

# Connectors

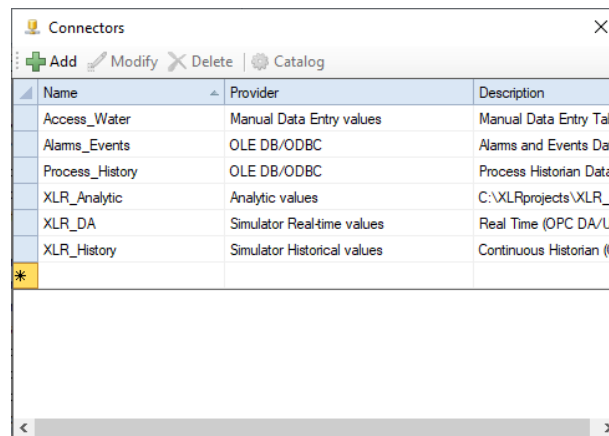
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## Overview

**Connectors** provide the definition of the data sources. An advantage of this approach is that a change in the **Connector** definition does not have any cascading effect on other configuration performed in the project.

*Example:* Suppose a group of report templates contain a reference to a **Connector** called *MyDatabase* (a Microsoft SQL Server database connector). If the SQL Server is moved to a new location, then the definition of *MyDatabase* is the only change required. No change is required for the templates.

From the **Project Explorer** select **Data** tab, **Sources**, **Connectors** to display the connectors defined for the project.



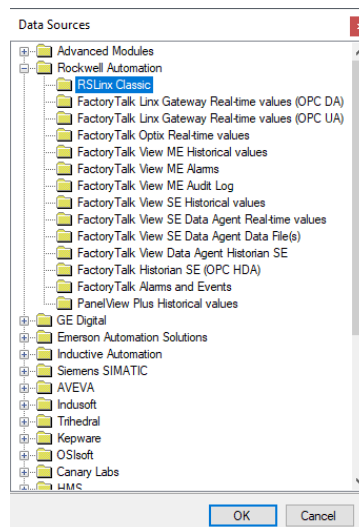
Name	Provider	Description
Access_Water	Manual Data Entry values	Manual Data Entry Tabl
Alarms_Events	OLE DB/ODBC	Alarms and Events Data
Process_History	OLE DB/ODBC	Process Historian Datab
XLR_Analytic	Analytic values	C:\XLRprojects\XLR_D
XLR_DA	Simulator Real-time values	Real Time (OPC DA/UA
XLR_History	Simulator Historical values	Continuous Historian (O
*		

The display provides options to **Add**, **Modify** or **Delete** a **Connector**. There is also the option to define an item **Catalog** (see **Item Catalog**).

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## Defining a Connector

Click **Add** to open a list of the supported data source. Expand a vendor name to view the different data sources supported for that vendor.



Select a data source and click **OK** to display the specifics for the selected data source.

FactoryTalk View SE Historical values

Connector Name: FactoryTalkViewSE\_History

Description:

Primary Database

Type: Microsoft SQL Server

Data Source: SQLSERVER2016\SQLEXPRESS

Tables

Tag Table: TagTable

Float Table: FloatTable

String Table: StringTable

Settings

OK Cancel

See the **DATA CONNECTIVITY** section in the **Document Library** for documents on the specifics of each connector.

## Item Catalog

An item **Catalog** is a collection of item names such as columns of a database or tags of a historian. Once a catalog is configured, it is available from every place where tags are browsed. When the project is offline, catalogs are the only tags available in the browser. When browsing tags from team clients, catalogs are the only tags presented.

Not all **Connectors** support an item **Catalog**. For those that do, the **Catalog** called *General* may be automatically created when the **Connector** is defined which contains all available items. This is created automatically when the connector is defined.

Catalog

+ Add Catalog X Delete Catalog Import Export Nickname

Connector: XLR\_History

Catalog Name: Process Values

Item	Nickname	Type	Description
MIXER_ZONE1_TEMP	Mixer zone 1 temp.	Analog	Mixer zone 1 temperature
MIXER_ZONE2_TEMP	Mixer zone 1 temp.	Analog	Mixer zone 2 temperature
MIXER_SPEED	Mixer speed (RPM)	Analog	Mixer speed (RPM)
MIXER_RAMPRESSURE	Mixer ram pressure	Analog	Mixer ram pressure
EXTR_ZONE1_TEMP	Extruder zone 1 temp.	Analog	Extruder zone 1 temperature
EXTR_ZONE2_TEMP	Extruder zone 2 temp.	Analog	Extruder zone 2 temperature
EXTR_SPEED	Extruder speed	Analog	Extruder speed
EXTR_PELLETSPEED	Extruder pellitizer speed	Analog	Extruder pellitizer speed
BATCH_TANKTEMP	Batch tank temperature	Analog	Batch tank temperature
BATCH_MIXPRESSURE	Batch mixer pressure	Analog	Batch mixer pressure
BATCH_ZONE1	Batch zone 1 temp.	Analog	Batch zone 1 temperature
BATCH_ZONE2	Batch zone 2 temp.	Analog	Batch zone 2 temperature

OK Cancel

The display shows the **Connector** name, the **Catalog Name** and a list of items defined in the catalog. Each catalog can have a custom name that can be used to describe the items of the catalog (e.g., *Mixers* for all the mixer tags from the historian).

When **Catalog** is first opened, all existing catalogs defined for the connector are listed in **Catalog Name** the drop-down. If no catalogs exist for the connector, **Catalog Name** is a text box where a name can be entered for the catalog defined. This same text box appears when **Add Catalog** is clicked. This is how to create a new catalog.

To delete a catalog, select it from the **Catalog Name** drop-down and click **Delete Catalog**. Be careful when doing this because if any template has on demand defined to use this catalog, it will not function correctly.

To add items to the catalog, click the browse (...) button on the grid under the **Item** column and select the items (such as tag names). When items are added to the grid, their description is also displayed, if it is provided.

The **Name**, **Nickname** and **Description** can be manually edited by selecting a cell. The **Type** can be left blank if it is unknown or set to *Analog*, *Digital* or *Text* to provide filters for the catalog when it is used.

The **Nickname** parameter can also be edited from **Nickname, Rule**. This allows the nickname to exclude all text before and/or after the appearance of specific **Content** in the text, or before and/or after a certain **Position** in the name.

For example, if a tag path consists of *[Device Name];program.tagname*, the nickname rule can be applied as *After End* on the character . (period) to set the nickname as only the *tagname* portion of the path.

## Import Items

The **Import** option is provided to import a list of items from a CSV file. The items are imported into the current catalog so if you want to import items into a new catalog, click **Add Catalog** before importing.

The CSV file can contain multiple rows where each row is an item to bring into the catalog. The row can consist of **Name**, **Nickname** and **Description** and the **Type** but not all the elements of a row need to be specified:

- One element per row. The element is assigned to the **Name**, **Nickname** and **Description** and the **Type** is considered unknown.
- Two elements per row. The first element is assigned to the **Name** and **Description** and the second is assigned to the **Nickname**.
- Three elements per row. The first element is assigned the **Name** and **Description**, the second is assigned to the **Nickname** and the third is assigned to the **Type**. The **Type** can be either 1 (analog), 2 (digital) or 3 (string), any other value is considered unknown.
- Four elements per row. The first element is assigned to the **Name**, the second is assigned to the **Nickname**, the third is assigned to the **Type** and the fourth is assigned to the **Description**.

When clicked, the **Import Catalog** dialog opens.

Import Catalog

File: C:\XLRprojects\XLR\_Demo\Input\My New Items.csv

Separator:  Comma  Semicolon  Tab  Other

First row contains headings

Method: Append

OK Cancel

Specify the **CSV File** to import. After selecting the file, specify the **Separator** for the elements in each row of items in the file.

If the file contains a header row, check **First row contains headings**.

The **Append Method** appends each item from the file to the existing catalog. The **Overwrite Method** clears all existing items in the catalog, replacing them with the imported items.

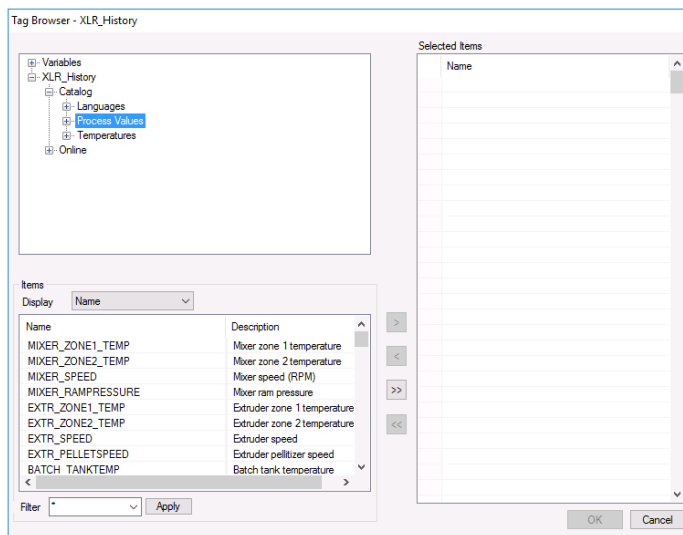
## Export an Item Catalog

An item catalog can be exported by clicking the **Export** option. This can be useful for documentation purposes or for making mass edits by opening the exported file into Excel, using tools like Find and Replace and then importing the items back into the catalog.

Exporting creates a CSV file in the **Input** folder of the project named after the item catalog, e.g., *Process Values.csv*.

The exported CSV file consists of 4 columns: **Name**, **Nickname**, **Type** and **Description** and each row is Tab separated.

## Usage – Tag Browsing



When browsing for tags anywhere in the project, any catalog set up for a connector is available to select tags from.

This can be quite useful if the connection to the server is slow, there are many thousands of tags available on the system, or if the tag names themselves are cryptic and hard for others to decipher.

In the last case, the **Nickname** setting can be helpful because it can be set up for a more descriptive name for the tag in the system.

## Usage - Offline Project

When the data sources of a project are not accessible, the project can be switched offline so that template development can continue.

When a project is offline, two changes become apparent:

- When browsing for items, such as tag names, instead of a “live” list from the connector, the items from the connector **Catalogs** are shown.
- When previewing templates, instead of reading the “actual” value, a simulated value will be provided.

## Usage – On-Demand Report

In an **On-Demand Report**, variables that represent tag names can be assigned using the “live” list from the connector. However, a smaller list of names is sometimes preferable e.g., for a report on temperatures, show only the tag names that represent temperatures. In these cases, create a **Catalog** and use that instead of the “live” list.

When browsing tags in the web portal, only catalogs are displayed.

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