

Canary Labs Connectors

Canary Labs Historian

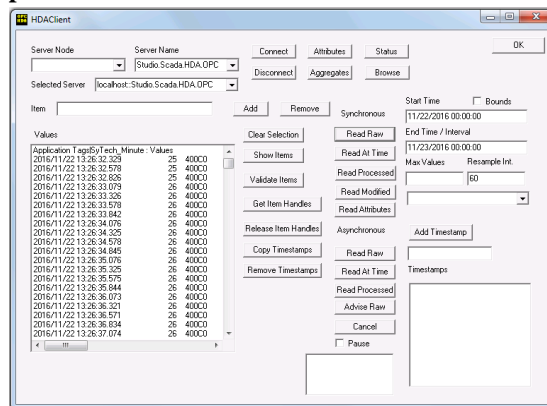
This connector is used to get historical values from the Canary Labs Historian via the Canary Labs OPC HDA server.

Prerequisites

Verify Communication

Communication between the OPC server and an OPC client must be verified. **XLReporter** provides an independent OPC HDA client to verify connectivity and data retrieval from any OPC HDA server. This client is found on **XLReporter's** product CD under **Tools, OPC, OPC_HDA**. It can also be downloaded from www.SyTech.com.

To run, double-click **SampleClientHDA.exe**.



Set **Server Name** to *CanaryLabs.OPCHDAServer.1* and click **Connect**.

Click **Browse** to open the **Browse Dialog** window.

The easiest way to get a list of tags is to set **OPCHDA_BROWSETYPE** to *OPCHDA_FLAT*. Choose each tag to test by selecting it and clicking **Add**. When complete, click **Done** to return to the **HDA Client** window.

Click **Show Items** to display the selected tags in the left pane window. Click **Validate Items** then **Get Item Handles** to register these tags with the server.

Enter the **Start Time** and **End Time**. Note this is in UTC(Universal Time Clock) and click **Read Raw**. The raw values for each selected tag will appear on the left along with a timestamp and quality.

To read processed data, click **Aggregates**, select the appropriate aggregate (e.g., maximum, minimum, etc.) and click **Read Processed**. One minute calculations between the start and end time should appear for each selected tag.

If the client does not respond as described contact Canary Labs technical support to troubleshoot and correct these issues.

Remote Communication

If XLReporter is not installed on the same machine as Canary Labs, 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

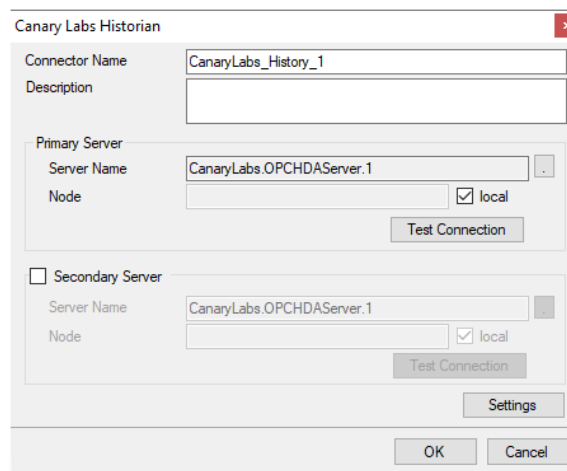
To connect to Canary Labs remotely both the machine where the server is running and the machine where the client is running must have matching Windows user accounts and the client must be logged in with a matching account.

In addition, on the machine with Canary Labs, 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 Canary Labs is running TCP Port *135* must be opened for remote clients to connect.

Connector



The screenshot shows the 'Canary Labs Historian' configuration dialog box. It has a title bar with a close button. The dialog is divided into several sections:

- Connector Name:** A text box containing 'CanaryLabs_History_1'.
- Description:** An empty text box.
- Primary Server:** A section with a 'Server Name' dropdown set to 'CanaryLabs.OPCHDAServer.1' and a 'Node' dropdown with a checked 'local' option. A 'Test Connection' button is located below these fields.
- Secondary Server:** A section with a checkbox that is currently unchecked. It has a 'Server Name' dropdown set to 'CanaryLabs.OPCHDAServer.1' and a 'Node' dropdown with a checked 'local' option. A 'Test Connection' button is located below these fields.
- Settings:** A button located below the Secondary Server section.
- OK and Cancel:** Buttons at the bottom of the dialog.

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.

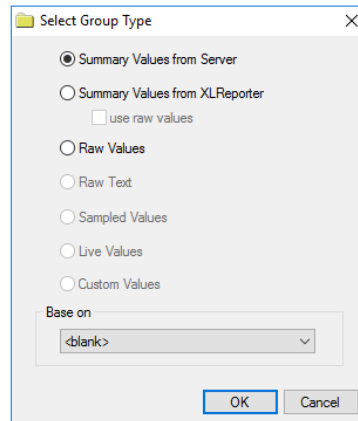
Settings

For details on the settings available see the **DATA CONNECTIVITY, OPC** document.

Data Group

The following describes the historical data group settings specific to the **Canary Labs 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
- Variance
- Total
- Count
- Raw Average
- Start Value
- End Value
- Delta Value
- Extended Average
- First Sample

Summary Values from XLReporter

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

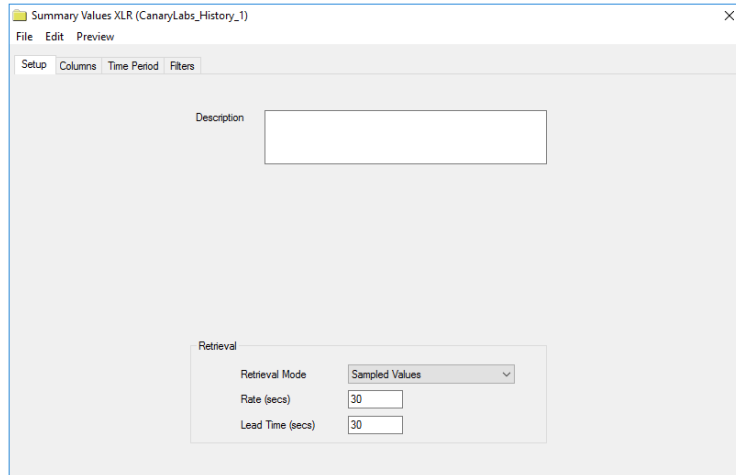
By default, summary values are calculated time weighted, and values are propagated based on the last known value. However, to change this so that summary values are calculated strictly on the data returned check **use raw values**.

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 *Canary Labs* historical 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**.

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