Emerson Automation Solutions Connectors

DeltaV Real-time values (OPC DA)

This connector is used to get real time values from DeltaV via the DeltaV OPC DA Server.

Set up DeltaV

To connect to the DeltaV OPC Server it must be available on the machine where **XLReporter** is installed. However, in some cases, **XLReporter** must be installed on a non-DeltaV node on the network where the OPC Server is not running.

To overcome this and gain access to the OPC Server, install the DeltaV OPC Remote application on the machine with **XLReporter.** This can be found on the DeltaV installation CD in the **DV_Extras** folder.

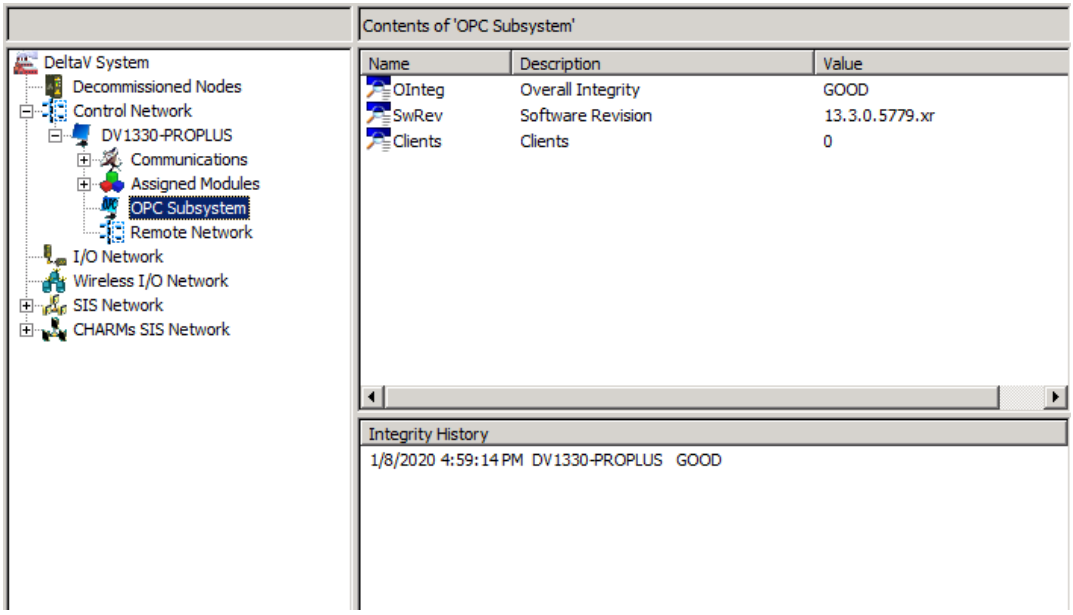
Once this is installed, when browsing for local OPC servers, the DeltaV OPC Server will appear.

Prerequisites

Verify the OPC Server

To verify the OPC Server, on the machine where the DeltaV OPC Server is running, open **DeltaV Explorer.**

From the **Applications** menu, open **Diagnostics**.



On the left side expand **DeltaV System**, **Control Network** and then the name of the DeltaV node. Select **OPC Subsystem**.

On the right, ensure that **OInteg** (Overall Integrity) is set to *Good*.

Verify Data Retrieval

To verify data retrieval, use DeltaV's OPCWatchIt application. To run, from the Windows search box, enter *opcwatchit*.

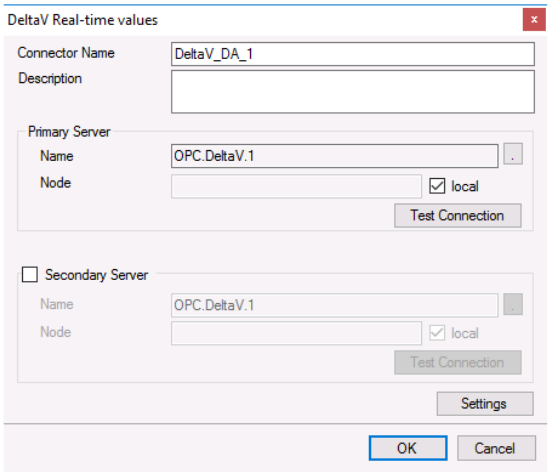
- Verify **Server** is set to *OPC.DeltaV.1*. If it is not, click **Change Server** to select it.
- Click **BrowsePath,** select a tag and click **OK**.
- Click **Read** to display real time value of the selected tag.

If the OPC subsystem is not good or OPCWatchIt does not respond as described contact Emerson Automation Solutions technical support to troubleshoot and correct these issues.

Connector

To configure the connector to **DeltaV**, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions, DeltaV Real-time values.**
- Click **OK**



Primary Server

These settings define the **Name** and **Node** of the OPC DA server. Typically, the **Name** is defaulted correctly and for DeltaV, **local** should remain checked.

Use the **Test Connection** button to verify a connection to the server.

Secondary Server

This setting is not valid for DeltaV as only a local connection is supported.

Settings

For information on the specific settings, see the **DATA CONNECTIVITY, OPC** document.

Named Sets

If a tag is set up in DeltaV as a **Named Set**, using **XLReporter** both the numeric and text string can be retrieved.

When browsing for the tag, in the lower middle of the tag browser, set **Access** to either *Native* to get the numeric value or *String* to get the text string returned.

Note, when **String** is specified, the tag is appended with *.XSTR*. This is used by **XLReporter** internally; it is not submitted to DeltaV as part of the tag.

Verify Data Communication

To verify communication to the DeltaV OPC Server, open the **Project Explorer** and select the **Tools** tab. Launch the **System Check** application.

- Click **Add**
- Choose the *DeltaV Connector* from the dropdown list
- Click the pushbutton ([…]) next to Items to open the **Tag Browser** window.
- Select one or more tags, click **OK**

To verify the connection and see the current values click **Start**.

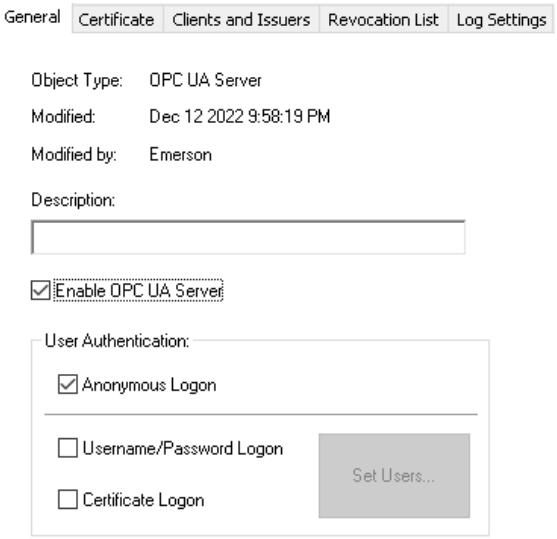
DeltaV Real-time values (OPC UA)

This connector is used to get real time values from DeltaV via the DeltaV OPC UA Server.

Prerequisites

Enable OPC UA

In DeltaV, the OPC UA server is enabled in the **DeltaV Explorer**. Under **Physical Network**, **Control Network**, select the machine for the server. On the right side, select the **OPC UA Server**, right click and select **Properties**.



Under the **General** tab, make sure **Enable OPC UA Server** is checked.

Remote Communication

If XLReporter is not installed on the same machine as DeltaV, the workstation must also have the OPC core components installed. To determine if the core components are installed verify the following file exists:

- 64 - bit OS C:\Windows\SysWow64\OPCEnum.exe
- 32 - bit OS C:\Windows\system32\OPCEnum.exe

If the components are not installed, they are provided in the tools folder of the installation or from www.opcfoundation.org.

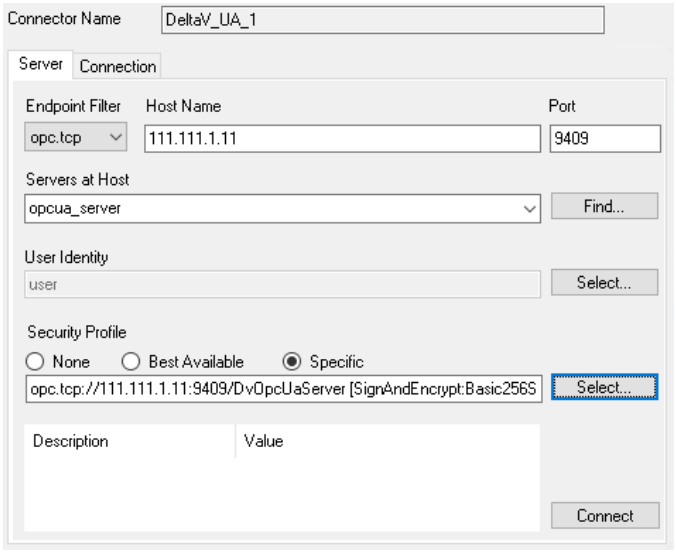
Windows Firewall

If the Windows Firewall is enabled on the machine where the DeltaV OPC UA server is running the **Port** configured for the it must be opened in order for remote clients to connect. This is typically port *9409*.

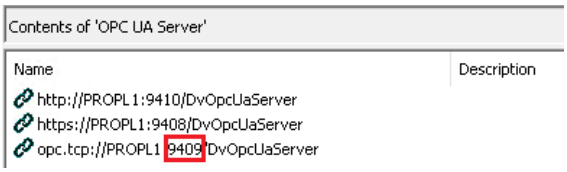
Connector

To configure the connector to the DeltaV OPC UA server, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions**, **DeltaV Real-time values (OPC UA)**
- Click **OK**



Under the **Server** tab, for **Host Name**, select or enter the name or IP address of the machine where the server is running. For **Port** specify the port found when exploring the OPC UA Server in the DeltaV Explorer. The port number appears in the URL that starts with *opc.tcp://* just after the PC name.



This is typically *9409.*

For **Servers at Host** click **Find** and then choose *opcua_server*.

For **User Identity** click **Select** to specify.

Anonymous can be used if the **Anonymous Logon** setting is enabled in the **OPC UA Server Properties**.

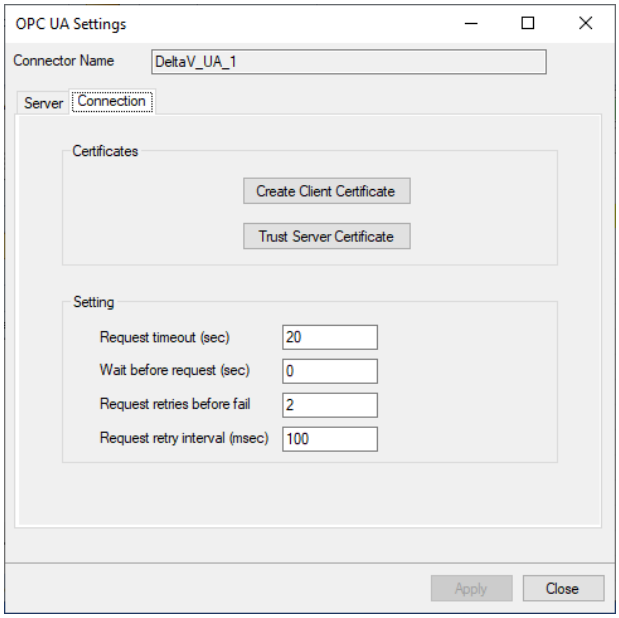
Security Profile defines the endpoint to connect to for the DeltaV OPC UA Server. Select the profile that matches the **Security Policies** set in the **DeltaV OPC UA Server**. To use a specific endpoint, select **Specific** and click the **Select** button.

Click **Get Endpoints** to get the list of available endpoints, select the one that best fits with the server settings and click **OK**.

Click **Connect** to ensure connectivity. This may require an exchange of certificates between the client and the server. If prompted to exchange, click **Yes**. This action requires Windows administrator rights.

If the **Connect** fails, be sure that the client certificate is trusted by the server and then attempt to **Connect** again. For more information, see the **Trusted Clients** section below.

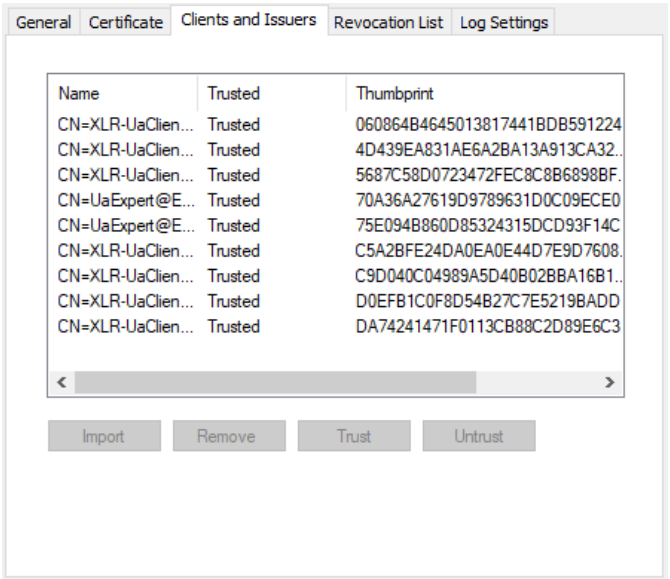
Under the **Connection** tab are **Certificate** options and general **Settings**.



The Client Certificate is automatically created on installation. If required, to recreate the certificate select **Create Client Certificate**. For most OPC UA servers, the default settings will be sufficient, but if the server requires more advanced certificate settings you can specify them with the **Advanced** button.

Trusted Clients

In some cases, the client must be accepted by the server to make requests. From within the **DeltaV OPC UA Server Properties**, select the **Clients and Issuers** tab.



Select the certificate and click **Trust**.

Verify Data Communication

To verify communication to DeltaV OPC UA, open the **Project Explorer** and select the **Tools** tab. Launch the **System Check** application.

- Click Add
- Choose the *DeltaV OPC-UA Connector* from the dropdown list
- Click the pushbutton ([…]) next to **Items** to open the **Tag Browser** window.
- Select one or more tags, click **OK**
- Click **Start** to verify the communication

DeltaV Continuous Historian (OPC HDA)

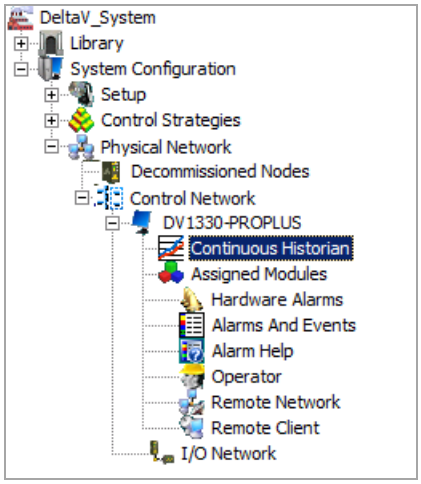
This connector is used to get historical values from the DeltaV Continuous Historian via the DeltaV OPC HDA Server.

Set up DeltaV

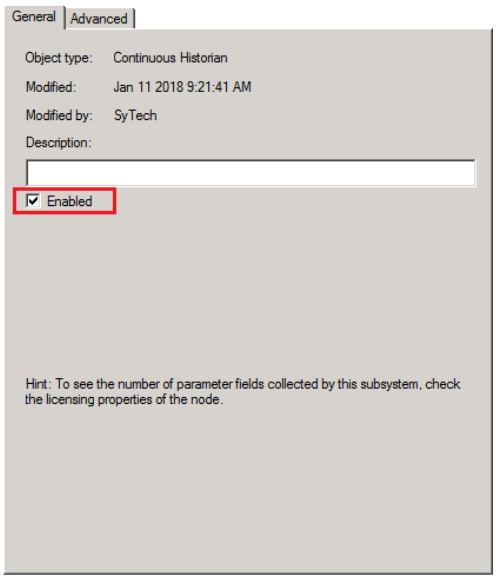
Enable Continuous Historian

To enable the Continuous Historian, open the **DeltaV Explorer**.

On the left side expand **Physical Network, Control Network**. Expand the DeltaV node and select **Continuous Historian**.



Right-click and select **Properties**.

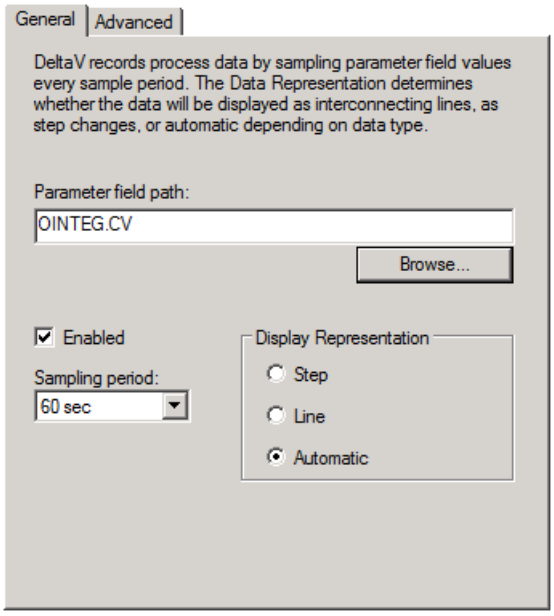


Under the **General** tab, check **Enabled**.

History Collection

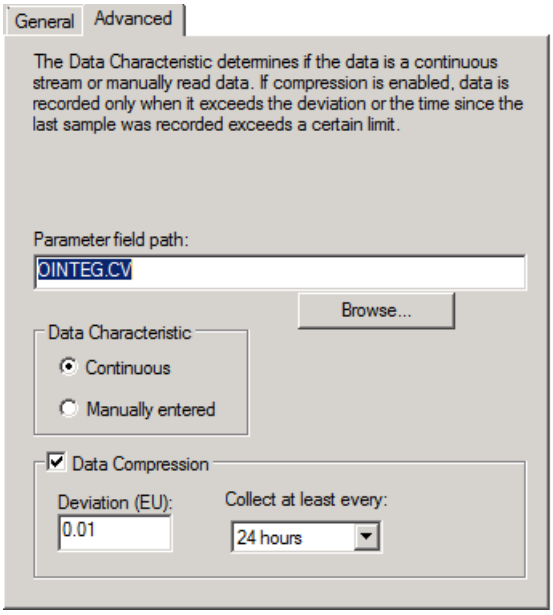
To configure tags for history collection to the Continuous Historian, in the **DeltaV Explorer**, expand **Physical Network, Control Network.** Right click the DeltaV node and select **History Collection**.

Every tag configured for history collection is listed here. Click **Add** to add a tag to the collection.



Under the **General** tab click the **Browse** button to specify the tag to collect.

The **Sampling period** defines how often a new value is logged to the historian.



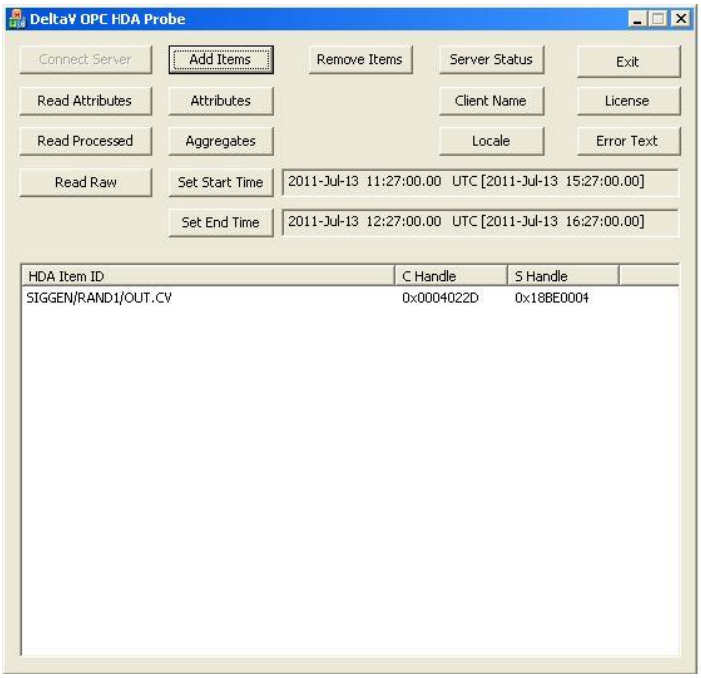
Under the **Advanced** tab, enable **Data Compression** to reduce the amount of data logged for the tag. The **Collect at least every** setting ensures that at least 1 sample is collected periodically regardless of the how the data is compressed.

Prerequisites

Verify History Data

To verify history data is being collected use the HDAprobe application provided with DeltaV.

To run, browse to *C:\DeltaV\bin* or *C:\DeltaV\DVUtilities* and double-click **HDAprobe.exe**.

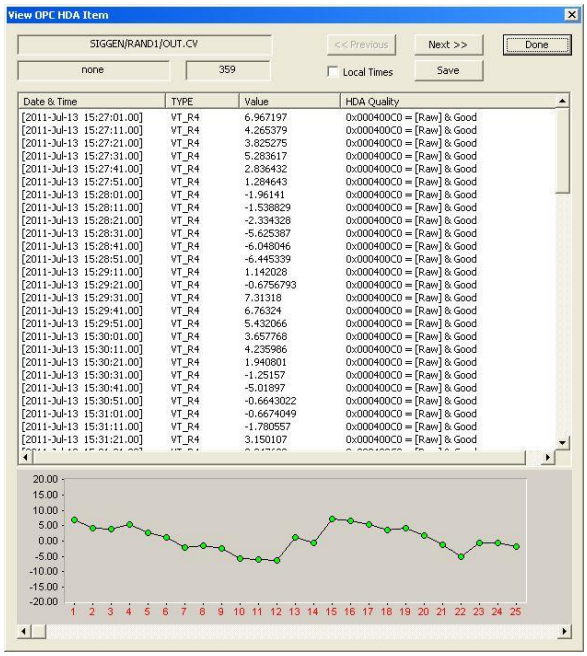


- Click **Connect Server** and select *DeltaV.OPCHDAsvr.1*.
- Click **Add Items.** This opens the **Add HDA Items** window.
- Click **Browse** to open the **OPC HDA Browse** window.
- Click **New Browser** to view a list of tags.
- Select a tag and click **OK**. That tag is now listed in the **Add HDA Items** window.
- Click **Add** to add the tag
- Click **Done** to return to the main DeltaV OPC **HDA Probe** window.

Now that a tag is selected, data can be read. Select the tag and click **Read Raw** to read the raw values recorded for the selected tag. This opens the **HDA Read Raw** window.

- Click **Set Start Time** and **Set End Time** to specify the time frame.
- By default, time is in UTC (universal time). Check **local** to convert to local time.
- Click **Read Raw**. If this is successful, **HR** displays *Success*.

To view the raw values, click **View Values**.



This opens the View OPC HDA Item window that displays the historical data for the tag selected as well as a graph. Click **Done** to close.

To retrieve processed values (e.g., averages, maximums, minimums, etc.) follow the steps above but click **Read Processed** instead of **Read Raw**.

If the client does not respond as described contact Emerson Automation Solutions technical support to troubleshoot and correct these issues.

Remote Communication

If XLReporter is not installed on the same machine as DeltaV Continuous Historian, the workstation must also have the OPC core components installed. To determine if the core components are installed verify the following file exists:

- C:\Windows\SysWow64\OPCEnum.exe (64-bit OS)
- C:\Windows\system32\OPCEnum.exe (32-bit OS)

If the components are not installed, then they are provided in the XLReporter installation folder under *_repairtools\OPC*. Alternatively, these can be downloaded from www.opcfoundation.org.

Server Settings

To connect to DeltaV Continuous Historian remotely both the machine where the server is running and the machine where the client is running must have matching Windows user accounts and the client must be logged in with a matching account.

In addition, on the machine with the DeltaV Continuous Historian, certain DCOM settings must be enabled. For details on what DCOM settings to enable, see OPC and DCOM: 5 Things You Need to Know.

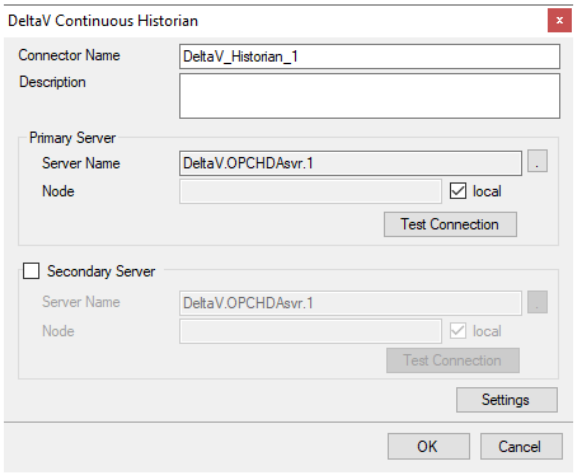
Windows Firewall

If the Windows Firewall is enabled on the machine where DeltaV Continuous Historian is running **TCP Port** *135* must be opened for remote clients to connect.

Connector

To configure the connector to **DeltaV Continuous Historian**, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions, DeltaV Continuous Historian**
- Click **OK**



Primary Server

These settings define the **Name** and **Node** of the OPC HDA server. Typically, the **Name** is defaulted correctly. If the server is on the local machine, leave **local** checked, otherwise uncheck, and specify either the name or IP address of the machine where server is running.

Use the **Test Connection** button to verify a connection to the server.

Secondary Server

These settings define the (optional) secondary historian to connect to if a connection to the **Primary Server** fails.

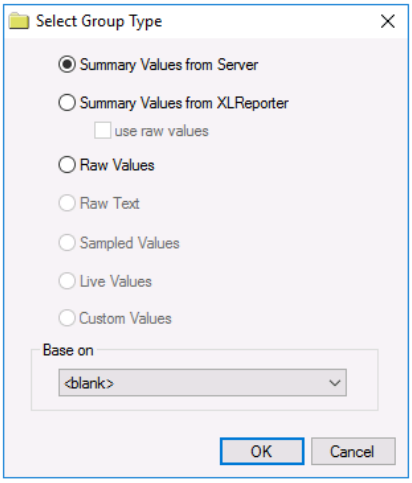
Settings

For information on the specific settings, see the **DATA CONNECTIVITY, OPC** document.

Data Group

The following describes the historical data group settings specific to the **DeltaV Continuous Historian** connector.

Group Types



The following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian. The following calculations are available:

- Interpolated
- Average
- Maximum
- Time of Maximum
- Minimum
- Time of Minimum
- Range
- Standard Deviation
- Total
- Count
- Raw Average
- Start Value
- End Value

Summary Values from XLReporter

This group type retrieves sampled values from the historian and performs calculations on those samples for reporting.

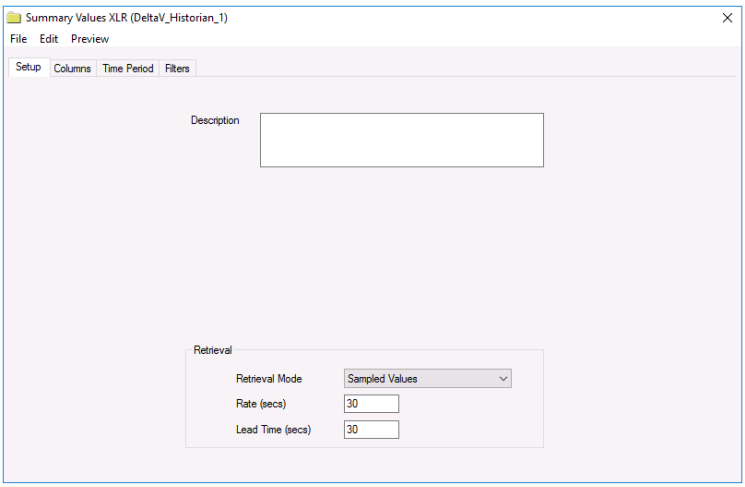
By default, summary values are calculated time weighted, and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

Raw Values

This group retrieves values logged to the historian between the start and end time specified.

Group Settings

Setup Tab (Summary Values for XLReporter)



The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

- **Retrieval Mode**
  This setting defines how data is retrieved from the historian. Both *Sampled Values* and *Raw Values* are available where *Sampled Values* uses the *Interpolated* calculation.
- **Rate**
  The interval (in seconds) that sampled values are retrieved from the historian.
- **Lead Time**
  The amount of time (in seconds) to retrieve data before the start time.

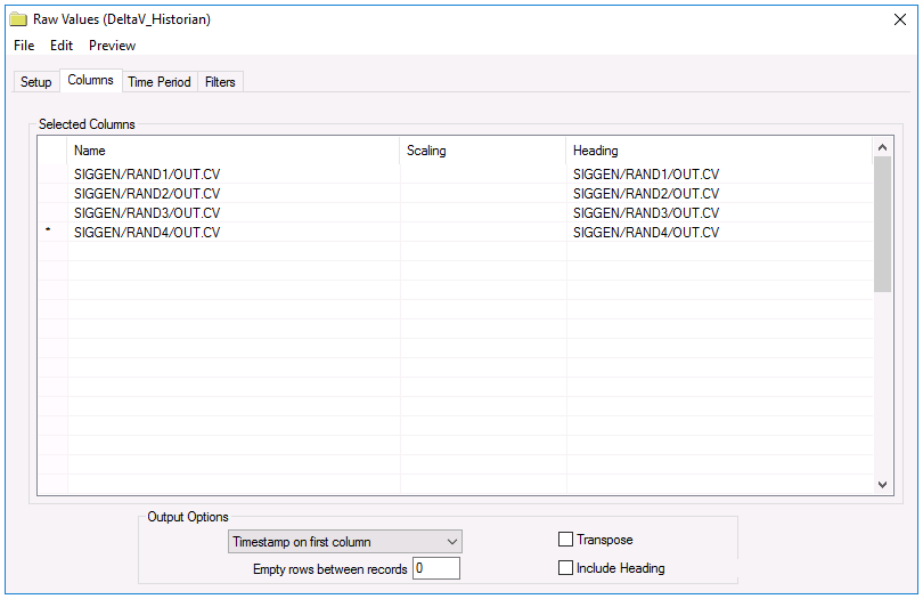
Verify the Data Connector

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

Select the *DeltaV Continuous Historian* 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).



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

DeltaV Continuous Historian (OPC UA HA)

This connector is used to get historical data from the DeltaV Continuous Historian using the OPC UA HA server either on the local machine or across the network.

Set up DeltaV

For information on setting up the DeltaV Continuous Historian, see the **Set up DeltaV** section in the **DeltaV Continuous Historian (OPC HDA)** chapter above.

Prerequisites

Enable OPC UA

For information on enabling the DeltaV OPC UA server, see the **Prerequisites** section in the **DeltaV Real-time values (OPC UA)** chapter above.

Verify Communication

To verify communication to the DeltaV OPC UA HA , you can download the UAExpert OPC UA client from Unified Automation to verify connectivity and data retrieval from the server.

To retrieve historical data with UA Expert, first identify a variable (tag) that has the **Historizing** attribute set *true*. Then, from the **Document** menu select **Add**. Set **Document Type** to *History Trend View* and click **Add**. The trend can display any variable added to the **Configuration** section.

Once connectivity is verified with the DeltaV OPC UA HA server, you can use DeltaV's HDAprobe application to verify data for a specific tag or set of tags. See the **Prerequisites** section in the **DeltaV Continuous Historian (OPC HDA)** chapter above.

Remote Communication

If **XLReporter** is not installed on the same machine as the DeltaV OPC UA HA Server, the **XLReporter** machine must have the OPC Core Components installed.

To determine if the core components are installed verify the following file exists:

- C:\Windows\SysWow64\OPCEnum.exe (64-bit OS)
- C:\Windows\system32\OPCEnum.exe (32-bit OS)

If the components are not installed then they are provided in the tools folder of the installation or from www.opcfoundation.org.

Windows Firewall

If the Windows Firewall is enabled on the machine where the DeltaV OPC UA HA server is running the **Port** configured for the it must be opened in order for remote clients to connect. This is typically port *9409*.

Connector

The connector for the DeltaV OPC UA HA server is identical to that of the DeltaV OPC UA DA server. For details on this connector, see the **Connector** section of the **DeltaV Real-time values (OPC UA)** chapter above.

Data Group

The following describes the historical data group settings specific to the **DeltaV Continuous Historian OPC UA HA** connector.

Group Types

The following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian. The following calculations are available:

- Interpolated
- Average
- Maximum
- Time of Maximum
- Minimum
- Time of Minimum
- Range
- Total
- Count
- Raw Average
- Start Value
- End Value

Summary Values from XLReporter

This group type retrieves sampled values from the historian and performs calculations on those samples for reporting.

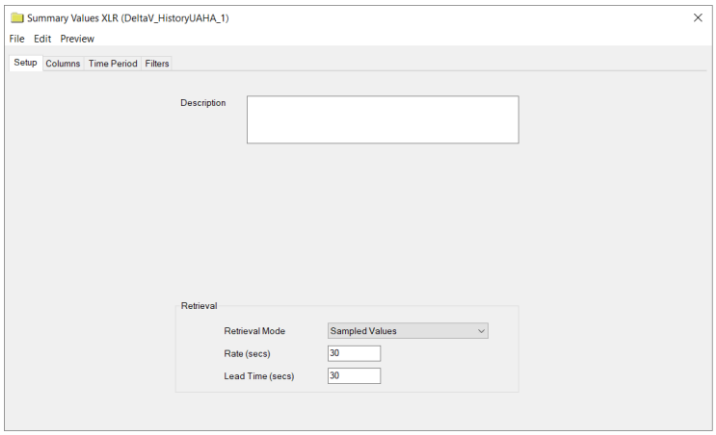
By default, summary values are calculated time weighted and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

Raw Values

This group retrieves values logged to the historian between the start and end time specified.

Group Settings

Setup Tab (Summary Values for XLReporter)



The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

- **Retrieval Mode**
  This setting defines how data is retrieved from the historian. Both *Sampled Values* and *Raw Values* are available where *Sampled Values* uses the *Interpolated* calculation.

- **Rate**
  The interval (in seconds) that sampled values are retrieved from the historian.
- **Lead Time**
  The amount of time (in seconds) to retrieve data before the start time.

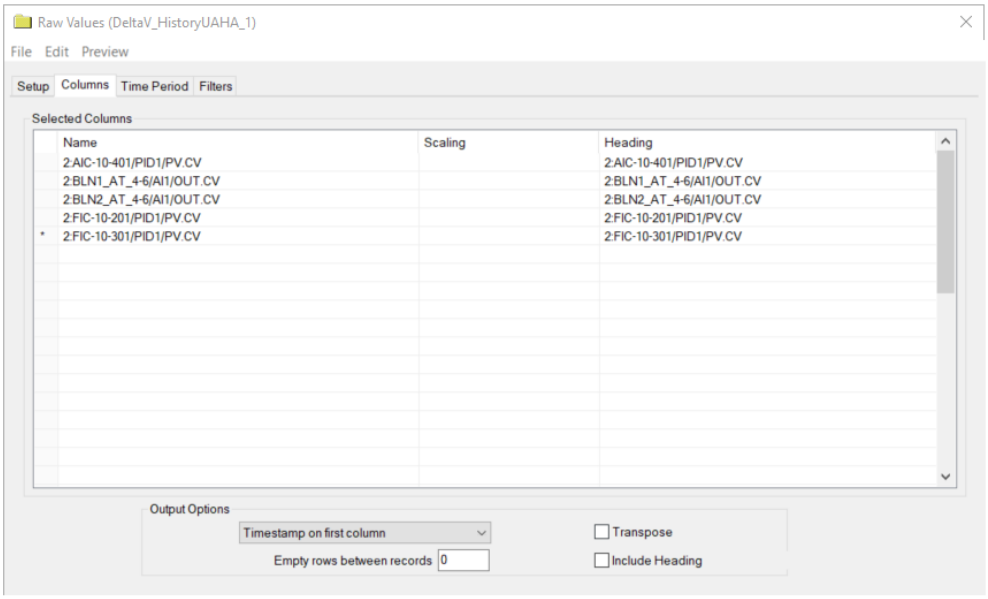
Verify the Data Connector

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

Select the *DeltaV Continuous Historian OPC UA HA* 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).



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

DeltaV Advanced Continuous Historian

This connector is used to get historical data from the DeltaV Advanced Continuous Historian via the PI OPCHDA server. This approach requires the DeltaV Advanced Continuous Historian license (Emerson Catalog Model Number: VE22UPS078, VE22UPS079, VE22UPS080, VE22UPS081, VE22UPS082, VE21UPG011, VE21UPG012, VE21UPG013, or VE21UPG014).

Set up DeltaV

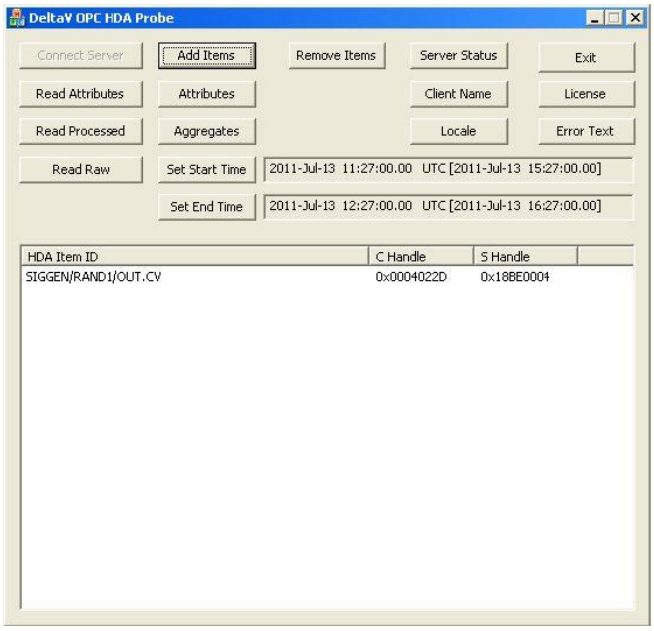
The PI OPC Server must be installed on the Application Station. It is available from OSIsoft or from an Emerson reseller.

Prerequisites

Verify History Data

To verify history data is being collected use the HDAprobe application provided with DeltaV.

To run, browse to *C:\ DeltaV\bin* or *C:\DeltaV\DVUtilities* and double-click **HDAprobe.exe**.

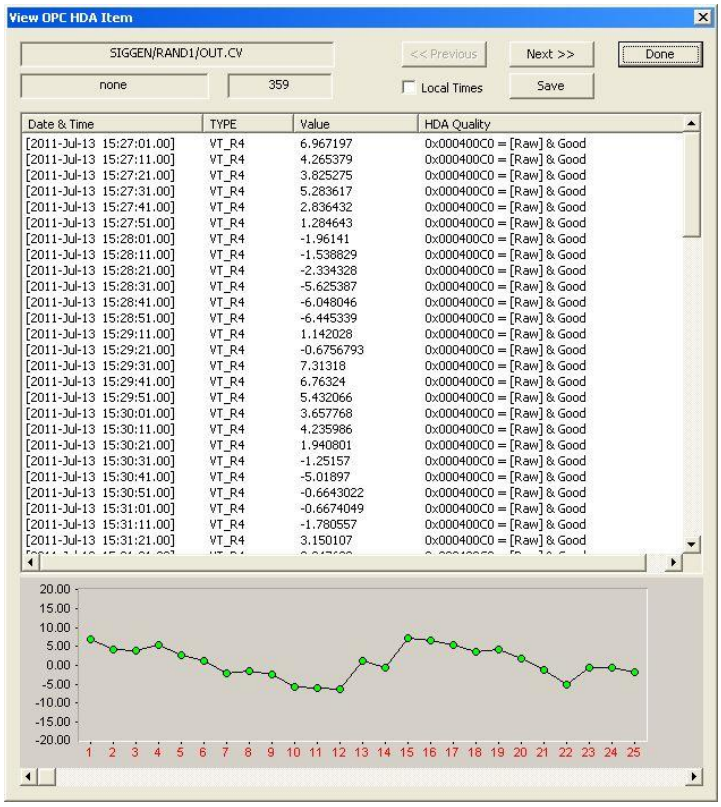


- Click **Connect Server** and select *OSI.HDA.1*.
- Click **Add Items.** This opens the **Add HDA Items** window.
- Click **Browse** to open the **OPC HDA Browse** window.
- Click **New Browser** to view a list of tags.
- Select a tag and click **OK**. That tag is now listed in the Add HDA Items window.
- Click **Add** to add the tag
- Click **Done** to return to the main DeltaV OPC **HDA Probe** window.

Now that a tag is selected, data can be read for it. Select the tag and click **Read Raw** to read the raw values recorded for the selected tag. This opens the **HDA Read Raw** window.

- Click **Set Start Time** and **Set End Time** to specify the time frame.
- By default, time is in UTC (universal time). Check **local** to convert to local time.
- Click **Read Raw**. If this is successful, **HR** displays *Success*.

To view the raw values, click **View Values**.



This opens the View OPC HDA Item window that displays the historical data for the tag selected as well as a graph. Click **Done** to close.

To retrieve processed values (e.g., averages, maximums, minimums, etc.) follow the steps above but click **Read Processed** rather than **Read Raw**.

If the client does not respond as described contact Emerson Automation Solutions technical support to troubleshoot and correct these issues.

Remote Communication

If XLReporter is not installed on the same machine as DeltaV Advanced Continuous Historian, the workstation must also have the OPC core components installed. To determine if the core components are installed verify the following file exists:

- C:\Windows\SysWow64\OPCEnum.exe (64-bit OS)
- C:\Windows\system32\OPCEnum.exe (32-bit OS)

If the components are not installed, then they are provided in the XLReporter installation folder under *_repairtools\OPC*. Alternatively, these can be downloaded from www.opcfoundation.org.

Server Settings

To connect to DeltaV Advanced Continuous Historian remotely both the machine where the server is running and the machine where the client is running must have matching Windows user accounts and the client must be logged in with a matching account.

In addition, on the machine with the DeltaV Advanced Continuous Historian, certain DCOM settings must be enabled. For details on what DCOM settings to enable, see OPC and DCOM: 5 Things You Need to Know.

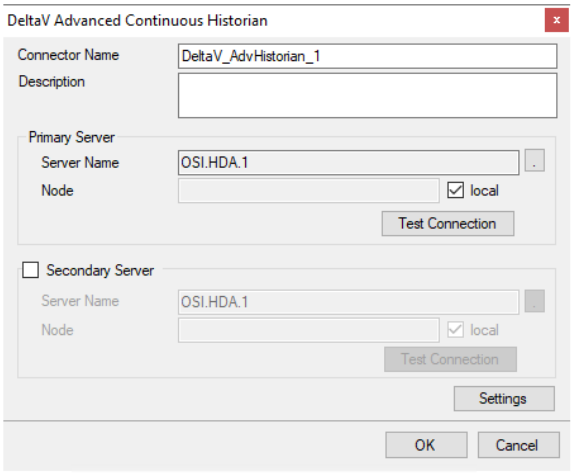
Windows Firewall

If the Windows Firewall is enabled on the machine where DeltaV Advanced Continuous Historian is running **TCP Port** *135* must be opened for remote clients to connect.

Connector

To configure the connector to **DeltaV Advanced Continuous Historian**, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions, DeltaV Advanced Continuous Historian**
- Click **OK**



Primary Server

These settings define the **Name** and **Node** of the OPC HDA server. Typically, the **Name** is defaulted correctly. If the server is on the local machine, leave **local** checked, otherwise uncheck, and specify either the name or IP address of the machine where server is running.

Use the **Test Connection** button to verify a connection to the server.

Secondary Server

These settings define the (optional) secondary historian to connect to if a connection to the **Primary Server** fails.

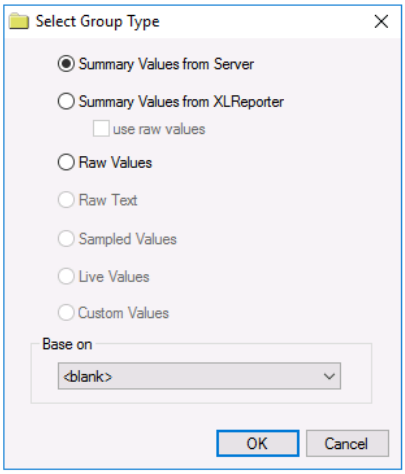
Settings

For information on the specific settings, see the **DATA CONNECTIVITY, OPC** document.

Data Group

The following describes the historical data group settings specific to the **DeltaV Advanced Continuous Historian** connector.

Group Types



The following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian. The following calculations are available:

- Interpolated
- Average
- Maximum
- Time of Maximum
- Minimum
- Time of Minimum
- Range
- Standard Deviation
- Total
- Count
- Raw Average
- Start Value
- End Value
- Delta Value
- Percent Good
- Percent Bad

Summary Values from XLReporter

This group type retrieves sampled values from the historian and performs calculations on those samples for reporting.

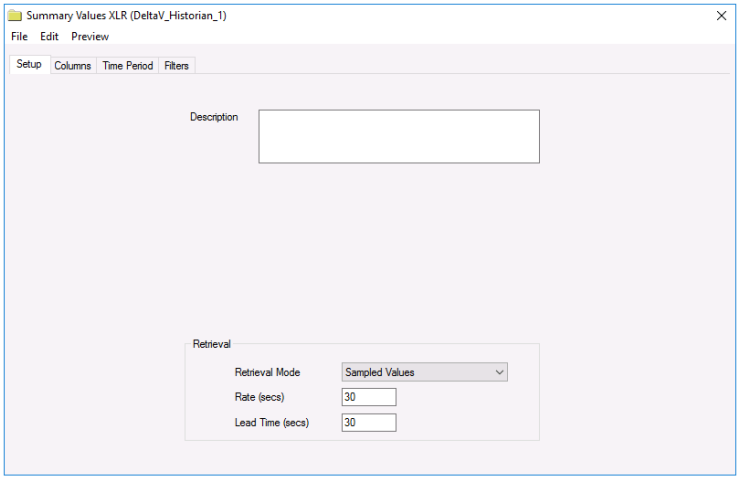
By default, summary values are calculated time weighted, and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

Raw Values

This group retrieves values logged to the historian between the start and end time specified.

Group Settings

Setup Tab (Summary Values for XLReporter)



The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

- **Retrieval Mode**
  This setting defines how data is retrieved from the historian. Both *Sampled Values* and *Raw Values* are available where *Sampled Values* uses the *Interpolated* calculation.
- **Rate**
  The interval (in seconds) that sampled values are retrieved from the historian.
- **Lead Time**
  The amount of time (in seconds) to retrieve data before the start time.

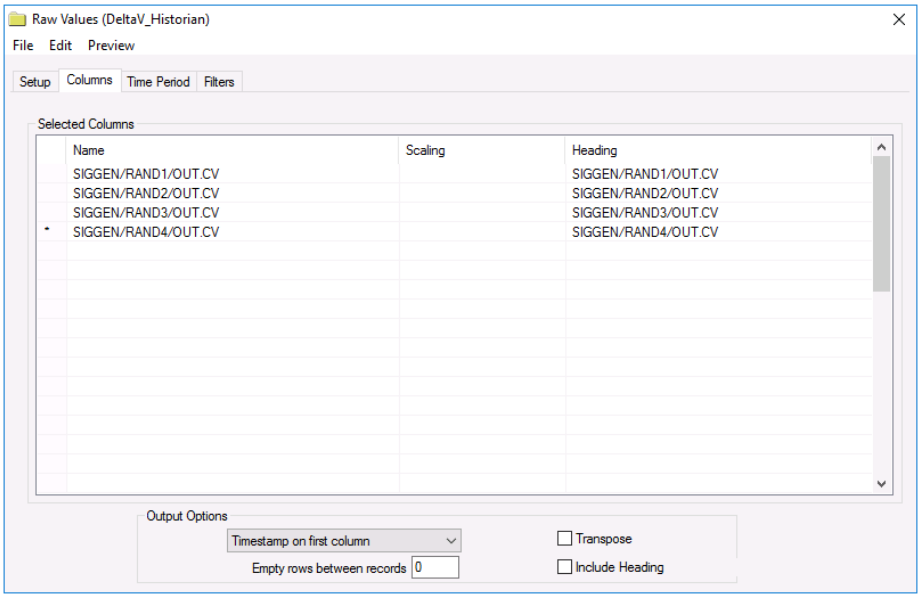
Verify the Data Connector

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

Select the *DeltaV Advanced Continuous Historian* 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).



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

DeltaV Batch Historian

This connector is used to get historical data from the DeltaV Batch Historian by connecting to the Microsoft SQL Server database it is logging to.

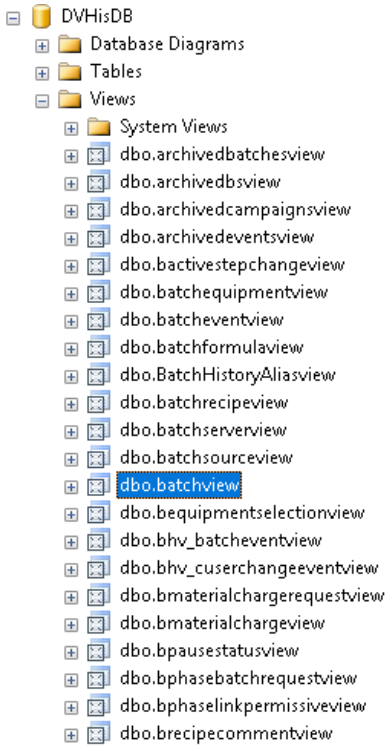
Prerequisites

Verify Database

To verify, open **Microsoft SQL Server Management Studio** and connect to the SQL Server instance where the Batch Historian database is configured.

Once connected,

- Expand the **DVHisDB** database.
- Expand **Views**.
- Select the **batchview** view.



Right click the **batchview** view and choose *SELECT TOP 1000 Rows*. This should display data from the table.

If the database or table does not exist or no data is displayed contact Emerson Automation Solutions technical support to troubleshoot and correct these issues.

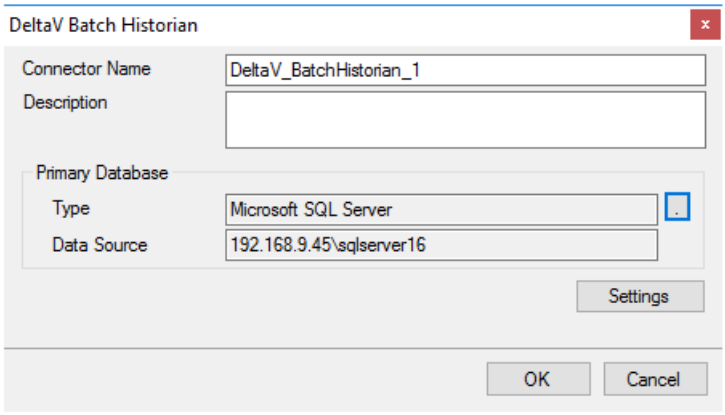
SQL Server Considerations

When using SQL Server there are some things to take into consideration including remote connectivity and user authentication. For information on what to consider, see the technical note: How to Configure Microsoft SQL Server.

Connector

To configure the connector to **DeltaV Batch Historian**, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions, DeltaV Batch Historian**
- Click **OK**

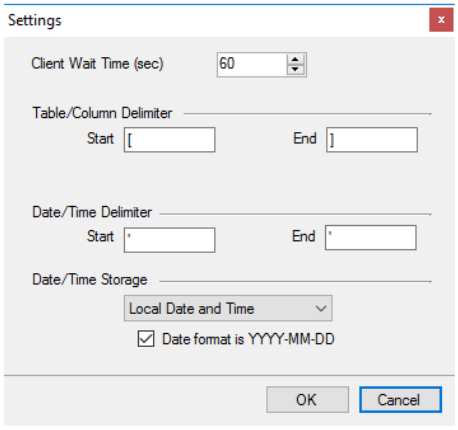


Primary Database

This setting defines the SQL Server connection where the DeltaV Batch Historian is configured to log to. Use the browse button […] to define the database connection.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.



Typically, these settings are defaulted correctly for the SQL Server.

If queries timeout, increase the **Client Wait Time**.

The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

Many databases require the Date format to be **YYYY-MM-DD** so that no interpretation needs to occur based on the Region settings of the Windows Operating System. It is recommended to always have this option checked.

Data Group

The Data Group provided to retrieve data from the DeltaV Batch Historian is the Database Data Group. For more information, see the Database Data Group document.

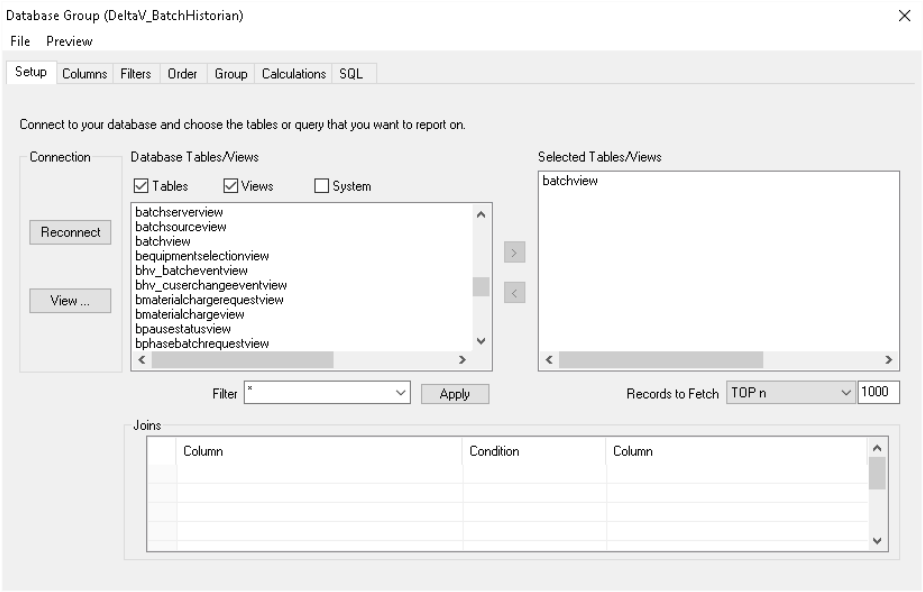
Verify the Data Connector

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

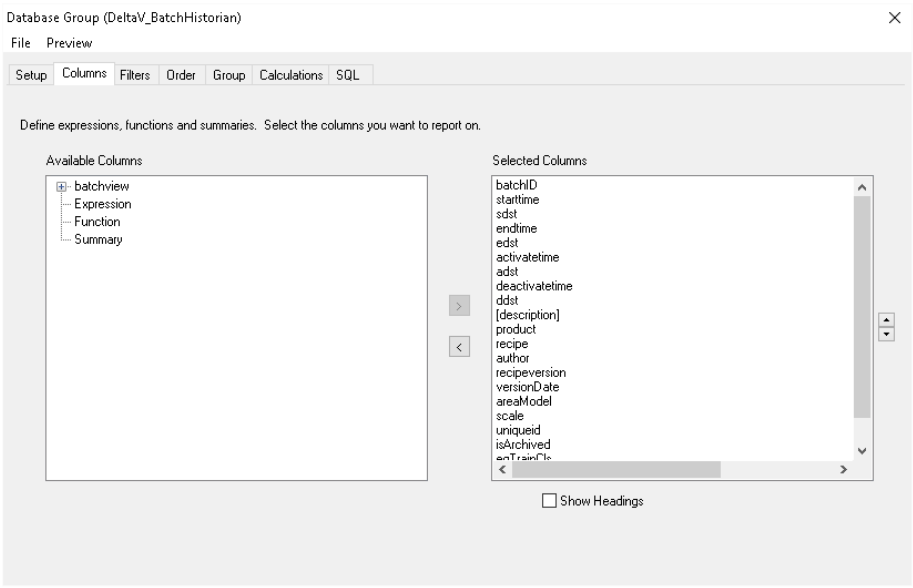
Select the *DeltaV Batch Historian* connector and then select **Add.**

- Set the **Type** to *Standard* and click **OK**

On the **Setup** tab of the group



- Under **Database Tables/Views** check *Views*.
- In the list select *batchview* and add it to the **Selected Tables/Views**.
- Set **Records to Fetch** to *Top n* and the value to *1000*.



Under the **Columns** tab, in **Available Columns**, double click *batchview* to add all the columns from the view to the **Selected Columns** list.

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

DeltaV Event Journal Files

This connector is used to get data from the DeltaV Event Journal files. This is a collection of files (file extension .EVT) where each file contains information collected during a single batch.

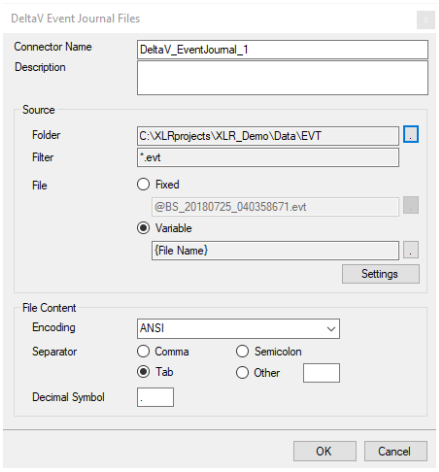
Prerequisites

Verify that *.evt* files are being generated in the directory configured in DeltaV.

Connector

To configure the connector, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions, DeltaV Event Journal Files**
- Click **OK**



For details on the set up of this connector, see the **Discrete** section of the **Text Files** connectivity document.

Data Group

The following describes the historical data group settings specific to the **DeltaV Event Journal Files** connector.

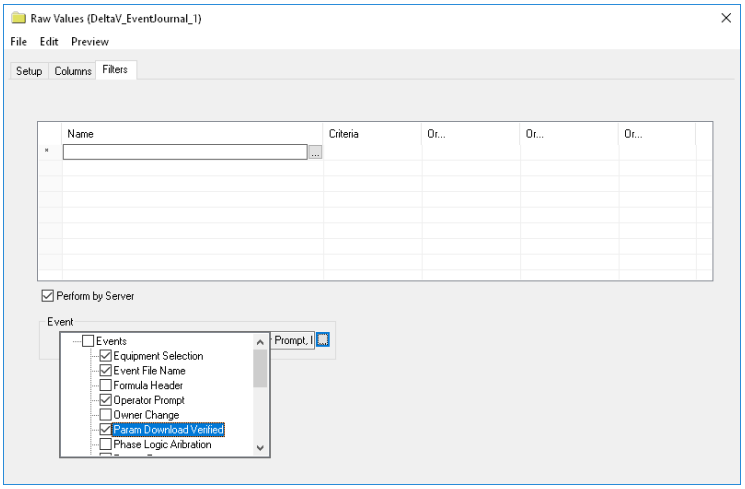
Group Types

The following group types are available:

Raw Values

This group retrieves values logged to the historian between the start and end time specified.

Filters Tab



The **Event** setting is used to filter for specific events in the file. If left blank, all events are returned, otherwise only records with the selected events are returned.

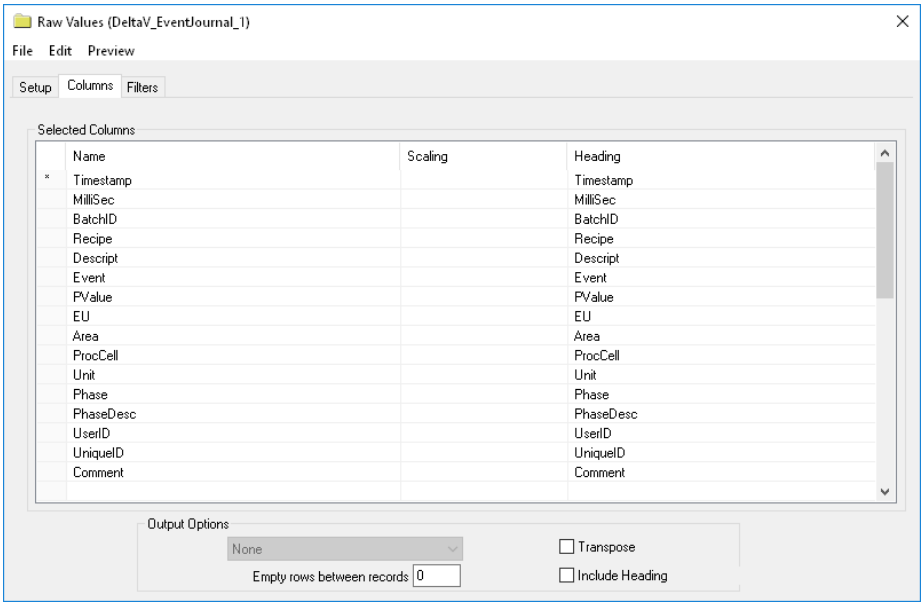
Verify the Data Connector

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

Select the *DeltaV Event Journal* 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).



Select **Preview,** pick a **File** and click **Refresh.**

DeltaV Event Chronicle

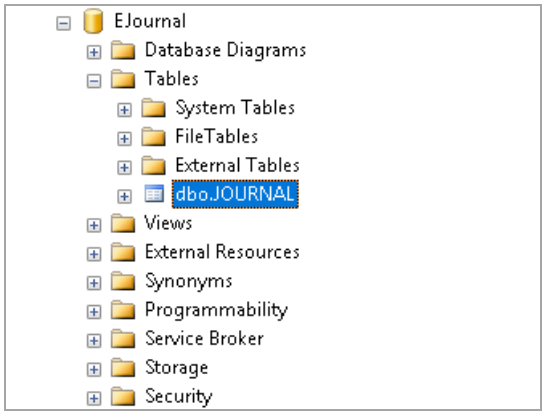
This connector is used to get data from the DeltaV Event Chronicle by connecting to the Microsoft SQL Server database it is logging to.

Prerequisites

Verify Database

To verify, open **Microsoft SQL Server Management Studio** and connect to the SQL Server instance where the Event Journal database is configured.

Once connected,



- Expand the **EJournal** database.
- Expand **Tables**.
- Select the **JOURNAL** table.

Right click the **JOURNAL** table and choose *SELECT TOP 1000 Rows*. This should display data from the table.

If the database or table does not exist, or no data is displayed, contact Emerson Automation Solutions technical support to troubleshoot and correct these issues.

SQL Server Considerations

When using SQL Server there are some things to take into consideration including remote connectivity and user authentication. For information on what to consider, see the technical note: **How to Configure Microsoft SQL Server**.

Server Name and Port

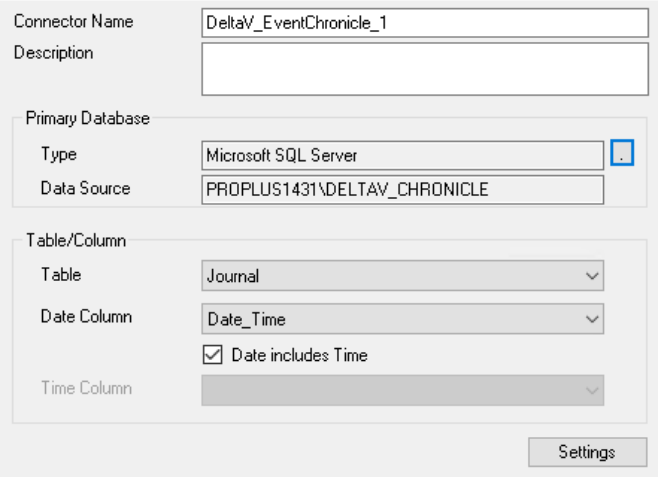
Emerson Automation Solutions recommends that the SQL Server Browser Service not be running for the SQL Server instance containing the **EJournal** database. Therefore, when connecting remotely, the SQL Server Instance name must be manually entered. It will not appear in any list.

In DeltaV version 14.3 and above, the Port Number for the SQL Server instance containing the **EJournal** database is *55114*, which is not the default port of SQL Server.

Connector

To configure the connector, from the **Project Explorer** select **Data, Connectors**.

- Click **Add**
- Select **Emerson Automation Solutions, DeltaV Event Chronicle**
- Click **OK**



Primary Database

This setting defines the SQL Server connection where the DeltaV Event Chronicle is configured to log to. Use the browse button […] to define the database connection.

By default, when browsing, the Server name is set to the local machine plus "\DELTAV_CHRONICLE". If the Event Journal is on another machine, replace the local machine name with the other machine name but leave the rest. When browsing for the Server name, the instance name "\DELTAV_CHRONICLE" may not appear. If it does not, it will have to be manually added.

In newer versions of DeltaV the **Port Number** is not default and should be specified as *55114*. Also, only **Windows Authentication** is supported. If you are connecting remotely, you must be logged on as a user that is valid on the machine where the Event Journal is running.

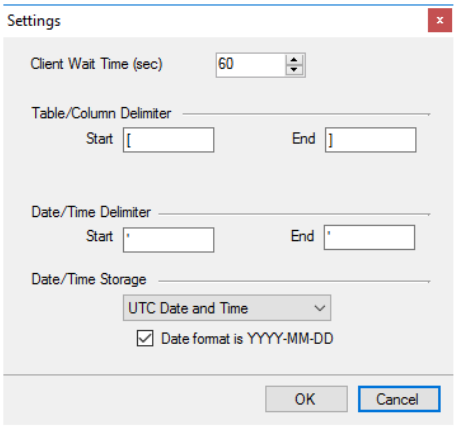
The **Database** should always be set to *EJOURNAL*.

Table/Column

Once the **Primary Database** is configured, set **Table** to *Journal* with **Date Column** set to *Date_Time* and **Date includes Time** checked.

Settings

The **Settings** button opens the **Settings** dialog that defines characteristics of the database that are used to retrieve data.



Typically, these settings are defaulted correctly for SQL Server.

If queries timeout, increase the **Client Wait Time**.

The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

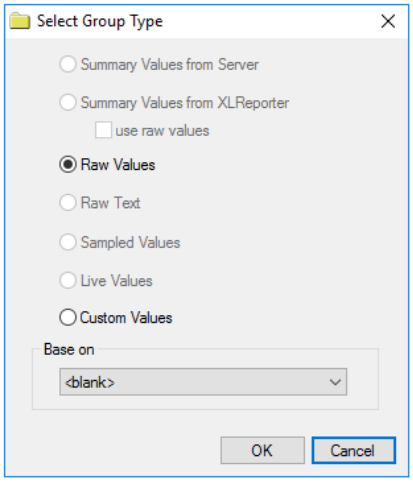
The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

Many databases require the Date format to be **YYYY-MM-DD** so that no interpretation needs to occur based on the Region settings of the Windows Operating System. It is recommended to always have this option checked.

Data Group

The following describes the historical data group settings specific to the **DeltaV Event Chronicle** connector.

Group Types



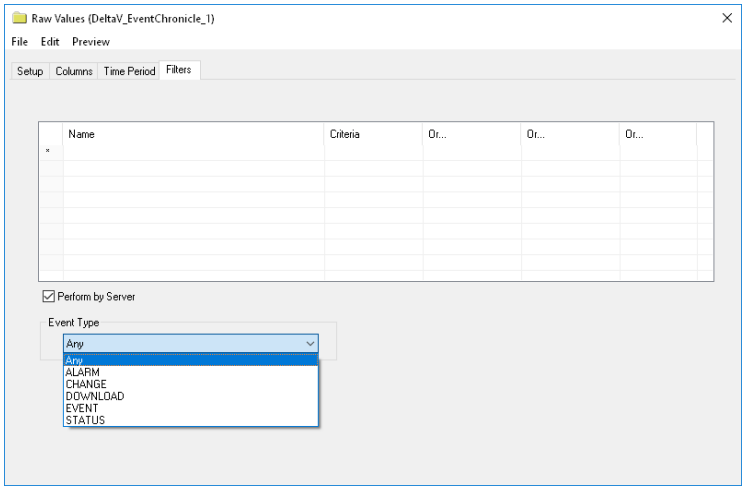
The following group types are available:

Raw Values

This group retrieves every value logged to the Event Chronicle database.

Group Settings

Filters Tab



If the **Perform by Server** option is checked, any filter configured in this tab is put into the *WHERE* clause of the query sent to the database to retrieve data for the group. Otherwise, the configured filtering is performed by the reporting engine after the values are returned. It is recommended to leave this setting checked as the performance is much better.

Use the **Event Type** setting to retrieve events of a specific type. If all event types are required, select *Any*. For more information about specific **Event Types**, see the DeltaV documentation.

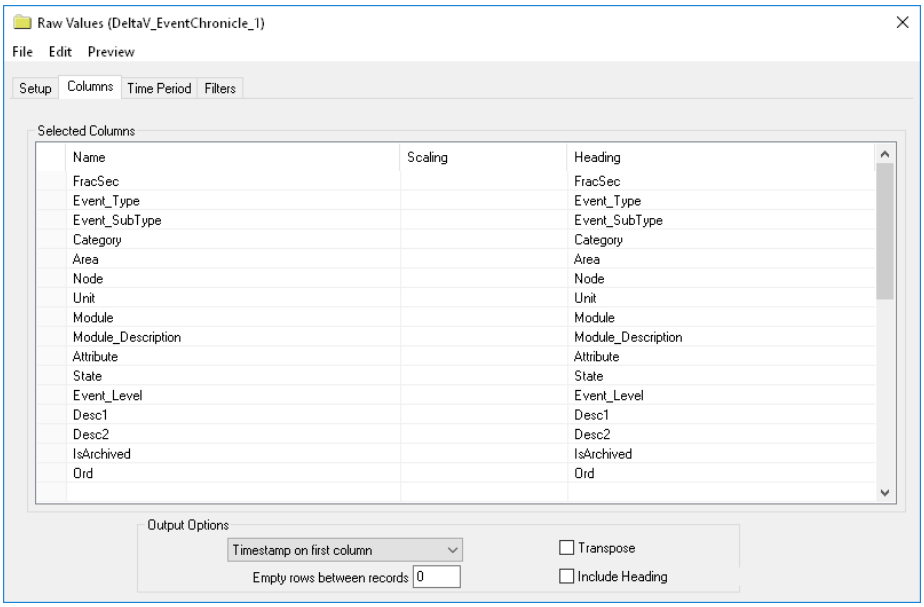
Verify the Data Connector

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

Select the *DeltaV Event Chronicle* 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).



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