

Senturus Analytics Connector Installation Guide

Requirements

In order to install and configure the Senturus Analytics Connector, you will need the following permissions and information:

- Administrator permission on the machine(s) the software will be installed on
- **Cognos requirements:**
 - The Cognos version your organization is running (ex. 11.0.12)
 - Cognos Dispatcher URL (ex. <http://host:port/p2pd/servlet/dispatch>)
 - Cognos Namespace ID (ex. SENTURUS_AD)
 - Cognos CSV settings
 - See [Finding Cognos Installation Information](#) for details
 - Cognos username and password
 - Access to the Cognos package(s) to be configured
- **MicroStrategy requirements:**
 - MicroStrategy server machine path and port (ex. senturus-mstr.ddns.net:34952)
 - MicroStrategy login mode
 - MicroStrategy username and password
 - Access to the MicroStrategy database(s) and project(s) to be configured

Architecture Overview

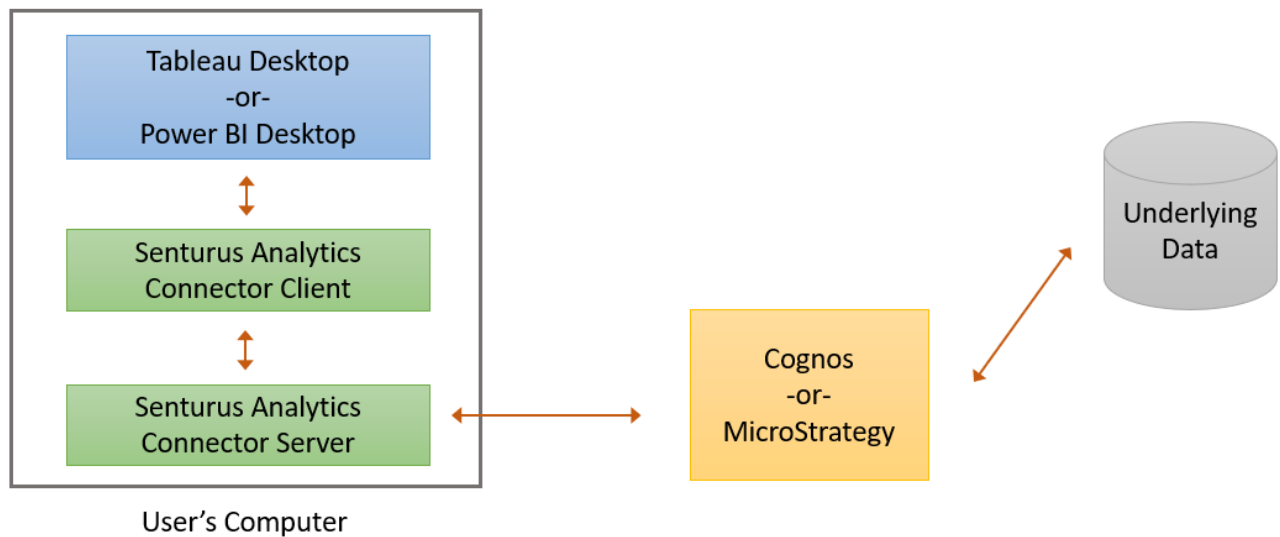
The Senturus Analytics Connector supports many different customer environments and use cases. Review the supported architectures below to determine which installation(s) are appropriate for your environment.

We suggest starting with a Desktop Standalone installation and configuration to confirm system settings and access. The configuration information can then be copied to additional installations.

Local Client & Server Architecture

Installing in Local Client & Server mode allows Desktop tools (Power BI Desktop or Tableau Desktop) to connect to Cognos or MicroStrategy using locally installed Senturus Analytics Connector client and server components. This mode is useful for ad hoc analysis or to design and publish to server deployments.

To install in this mode, follow the [Desktop Installation](#) steps and select both “Client” and “Server” options.



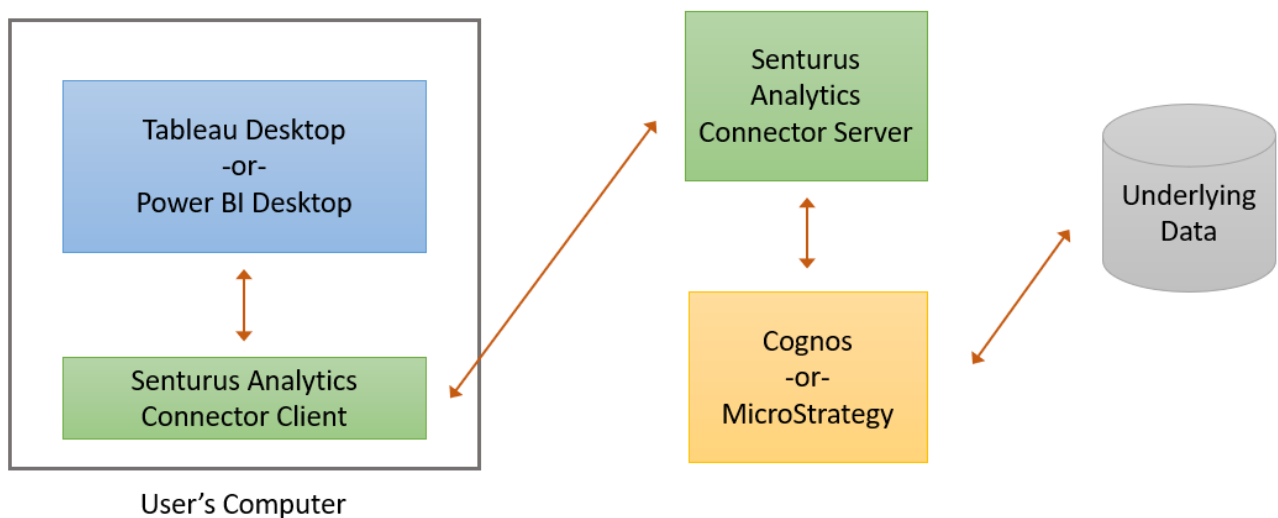
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Local Client / Remote Server Architecture

Installing in Local Client / Remote Server mode allows Desktop tools (Power BI Desktop or Tableau Desktop) to connect to Cognos or MicroStrategy using a centrally installed Senturus Analytics Connector ODBC driver. This allows centralized administration of configuration data and minimal client software to be installed on each client. This mode is useful for larger organizations with many clients.

To install in this mode, follow the [Desktop Installation](#) steps. Install only the Connector Server components on the central server, and only the Connector Client components on each user's machine.

Optionally, Tableau Desktop 9.3+ bundles a PostgreSQL ODBC driver with Tableau Desktop 9.3 and later. It is possible to use this Tableau bundled driver to connect to the Connector Server components for situations where installing Connector Client components on user's machines isn't practical. We recommend using the Analytic Connector client components whenever possible as more functions will be available.



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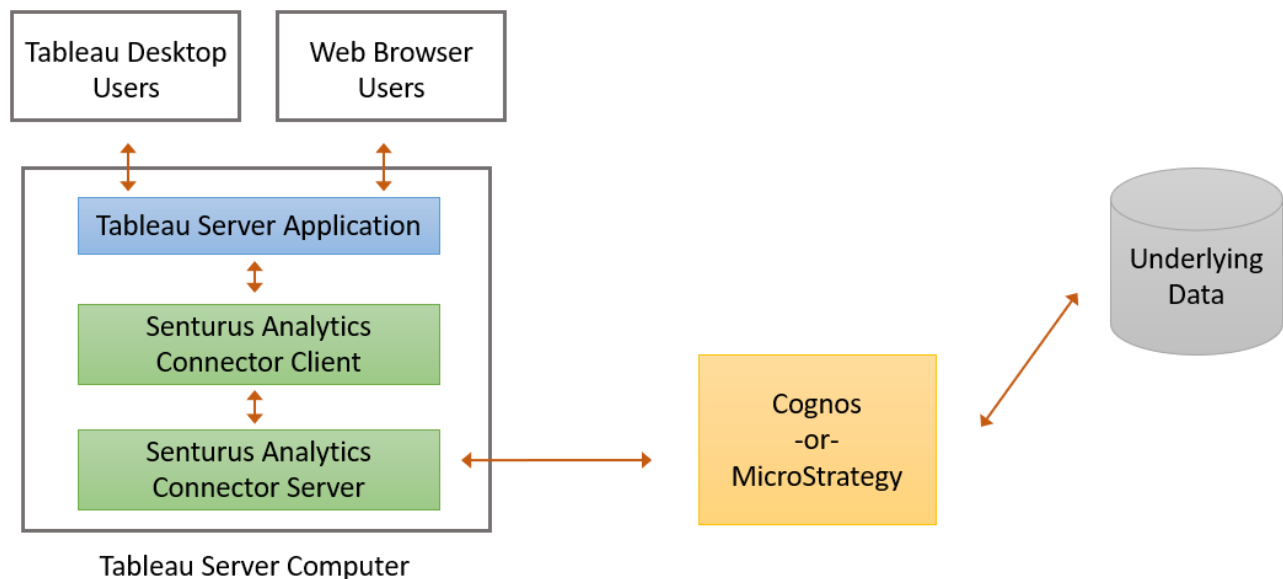
Tableau On-Premises Server Architecture

Installing the Senturus Analytics Connector on an on-prem Tableau Server allows Tableau Server to connect to Cognos or MicroStrategy directly. When Analytics Connector is used with Tableau Desktop, it facilitates publishing visualizations, dashboards, and/or data sources to the Server.

It is not necessary to install the Analytics Connector on other seats of Tableau Desktop that access the published data sources (TDS) through Tableau Server or for users who only view or modify visualizations on Tableau Server using a web browser.

The Server Components can be installed on the Tableau Server or on a separate machine. By installing on the same machine, you reduce network traffic but increase CPU/RAM usage.

To install in this mode, follow the [Tableau On-Premises Server Installation](#) steps.



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Power BI Gateway Architecture

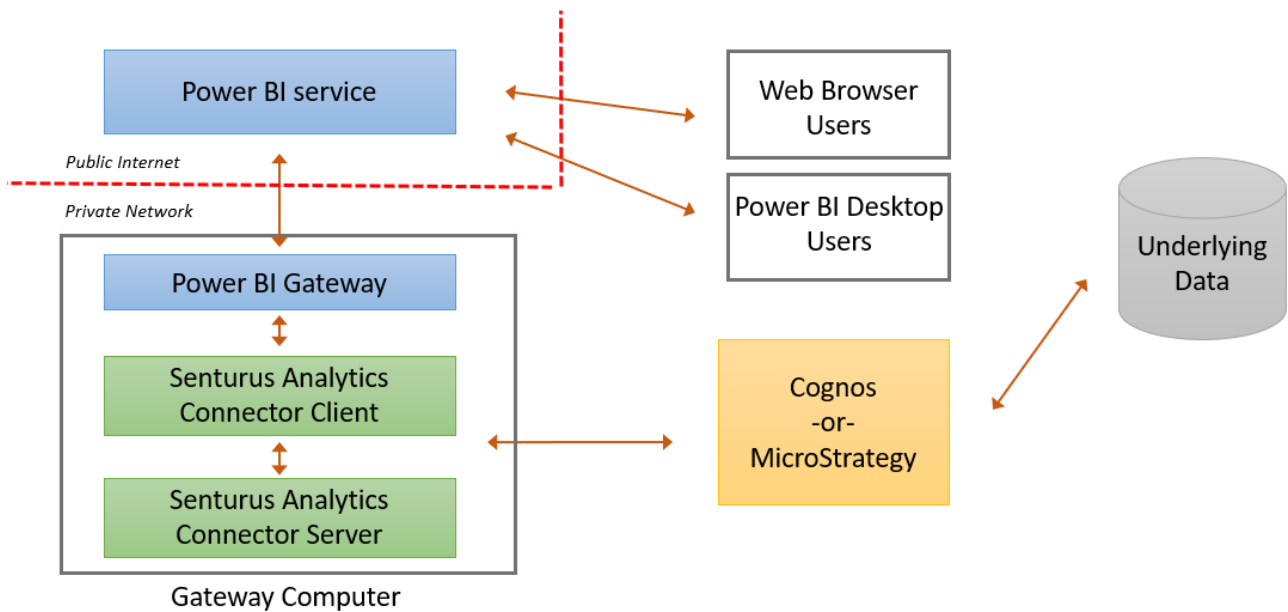
Installing the Senturus Analytics Connector on a Power BI Gateway allows the Microsoft hosted Power BI service to securely access on-premises data from your Cognos or MicroStrategy system. A gateway is required only if you publish Power BI reports containing Cognos or MicroStrategy data sources to the Power BI service.

It is not necessary to install the Analytics Connector on the local machines where Power BI Desktop is used to access the published data sources (Power BI datasets) through the Power BI service or for users who only view or modify visualizations on the Power BI service using a web browser.

It is necessary to install the Analytics Connector on the local machines where Power BI Desktop is used to create, modify, or publish Power BI reports and datasets to the service that use the Analytics Connector as their data source.

The Server Components can be installed on the Power BI Gateway server or on a separate machine. By installing on the same machine, you reduce network traffic but increase CPU/RAM usage.

To install in this mode, follow the [Power BI Gateway Install Steps](#).



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Installation Steps

Follow the appropriate steps for the installation architecture(s) you wish to perform.

You will need administrator access on the machine where you are installing the Analytics Connector.

Desktop Installation

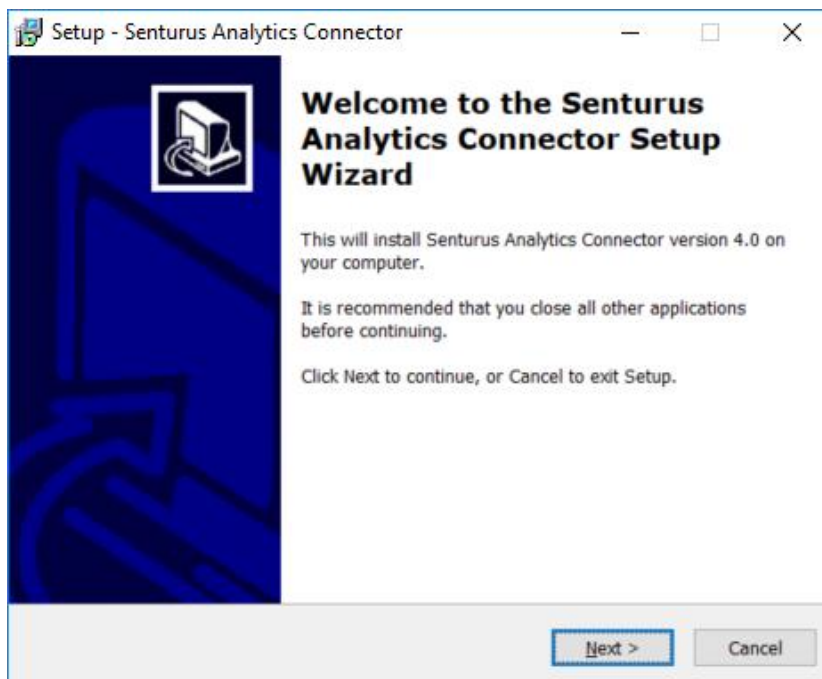
Download the latest version of the Analytics Connector installer to the machine where you will be installing it. You can download this installer here: <https://www.senturus.net/connector-download/>

Once downloaded, run *AnalyticsConnector_[version].exe* with administrator privilege.

You will be prompted by **User Access Control (UAC)** to allow this app to make changes to your device.

Click **Yes** to allow the installer to run.

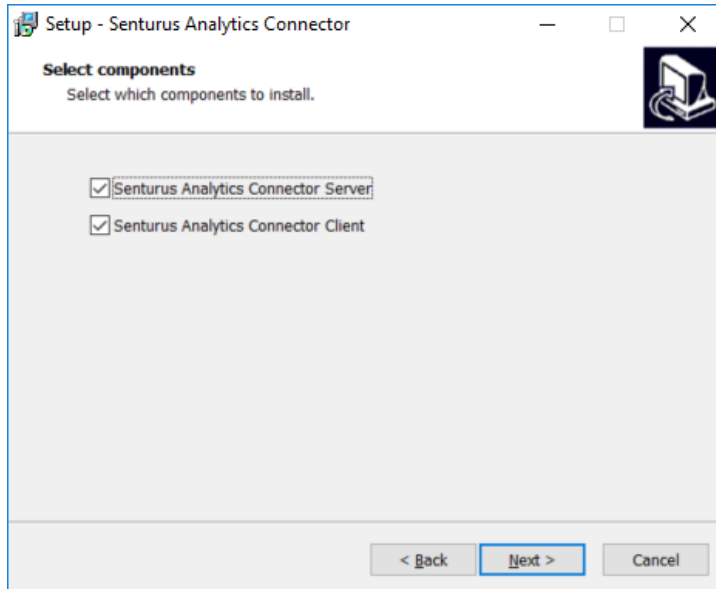
Click **Next** on the welcome page.



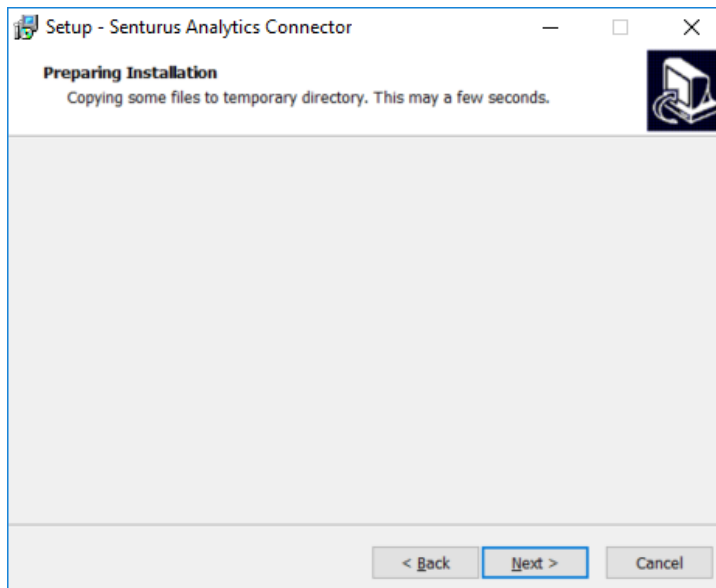
You then need to select which components to install.

Local Client & Server Architecture – install both “Server” and “Client” components

Local Client / Remote Server Architecture - Install the “Server” on one central machine and “Client” components on user’s machines. Data Source Configuration will be performed on the “Server” machine only.

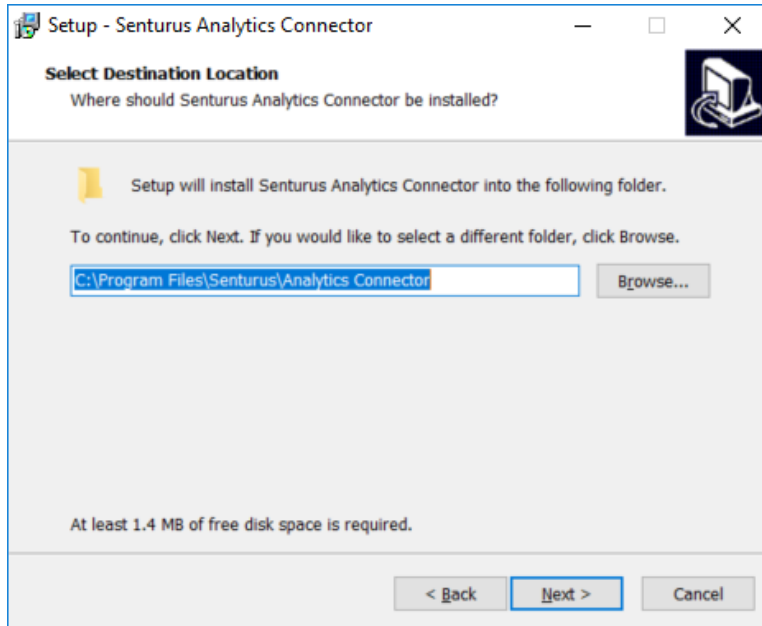


The installer will extract some files to a temporary directory. Once all temporary files are copied over, click **Next**.



NOTE: If any prerequisite software is missing, you will be prompted to download and install it. Continue clicking **Next** to download and install any missing prerequisites.

Select an installation directory. The default is *C:\Program Files\Senturus\Analytics Connector*. Click **Next**.



License Key

In order to use the Analytics Connector, you will need a Senturus.key file from Senturus. A free trial key is available by contacting CustomerSupport@senturus.com. Once purchased, you will receive a key from Senturus tied to your purchased licenses.

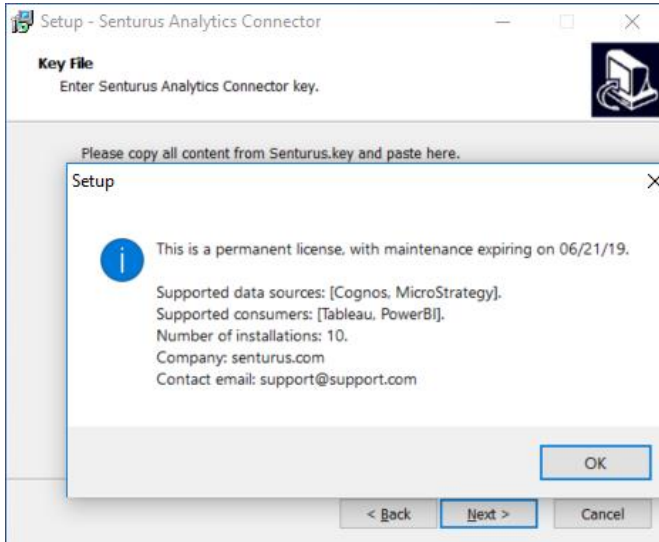
Open the key file using a text editor (i.e. Notepad).

Copy all the content and paste it into the in **Key File** page input.

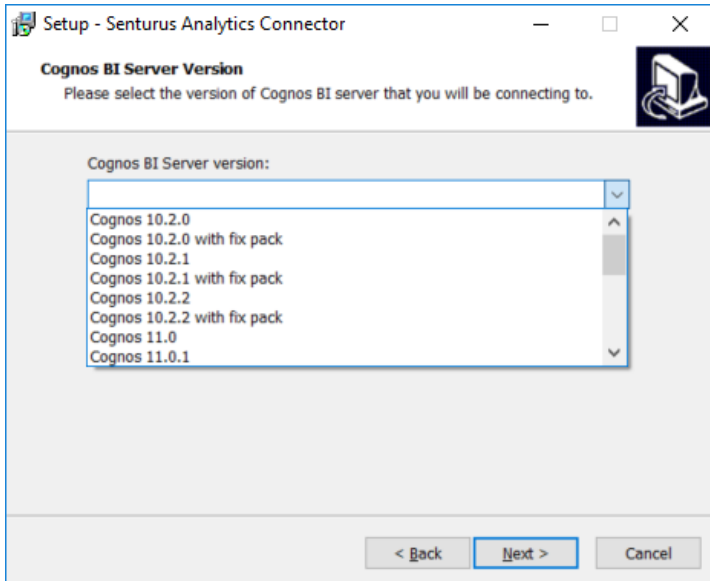
NOTE: If you are upgrading and already have a Senturus.key file in the installation directory, the installer will read it and automatically populate the content here.

Click **Next**.

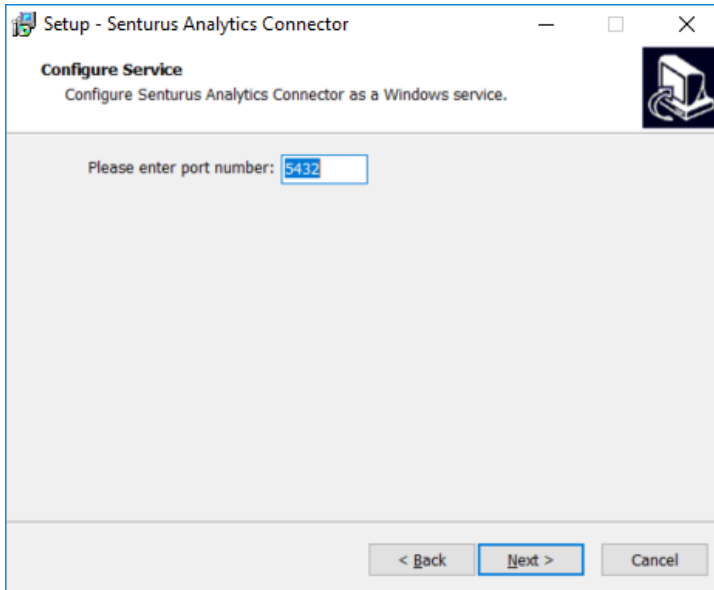
A message window will appear displaying your license key information. Review it and click **OK**.



If your license key is for a Cognos data source, the following page will appear. Select the version of your Cognos server. Click **Next**.

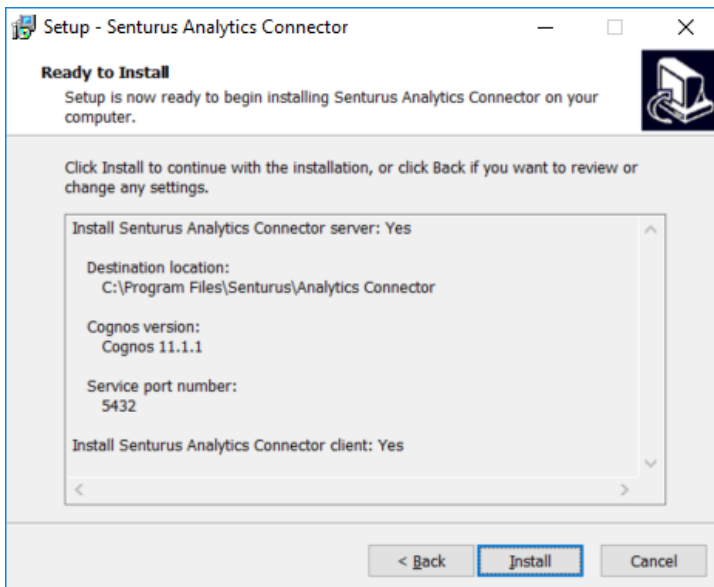


When installing Server Components, you will be prompted to enter a port number. We recommend accepting the default port. A port can only be used by 1 application at a time. Click **Next**.



Review installation options, then click **Install**.

Click **OK** once the installation is complete.



Once complete, the installation completion page will appear.

Click **Finish**.

Local Client & Server architecture - When installing for the first time, follow the [Configuring Cognos](#) or [Configuring MicroStrategy](#) steps.

If you have already configured your data source(s) on another system, click **Finish** to exit the installer.

Copy the DataSourceConfig.xml file from that system's installation folder to this system's installation folder, overwriting the existing file.

Local Client / Remote Server architecture - When installing Server components for the first time, follow the [Configuring Cognos](#) or [Configuring MicroStrategy](#) steps.

When installing Client components only, you do not need to configure anything else. The configuration information is stored on the server.

Tableau On-Premises Server Installation

The Tableau Server installation is performed using the same steps as the [Desktop Installation](#). Follow those steps on your Tableau Server(s) to install the connector. No other steps are necessary.

If this is your first installation, [Launch the Data Source Configuration utility](#) then follow the steps found in [Configuring Cognos](#) or [Configuring MicroStrategy](#).

If you have already configured your data source(s) on another system, copy the DataSourceConfig.xml file from that system's installation folder to this system's installation folder, overwriting the existing file.

Once installed and configured, workbooks and data sources published to the Tableau Server will be able to leverage the Analytics Connector.

Users who only view or edit workbooks on the server will not need to install the Analytics Connector on their local machines. Similarly, users who use Tableau Desktop to access Cognos or MicroStrategy data sources configured as Tableau Data Sources (TDSs) on the Tableau Server will not need to install the Analytics Connector on their local machine. These users can license the Analytics Connector as Server Users or a Core license can be purchased to cover all users on a server.

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Tableau Linux Server Installation

To install the Analytics Connector on a Linux server, follow the below instructions:

- 1) Install the Server Components to a Windows system using the Windows installer. Use the configuration tool to setup your servers and databases, following the directions in the [Configuration](#) section.
- 2) Create a folder on the Linux Server for the Analytics Connector application. Example:
 - a. `> cd /opt`
 - b. `> sudo mkdir analytics-connector`
- 3) Transfer the following files and folders from the windows system to the new folder on the Linux server:
 - a. Database (folder and contents)
 - b. Lib (folder and contents)
 - c. Log (folder and contents)
 - d. DataSourceConfig.xml (file – configuration information)
 - e. Senturus.key (file – license information)
- 4) Grant Read/Write access to the above directory for the user(s) who will run the Analytics Connector Server.
- 5) Install Java Runtime Environment (JRE) 1.8+ on the Linux server (if not already installed).
- 6) Install the PostgreSQL ODBC driver 11.0+ on the Linux server.
 - a. Various distros have binaries available at <https://www.postgresql.org/download/>
- 7) Confirm the `/etc/odbcinst.ini` settings are pointing at the newly installed driver
 - a.

```
# Driver from the postgresql-odbc package
# Setup from the unixODBC package
[Senturus Analytics Connector]
Description      = ODBC for PostgreSQL
Driver64         = /usr/pgsql-11/lib/psqlodbcw.so
FileUsage        = 1
```
- 8) Start the Analytics Connector server components on the Linux server using the following command:

```
a. > java -classpath Lib:Lib/* -Xms256m -Xmx2048m -
Dsenturus.jdbc_home=/opt/analytics-connector
com.senturus.server.postgresql.PgServer start
```

9) (Optional) Create a service that starts the Analytics Connector server when the server reboots.

10) (Optional) Edit the /etc/odbc.ini file:

```
a. [GO_Sales_query]
   Description = TYPES
   Driver = Senturus Analytics Connector
   Database = GO Sales (query) // Your Configured Database name
   Servername = 192.168.1.223 // Your Server IP
   Port = 5432
   Protocol = 11.1
```

11) (Optional) Test the above configured connection using isql:

```
a. > isql GO_Sales_query user password
b. SQL> select "Product line" from "Sales (query)". "Products"
c. SQL> quit
```

Power BI Gateway Installation

When publishing Power BI Desktop to the Power BI service, a Power BI Gateway will typically be needed to access an on-prem Cognos system and underlying databases.

To install the Power BI Gateway with the Senturus Analytics Connector:

Download and install the latest version of the Power BI on-premises data gateway from Microsoft.

Install the Analytics Connector on the machine that will run the Power BI Gateway application. Follow the [Desktop Installation](#) instructions.

If this is your first Analytics Connector installation, run the Configuration Utility then follow the steps for [Configuring Cognos](#) or [Configuring MicroStrategy](#).

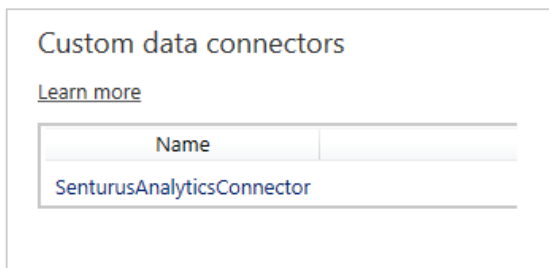
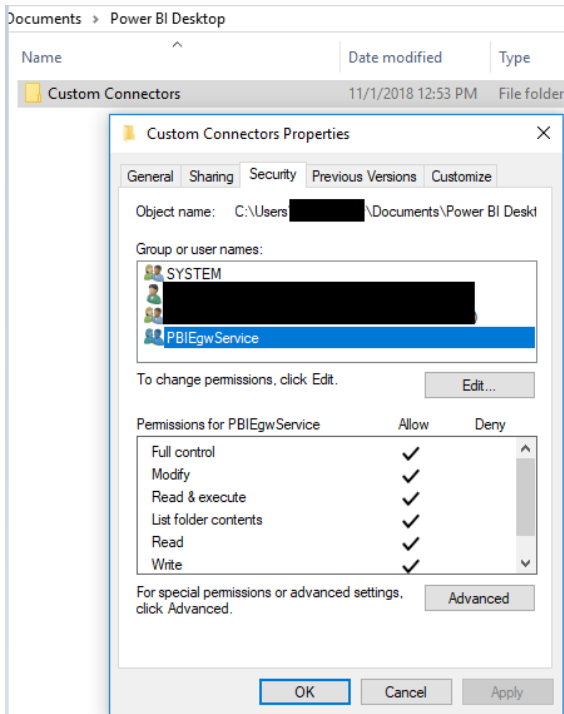
If you have already configured your data source(s) on another system, copy the DataSourceConfig.xml file from that system's installation folder to this system's installation folder, overwriting the existing file.

If you did not perform the configuration step on this machine, you will need to copy the Custom Data Connector (SenturusAnalyticsConnector.mez) to *{User}\Documents\Power BI Desktop\Custom Connectors*. See [Configuring the Power BI Custom Data Connector](#) for details.

Log into the Gateway App using the Microsoft Account associated with your Power BI Service.

On the **Gateway App Connectors** tab, browse to the folder containing the SenturusAnalyticsConnector.mez file (*{User}\Documents\Power BI Desktop\Custom Connectors*).

On the **Service Settings** tab, note the account being used for your gateway service account. *NT Service\PBIEgwService* is the default. This user will need to be granted access to the above directory.



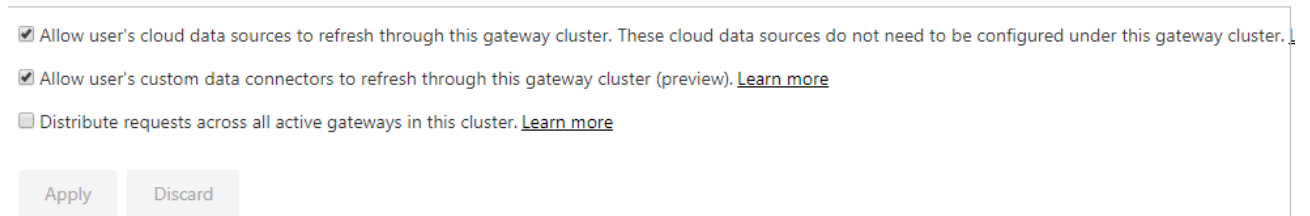
When correctly configured, “Senturus Analytics Connector” will appear as the name listed on the **Connectors** tab.

Sign into Power BI service (<https://powerbi.microsoft.com>).

Go to **Settings** → **Manage Gateways**.

Confirm the gateway you have configured is listed.

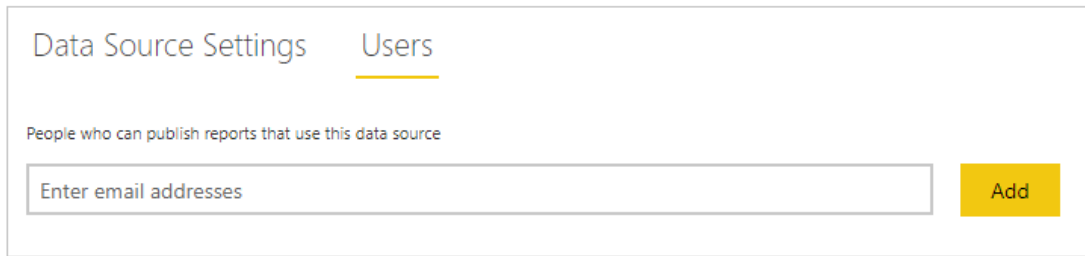
Confirm the below two options are checked:



Add a data source to the Gateway: For **DataSource Type**, select *SenturusAnalyticsConnector*

Select **Type** for the server, database, username and password that the gateway will use to communicate with Cognos. You will need to configure a data source here for each gateway.

If other users in the organization need to publish reports to Power BI Service using the same data source, you can grant them permission on the **Users** tab.



The screenshot shows a web interface with two tabs: 'Data Source Settings' and 'Users'. The 'Users' tab is selected and underlined in yellow. Below the tabs, there is a heading 'People who can publish reports that use this data source'. Underneath this heading is a text input field with the placeholder text 'Enter email addresses' and a yellow 'Add' button to its right.

When you (or a user with permission) publish a workbook to the service with the same server and database, the gateway will be able to talk to your on-premises data using the Power BI Enterprise Gateway.

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Configuring SSL and Encrypted network traffic

Network traffic can occur at 2 different points when using the Analytics Connector:

- 1) Network traffic between the Analytic Connector client component and Analytic Connector server component when installed in Local Client / Remote Server architecture.

When the Analytics Connector Server component is installed on a different machine from the Analytics Connector Client component, you may wish to implement SSL certs to encrypt the traffic between the client and the server components.

- 2) Network traffic between the Analytic Connector server component and the Cognos Dispatcher(s).

The traffic between the server component and the Cognos dispatcher(s) will be encrypted if the dispatchers are configured with SSL and the https URL is used.

Depending on your network environment and policies, this might influence your decision on whether you install the Analytics Connector in a Local Client & Server architecture or Local Client / Remote Server architecture.

Senturus is happy to assist with this decision and implementation process as every organization's IT implementation is unique.

Configure SSL Certificate on the Server Component

If you chose to implement a Local Client / Remote Server architecture and desire encrypted network traffic, perform the following steps to setup a SSL certificate on the server:

1. Obtain a private key and certificate from your IT group for your Senturus Analytics Connector server and save to a local folder. For example, C:\Temp\connector_server.key and C:\Temp\connector_server.crt.

2. Convert x509 Cert and Key to a pkcs12 file using OpenSSL (<https://www.openssl.org>):

```
openssl pkcs12 -export -in C:\Temp\connector_server.crt -inkey
C:\Temp\connector_server.key -out C:\Temp\connector_server.p12 -name
connector_server -CAfile <path_to_JRE>\lib\security\cacerts
```

3. Import the pkcs12 file to your java keystore:

```
<path_to_JRE>\bin\keytool.exe -importkeystore -srckeystore
C:\Temp\connector_server.p12 -srcstoretype pkcs12 -srcstorepass changeit -
destkeystore C:\Temp\keystore -deststoretype jks -deststorepass changeit -
destkeypass changeit -alias connector_server
```

You should see a message like: "Importing keystore C:\Temp\connector_server.p12 to SSL\keystore..."

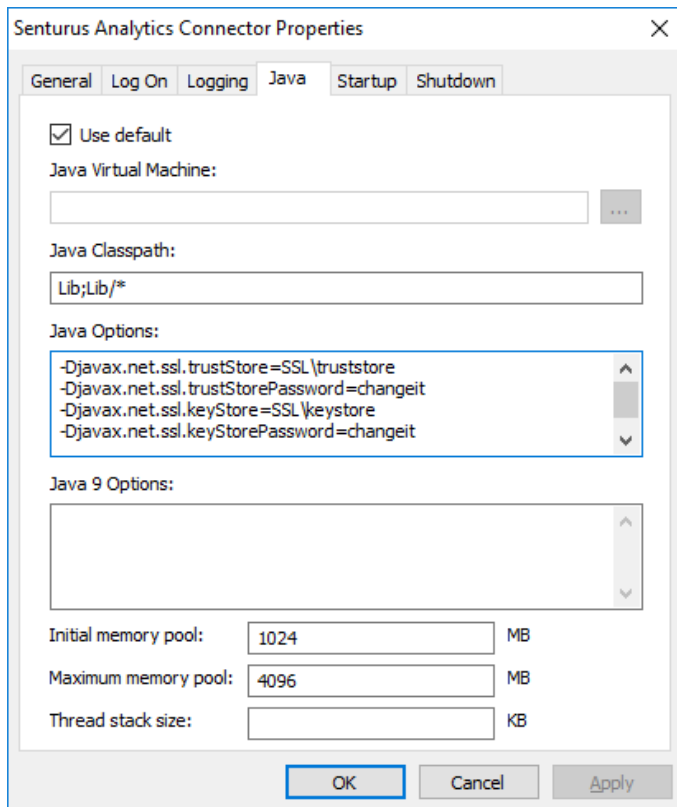
4. (optional) To verify newly created or updated keystore, execute following command:

```
<path_to_JRE>\bin\keytool.exe -list -v -alias connector_server -keystore  
C:\Temp\keystore -storepass changeit
```

5. Copy keystore to the SSL Folder under the installation directory, typically C:\Program Files\Senturus\Analytics Connector\SSL.

6. If you are using a different password other than the default "changeit", you need to specify it in Senturus Service Configuration tool. Under the Java tab, in the Java options text box, adjust the line:

```
-Djavax.net.ssl.keyStorePassword=changeit
```



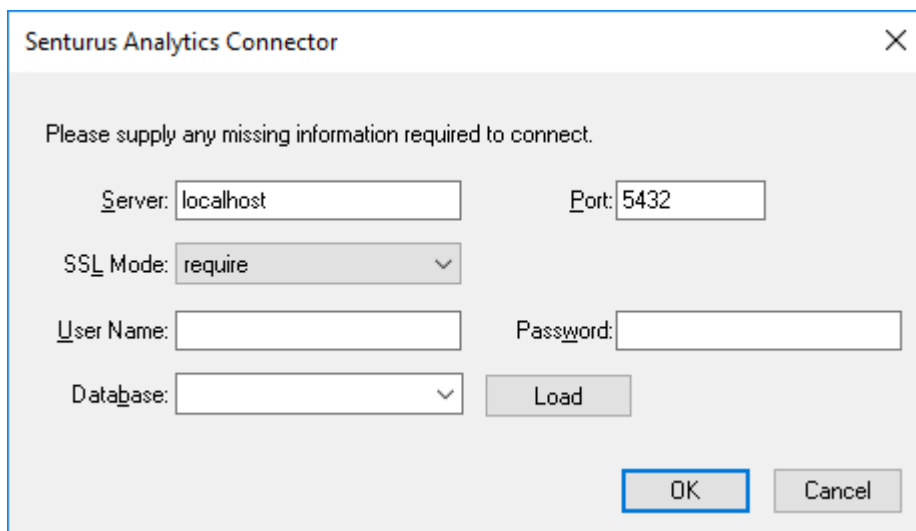
7. Restart Senturus Analytics Connector service.

Configure SSL Certificate on the Client Components

If you are using a certificate issued by a Certificate Authority (CA) on the server, then you should not need to do any additional configuration on the client. The client will be able to establish a trust chain back to the CA and will trust the certificate.

If you are using a self-signed certificate on the server, your IT department will need to configure each client to trust that self-signed certificate or a local certificate authority that generated the certificate.

When setting up the connection, select the “require” option under SSL Mode when configuring the connection or DSN in order to encrypt network traffic.



The image shows a dialog box titled "Senturus Analytics Connector" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- A message: "Please supply any missing information required to connect."
- Server:
- Port:
- SSL Mode: (dropdown menu)
- User Name:
- Password:
- Database: (dropdown menu)
- Buttons: "Load", "OK", and "Cancel".

Configuration

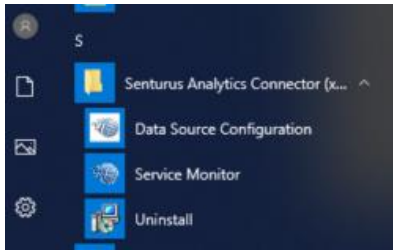
After the Analytics Connector has been installed, the servers and databases need to be configured.

Launching the Senturus Data Source Configuration utility

The Data Source Configuration utility modifies the DataSourceConfig.xml file in the Installation folder. This file can be created one time and copied to any other machine where you install the Analytics Connector.

To run the Data Source Configuration utility, either:

Launch the program using the Start Menu



Or run the program located at *{Installation Folder}\bin\SenturusDataSourceConfig.exe*

Configuring Cognos

Launching the Data Source Configuration utility displays the **Edit Cognos Connection** window with its three tabs: *Server*, *Advanced* and *Database*.

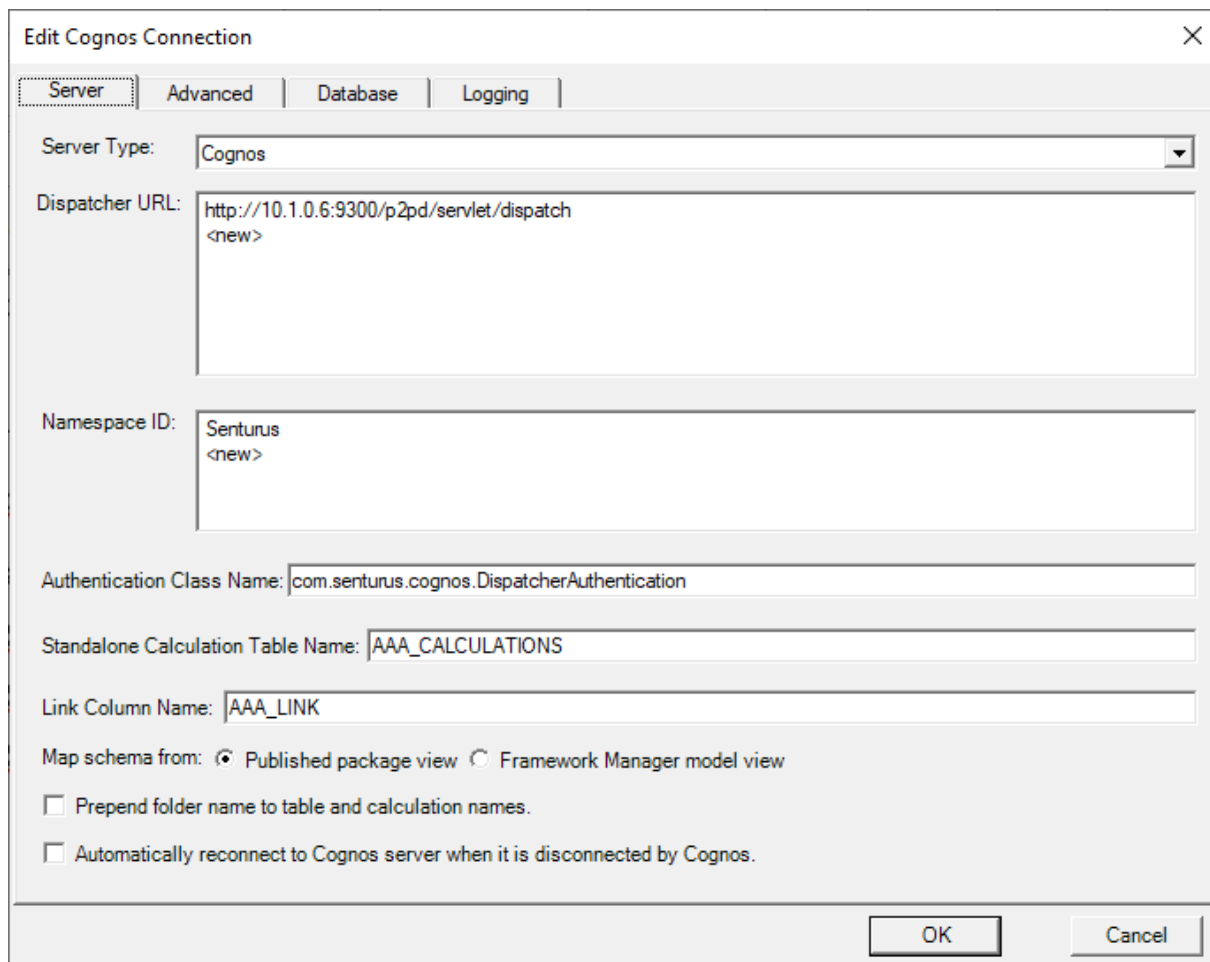
The Server tab

Here you can define server name, dispatcher URLs, namespace IDs and other options. This tab represents server elements (without child nodes).

The Server Type should match your source system, Cognos (default) or MicroStrategy.

The default authentication class is *com.senturus.cognos.DispatcherAuthentication*. If Cognos users can authenticate themselves via Dispatcher by providing user name and password, you do not need to change the **Authentication Class Name**. If you want to use a custom authentication provider, contact Senturus for help.

NOTE: Power BI users should use *AAA_CALCULATIONS* and *AAA_LINK* options as Power BI doesn't work with tables and columns starting with an underscore.



The screenshot shows the 'Edit Cognos Connection' dialog box with the 'Server' tab selected. The dialog has a title bar with a close button (X) and a tabbed interface with four tabs: 'Server', 'Advanced', 'Database', and 'Logging'. The 'Server' tab is active. The fields are as follows:

- Server Type:** A dropdown menu set to 'Cognos'.
- Dispatcher URL:** A text area containing 'http://10.1.0.6:9300/p2pd/servlet/dispatch' and '<new>' below it.
- Namespace ID:** A text area containing 'Senturus' and '<new>' below it.
- Authentication Class Name:** A text box containing 'com.senturus.cognos.DispatcherAuthentication'.
- Standalone Calculation Table Name:** A text box containing 'AAA_CALCULATIONS'.
- Link Column Name:** A text box containing 'AAA_LINK'.
- Map schema from:** Two radio buttons: 'Published package view' (selected) and 'Framework Manager model view'.
- Prepend folder name to table and calculation names.
- Automatically reconnect to Cognos server when it is disconnected by Cognos.

At the bottom right, there are 'OK' and 'Cancel' buttons.

The Advanced tab

This tab lets you define the CSV output format. It also lets you adjust attributes for PowerCube, TM1, Dynamic Cube data sources as well as other settings.

See [Finding Cognos Installation Information](#) for details on your Cognos system's CSV Output settings.

Edit Cognos Connection

Server | **Advanced** | Database | Logging

CSV Output Format

RSVP.CSV.ENCODING: UTF-16LE

RSVP.CSV.DELIMITER: TAB

RSVP.CSV.QUALIFIER: "

RSVP.CSV.TERMINATOR: LF

[Click here for more information about CSV output format.](#)

PowerCube Options

- Show root level
- Show category code
- Show long name
- Show short name
- Show member description

Dynamic Cube Options

- Show root level
- Show key
- Show member description

TM1 Options

- Show root level
- Show leaf level for alternate hierarchies
- Show name
- Show attributes that match following names:

Show attributes that match following regular expressions:

- Support unnamed levels

[Click here for more information about named hierarchy levels.](#)

OK Cancel

Level attributes for PowerCube, Dynamic Cube and TM1

By default, only levels will be mapped to ODBC columns. To show them, check the corresponding options for the data source.

For TM1 level attributes, specify the list of names (separated by comma) or list of regex expressions. For example, to show all names in simplified Chinese, specify `.*_TC$` in *show attributes that match following regular expressions*.

The Analytics Connector supports both named and unnamed TM1 hierarchy levels. However, if levels are not named in a TM1 hierarchy, the Analytics Connector needs to send a query to Cognos to detect the names of all levels within this hierarchy.

NOTE: This query may significantly increase the connecting time if this hierarchy has many elements. As a best practice, we recommended you name all levels in TM1 first.

For more information regarding TM1 named hierarchy levels, refer to the [Using Named Hierarchy Levels with TM1 Dimensions](#) documentation on the IBM Knowledge Center website.

The Database tab

This tab lets you define packages to which you want to connect. Packages are represented as databases in the Analytics Connector.


The screenshot shows the 'Edit Cognos Connection' dialog box with the 'Database' tab selected. The 'Database Name' list contains: DataModuleTest, GO sales (analysis), GO Sales (query), In Range Param, TestV1, and <new>. The 'Package/Module Search Path' and 'Data Source Connection Search Path' fields are empty. The 'Report folder to database schema mapping' table is also empty.

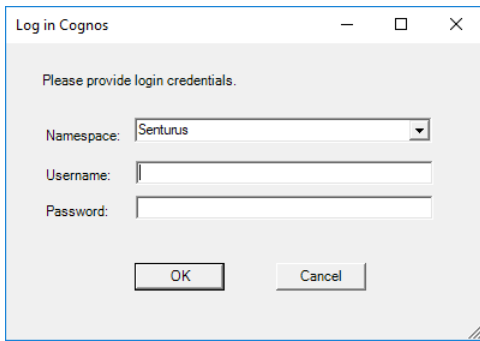
Schema Name	Report Folder Search Path	Subfolders
		<input type="checkbox"/>

Double click a database name to edit it. Delete the name and press Enter to remove a database. Double click the <new> entry and provide a name to create a new database.

You now need to specify search paths for the packages, modules, connections and report folders.

NOTE: You can type or paste the search paths into the appropriate text boxes if you know them.

When using Cognos 11.0.7 or above, use the search tool to easily find your search path. Select a database, then click the magnifying glass  to search for the package, connection or report folder.



The dialog box titled "Log in Cognos" contains the following elements:

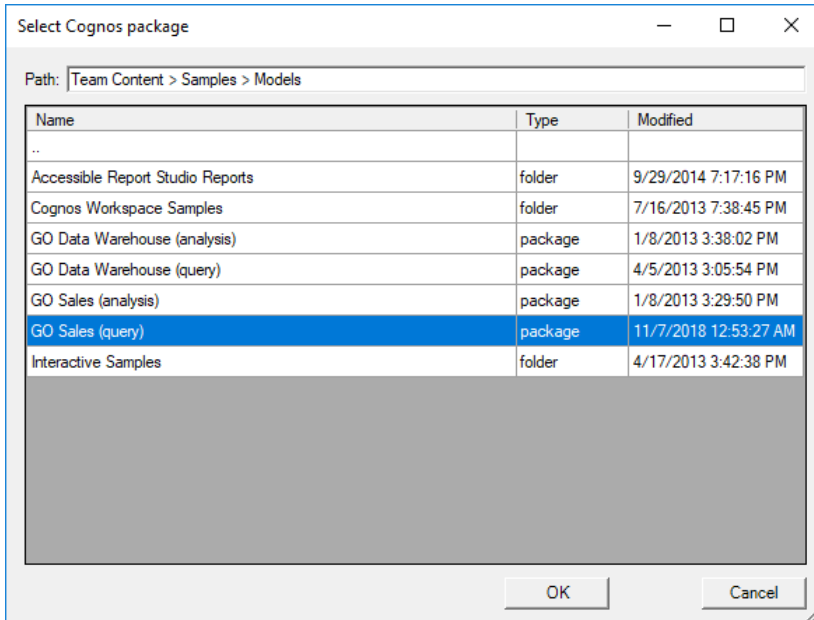
- A message: "Please provide login credentials."
- A "Namespace:" dropdown menu with "Senturus" selected.
- A "Username:" text input field.
- A "Password:" text input field.
- "OK" and "Cancel" buttons at the bottom.

You must first login to Cognos.

Select the correct namespace and enter your Username and Password.

Click **OK**.

The **Select Cognos package** dialog appears. Navigate to the package by double clicking folders. Double click the top “..” row to move up a folder. The current path is displayed in the top text box.



The dialog box titled "Select Cognos package" features a breadcrumb path "Team Content > Samples > Models" and a table of packages and folders. The "GO Sales (query)" package is selected.

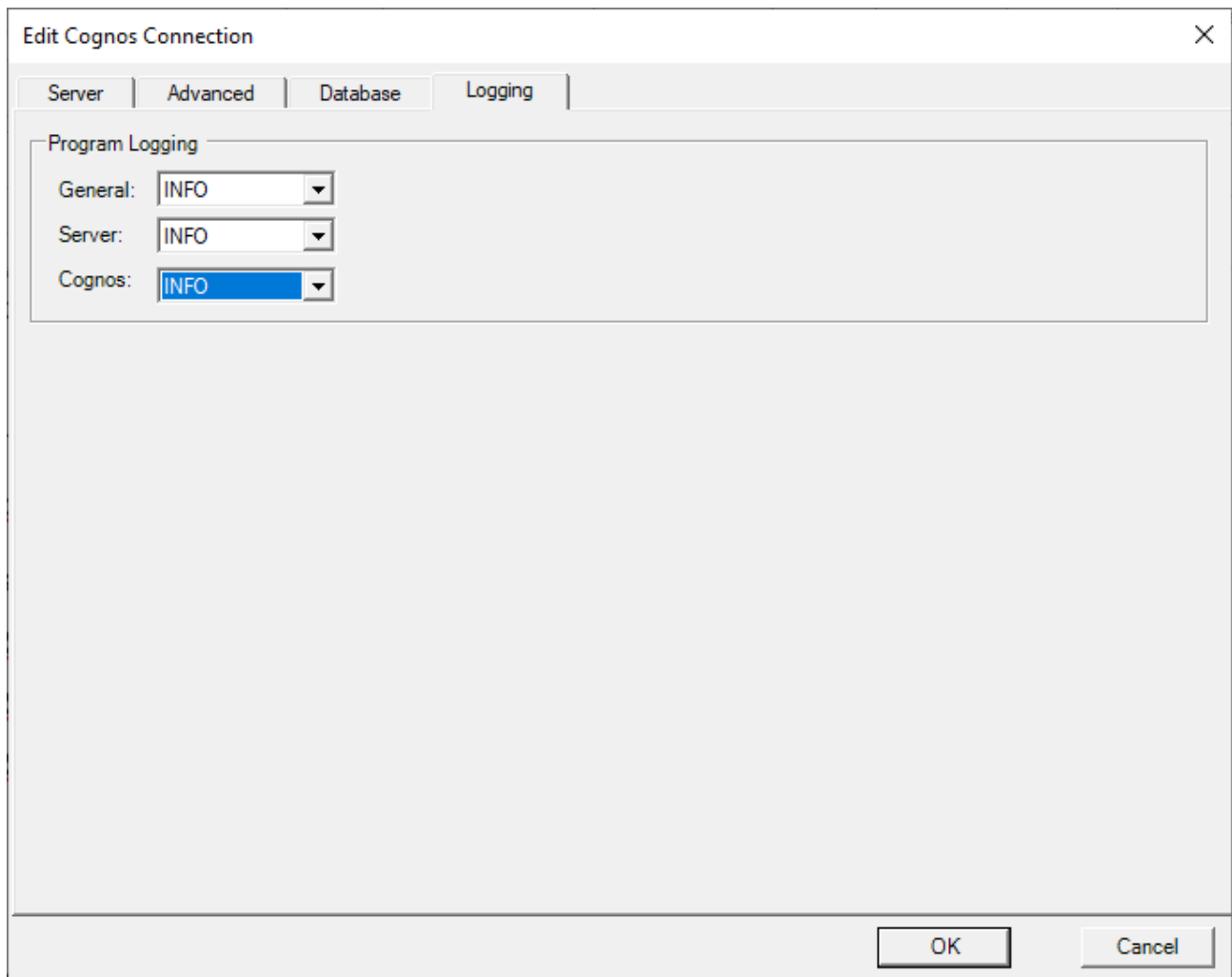
Name	Type	Modified
..		
Accessible Report Studio Reports	folder	9/29/2014 7:17:16 PM
Cognos Workspace Samples	folder	7/16/2013 7:38:45 PM
GO Data Warehouse (analysis)	package	1/8/2013 3:38:02 PM
GO Data Warehouse (query)	package	4/5/2013 3:05:54 PM
GO Sales (analysis)	package	1/8/2013 3:29:50 PM
GO Sales (query)	package	11/7/2018 12:53:27 AM
Interactive Samples	folder	4/17/2013 3:42:38 PM

Select the desired package or module, then click **OK**.

The search path will be placed in the related text box on the **Database** tab.

The Logging tab

This tab lets you configure the level and amount of messages that will be recorded to the log files. Errors and Warnings will always be recorded.



The screenshot shows a dialog box titled "Edit Cognos Connection" with a close button (X) in the top right corner. The dialog has four tabs: "Server", "Advanced", "Database", and "Logging", with "Logging" currently selected. Inside the "Logging" tab, there is a section titled "Program Logging" containing three dropdown menus:

- General: INFO
- Server: INFO
- Cognos: INFO

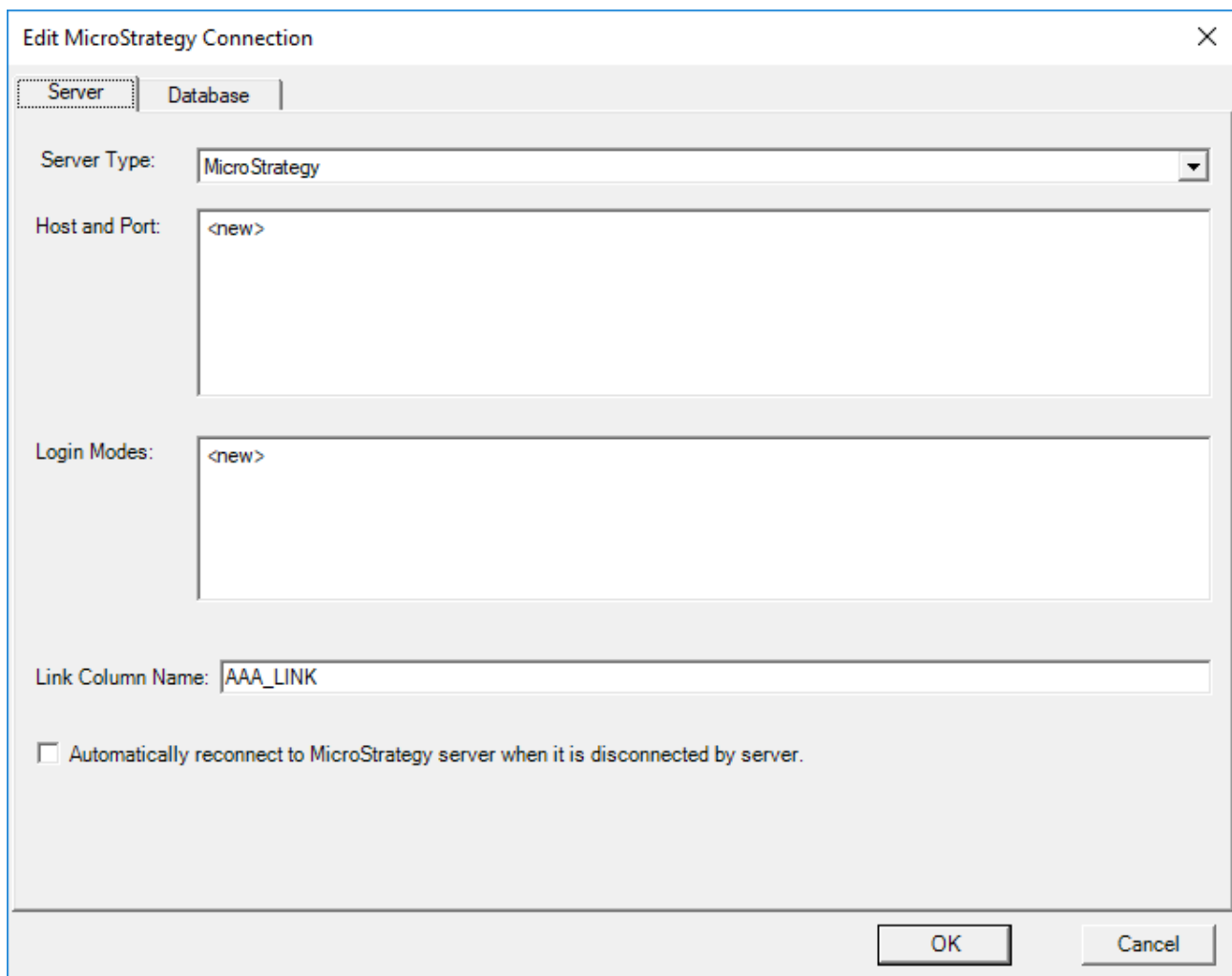
At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Configuring MicroStrategy

MicroStrategy connections display the MicroStrategy Connection screen with its two tabs: *Server* and *Database*.

The Server tab

The Server tab allows you to define the server name, MicroStrategy Intelligence server host and port, and login modes. It also lets you establish automatic reconnect settings.



The screenshot shows a dialog box titled "Edit MicroStrategy Connection" with a close button (X) in the top right corner. The dialog has two tabs: "Server" (selected) and "Database".

Fields and controls in the "Server" tab:

- Server Type:** A dropdown menu with "MicroStrategy" selected.
- Host and Port:** A large text area containing "<new>".
- Login Modes:** A large text area containing "<new>".
- Link Column Name:** A text box containing "AAA_LINK".
- Automatically reconnect to MicroStrategy server when it is disconnected by server.

Buttons at the bottom right: "OK" and "Cancel".

The Database tab

The Database tab allows you define the MicroStrategy project name and mapping database name. It also lets you define report folders to include in each database.

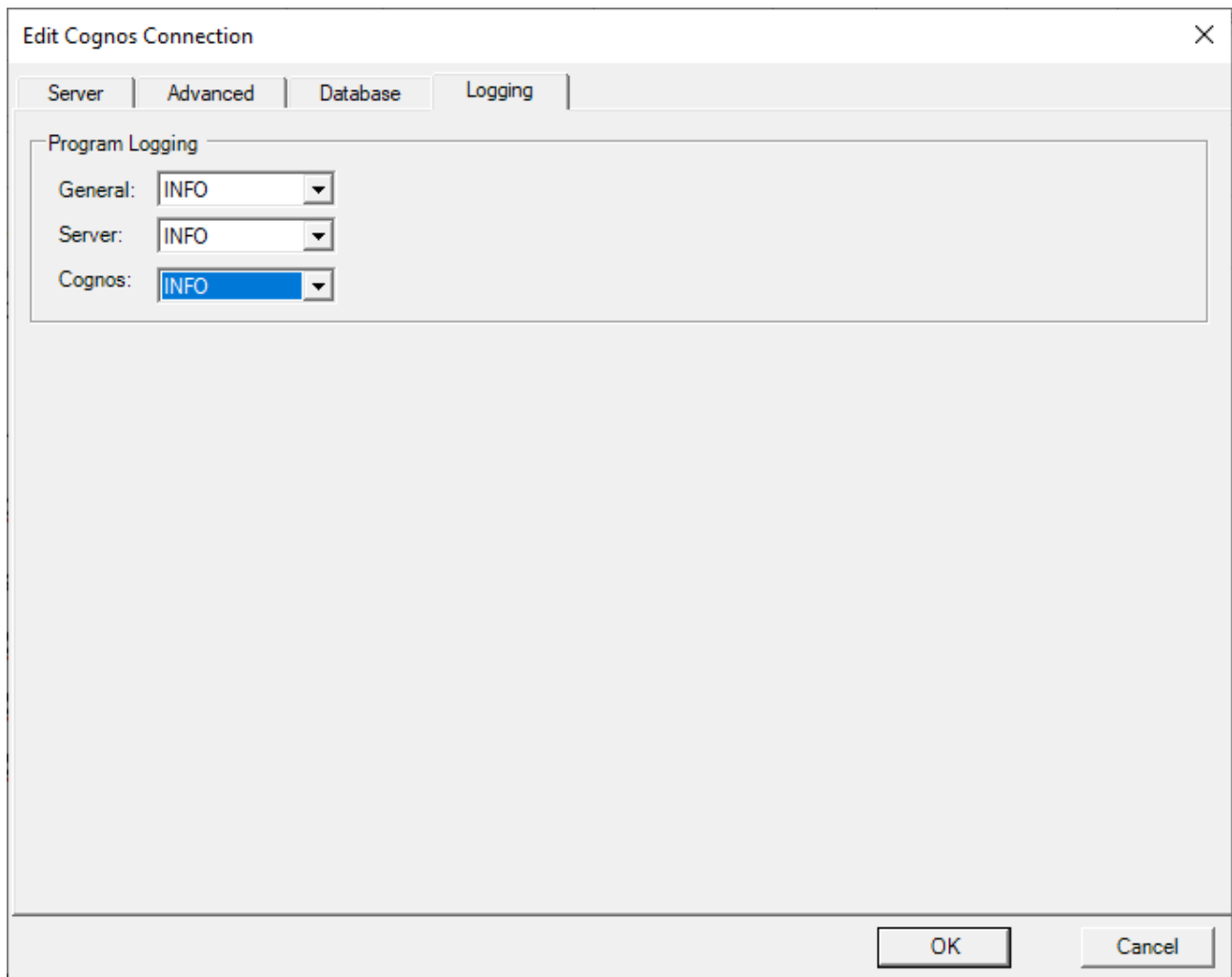
The screenshot shows the 'Edit MicroStrategy Connection' dialog box with the 'Database' tab selected. The dialog has a title bar with a close button (X) and two tabs: 'Server' and 'Database'. The 'Database' tab contains a table with two columns: 'Database Name' and 'Project Name'. The first row is highlighted in blue and contains 'tdvt' in both columns. The second row contains 'Tutorial' and 'MicroStrategy Tutorial'. Below this table is a large greyed-out area. Underneath is the section 'Report folder to database schema mapping' with a table that has three columns: 'Schema Name', 'Report Folder Path', and 'Subfolders'. The 'Subfolders' column has a checkbox, which is currently unchecked. Below this table is another large greyed-out area. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Database Name	Project Name
tdvt	tdvt
Tutorial	MicroStrategy Tutorial

Schema Name	Report Folder Path	Subfolders
		<input type="checkbox"/>

The Logging tab

This tab lets you configure the level of messages that will be recorded to the log files. Errors and Warnings will always be recorded.



The screenshot shows a dialog box titled "Edit Cognos Connection" with a close button (X) in the top right corner. The dialog has four tabs: "Server", "Advanced", "Database", and "Logging", with "Logging" currently selected. Inside the "Logging" tab, there is a section titled "Program Logging" containing three dropdown menus:

- General: INFO
- Server: INFO
- Cognos: INFO

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Configuring the Power BI Custom Data Connector

Power BI Desktop and Gateway require a custom data connector in order to use DirectQuery mode with ODBC data sources. DirectQuery passes queries to the underlying data source, which is highly desirable.

The Senturus Configuration Utility will create or refresh a custom data connector for your use when you click **OK** to close the Configuration Utility.

The custom data connector can be found in:

{Analytics Connector Installation Folder}\PowerBI\SenturusDataConnector.mez

On the machine where you run the Configuration Utility, this file is also automatically copied to:

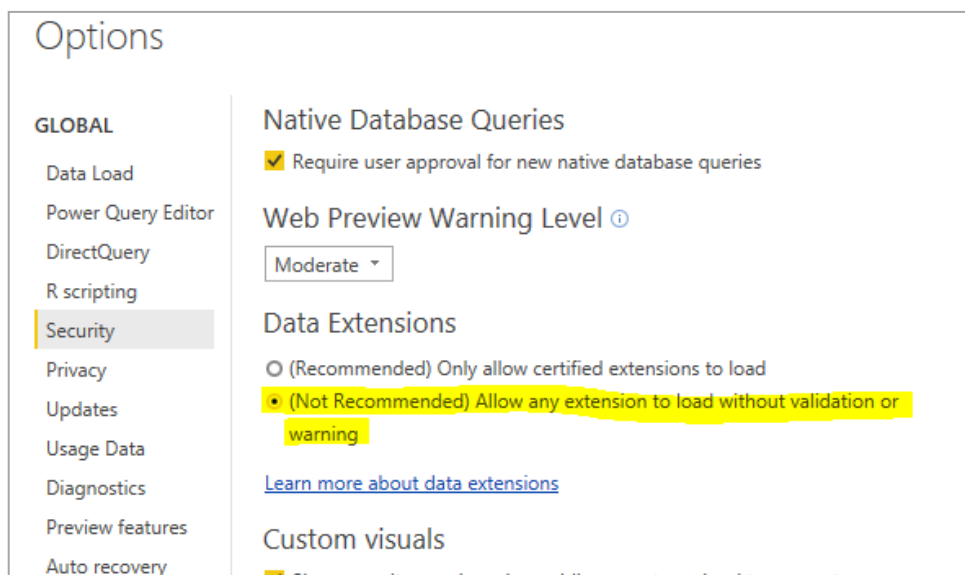
{User}\Documents\Power BI Desktop\Custom Connectors

On other Power BI Desktop or Gateway machines, you will need to install the Analytics Connector and then copy this file to the user's machine in the same named folder. You may need to create one or more of the bolded folders shown in the path below.

{User}\Documents\Power BI Desktop\Custom Connectors

Power BI looks at the above folder to discover the custom data connectors.

To enable this custom data connector to run, go to **File → Options and settings → Options → Security**.



Under **Data Extensions**, choose *Allow any extension to load without validation or warning*.

Configuring a DSN

NOTE: This is an optional step. The typical deployment uses the driver directly from the visualization tools and a DSN is not necessary.

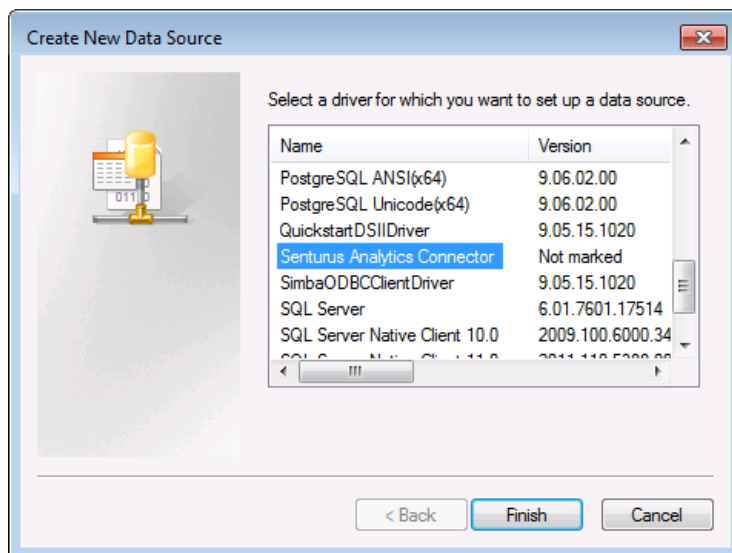
Like any other ODBC driver, you can define a Data Source Name (DSN) using the ODBC administrator tool from the Windows Control Panel. You can then use the DSN in Tableau, Power BI or other applications.

To create a new DSN:

Open the 64-bit ODBC administrator.

Add a system or user DSN (based on your permissions and requirements).

Select *Senturus Analytics Connector* when prompted to select a driver.



Edit Connections will launch the Configuration Utility. If you have not configured the desired Connection, you can do so from here.

(See [Configuring Cognos](#) or [Configuring MicroStrategy](#) for details)

Enter the desired Data Source name, description, server, and port. Optionally, you can enter a username and password and set the Database.

The screenshot shows a dialog box titled "Senturus Analytics Connector DSN Setup". It contains the following fields and controls:

- Data Source:** A text box containing "Senturus Cognos".
- Description:** An empty text box.
- Server:** A text box containing "localhost".
- Port:** A text box containing "5432".
- SSL Mode:** A dropdown menu with "disable" selected.
- User Name:** A text box containing "administrator".
- Password:** An empty text box.
- Database:** A dropdown menu with "GO Sales (query)" selected.
- Buttons:** "Load", "Test", "Save", and "Cancel". The "Save" button is highlighted with a blue border.

Advanced Topics & Notes

Additional technical information related to the Analytics Connector.

Finding Cognos Installation Information

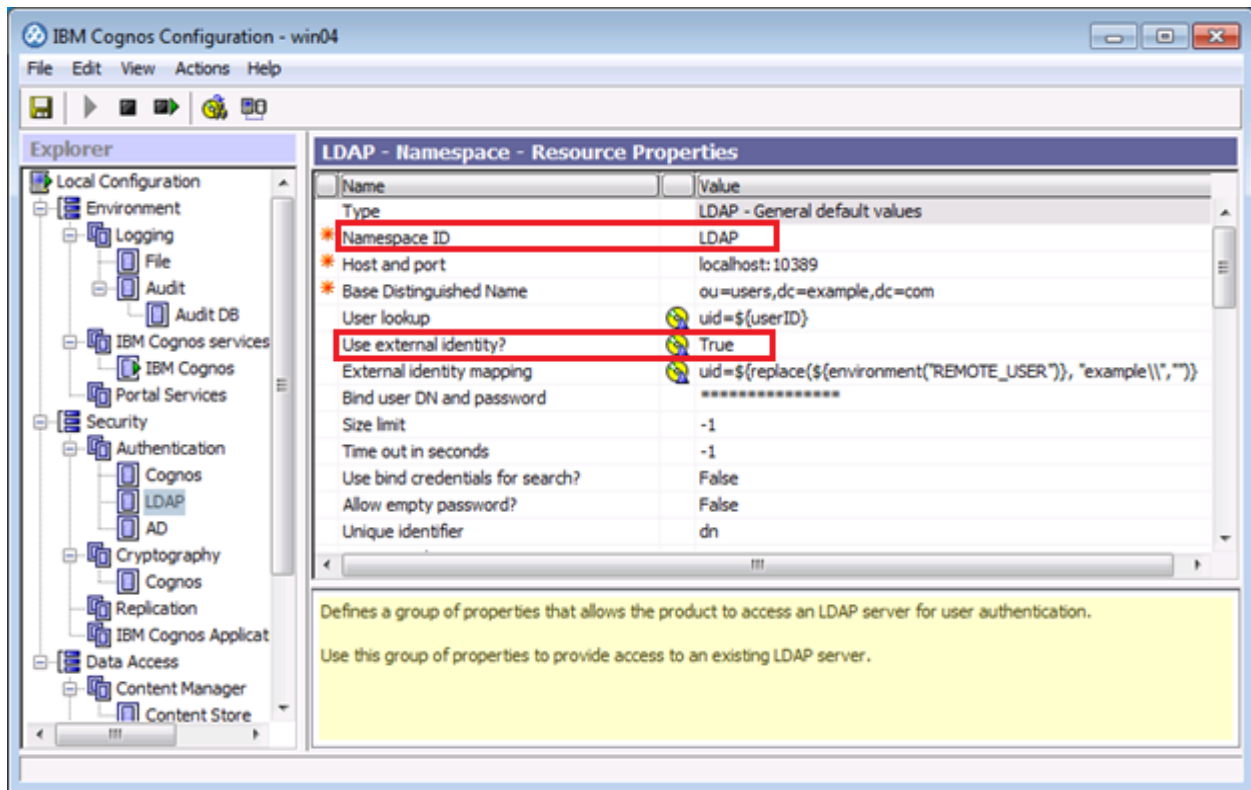
Dispatcher URI


One or more Cognos dispatchers can be configured for each Connection.

Namespace ID

The Cognos namespace IDs are not necessarily the same as the namespace display names.

The Namespace ID value can be found in the **Cognos Configuration** application, under **Security** → **Authentication** → **<namespace>**.



Alternatively, the Namespace ID can be found from the Cognos Administration console. Select the **Security** tab, click the **Properties** button () next to the namespace, and click the link to view the Namespace ID ([View the search path, ID and URL](#)). The Namespace ID will be displayed in the **Search path** property. For example, Senturus is the Namespace ID you would use from the below setting.

View the search path, ID and URL

Search path:

CAMID("Senturus")

CSV Settings

Your Cognos CSV settings can be found on the Cognos Administration page.

This is found under **Status** → **System** → **Settings-System** → **Advanced settings**.

The screenshot displays the IBM Cognos Administration web interface. The browser address bar shows the URL: 192.168.1.222/ibmcognos/bi/v1/disp?b_action=cogadmin. The interface is divided into several sections:

- Left Navigation Panel:** Contains links for Current Activities, Past Activities, Upcoming Activities, Dynamic Cubes, System (highlighted), and Schedules.
- Scorecard Section:** Shows a table of servers under the heading "All servers". The table has columns for Name and Status. Two servers are listed: "System" and "win02.example.com", both with a status of "Available".
- Metrics - System Section:** Displays a table of system metrics. The table has columns for Name and Value. Metrics include Job queue, JVM, Process - Batch report service, Process - Graphics service, Process - Metadata service, Process - Report service, and Queue - Report service. All values are 0.
- Settings - System Section:** Contains a table of system settings. A red box highlights the "Advanced settings" section, which includes:

Name	Value
portal.disablecc	false
RSVP_CSV_DELIMITER	,
- Other Settings:** Below the highlighted section, there are sections for Environment, Administrator Override, Logging, and Tuning.

SSL

If you are using SSL over Cognos dispatcher, or using SSL over Cognos gateway and have set authentication class to *NTLMAuthentication/SiteMinderBasicAuthentication*, then you need to configure the truststore so the Analytics Connector can communicate with your server over SSL.

To configure the truststore:

Obtain the certificate issued to your Cognos server, or any intermediate or root certificate.

Save it into your local drive, for example *C:\Temp\root.cer*.

Create *{Analytics Connector Installation Folder}\SSL* directory if it does not exist.

Open a prompt window.

Change directories to the *{Analytics Connector Installation Folder}* directory.

Execute the following command:

```
JRE\64\bin\keytool -import -alias root -file C:\Temp\localhost.cer -keystore SSL\truststore -storepass changeit
```

Review the information. If it looks correct, type **yes** and **Enter**.

truststore should be created under *{Analytics Connector Installation Folder}\SSL*.

OPTIONAL: To verify newly created truststore, execute the following command:

```
JRE\64\bin\keytool -list -v -alias root -keystore SSL\truststore -storepass changeit
```

NOTE: The password we use for truststore is *changeit*, which also matches the default password stored in Windows registry table.

If you want to use a different password, you will need the password above as well as the Windows registry table. This password is stored under key *HKEY_LOCAL_MACHINE\SOFTWARE\Senturus\ODBC\Driver*, within JNIconfig value.

Silent Installation

To perform a silent installation, execute the following command:

```
AnalyticsConnector_[version].exe /SILENT /DIR="C:\Program Files\Senturus\Analytics  
Connector" /CognosVersion="Cognos 11.1.1" /ServicePort="5432"  
/LicenseKey="Senturus.key"
```

/SILENT instructs installer to do a silent installation.

/DIR defines the installation directory. This is an optional parameter. The default value, if not provided via command line, is *C:\Senturus\Analytics Connector*.

/CognosVersion tells the installer the version and fix pack level of the Cognos BI server you want to connect to. This is a mandatory parameter. For a complete list of all target versions, run the installer in interactive mode and check the options.

/ServicePort defines the port number that Windows service will listen to.

/LicenseKey provides the Senturus ODBC license key to the installer.

/InstallServer indicates to install the server components. Options are yes and no. Default is yes.

/InstallClient indicates to install the client components. Options are yes and no. Default is yes.

The command above will bring the installation progress dialog though. If you want to suppress the progress dialog as well, replace */SILENT* with */VERYSILENT*.

(Cont'd)

Install Prerequisites Manually

If you do not have Internet access, or your access to prerequisite installers is blocked, you may need to download and install prerequisites manually before installing the Senturus Analytics Connector.

For Analytics Connector Server, you need to:

Download Java Runtime (64bit) from <https://www.java.com>

Download Microsoft .net Framework 4.5 or above from <https://dotnet.microsoft.com/download/dotnet-framework/net45>

In order to install Analytics Connector Client, you need to:

Download Microsoft Visual C++ Redistributable (64bit) from https://download.visualstudio.microsoft.com/download/pr/cc0046d4-e7b4-45a1-bd46-b1c079191224/9c4042a4c2e6d1f661f4c58cf4d129e9/vc_redist.x64.exe

Download Microsoft Visual C++ Redistributable (32bit) from https://download.visualstudio.microsoft.com/download/pr/0c1cfec3-e028-4996-8bb7-0c751ba41e32/1abed1573f36075bfdfc538a2af00d37/vc_redist.x86.exe

Copy these files to your target computer and install them by running these executables. Once those prerequisites are installed, you can launch the Senturus Analytics Connector installer.

Other Software usage

In addition to the above pieces of 3rd party redistributable software, the following software is used within or by the Analytics Connector:

- Oracle Java JRE (<https://java.com>)– The customer is responsible for this license
- Cognos SDK – The customer is responsible for this license as part of the Cognos system
- Open source software code - all in use allow us to redistribute commercially

Upgrade or reinstall the Analytics Connector

If you need to upgrade the Analytics Connector to a newer version or need to upgrade the Cognos SDK version to reflect a Cognos upgrade, re-run the installer.

First, ensure that the Analytics Connector is not being used by any application. For Power BI Gateway, you will need to stop the service to ensure it releases file locks. Make sure Power BI Desktop and/or Tableau Desktop are closed.

If you are upgrading the connector, download the new Analytics Connector version from <https://www.senturus.net/connector-download/>.

Run the installer. Choose the same installation directory. Select the appropriate Cognos version. The installer will detect the installed key and will not overwrite your configured data sources.

3.X to 4.X Upgrade process

There was an underlying technology change between the 3.x and 4.x versions of the Analytics Connector that requires a slight adjustment to workbooks. Follow these steps to upgrade from 3.X to 4.X.

Upgrade Tableau Server:

- Save your license key and DataSourceConfig.xml files
- Uninstall Analytics Connector version 3.x
- Install Analytics Connector version 4.X, selecting both the Analytics Connector server and client components
- Copy the license key and DataSourceConfig.xml files to the installation folder
- Restart the Analytics Connector server service to pickup the file changes

Upgrade Tableau Desktop:

- Uninstall Analytics Connector version 3.x
- Install Analytics Connector version 4.X, selecting only the Analytics Connector client component

Upgrade the Tableau Workbooks:

- Open Tableau workbook with Analytics Connector 3.x connections
- Edit the connection(s) in the workbook that rely on the 3.x Analytics Connector. Reconnect to the database, specifying the server name and port while retaining the same database name during the login process.
- Save and Test the workbook.
- Publish the workbook to Tableau Server.

- Note: Your Tableau Server will need the upgraded Analytics Connector client component installed and configured to talk to the upgraded Analytics Connector server component when the workbook is published.
- Test the published workbook, which will test the upgraded client and server components.
- Repeat the process for additional Tableau Workbooks.

Uninstall the Analytics Connector

You can uninstall the Analytics Connector in two ways:

1. Use the Windows Control Panel and select **Uninstall a program**.
2. Go to the Analytics Connector **Installation** folder (Typically *C:\Program Files\Senturus\Analytics Connector* and run *unins000.exe*.

DataSourceConfig.xml Specifications

The screenshot below shows the default DataSourceConfig.xml file.

```
<dataSources>
  <server name="cognos" type="Cognos" namespaces="Senturus,LDAP,AD" autoReconnect="fals
    dispatcher="http://192.168.1.224:9300/p2pd/servlet/dispatch. http://192.168.1
    authenticationClass="com.senturus.cognos.DispatcherAuthentication">
    <database name="GO Sales (query)" package="/content/folder[@name='Samples']/folde
      <dataSourceConnection path="CAMID (&quot;;&quot;)/dataSource[@name='great_outd
      <reportFolder name="Sample Reports" path="/content/folder[@name='Samples']/fo
      <reportFolder name="Connector Reports" path="/content/folder[@name='Connector
    </database>
    <database name="GO Sales (analysis)" package="/content/folder[@name='Samples']/fo
    <setting name="RSVP.CSV.ENCODING" value="utf-16le"/>
    <setting name="RSVP.CSV.DELIMITER" value="TAB"/>
    <setting name="RSVP.CSV.QUALIFIER" value="&quot;;"/>
    <setting name="RSVP.CSV.TERMINATOR" value="LF"/>
  </server>
  <server name="mstr" type="MicroStrategy" host="192.168.1.243:34952" loginModes="Stand
    <database name="Tutorial" project="MicroStrategy Tutorial" />
    <database name="tdvt" project="tdvt" />
  </server>
</dataSources>
```

server element: this defines a connection to one Cognos or MicroStrategy BI server.

@type: either Cognos or MicroStrategy.

@name: the user-friendly name that appears in the **Login** dialog.

@dispatcher: (for Cognos only) the URL string points to Cognos dispatcher. To support fail over, you can specify multiple dispatchers separated by commas. **NOTE:** Put the more reliable dispatchers first because the Analytics Connector will try each dispatcher in the order they are specified here.

@namespaces: (for Cognos only) comma separated list of Cognos namespace IDs. Leave this blank if you want to log into Cognos anonymously.

@autoReconnect: Cognos and MicroStrategy servers may disconnect clients after a period of inactive time. Set **autoReconnect** to *true* if you want the Analytics Connector to automatically reconnect to the BI server. The default value is *false*.

@authenticationClass: (for Cognos only) the default value is *com.senturus.cognos.DispatcherAuthentication*. This default works in most cases where you can log into Cognos dispatcher directly with namespace/uid/password combination. However, in cases where users cannot login to the dispatcher directly (e.g. when namespace is a LDAP using external identity from Windows/IIS authentication), then you can use another class *com.senturus.cognos.NTLMAuthentication* instead. For other authentication scenarios, contact Senturus for help.

@calculationsTableName: (for Cognos only) Cognos Framework Manager allows you to create standalone calculations under a namespace (without putting them within a query subject). This option allows you to choose which name you want to use: *_AAA_CALCULATIONS* or *_CALCULATIONS_*.

@linkColumnName: Tableau does not allow you to drop tables into a data source without a join to other existing tables. But when using Cognos packages or MicroStrategy project metadata, there is no need (or it is impossible) to define joins.

The Analytics Connector creates an extra column in each table so you can join these link columns to satisfy Tableau. Prior to version 2.4, the column name is *_LINK_COLUMN_*. But because Tableau automatically picks join columns by alphabetic order, *_LINK_COLUMN_* column pairs may not be its first choice. Since version 2.4, you can choose either *AAA_LINK* or *_LINK_COLUMN_* as link column names.

@host: (for MicroStrategy only) the host name or IP and port number of MicroStrategy Intelligence server.

@loginModes: (for MicroStrategy only) comma separated list of the login modes of the MicroStrategy Intelligence server. Only standard and LDAP are support.

database element: This defines a published package in Cognos Connection or a project in MicroStrategy.

@name: the user-friendly name that displays in login dialog.

@package: (for Cognos only) the search path of this Cognos package.

@project: (for MicroStrategy only) the name of MicroStrategy project.

dataSourceConnection element: (for Cognos only) Cognos packages reference data sources and one data source may have multiple data source connections. If users have access to more than one connection, you need to specify which connection to use when running reports. Omit this element if users have access to only one connection.

@Path: the search path of data source connection.

reportFolder element: You can define from which folder you want to pull Cognos reports, report views and queries, and present them as tables within an ODBC schema. For MicroStrategy, grid report and intelligence cube will be pulled from defined folder.

@name: the name of schema that will show in ODBC.

@Path: the search path of Cognos folder.

@includeSubFolders: set this to true to include reports in sub folders recursively.

setting element: (for Cognos only). Cognos administrators can customize the CSV output format instead of using Cognos defaults. Setting elements pass these customizations to the Senturus Analytics Connector so it can consume Cognos output correctly.

You can also customize which levels/attributes to retrieve from cube data sources, using setting elements.

The default DataSourceConfig.xml lists the default Cognos settings, so you can leave them as is or you can remove one or all of them if your Cognos server uses default.

Questions?

The latest version of the Analytics Connector along with related documentation and contact information can be found at <https://www.senturus.net/connector-download/>.

If you have any additional questions, please contact us at CustomerSupport@senturus.com.