

Deltek Vision® 6.1

Configure Analysis Cubes for Internet Accessibility

June 30, 2009



13880 Dulles Corner Lane
Herndon VA 20171
TEL: 703.734.8606
FAX: 703.734.1146

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.

This publication contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, or translated into another language, without the prior written consent of Deltek, Inc.

This edition published June 2009.

© 2009 Deltek, Inc.

Deltek's software is also protected by copyright law and constitutes valuable confidential and proprietary information of Deltek, Inc. and its licensors. The Deltek software, and all related documentation, is provided for use only in accordance with the terms of the license agreement. Unauthorized reproduction or distribution of the program or any portion thereof could result in severe civil or criminal penalties.

All trademarks are the property of their respective owners.

Contents

Overview.....	1
Configure SQL Server Reporting Services to Access the Analysis Services Database via Report Builder.....	2
Prerequisites	2
Configure SQL Server Reporting Services	2
Assign Security in Reporting Services	8
Configure Report Builder for Internet Access	14
Troubleshooting.....	16
Configure Internet Information Services to Allow Microsoft Excel to Access Analysis Services via HTTP	18
Prerequisites	18
Configure the Data Source.....	18
Appendix A: Install OLAP Data Pump with IIS 7.0/Windows Server 2008.....	24
Overview	24
Step 1: Get Binaries	24
Step 2: Create an Application Pool	25
Step 3: Create a Virtual Directory	25
Step 4: Configure Security	29
Step 5: Select the Target Analysis Services Server	30
Step 6: Get it All Together	31

Overview

When you configure Deltek Vision Analysis Cubes with the instructions provided in the *Configure Vision Analysis Cubes* document, Vision data cubes are accessible to clients whose computers are located on a corporate LAN or WAN network.

If you want users to access Vision data cubes and Microsoft® Excel® via the Internet (from outside a corporate firewall), you must perform the additional configuration steps that are provided in this document.

This document includes instructions for the following two methods to configure Vision Analysis Cubes for users who access Vision via the Internet:

- Configure Microsoft SQL Server® Reporting Services (SSRS) to access the Analysis Services database via Report Builder.
- Configure Internet Information Services (IIS) to allow Excel to access Analysis Services via HTTP.



The instructions in this document assume that you already installed and configured Vision Analysis Cubes with the instructions in the *Configure Analysis Cubes* document. You can download this document from the Deltek Customer Care Connect site at <https://support.deltek.com>.

Deltek provides OLAP services to assist you with the installation, configuration, and optimization of Vision Analysis Cubes. These services consist of consulting, Web conferencing and training, installation guides, and reporting assistance. For more information, please contact your Deltek account manager at accountmanager@deltek.com.

Configure SQL Server Reporting Services to Access the Analysis Services Database via Report Builder

Prerequisites

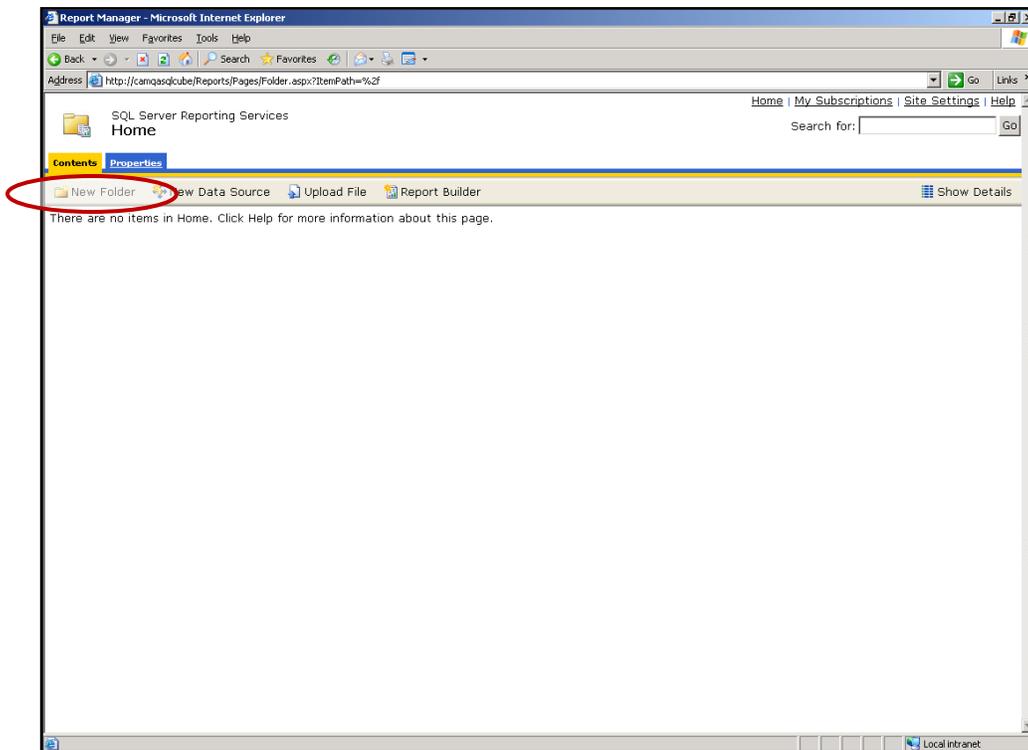
The following prerequisites are required:

- Deltek Vision 6.1 installed with Vision Analysis Cubes deployed.
- Microsoft SQL Server 2005 Reporting Services (SSRS) installed and configured.
See the following Web sites for information on how to install and configure SSRS:
 - Installation — <http://technet.microsoft.com/en-us/library/ms143736.aspx>
 - Configuration — <http://technet.microsoft.com/en-us/library/ms159624.aspx>

Configure SQL Server Reporting Services

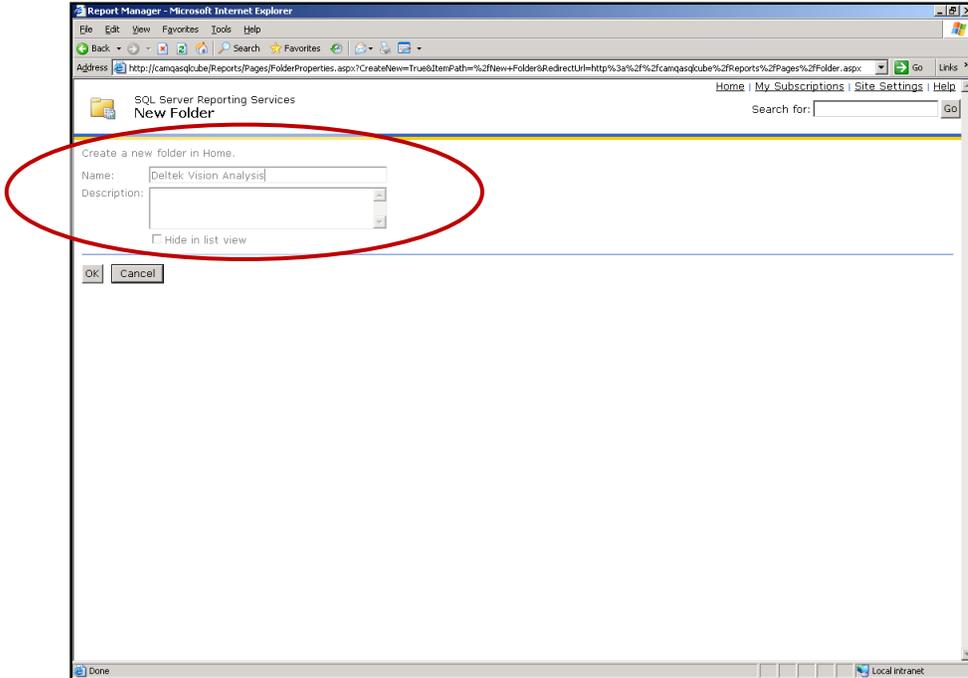
To configure SSRS, complete the following steps:

1. Open SSRS Report Manager. The URL is in the form of `http://<report_server>/reports`, where `<report_server>` is the name of your report server.
2. On the Contents tab of the SQL Server Reporting Services Home page, click the **New Folder** option.

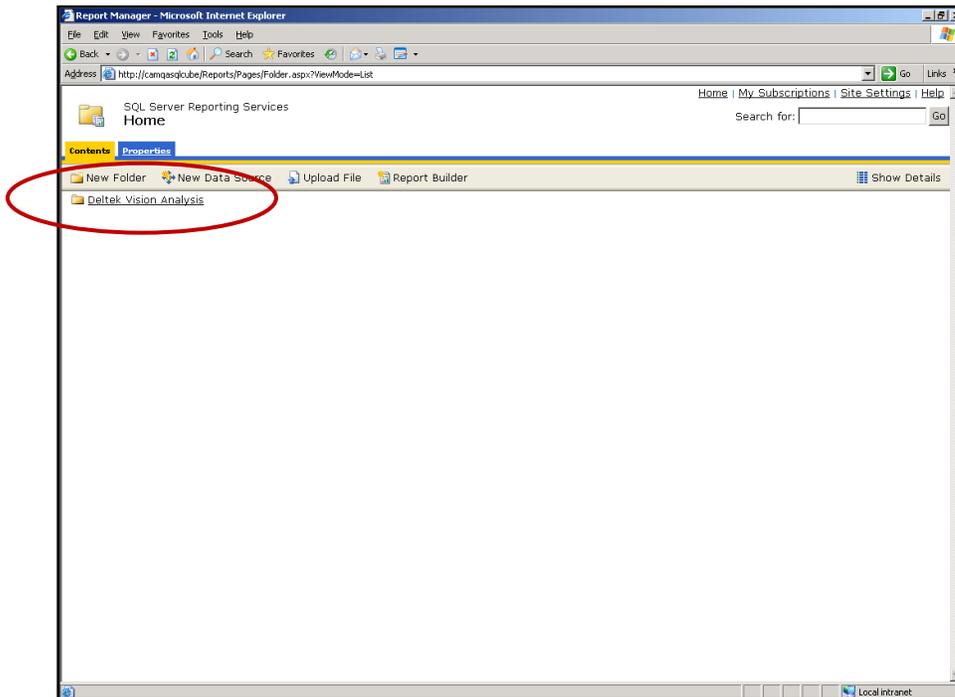


3. On the New Folder page, enter a name for the folder (for example, **Deltek Vision Analysis**) to be dedicated to the Analysis Services components. Click **OK**.

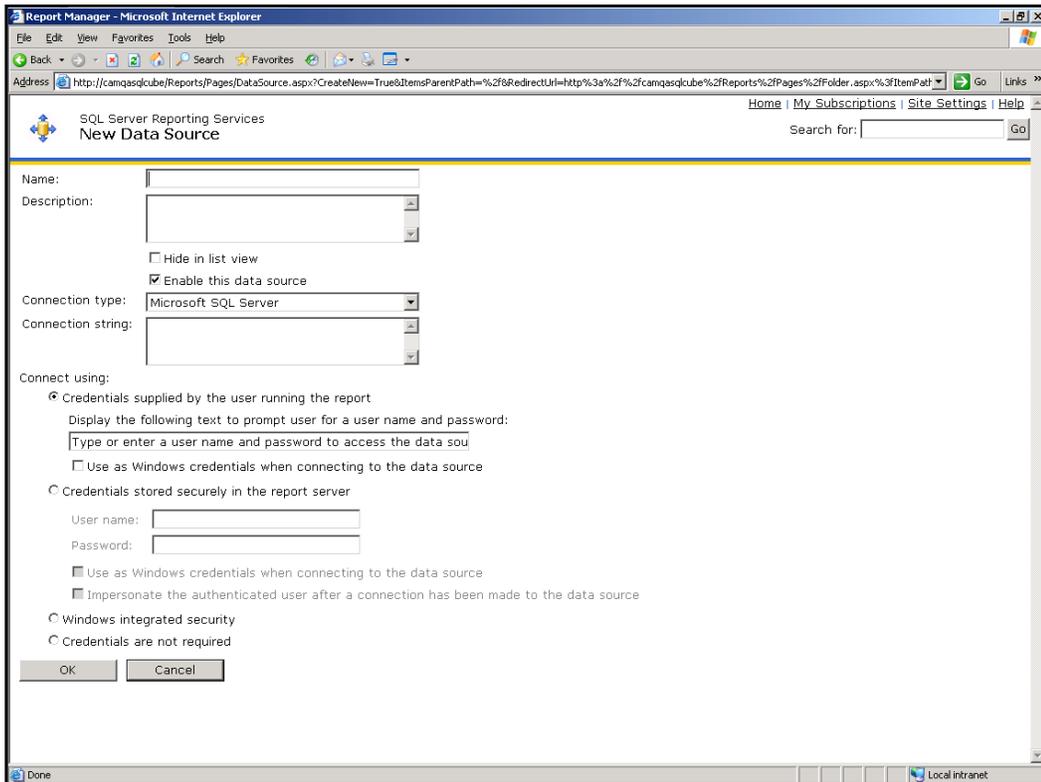
You create this folder to segregate the Analysis Services from other Reporting Services functions. This allows you to implement security more efficiently. You can apply security to the folder level and use inheritance rather than applying security to each individual component.



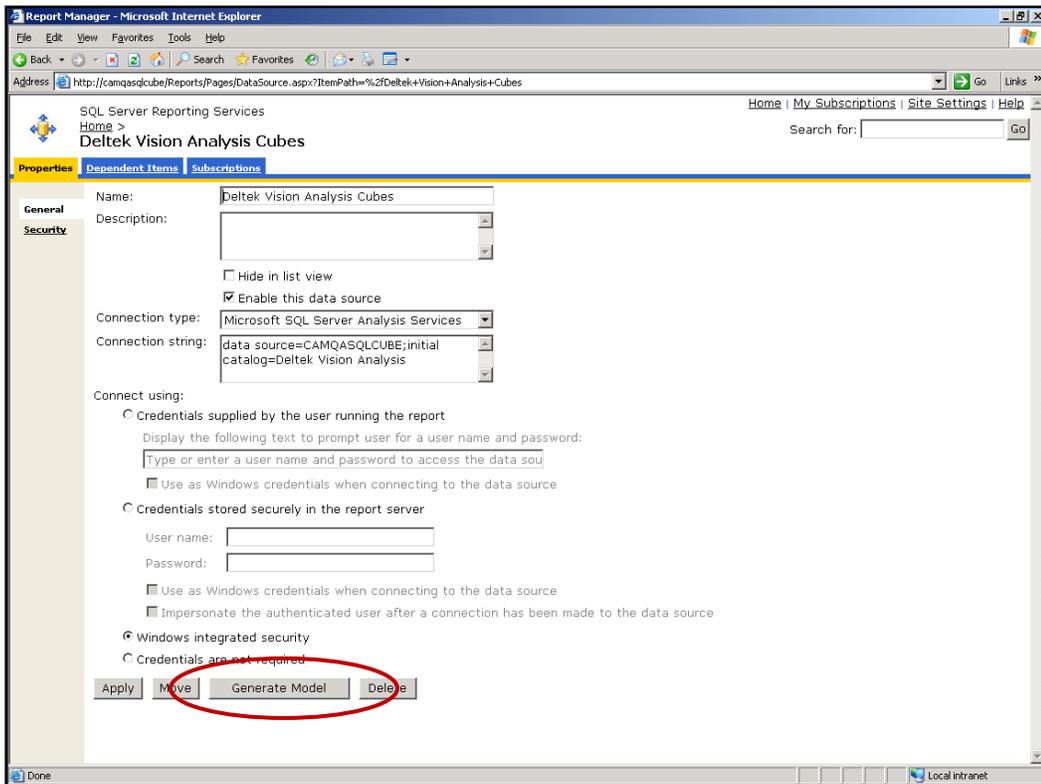
The **Deltek Vision Analysis** folder displays on the SSRS Home page.



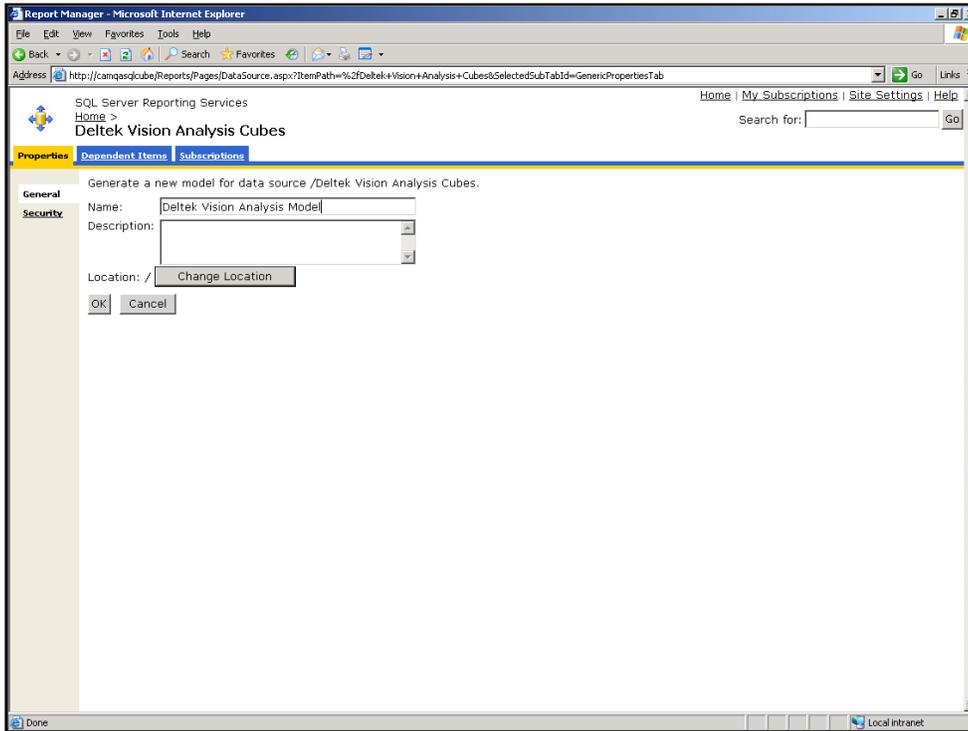
4. On the Home page, click the link for the newly created folder (**Deltek Vision Analysis**, in this example), and on the menu bar, click **New Data Source**.
5. On the New Data Source page, enter the following data, and then click **OK**:
 - **Name** — Provide a name for the data source. In this example, we use the name **Deltek Vision Analysis Cubes**.
 - **Connection type** — From the drop-down list, select **Microsoft SQL Server Analysis Services**.
 - **Connection string** — Enter the connection string for the data source in the form of: data source=Server\Instance; initial catalog=Deltek Vision Analysis;
 - **Connect using** — Select the **Windows integrated security** option.



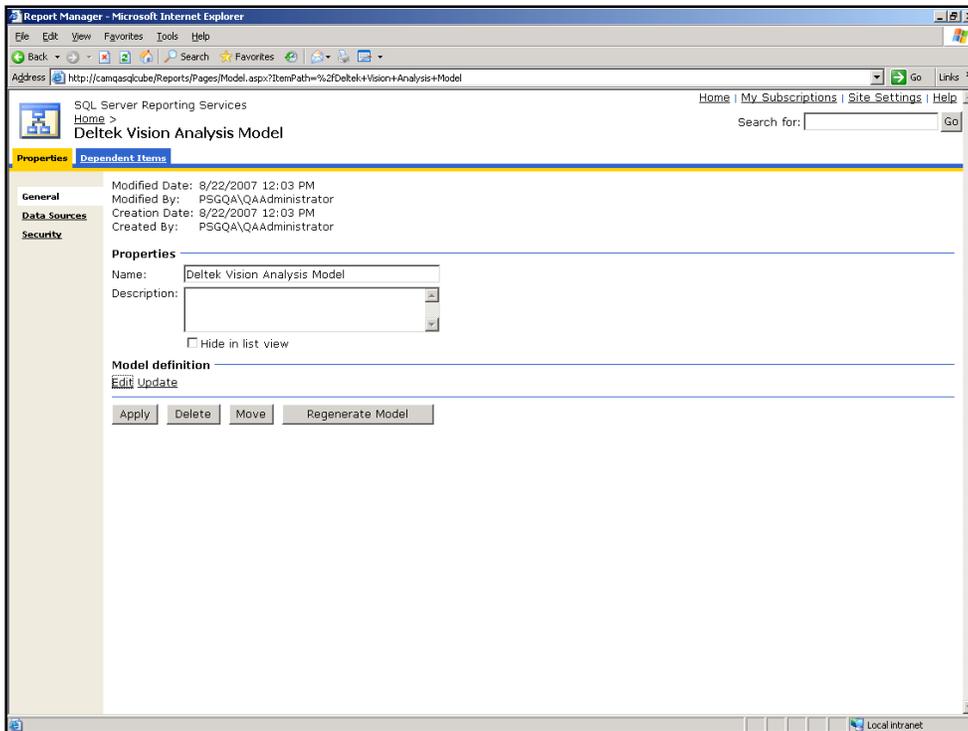
6. On the SQL Server Reporting Services Home page, click the link (**Deltek Vision Analysis Cubes**) for the newly created data source.
7. On the Properties tab, click the **Generate Model** button



8. On the Generate a new model for data source page, enter a name and a description for the model and click **OK**.



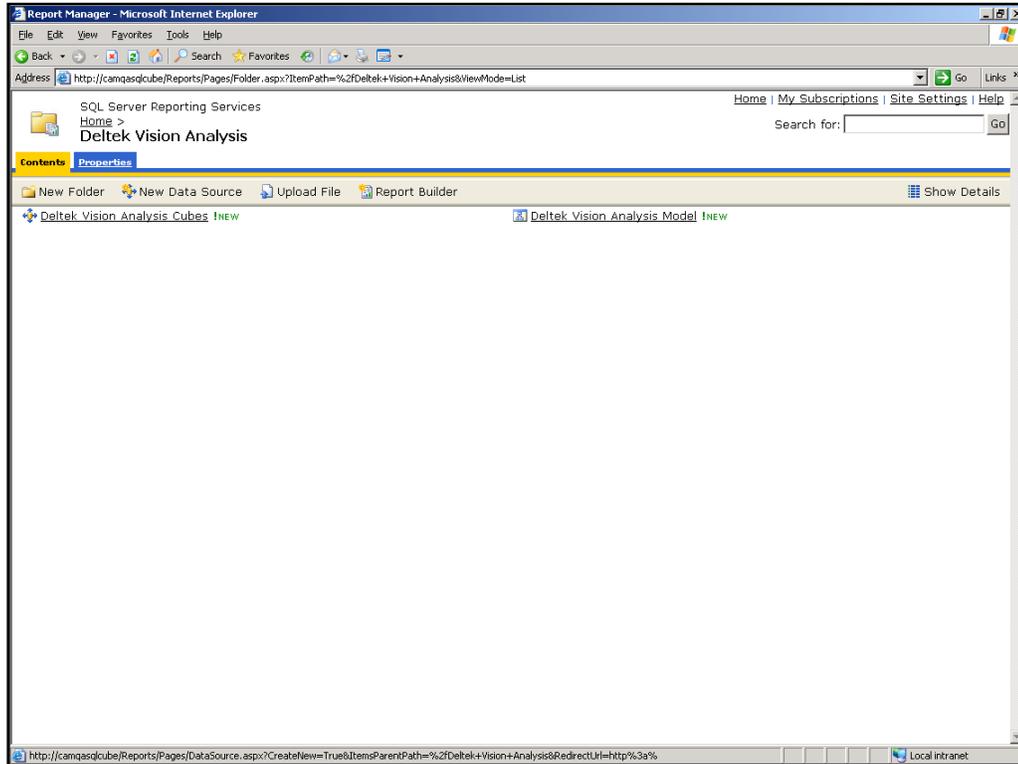
The model is generated, and the following details display on the model page.



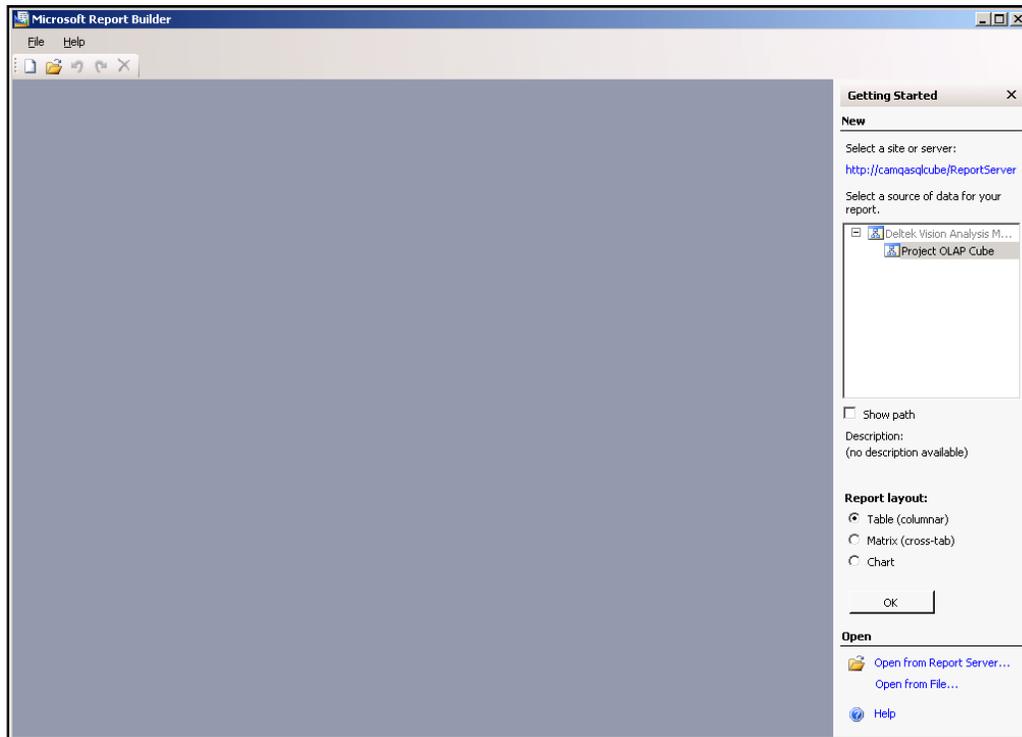


You receive errors if you attempt to generate a model on your Vision transaction database.

9. Click the **Home** link in the upper-left or upper-right corner of the form. A data source and model in the **Home » Deltek Vision Analysis** folder similar to the following display.



10. You must test the Report Builder to ensure proper configuration. In Report Manager, click the **Report Builder** button. The Report Builder component is launched via ClickOnce technology. The following Report Builder window displays when you launch the application.



11. Ensure that the **Project OLAP Cube** option displays in the pane on the right side of the window.

If you receive an error message, return to step 8 and repeat the process to ensure that you are connected to the correct database.

Assign Security in Reporting Services

After you configure the data source and models, you must assign security in Reporting Services for all domain users.

The user permissions that are required to access Report Builder are:

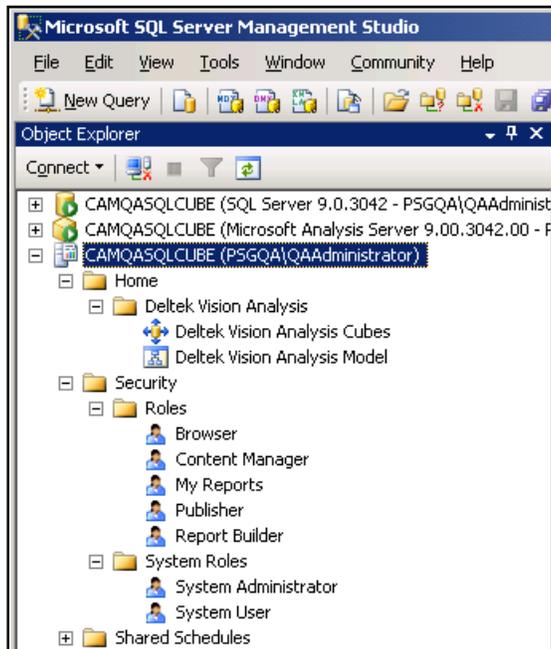
- System User role
- Browser Role to the Home folder
- Report Builder role

To assign security, complete the following steps:

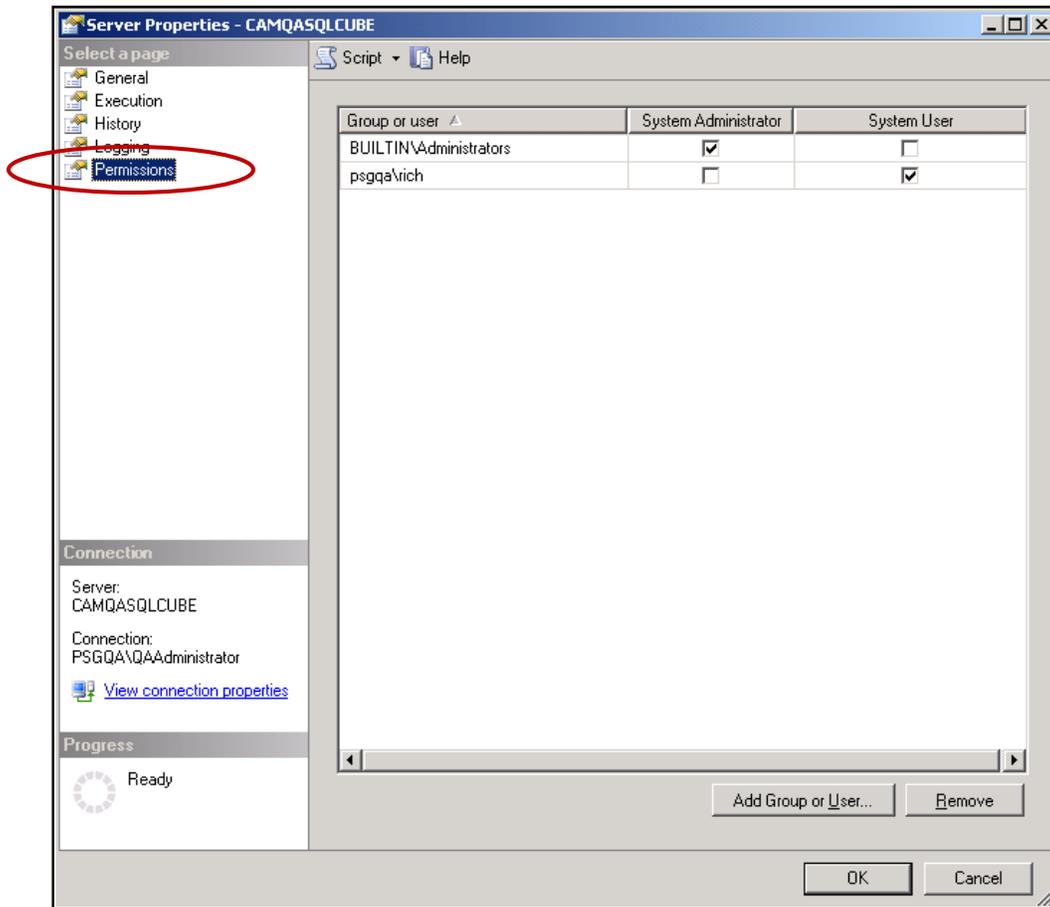
1. Open SQL Server Management Studio, and click **Connect** to connect to the Reporting Services instance.



2. In the Object Explorer section of the Microsoft SQL Server Management Studio window, right-click the Reporting Services server, and on the shortcut menu, click **Properties**.



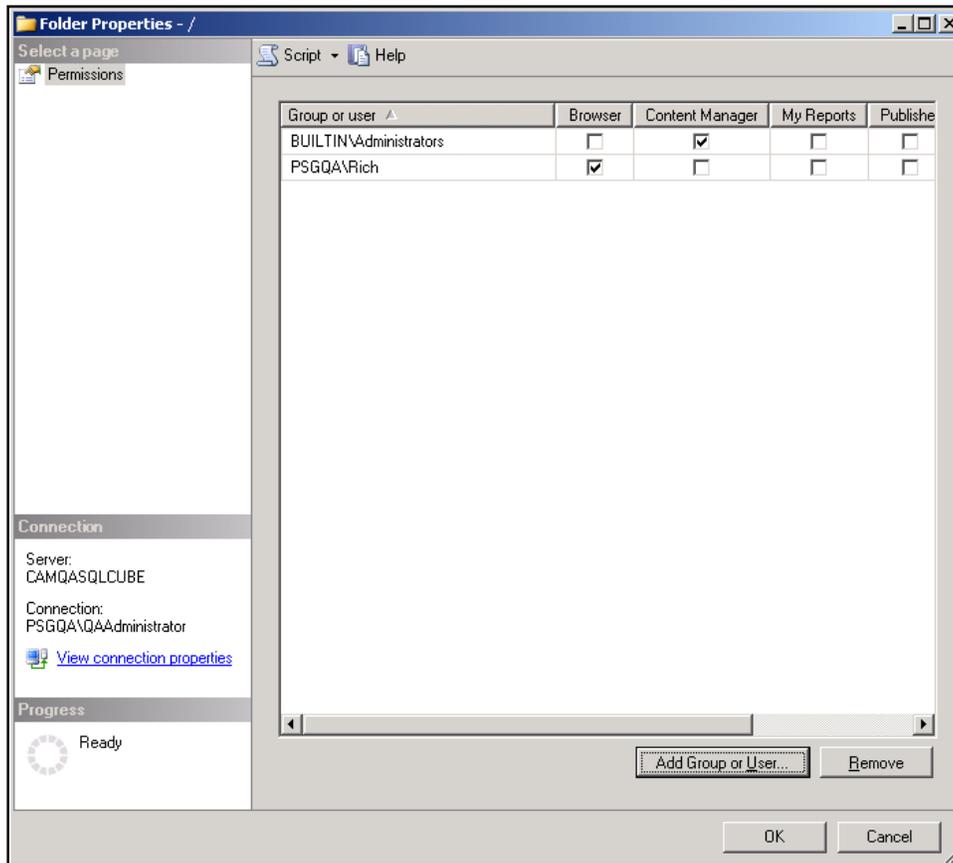
3. In the Select a page pane of the Server Properties window, click **Permissions**.



4. You must add domain users who will have access to this functionality as system users. Click the **Add Group or User** button, and then select the **System User** option for each user that you add.

Alternatively, you can create a group in Active Directory, add your domain users to that group, and then add the group name here.
5. Click **OK** to return to Reporting Services in the Microsoft SQL Server Management Studio window.
6. Right-click the **Home** folder, and click **Properties** on the shortcut menu.

- In the Folder Properties window, click the **Add Group or User** button to add the domain users from step 4.



- On the Add Group or User dialog box, enter the user (in the format Domain\User) and click **OK**.

Alternatively, you can create a group in Active Directory, add your domain users to that group, and add the group name here.

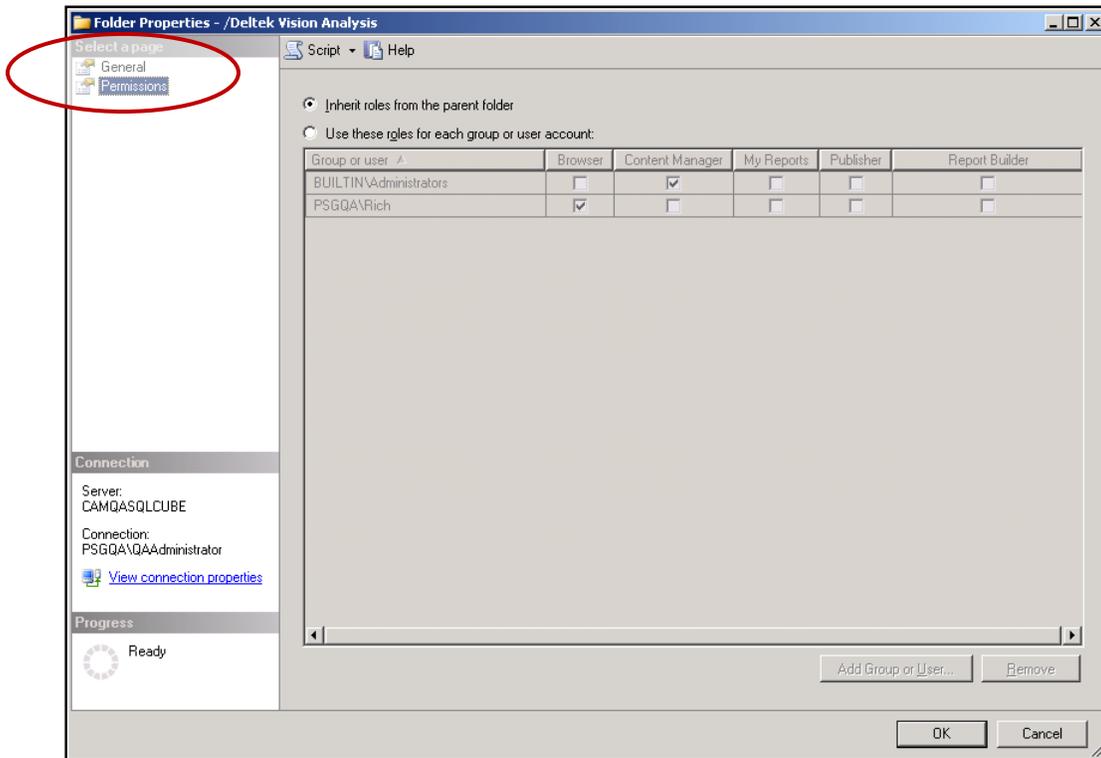


- Select the **Browser** check box for each domain user.

 If you do not give browse rights to the Home folder, users cannot see the Deltrek Vision Analysis folder in Report Manager.

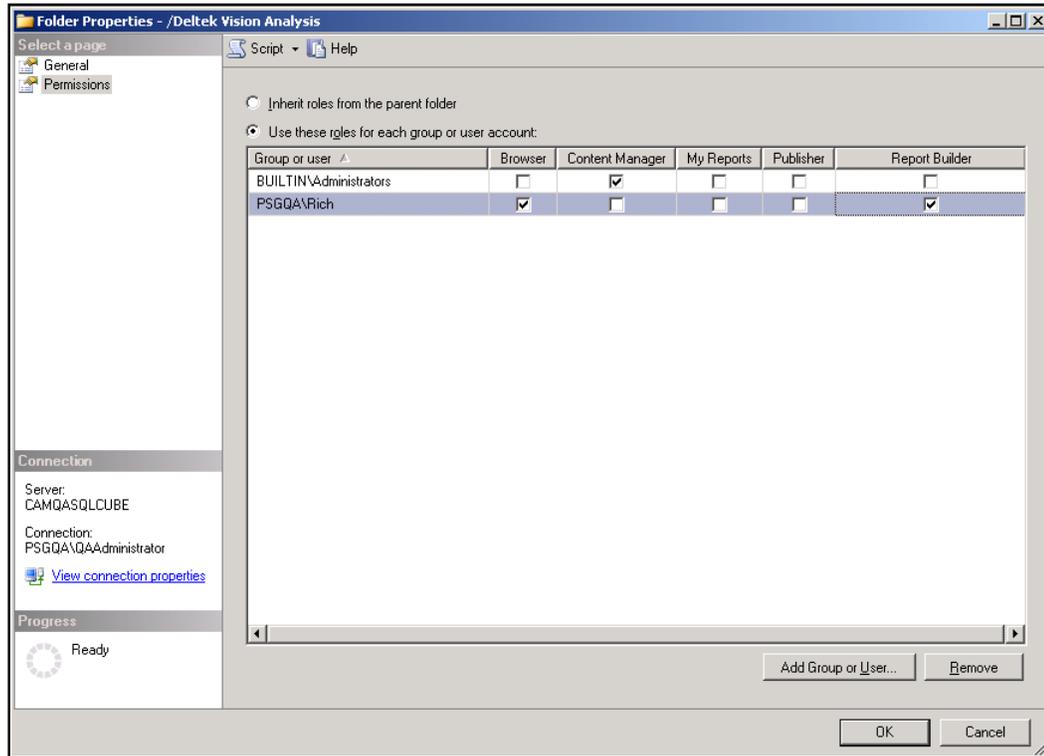
- Click **OK** to return to Reporting Services in the Microsoft SQL Server Management Studio window.

11. Right-click the **Home » Deltek Vision Analysis** folder that you created in the previous procedure, and click **Properties** on the shortcut menu.
12. In the Select a page pane of the Folder Properties window, click **Permissions**.



13. On the Folder Properties window, complete the following, and click **OK**:

- Select the **Use these roles for each group or user account** option.
- Select the **Browser** check box if it is not already selected. It should already be selected because it was inherited from the Home folder.
- Select the **Report Builder** check box for each domain user or group.



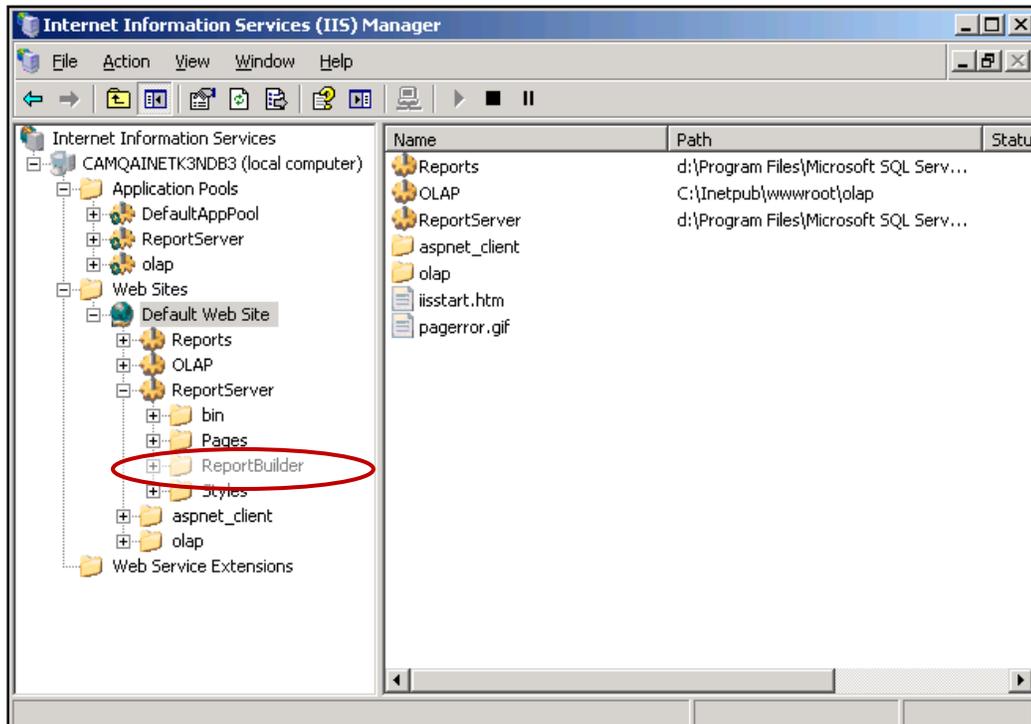
The users (or groups) that you have given access to are now be able to access Report Manager and use the Report Builder to create reports based on Vision Analysis Cubes data.

Configure Report Builder for Internet Access

The Report Builder will produce a **401 unauthorized error** and fail to launch if the user/workstation is not directly authenticated to the domain. For this reason, Internet users require an additional step that allows anonymous access in order for Report Builder to function correctly.

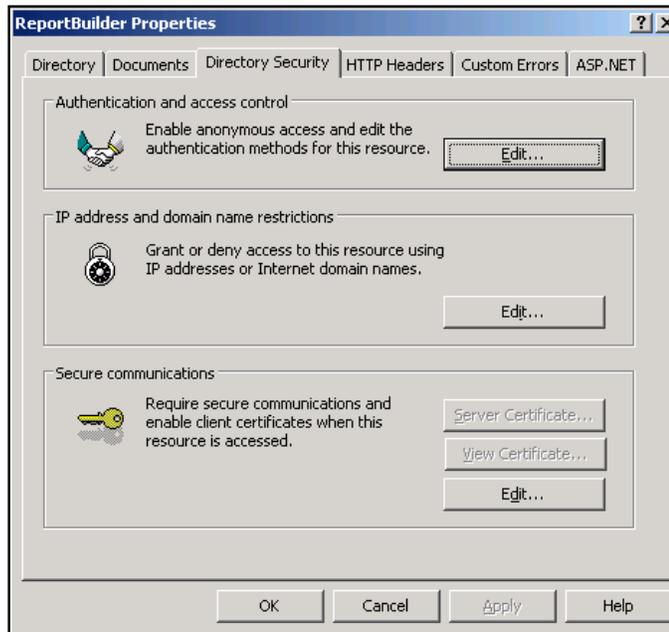
To configure for Internet access, complete the following steps:

1. On the Report Server, open Internet Information Services.
2. In the Internet Information Services window, expand the **Web Sites** folder and the **ReportServer** virtual directory.

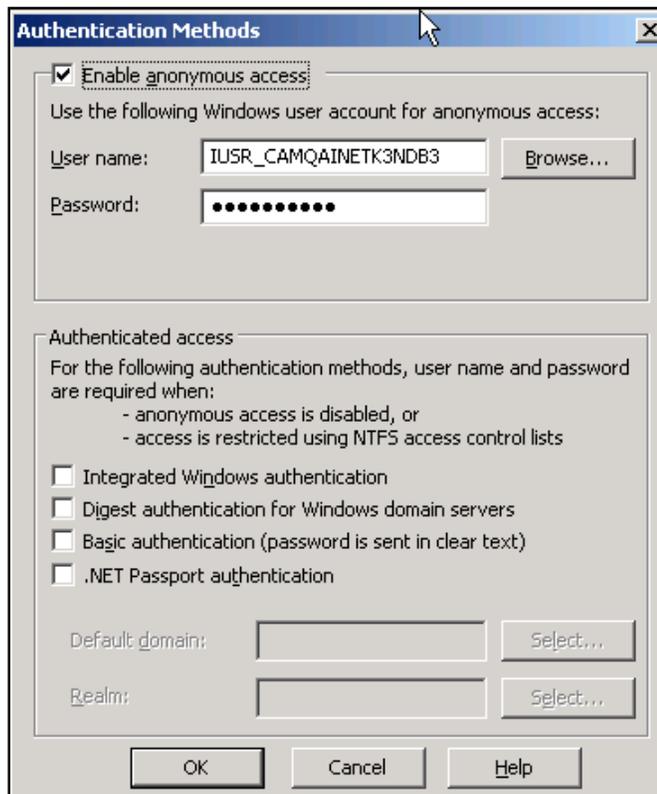


3. Right-click the **ReportBuilder** folder, and click **Properties** on the shortcut menu.

- On the **Directory Security** tab of the ReportBuilder Properties dialog box, click the **Edit** button in the **Authentication and access control** section.

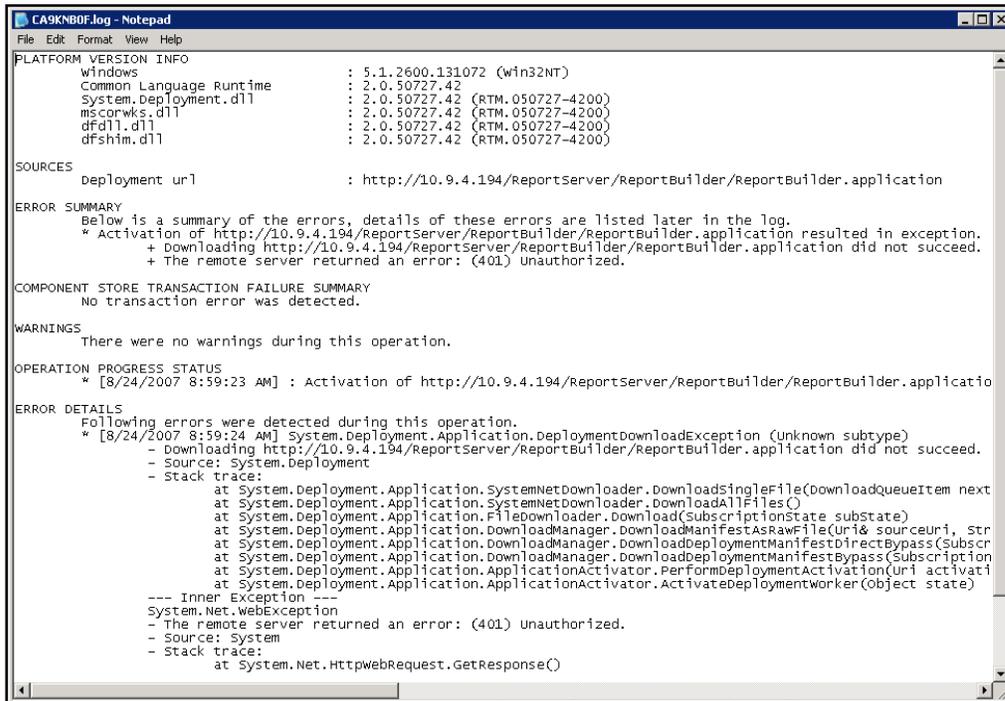
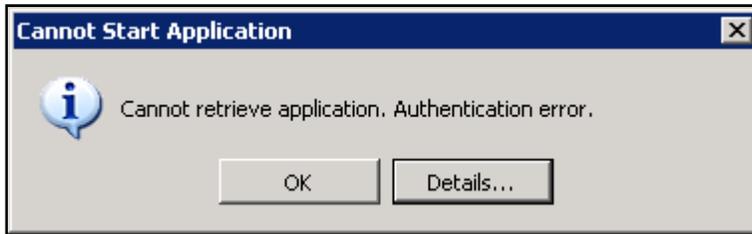


- On the Authentication Methods dialog box, clear the **Integrated Windows authentication** check box, select the **Enable anonymous access** check box, and click **OK**.

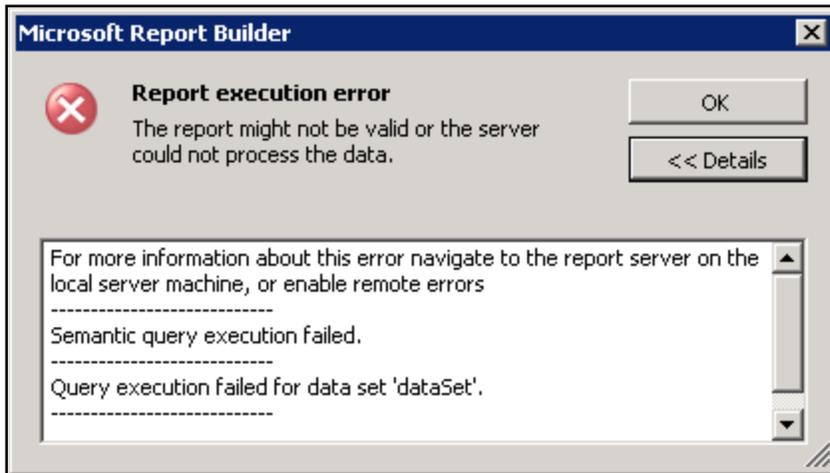
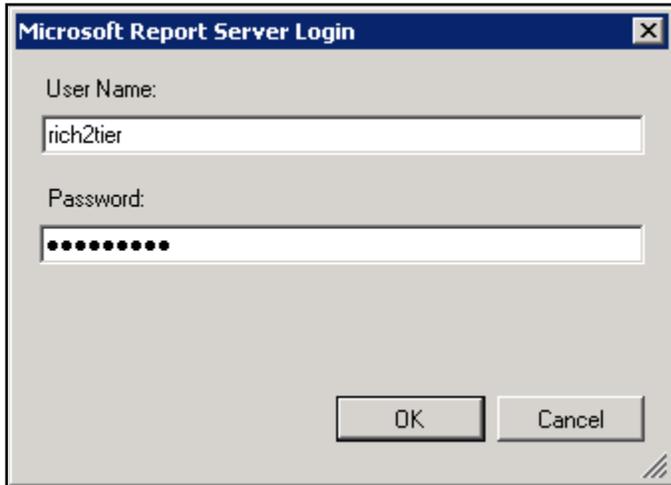


Troubleshooting

The following error displays when users attempt to launch Report Builder while accessing Reporting Services when they are not on a corporate network. For example, this error occurs when users access <http://server/reports>, and they are prompted to authenticate.



The following error occurs when users have access to Reporting Services but do not have access to Analysis Services.



Configure Internet Information Services to Allow Microsoft Excel to Access Analysis Services via HTTP

An alternative to making Analysis Cubes data accessible to Internet users is to configure Analysis Service to be accessible using Excel through IIS via HTTP.

Click the following link to access a Microsoft TechNet article that outlines the procedure to configure Analysis Services to be accessible through an ISAPI filter in IIS:

<http://www.microsoft.com/technet/prodtechnol/sql/2005/httpasws.msp>



If you are running IIS 7.0 on Windows Server 2008, see Appendix A for the configuration steps.

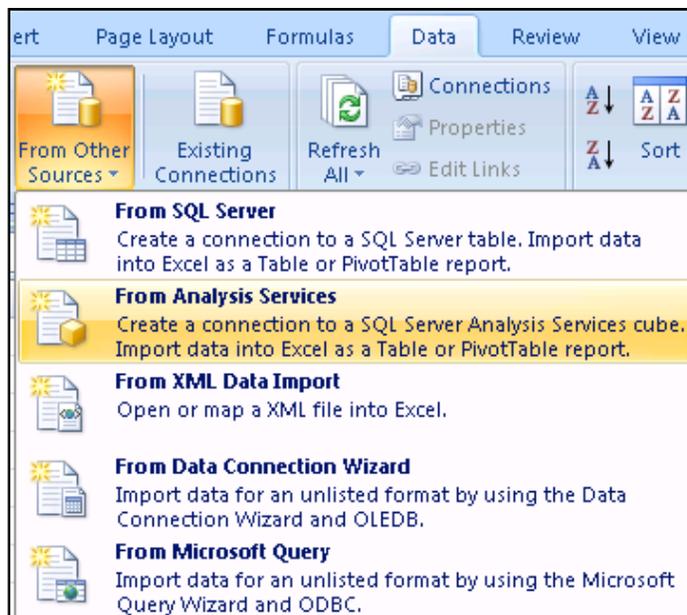
Prerequisites

Windows Integrated Authentication will not work with Excel if users are not authenticated to the domain. Therefore, for this to work for Internet users, the OLAP virtual directory must be configured for Basic Authentication. With Basic Authentication, users still enter their domain credentials, but they are passed in clear text. For this reason, you must secure the Web site that is hosting the OLAP virtual directory with an SSL certificate.

Configure the Data Source

After you configure IIS according to the Technet requirements, Internet users in Excel can use the URL when configuring the data source as shown in the following steps:

1. In Excel 2007, click the Data tab, and then click **From Other Sources » From Analysis Services**.



2. On the Connect to Database Server page, enter the following information and click **Next**:
 - In the **Server name** field, enter the URL (**http://<IISServer>/olap/msmdpump.dll**).
 - Select the **Use the following User Name and Password** option.
 - In the **User Name** field, enter the user name (in form of **domain\user**).

The screenshot shows the 'Data Connection Wizard' dialog box with the title 'Connect to Database Server'. The instruction reads: 'Enter the information required to connect to the database server.' The 'Server name' field contains 'http://10.9.4.194/olap/msmdpump.dll'. Under 'Log on credentials', the radio button for 'Use the following User Name and Password' is selected. The 'User Name' field contains 'inettetst2k3n\rich2tier' and the 'Password' field contains '*****'. At the bottom, there are buttons for 'Cancel', '< Back', 'Next >', and 'Finish'.

3. On the Select Database and Table page, select the database from the drop-down list, select the cube that you want to connect to, and then click **Next**.

The screenshot shows the 'Data Connection Wizard' dialog box with the title 'Select Database and Table'. The instruction reads: 'Select the Database and Table/Cube which contains the data you want.' A drop-down menu shows 'Deltak Vision Analysis' selected. The checkbox 'Connect to a specific cube or table:' is checked. Below is a table with the following data:

Name	Description	Modified	Created	Type
Project OLAP Cube		8/27/2007 12:02:02 AM		CUBE

At the bottom, there are buttons for 'Cancel', '< Back', 'Next >', and 'Finish'.

4. On the Save Data Connection File and Finish page, select the **Save password in file** check box and click **Finish**.

The screenshot shows the 'Data Connection Wizard' dialog box, specifically the 'Save Data Connection File and Finish' step. The title bar reads 'Data Connection Wizard'. The main heading is 'Save Data Connection File and Finish'. Below the heading, there is a text box with the instruction: 'Enter a name and description for your new Data Connection file, and press Finish to save.' To the right of this text is a small icon of a computer keyboard. The dialog contains several input fields and checkboxes:

- File Name:** A text box containing 'http__10.9.4.194_olap_msmdpump.dll Deltek Vision Analysis Project OLAP Cube.oc'. To the right is a 'Browse...' button.
- Save password in file:** A checkbox that is currently unchecked.
- Description:** A large text area with the placeholder text '(To help others understand what your data connection points to)'. It is currently empty.
- Friendly Name:** A text box containing 'http__10.9.4.194_olap_msmdpump.dll Deltek Vision Analysis Project OLAP Cube'.
- Search Keywords:** An empty text box.
- Always attempt to use this file to refresh data:** A checkbox that is currently unchecked.
- Excel Services:** A button labeled 'Authentication Settings...'. There is also a small icon to the left of this button.

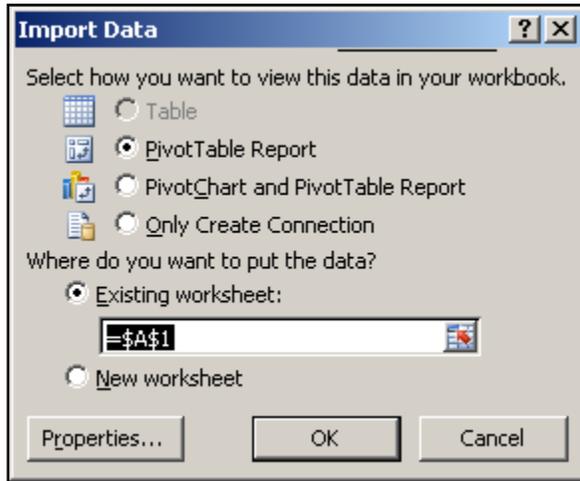
At the bottom of the dialog, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'.



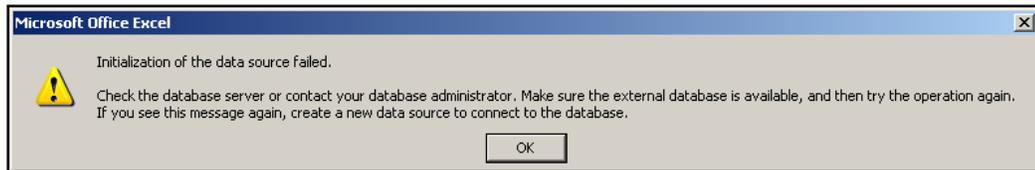
When you select the **Save password in file** check box, your domain password is saved in clear text in the data source connection file, which is a potential security risk. However, not selecting the check box presents the following issues depending on your operating system:

- If you use Windows XP as the workstation operating system, you are prompted to re-enter the password.
- If you use Windows Vista, you must select this option in order to proceed.

- On the Import Data dialog box, click **OK**.



If you did not select the **Save password in file** check box in Step 4, the following **Installation of the data source failed** error displays:

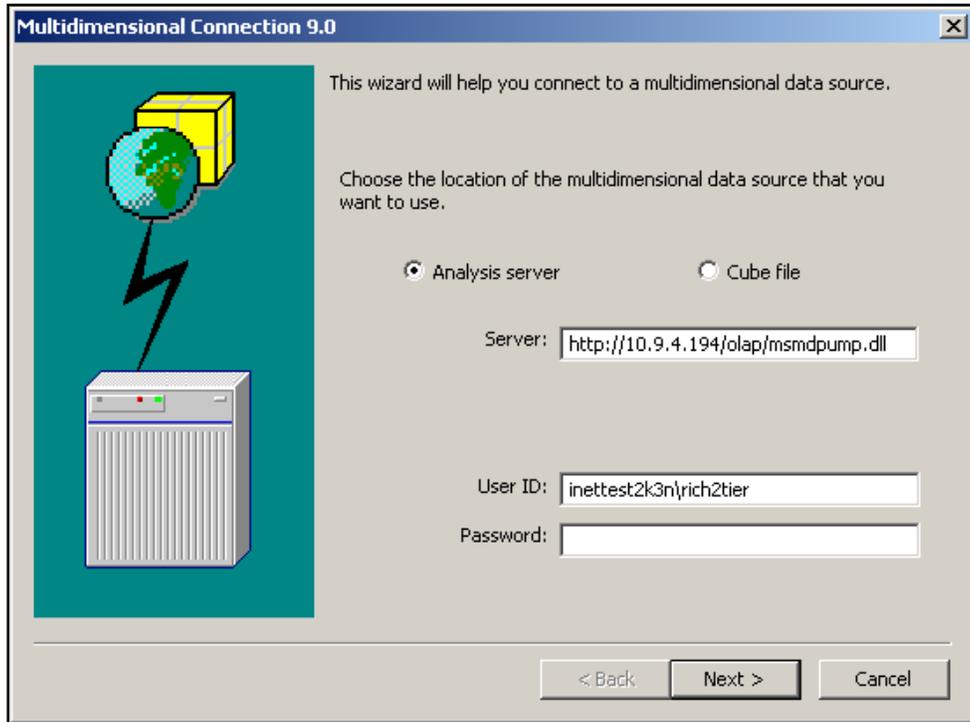


If you use Windows Vista and you do not select the **Save password in file** checkbox, the error is succeeded by the following error, and you are not able to access the cube data.

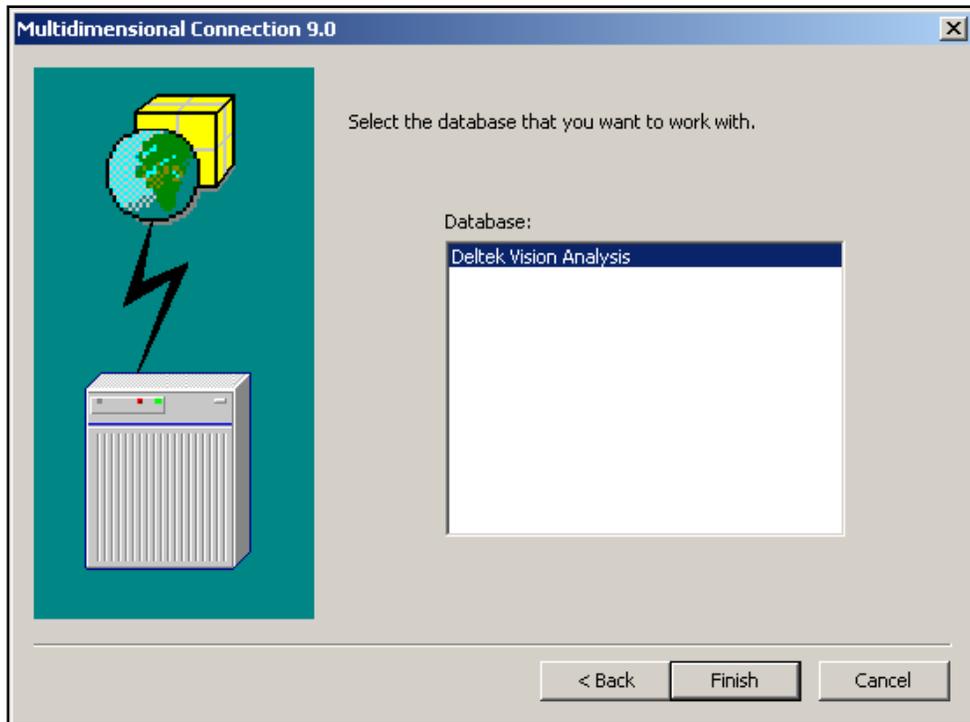


- Click **OK**.

- On the Multidimensional Connection 9.0 page, re-enter your password and click **Next**.

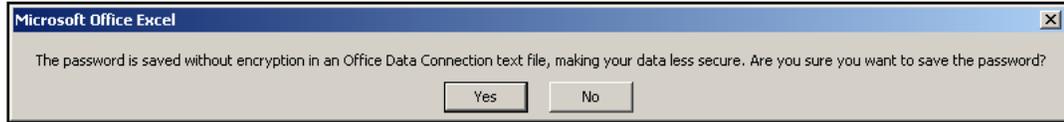


- On the Select the database that you want to work with page, click **Finish** to begin using the cube data in Excel.

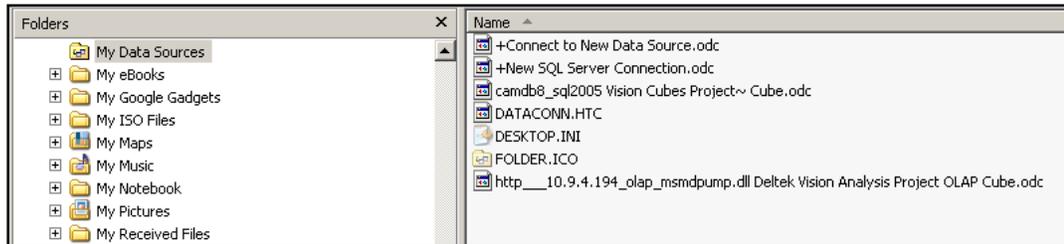


If you select the **Save password in file** check box, a dialog box with the following question displays:

The password is saved without encryption in an Office Data Connection text file, making your data less secure. Are you sure you want to save the password?



The data source is stored locally on your hard drive in **My Documents\My Data Sources** as an .odc file. The contents of this file, including the password (if saved), is stored in clear text.



Appendix A: Install OLAP Data Pump with IIS 7.0/Windows Server 2008

The following instructions apply when you configure IIS to allow Excel to access Analysis Services via HTTP and you have Internet Information Services (IIS) 7.0 and Windows Server 2008. These steps guide you through installing and configuring the Microsoft OLAP Data pump.

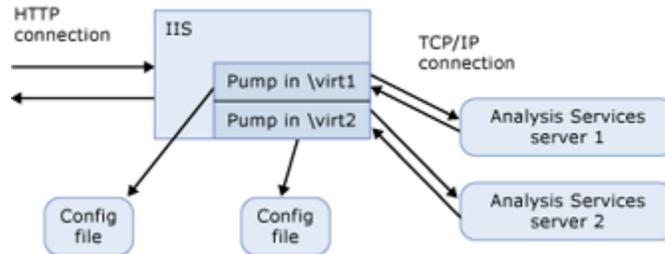
Overview

Microsoft SQL Server 2008 Analysis Services uses the same architecture for providing HTTP access as did SQL Server 2005 Analysis Services.

The pump component is loaded into IIS and serves as an ISAPI extension to pump data from the client to an Analysis Services server and back.

This appendix explains how to set up HTTP access to Analysis Services when you use Windows Server™ 2008.

The following diagram provides a high-level overview of the component architecture.



Step 1: Get Binaries

Copy the contents of the **%Installation folder%\OLAP\bin\isapi** directory into the folder that you want to serve as the base for the virtual directory in IIS.

In this example, we copy all the files from the **C:\Program Files\Microsoft SQL Server\MSSQL.1\OLAP\bin\isapi** folder into the **C:\inetpub\wwwroot\olap** directory.

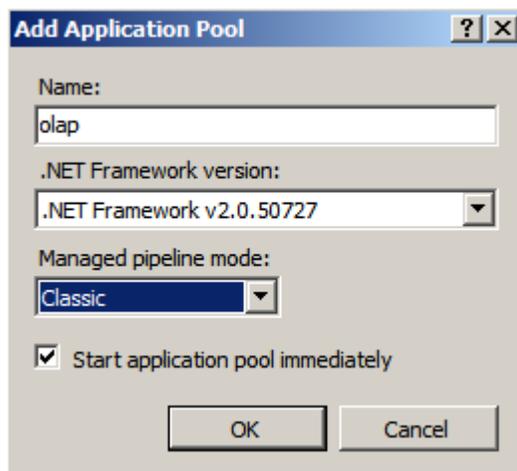
The following apply:

- To take advantage of the full set of security settings, it is important to make sure that the folder that serves as the base for the virtual directory is located on the drive that is formatted for the NTFS file system.
- Due to IIS limitations, the path to your directory must not contain spaces.
- As in SQL 2005, if you plan to run the HTTP pump on a different server than the Analysis Services server, you must also install OLEDB for Analysis Redistributable package, which requires MSXML 6.0.

Step 2: Create an Application Pool

To create an application pool, complete the following steps:

1. Click Windows **Start** » **Control Panel** » **Administrative Tools** » **Internet Information Services** to open the IIS Manager.
2. In the IIS console, expand the **Server Name** node.
3. Right-click **Application Pools**, and click **Add Application Pool** on the shortcut menu.
4. On the Add Application Pool dialog box, complete the following:
 - In the **Name** field, enter a name for the application pool. In this example, we call it **olap**.
 - In the **.NET Framework version** field, select **.NET Framework v2.0.50727**.
 - In the **Managed pipeline mode** field, select **Classic**.



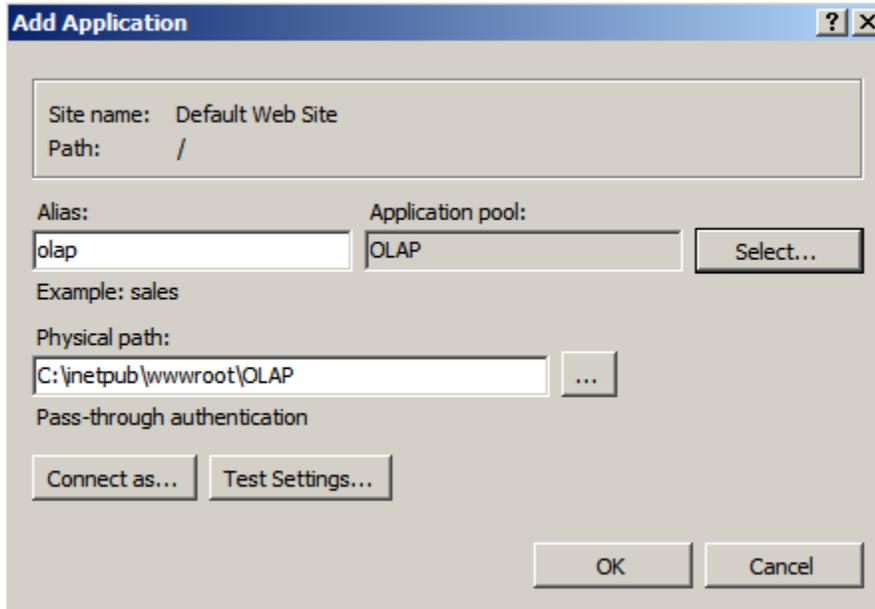
The screenshot shows the 'Add Application Pool' dialog box. The 'Name' field contains 'olap'. The '.NET Framework version' dropdown is set to '.NET Framework v2.0.50727'. The 'Managed pipeline mode' dropdown is set to 'Classic'. The 'Start application pool immediately' checkbox is checked. The 'OK' and 'Cancel' buttons are visible at the bottom.

Step 3: Create a Virtual Directory

To create a virtual directory, complete the following steps:

1. In the Connections pane of the IIS console, expand **Sites**, and then expand **Default Web Site** (or the site name that you use).
2. Right-click the Web site, and click **Add Application** on the shortcut menu.

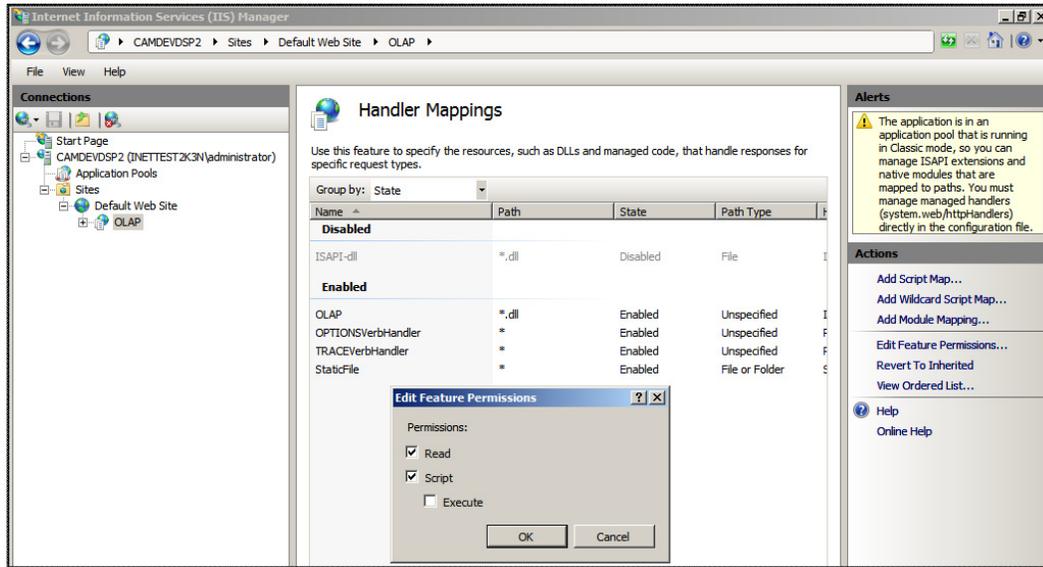
3. On the Add Applications dialog box, complete the following:
 - In the **Alias** field, enter the name for the virtual directory. In this example, we call it **olap**.
 - The content directory in the **Physical path** field must point to the folder that you created. In this example, it is C:\inetpub\wwwroot\OLAP.



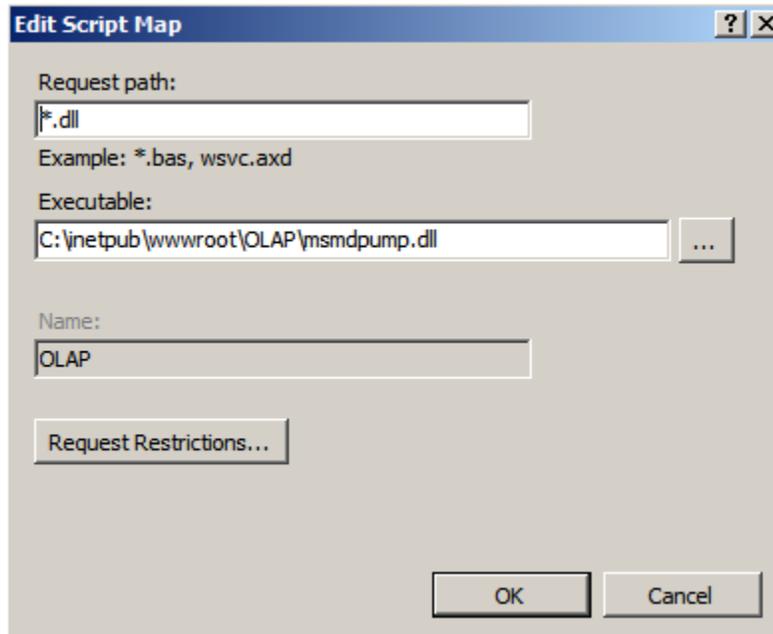
4. Click **OK** to create the application.
5. In the Connections pane, click the **OLAP** virtual directory, and double-click **Handler Mappings** in the /OLAP Home pane.



- In the Actions pane on the right, click **Edit Feature Permissions....**



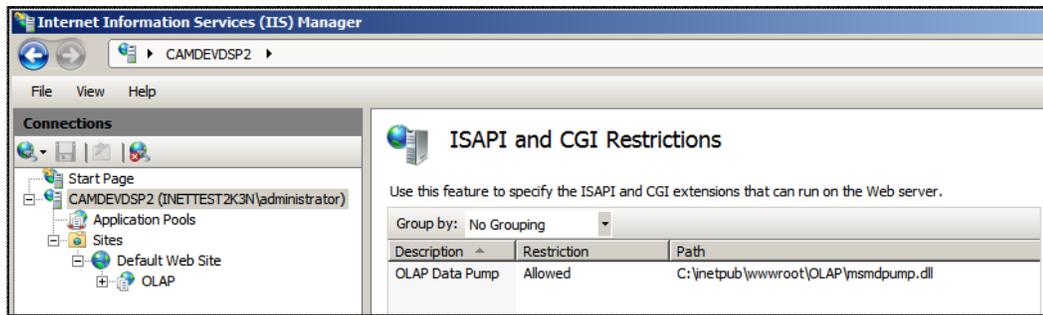
- On the Edit Feature Permissions dialog box, select the **Read** and **Script** permissions check boxes if they are not selected, and click **OK**.
- In the Actions pane, click **Add Script Map....**
- On the Edit Script Map dialog box, complete the following, and then click **OK**.
 - In the **Request path** field, enter ***.dll**.
 - In the **Executable** field, browse to and select the location of the **msmdpump.dll** file.
 - In the **Name** field, enter **OLAP**.



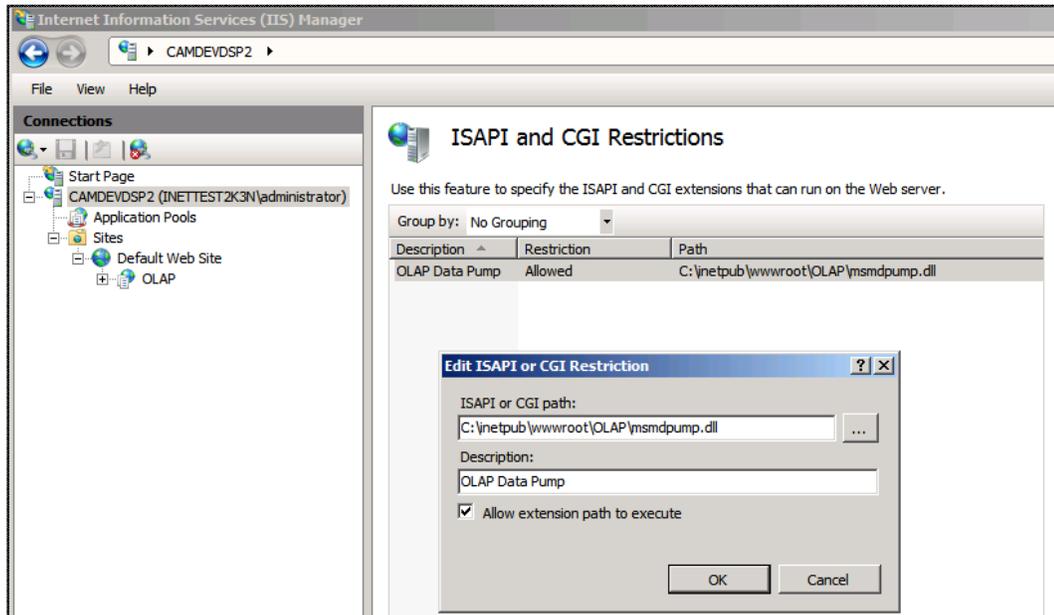
- On the **Add Script Map** dialog box, click **Yes** to add the ISAPI extension and save the settings.



- To see the ISAPI extension that was added, click the **Server Name** node in the IIS console, and double-click **ISAPI & CGI Restrictions**.

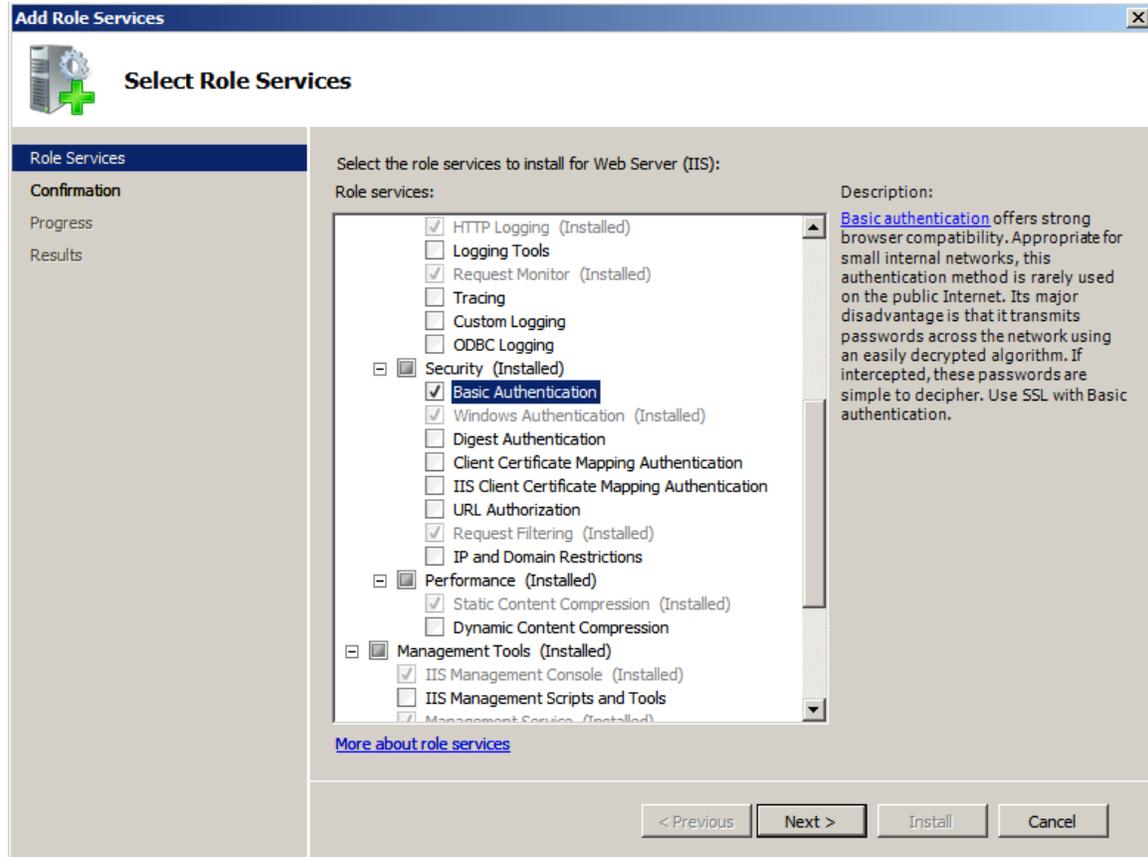


- In the ISAPI and CGI Restrictions pane, double-click **OLAP Data Pump**.



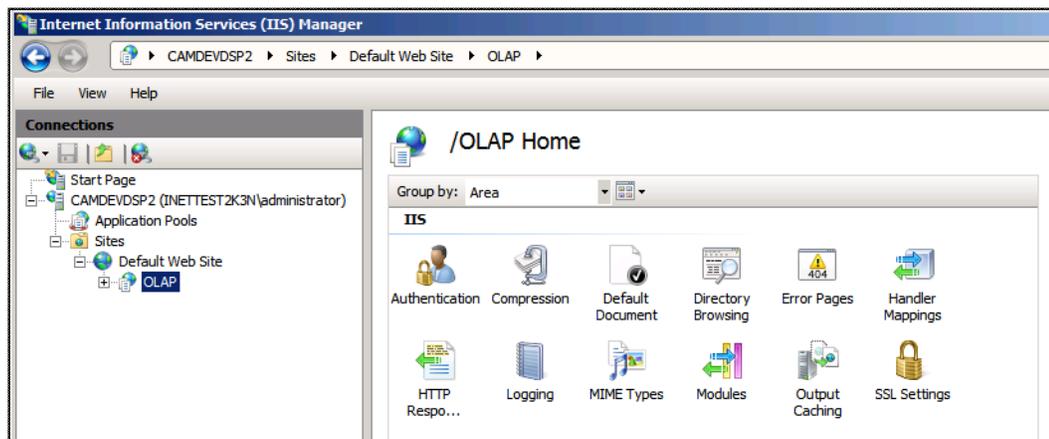
Step 4: Configure Security

Before you complete the following steps to configure security, Basic Authentication must be enabled in your IIS configuration. If it is not, you must add it via **Server Manager » Roles » Web Server (IIS) » Add Role Services**.



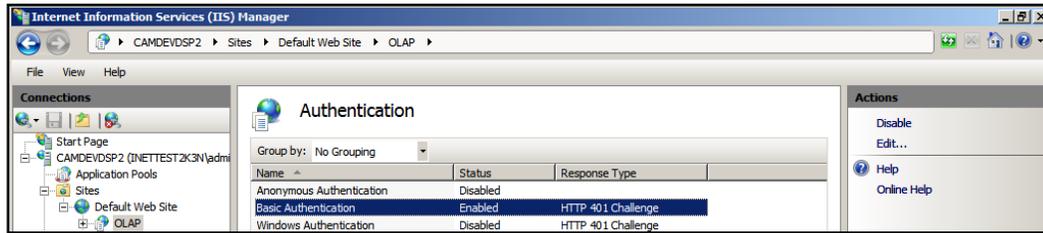
To configure security, complete the following steps:

1. In the Connections pane of IIS Manager, select the **OLAP** virtual directory.

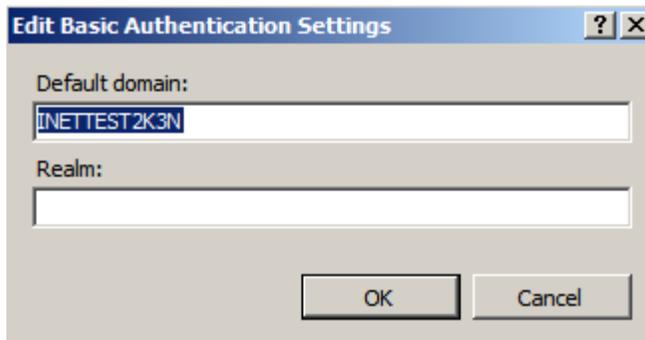


2. In the /OLAP Home pane, double-click **Authentication**.

3. In the Authentication pane, select **Basic Authentication**.



4. In the Actions pane, click **Enable** and then click **Edit**.
5. On the Edit Basic Authentication Settings dialog box, configure the default domain:



6. If it is appropriate, disable Anonymous Authentication and Windows Authentication.

Step 5: Select the Target Analysis Services Server

As you can see in the architectural diagram on page 24, every pump component uses its own configuration file.

Open the **msmdpump.ini** file in your folder, and take a look at the contents of this file. It looks like the following:

```
<ConfigurationSettings>
  <ServerName>localhost</ServerName>
  <SessionTimeout>3600</SessionTimeout>
  <ConnectionPoolSize>100</ConnectionPoolSize>
  <MinThreadPoolSize>0</MinThreadPoolSize>
  <MaxThreadPoolSize>0</MaxThreadPoolSize>
  <MaxThreadsPerClient>4</MaxThreadsPerClient>
</ConfigurationSettings>
```

The only setting of interest, at this point, is **<ServerName>**.

If the Analysis Services instance to which you must provide access is located on the local machine and installed as a default instance, you have no reason to change this setting. If it is not located and installed as such, you must specify the machine name and instance name (mymachine\inst1).

It is also possible to specify a pointer to the virtual directory on another IIS server that is set up for HTTP access to Analysis Services. For example:

<ServerName>http://secondmachine/olap/msmdpump.dll</ServerName>

Step 6: Get it All Together

At this point, your HTTP pump is configured, and you can connect from your application.

If your application provides you with a way to specify the server name, substitute your server name with the path to your virtual directory concatenated with “msmdpump.dll.”

As in SQL Server 2005 Analysis Services, the MSOLAP OLEDB provider recognizes that the server name includes a URL path and automatically starts with the HTTP protocol.

For example, to connect to “MyMachine” from the MDX sample application, you use the following to connect to the Analysis Services server:

http://MyMachine/olap/msmdpump.dll