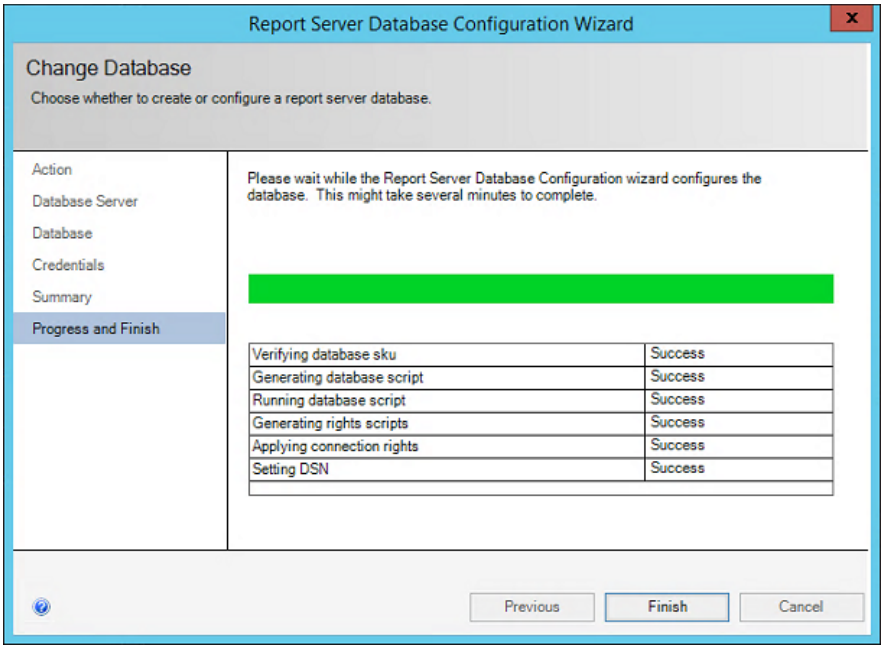
12. Click **Next**.



The Report Server Database Configuration Wizard displays the status of the steps taken to create the report server databases.

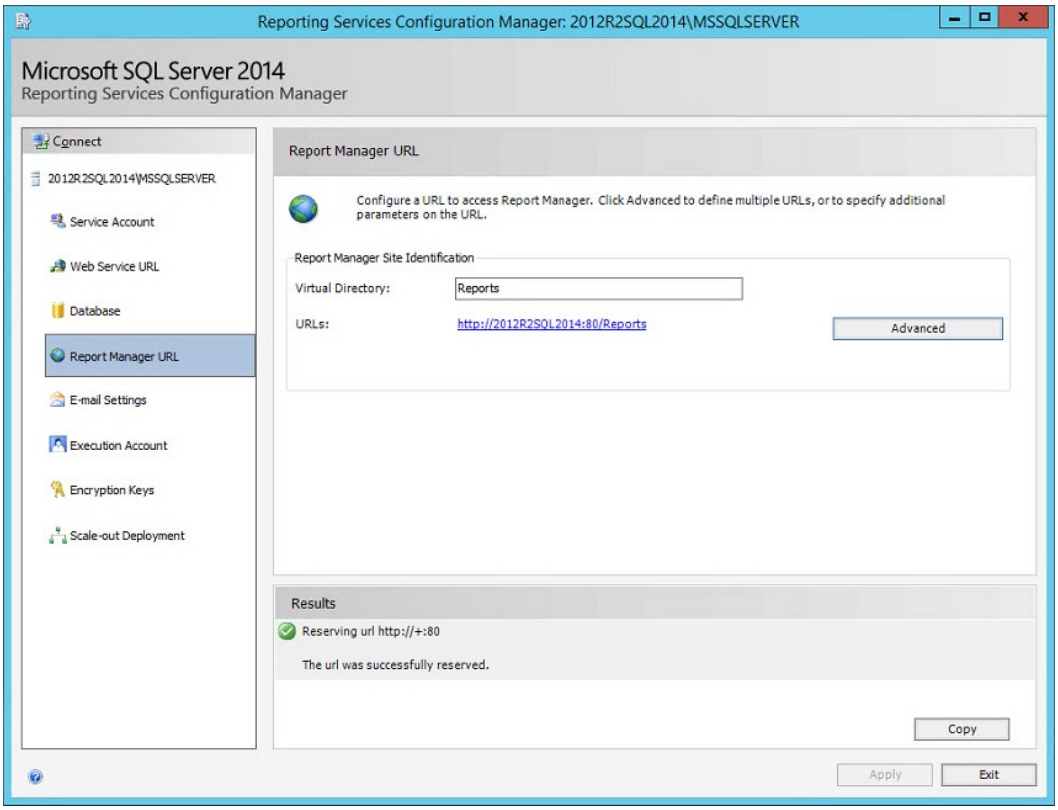


13. Click **Finish** when all steps have been marked as successfully completed.



14. In the left pane of the Report Services Configuration Manager dialog box, click **Report Manager URL**.
15. In the Report Manager URL pane, click **Apply** to accept the default values.

    The Results pane displays the results.



16. Click **Encryption Keys** in the left pane and back up the encryption keys to a safe location and then click **Apply**.
17. Click **Exit**.
18. Open a web browser and go into the Reports server URL: https://servername/Reports. Once you are in, you are now ready to begin the PM Compass installation.

> **Note:** You need to set up the security permission of the Report server by logging into the URL. Add the service/admin account that you are using to install PM Compass.
>
> - In **Site Settings » Security**, add the service/admin account and assign it the System Administrator role.
> - In **Reports Folder » Manage » Security**, add the service/admin account and assign it the Content Manager role.

> **Note:** Do not configure an Execution Account during the Report server configuration. Configuring this account causes the account specified in the Execution Account to be used instead of the credentials listed in Weblink. This may result in reporting errors within PM Compass.

Important Information about Configuring Reporting Services

When setting up SSRS, keep the following points in mind:

- If you are not familiar with Microsoft Reporting Services or how to configure it, additional details and steps can be obtained from the following link: https://msdn.microsoft.com/en-us/library/ms156305.aspx.
- If you will use the server-side printing functionality of PM Compass, see "Appendix D: Printing in PM Compass" in this guide for instructions on where and how to configure the account.
- If you have configured the Report Server Service Account to be a domain account, SSRS will use Kerberos Authentication by default. You must ensure that you have created an SPN for the account. To configure an SPN, complete the steps in this link: https://msdn.microsoft.com/en-us/library/cc281382.aspx.
- Alternatively, you can configure the **RSReportServer.config** file with the following XML structure that specifies NTLM only. This is for deployments that do not support Kerberos or to work around Kerberos authentication errors (HTTP 401 errors):

```
<AuthenticationTypes>
<RSWindowsNTLM/>
</AuthenticationTypes>
```

Attention: For more details about Kerberos authentication issues, see https://msdn.microsoft.com/en-us/library/cc281253.aspx.

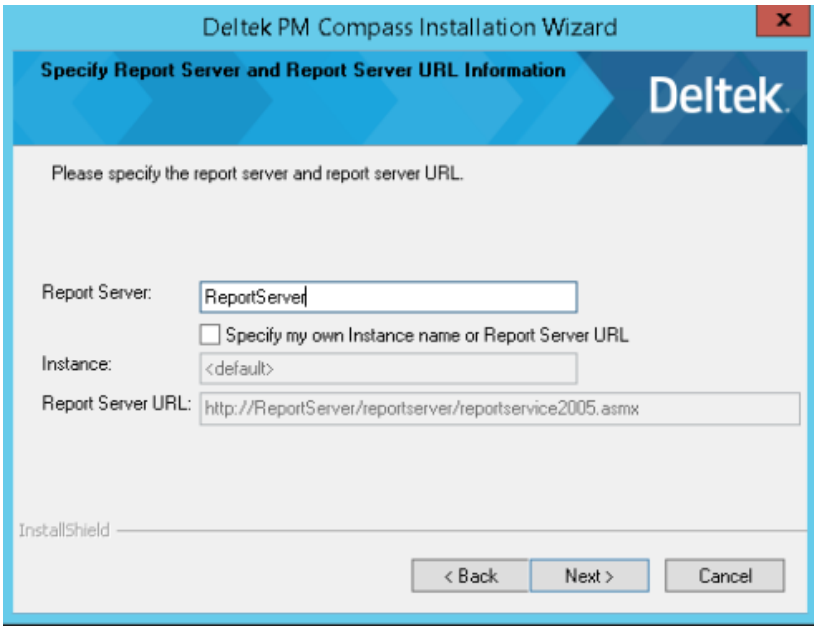
Connecting to the Report Server

SSRS provides access to the full functionality of the report server through the report server web service, which is an XML Web Service with a SOAP API. It uses SOAP over HTTP and acts as a communications interface between client programs and the report server. The Web Service provides two endpoints: one for report execution and one for report management. The setup connects to the report execution endpoint. If it is unable to connect to the Reporting Service Web Service screen, the setup returns an error message.

The Specify Report Server and Report Server URL Information Screen

Complete one of the following actions:

- Verify that the information on the screen is correct and click **Next**.
- Update the fields with the correct values then click **Next**.



- **Report Server**: The Report Server name is the name of your Report Server machine. Make sure that the Virtual Directory value matches the Virtual Directory of the Report Server displayed on the Reporting Services Configuration Manager dialog box.
- **Report Server URL**: The following example shows the format of the URL used to connect to the Reporting Services Web Service on the Report Server:

  https://<Report Server Name>/Virtual Directory/reportservice2005.asmx

Note: SQL Server Reporting Web Services (ReportingService2005.asmx) provides the interface for enumerating the reports and report folders. It provides a host of other capabilities for report execution, rendering and management.

The “2005” in the Web Service name does not reflect any version of SQL Server.

This table describes each element in the URL.

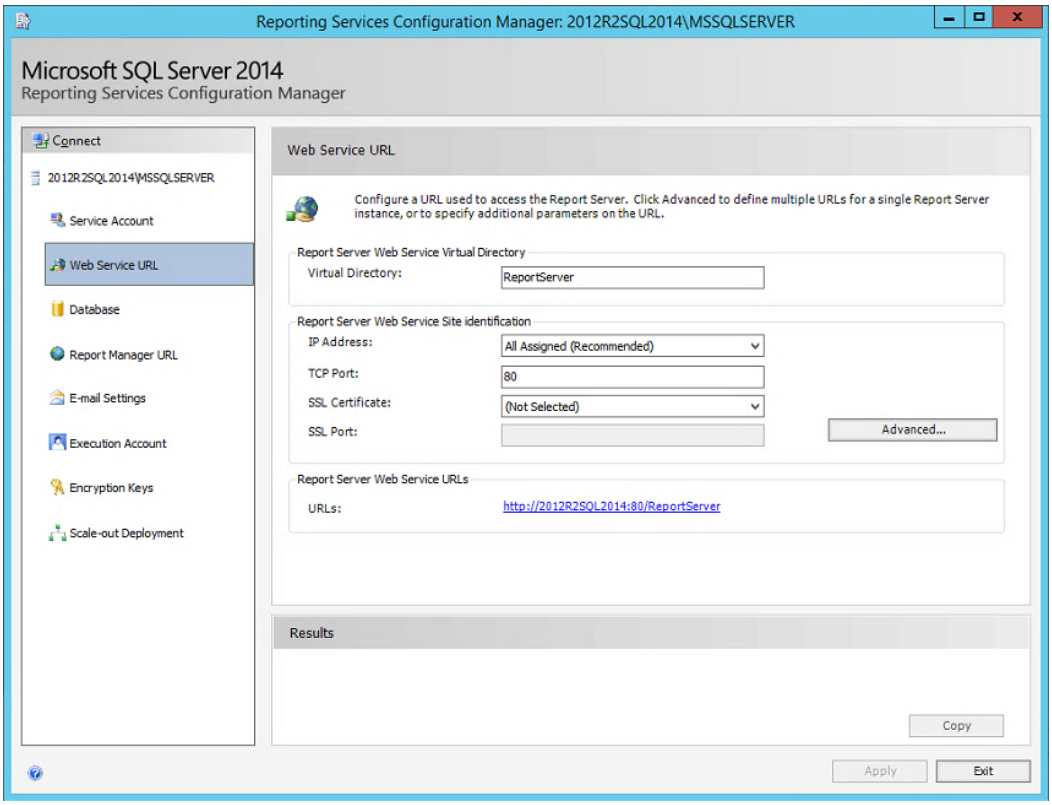
URL Element	Description
Server	The name of the server on which the Report Server is deployed.
Virtual Directory	The name of the folder that contains the XML Web Service for report execution. This is configured during setup or when you run the SSRS Configuration tool. The default name//virtual directory is named **reportserver**. If you are unsure of the name of your Report Server virtual directory, launch the SSRS Configuration tool on the Report Server. In SQL Server, select the Web Service URL on the left, and then view the entry from the **Virtual Directory** field on the right. If you install Reporting Services as an instance, the name of the virtual directory may also include the instance name. For example, **reportserver_INSTANCENAME**. For example: https://<Report Server Name>/reportserver_SQL2014/reportingservices2005.asmx
<endpointname>.asmx	The name of the Web Service endpoint is reportingservices2005.asmx. This is required in the URL for PM Compass to confirm the Report Server configuration. **Reporting Services Web Service**: The SQL Server Reporting Web Services (Reportingservices2005.asmx – it has not been changed for 2008) provides the interface for enumerating the reports and report folders. It provides a host of other capabilities for report execution, rendering and management.

Identify Reporting Services Web Service URL

Follow this procedure to identify the virtual directory required to detect Reporting Services for SQL Server.

To identify the Reporting Services Web Service URL:

1. Click **Start » All Programs » Microsoft SQL Server <version> » Configuration Tools » Reporting Services Configuration Manager**.



If you have not configured SQL Reporting Services, click the **Help** icon in the lower left corner of the SSRS Configuration Manager dialog box to access Microsoft documentation for configuring SSRS.

2. In the left pane, connect to the Report Server Web Service URL.
3. In the right pane, select the **Virtual Directory** field.

> **Note:** Make sure the entry in the **Virtual Directory** field matches the virtual directory entry listed on the Specify Report Server and Report Server URL form.

4. If setup is unable to connect to the Report Server Database Server or to identify the Reporting Services databases, it displays the SQL Reporting Database Server Setup Connection form. Enter the correct values into their corresponding fields.
   - **Report Database Server**: Use this field to enter the name of the Database server that has the Report Server databases.
   - **SQL Username**: Use this field to enter a Microsoft SQL Database server login/username that is a member of the SQL Server SysAdmin Role. The default sysadmin account for SQL Server is sa. If you use the SQL Server Username and Password, ensure that the server security is configured to support **Mixed Mode**.
   - **SQL Password**: Use this field to enter the password associated with this SQL Login.
   - **Windows Integrated**: Select this option to authenticate your SQL Server using your Windows account if you are logged on to the server with the appropriate administrative rights. Your current Windows account must also be a member of the sysadmin role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the sysadmin role in SQL Server. When SQL

Server is installed, it does not add members of the local administrator's group to the SQL Server sysadmin role by default.

- **ReportServer Database**: Use this field to enter the name of your Report Server database. Typically, the default name for this database is **ReportServer**.
- **ReportServerTempDB Database**: Use this field to enter the name of your ReportServerTempDB database. Typically, the default name for this database is **ReportServerTempDB**. If you did not choose the default names or you are unable to recall the name of your Report Server databases, follow the steps below to identify them.

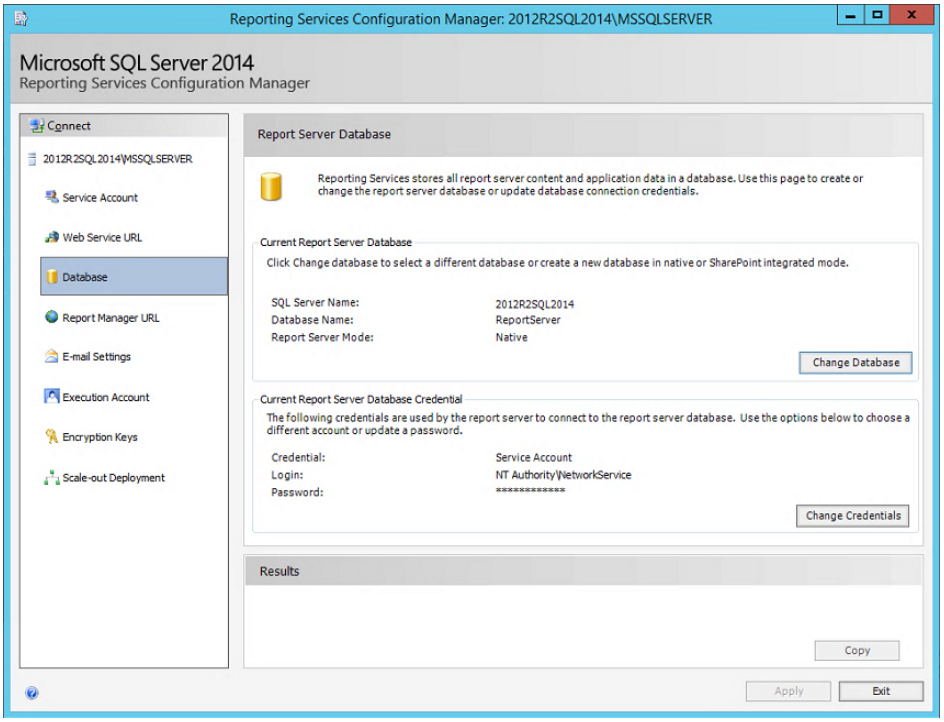
> **Note:** If the SQL login does not have db_owner membership of the Report Server and ReportServerTempDB databases, setup displays an error message and includes additional details in the installation log. Setup is then unable to continue until the SQL username account specified is given the appropriate rights.

Identify the Report Server Databases

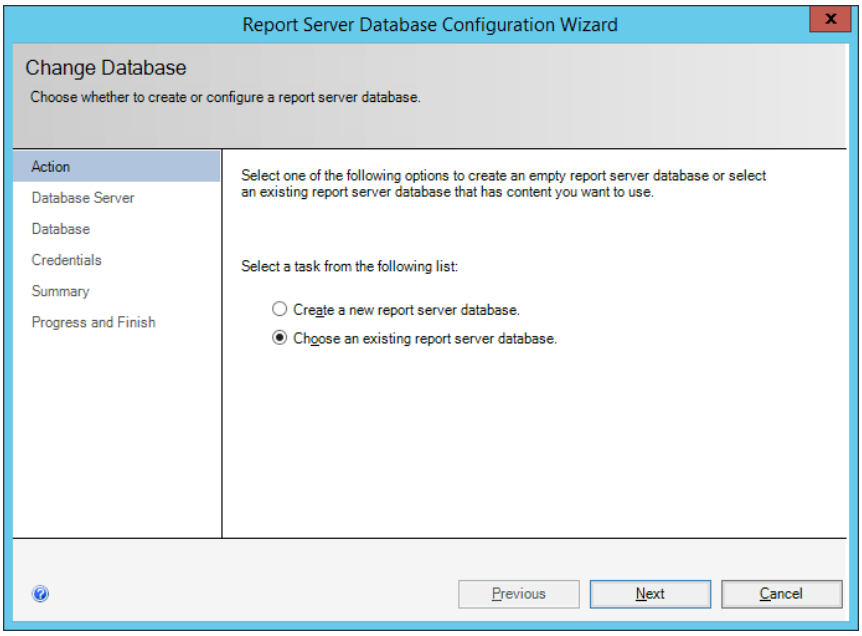
Perform this procedure on your Report Server to identify the names of the ReportServer and Report ServerTempDB databases that are required for setup to detect Reporting Services for SQL Server.

To identify the names of the ReportServer and ReportServerTempDB databases:

1. Click **Start » All Programs » Microsoft SQL Server <version> » Configuration Tools » Reporting Services Configuration Manager**.
2. On the Reporting Services Configuration Manager screen, click **Database** in the left pane.
3. Click **Change Database** in the right pane.

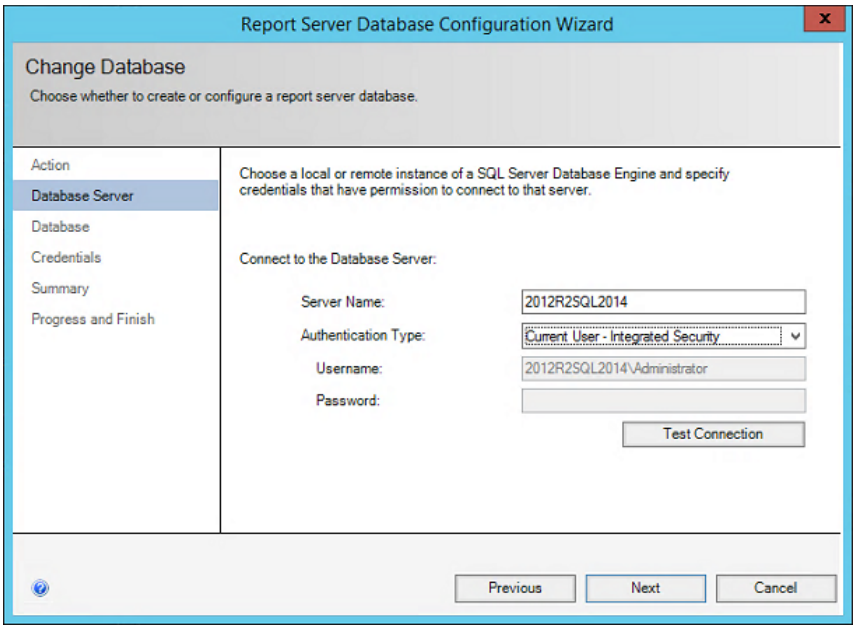


4. On the Change Database screen, select the **Choose an existing report server database** option, and click **Next**.



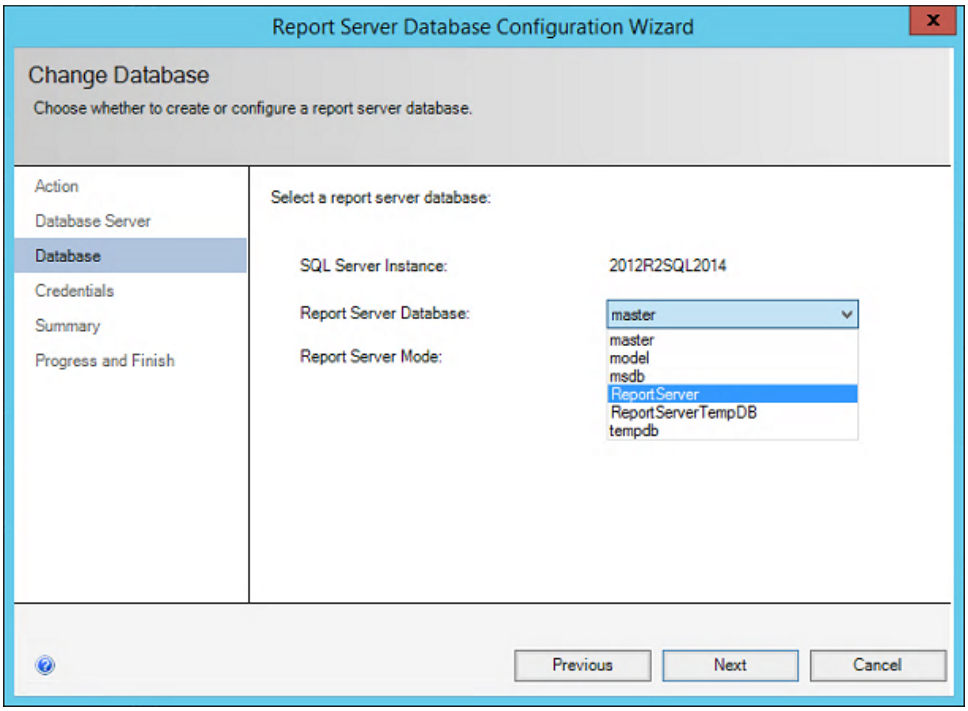
5. If you are logged in as an Administrator, click **Next** to accept the default values to make a connection using Integrated Authentication.

   If you are not logged in as an Administrator, select **SQL Server Account** in the **Authentication Type** field, enter the System Administrator (SA) credentials in the **Username** and **Password** fields, and click **Next**.



6. Use the **Report Server Database** field to view the names of the **ReportServer** and **ReportServerTempDB** databases.

> **Note:** Take note of the names of the ReportServer and ReportServerTempDB databases.



7. Click **Cancel**.
8. Use the name of the ReportServer and ReportServerTempDB databases to populate the SQL Report Database Server Setup Connection screen that displays during the installation, if the Report Server databases cannot be identified.

Attention: For more information, see "Configure Microsoft SQL Server Reporting Services" in this guide.

How to Give Your Account Proper Rights and Privileges in Reporting Services

This section details the necessary Report Server rights and the credentials for both the Report server and SQL Server database.

Required Rights for Report Server

During the installation of the Report Server, two types of credentials are required for successful completion:

- **Windows Account**: This account must have the appropriate rights and privileges for the Report Server Web Services component. It requires Content Manager and System Administrator privileges within the Reporting Services Report Manager Tool. This prevents the "401 unauthorized access" error when testing the connection to the Reporting Services Web Service and when running reports.
- **Report Server SQL Server Database Login**: This login must be a member of the db_owner role for the ReportServer and ReportServerTempDB databases. If using a SQL Server database, it should also include your PMCompass database.

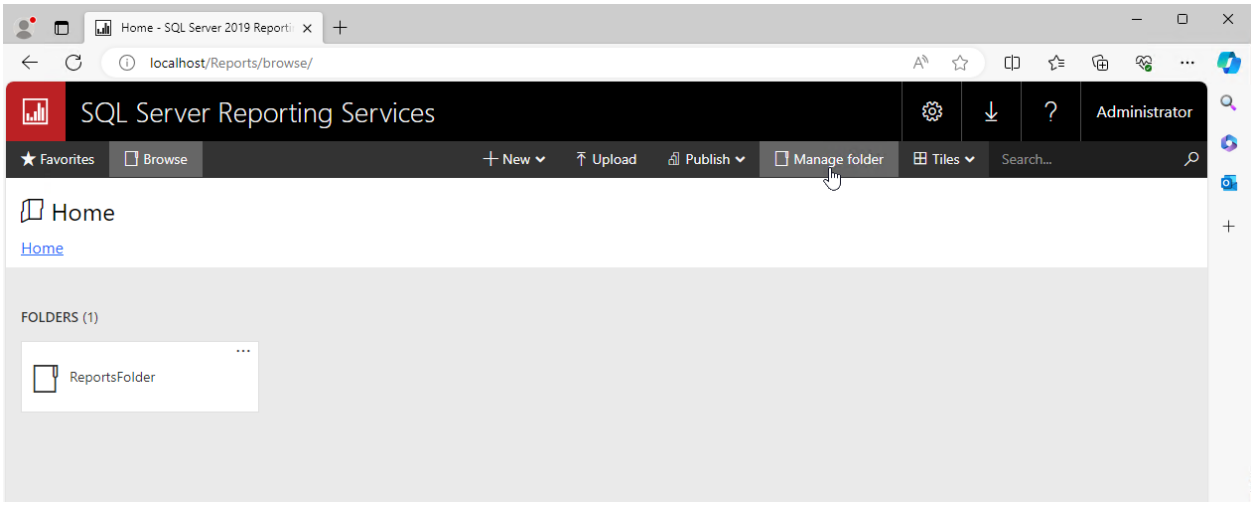
To configure and verify proper rights and privileges to the Report Server Web Services component:

1. Log on locally to the Report Server desktop console with a Domain Service Account that is a member of the local administrator group and launch Report Manager URL (https://localhost/reports):

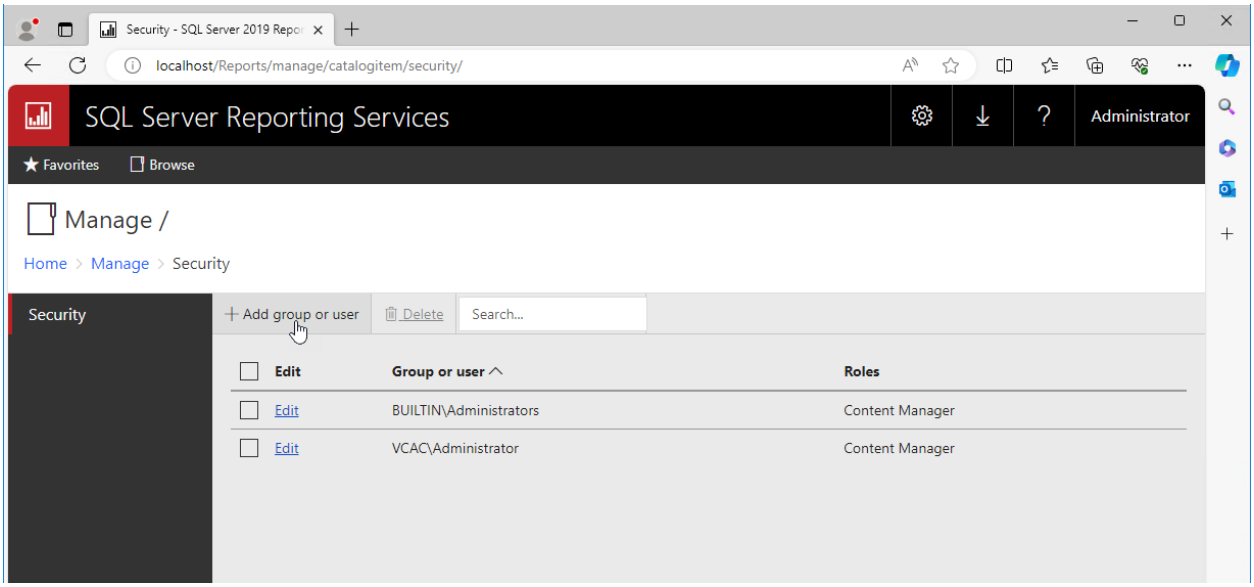
   If you do not see the options below, launch MS Edge using the **Run as administrator** option in order to run it with elevated privileges.

   > **Note:** Although the Local Windows Administrator Group on the Report Server will look like it is a member of the Content Manager and System Administrator roles in Reporting Services, you must still explicitly grant those rights to the account so that the installation can connect to Reporting Services and assign the proper privileges to the local DeltekPMCompass windows account that the installer creates.
   >
   > You must be on the server and browse to the Report Manager URL using localhost as the server name (https://localhost/reports) in order to see the Report Manager configuration options.

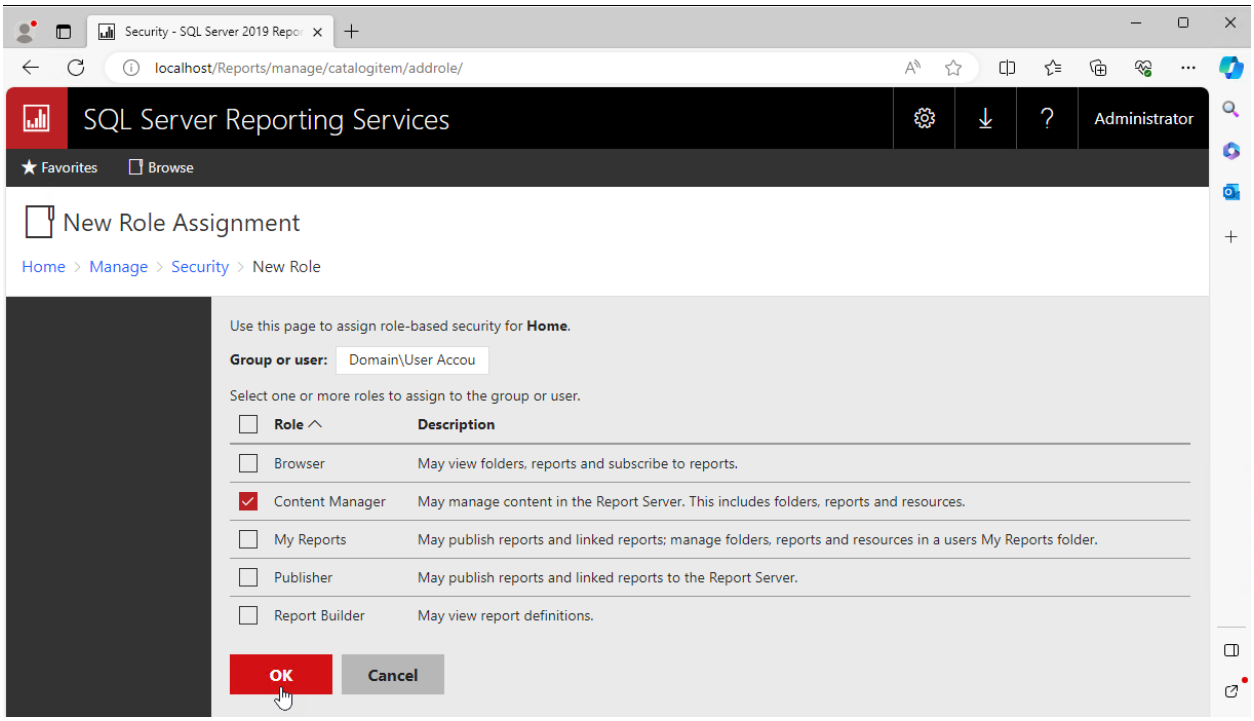
2. Click **Manage Folder** on the SQL Server Reporting Services screen.



3. Click **Add group or user**.

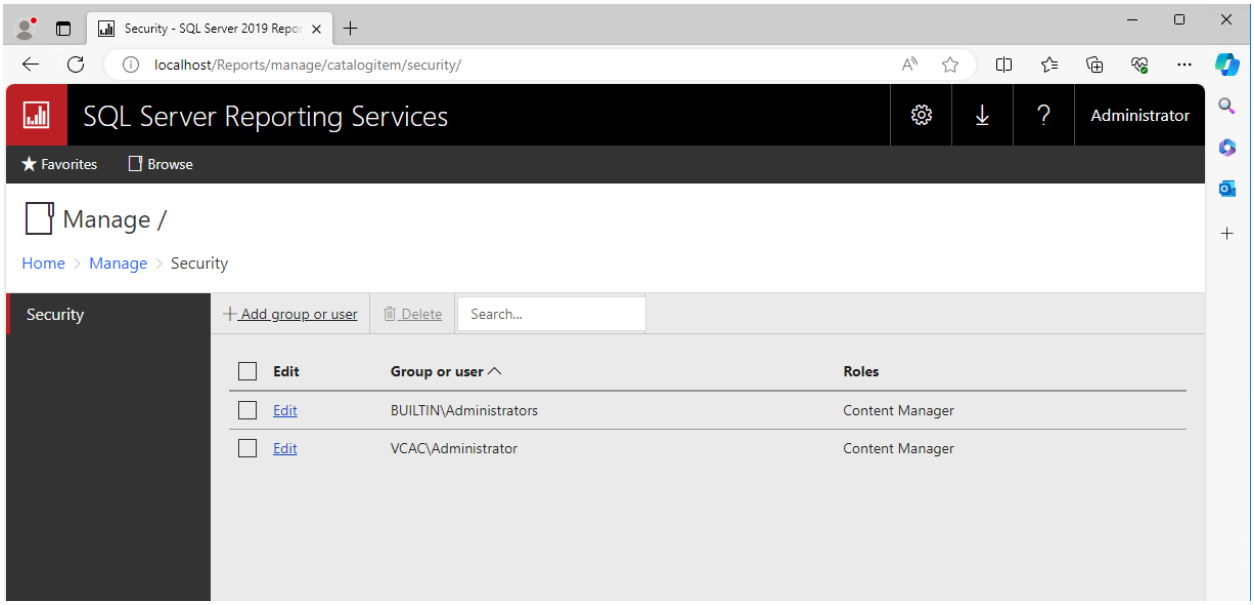


4. Add the Domain Service Account, which you will use to log in and perform the PM Compass installation, to the Content Manager role. During the installation, this account connects to the report server and installs the PM Compass reports into Reporting Services. These rights are also required by the account listed in Weblink to run the PM Compass reports.
5. After the installation is complete, you can remove your Windows Domain Account if you prefer it not to have rights to the reports. The installation creates an account named **DeltekPMCompass**, which is assigned the same rights listed in these steps to load and run PM Compass reports on behalf of PM Compass users.

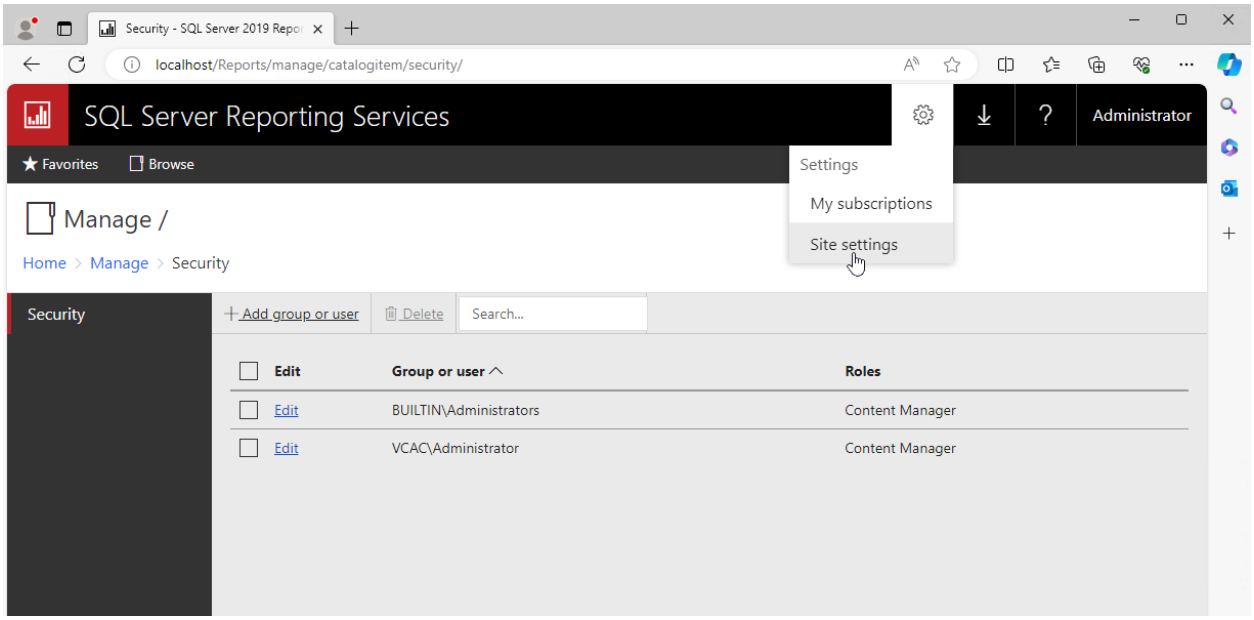


6. Click **OK**.

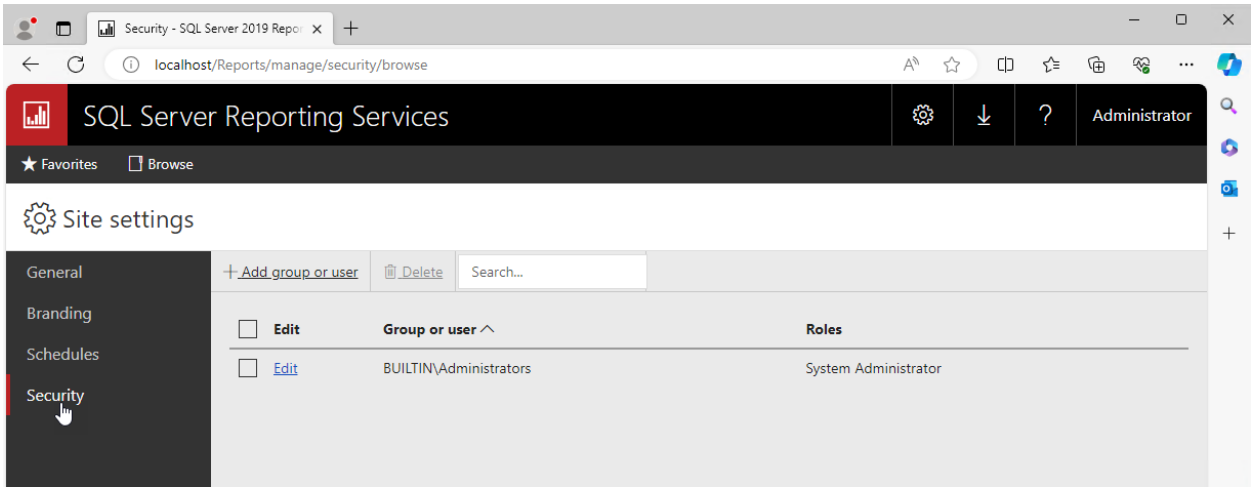
The account will now appear in the listing with Content Manager rights.



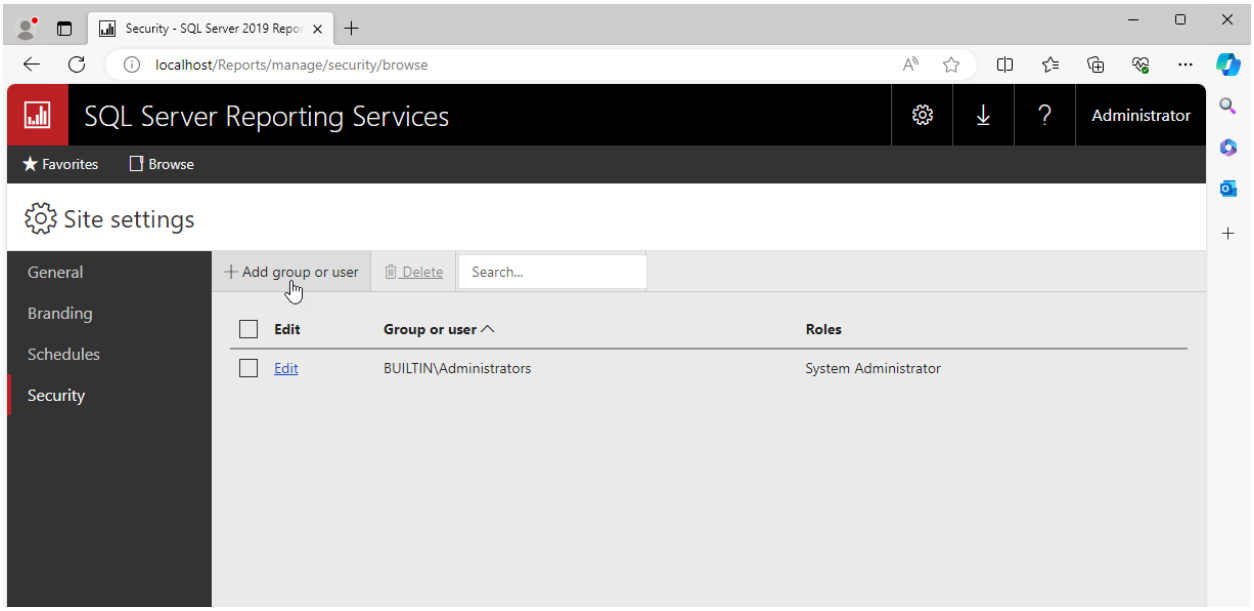
7. Click **Site Settings**.

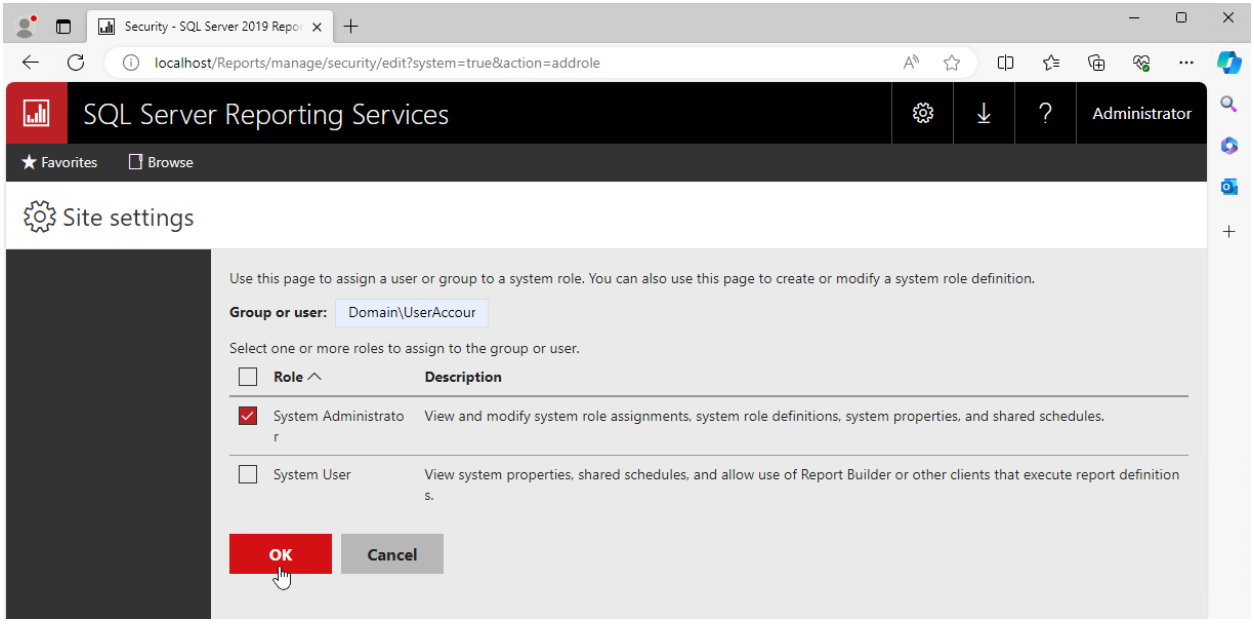


8. Click **Security**.

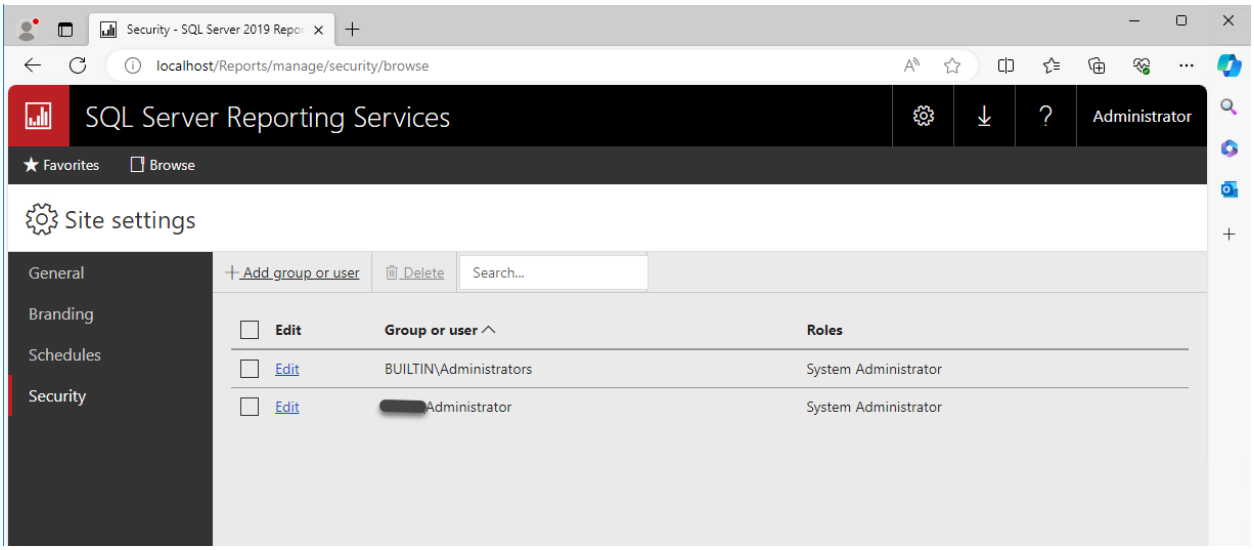


9. Click **Add group or user**, enter your Domain Service Account, and select the **System Administrator** role. Click **OK**.





The account now has the necessary privileges to prevent a 401 Unauthorized error during installation, as well as when testing and running reports.



Prerequisite Report Server and SQL Server Database Credentials

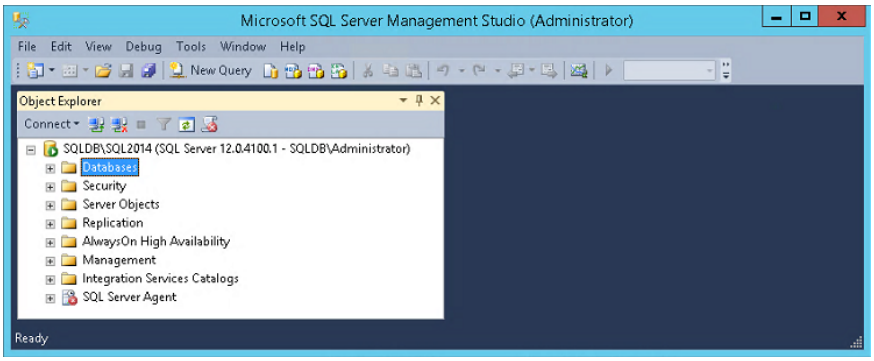
During the installation of PM Compass, when the installer tests for proper rights to the Report Server, a SQL Server account is required to connect to the Microsoft SQL Server Database hosting the Report Server databases used for managing the Report Server and PM Compass reports. This account must be configured on the Microsoft SQL Server hosting the Report Server. Most installations have the SQL Server Report Server database on the same machine as the Report Server Web Server component.

To avoid errors during the Report Server installation, when testing Weblink entries, or when running reports, you must configure a Report Server SQL Server database login and grant it membership to the **db_owner** role on the SQL Server hosting the ReportServer and ReportServerTempDB databases. If you are using Microsoft SQL Server to host your PM Compass database, also grant this role for your PMCompass database.

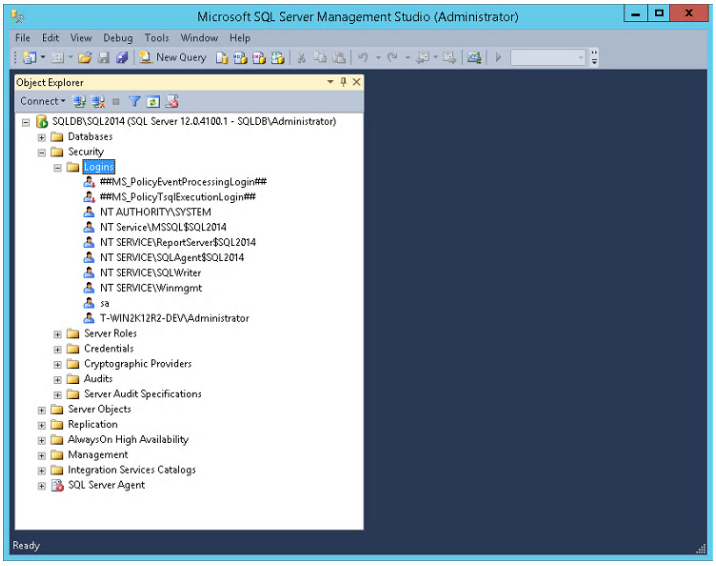
Note: This procedure should also be performed on your database if your database platform is Microsoft SQL Server.

To configure and verify proper rights and privileges to the Report Server Database Server component:

1. Launch Microsoft SQL Server Management Studio.

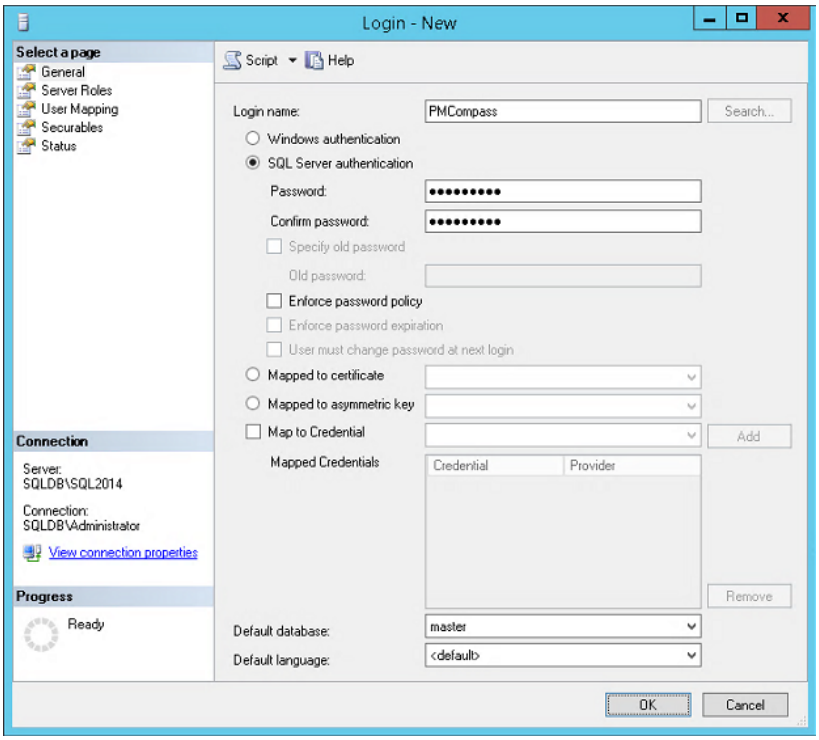


2. Expand the **Security » Logins** folder.

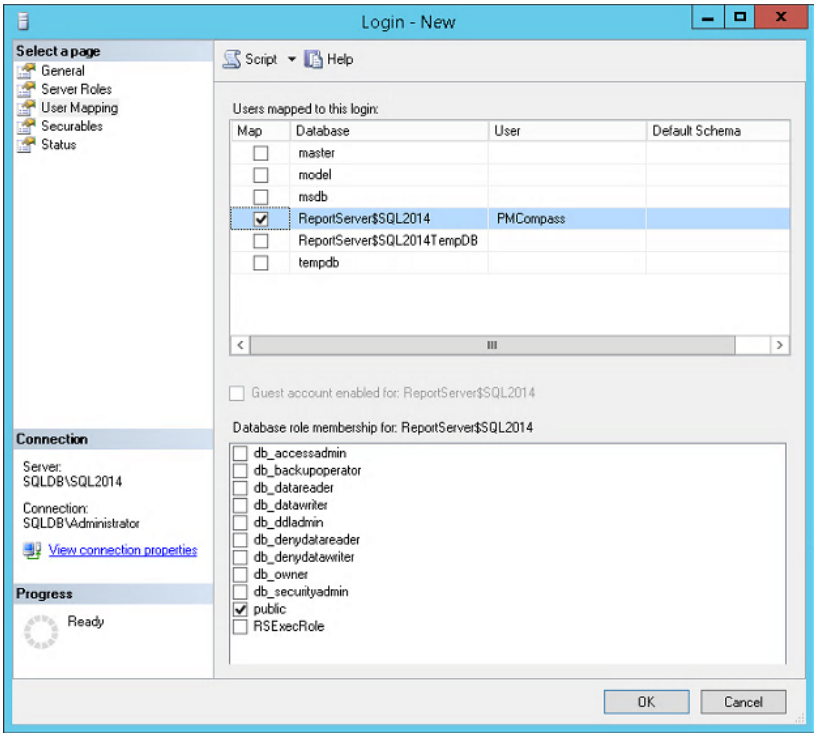


3. Right-click on the **Logins** folder and select **New Login**.
4. Create a new SQL Server login and set password for it.

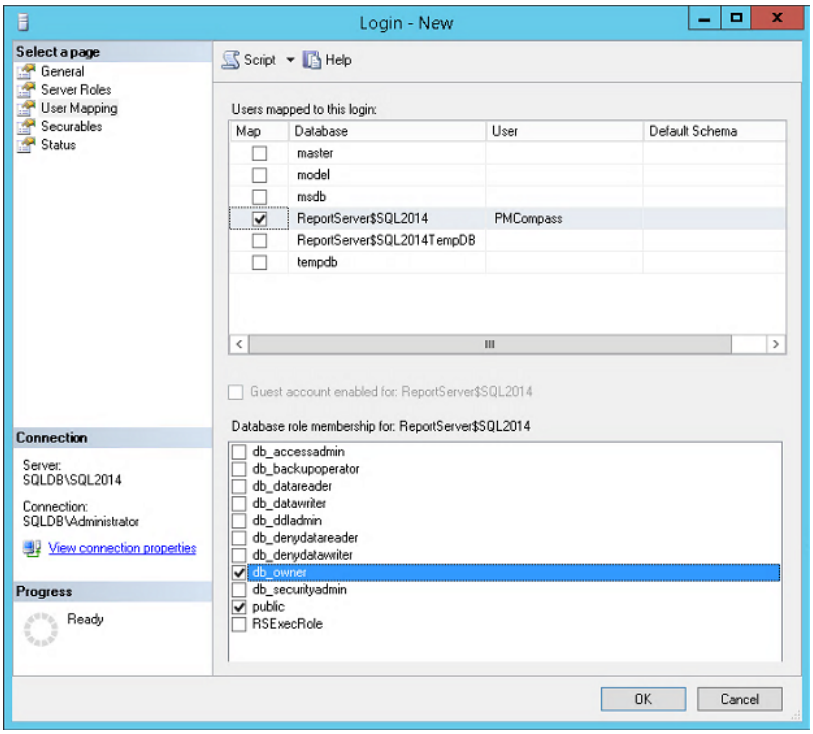
   The example below creates an account named **PMCompass**.



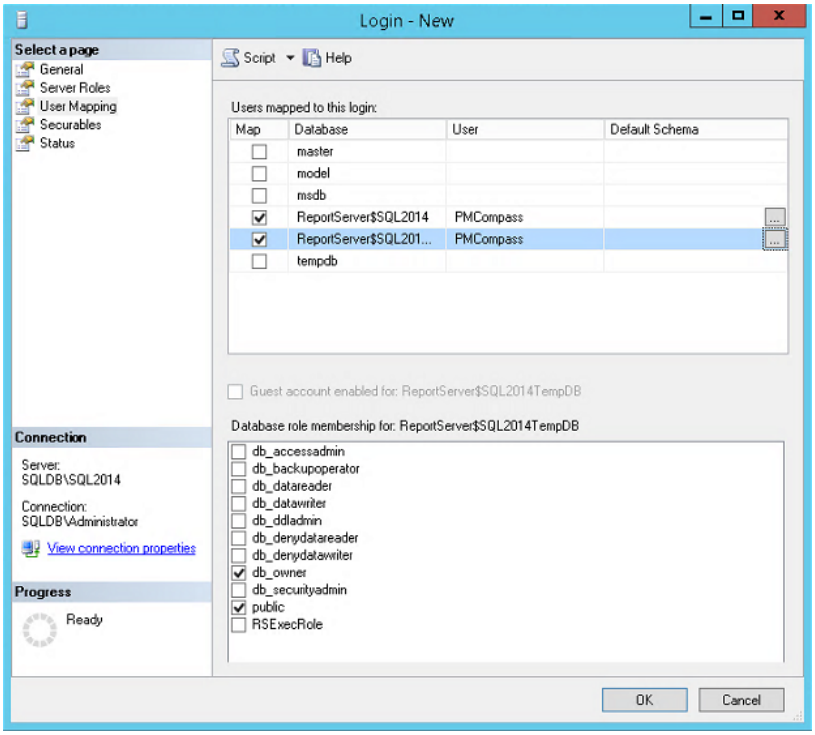
5. Click **User Mapping** and select the **ReportServer database** option in the **Users mapped to this login** section.



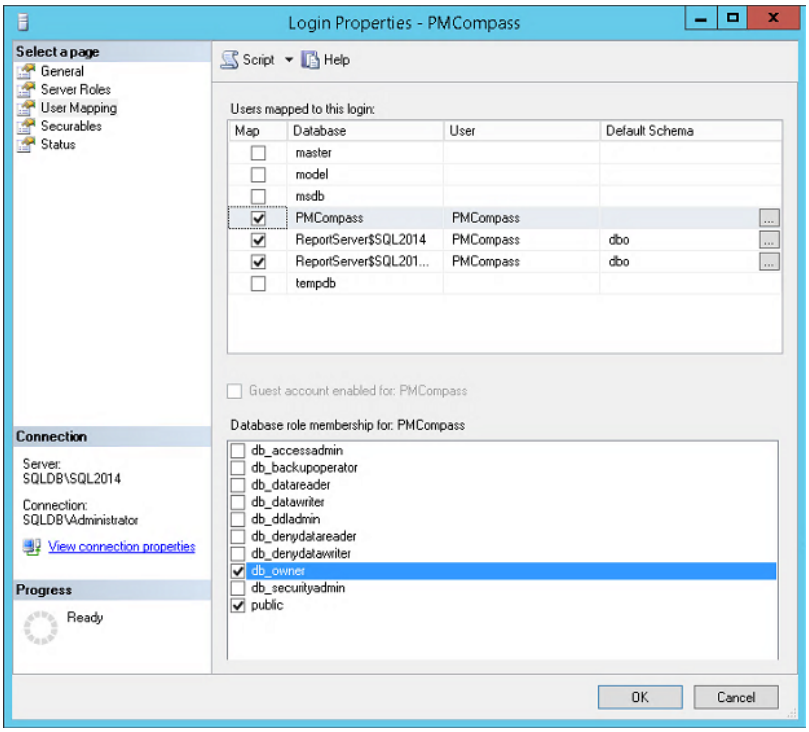
6. In the **Database role membership for <Server>** section, select the **db_owner** option to add the login to the **db_owner** role for the database.



7. Repeat these steps for the **ReportServerTempDB** database.



8. **For PM Compass databases hosted on Microsoft SQL Server ONLY**: If you are using Microsoft SQL Server to host your PM Compass database, repeat these steps to map the login to the PM Compass database and grant it **db_owner role** membership.


Login Properties - PMCompass
Select a page
General
Server Roles
User Mapping
Securables
Status
Script
Help
Users mapped to this login:
Map
Database
User
Default Schema
master
model
msdb
PMCompass
PMCompass
ReportServer$SQL2014
PMCompass
dbo
ReportServer$SQL201...
PMCompass
dbo
tempdb
Guest account enabled for: PMCompass
Database role membership for: PMCompass
db_accessadmin
db_backupoperator
db_datareader
db_datawriter
db_ddladmin
db_denydatareader
db_denydatawriter
db_owner
db_securityadmin
public
Connection
Server:
SQLDB\SQL2014
Connection:
SQLDB\Administrator
View connection properties
Progress
Ready
OK
Cancel

9. Click **OK**.

Appendix D: Printing in PM Compass

PM Compass provides the ability to:

- Print directly to the users' local printers.
- Send a printout or batch to printers that are installed directly on the Web server. This is used primarily for batch-job printing using the Process server for transactions such as Batch Billing.

Print to Local Printers on End-User Workstations

Deltek PM Compass uses the Microsoft SQL Reporting Services WinForm Report Viewer control to render reports and allow users to preview a report. From the Preview dialog box, a print job is sent directly to a user's local printer without having to save to a PDF and other file types.

Creating a Reverse Proxy

The Microsoft SQL Reporting Services WinForm Report Viewer control requires a direct connection to the server running the SQL Reporting Services Web service over Port 80. This means that if your Report server, and possibly your Database server, are installed on the same machine, they are directly exposed to the Internet. It also requires an external FQDN so that the Report server can be resolved by the external users.

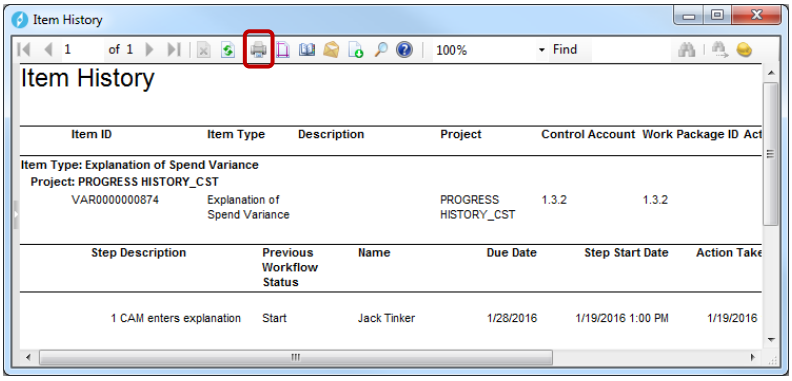
A reverse proxy that uses Microsoft's Application Request Routing (ARR) extension for IIS allows direct forwarding of requests through the PM Compass Web server to the Reporting Services Web Service with responses back to the Internet clients. This configuration resolves all of the issues identified above.

For example, if PM Compass is being hosted on the internet, your users will need access to the Report server to run reports. If you do not want to expose your report server, you can use your Web/Application server as a proxy for the Report server.

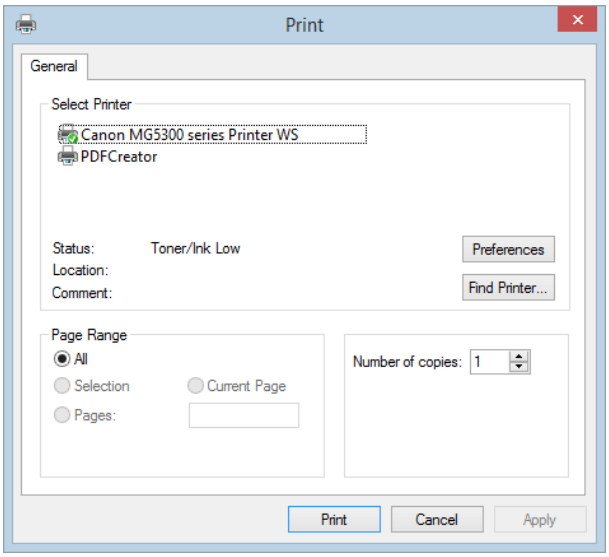
> **Attention:** Attention: For more information about creating a reverse proxy, see the *Deltek PM Compass Advanced Administration Guide*.

To print to a local printer:

1. In PM Compass, preview a report.
2. Click the **Printer** icon in the Preview dialog box to display the printers that are installed on the local workstation.



3. Select the local printer and click **Print** to send the printout to the local printer.



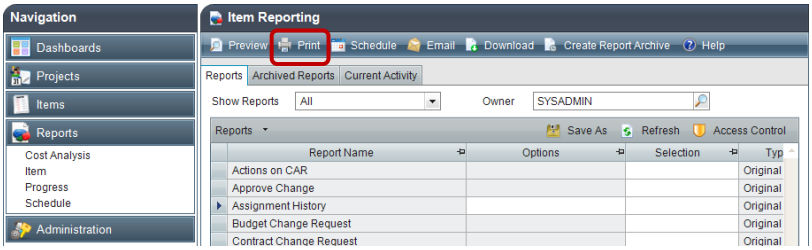
Print to Network Printers Installed on the Web Server

PM Compass printers are installed on the Web server and not on the Report server.

> **Attention:** For information on how to install printers on the Web Server, see "Install Network Printers on the Deltek PM Compass Web Server" in this guide.

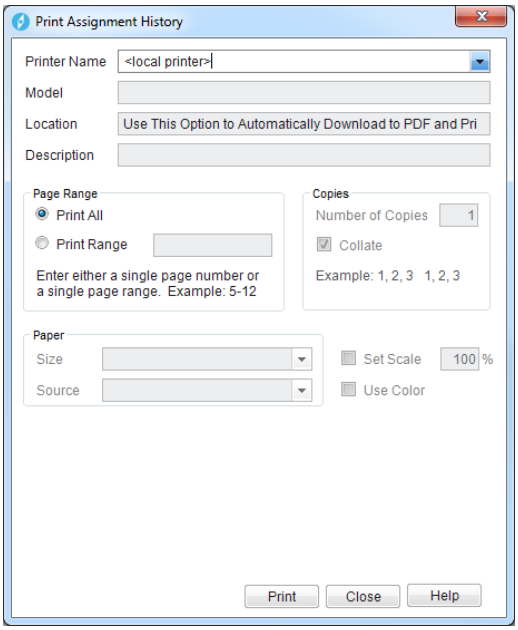
To print to a network printer installed on the PM Compass Web server:

1. In PM Compass, select a report and click the **Print** icon on the toolbar.



2. In the **Printer Name** field, select the network printer.

   If only **<Local Printer>** is listed, it means the system administrator has not yet installed printers on the server.



3. Click **Print** to send the job to the printer.

> **Note:** If you preview a report and then try to print, it will always use the local printers installed on your workstation and not the one installed on the PM Compass Web server.

Install Network Printers on the Deltek PM Compass Web Server

If you installed PM Compass while logged in with a domain account, ensure that the printers are installed on the Web server using the same domain account. This allows end-users to print directly to domain printers from within PM Compass.

> **Attention:** For more information, see "Domain Account vs. Default Local Account" under "Permissions Required for Installing PM Compass" in this guide.

If PM Compass was not installed using a domain account, direct printing from the server is not possible. To properly install printers on the PM Compass Web Server, ensure you meet the requirements listed in this section.

> **Attention:** For more information on the detailed steps, see KB article #66245 on the Deltek Support Center site.

To install network printers on the Deltek PM Compass Web server:

1. Create or use an existing Windows Domain account (not a domain administrator).

   If local or domain password policies cause the password to expire, ensure that the password is updated in Weblink to avoid connection errors.

2. Complete these steps on the Web server:

a. Log onto the Web server and add the account to the Local Administrator Group.

   This gives the account the privilege to install the print drivers.

b. Add the account to the local **IIS_IUSRS** group.

   This gives the account the necessary rights to run the Application Pool.

c. Click **Control Panel » Administrative Tools** and launch the **Local Security Policy** applet.

d. Expand **Local Policies** and click **User Rights Assignment**.

e. Double-click **Logon as a Service** and add the account to the list.

   This allows PM Compass to enumerate the list of printers.

f. Double-click **Logon as a Batch Job** and add the account to the list.

   This allows PM Compass to run the application pool as part of the "IIS_IUSRS" local group.

g. Log onto the Web server using the account and install all the printers required.

h. Click **Control Panel » Administrative Tools** and launch the **Internet Information Services Manager**.

   Expand the application pool and change the identity of the application pool from the local DeltekPMCompass account to this account. If the other rights are not assigned, the application pool will not start.

i. Enter this account in the top section of the Report Server tab within the EPM Security Administrator (EPM SA) Weblink Utility.

j. Log onto the server using this account and install the printers so that they are added to the local profile.

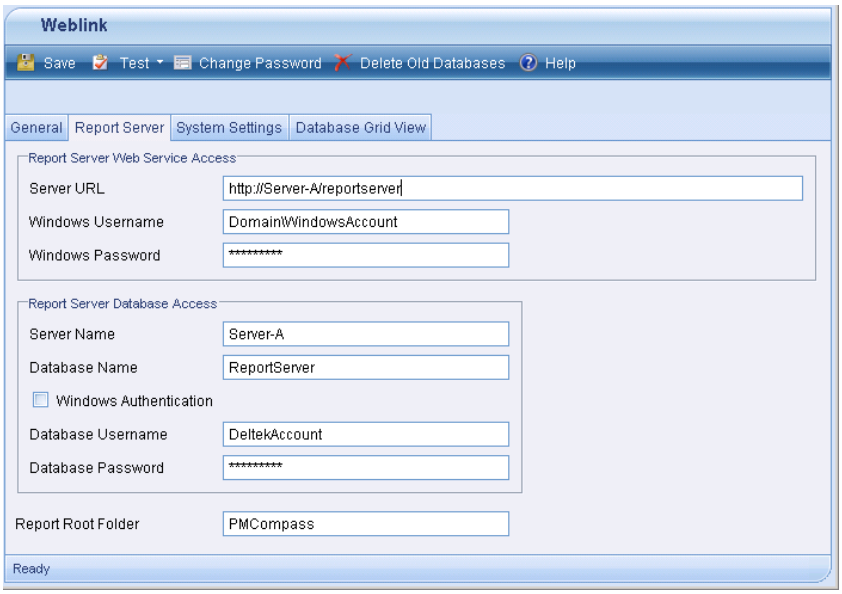
Report Server Requirements

The Windows domain account must be configured with the proper rights and privileges to Reporting Services on the Report server.

> **Attention:** For steps to configure the Report server, see "How to Give Your Account Proper Rights and Privileges in Reporting Services" under "Appendix C: Microsoft SQL Server Reporting Services" in this guide.

Deltek EPM SA Weblink Requirements

The account must be referenced in the top section on the Report Server tab in Weblink.



Launch Weblink

Follow this procedure to launch Weblink.

To launch Weblink:

1. Click **Start » All Programs » Deltek PM Compass » Deltek PM Compass WebLink** to launch the WebLink utility on the Web/Application server.
2. Select your database entry.

   The database entry you select here should also be mapped to the logon account as specified in the Weblink section in the procedure above.
3. On the Report Server tab, enter the domain account you created and configured on the Web server in the Report Server Web Service Access section.
4. In the Report Server Database Access section of the Report Server tab, enter the SQL Server logon account you created and configured on the Database server.

   This account must have the proper rights to the PM Compass database and the Report Server databases.
5. Launch PM Compass and the refresh report printers.

Refresh the Report Printers

Follow this procedure to refresh the report printers.

To refresh the report printers:

1. Launch PM Compass and log onto the database you configured in Weblink.
2. Select **Administration » Report Administration**.
3. On the Report Printers tab, click **Refresh** to update PM Compass with the printers installed.

Appendix E: Load Standard PM Compass Reports

During the Web Server/Tier installation, PM Compass installs a standard set of reports.

PM Compass uses the following internal steps to complete this process:

1. PM Compass installs the PM Compass report folders and files into the PM Compass Reports folder: **\\Program Files\Deltek\PMCompass\Reports**.
2. PM Compass imports the PM Compass Report files into Microsoft SQL Server Reporting Services (SSRS) to make the reports available in Reporting Services.

Installation Errors

If there are issues with the connection between PM Compass and the Report server, the reports will not install correctly on the Report server.

Installation Type	Problem	Possible Cause	Solution
Upgrade existing PM Compass installation	The connection between the Report server database and Reporting Services URL fails.	The account specified in Weblink does not have the appropriate rights to the Report server, Web server, Report server databases, and PM Compass database.	Grant the Weblink account the necessary rights to the Report server or use a Weblink account that has the necessary rights to the Report server.
All installations	The connection between the Report server database and Reporting Services URL fails	The Report server did not respond in a timely manner and the connection timed out.	Launch PM Compass and reload the reports. **Attention:** For steps to resolve this issue, see "Reload Reports" and "Refresh Printers".

Reload Reports

If PM Compass displays an error message stating that PM Compass reports were not successfully imported during the installation process, you must reload the reports manually from the Utilities folder in PM Compass.

To reload reports:

1. Launch PM Compass and log onto the database you configured in Weblink.
2. Select **Administration » Report Administration**.
3. On the Load Reports tab, click **Load Report Files** to update the Reporting Services Web Service with the report definitions from the Web server.

   A warning displays: "Loading reports onto <Server> will prevent ALL users from running reports on this server for a few minutes. Are you sure you want to do this?"

4. Click **Yes**.

Refresh Printers

Follow this procedure to refresh printers.

To refresh printers:

1. Launch PM Compass and log on to the database you configured in Weblink.
2. Select **Administration » Report Administration**.
3. On the Report Printers tab, click **Refresh** to update the PM Compass database with the list of printers that are on the Web server.

Appendix F: Using Oracle with PM Compass

This chapter covers topics about using Oracle with PM Compass.

> **Note:** Deltek provides several deployment models. For all models, Deltek assumes that your Oracle database server is a separate machine. No installations are performed on this machine. All connections to your Database server are made from the Web/Application or Report server machines.

Database Platform Options for Oracle Databases

PM Compass supports Oracle and Microsoft SQL Server database platforms. The procedure in this chapter is for Administrators performing the PM Compass installation on an Oracle database.

> **Note:** The PM Compass installer includes a utility called the PM Compass Database Upgrade Wizard Utility. It allows you to upgrade multiple databases (one at a time) if you have more than one copy of your database (for training and testing purposes). For more information, see "Appendix J: PM Compass Database Upgrade Wizard Utility" in this guide.

Run Scripts Manually on an Oracle Database

PM Compass installs Microsoft command prompt/batch (.bat) files that you can use to apply the database script (.sql) files against your database.

To apply the batch files to your database, you need to supply your connection information as parameters.

This chapter includes separate sections for:

- Applying scripts to your database for the first time (new to PM Compass).
- Upgrading your database from a previous PM Compass version.

Make sure that you choose the section that is appropriate to your situation.

Oracle Batch Parameter Order

There are parameters that can be passed to the batch files; however, they need to be run in the following order:

1. Server/Instance Name
2. User ID
3. Password

For example, if your Server/Instance name is **ServerA**, your User ID is **UserIDA**, and your Password is **PasswordA**, then when you launch the batch file from a command prompt, it will be in this format: "**<name of batch file> ServerA UserIDA PasswordA**" (with a space separating each parameter).

Note: If you chose to run the database scripts using the installation created batch file or the product-specific batch files, there is an additional batch file named **Check_Errors.bat**, located in each script sub-folder (Cobra, SQL and Oracle), which you should also run after running the appropriate database script batch files.

This batch file checks the log files created by each database script process and writes any errors identified in those logs to an **Errors.txt** file in each script sub-folder. This text file will include the log file in which the error was found, the line number of the error, and the error text.

Apply PM Compass Scripts to Your Database for the First Time

During the installation, if you selected to run the scripts manually, depending on the type of database you are upgrading for PM Compass (a new/blank database, or an existing Cobra or Open Plan database), you must perform the applicable steps in the sequence presented in the following table.

Step	Database Schema Requirements	Step to Perform	Description
1	Cobra Schema (Only required if your database is NOT a Cobra database, that is, the database does not contain any Cobra tables.) **Warning:** Do not run this script if you have an existing Cobra database.	1. Navigate to the following folder: <PMCompass InstallDir>\Databases\Scripts\Cobra\Oracle\Create\. 2. Run the RunAllCreateScripts_Oracle.bat passing parameters for Oracle.	Creates the Cobra tables/data using the RunAllCreateScripts.bat
2	OpenPlan Schema (Only required if your database is NOT an Open Plan database, that is, the database does not contain any Open Plan tables.) **Warning:** Do not run this script if you have an existing Open Plan database.	1. Navigate to the following folder: <PMCompass InstallDir>\Databases\Scripts\Oracle\ 2. Run the RunOpenPlanScripts_Oracle.bat passing parameters for Oracle.	Creates the OpenPlan tables/data using the RunOpenPlanScripts.bat
3	Framework Schema	Framework – Run the <PMCompass InstallDir>\Databases\Scripts\Oracle\RunFWScripts_Oracle.bat passing parameters for Oracle.	Creates the FrameWork tables/data using the RunFWScripts.bat

Step	Database Schema Requirements	Step to Perform	Description
4	EPM SA Schema	EPM – Run the <PMCompass InstallDir>\Databases\Scripts\Oracle\RunEPMScripts_Oracle.bat passing parameters for Oracle.	Creates the EPM tables/data using the RunEPMScripts.bat
5	PM Compass Schema	PM Compass – Run the <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassScripts_Oracle.bat passing parameters for Oracle.	Creates the PMCompass Tables/data using the RunPMCompassScripts.bat
6	Microsoft Project Integration **Warning:** Skip this step if you are using Open Plan as a scheduling tool.	Run the <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassMSPInit_Oracle.bat passing parameters for Oracle.	Initializes the tables for Microsoft Project integration.
7	Primavera P6 Integration **Warning:** Only run if you are using Primavera P6.	Run <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassP6Init_Oracle.bat passing parameters for Oracle.	Initializes the tables for Primavera P6 integration.
8	MSP Integration	Add the MSP integration folder UNC path	For steps, see "Add or Edit the MSP Integration Folder UNC Paths" under "Appendix N: Integrating with Microsoft Project" in this guide.

Upgrade Your Database from a Previous PM Compass Version

During the installation, if you selected to run the scripts manually, you must perform the step outlined in the table below.

Step	Database Schema Requirements	Step to Perform	Description
1	PM Compass database upgrade	Run the **RunPMCompassUpgrade80to84_Oracle.bat** passing parameters for Oracle.	Upgrades your current PM

Step	Database Schema Requirements	Step to Perform	Description
			Compass 8.x + database.
2	Microsoft Project Integration **Warning:** Skip this step if you are using Open Plan as a scheduling tool..	Run the <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassMSPInit_Oracle.bat passing parameters for Oracle.	Initializes the tables for Microsoft Project integration
3	Primavera P6 Integration **Warning:** Only run if you are using Primavera P6.	Run <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassP6Init_Oracle.bat passing parameters for Oracle.	Initializes the tables for Primavera P6 integration.

Registering Oracle Policy Files to the Global Assembly Cache (GAC)

Running the Web/Application/Report/Process servers on a 64-bit machine with a 64-bit installation of SQL Reporting Services and an Oracle database server requires the installation of both the 32-bit and 64-bit Oracle clients on the Web/Application/Report/Process server.

Installing the 64-bit Oracle client after the 32-bit version removes the 32-bit Oracle Policy files from the GAC. You need to add these files to the GAC after installing the 64-bit Oracle client.

Note: In cases where the installer cannot proceed because the GACUTIL file does not yet exist, refer to the Deltek Support Center KB article # 79615.

Register your Oracle Client

You may encounter one or more of the errors described in the table.

Error	Description
“Invalid Identifier” error encountered when using Oracle client	The Oracle client installation failed to add the Oracle.DataAccess assemblies (dll and Policy files) to the Global Assembly Cache (GAC).
Unable to find the requested .NET Framework Data Provider. It may not be installed.	The Oracle client installation failed to add the Oracle.DataAccess assemblies (dll and Policy files) to the Global Assembly Cache (GAC).

Error	Description
An error has occurred during report processing.	This error is specific to the Report tier and the 64-bit version of the Oracle client. The Oracle client installation failed to add the Oracle.DataAccess assemblies (dll and Policy files) to the machine.config on the Report server.
Unable to load dll 'OraOpsxx.dll' (where xx is the Oracle client version): This specified module cannot be found.(Oracle.DataAccess.Client.OpsInit)	You encounter this error when launching WebLink or EPMSA Admin. The Oracle client installation failed to add the Oracle.DataAccess assemblies (dll and Policy files) to the Global Assembly Cache (GAC). The Oracle client installation failed to add the Oracle.DataAccess assemblies (dll and Policy files) to the machine.config.
Unable to load dll 'OraOpsxx.dll' (where xx is the Oracle client version): This specified module cannot be found (Oracle.DataAccess.Client.OpsInit)	

Follow the 32-bit or 64-bit steps below to resolve the issue. Anytime you install or add an Oracle client, you must run these steps to register both new and existing clients.

Note: You must register the Oracle .NET Assemblies every time you install, add, or modify an Oracle client or after applying an Oracle client patch. You must run these steps to register both new and existing clients.

Example 1: If you already have the 32-bit client installed and you add the 64-bit client, after the installation, you must register both the 32-bit and 64-bit clients.

Example 2: You have an Oracle 64-bit client installed and are using PM Compass. You install a new Oracle client 32-bit version. If you are going to use the old and new Oracle client versions, after you install the new version, you must register both versions. If you are only going to use the new Oracle version, after the installation, you must register the new version.

32-Bit Oracle Client (Unmanaged)

You must perform this procedure on your Web/Application and Process server machines.

1. Click **Start » All Programs » Accessories**.
2. Right-click the Command Prompt and select **Run as administrator**.
3. On the Administrator Command Prompt window, enter the following lines:

   Register the ODP.NET 4 Unmanaged assembly into the GAC

   ```
   "<Oracle_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
   /providerpath:"<Oracle_client_home_path>\odp.net\bin\4\Oracle.DataAccess.dll"
   ```

   Register the ODP.NET 4 Unmanaged Publisher Policy assembly into the GAC

   ```
   "<Oracle_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
   /providerpath:"<Oracle_client_home_path>\odp.net\PublisherPolicy\4\Policy.4.112
   .Oracle.DataAccess.dll"
   ```

   ```
   "<Oracle_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
   /providerpath:"<Oracle_client_home_path>\odp.net\PublisherPolicy\4\Policy.4.121
   .Oracle.DataAccess.dll"
   ```

```
"<Oracle_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
/providerpath:"<Oracle_client_home_path>\odp.net\PublisherPolicy\4\Policy.4.122
.Oracle.DataAccess.dll"
```

Configure the Machine.config for .NET 4 Framework with proper section Handler

```
"<Oracle_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:config
/product:odp /frameworkversion:v4.0.30319
/providerpath:"<Oracle_client_home_path>\odp.net\bin\4\Oracle.DataAccess.dll"
```

4. Close the Administrator Command Prompt window.

64-Bit Oracle Client (Unmanaged)

You must perform this procedure on any machine that has the Report tier installed.

1. Click **Start » All Programs » Accessories**.
2. Right-click the Command Prompt and select **Run as administrator**.
3. On the Administrator Command Prompt window, enter the following lines:

> **Note:** Oracle client home path refers to the location where the Oracle client binaries are stored. For example, C:\app\oracle\product\12.2.0\client_1.

Register the ODP.NET 4 Unmanaged assembly into the GAC

```
"<Oracle_64bit_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\bin\4\Oracle.DataAccess.
dll"
```

Register the ODP.NET 4 Unmanaged Publisher Policy assemblies into the GAC

```
"<Oracle_64bit_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\PublisherPolicy\4\Policy
.4.112.Oracle.DataAccess.dll"

"<Oracle_64bit_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\PublisherPolicy\4\Policy
.4.121.Oracle.DataAccess.dll"

 "<Oracle_64bit_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:gac
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\PublisherPolicy\4\Policy
.4.122.Oracle.DataAccess.dll"
```

Configure the Machine.config for .NET 4 Framework with proper section Handler

```
"<Oracle_64bit_client_home_path>\ODP.NET\bin\4\OraProvCfg.exe" /action:config
/product:odp /frameworkversion:v4.0.30319
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\bin\4\Oracle.DataAccess.
dll"
```

Register ODP.NET Managed Client to GAC

> **Note:** Run this command if you are running PM Compass on any tier that includes the Report server, but you did not run the PM Compass installer on any of the tier.

```
"<Oracle_64bit_client_home_path>\odp.net\bin\4\OraProvCfg.exe /action:gac
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\managed\common\Oracle.Ma
nagedDataAccess.dll"
```

Add ODP.NET Managed Client entries to machine.config

> **Note:** Run this command if you are running PM Compass on any tier that includes the Report server, but you did not run the PM Compass installer on any of the tier.

```
"<Oracle_64bit_client_home_path>\odp.net\bin\4\OraProvCfg.exe /action:config
/force /product:odpm /frameworkversion:v4.0.30319
/providerpath:"<Oracle_64bit_client_home_path>\odp.net\managed\common\Oracle.Ma
nagedDataAccess.dll"
```

4. Close the Administrator Command Prompt window.

Appendix G: Using Microsoft SQL Server with PM Compass

This chapter covers topics about using Microsoft SQL Server with PM Compass.

Database Platform Options for Microsoft SQL Server Databases

PM Compass supports Oracle and Microsoft SQL Server database platforms. The procedure in this section is for Administrators performing the PM Compass installation on a Microsoft SQL Server database.

> **Note:** If you are unable to connect to your SQL Server or have not yet performed the requirements, see the Database Requirements section in this guide.
>
> The PM Compass installer includes a utility called the PM Compass Database Upgrade Wizard Utility. It allows you to upgrade multiple databases (one at a time) if you have more than one copy of your database (for training and testing purposes). For more information, see "Appendix J: PM Compass Database Upgrade Wizard Utility" in this guide.

Run Scripts Manually on SQL Databases

PM Compass installs Microsoft command prompt / batch (.bat) files that you can use to apply the database script (.sql) files against your database. To apply the batch files to your database, you need to supply your connection information as parameters.

This topic includes separate sections for:

- Applying scripts to your database for the first time (new to PM Compass).
- Upgrading your database from a previous PM Compass version.

Make sure you choose the section that is appropriate to your situation.

Microsoft SQL Batch Parameter Order

There are parameters that can be passed to the batch files; however, they must be run in the following order:

1. Database Name
2. Server/Instance Name

   > **Note:** If you are specifying the port number when making the connection to the SQL Server, you must enclose the parameter in double quotation marks:
   >
   > **"<ServerA>,<port number>".**
   >
   > For example, **"ServerA,1234".**

3. User ID
4. Password

> **Note:** The user ID and password are optional. If you do not specify a user ID and password, it means that you are using Windows Authentication and the account with which you logged in must be a member of the **db_owner** role in the database in Microsoft SQL Server.

For example, if your **Database Name** is **DatabaseA,** your Server/Instance name is **ServerA**, your User ID is **UserIDA**, and your Password is **PasswordA,** then when you launch the batch file from a command prompt, it will be in this format: **"<name of batch file> DatabaseA ServerA UserIDA PasswordA**" (with a space separating each parameter).

> **Note:** If you chose to run the database scripts via the installation created batch file or via the product specific batch files, there is an additional batch file named **Check_Errors.bat** located in each scripts sub-folder (Cobra, SQL and Oracle) which is run after the appropriate database script batch files have run.
>
> This batch file will check the log files created by each database script process and write any errors identified in those logs to an **Errors.txt** file in each scripts sub-folder. This text file will include the log file the error was found in, the line number of the error, and the error text.

Apply PM Compass Scripts to Your Database for the First Time

If you selected to manually run the scripts, depending on the type of database you are upgrading for PM Compass (that is, a new/blank database, an existing Cobra or Open Plan database) you must perform the applicable steps in the sequence presented in the following table.

Step	Database Schema Requirements	Step to Perform	Description
1	Cobra Schema (Only required if your database is NOT a Cobra database, that is, the database does not contain any Cobra tables.) **Warning:** Do not run this script if you have an existing Cobra database.	1. Navigate to the following folder: <PMCompass InstallDir>\Databases\Scripts\Cobra\SQLServer\Create\. 2. Run the RunAllCreateScripts_SQL.bat passing parameters for SQL.	Creates the Cobra tables/data using the RunAllCreateScripts.bat.
2	OpenPlan Schema (Only required if your database is NOT an Open Plan database, that is, the database does not contain any Open Plan tables.)	1. Navigate to the following folder: <PMCompass InstallDir>\Databases\Scripts\SQL\. 2. Run the RunOpenPlanScripts_SQL.bat passing parameters for SQL.	Creates the OpenPlan tables/data using the RunOpenPlanScripts.bat

Step	Database Schema Requirements	Step to Perform	Description
	Warning: Do not run this script if you have an existing Open Plan database.		
3	Framework Schema	Framework – Run the <PMCompass InstallDir>\Databases\Scripts\SQL\RunFWScripts_SQL.bat passing parameters for SQL.	Creates the FrameWork tables/data using the RunFWScripts.bat
4	EPM SA Schema	EPM – Run the <PMCompass InstallDir>\Databases\Scripts\SQL\RunEPMScripts_SQL.bat passing parameters for SQL.	Creates the EPM tables/data using the RunEPMScripts.bat
5	PM Compass Schema	PM Compass – Run the <PMCompass InstallDir>\Databases\Scripts\SQL\RunPMCompassScripts_SQL.bat passing parameters for SQL.	Creates the PMCompass Tables/data using the RunPMCompassScripts.bat
6	Microsoft Project Integration **Warning:** Skip this step if you are using Open Plan as a scheduling tool.	Run <PMCompass InstallDir>\Databases\Scripts\SQL\RunPMCompassMSPInit_Sql.bat passing parameters for SQL.	Initializes the tables for Microsoft Project integration.
7	Primavera P6 Integration **Warning:** Only run if you are using Primavera P6.	Run <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassP6Init_Sql.bat passing parameters for SQL.	Initializes the tables for Primavera P6 integration.
8	MSP Integration	Add the MSP integration folder UNC path	For steps, see "Add or Edit the MSP Integration Folder UNC Paths" under "Appendix N: Integrating with Microsoft Project" in this guide.

Upgrade Your Database from a Previous PM Compass Version

During the installation, if you selected to run the scripts manually, you must perform the step outlined in the table below.

Step	Database Schema Requirements	Step to Perform	Description
1	PM Compass database upgrade	Run the **RunPMCompassUpgrade80to84_Sql.bat** passing parameters for SQL.	Upgrades your current PM Compass 8.x + database.
2	Microsoft Project Integration **Warning:** Skip this step if you are using Open Plan as a scheduling tool..	Run <PMCompass InstallDir>\Databases\Scripts\SQL\RunPMCompassMSPInit_Sql.bat passing parameters for SQL.	Initializes the tables for Microsoft Project integration
3	Primavera P6 Integration **Warning:** Only run if you are using Primavera P6.	Run <PMCompass InstallDir>\Databases\Scripts\Oracle\RunPMCompassP6Init_Sql.bat passing parameters for SQL.	Initializes the tables for Primavera P6 integration.

Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases

A new PM Compass database is Unicode only and uses case-insensitive indexes. If you are installing PM Compass into an existing Cobra and Open Plan database, confirm the database is configured correctly.

The sections below detail any specific checks and possible changes that must be performed to ensure your existing Cobra and Open Plan databases are compatible for integration with PM Compass.

During the early stages of the PM Compass installation, the setup program connects to your database and queries it to determine if it has Unicode support and CI indexes. If it detects that the database does not meet the criteria, the installer displays the reason(s) why, and saves a **PMC84_Unicode_CI.zip** file in the same location as the **DeltekPMCompass<version>.exe** file before exiting. The zip file contains several database script files that you need to update your database to satisfy the requirements and restart the installation.

Before you make any changes to your database, review the sections below to ensure that there are no issues with your particular environment.

Choosing the Oracle Character Set

The PM Compass platform supports the non-Unicode character set WE8MSWIN1252. When you configure your Oracle database using the Oracle tools, make sure that you choose the WE8MSWIN1252 character set when you create your initial PM Compass database.

> **Note:** PM Compass does not currently support the Unicode Translation Format (UTF) character sets.

Case-Insensitive (CI) Indexes

As there may be a small performance impact, Deltek recommends that existing Open Plan customers undertake general performance tests for their Open Plan deployment after migrating to use Unicode data and function-based indexes. In addition, if you have custom applications that directly access the Open Plan database, you may need to modify them to ensure that any queries take advantage of the CI indexes.

Open Plan Database Prerequisite Steps

Complete the steps below in the order listed.

> **Tip:** Before performing the steps below, Deltek strongly recommends that you backup up your Open Plan database.

Step 1: Extract the Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases

These script files will be used in step 2 (Determine if Unicode is Supported) and step 3 (Determine Whether Case-Insensitive Indexes Exist in the Open Plan Database) below, depending on which database prerequisites are needed.

The **File to Run** column in the tables below tells you which script file to run and when. Only run the scripts applicable to your database platform (Oracle or SQL).

To download the script files:

1. Navigate to the folder where the **DeltekPMCompass<version>.exe** file is located.
2. The **PMC84_Unicode_CI.zip** file includes several files. Extract the files to your Open Plan folder. If you are prompted to replace files, select **Yes to All**.
3. Run the appropriate script files listed in the **File to Run** column in the Step 2 table below to enable Unicode support and/or create CI indexes for your database.

Note: As an alternative to these steps, you can obtain the script files from the Deltek Support Center Knowledge Base article # 62096, or open the KB article using this link: https://deltek.custhelp.com/app/answers/detail/a_id/62096.

Select the file you need based on the query results from the table below.

Step 2: Determine if Unicode is Supported

If you were informed during setup that your database does not support Unicode, run the file listed in the **Results and Next Steps** column that corresponds to your version of Cobra.

If you prefer to query your database manually to determine if it supports Unicode character sets before you begin the installation, you can run the SQL statement in the Manually Query Your Database column below. If the value returned from the statement returns Non-Unicode, you must run the file that matches the version of Cobra you are using below against your database.

Database Platform	Manually Query Your Database	File to Run
Microsoft SQL Server Database	select case when data_type = 'NVARCHAR' THEN 'Unicode' else 'Non-Unicode' end from information_schema.columns where table_name = 'OPP_ACT' and column_name = 'ACT_ID';	**Cobra 8.0 or later** - PMC_UnicodeConversion_SqlServer_v3.sql
Oracle Database	select case when data_type = 'NVARCHAR2' then 'Unicode' else 'Non-Unicode' end from user_tab_columns where table_name = 'OPP_ACT' and column_name = 'ACT_ID';	PMC_UnicodeConversion_Oracle_v3.sql

Step 3: Determine Whether Case-Insensitive Indexes Exist in the Open Plan Database

Case-Insensitive (CI) indexes are required in Open Plan databases to be compatible with PM Compass. Open Plan databases stored in SQL Server typically have case-insensitive indexes since that setting is configured during the installation of Microsoft SQL Server, and the default setting is for case-insensitive.

Database Platform	Manually Query Your Database	File to Run
Microsoft SQL Server Database	Not required. Case sensitivity is configured during installation of Microsoft SQL Server. The default setting is case-insensitive.	N/A
Oracle Database	select case when count(*) > 0 then 'OPP CI Enabled' else 'OPP CI Not Enabled' end from USER_OBJECTS where OBJECT_NAME like 'PK_CI_OPP%';	If the installer indicated that you must apply the Case-Insensitive indexes or if the value returned from the query in the Manually Query Your Database column returns “OPP CI Not Enabled” then you must run the Opp_Oracle_CI_Indexes_v2.sql script file against your database.

Update EPM Security Administrator Security Tables

Complete the steps below to update the PM Compass EPM Security Administrator (WST tables) to Unicode.

Recommendation: Deltek strongly recommends that you back up your database before completing this procedure.

Step 1: Download the Script Files (tr Use the Unzipped Files Mentioned in Step 1 Above)

You will use these script files in Step 2 below. The **File to Run** column in the table below tells you which script file to run and when. Only run the scripts applicable to your database platform (Oracle or SQL).

To download the script files:

1. Go to the Deltek Support Center site.
2. Click the Knowledge Center tab.
3. Search for KB article # 62096.

Note: The KB article contains the scripts. Select the file you need based on the query results from the table.

4. Download and run the appropriate script files listed in the **File to Run** column in the Step 2 table to enable Unicode support and/or create CI indexes for your database.

Step 2: Determine if EPM Security Administrator Tables Unicode Support is Required

If you were informed during setup that your database does not support Unicode in the EPM Security Administrator (WST tables), run the file listed in the **File to Run** column that matches the version of Cobra you are using.

If you prefer to query your database manually to determine if the EPM Security Administrator tables support Unicode character sets before you begin the installation, you can run the SQL statement in the **Manually Query Your Database** column below. If the value returned from the statement returns Non-Unicode, you must run the file that matches the version of Cobra you are using below against your database.

Database Platform	Manually Query Your Database	File to Run
Microsoft SQL Server Database	select case when data_type = 'NVARCHAR' THEN 'Unicode' else 'Non-Unicode' end from information_schema.columns where table_name = 'WST_USR' and column_name = 'USR_ID';	PMC_UnicodeConversion_SqlServer_v3.sql
Oracle Database	select case when data_type = 'NVARCHAR2' then 'Unicode' else 'Non-Unicode' end from user_tab_columns where table_name = 'WST_USR' and column_name = 'USR_ID';	PMC_UnicodeConversion_Oracle_v3.sql

Appendix I: How to Run the Deltek PM Compass Sample Database Restore Wizard

PM Compass ships with a sample/demo SQL Server database. Deltek recommends that you install a sample database to aid in the evaluation and testing process.

If you chose **No** on the OPTIONAL – Automatically Restore Sample Database screen that displayed during the installation on your web servers, you can use this tool to restore the sample/demo database.

- **SQL Server**: The PM Compass installation placed a backup of the sample database onto your Database Server. The Restore Wizard uses that backup file to create the sample database on the Database Server. You will need a SQL login with administrator rights.
- **Oracle**: The PM Compass installation placed a backup of the sample database onto your Report server because it uses the SQL Server database engine. The Restore Wizard uses that backup file to create the sample database on the Report server. You will need a SQL login with administrator rights.

Although you are running the Sample Database Restore Wizard on the Web server, the utility performs the following:

- Installs the correct version of the SQL Server Native Client driver on the Web/Application and Process server.
- Connects to your SQL Server Database (or Report Server if Oracle)
- Checks for the default installation of PM Compass on the server to find the Sample Database backup file on that machine.

If it is unable to find the sample database backup file, it will prompt you for the location of the file (on your Database or Report server) and use that information to restore the sample database.

In order for the backup file to be available, you need to perform the PM Compass installation on your SQL Server Database server, or on your Report Server (if using an Oracle database), prior to completing these steps.

> **Note:** The SQL Server Native Client driver needs to be installed on all of the Web/Application and Process servers used by PM Compass. The correct version of this driver is located in the Utilities folder.

If you manually restore the database, you must install the SQL Server Native Client Driver on the Web/Application server and the Process server.

To restore the sample database:

1. Log onto your Web server.
2. Navigate to the PM Compass installation directory, drill down to the **Support\Utilities** folder, and launch the **DeltekPMCompass<version>_RestoreWizard.exe** file.
3. On the OPTIONAL – Automatically Restore Sample Database screen, select **YES, restore now** and click **Next**.

   Setup installs SQLDMO prerequisites in order to connect to the Microsoft SQL Server to restore the database.
4. On the Deltek PM Compass Sample Database Restore Wizard Welcome screen, click **Next**.

If the SQL login entered previously is not a member of the System Administrator role, the restoration will not proceed, and an error message is displayed. Click **OK**.

5. On the Database Server (MSSQL) Setup Connection Information screen specify the SQL Server connection information for the database server where the restore will take place.

   The account specified here must be a member of the SYSADMIN role in Server Roles on the SQL Server in order to restore the database.

6. Click **Next**.

   If the wizard is unable to find the sample database backup file, it will prompt you for the location of the file (on your Database or Report server) and use that information to restore the sample database.

7. Verify or enter the path on your Database or Report server and click **Next**.
8. On the Ready to Install screen, click **Install**.
9. On the Deltek PM Compass Sample Database Restore Wizard Complete screen, click **Finish**.

> **Attention:** For steps on how to configure the sample database for use, see “Using the Sample Database” in this guide.

Appendix J: PM Compass Database Upgrade Wizard Utility

In some cases, an Administrator may want to perform upgrade testing of sample and test databases when upgrading an existing PM Compass installation. During installation of PM Compass (new installation and upgrades) setup only allows you to upgrade one database during installation. The PM Compass Database Upgrade Wizard Utility was created to allow you select more than one database to upgrade.

To upgrade multiple databases, you must perform the steps below for each database individually. At the end of the steps, depending on the option you select, a log of the steps (and conversion if automatic) will be saved.

To review the log, navigate to the PM Compass installation directory and drill down to the **Logs\ScriptLogs** folder. You can identify the logs for the database that was converted by the Date/Time stamp of the folder.

> **Note:** The PM Compass database is Unicode only and uses case-insensitive indexes. When upgrading an existing Open Plan or Cobra database to PM Compass, it must also be Unicode enabled and using case-insensitive indexes.
>
> For more information, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

To upgrade multiple databases:

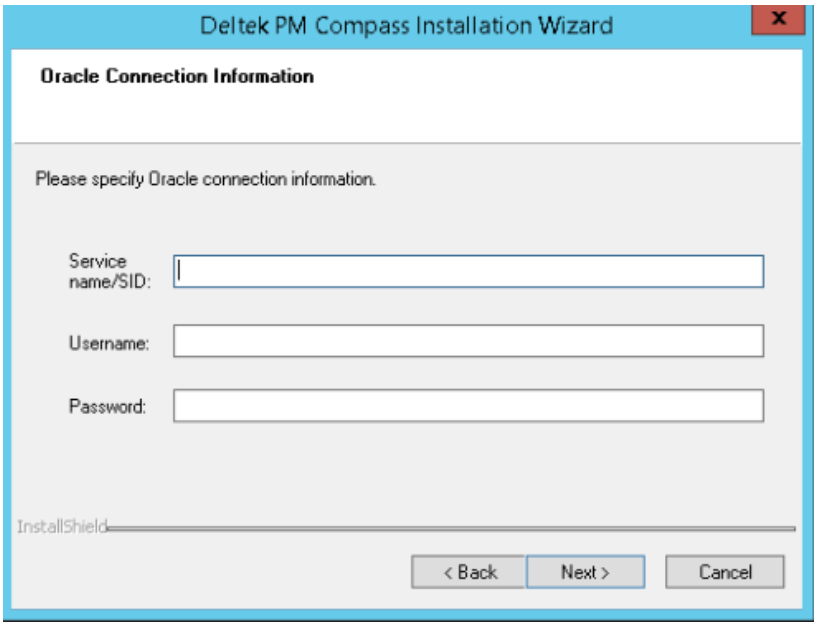
1. Log onto your Web server.
2. Navigate to the PM Compass installation directory, drill down to the **Support\Utilities** folder, and launch the **DeltekPMCompass<version>_DatabaseUpgrade.exe** file.
3. On the Deltek PM Compass Sample Database Restore Wizard welcome screen, click **Next**.
4. On the Database Platform screen, select your database platform and click **Next**.
5. The next screen depends on whether you selected Oracle or Microsoft SQL Server. See the section below that relates to your selected database.

   Oracle Database

   The setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, the wizard displays a message informing you that no supported Oracle driver has been found, and the setup exits when you click **OK**. To resolve this, install the supported Oracle client driver version and run the wizard again.

   > **Attention:** For more information, see "Storing PM Compass Data in an Oracle Database" in this guide.

   On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
- **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
- **Password**: Enter the password associated with the Oracle Username.

The following validations are performed:

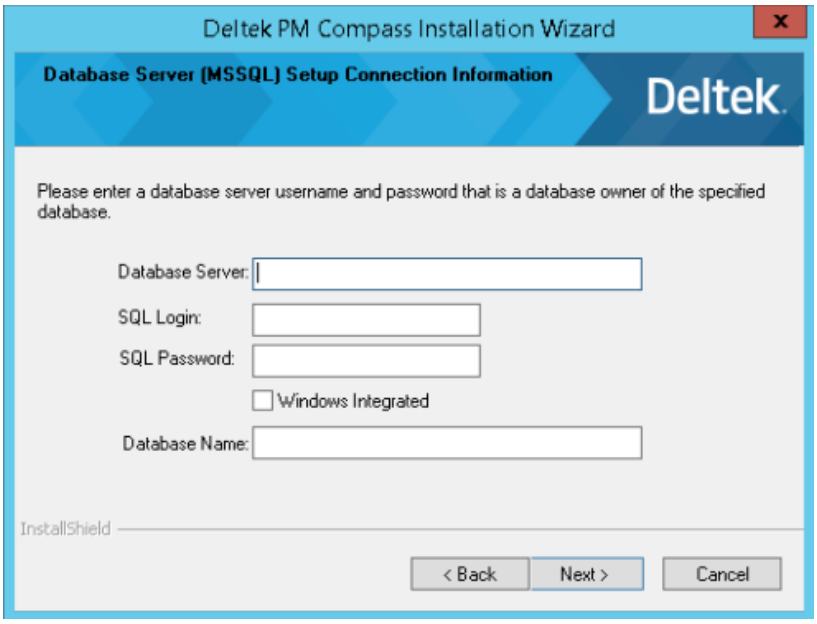
- SID is found in tnsnames.ora.
- Username/password are correct.
- The versions of Cobra and Open Plan (if installed) are supported.
- The database has Unicode and case incentive indexes enabled.

If any of these validations fail, the wizard displays a message, and the setup exits.

> **Attention:** For steps to resolve Cobra and Open Plan database prerequisite requirements, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.



- **Database Server**: Enter the name of the Database server and the database instance.
- Select **Windows Integrated** or enter the **SQL Login** and SQL **Password**.
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the **db_owner** role in the database. If you use the **SQL Login** and **SQL Password** fields, make sure that server security is configured to support Mixed Mode Security.

    Note: Security best practice recommends not using the default SYSADMIN account (sa) for your SQL Server connection.

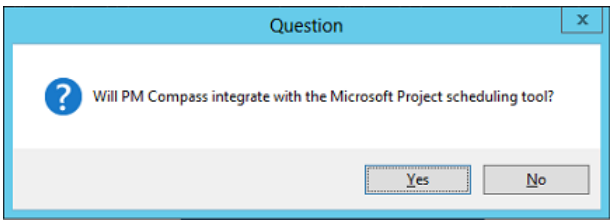
  - **SQL Password**: Enter the password associated with this SQL login.
- **Database Name**: If you have an existing Cobra database, enter your Cobra database name. If this is a new installation, enter the name of the new database you created to store your data.

The following validations are performed:

- Username/password are correct.
- The database name is valid, and the user has access.
- The versions of Cobra and Open Plan (if installed) are supported.
- The version of SQL Server is supported.

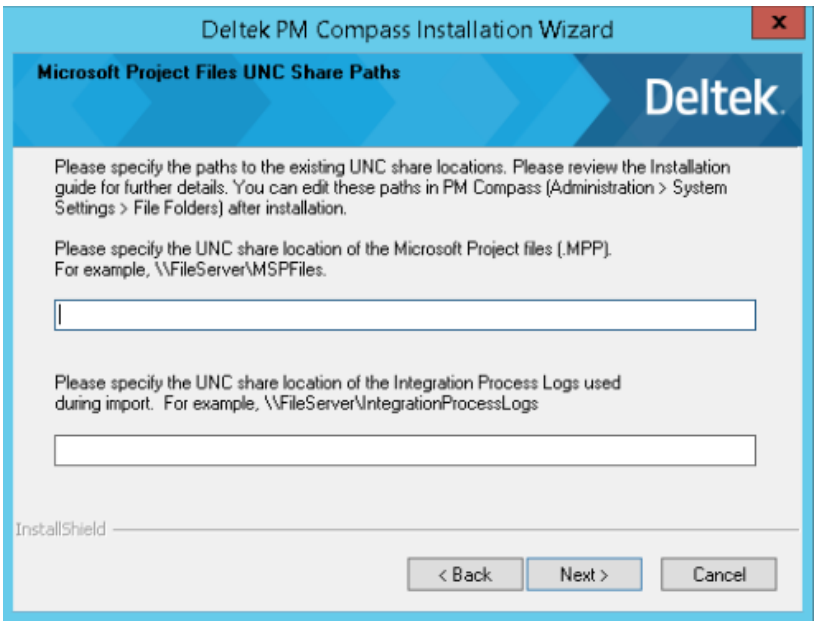
If any of these validations fail, the wizard displays a message, and the setup exits.

5. Choose whether PM Compass integrates with the Microsoft Project scheduling tool.



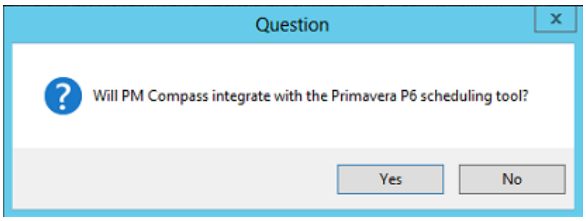
- If you are using Microsoft Project as a PM Compass scheduling tool, enter the UNC share location for the MSP Files and Process Logs folders, and click **Next**.
- If you are not using Microsoft Project as a PM Compass scheduling tool, leave the UNC Share Path fields blank, and click **Next**.

> **Attention:** To manually configure the system after the installation, see "Appendix N: Integrating with Microsoft Project" in this guide.

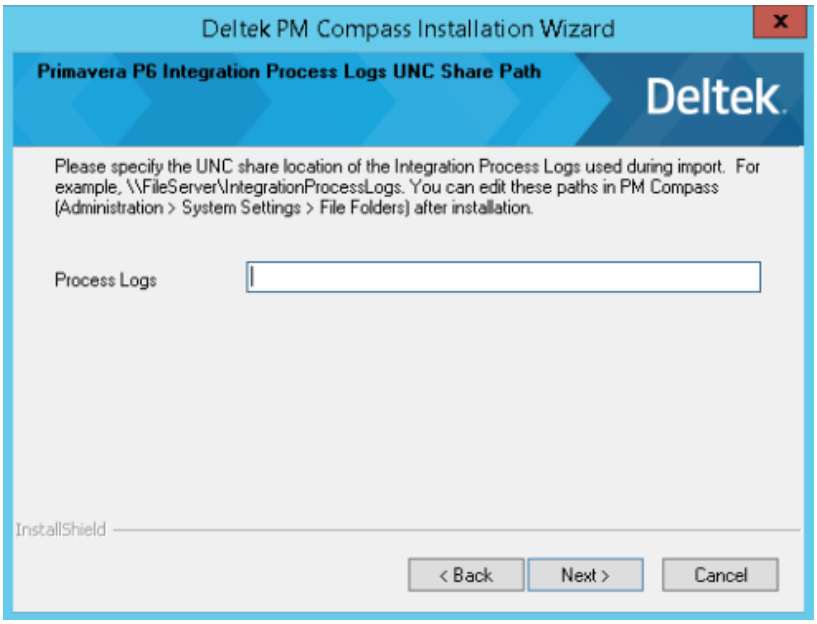


> **Attention:** For information about the permissions required for these folders, see "File Share Requirements" in this guide.

6. Choose whether PM Compass integrates with the Primavera P6 scheduling tool.

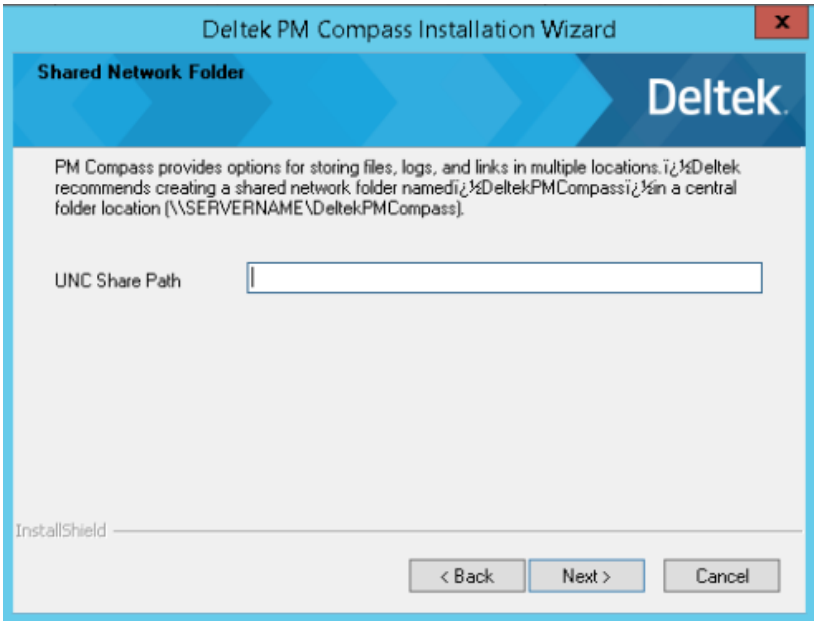


7. If you are integrating PM Compass with Primavera P6, specify the Primavera P6 UNC share location where you want to store the process logs on the Primavera P6 Integration Process Logs UNC Share Path screen. If the location for **MSPLogs** is already specified, the screen may not display.

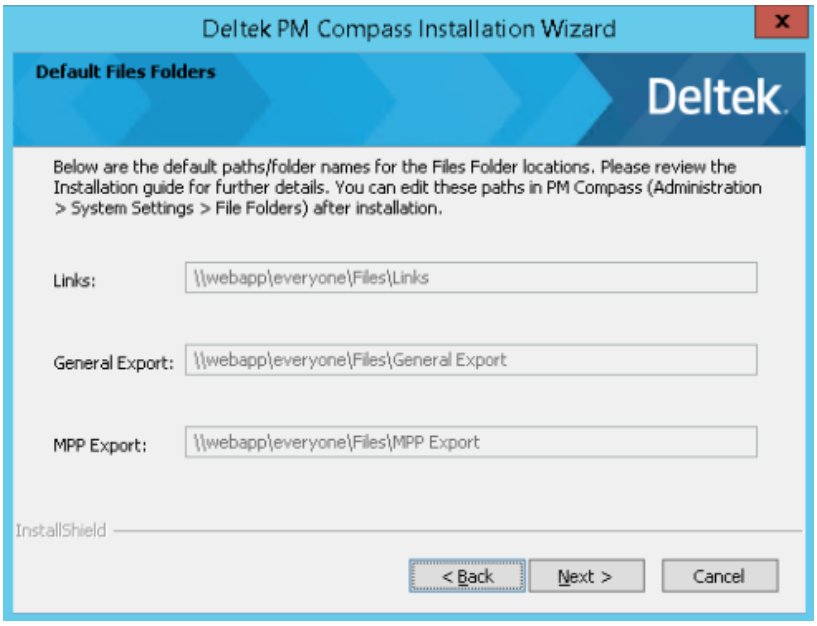


Attention: For information about the permissions required for these folders, see "File Share Requirements" in this guide.

8. On the Shared Network Folder screen, specify the UNC share location where you want to store links, general export files, and MPP export files. For example, \\<servername>\DeltekPMCompass\.



9. On the Default Files Folders screen, the wizard displays the default Links, General Export, and MPP Export folder locations. You can edit these locations in PM Compass after the installation (**Administration » System Settings » File Folders tab**).



10. If the setup detects a script needs to be run, the Script Options screen displays allowing you to choose one the following options:

    - Automatically by the installation
    - Manually using a batch (.bat) file
    - Manually using .sql script files

    The screen that displays depends on whether you are using a new or existing database. Refer to the section below that corresponds to your database.

    > **Note:** The PM Compass installation does not automatically back up your database before applying any scripts. Make a backup of your database before selecting any of the options on this screen.

    New Database

    If you have a new PM Compass database, or you are applying PM Compass for the first time to your Cobra or Open Plan database, the utility displays the Database Script Options screen.

    Select a database script option and click **Next**.

    - **Automatically run scripts during the installation — creates the PM Compass tables**: Select this option to create the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts after the installation.
    - **Create batch file (CreatePMCompassTables.bat) to run scripts manually**: Select this option to create the PM Compass database tables manually after installation using a batch file. The batch file is named **CreatePMCompassTables.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.
    - **I will manually run the scripts to create the PM Compass tables. No batch file will be created**: Select this option to manually create the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

> **Attention:** For more information, see "Appendix G: Run Scripts Manually on a SQL Database" in this guide.

> **Note:** Database conversion log files are saved into the <PM Compass Installation Directory>\Logs\ScriptLogs folder. For more information, see "Conversion Logs" in this guide "Troubleshooting the Installation".

Existing Database

If you have an existing PM Compass database, the utility displays the Database Upgrade Script Options screen.

Select a database script option and click **Next**.

- **Automatically run upgrade scripts during the installation**: Select this option to upgrade the PM Compass database tables automatically during installation. If you choose this option, you do not need to run any scripts manually after the installation.
- **Create batch file (UpgradePMCompassDB.bat) to run scripts manually**: Select this option to upgrade the PM Compass database tables manually after installation using a batch file. The batch file is named **UpgradePMCompassDB.bat** and located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.
- If you select this option, the wizard displays a message reminding you to run the batch file and pointing you to the location of the file.
- **I will manually run the upgrade scripts. No batch file will be created**: Select this option to manually upgrade the PM Compass database tables after installation using the scripts located in the <PM Compass Installation Directory>\Databases\Scripts folder. For example: C:\Program Files\Deltek\PMCompass\Scripts.

> **Attention:** For more information, see "Run Scripts Manually on SQL Databases" in this guide.

11. Click **Finish**.

    A message displays letting you know that if the database that was just converted was not already in Weblink, you may have to add a new database entry to Weblink for the upgraded database.

12. Click **OK** to continue.
13. Click **Finish**.

> **Note:** Check the log files when the installation is complete.

Appendix K: Configuring the Account Running the Services

PM Compass should be installed using a Domain Service Account. The PM Compass server components will then be running under that account. If you need to create or change the user account running the PM Compass server components. For example, during the installation, if you are logged in as a local (non-domain) account or you select **Use Default Local Account (DeltekPMCompass**) during the installation, and you enter a password that does not meet the server or domain password policies, the DeltekPMCompass local account is not created. When this happens, you will need to create the account manually and apply it as the credentials for the various PM Compass processes.

> **Attention:** For additional details on configuring accounts and enabling Windows Authentication, see the "Integrated Security Configuration for PM Compass" section in the *Deltek PM Compass Advanced Administration Guide*.

During the installation, if you chose the option to use the default local account or did not log in with a domain account, the setup creates a local account and uses it to configure the initial PM Compass server components. This includes configuring the IIS Web server settings, creating and launching the Deltek PM Compass Process Server Windows service, and running PM Compass reports.

- If there is a domain or local account policy with more stringent password requirements, the setup will be unable to create the account, and the PM Compass server components will need to be manually configured before users can launch it. If this happens, you will not be able to run reports.
- If the local Deltek PM Compass account already exists and you are prompted to change the password during setup, but the new password does not meet the domain or local account policy requirements, you will see the following message: "HTTP Error 503: The service is unavailable." You will need to manually update the password for the account and configure the services to use the new password.

  > **Note:** If you need to change the password for the Domain Service Account, see "Change the Domain Service Account Password" in this guide.

Change the Domain Service Account Password

Follow this procedure to manually update the password for the Domain Service Account.

To change the password:

1. On the server, click **Compmgmt.msc » Local Users and Groups » Users and modify the account password.**
2. On the Web/Application and dedicated Process servers, perform the following steps for the IIS and Windows Services.

   Internet Information Services (IIS)

   > **Note:** Perform these steps on the Web server, as Process servers do not need IIS.

   a. Update the password of the Identity running **DeltekPMCompassAppPool**.

i. Click **Server Manager » Roles » Web Server (IIS) » Internet Information Services**.

ii. Right-click **DeltekPMCompassAppPool** and select **Advanced Settings**.

iii. In the Process Model section, click the **Identity value** column and locate the DeltekPMCompass user.

iv. Enter the username and password.

v. Restart IIS.

Windows Services

a. Assign the DeltekPMCompass user as the **Log On As** for the CobraWebServices and the Deltek PM Compass Process Server service.

b. Click **Start » Administrative Tools » Services**.

c. Right-click **CobraWebServices** service and select **Properties**.

d. Update the account password for the DeltekPMCompass account.

e. Repeat these steps for the Deltek PM Compass Process Server service.

f. Restart CobraWebServices and the Deltek PM Compass Process Server services.

Note: If the user access to PM Compass requires access to domain printers and/or Windows Authenticated logins, you will need to use a domain account. The local account created during the install is not a domain account and will not have access to your domain by default.

Change from a Non-Domain Account to a Domain Account

During the installation, if you choose to install PM Compass with a non-domain account, and later need to change it to a domain account, refer to Deltek KB article #66245 on the Deltek Support Center site. You can also find additional details in the *Deltek PM Compass Advanced Administration Guide*.

Add the Account to the Local Administrators Group

Follow this procedure to create the account (if it does not exist) and add it to the local Administrators group on the server.

Note: This is the same account that you use when you configure Microsoft Project on the Process Servers. For more information, see “Appendix N: Integrating with Microsoft Project” in this guide.

If possible, the account should have a static password. If it does not, each time the password is changed, it must be updated in all areas where you specified the password as part of the configuration which are:

- Windows Services
- DeltekPMCompassApplication Pool in IIS

To add or update the account:

- Set up the necessary user account and permissions.

- **Users**: Click **Compmgmt.msc » Local Users and Groups » Users** and create the account. Skip this step if the account is already created.
- **Groups**: **Click Compmgmt.msc » Local Users and Groups » Groups** and add the account to the Administrators group.

Add the Account to the Report Server (SQL Server Reporting Web Services)

Follow this procedure to add the account to the SQL Reporting Services home page (Report Manager URL).

To add or update the account:

1. Browse to https://YOUR REPORT SERVER NAME/Reports.

   Note: Deltek recommends right-clicking the Edge icon and selecting **Run as Administrator**.

2. Add the DeltekPMCompass user as a content manager.
   a. Click **Folder Settings**.
   b. Click **New Role Assignment**.
   c. Add the DeltekPMCompass user.
   d. Select the **Content Manager** option.
   e. Click **OK**.
3. Add the DeltekPMCompass user as a System Administrator.
   a. In the upper right pane, click **Site Settings**.
   b. In the left pane, click **Security**.
   c. Click **New Role Assignment**.
   d. Add the DeltekPMCompass user.
   e. Select the **System Administrator** option.
   f. Click **OK**.

Add the Account to the Web/Application and Dedicated Process Servers

Follow this procedure to create the account and add it to the local Administrators group on the Web/Application and dedicated Process servers.

To add or update the local users or groups account:

1. On the Web/Application and dedicated Process servers, perform the required steps for each section.

   Users

   - Click **Compmgmt.msc » Local Users and Groups » Users** and create the account. Skip this step if the account is already created.

Groups

- Click **Compmgmt.msc » Local Users and Groups » Groups** and add the account to the IIS_IUSRS group.

Local Security Policies

- Click **Start » Administrative Tools » Local Security Policy » Local Policies » User Rights Assignment**, and add the account to the following groups:
  - Log on as batch job.
  - Log on as a service.

Internet Information Services (IIS)

1. Update the password of the Identity running **DeltekPMCompassAppPool**.
2. Click **Server Manager » Roles » Web Server (IIS) » Internet Information Services**.
3. Right-click **DeltekPMCompassAppPool** and select **Advanced Settings**.
4. In the Process Model section, click the **Identity value** column and locate the DeltekPMCompass user.
5. Enter the username and password.
6. Restart IIS.

Windows Services

1. Assign the DeltekPMCompass user as the **Log On As** for the CobraWebServices and the Deltek PM Compass Process Server service.
2. Click **Start » Administrative Tools » Services**.
3. Right-click **CobraWebServices** service and select **Properties**.
4. Update the account password for the DeltekPMCompass account.
5. Repeat these steps for the Deltek PM Compass Process Server service.
6. Restart CobraWebServices and the Deltek PM Compass Process Server services.

Add the Account to Weblink

Follow this procedure to add the account to Weblink.

To add or update the account:

1. Open up the Deltek PM Compass Weblink by clicking **Start » All Programs » Deltek PM Compass » Weblink**.
2. If this is the first time you are logging into Weblink, you need to set a password.
3. In Weblink, click the Report Server tab.
4. Enter the password you created for the DeltekPMCompass account.

Specify the User Account Running the Windows Service (Cobra Web Services)

Follow this procedure to modify the account running the Cobra Web Services. This account is used to run the Windows service, write Cobra logs, and access any files that are part of the integration.

To modify the account running the Cobra Web Services:

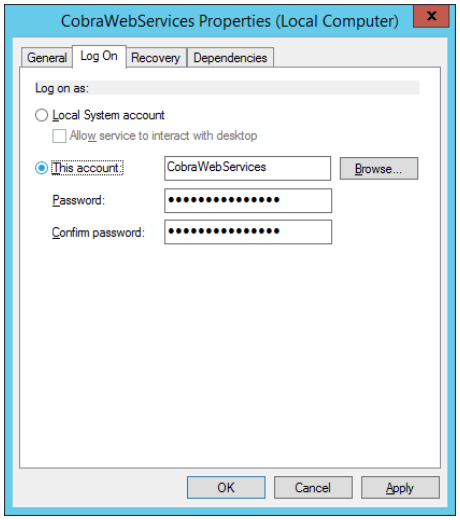
1. Create a local Windows user account or identify a Domain user account that will be used to run the CobraWebServices service.

   For example, CobraWebServices.

2. Add the new Windows user account or the Domain user account to the local Administrators group on the server.
3. Log onto the server using the new Windows account.

   A local profile for the account is created.

4. Click **Administrative Tools » Services** to launch the Windows Services Applet.
5. Right-click the CobraWebServices service and select **Properties**.
6. On the Log On tab:
   a. Select **This account**: to specify a user account to run the process.
   b. Enter the CobraWebServices username and password that you created.
   c. Click **OK**.



Appendix L: Configuring Advanced Cobra Options

This chapter provides instructions for configuring advanced options in Cobra. These settings allow you to customize and optimize the performance and functionality of Cobra to meet your specific needs.

Important Note for Cobra n-Tier Users

Cobra supports an n-tier application server mode deployment where one or more servers are utilized as application servers. Processing of the business logic is distributed among the application servers. All servers in the PM Compass deployment model are n-tier servers with each server performing and sharing specific functions of the application.

The Cobra n-tier deployment does not support hosting Cobra Web Service. If you already have the n-tier version of Cobra deployed on the PM Compass application server, the PM Compass installation deploys its own Cobra Web Service using the files deployed in the <PM Compass Installation Folder>\CobraEngine folder (using the installer downloaded from DSM) instead of your existing Cobra installation.

Cobra Multi-Project Concurrency Services with PM Compass

Cobra leverages the PM Compass Process Server to support concurrency when running Cobra processes.

Attention:

- For details about how to leverage the PM Compass Process Server to support concurrency when running Cobra processes, see the *Deltek PM Compass and Cobra Concurrency Solution Setup and Configuration Guide*.
- For details on configuring the dedicated Cobra Process Server to only process the Cobra multiple concurrent project jobs, see "Appendix P: Configure a Dedicated Process Server" in this guide.

BCR Analysis Report Snapshot Database

In order to run the PM Compass BCR Analysis Report, you must first set up a Cobra snapshot database.

Attention: For details about how to create a snapshot database and how to link the snapshot database in the Cobra Data Tool, see "Appendix K: Managing BCR Snapshot Database" of the *Deltek Cobra Installation Guide*.

Cobra Debug Log Files

When enabled, Cobra creates debug log files that log detailed information about various Cobra processes. A Customer Success analyst may direct you to enable the Cobra debug logs to gather more information to solve an issue.

When these logs are enabled, they are located in **C:\Users\<Service Account Name>\Documents\Deltek\Cobra\Logs** on the Web/Application or Process server.

The Cobra Web Service is installed as a Windows Services on each of your PM Compass Web/Application and Process servers.

ProcessLog.xml File

The **ProcessLog.xml** file provides information about what went wrong during a process. The log allows you to include additional details, such as SQL statements and Cobra data. For Cobra Web Service, this log is located in C:\Users\\Documents\Deltek\Cobra\Logs on the Web/Application or Process server.

Debug Log File

Sometimes, the **Processlog.xml** file does not provide enough information to identify the cause of an error. Cobra has a secondary logging mechanism called Debug logs. These logs can be enabled temporarily to generate detailed logs. For more information on these logging options, refer to the Cobra Help System.

> **Note:** These logging options use a lot of disk space and add performance overhead. Therefore, Deltek recommends enabling them only when requested by a Deltek Customer Success analyst.

Enable the Cobra Debug Files

Follow this procedure to enable the Cobra debug files.

To enable the debug files:

1. In Cobra, click the **Cobra** button, and navigate to **Preferences » Application**.
2. On the Data Access tab, perform the following steps:
   - In the Debug Log group, select **Generate processlog.xml**. You have the option to include SQL statements or Cobra data.
   - In the Process Logs group, select **Write process logs to a text file** and specify a location for the file.
3. Click **Apply**.
4. In the Windows Services application, restart the Cobra Web Service on each of your PM Compass Web/Application and Process servers.

Disable the Debug Log Files

Follow this procedure to disable the debug log files.

To disable the debug log files:

1. In Cobra, click the **Cobra** button, and navigate to **Preferences » Application**.
2. On the Data Access tab, perform the following steps:
   - In the Debug Log group, clear **Generate processlog.xml**. You have the option to include SQL statements or Cobra data.
3. In the Process Logs group, clear **Write process logs to a text file**.
4. Click **Apply**.

5. In the Windows Services application, restart the Cobra Web Service on each of your PM Compass Web/Application and Process servers.

Running Cobra Web Service on Multiple Servers

If you have enabled Cobra logs, the logs are stored on the server under the profile of the account running the Cobra Web Service. For example, C:\Users\<accountname>\Documents\Deltek\Cobra.

If you have configured the My Documents folder to be redirected to a network share for the account running the service, there is a chance that two or more servers may try to write to the same log file at the same time which can cause an error.

The solution is to point “My Documents” to a local path on each server to avoid this error.

You must restart the Cobra Web Service on each of your PM Compass Web/Application and Process Servers.

Troubleshooting Cobra Integration Issues

This section covers troubleshooting topics for Cobra integration issues.

Verify Components

After the PM Compass installation, you should run verify components to ensure that the Cobra integration is working correctly. You must have your Cobra license entered in EPM Security Administrator before verifying components otherwise the check will fail.

To verify components, log into PM Compass and navigate to **Administration » System Settings** and click the Verify Components tab.

> **Attention:** For more information, see “Verify Components Tab” in the PM Compass Help System.

If any errors display, use exception tracing to identify the problem.

Exception Tracing

Exception tracing provides details when an error occurs. It is recommended that this be enabled in a development environment when you are testing new releases. If the error occurs, it will be logged, and you will not have to spend time recreating the error.

Deltek offers two options to capture exception details:

- The CobraTraces.svclog file
- The IdeaBlade.ibconfig file

If you encounter an error while processing a change request or accessing the Cobra Web Service, but no process log is generated, it is possible that there was an issue with connecting to or executing the Cobra Web Service. You can stop and restart the Cobra Web Service. After that, navigate to System Settings » Verify Components to confirm that the Cobra Web Service is functioning correctly.

If the problem persists, consider utilizing the **CobraTraces.svclog** or the **IdeaBlade.ibconfig** file to capture exception details.

Use the CobraTraces.svclog file to Capture Exception Details

Follow this procedure to enable and disable tracing.

Warning: Writing trace files may lock resources exclusively and may cause severe performance issues. Tracing should only be used to recreate an issue and should then be turned off. See steps further down to turn tracing off.

To enable tracing and send the resulting trace log to Deltek:

1. On the PM Compass Application server, open Windows Services and look for the Cobra Web Service service.
2. Stop the service.
3. Note the location of the executable under "path to executable" and open that directory in Windows Explorer.
4. Create a copy of the **Cobra.WebService.Host.exe.config** file. You will need this in step 11.
5. Open the **Cobra.WebService.Host.exe.config** file using Notepad.
6. Place your cursor at the end of the very first line (which is **<configuration>)** and press Enter to create a new line.
7. Paste the lines below into the file and save the file. Make sure that the referenced directory in the text (highlighted below) exists on the server.

```
<system.diagnostics>
    <sources>
    <source name="System.ServiceModel"
    switchValue="Information, ActivityTracing"
    propagateActivity="true">
    <listeners>
    <add name="traceListener"
    type="System.Diagnostics.XmlWriterTraceListener"
    initializeData="E:\temp\CobraTraces.svclog" />
    </listeners>
    </source>
    </sources>
</system.diagnostics>
```

8. Start Cobra Web Service.
9. Reproduce the error.
10. Stop Cobra Web Service.
11. Replace the edited **Cobra.WebService.Host.exe.config** file with the copied file from step 4.
12. Start Cobra Web Service again.
13. Retrieve the **CobraTraces.svclog** file from the location in the above pasted text (step 7) and send it to a Deltek Customer Success analyst.

To disable after sending the resulting trace log to Deltek:

1. On the PM Compass Application server, open Windows Services and look for the Cobra Web Service service.
2. Stop the service.

3. Note the location of the Executable under "path to executable" and open that directory in Windows Explorer.
4. Replace the edited **Cobra.WebService.Host.exe.config** file with the copied version of the original.
5. If you do not have the original copy, perform the following steps:
    a. Open the **Cobra.WebService.Host.exe.config** file using Notepad.
    b. Look for the entries that are the same as the text below (they should be at the beginning of the file).
    c. Place your cursor at the start of the line beginning with the first line below and select the contents that is the same as the lines below:

```
<system.diagnostics>
<sources>
<source name="System.ServiceModel"
switchValue="Information, ActivityTracing"
propagateActivity="true">
<listeners>
<add name="traceListener"
type="System.Diagnostics.XmlWriterTraceListener"
initializeData="E:\temp\CobraTraces.svclog" />
</listeners>
</source>
</sources>
</system.diagnostics>
```

    d. Delete the selection.
    e. Save the file.
6. Start Cobra Web Service.

> **Attention:** For more information, see the Microsoft article Configuring Tracing.

Use the IdeaBlade.ibconfig file to Capture Exception Details

You can use this procedure to troubleshoot a Web Services crash, verify Cobra Web Services components (using the PM Compass Verify Components feature), and trace certain SQL calls.

To view the current trace location and correct it if needed:

1. Stop the Cobra Web Service in Windows Services (**Control Panel » Administrative Tools » Services**).
2. Navigate to the CobraEngine folder located in the Deltek PM Compass installation folder.
3. Create a backup of the IdeaBlade.ibconfig file and save it to a different folder.
4. Launch Notepad as an Administrator.
5. Using Notepad, navigate to the **IdeaBlade.ibconfig**.file and open it.

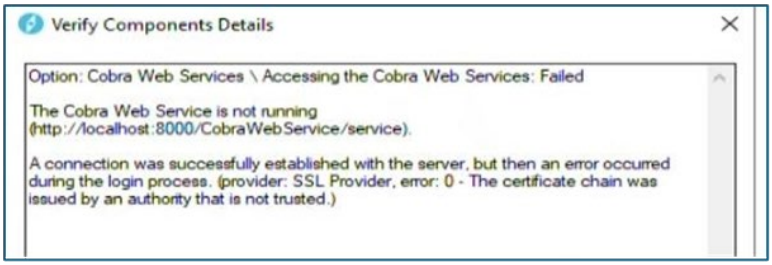
6. Locate the **<logging>** section and delete the two **<namespaceRejectFilter>** lines.
7. In the **<logFile>** section, enter "C:\<local server folder>\DebugLog.xml."

   For example: <logFile>C:\temp\DebugLog.xml</logFile>.
8. Save and close the file.
9. Restart Cobra Web Service.
10. After recreating the issue, send the file to Deltek Support and restore the original file.

Cobra 8.7 SQL Server Certificate Errors

If you are using Cobra 8.7 to integrate with PM Compass 8.4 on a SQL Server database, you may encounter SSL certificate validation errors.

Error 1: A connection was successfully established with the server, but then an error occurred during the login process. (provider: SSL Provider; Error: 0 – The certificate chain was issued by an authority that is not trusted.)



Cause

The SQL Server database server does not have a trusted certificate.

Workaround

1. On the General tab of EPM Security Weblink, add the following entry in the **Database Name** field value.

   ```
   ;TrustServerCertificate=True
   ```
2. Restart the Cobra Web Service.

Error 2: A connection was successfully established with the server, but then an error occurred during the login process. (provider: SSL Provider, error: 0 – The target principal name is incorrect.)

Cause

The SQL Server Database certificate name is different from the server name in the data source.

Workaround

1. On the General tab of EPM Security Weblink, use the SQL Server Database Server name associated with the certificate in the data source.
2. Restart the Cobra Web Service.

Appendix M: Integrating with Open Plan

This chapter covers topics on integrating PM Compass with Open Plan.

Unicode-Enabled, Case-Sensitive Indexes, and Unrotated Fields

The Open Plan database must be Unicode-enabled and use case-insensitive (CI) indexes before installing PM Compass. The installer checks to see if these have been performed and, if not, it provides the necessary scripts (in the same location as the **DeltekPMCompass<version>.exe** file) and exit the installation. You will need to apply the scripts to your database and restart the installation.

> **Note:** If you are not sure how to check your Open Plan database or need to convert it to enable Unicode and case-insensitive, see "Appendix H: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" in this guide for more information.

PM Compass requires the fields used to link the schedule to a control account and work package, as well as the fields used in the workflow, to be unrotated before they are used in PM Compass. PM Compass automatically unrotates these fields when they are added in User Defined Data (Area = Schedule). However, if your database is large, the user will be prompted to unrotate the fields using a database SQL script. They will receive an email with the script, which they can forward to their database administrator to run.

Database Compatibility

If you have multiple copies of your Open Plan database that are different release versions, make sure that when you are doing the PM Compass installation, the database you select is the version of Open Plan that you will be using with PM Compass.

Installing the Open Plan Add-In

The Open Plan Add-In must be installed or upgraded on every Open Plan Professional client desktop or workstation (excluding the PM Compass server) that needs to use it.

For a multi-user installation, the Open Plan Add-In must be installed on the file server where the Open Plan multi-user installation is located.

For all other installation types (complete or Citrix, which is a complete installation), the Open Plan Add-In must be installed on the machine where the Open Plan client is installed.

> **Attention:** To make sure that each desktop has the correct version of Open Plan installed before installing the PM Compass Change Request Add-In, see "Client Software Requirements" in this guide.

Troubleshooting Open Plan Integration Issues

This section covers troubleshooting topics for Open Plan integration issues.

Verify Components

To verify components, log into PM Compass and navigate to **Administration » System Settings** and click the Verify Components tab. If any errors display, click the hyperlinks for more information.

> **Attention:** For more information, see "Verify Components Tab" in the PM Compass Help System.

If an Open Plan check fails, subsequent checks will also fail. For example, if the user login ID is missing, all following checks (such as this one) will fail because the system needs the user login ID to connect to the Integration to determine the version number and other details. If multiple checks fail, Deltek recommends resolving the first failed check and rerunning the verification process to see if it resolves all issues.

Update the User Login ID to Connect to Open Plan

If you are using Open Plan, the user you created in order to connect to it must have an Open Plan license. Follow this procedure to update the user login ID to connect to Open Plan.

To update the user login ID:

1. Log into Deltek EPM Security Administrator as a user with SYSADMIN rights.
2. Click **Configuration** in the left navigation pane and click **System Settings**.
3. In **Credentials for PM Compass to connect to Open Plan**, enter or edit a username and password that has SYSADMIN rights.
4. Click **Save**.

> **Attention:** To assign the user to an Open Plan license in EPM SA, see "Add users to a Product" in this guide.

Verify the User Password

The verification check fails if the password is invalid or if it cannot connect to the scheduling database. Follow this procedure confirm or correct the user password in EPM SA.

To verify the user password:

1. Log into Deltek EPM Security Administrator using an account with SYSADMIN privileges.
2. In the left navigation pane, click **Security** and click **Users**.
3. Use the **Search** field or the navigation arrows to locate the user that you have specified in the **Credentials for PM Compass to connect to Open Plan** field on the General tab of the System Settings form.
4. On the Authentication tab, re-enter the password.
5. Click **Save**.

Open Plan Engine and Database Versions are Different

The database selected when you started PM Compass must match the version of the Open Plan Engine installed on the application server.

Attention: For information about the Open Plan Engine versions and which DLL version to register on the server after installation is complete, see "Installing the Open Plan Add-In" in this guide and "Credentials for PM Compass to Connect to Open Plan Do Not Have Open Plan License" and "Cannot Connect to the Open Plan Engine" in the PM Compass Help System under **Troubleshooting**.

Enable Details Logs

When Open Plan is used for the change management process or integration with Primavera P6 or Microsoft Project, you can configure settings to generate files with logging information. This allows you to view details about a failing process, which may help you resolve the issue. In Open Plan, the log file is named **OPWIN.LOG**. In PM Compass, you can name the file as desired by following this procedure.

To enable details logs:

1. Log into Open Plan as SYSADMIN (or a member of the SYSADMIN group).
2. Click the product icon in the top left corner and click **Preferences » Application Preferences**.
3. On the Advanced tab, click the **Default** button.
4. In the System Preferences Defaults dialog box, add the following rows to the grid:

   ```
   LOGLEVEL=4
   ```

   ```
   _PMCTRACELOG = <a path and file name>
   ```

   For the path and file name, Deltek recommends using one of the paths defined in **PM Compass » Administration » System Settings » File Folders**, as the access rights should already be correctly set.
5. Run the process that is failing. This generates a file in the folder indicated in the **_PMCTRACELOG** setting.
6. To turn logging off, delete the **_PMCTRACELOG** row and set the **LOGLEVEL** to **1**.

Appendix N: Integrating with Microsoft Project

You can integrate your Microsoft Project Professional or Project Server scheduling system with PM Compass. After a .MPP file or Project Server project is associated with a PM Compass project, assignees and approvers can enter and approve progress directly within PM Compass. When progress has been submitted and approved, you can see the changes in the Schedule Analysis view. PM Compass then performs several steps to update the progress in the Microsoft Project file (.MPP) or Project Server project.

Attention: For more information, see "Configure PM Compass for Microsoft Project Integration" in the PM Compass Help System.

PM Compass uses Open Plan server components to process the Microsoft Project .mpp files and Project Server integration. If you do not have Open Plan, the PM Compass installation will install the Open Plan server components to manage the Microsoft Project .mpp files or the Project Server integration.

If you do have Open Plan, run the **MSPServerIntegrationForPMCompass84.exe** file. You can download it from the PM Compass 8.4 Sub-Release DSM folder. You must run this on each of your Process Server and Web/Application server tiers.

Install the Microsoft Project Integration File

Follow this procedure to install the Microsoft Project Integration file.

To install the Microsoft Project Integration file:

1. Log into the server to run the installation as a Domain Service Account user.
2. Double-click the **MSPServerIntegrationForPMCompass84.exe** file that you downloaded to run the installation.
3. On the Welcome to the Deltek MSP Server Integration with Progressing Support PM Compass 8.4 Installation Wizard screen, click **Next**.
4. On the Database Platform screen, specify the database platform connection and click **Next**.
5. The next screen depends on whether you selected Oracle or Microsoft SQL Server. See the section below that relates to your selected database.

   Oracle Database

   Setup checks for supported versions of the Oracle Client driver. If it finds a supported version, setup continues. If not, a message displays letting you know that no supported Oracle driver has been found and that setup will exit when you click **OK**. Correct the error by installing the supported Oracle client driver version and run setup again.

   On the Oracle Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.

   - **Service name/SID**: Enter the unique name of your Oracle database instance as defined in your tnsnames.ora file.
   - **Username**: Enter the Oracle user schema with rights to modify the tables in the Oracle database.
   - **Password**: Enter the password associated with the Oracle Username.

Microsoft SQL Server Database

On the Database Server (MSSQL) Setup Connection Information screen, enter the necessary information in the appropriate fields, and click **Next**.

- **Database Server**: Enter the name of the Database Server and the instance.
- Select **Windows Integrated** or enter the SQL Login/Password:
  - **SQL Login**: Enter a Microsoft SQL Database Server Login that is mapped to the db_owner role in the database. If you use the SQL Login and Password fields, make sure that server security is configured to support Mixed Mode Security.

> **Note:** Deltek does not recommend using the default SYSADMIN account (sa) for your SQL Server connection.

  - **SQL Password**: Enter the password associated with this SQL Login
- **Database Name**: Enter name of the database.

6. On the Database Script Options screen, select a database script option and click Next.
   - **Automatically run scripts during the installation**: Select this option to apply the MSP Server Integration database table updates automatically during installation. If you choose this option, you do not need to run any scripts manually after the installation.
   - **Create batch file (UpdateForMSPServerIntegration.bat) to run scripts manually**: Select this option to apply the MSP Server Integration database table updates manually after installation using a batch file. The batch file is named UpdateForMSPServerIntegration.bat and is located in the <PM Compass Installation Directory>\Databases\Scripts folder.

     For example: C:\Program Files\Deltek\PMCompass\Scripts.

     If you select this option, setup displays a message reminding you to run the batch file and pointing you to the location of the file.
   - **I will manually run the scripts to update for MSP Server**. No batch file will be created: Select this option to manually apply the MSP Server Integration table updates after installation using the appropriate batch file located in the <PM Compass Installation Directory>\Databases\Scripts folder.
     - If you have an Oracle database, run the **RunOpenPlan81Upgrade_Oracle.bat** file located in the <PM Compass Installation Directory>\Databases\Scripts\Oracle folder.
     - If you have a Microsoft SQL Server database, run the **RunOpenPlan81Upgrade_Sql.bat** file located in the <PM Compass Installation Directory>\Databases\Scripts|SQL folder.
7. Click **Install** to begin the installation.
8. Click **Finish**.

Dedicated Process Queue

The MSP Integration queue is a dedicated queue that processes the MSP integration jobs. It is automatically added to the PM Compass Process server's list of default process queues during a complete or upgrade installation. Since Microsoft Project is a single-threaded application, the MSP integration needs to be single-threaded. This means that two integration processes cannot occur at the same time on the same server. If one process is running and it has an MSP file open, and another process tries to run on the same server, both the Process Server and MSP hang. To prevent this from happening, an MSP Integration queue is added to the Web/Application server. This queue has a

maximum concurrent job setting of **1**; only one process can run at a time. The queue does not have a dedicated server (you can specify one if you prefer) therefore the job runs on the next available server.

Note: Servers handling the MSP Integration queue jobs must have Microsoft Project Professional installed.

Integrating with Microsoft Project Files (Not Using Project Server) After You Install PM Compass

If you have installed PM Compass without choosing to integrate with Microsoft Project and now need to integrate, you will need to configure the MSP files and log folders from within PM Compass.

Attention: For more information, see "File Folders Tab of the System Settings Form" in the PM Compass Help System.

Integrating with Microsoft Project Server After You Install PM Compass

PM Compass uses Open Plan server components to manage the Microsoft Project .mpp files or Project Server integration.

If you installed PM Compass and initially chose not to integrate with MSP, but now need to, you will have to download and run an integration file on your PM Compass Web/application servers and any dedicated Process servers.

If you have Open Plan, run the .exe file that matches your Open Plan version. Download the **OpenPlan<version>IntegrationForPMCompass84.exe** file from the PM Compass 8.4 Sub-Release DSM folder and run it on each of your Process server and Web/Application server tiers.

If you do not have Open Plan, run the **MSPServerIntegrationForPMCompass84.exe** file. Download it from the PM Compass 8.4 Sub-Release DSM folder and run it on each of your Process server and Web/Application server tiers.

Attention: For more information, see “Project Server Integration with Progressing Support (Non-Open Plan Users” in this guide.

Microsoft Project Server Integration

This section covers topics on Microsoft Project Server integration.

Warning: If you encounter any errors when running the Microsoft Project integration, you may need to modify the DCOM Config setting to specify the Windows Account used by the Process Server Windows service.

For more information see "Configure Microsoft Project for Automation in DCOM" in this guide.

Microsoft Project Server (Project Web Application 2013, 2016)

For PM Compass to integrate with Microsoft Project Server, you must install Microsoft Project Professional 2013 SP1 64-bit version with update from Nov 10, 2015 on the Application server.

Do not install Microsoft Project Professional 2016 on the PM Compass Web/Application and Process servers.

PM Compass does not support connection to Project Web Application 2019. For PM Compass to integrate with Microsoft Project Server, you must create accounts on the Project Web App setting menu by selecting the following:

- Computer Account
- Set as Default

Configure the Enterprise Settings

Follow this procedure to configure the Enterprise settings.

To configure the Enterprise settings:

1. Log onto your SharePoint/PWA server as the Server Admin and launch the PWA URL.
2. When the page launches, click on the gear icon in the top right area of the window (to the left of the username) and select **PWA Settings** at the bottom of the list.
3. In the Operational Policies section of the PWA Settings page, click **Additional Server Settings**.
4. In the Enterprise Settings section of the Additional Server Settings page, select **Allow projects to use local base calendars**.

Project Server Integration with Progressing Support (Non-Open Plan Users)

If you want to enter progress into a Project Server project using PM Compass, you must download and run the MSP Server Integration for PM Compass integration file. The file installs the appropriate engine files on the PM Compass server, applies new database scripts, and upgrades tables to support the new feature. This file is located in DSM under the PM Compass 8.4 Sub-Release DSM folder. Until you run that file, you will need to use Project Web Access (PWA) to enter schedule progress.

Sample Database

You can use the PM Compass project titled **Vessel** (from the sample database) and the related sample .mpp file (**vessel.mpp**) to learn more about the MSP integration process.

> **Attention:** For more information about using the sample database with MSP integration, see “Use the Sample Database with MSP Integration” in this guide.

Microsoft Project Integration and the PM Compass Process Server

The Microsoft Project (Professional and Server) integration is executed using the PM Compass Process server. The Process server is used to schedule the running of reports, alerts, and sequence of jobs to run automatically and in the background.

You can run the MSP integration process immediately or you can schedule the process to occur at a later date. The system uses a dedicated MSP Integration queue to process the jobs. Since Microsoft Project is a single-threaded application, the MSP integration needs to be single-threaded therefore this queue has a maximum concurrent job setting of **1**; only one process can run at a time. The queue does not have a dedicated server (you can specify one if you prefer) therefore the job runs on the next available server.

Attention:

- For more information about the dedicated queue, see "The MSP Integration Queue in the PM Compass" in the PM Compass Help System under **Projects » Progress » Integrate with Microsoft Project.**
- For more information about fully utilizing and managing the Process server, see "Process Server" in the PM Compass Help System under **Administration**.

The PM Compass Process server is a Windows service installed by default during the PM Compass installation on any deployment option that has the Web/Application server. It can also be installed separately on another machine to be used as a dedicated Process server.

Configure the PM Compass Process Server Account for MSP Integration

The Windows account that runs the PM Compass Process Server Windows Service is used to perform the Microsoft Project integration processing. The account launches a copy of Microsoft Project installed on the server and performs the import/export of the .mpp files and makes the connection to the Microsoft Project Server.

Note: If you plan to have multiple web servers and/or dedicated process servers, any server that is running the PM Compass Process Server service must have Microsoft Project Professional installed.

If you schedule a job to a queue that is assigned to a server that does not have Microsoft Project Professional installed, an error will occur, and the integration will fail. In this scenario, the MSP Integration queue must be assigned to a server that has MSP installed. When scheduling any MSP integration to the process server, users must always select the MSP Integration queue.

To integrate Microsoft Project and PM Compass correctly, certain configuration settings are required on the PM Compass Web/Application and/or dedicated Process servers.

Configure or Edit the Windows Domain Account Running the PM Compass Process Server Service

Configure the account that will be used to run the PM Compass Process Server service on each dedicated Process server and/or Web/Application Server (if your Web server is your Process server machine) with rights to the MSP files and logs folders.

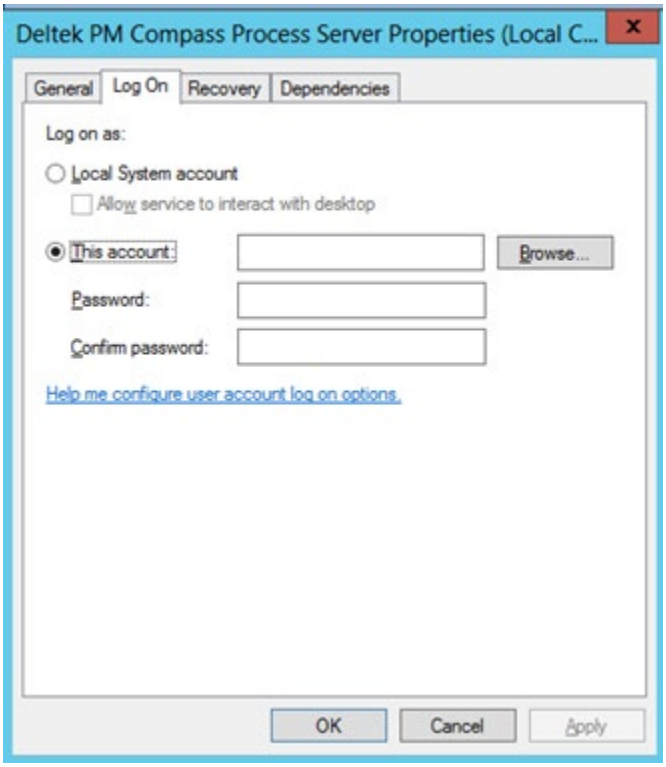
Attention: For more information, see "Permissions Required for Installing PM Compass" in this guide.

To modify the account running the PM Compass Process Server Service:

1. Create a local Windows user account or identify a Domain user account that will be used to run the Process Server service.

   For example, PMCompassProjectIntegration.
2. Add the new Windows user account, or the Domain user account, to the local Administrators group on the machine.
3. Log onto the machine using the new Windows account.

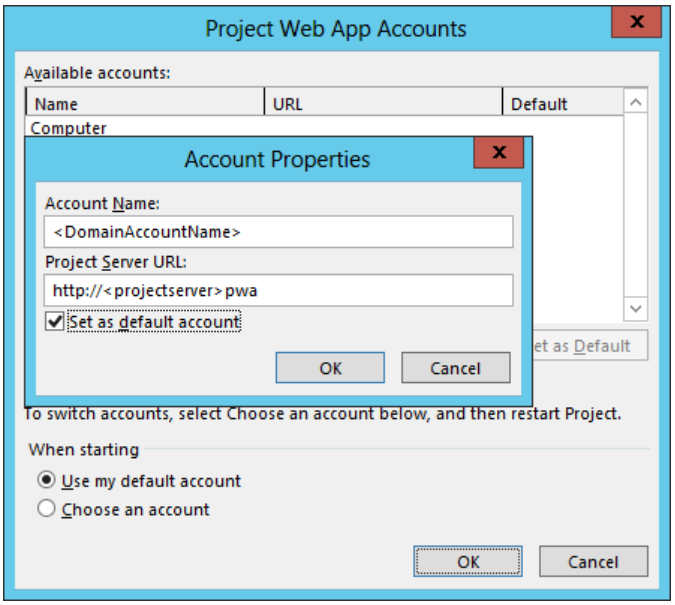
   A local profile for the account is created.
4. Click **Administrative Tools » Services** to launch the Windows Services Applet.
5. Right-click the **Deltek PM Compass Process Server** service and select **Properties**.
6. On the **Log On** tab:
   - Select **This account:** to specify a user account to run the process.
   - Enter the Process Server username and password that you just created.
   - Click **OK**.



Note: The remaining steps are only applicable if you are using Microsoft Project Server.

7. Launch Project Server 2013 Accounts.

8. Add the user account (<DomainAccountName>) that you created in step 1, along with the URL, to PWA. Set the account as default.



9. Launch Microsoft Project Server and open a sample project.

Configure Microsoft Project on the Process Servers

Certain settings in the Trust Center are required in order for the MSP integration with PM Compass to function correctly.

Important: You must log on as the domain account running the process server service and configure default MSP settings on the Process servers otherwise the settings will not apply. The settings are user-profile specific.

To set the Trust Center settings:

1. Log onto the Server Console as the Domain Account running the Process Server service.
2. Install Microsoft Project Professional (64-bit).
3. Launch Microsoft Project and let it perform the initial configuration for the account.
4. In Microsoft Project, click the **File** tab.
5. Click **Options**.
6. Click **Trust Center** and then click **Trust Center Settings**.
7. Click **Macro Settings** and select **Disable all macros without notification**.
8. Click **Legacy Formats** and select **Allow loading files with legacy or non-default file formats**.
9. Click **OK** to close the dialog box.

10. Click **OK** to exit Project Options.
11. Press **ALT + F11** to initialize the Microsoft Visual Basic for Applications (VBA) editor.
12. Exit project, including the VBA window.

Configure Microsoft Project for Automation in DCOM

Follow this procedure to configure Microsoft Project for automation in DCOM.

To configure Microsoft Project for automation in DCOM:

1. Log onto the Server Console as the Domain Account running the Process Server service.
2. Launch a CMD prompt as an Administrator, or at the Run prompt type **mmc** to launch the Microsoft Management Console.
3. Click **File** and select **Add/Remove Snap-in…**
4. Select **Component Services** and click **Add**.
5. Click **OK.**
6. In the left pane, click on **Component Services**.
7. Under Component Services, select **Computers » My Computer » DCOM Config**.
8. Right-click **Microsoft Project Basic** and select **Properties**.
9. On the **Security** tab:

   Launch and Activation Permissions

   a. In the **Launch and Activation Permissions** section, select **Customize**.
   b. Click **Edit**.
   c. In the Launch and Activation Permission dialog box, click **Add**.
   d. In the Select Users, Computers, Service Accounts, or Groups dialog box, enter the domain account you are using in the **Enter the object names to select** field.
   e. Click **OK**.
   f. In the Launch and Activation Permission dialog box, in the **Group or usernames** box, select the domain account you entered above and select **Allow** for each of the following permission settings:
      - **Local Launch**
      - **Remote Launch**
      - **Local Activation**
      - **Remote Activation**
   g. Click **OK** to save the changes and return to the Security tab.

   Access Permissions

   a. In the **Access Permissions** section, select **Customize**.
   b. Click **Edit**.
   c. In the Access Permission dialog box, click **Add**.

d. In the Select Users, Computers, Service Accounts, or Groups dialog box, enter the domain account you are using in the **Enter the object names to select** field.

e. Click **OK**.

f. In the Access Permission dialog box, in the **Group or usernames** box, select the domain account you entered above, and select **Allow** for each of the following permission settings:

- **Local Access**
- **Remote Access**

g. Click **OK** to save the changes and return to the Security tab.

Configuration Permissions

a. In the **Configuration Permissions** section, select **Customize**.

b. Click **Edit**.

c. In the Change Configuration Permission dialog box, click **Add**.

d. In the Select Users, Computers, Service Accounts, or Groups dialog box, enter the domain account you are using in the **Enter the object names to select** field.

e. Click **OK**.

f. In the Change Configuration Permission dialog box, select the domain account you entered above, and select **Allow** for each of the following permission settings:

- **Full Control**
- **Read**

g. Click **OK** to save the changes and return to the Security tab.

10. On the Identity tab, in the **Which account do you want to use to run this application?** section, enable **The launching user**.
11. Click **OK** to close the Microsoft Project Basic Properties dialog box.
12. Exit the Microsoft Management Console.
13. Click **No** when the system asks if you want to “Save console settings to Console1?”
14. Restart the machine.

Create the MSP Files and Log Folders and Configure the Security Settings

Two folders are required for the integration. In this guide, they will be referred to as the MSP Files and log folders. However, you can name them anything you like, as long as they are accessible to the account running the process server service and are located within the same local area network.

The MSP Files folder is required for MS Project Professional. The log folder is required by both MS Project Professional and MS Project Server.

To configure the security settings for sharing the MSP files and folders:

1. Create the following folders:
   - A folder (for example, MSP Files) to store your Microsoft Project files that will be used for the PM Compass integration.

- A folder (for example, MSP Logs) to store the logs generated when the application processes the Microsoft Project files.

These can be located anywhere that the account running the PM Compass Process Server service and the PM Compass Application Pool on the Web/Application server can access.

2. Create a network share for the MSP Files and log folders.
3. Grant write permissions to the folders for the Windows Domain Account running the Process Server service.
4. Grant read permissions to the shared folder(s) for your authorized Users.

   In addition, the following NTFS permissions will automatically be added to the folder for the users:

   - **Read & Execute**
   - **List Folder Contents**
   - **Read**

Add or Edit the MSP Integration Folder UNC Paths

During the PM Compass installation, you can add the path to the network folders containing the .mpp files and log files used by the Microsoft Project integration. If you do not enter this information during the installation, or if you need to edit the path, follow the procedures in this section to manually add or edit the paths.

Add or Edit the Default Location for Project Professional .MPP Files

Follow this procedure to add or edit the MSP integration folder path.

To add or edit the MSP integration folder UNC path:

1. In PM Compass, click **Administration » System Settings**.
2. Click the Microsoft Project tab.
3. In the **Microsoft Project (.MPP) Files** field, enter or edit the path to the network folder containing the .MPP files.

   This folder must be shared a shared folder.

   > **Attention:** For more information, see "UNC Shared Folders" in this guide.

4. Click **Save**.

Add or Edit the Integration Process Logs Path

Follow this procedure to add or edit the MSP integration process log path.

To add or edit the MSP integration process log path:

1. In PM Compass, click **Administration » System Settings**.
2. Click the File Folders tab.
3. In the **Integration Process Logs** field, enter or edit the path to the network folder containing the log files.

This folder must be shared a shared folder.

> **Attention:** For more information, see "UNC Shared Folders" in this guide.

4. Click **Save**.

Using a "Warm Up" Script to Address Long Project Server Startup Time

Project Server is deeply integrated with Microsoft's Sharepoint technology. One issue with this technology is that the first request to Sharepoint on any given day can take minutes to "warm up." This problem affects Project Server and the integration with PM Compass which is directly affected by the performance of the Project Server web application.

PM Compass uses the Microsoft Project client to open Project Server projects. When the PWA server is not responsive and takes several minutes to "warm up," it can cause failures when integrating PM Compass with Project Server. This in turn can cause all subsequent attempts at integrating projects in PM Compass to fail until the Microsoft Project process has been halted, and the PWA profile has been recreated on the PM Compass application server.

To alleviate the "warm up" problem, the Sharepoint community has created a "warm-up" script which you can execute as a Scheduled Windows Task.

The warmup script is fully supported by a community on CodePlex. It can be downloaded here: http://spbestwarmup.codeplex.com/. The support for Project Server was added on 1/26/2016 and has not been officially published as a stable build, however you can download the newly added functionality for Project Server through the Source Files tab. At the time of this writing, you must specify the **–ProjectServer** command when executing the script to enable Project Server support.

Use A Warmup Script

Follow this procedure to run a warmup script.

To use the warmup script:

1. Grant the appropriate rights to the logged in user.

   Deltek recommends using the same account used to run Process Server service to execute Sharepoint PowerShell commands. This is detailed on the CodePlex site. However, you can simply execute this PowerShell command to add rights to the user:

   ```
   foreach($db in Get-SPContentDatabase){Add-SPShellAdmin –Username <domain name>\<username> -Database $db.id}
   ```

2. Log in as the user you granted rights to and install the script using PowerShell by running the following command:

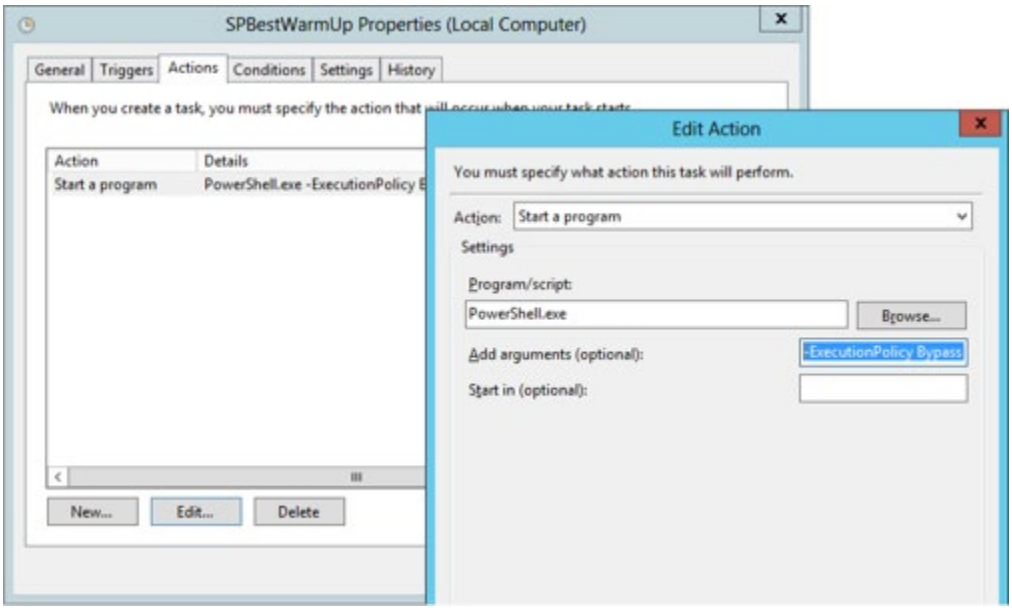
   ```
   .\SPBestWarmup.ps1 -Install
   ```

3. Test the script by running the following command from PowerShell:

   ```
   .\SPBestWarmup.ps1 –ProjectServer.
   ```

4. Edit the scheduled task in Task Scheduler by editing the action and adding the **–ProjectServer** command to the existing action.

   This step may be only required until the Project Server functionality is officially added to the script.



The argument text should read something similar to:

```
-ExecutionPolicy Bypass "C:\Sharepoint\SPBestWarmUp.ps1 -ProjectServer"
```

The script will execute every hour on the hour starting at 1am by default. This is generally the best setting; however, the Administrator can change the settings if needed.

Configuring PM Compass for the MSP Integration

After you have configured the Domain Account, MSP folders, and MSP on the Process servers, complete the configuration using EPM SA and PM Compass and begin the integration.

Configure the EPM SA Credentials for PM Compass Integration

In order for PM Compass to apply changes and run processes, such as time analysis, for projects being managed by PM Compass, a username and password is needed in EPM SA. This login information is only used for processing purposes and is not used for access control.

> **Note:** These credentials are needed whether or not you use Open Plan as your scheduling tool since PM Compass uses Open Plan functionality for all schedule changes and processes.
>
> If you do not have Open Plan, PM Compass automatically populates the username and password in EPM SA during installation. In this case, do not remove or edit the data in these fields as this will break the integration.

To configure the EPM SA credentials:

1. In EPM SA, click **Configuration » System Settings**.
2. On the General tab, in the Credentials for PM Compass to connect to Open Plan group, note the **Username** and **Password**.

Configure the Project Server Credentials for PM Compass Integration

If you are integrating with Microsoft Project Server, you must configure PM Compass with details for connecting to your Project Web Application (PWA) server. PM Compass uses this machine to look up project lists and details. The steps below are for entering the Project Server Credentials for the PM Compass Integration so that PM Compass is able to login into Microsoft's PWA application.

To configure the Project Server credentials:

1. Log into PM Compass and navigate to **Administration » System Settings**.
2. On the Microsoft Project tab, enter the necessary information in the appropriate fields.
   - Project Server URL: Enter or edit the UNC path for the location of the Project Server.
   - Domain\Username: Enter or edit the Project Server domain and username in the following format: domain\username. The username that you specify must be a domain account and a member of one of the following Project Web App (PWA) groups:
     - Administrators group
     - Project Managers group

   In addition, Deltek strongly recommends using the same user account for both starting up the Process server and the tasks specified here. This account is used to retrieve the list of projects that can be associated with the PM Compass project in Project Details. Using a different account for running the Process server may lead to inconsistent results, such as being able to view the project in Project Details but not being able to perform an import.

   This user is not necessarily the same as the logged-in PM Compass user. The PM Compass user can view all Project Server projects within PM Compass and does not need any access rights to PWA to see the scheduled projects
3. Save the changes.

Configure Microsoft Project in PM Compass

There are several steps required to configure Microsoft Project in PM Compass.

> **Attention:** For more information, see "Configure Progress for Microsoft Project" in the PM Compass Help System under **Integration with Other Products » Microsoft Project Integration**.

Troubleshooting Microsoft Project Integration Issues

This section covers troubleshooting topics for Microsoft integration issues.

Use Tracing to Capture Exception Details

For troubleshooting integration, Deltek provides the capability to enable a trace flag to capture exception details.

The tables below outline the steps to:

- **Confirm whether the trace log is enabled**: Use these steps to check if the trace log is already enabled.
- **Enable the trace log**: If the trace log is not enabled, follow these steps to enable it.

- **Disable the trace log**: After recreating the problem and capturing the logs, disable the trace log to prevent it from consuming disk space and impacting performance.

Open Plan Users: Use Tracing to Capture Exception Details

Follow these procedures to capture exception details by using tracing.

Confirm Whether the Trace Log is Enabled

To see the current trace location and correct it if needed:

1. Log into Open Plan as a member of the SYSADMIN group.
2. Click **Tools » Options » Advanced**.
3. Click **Defaults**.
4. Locate **_PMCTRACELOG** which includes the folder location. If this category is not listed, then trace is not enabled.
5. If it is listed and the location is incorrect, you can edit the path in the Default Value column.

Enable Tracing and Send Logs to Deltek

To turn the trace log on:

1. Log into Open Plan as a member of the SYSADMIN group.
2. Click **Tools » Options » Advanced**.
3. Click **Defaults**.
4. In the **Category** column, double-click an empty line and enter **_PMCTRACELOG**.
5. In the **Default Value** column, enter the path to the folder. Deltek recommends using the following path: **\\<server>\<path to logs folder>\PMCTraceLog.log**. The value must point to a valid location on the PM Compass Process Server. You can find the path to the logs folder in PM Compass (on the File Folders tab in **Administration » System Settings**).
6. Click **OK**.
7. Restart the Process server.
8. Run the integration that was causing you problems.
9. Send the logs to Deltek Customer Success.
10. After you have run the trace and the logs have been created, Deltek recommends that you turn the trace log off because it will cause performance issues and use up disk space. See the next table for steps.

Disable Tracing

To turn the trace log off:

1. Log into Open Plan.

Disable Tracing

2. Click **Tools » Options » Advanced**.
3. Click **Defaults**.
4. Locate **_PMCTRACELOG**.
5. Highlight the value in the **Default Value** column and delete it.
6. Click **OK**.

Non-Open Plan Users: Use Tracing to Capture Exception Details

Follow these procedures to capture exception details and submit the information to Deltek Support.

Important: A Database Administrator must perform these procedures using a database query tool

Confirm Whether the Trace Log is Enabled

To see the current trace location and correct it if needed:

1. Enter the following query to determine if the PMC Trace Log is enabled and click **Execute**:

   ```
   SELECT * from WST_UPD WHERE PRD_UID = '100' AND CATEGORY = '_PMCTRACELOG';
   ```

   If you copy and paste the statement, first copy it into Notepad to remove any extra formatting (for example, curly quotes) before pasting into the SQL Statement box.
2. If a record exists, review the query results and verify that the **CAT_VALUE** points to a valid location.

   If the record does not exist, this means that tracing is not enabled. See the next table for steps to enable tracing.

Enable Tracing and Send Logs to Deltek

To enable tracing and send logs to Deltek if the record does not exist:

1. Enter the following query and click **Execute** (replace the value for: **<PathToMSPLogFilesFolder>**\PMCTRACELOG.log):

   ```
   INSERT INTO WST_UPD (CAT_VALUE, CATEGORY, PRD_UID)
   VALUES('<PathToMSPLogFilesFolder>\PMCTRACELOG.log','_PMCTRACELOG',100);
   ```

   For example:

   ```
   INSERT INTO WST_UPD (CAT_VALUE, CATEGORY, PRD_UID)
   VALUES('\\FileServer1\MSPLogFiles\PMCTRACELOG.log','_PMCTRACELOG',100);
   ```
2. **For Oracle users only**: Issue a commit command to save the changes:

   ```
   Commit;
   ```
3. Restart the Process server.
4. Recreate the issue by performing the Change Management integration in PM Compass.
5. Email the **PMCTRACELOG.log** file to Deltek Customer Success.

Enable Tracing and Send Logs to Deltek

6. Review the steps in the next table to disable the trace log. If you leave it enabled, it will cause performance issues and use up disk space.

To enable tracing and send logs to Deltek, if the record exists but the CAT_VALUE is incorrect:

1. Enter the following query and click **Execute** (replace the value for: **<PathToMSPLogFilesFolder>**\PMCTRACELOG.log):

   UPDATE WST_UPD SET CAT_VALUE = '**<PathToMSPLogFilesFolder>**\PMCTRACELOG.log' WHERE PRD_UID = '100' AND CATEGORY = '_PMCTRACELOG';

   For example:

   ```
   UPDATE dbo.WST_UPD SET CAT_VALUE =
   '\\FileServer1\MSPLogFiles\PMCTRACELOG.log';
   ```

2. For Oracle users only: Issue a commit to save the changes.

   ```
   Commit;
   ```

3. Restart the Process server.
4. Recreate the issue by performing the Change Management integration in PM Compass.
5. Email the **PMCTRACELOG.log** file to Deltek Customer Success.
6. Review the steps in the next table to disable the trace log. If you leave it enabled, it will cause performance issues and use up disk space.

Disable Tracing

Enter the following query and click **Execute**:

```
DELETE FROM WST_UPD WHERE PRD_UID = '100' AND CATEGORY = '_PMCTRACELOG';
```

Viewing Data that was Exported to MSP

If you have a copy of Open Plan and you want to review the data that was exported to Microsoft Project Professional or Server, you can add a setting to the Open Plan System Preferences dialog box so that Open Plan creates .csv integration files. The files are saved to the Integration Progress Logs folder that you set up on the File Folders tab of the System Settings form.

The generated .csv files remain in the folder until you delete them (disabling the setting does not delete accumulated files). You may want to periodically delete them to keep the folder size from becoming too large.

Specify that Open Plan Creates a .csv Integration File

Follow this procedure to specify that Open Plan creates a .csv integration file

To specify that Open Plan creates a .csv integration file:

1. In Open Plan, click  **» File » Preferences » Application** to display the Options dialog box.
2. On the Advanced tab, click **Defaults** to display the System Preferences Defaults dialog box.

3. In the **Category** column, enter **_KEEP_MSP_OUTPUT_FILES** in a blank row.
4. In the **Default Value** column, enter **1**.
5. Click **OK**.

Password-Protected Microsoft Project File

PM Compass does not support saving changes back to a password-protected Microsoft Project file.

MSP-Related Errors Displayed in PM Compass

This table lists MSP-related errors displayed in PM Compass.

Issue or Error Message	Solution
CAM_SYSTEMSETTINGS.MSPFILEPATH has not been set or path does not exist.	**To resolve the issue:** 1. Ensure that the path entered for the MSP Project files and log files is valid and that the account running the services has the necessary permissions. To check the path, run the following query against your database: `Select MSPFilePath, MSPLogPath from CAM_SystemSettings;` **Note:** If there is no entry or the existing entry is incorrect, see "Add or Edit the MSP Integration Folder UNC Paths" in this guide. 2. If the path is correct, then check that the account running the services has the necessary permissions.
Import failed with one of the following errors displayed in the Process Queue Detail dialog box » Termination Message: ▪ RPC_E_SERVERFAULT ▪ HRESULT E_FAIL This issue is usually encountered when: ▪ The Process server is turned off. ▪ The Microsoft Project Server is turned off or does not respond in a timely manner. ▪ There is an invalid URL in the Project Web App account.	**To resolve this issue**: 1. Confirm that the URL in the Project Web App account is correct. **Attention:** For more information, see "Configure PM Compass Process Server Account for MSP Integration" in this guide. 2. Log into the Process Server as the Project Server account user. 3. Terminate the WINPROJ.EXE session using Task Manager. 4. If you open the Project Web App (PWA) accounts or Microsoft Project Professional on the PM Compass Web/Application or the

Issue or Error Message	Solution
	Process server and you see an error message about Global Template, click **OK** and continue with the steps. 5. Remove the existing PWA account. 6. Add the account back again. 7. Restart the machine. 8. Use the "warm up" script to address long Project Server startup time. **Attention:** For more information, see "Using a "Warm Up" Script to Address Long Project Server Startup Time" in this guide. 9. In PM Compass, run the import again.
Login failed. Please check the Project Server settings in System Settings on the Microsoft Project tab. This issue is usually encountered when the Project Server URL is incorrect.	**To resolve this issue:** 1. In PM Compass, click **Administration » System Settings**. 2. Click the Microsoft Project tab. 3. Edit the URL in the **Project Server URL** field. 4. Click **Save**.
Your job has failed and the Termination Message is as follows: Class: interop.wpelib30.IWDEDataSource Function: SetTraceLogFileInfo FrameworkException: A disk error occurred during a write operation. (Exception from HRESULT: 0x8003001D (STG_E_WRITEFAULT)) This issue is usually encountered when tracing is enabled, and the PM Compass Process server does not have access to the folder location.	**To resolve the issue:** ▪ Do one of the following: ▪ Disable the trace log. ▪ Verify that the folder exists and is in a valid location on the PM Compass Process server. **Attention:** For more information, see Use Tracing to Capture Exception Details in this guide.
Password incorrect (or was changed) Exception from HRESULT: 0x8004F234	**To resolve this issue:** ▪ Log into EPM SA and re-enter the password.
Exception from HRESULT: 0x80041ABF This issue is usually encountered when the version of Open Plan is not compatible with	If you upgrade Open Plan after you install PM Compass 8.4, see "Installing the Open Plan Add-In" in this guide.

Issue or Error Message	Solution
PM Compass or the Open Plan engine version is not compatible with the database.	
If you saved a custom view as the default for a project that is used for integration, it causes the service to hang and prevents the project from being loaded into PM Compass.	**To resolve this issue:** 1. Log into the Process server as the Project Server account user. 2. Terminate the WINPROJ.EXE session using Task Manager. 3. Log out from the Process server. 4. Open the .MPP file in Microsoft Project from any computer. 5. On the Task command tab, click **Gantt Chart**. 6. On the **Gantt Chart** field, select a view from the Built-In section, for example, Gantt Chart. 7. Save the project.

Activity % Complete is Incorrect

If you are using Microsoft Project as your scheduling tool, one reason that your **Activity % Complete** may be incorrect is if you have the **Updating Task status updates resource status** option (**Options » Schedule)** checked in Microsoft Project.

If you plan to update your resources, Deltek recommends clearing the **Updating Task status updates resource status** option. By default, this option is selected.

When progress is submitted, PM Compass updates task data first followed by resource assignment data. When the option in Microsoft Project is selected and you edit resource assignment data in PM Compass and submit progress, the resource data (**Resource % Complete**) overwrites the task data (**Activity % Complete**).

For example, if you enter 15% for task status and 30% for resource assignments, when progress is submitted, PM Compass overwrites the **Activity % Complete** value (15%) with the **Resource % Complete value** (30%). When the data is imported back into PM Compass, the task status is imported as 30%.

If you have a copy of Open Plan and you want to review the data that was exported to Microsoft Project Professional or Server, you can add a setting **(_KEEP_MSP_OUTPUT_FILES**) to the Open Plan System Preferences dialog box so that Open Plan creates temporary CSV integration files.

Attention: For more information, see “Viewing Data that was Exported to MSP” in this guide.

Appendix O: Integrating with Primavera P6

This chapter covers topics on integrating PM Compass with Primavera P6.

Primavera P6 Schedule Integration

PM Compass integrates with Primavera P6 to facilitate the entry and approval of schedule progress. This feature enables multiple users to input and approve schedule updates, which are then automatically synchronized with the P6 project through a scheduled, user-free process.

During the installation of PM Compass, you can choose to use Primavera P6 as your scheduling tool. This selection configures the database with the necessary settings to support Primavera P6 integration.

Benefits of Integrating Primavera P6 with PM Compass

Integrating Primavera P6 with PM Compass offers a seamless and efficient way to manage project schedules.

- The CAM or project manager can view and report schedule data in PM Compass related to their work.
- You can identify users to enter and approve progress in PM Compass, and set scheduled alerts to create progress entries and send notifications, informing users that they need to enter or approve progress.
- You can run schedule and resource traceability reports to help ensure alignment between your costs and schedule, and view a bar chart of the Primavera P6 schedule from within PM Compass.

Attention: For more information about Primavera P6 integration, including configuring PM Compass for the integration, see "Integrating with Oracle Primavera P6" in the PM Compass Help System under **Integration with Other Products » Oracle Primavera P6 Integration**.

Using Primavera P6 Enterprise vs. Professional

When deciding between Primavera P6 Enterprise Project Portfolio Management (P6 EPPM) and Primavera P6 Professional Project Management (P6 PPM), it is important to understand their integration capabilities with PM Compass.

- **Primavera P6 Enterprise Project Portfolio Management (P6 EPPM)** requires installation of the P6 EPPM system to utilize web services, which are essential for integration with PM Compass.
- **Primavera P6 Professional Project Management (P6 PPM),** on the other hand, does not support integration with PM Compass due to the absence of P6 Web Services.

If you are currently using P6 PPM and want to integrate with PM Compass, you will need to upgrade to the Enterprise edition and migrate your database accordingly. Simply attaching your Professional database to the Enterprise Server is not sufficient. For assistance, contact Oracle Primavera Customer Care.

Dedicated Process Queue

The Primavera P6 Integration queue is a dedicated queue that processes the Primavera P6 integration jobs. It is automatically added to the PM Compass Process server's list of default process queues during a complete or upgrade installation.

Note: If you decide to enable Primavera P6 integration after finishing the complete installation, the Primavera P6 Integration Installer will handle the necessary steps. For setups with multiple Web/Application servers, you will need to run the Primavera P6 Integration Installer on each server.

Having a dedicated queue simplifies monitoring and identifying any process failures. It also allows processes to run on a different server and lets you specify the number of concurrent processes. For the Primavera P6 integration queue, the default and recommended maximum number of concurrent processes is set to **5**. If you encounter connectivity issues with Primavera P6 integration processes, consider reducing this number.

Servers that process the P6 Integration queue jobs must be able to connect to the P6 server's URL for web services at: http://<servername>:8206/p6ws.

Integrating with Primavera P6 Server After You Install PM Compass

PM Compass uses Open Plan server components to manage the Primavera P6 web service integration.

If you installed PM Compass and initially chose not to integrate with Primavera P6, but now need to, you will have to download and run an integration file on your PM Compass Web/Application servers and any dedicated Process servers.

If you have Open Plan, run the .exe file that matches your Open Plan version. Download the **OpenPlan<version>IntegrationForPMCompass84.exe** file from the PM Compass 8.4 Sub-Release DSM folder and run it on each of your Process server and Web/Application server tiers.

If you do not have Open Plan, run the **P6ServerIntegrationForPMCompass84.exe** file. Download it from the PM Compass 8.4 Sub-Release DSM folder and run it on each of your Process server and Web/Application server tiers. To verify that the tables are at the correct version to support Primavera P6 integration, the installer must connect to your PM Compass database. Specify the connections to your PM Compass database.

Attention: For more information, see "Project Server Integration with Progressing Support (Non-Open Plan Users" in this guide.

Untrusted Certificates

If you choose to secure connections to your P6 server using HTTPS (for example, https://:8206/p6ws), and the certificate used to configure your Primavera P6 server is not trusted, the integration with PM Compass will fail. For instance, if you connect to your server using Edge and receive a message indicating an untrusted connection, the P6 integration will not function properly.

Required Settings

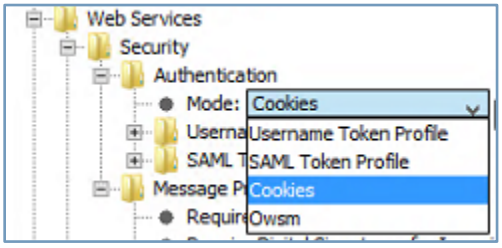
This section outlines the required settings required for the integration to work and the connection to be successful.

Authentication Mode

To ensure secure and proper communication between PM Compass and your Primavera P6 Server, you must configure the appropriate authentication mode based on your connection type.

- If you are only using HTTP (not SSL) to connect to your Primavera P6 Server, you must configure the Primavera P6 Web Services with Cookies Authentication mode.
- If you are using SSL (HTTPS) to connect to your Primavera P6 Server, you must configure the Primavera P6 Web Service with a Username Token Profile Authentication mode.

You change these settings using the Primavera P6 Administrator Tool. Navigate to the Configurations tab and click **Custom » <Your Primavera P6 Configuration> » Web Services » Security » Authentication**.

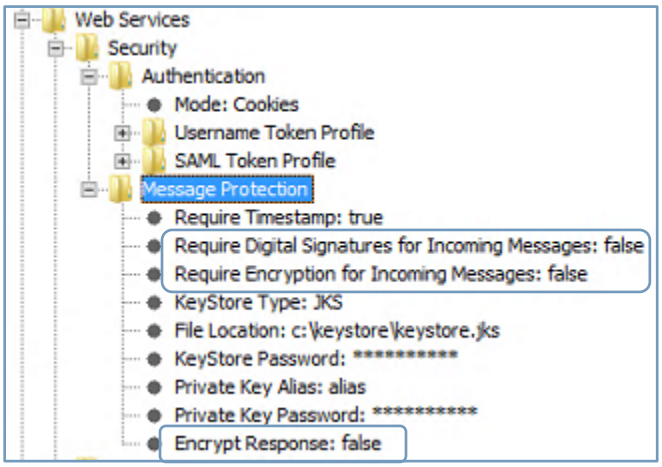


Message Protection Settings

In order for the integration to work and the connection to be successful, you have to set Message Protection settings to the following:

- Require Digital Signatures for Incoming Messages = False
- Require Encryption for Incoming Messages = False
- Encrypt Response = False

You change these settings using the Primavera P6 Administrator Tool. Navigate to the Configurations tab and click **Custom » <Your Primavera P6 Configuration> » Web Services » Security » Message Protection**.



Connection Information

For the Primavera P6 integration to function properly, PM Compass requires the connection information.

Configure the Connection Information

Follow this procedure to configure the connection information.

To configure the connection information:

1. In PM Compass, navigate to **Administration » System Settings**.
2. On the Primavera P6 tab, perform the following steps:
    a. In the **Web Service URL** field, enter or edit the web service URL for the Primavera P6 connection. For example, http://<MyP6WebServer>:8206/p6ws. If you require a secure connection to the P6 server, an https connection is required.
    b. In the **Username** field, enter the Primavera P6 application username related to the selected database. The login identified here must have access to all projects. This is the login that PM Compass will use to access Primavera P6 web services when reading and writing to Primavera P6 projects. This user is not necessarily the same as the logged in PM Compass user. The PM Compass user can view all Primavera P6 projects in PM Compass and does not need any access rights to Primavera P6 order to see the schedule projects.
    c. In the **Password** field, enter the Primavera P6 application password related to the selected database.
    d. In the **Database** field, select the Primavera P6 database to which you want to connect. If this list is blank, click Get Databases to refresh the list. PM Compass uses cookies for the authentication type.
    e. Click the **Get Databases** button to refresh the list of databases in the **Database** field.
    f. Click the **Test Connection** button to check that the username and password are valid for the selected database.
3. Save the changes.

Recommended Settings

This section outlines the recommended settings required for the integration to work and the connection to be successful.

Database Connection Pool Settings

The Primavera P6 integration supports up to 5 concurrent jobs. When submitting a large batch, a significant number of P6 database connections may be quickly consumed.

Deltek recommends increasing the default values for the connection pools for each Primavera P6 database used in the integration. There are three types of connection pools: PMR, PML, and PMT.

Attention: For more information, see the following documents on the Oracle Support Site:

- How Database Connection Pools Are Managed in P6 Web Access And Integration API (Doc ID 909861.1)
- How To Change the Connection Pool Settings for P6 Web Access (Doc ID 1484704.1)

The following Oracle help topic explains what the different values mean: https://docs.oracle.com/cd/E25030_01/English/Install_and_Config/Manual_Install_and_Config/helpmain.htm?toc.htm?51557.htm

Java Memory

Increase the Java memory allocation for both the Primavera P6 Server and Primavera P6 Web Services on the managed server to a minimum of 4GB.

Increase the Java Memory

Follow this procedure to increase the P6 Server and P6 Web Services Java memory to 4GB.

To increase the Java memory:

1. Log into the Weblogic Console.
2. Click **Environment » Servers » P6**.
3. On the Server Start tab, click **Lock & Edit**.
4. In **Arguments**, change **Xms512m -Xmx1024m to -Xms4096m -Xmx4096m** and click **Save**.
5. Click **Activate Changes**.
6. Click **Environment » Servers » P6WebServices**.
7. On the Server Start tab, click **Lock & Edit**.
8. In **Arguments**, change **Xms512m -Xmx1024m to -Xms4096m -Xmx4096m** and click **Save**.
9. Click **Activate Changes**.
10. Restart the P6 managed server.

Troubleshooting Primavera P6 Integration Issues

This section covers troubleshooting topics for Primavera P6 integration issues.

Use Tracing to Capture Exception Details

For troubleshooting integration, Deltek provides the capability to enable a trace flag to capture exception details.

The tables below outline the steps to:

- **Confirm whether the trace log is enabled**: Use these steps to check if the trace log is already enabled.
- **Enable the trace log**: If the trace log is not enabled, follow these steps to enable it.
- **Disable the trace log**: After recreating the problem and capturing the logs, disable the trace log to prevent it from consuming disk space and impacting performance.

Open Plan Users: Use Tracing to Capture Exception Details

Follow these procedures to capture exception details by using tracing.

Confirm Whether the Trace Log is Enabled
To see the current trace location and correct it if needed: 1. Log into Open Plan as a member of the SYSADMIN group. 2. Click **Tools » Options » Advanced**.

Confirm Whether the Trace Log is Enabled

3. Click **Defaults**.
4. Locate **_PMCTRACELOG** which includes the folder location. If this category is not listed, then trace is not enabled.
5. If it is listed and the location is incorrect, you can edit the path in the Default Value column.

Enable Tracing and Send Logs to Deltek

To turn the trace log on:

1. Log into Open Plan as a member of the SYSADMIN group.
2. Click **Tools » Options » Advanced**.
3. Click **Defaults**.
4. In the **Category** column, double-click an empty line and enter **_PMCTRACELOG**.
5. In the **Default Value** column, enter the path to the folder. Deltek recommends using the following path: **\\<server>\<path to logs folder>\PMCTraceLog.log**. The value must point to a valid location on the PM Compass Process Server. You can find the path to the logs folder in PM Compass (on the File Folders tab in **Administration » System Settings**).
6. Click **OK**.
7. Restart the Process server.
8. Run the integration that was causing you problems.
9. Send the logs to Deltek Customer Success.
10. After you have run the trace and the logs have been created, Deltek recommends that you turn the trace log off because it will cause performance issues and use up disk space. See the next table for steps.

Disable Tracing

To turn the trace log off:

1. Log into Open Plan.
2. Click **Tools » Options » Advanced**.
3. Click **Defaults**.
4. Locate **_PMCTRACELOG**.
5. Highlight the value in the **Default Value** column and delete it.
6. Click **OK**.

Non-Open Plan Users: Use Tracing to Capture Exception Details

Follow these procedures to capture exception details and submit the information to Deltek Support.

Important: A Database Administrator must perform these procedures using a database query tool

Confirm Whether the Trace Log is Enabled

To see the current trace location and correct it if needed:

1. Enter the following query to determine if the PMC Trace Log is enabled and click **Execute**:

   ```
   SELECT * from WST_UPD WHERE PRD_UID = '100' AND CATEGORY = '_PMCTRACELOG';
   ```

   If you copy and paste the statement, first copy it into Notepad to remove any extra formatting (for example, curly quotes) before pasting into the SQL Statement box.

2. If a record exists, review the query results and verify that the **CAT_VALUE** points to a valid location.

   If the record does not exist, this means that tracing is not enabled. See the next table for steps to enable tracing.

Enable Tracing and Send Logs to Deltek

To enable tracing and send logs to Deltek if the record does not exist:

1. Enter the following query and click **Execute** (replace the value for: **<PathToMSPLogFilesFolder>**\PMCTRACELOG.log):

   ```
   INSERT INTO WST_UPD (CAT_VALUE, CATEGORY, PRD_UID)
   VALUES('<PathToMSPLogFilesFolder>\PMCTRACELOG.log','_PMCTRACELOG',100);
   ```

   For example:

   ```
   INSERT INTO WST_UPD (CAT_VALUE, CATEGORY, PRD_UID)
   VALUES('\\FileServer1\MSPLogFiles\PMCTRACELOG.log','_PMCTRACELOG',100);
   ```

2. **For Oracle users only**: Issue a commit command to save the changes:

   ```
   Commit;
   ```

3. Restart the Process server.
4. Recreate the issue by performing the Change Management integration in PM Compass.
5. Email the **PMCTRACELOG.log** file to Deltek Customer Success.
6. Review the steps in the next table to disable the trace log. If you leave it enabled, it will cause performance issues and use up disk space.

To enable tracing and send logs to Deltek if the record exists but the CAT_VALUE is incorrect:

1. Enter the following query and click **Execute** (replace the value for: **<PathToMSPLogFilesFolder>**\PMCTRACELOG.log):

   UPDATE WST_UPD SET CAT_VALUE = '**<PathToMSPLogFilesFolder>**\PMCTRACELOG.log' WHERE PRD_UID = '100' AND CATEGORY = '_PMCTRACELOG';

   For example:

   ```
   UPDATE dbo.WST_UPD SET CAT_VALUE =
   '\\FileServer1\MSPLogFiles\PMCTRACELOG.log';
   ```

Enable Tracing and Send Logs to Deltek

2. For Oracle users only: Issue a commit to save the changes.

```
Commit;
```

3. Restart the Process server.
4. Recreate the issue by performing the Change Management integration in PM Compass.
5. Email the **PMCTRACELOG.log** file to Deltek Customer Success.
6. Review the steps in the next table to disable the trace log. If you leave it enabled, it will cause performance issues and use up disk space.

Disable Tracing

Enter the following query and click **Execute**:

```
DELETE FROM WST_UPD WHERE PRD_UID = '100' AND CATEGORY = '_PMCTRACELOG';
```

Changing the Number of Batches Sent to Primavera P6 During Export

When exporting data to Primavera, record sets are sent in batches, with a default size of 250 records. If you encounter connection errors, Deltek recommends increasing the number of records sent in each batch.

Change the Number of Batches Sent

Follow this procedure to change the number of batches sent to the Primavera P6 Server.

To change the number of batches sent:

1. In Open Plan, click **File » Preferences » Application** to display the Options dialog box.
2. On the Advanced tab, click **Defaults** to display the System Preferences Defaults dialog box.
3. In the **Category** column, enter **_MAX_P6_BATCH_UPDATE_RECS** in a blank row.
4. In the **Default Value** column, enter a value between **250** and **500**.
5. Click **OK**.

To see how many records were transferred, check the Export log file for this specific message.

```
Starting activity transfer...
Info    Sending out batch with 250 records.
Info    Sending out batch with 250 records.
```

Primavera P6 Has Trouble Connecting to the Database

The Primavera P6 Integration queue is specifically designed to handle P6 integration jobs. By default, the number of concurrent processes is set to 5, which is also the recommended maximum. If you encounter connectivity issues with P6 integration processes, consider reducing this number.

Servers that process the P6 Integration queue jobs must be able to connect to the P6 server's URL for web services at: http://<servername>:8206/p6ws.

Viewing Data that was Exported to Primavera P6

If you have a copy of Open Plan and you want to review the data that was exported to Primavera P6, you can add a setting to the Open Plan System Preferences dialog box so that Open Plan creates .csv integration files. The files are saved to the Integration Progress Logs folder that you set up on the File Folders tab of the System Settings form.

The generated .csv files remain in the folder until you delete them (disabling the setting does not delete accumulated files). You may want to periodically delete them to keep the folder size from becoming too large.

Specify that Open Plan Creates a .csv Integration File

Follow this procedure to specify that Open Plan creates a .csv integration file

To specify that Open Plan creates a .csv integration file:

1. In Open Plan, click  **» File » Preferences » Application** to display the Options dialog box.
2. On the Advanced tab, click **Defaults** to display the System Preferences Defaults dialog box.
3. In the **Category** column, enter **_KEEP_P6_OUTPUT_FILES** in a blank row.
4. In the **Default Value** column, enter **1**.
5. Click **OK**.

Appendix P: Configure a Dedicated Process Server

You can configure a Process server to pick and process jobs only from a specific queue defined in the Process Queues pane on the Servers tab of the System Settings form in EPM Security Administrator. This is helpful when you want to configure a Process server to handle a specific type of job. For example, you can assign a Process server that is dedicated to processing Cobra concurrency jobs only. This Process server will only pick Cobra concurrency jobs and ignore the jobs assigned to queues, such as the PM Compass system queues or the scheduled processes queues.

To implement this behavior, you must update the **ListenToOnlyMyQueues** setting, which defaults to **False (N)**, in the web.config file located in the PM Compass installation directory.

If the **ListenToOnlyMyQueues** setting with a value of **Y** is present in the configuration file, the Process server will only pick jobs assigned to a queue where the current server's name is assigned as the dedicated server. If the **ListenToOnlyMyQueues** setting is not present in the configuration file, or if its value is set to **N**, the Process server will retain its current behavior. This means that the Process server will pick jobs from a queue where the queue has been defined with the current server's name as the dedicated server name, or where the job is assigned to a queue with no dedicated server name.

Enable the ListenToOnlyMyQueues Setting

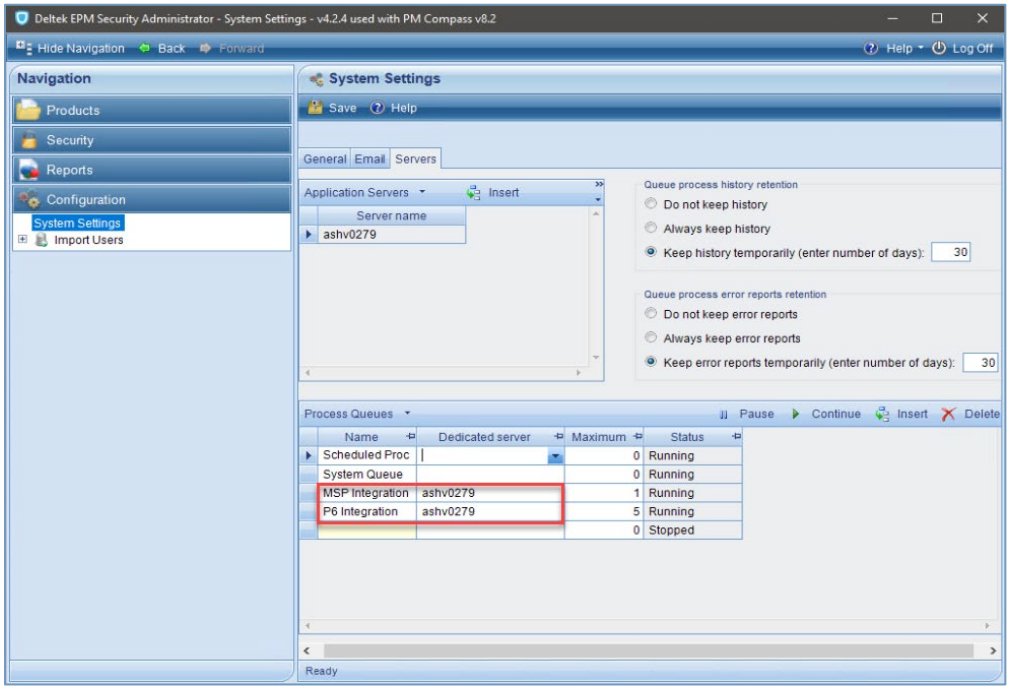
Follow this procedure to enable the ListenToOnlyMyQueues setting.

To enable this setting:

1. Launch Notepad using the **Run as Administrator** command.
2. Navigate to the <PM Compass Installation Directory>\PMCompass\Web folder.
3. Open the **web.config** file.
4. Locate **ListenToOnlyMyQueues** in the <appSettings> section and set the value to **Y**.

```
<appSettings>
    <add key="OpenPlanSQLServerProviderType" value="SQLNCLI11" />
    <add key="OpenPlanOracleProviderType" value="ORAOLEDB.Oracle.1" />
    <add key="SqlLogDirectory" value="C:\metric" />
    <add key="SqlLogging" value="Y" />
    <add key="ListenToOnlyMyQueues" value="Y" />
</appSettings>
```

In this example, server ASHV0279 would traditionally pick jobs from all queues (P6 Integration, MSP Integration, System Queue, and Scheduled Processes). A process server installed elsewhere would only pick up jobs from System Queue and Scheduled Processes. With this enhancement, server ASHV0279 will pick and process jobs only from the MSP Integration and P6 Integration queues, and not from System Queue or Scheduled Processes queues.


Deltek EPM Security Administrator - System Settings - v4.2.4 used with PM Compass v8.2
Hide Navigation
Back
Forward
Help
Log Off
Navigation
Products
Security
Reports
Configuration
System Settings
Import Users
System Settings
Save
Help
General
Email
Servers
Application Servers
Insert
Server name
ashv0279
Queue process history retention
Do not keep history
Always keep history
Keep history temporarily (enter number of days):
30
Queue process error reports retention
Do not keep error reports
Always keep error reports
Keep error reports temporarily (enter number of days):
30
Process Queues
Pause
Continue
Insert
Delete
Name
Dedicated server
Maximum
Status
Scheduled Proc
0
Running
System Queue
0
Running
MSP Integration
ashv0279
1
Running
P6 Integration
ashv0279
5
Running
0
Stopped
Ready

Appendix Q: Performing Silent Installation/Uninstallation

Silent installation and uninstallation allow you to perform the process without the wizard's prompts.

Performing the silent installation and uninstallation comprises two steps.

- **Step 1**: Creating the response file: Running the installer file with the -r parameter on a server and specifying every configuration setting that will be applied to every PM Compass server produces the response file. All configuration settings are saved at this step into the response file, which is subsequently automatically implemented by the installer on the new servers without user intervention.
- **Step 2**: Running the installer: Running the installer file with the -s parameter through the Command Prompt enables the installer to use saved configuration settings from Step 1 and apply them to the additional servers.

Important: During silent installation, database server information is captured and saved in the silent install file. Make sure the silent install file is securely stored or deleted after the silent install completes.

This chapter provides procedures to perform silent installation and uninstallation for new installs and upgrades of the following files:

- PM Compass
- PM Compass Cumulative Updates
- Cobra integration for PM Compass
- Open Plan integration for PM Compass
- Open Plan Add-in

File, Executable Filename, and GUID Table

The following table provides information on the files, their executable filenames, and their corresponding GUIDs.

Refer to this table when performing the procedures provided below. For example, if you are running a new install of PM Compass 8.4, use the information provided for **Deltek PM Compass 8.4**. In the step to create the response file and run the installer, use DeltekPMCompass84.exe in the command. In the step to uninstall the file, use **{76679E07-94CE-4F3B-B2AD-9B3423A08D74}** in the InstallShield Installation Information\{<GUID}> folder.

File	Executable Filename	GUID
Deltek PM Compass 8.4	DeltekPMCompass84.exe	{76679E07-94CE-4F3B-B2AD-9B3423A08D74}
Deltek PM Compass 8.4 CUxx (for example, 8.4 CU01)	DeltekPMCompass84CUxx.exe	{76679E07-94CE-4F3B-B2AD-9B3423A08D74}

File	Executable Filename	GUID
Cobra Integration for PM Compass 8.4	CobraxxIntegrationForPMC84.exe	{F95C7D70-D9CE-4EE5-AA8D-735278453B99}
Open Plan Integration for PM Compass 8.4 [1]	OpenPlanxxIntegrationForPMC84.exe	{140FF984-E753-45CA-B3C3-64491F94C029}
Deltek Open Plan Add-in for PM Compass 8.4 [2]	DeltekOpenPlanAddinForPMC84.exe	{1996E048-D4A3-4E98-87A8-14894BC6E2A0}

Note:

- [1] This also applies to Microsoft Project Server and Primavera P6 Server integrations.
- [2] You must install the Open Plan Add-in only on servers running the Open Plan client application.

Silent Installation for New Installs

Follow this procedure to run a silent installation for new installs.

To perform a silent installation for new installs:

1. Copy the installation files to a drive on the server.

   For example:

   ```
   E:\84\main\build8.4.0700.2370\
   ```

2. Launch the Command Prompt and select **Run as administrator**.
3. Enter the following command to create the response file:

   ```
   <full path of the executable file on the server> -r -f1<full path to save the response file>
   ```

   For example:

   ```
   E:\84\main\build8.4.0700.2370\DeltekPMCompass84.exe -r -f1E:\Script\Newinstall.iss
   ```

   Note: The **-r** parameter records the configuration settings to the response file. There is no space between **-f1** and the path of the response file.

4. Enter the following command to run the installer.

   ```
   <full path of the executable file on the server> -s -f1<full path to the response file>
   ```

   For example:

   ```
   E:\84\main\build8.4.0700.2370\DeltekPMCompass84.exe -s -f1E:\Script\Newinstall.iss
   ```

   Note: The **-s** parameter installs the file. There is no space between **-f1** and the path of the response file.

The silent installation runs and completes without wizard's prompts.

Silent Installation for Upgrade Installs

Follow this procedure to run a silent installation for upgrade installs.

To perform a silent installation for upgrade installs:

1. Copy the installation files to a drive on the server.

   For example:

   ```
   E:\84\main\build8.4.0700.2370\
   ```

2. Launch the Command Prompt and select **Run as administrator**.
3. Enter the following command to create the response file:

   ```
   <full path of the executable file on the server> -r -f1<full path to save the response file>
   ```

   For example:

   ```
   E:\84\main\build8.4.0700.2370\DeltekPMCompass84.exe -r -f1E:\Script\Upgradeinstall.iss
   ```

   > **Note:** The **-r** parameter records the configuration settings to the response file. There is no space between **-f1** and the path of the response file.

4. Enter the following command to run the installer.

   ```
   <full path of the executable file on the server> -s -f1<full path to the response file>
   ```

   For example:

   ```
   E:\84\main\build8.4.0700.2370\DeltekPMCompass84.exe -s -f1E:\Script\Upgradeinstall.iss
   ```

   > **Note:** The **-s** parameter installs the file. There is no space between **-f1** and the path of the response file.

   The silent installation runs and completes without wizard's prompts.

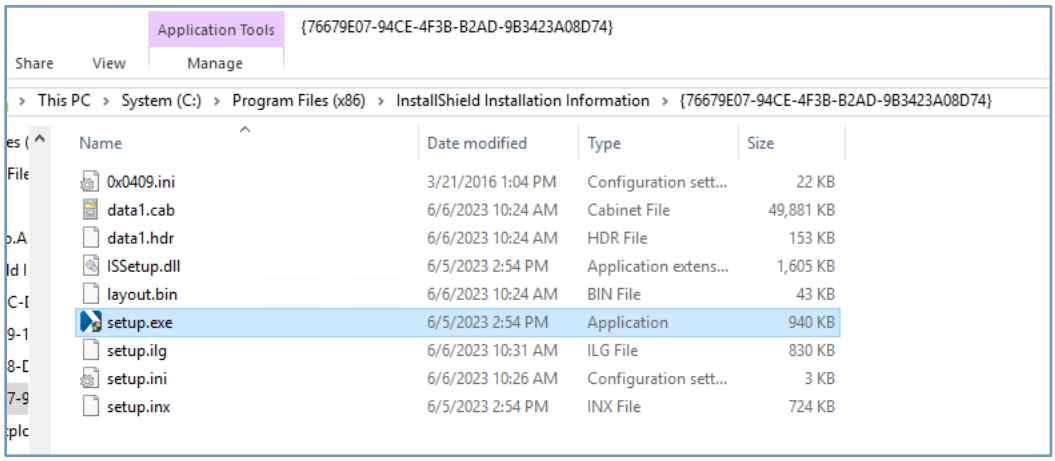
Silent Uninstallation

Follow this procedure to run a silent uninstallation.

To perform a silent uninstallation:

1. On the machine where the file is installed, display Windows Explorer, and navigate to the **C:\Program Files (x86)** folder.
2. On the Windows Explorer toolbar, make sure **Hidden Items** is selected.
3. Navigate to the **InstallShield Installation Information\{<GUID}>** folder and make sure the **setup.exe** file and other related files are there.

   For example, if you are uninstalling PM Compass, navigate to **InstallShield Installation Information\{76679E07-94CE-4F3B-B2AD-9B3423A08D74}**.



> **Important:** If the **\<{GUID}>** folder or the **setup.exe** file and other related files do not exist, contact Deltek Customer Success.

4. Launch the Command Prompt and select **Run as administrator**.
5. Enter the following command to create the response file to uninstall the file.

```
"C:\Program Files (x86)\InstallShield Installation
Information\<{GUID}>\setup.exe" -r -f1<full path to save the response
>\Uninstall.iss
```

For example:

```
"C:\Program Files (x86)\InstallShield Installation Information\{76679E07-94CE-
4F3B-B2AD-9B3423A08D74}\setup.exe" -r -f1E:\Script\Uninstall.iss
```

> **Note:** The **-r** parameter records the configuration settings to the response file. There is no space between **-f1** and the path of the response file.

6. Enter the following command to uninstall the file:

```
"C:\Program Files (x86)\InstallShield Installation
Information\<{GUID}>\setup.exe" -s -f1<full path to the response
file>\Uninstall.iss
```

For example:

```
"C:\Program Files (x86)\InstallShield Installation Information\{76679E07-94CE-
4F3B-B2AD-9B3423A08D74}\setup.exe" -s -f1E:\Script\Uninstall.iss
```

> **Note:** The **-s** parameter installs the file. There is no space between **-f1** and the path of the response file.

The silent uninstallation runs and completes without wizard's prompts.

Appendix R: PPM Encryption Conversion Utility

The PPM Encryption Conversion Utility is designed to scan a computer for all copies of installed PPM products and validate if the PPM products have been upgraded to compatible versions that support the new protocols. It also validates any configuration files and databases that are shared by the PPM products are eligible to be upgraded to support the new protocols.

These validations are designed to ensure that the upgrade is only performed when all installed PPM products are compatible with the new protocols, which guarantees that environments with a mix of new PPM products and older PPM products will continue to function properly until all installed versions of PPM products are compatible with the new protocols.

If configuration files and databases that are shared by PPM products are eligible to be upgraded, the PPM Encryption Conversion Utility performs the necessary upgrades to the configuration files and databases to enable the use of the new protocols.

Note: The PPM Encryption Conversion Utility must be run on all computers that have PPM Product configuration files on them to upgrade the configuration files to support

Note: Each PPM product is shipped with this tool (PPMEncryptionConverter.exe) and its location may vary per product. For more information, see the "Run the PPM Encryption Conversion Utility" section in this guide.

Upgrading from Older Versions

When upgrading from older versions of PPM Products to new versions, PPM Products will continue to use the previous protocols by default to ensure compatibility with older versions of PPM Products. Therefore, a separate conversion process is required to upgrade existing PPM Product configuration files and data sources to enable the use of the new protocols.

To support the conversion process, PPM products include a new PPM Encryption Conversion Utility application that is designed to perform the upgrade of existing PPM Product configuration files and data sources to enable the use of the new protocols.

Note: Deltek strongly recommends that you run the new PPM Encryption Conversion Utility application to upgrade existing PPM Product configuration files and data sources to enable the use of the new protocols.

Note: New installations of PPM Products and data sources are pre-configured to use the new protocols by default. New installations do not need to run the PPM Encryption Conversion Utility.

Run the PPM Encryption Conversion Utility

You need to run this tool under the following conditions:

- You have an environment with existing PPM products.
- All PPM products have been upgraded to a version that supports the new hashing and encryption protocols.

Note: You do not need to run the tool when all files and databases have already been converted.

- The **UserID** and **Password** value in each data source are encrypted with AES1 protocol (the value starts with **000001**).
- All configuration files and data sources on the details screen are disabled and the Errors column displays "File/Datasource has already been converted."
- The WST_UPD table in the database contains the _PASSWORDHASHPROTOCOL = 1 and _ENCRYPTIONPROTOCOL = 4 categories.

To run the conversion utility tool:

1. Navigate to the location of the PPM Encryption Conversion Utility.

   C:\Program Files\Deltek\EPMSA\

   or

   On the **Start** menu, click **Deltek PM Compass» PPM Encryption Conversion Utility**.

2. Double-click **PPMEncryptionConverter.exe** or click the corresponding shortcut from the Start menu.

   It automatically detects all installed PPM products in your machine and determines whether the installed products are compatible to determine if their files and databases are eligible for upgrade.

   Note: Upon launching the conversion utility, it creates the PPM Encryption Converter folder for the backup files in the C:\Users\<User Name>\Documents\Deltek. This folder contains <Backup> folders using the **yyyymmdd_hhmmss** name format, which refers to the date and time when the conversion utility is launched (for example, 20221116-194029). Each <Backup> folder contains the Backup sub-folder and the PPMEncryptionConverter.log (which is created after the conversion process).

3. On the first screen of the PPM Encryption Conversion Utility dialog box, click **Next**.

   Note: This screen contains the **Products** grid, which displays all installed PPM products in your server. The grid is read-only.

   - The corresponding version and compatibility status of each installed product also display. Products with the **Compatible** column set to **Yes** indicate that they meet the minimum compatible version.
   - When you hover your mouse cursor over a product in the list, it displays the installation location of the that product.

4. On the second screen, select the database configuration files and data sources you need to upgrade.

   Selecting a configuration file in the **Files** grid displays all the databases in the **Datasources** grid and checks whether they can be converted. Alternatively, you can click the **Check all datasources** button to verify the status of all data sources in all of the files instead of selecting the files one by one.

> **Note:** You cannot select and upgrade the configuration files and data sources of those PPM products that do not meet the minimum compatible version.

> **Attention:** Different icons display beside the available files and data sources to indicate their conversion status. For more information, see the "Conversion Status Icons" section of the *Deltek PPM Encryption Conversion Utility Guide*.

If you need to add more encrypted files to convert, click **Add**.

> **Attention:** PPM products have different locations (or containers) where encrypted and hashed data is stored. For more information, see the "Updated Files and Data" section in this guide.

5. Click **Process**.

> **Note:** During the conversion process, the PPM Encryption Conversion Utility creates a copy of the database configuration file in the Backup folder. The backup name has the **<n>.<filename>** format, where <n> represents a number starting from 1 to make the backup files unique (such as, 1.datasources.dat, 2.ideablade.ibconfig, and 3.databases.enc).
>
> It also creates a file named FileMapping.txt, which contains the mappings of both the backup and original files. The mapping follows the **<backup file> (<original file>)** format. For example, 1.datasources.dat (C:\Program Files (x86)\Deltek\Cobra\datasources.dat).
>
> After the conversion process, the WST_UPD (for all products), WST_CFG (for Cobra and Open Plan), and WST_UPF (for Acumen Touchstone and Open Plan) tables are updated.

Updated Files and Data

PPM products use different files to store encrypted and hashed data.

For PM Compass, the updated files are Datasources.dat, Databases.enc, and SQL Databases.

> **Attention:** For more information, see the "Updated Files and Data" section of the *Deltek PPM Encryption Conversion Utility Guide.*

Change Passwords

After a PPM data source has been upgraded by the PPM Encryption Conversion Utility, users are prompted to update their password the very first time they log on to the converted data source using a PPM product. This is a necessary step to update the users stored password to use the new password protocol for storing user passwords.

The first time the users log on to the converted data source with a PPM product, the product displays the Change Password dialog box to allow them to enter their existing password again or create a new password.

Note: Users are permitted to enter their existing password again if desired. It is not necessary to create an entirely new password.

Note: Users must complete the Change Password step to use the PPM product with the converted data source. If they choose to cancel the Change Password step, they return to the Login dialog box.

Data Tool

When the Data Tool encrypted the Data Tool password using the old protocol, the password was not case-sensitive, and it was stored in uppercase. When users entered their password in the Data Tool Login dialog box, the Data Tool converted the entered password to uppercase and then compared it with the stored password.

When the PPM Encryption Conversion Utility converts the stored password, it still stores the password in uppercase. The Data Tool now recognizes that the stored password is using the new protocol. As a result, it no longer converts the entered password to uppercase before comparing it to the stored password.

Note: During the conversion of Cobra and Open Plan, the Data Tool password is changed to all uppercase characters. You should log on to the Data Tool using the prior password in uppercase. Deltek recommends that you change your password to the Data Tool after the encryption.

Appendix S: Secure Transport Layer Security (TLS)

Transport Layer Security (TLS), and its predecessor, Secure Sockets Layer (SSL), are protocols that use cryptographic algorithms to provide secure communications between machines. Although there are several versions of TLS and SSL, only TLS 1.2 and TLS 1.3 are considered secure. Since TLS 1.3 is still relatively new and not fully implemented throughout the industry, best practices recommend using TLS 1.2 for secure communication between machines. Using the older protocols is considered a security risk. The industry standard is to enable TLS 1.2 and disable TLS 1.1, 1.0, and disable SSL 3.0, 2.0, 1.0.

For the Deltek application to communicate correctly between all tiers (Database, Application/Web, Report, and Client), the Operating System (OS) on all machines in the deployment must share the same TLS configuration. In addition, any components used by the application (the .NET Framework and database client drivers) must support the TLS version implemented on the OS.

If your company implements the secure TLS by enabling TLS 1.2 and disabling the older protocols on the machines in your environment, ensure the following are performed:

- The TLS configuration on all machines (servers and clients) must be the same.
- The Operating System must support TLS 1.2.

  Attention: For more information, see https://docs.microsoft.com/en-us/security/solving-tls1-problem#ensuring-support-for-tls-12-across-deployed-operating-systems.

- The version of Microsoft .NET Framework in use must support TLS 1.2.

  Attention: For more information, see https://docs.microsoft.com/en-us/dotnet/framework/network-programming/tls#support-for-tls-12.

- If you are using load balancing, ensure that it is configured to support the hardened TLS settings.
- If you use Oracle, TLS 1.2 is supported with Oracle client versions supported by PM Compass.
- If you use SQL Server, the default Microsoft OLE DB Provider only supports TLS 1.0. The following Microsoft drivers support TLS 1.2:
  - SQL Server Native Client 11.0
  - Microsoft OLE DB Driver
  - Microsoft OLE DB Provider for SQL Server
    - Supported on Windows 10 (Open Plan client)
    - 8.7Supported on Windows Server 2019 with this specific Windows update applied: October 20, 2020—KB4580390 (OS Build 17763.1554)

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