

Using XLReporter with FactoryTalk View SE Data Agent Data Logs

Overview

XLReporter takes historical values from multiple FactoryTalk View SE data log models in both the File Set and ODBC formats via the FactoryTalk View SE Data Agent to populate workbooks, periodically or on event, without needing Excel. The award-winning reporting software turns raw data into industrial metrics which are used for compliance, regulatory, improvements and operations.

Complete reports are distributed automatically by email, FTP, file server and printers. With the Web Portal, reports are viewed or produced on-demand from any device supporting a web browser such as a mobile phone or tablet.

Set up FactoryTalk View SE Data Agent

The FactoryTalk View Data Agent can be installed for FactoryTalk View SE version 10 and above on a FactoryTalk View SE stand-alone system, the FactoryTalk View SE server or any FactoryTalkView SE client. To obtain the FactoryTalkView SE Data Agent installation media, please contact SyTech, Inc. You must provide your FactoryTalk View SE product serial number in order to be eligible.

After installation, the configuration for Data Agent must be updated so that any machine on the network can request data. To do so, open *RA.DataAgent.SDK.Service.Host.exe.config* using a text editor like Notepad. This file is typically found in *C:\Program Files (x86)\Rockwell Software\RSView Enterprise\Data Agent SDK*.

In the text file, replace every instance of **localhost** with the IP address of the machine, save the file and close it. After closing it is recommended to restart the **Rockwell Data Agent** Windows Service.

FactoryTalk View SE

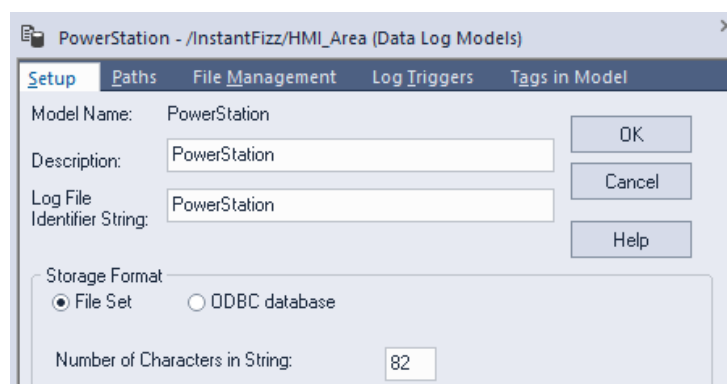
For **XLReporter** to collect data through the FactoryTalk View SE Data Agent, the application must be running.

Define Data Log Models

Open the **FactoryTalk View SE Studio** from the **Rockwell Software** or **FactoryTalk View** program group then open the current application.

Under the **Data Log** folder in the **Explorer**, select the **Data Log Models** icon.

Under the **Setup** tab,

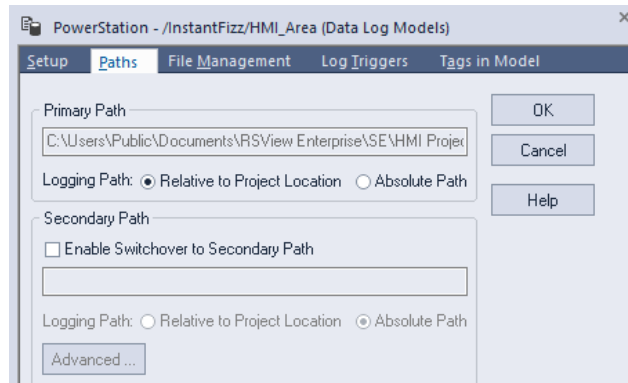


- Add a **Description** and **Log File Identifier String**.

- Set the **Storage Format** to either *File Set* or *ODBC database* depending on how you want to store the data.

File Set Setup

Under the **Paths** tab,



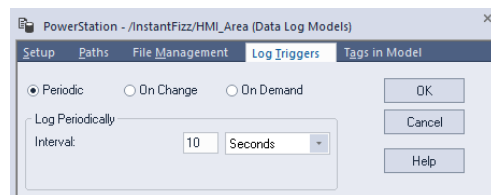
- Set the **Primary Path** to where the files are stored.

Under the **File Management** tab,



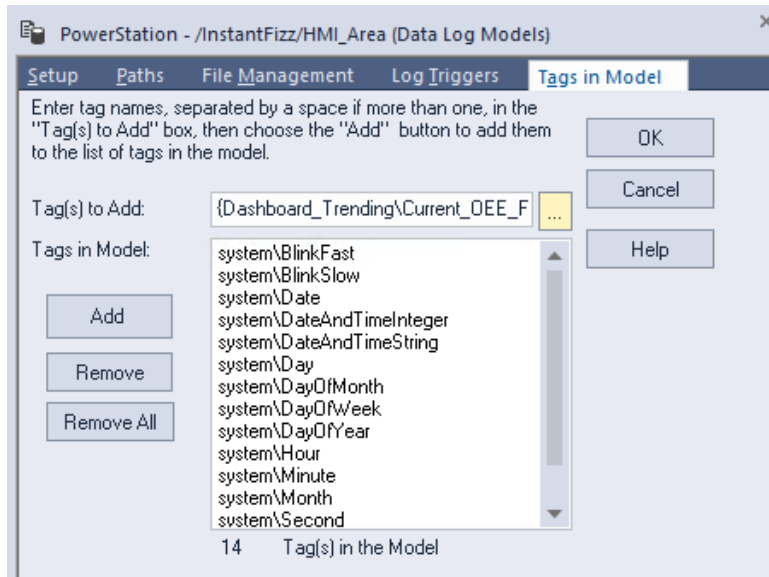
- Specify how often you want new files created. It is suggested to create *Periodic* files that start *Daily (Change at Midnight)*.
- Indicate if old files should be deleted under the **Delete Oldest Files** section.

Under the **Log Triggers** tab,



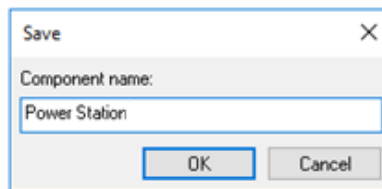
- Specify how the logging of tag values will be triggered i.e. periodically, on change or on demand. The **On Demand** option will log data when the **DataLogSnapshot** command is issued. This command can be issued from anywhere that commands and macros are supported. For example, it could be typed in the command line or specified as the action for an event. If **Periodic** or **On Change** is selected, on demand logging can still be used whenever it is appropriate.

Under the **Tags in Model** tab,



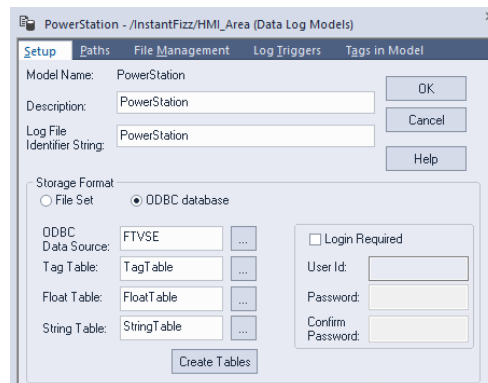
- Specify the tags to be logged.
The maximum number of tags that can be logged by one data log model is 10,000.
- Close the dialog.

On close the **Save** dialog is opened.



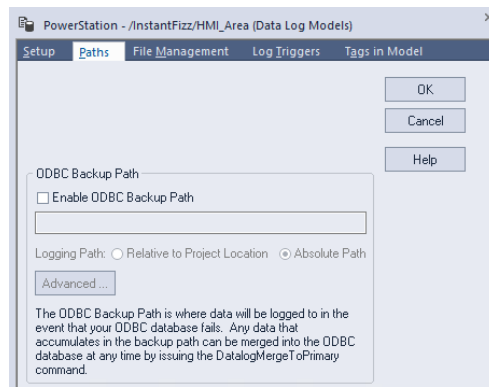
Add a *Component* name. This is the name of the Data Log Model.

ODBC database Setup



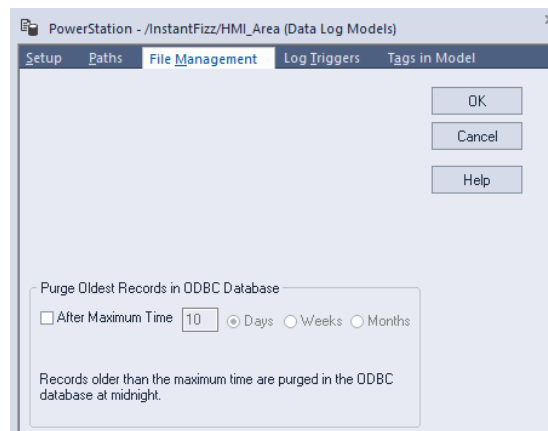
- Set **ODBC Data Source** to a **Data Source Name (DSN)** that defines the database where the data is stored.
- If the database requires a login (like SQL Server or SQL Server Express may), check **Login Required** and specify the appropriate information.
- Click **Create Tables** to create the tables required for the log model.

Under the **Paths** tab,



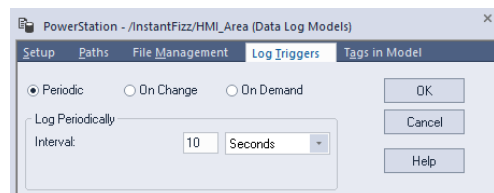
- The **ODBC Backup Path** can be enabled so that if the database is unavailable, data is not lost.

Under the **File Management** tab,



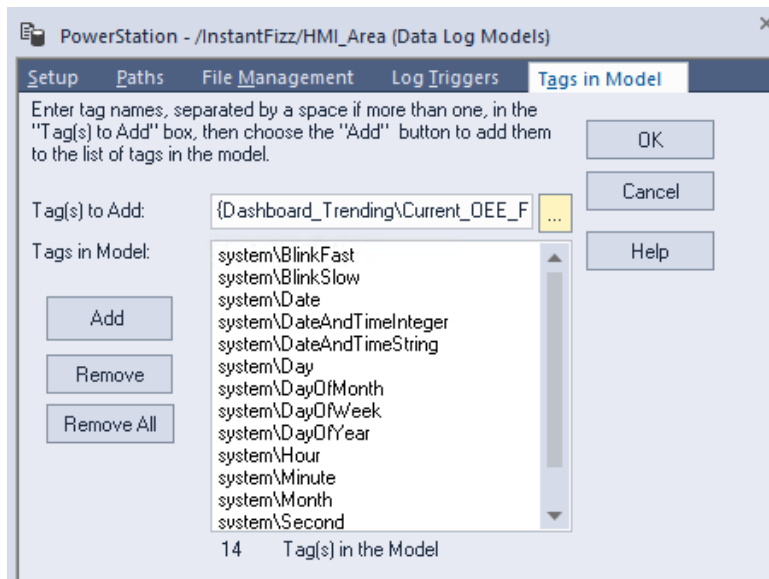
- The **Purge Oldest Records in ODBC Database** option is available to periodically remove old historical data from the database.

Under the **Log Triggers** tab,



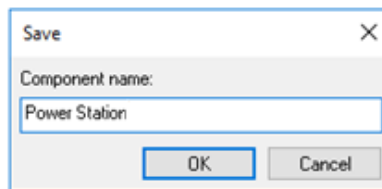
- Specify how the logging of tag values will be triggered i.e. periodically, on change or on demand. The **On Demand** option will log data when the **DataLogSnapshot** command is issued. This command can be issued from anywhere that commands and macros are supported. For example, it could be typed in the command line or specified as the action for an event. If **Periodic** or **On Change** is selected, on demand logging can still be used whenever it is appropriate.

Under the **Tags in Model** tab,



- Specify the tags to be logged.
The maximum number of tags that can be logged by one data log model is 10,000.
- Close the dialog.

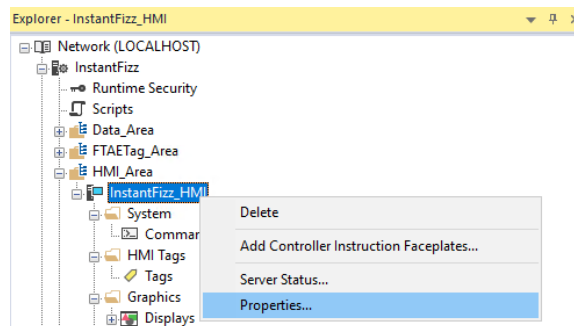
On close the **Save** dialog is opened.



Add a *Component* name. This is the name of the Data Log Model.

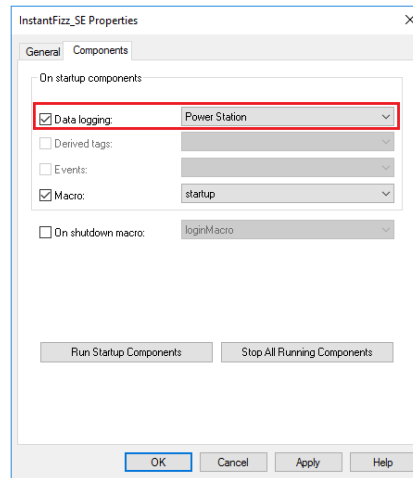
Start Data Log

To start the data log when FactoryTalk View SE starts, access the **HMI Properties** dialog.



- Right click on the application and select *Properties*.

Under the **Components** tab,



- Check **Data Logging** and select the data log model.

If more than one data log model needs to be started, they can be started using the command:

DataLogOn "Component name"

Where "Component name" is the data log model name. If the model name has a space in it, enclose the name in quotes. The command can be issued from the command line or from a startup or login macro. For example:

DataLogOn"Power Station"

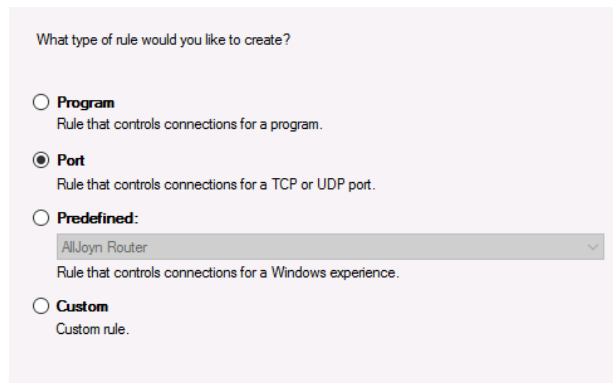
Note that in FactoryTalk View SE, a HMI server can have up to 20 data log models running at one time.

Windows Firewall

If the Windows Firewall is enabled in the machine where the FactoryTalk View SE Data Agent is running, the Port Number specified in the *RA.DataAgent.SDK.Service.Host.exe.config* must be opened in order to connect.

To do so:

- Open the Windows Firewall. Typically the easiest way to do this is by typing Firewall into the search bar at the bottom left of Windows.
- Click **Advanced Settings**
- Right-click **Inbound Rules** and select **New Rule**.



- For the rule type select Port and click **Next**.

Does this rule apply to TCP or UDP?

TCP
 UDP

Does this rule apply to all local ports or specific local ports?

All local ports
 Specific local ports:
 Example: 80, 443, 5000-5010

- For **Protocol and Ports** select **TCP** protocol.
- Select **Specific local ports** and specify the port number as found in the *RA.DataAgent.SDK.Service.Host.exe.config* (this is specified after the IP address and by default is 12344, e.g., 192.168.1.1:12344). Click **Next**.
- Leave **Allow the connection** selected and click **Next**.
- Apply the rule for every network type required and click **Next**.
- Give the rule a **Name** and click **Finish**.

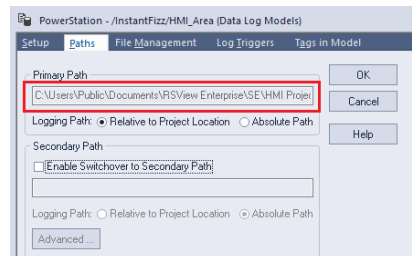
Prerequisites

Verify Data Files

If the data log model is configured as *File Set*, to verify the files, open the **FactoryTalk View SE Studio** from the **Rockwell Software** or **FactoryTalk View** program group. Then open the application to configure.

Select the **Data Log Models** icon under the **Data Log** folder, open the data log model.

- Select the **Paths** tab and note the **Primary Path**



- Using Windows File Explorer, access the path and verify that there are *.dat* files in that folder.

Verify Tags and Data

Open the **FactoryTalk View File Viewer** from the **Rockwell Software** program group.

| Da | Close | Value | Status | Marker |
|----------|--|---------------------------|--------------------|--------|
| 1/8 | Save As... | BLINKFAST | 0.00000000 | U B |
| 1/8 | Print Preview... | BLINKSLOW | 0.00000000 | U B |
| 1/8 | Print... | DATEANDTIMEINTEGER | 0.00000000 | U B |
| 1/8 | 1 2020 01 08 0000 PowerStation (Float).DAT | DAYOFMONTH | 0.00000000 | U B |
| 1/8 | Exit | DAYOFWEEK | 0.00000000 | U B |
| 1/8 | | DAYOFYEAR | 0.00000000 | U B |
| 1/8 | | HOUR | 0.00000000 | U B |
| 1/8 | | MINUTE | 0.00000000 | U B |
| 1/8/2020 | 13:45:09 | MONTH | 0.00000000 | U B |
| 1/8/2020 | 13:45:09 | SECOND | 0.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.YEAR | 0.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.BLINKFAST | 1.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.BLINKSLOW | 1.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.DATEANDTIMEINTEGER | 1578509109.0000... | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.DAYOFMONTH | 8.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.DAYOFWEEK | 4.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.DAYOFYEAR | 8.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.HOUR | 13.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.MINUTE | 45.00000000 | U B |
| 1/8/2020 | 13:46:09 | SYSTEM.MONTH | 1.00000000 | U B |

Total record number: 6776 Selected record: NUM

Select **File, Open** and navigate to the path. Open the most recent (*Tagname*), (*Float*) and (*String*) files in the path.

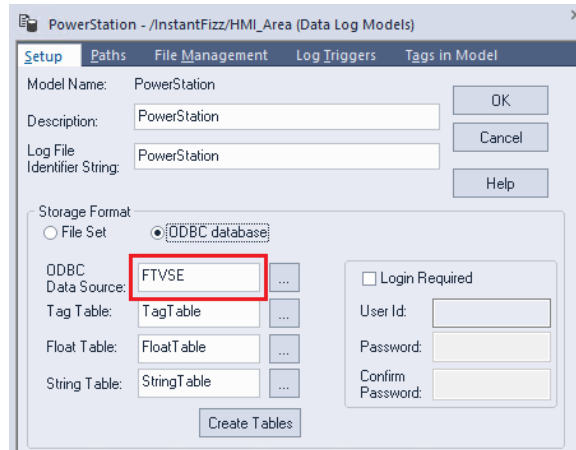
- Verify the tag file is correct and that the float and string files contain data.

Verify Database

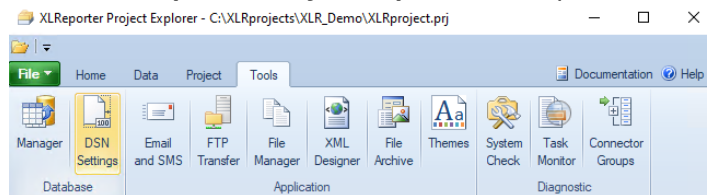
Open the **FactoryTalk View SE Studio** from the **Rockwell Software** or **FactoryTalk View** program group. Then open the application to configure.

Select the **Data Log Models** icon under the **Data Log** folder, open the data log model.

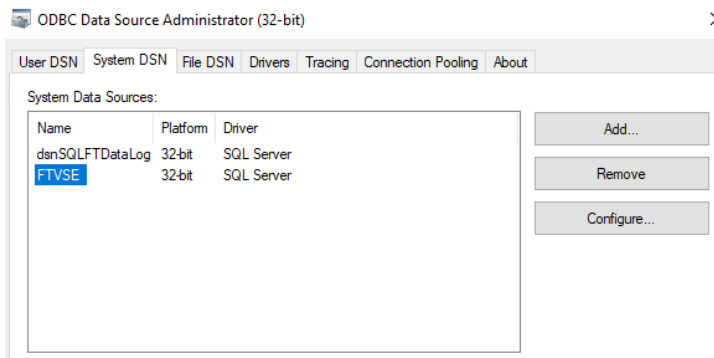
- On the **Setup** tab, note the *ODBC Data Source Name*.



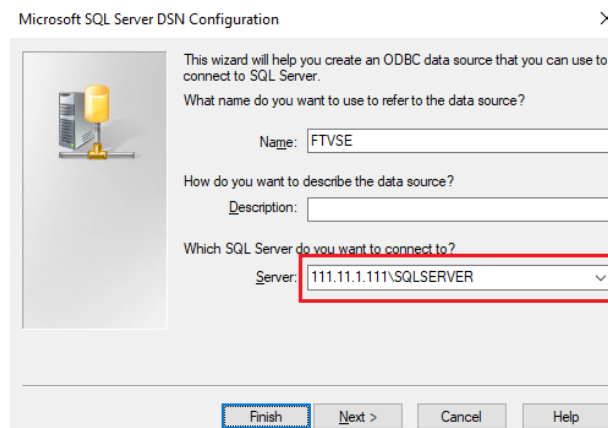
- Navigate to the **Tools** tab of the **XLReporter Project Explorer** and open **DSN Settings**



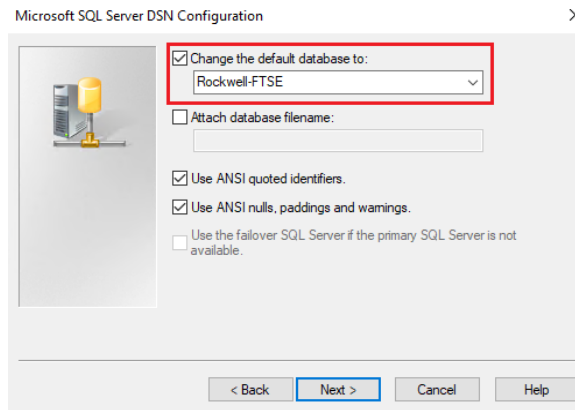
- Navigate to the **System DSN** tab of the **ODBC Data Source Administrator**, select the DSN and click **Configure**.



- Note the *SQL Server* instance that is specified as **Server**.



- Click **Next** until you see the *Change the default database to* and note the database.



- Connect to the SQL Server instance using the **Microsoft SQL Server Management Studio**.
- In the tree on the left, expand **Databases**, select the database configured in the **DSN** and expand **Tables**.
- Right-click the **Float Table** and choose *Select Top 1000 Rows*.

If no data is returned contact Rockwell Automation technical support and correct these issues.

Create a Project

From the **XLReporter Project Explorer** select **File, New** to start the **Project Wizard**. This will give step-by-step instructions on creating a project

Step 1

- Enter a **Project Name** and **Description** (optional).

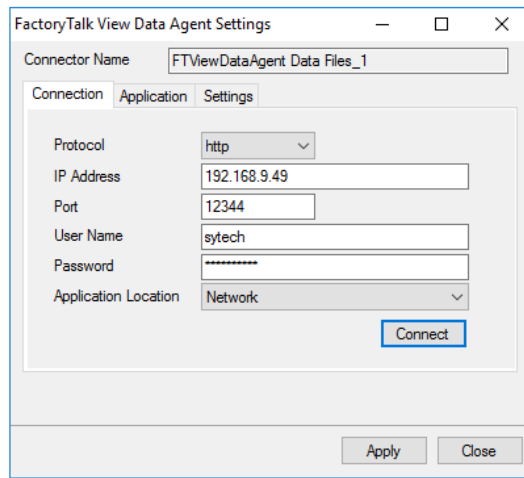
Step 2

- Configure the data connector, click **Add**.

| Name | Provider | Description |
|------|----------|-------------|
| * | | |

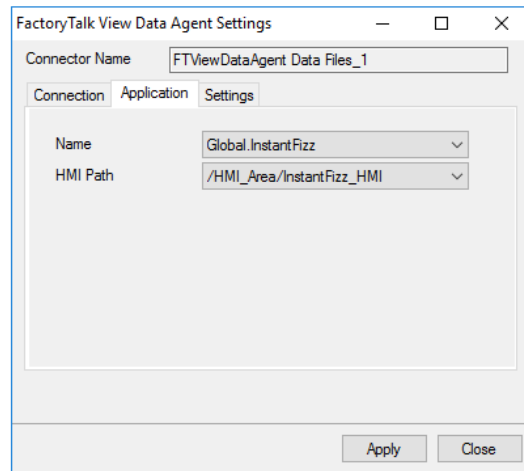
Select **Rockwell Automation, FactoryTalk View SE Data Agent File(s)**

Under the **Connection** tab



- Set the **Protocol** to *http* or *https* depending on the security protocol configured.
- Set **IP Address** to the IP address of the machine where the FactoryTalk View Data Agent is installed and running.
- Set **User Name** and **Password** to a valid user name configured in FactoryTalk View SE.
- Set **Application Location** to *Network* or *Local* depending on the location of the FactoryTalk View SE application to retrieve data from.
- Click **Connect**.

Under the **Application** tab



- Set the **Name** to the name of the FactoryTalk View SE application to retrieve data from.
- Set **HMI Path** to the path based on the **Application Name** selected.

Verify the Data Connector

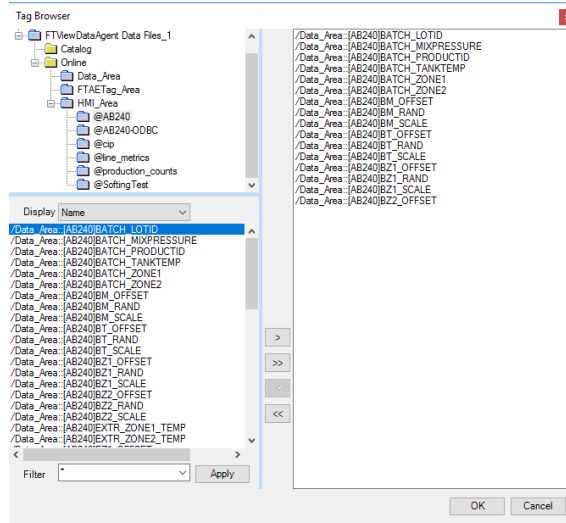
XLReporter retrieves data from the **Data Connector** using a **History Group**.

From the **XLReporter Project Explorer** select, **Tools, Connector Groups**

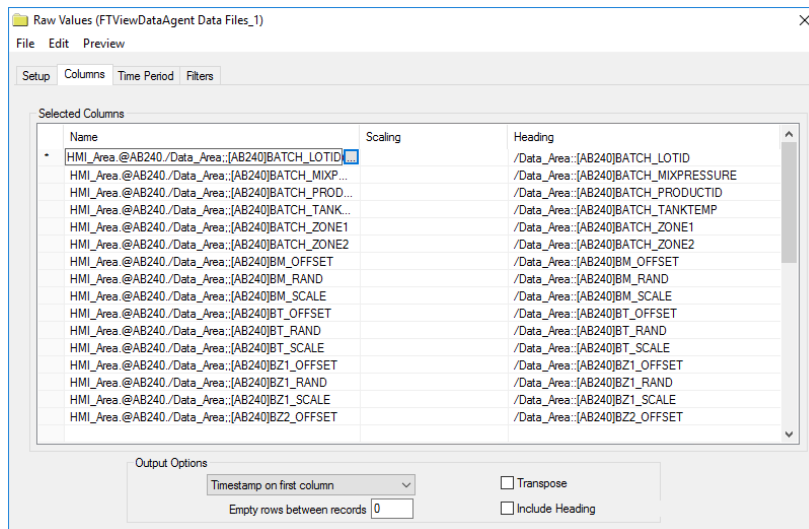
Select the *FactoryTalk View SE Data Agent Data Files* connector and then select **Add**.

- Set the **Type Raw Values** and click **OK**.

On the **Columns** tab of the group, select the tag **Name(s)**.



The tags for the data log models are typically found under the **HMI_Area** branch. Notice that every data log model configured for the application is available.



Select **Preview**, pick a *Start* date and click **Refresh**.

