Schneider Electric Software Connectors

EcoStruxure Geo SCADA Real-time values

This connector is used to get real time values from the Geo SCADA (formerly ClearSCADA) OPC server.

Prerequisites

Permissions

For any OPC DA client, including **XLReporter**, to browse tags and read data, the **Guest** account must have *Browse* and *Read* permissions to the item(s) in the database you wish to make accessible.

In **ViewX**, on the **Database** tab at the bottom, right click the root branch of the tree (the **System Name**) and select **Configure, Edit Security**.
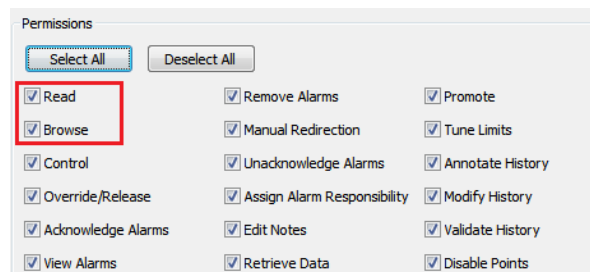

Make sure that either the **Guest** account or **Everyone** has at least *Read* and *Browse* permissions checked.

Verify Communication

Communication between the OPC server and an OPC client must be verified. **XLReporter** provides an independent OPC client to verify connectivity and data retrieval from any OPC DA server. This client is found on **XLReporter's** product CD under **Tools, OPC, OPC_DA**. It can also be downloaded from www.SyTech.com.
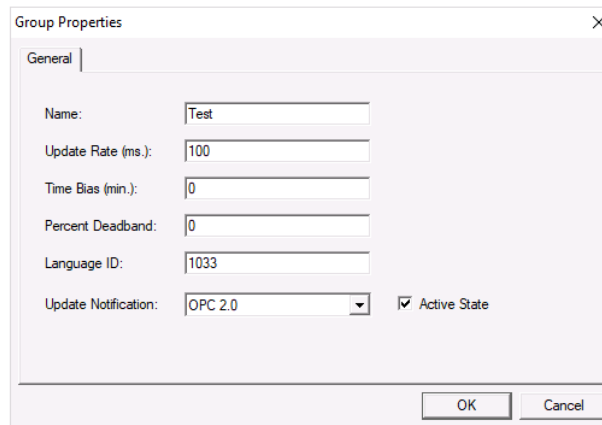
To run, double-click **SampleClientDA.exe**.

To connect to an OPC server, select **Edit**, **New Server Connection** to open the **Server Properties window**.
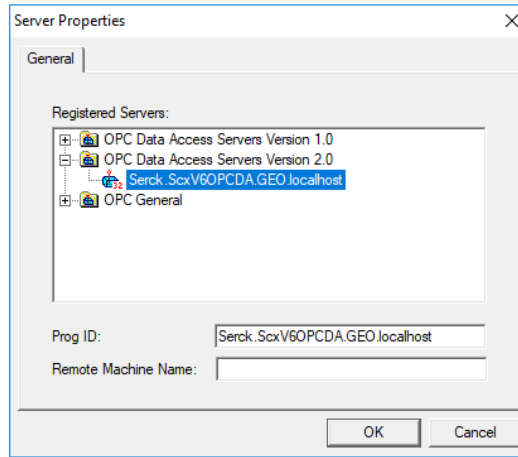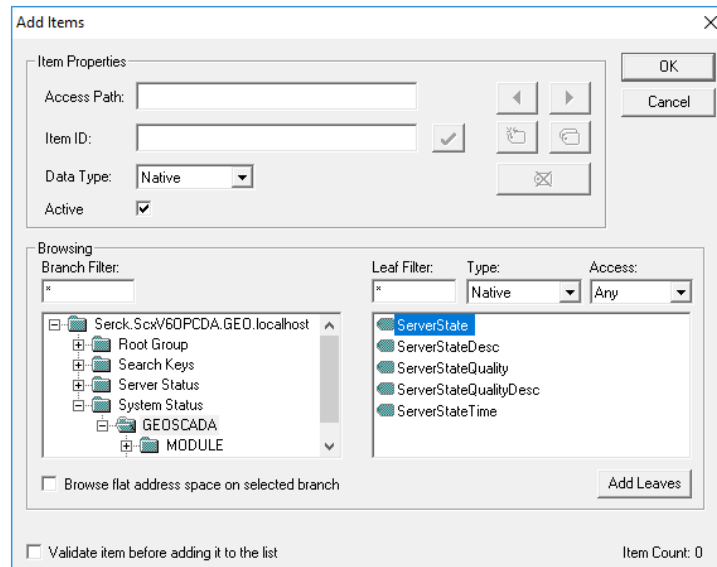
Expand the **OPC Data Access Servers Version 2.0**, select the Geo SCADA OPC DA server and click **OK**.

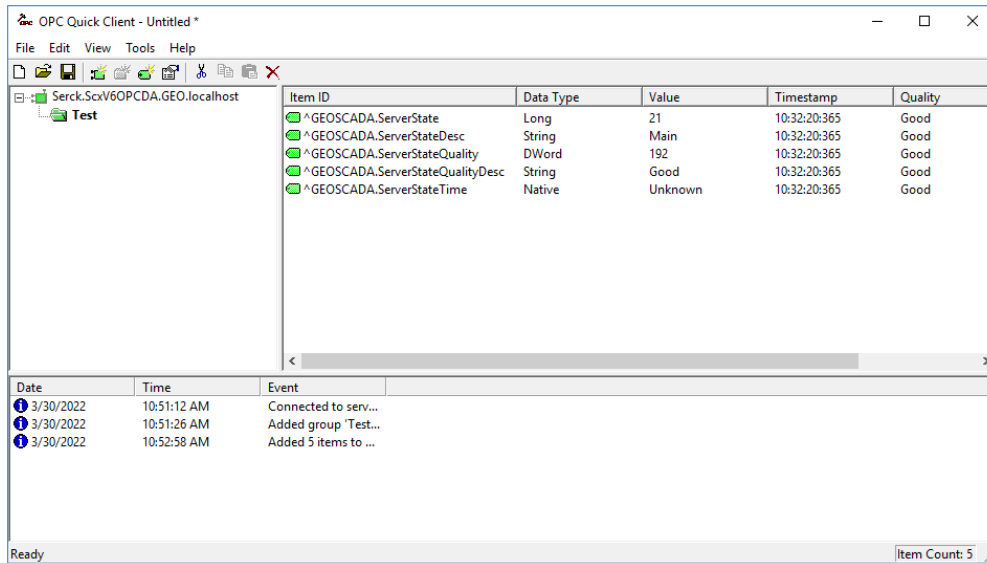From the **Edit** menu select **New Group**.

Specify **Name** and click **OK**.

Click on the group name created, and select **Edit**, **New Item**.

This opens the **Add Items** window. In the browsing section drill into the tree and select Leaf items on the right. For each leaf you want to view data for, click the **Add Leaves** button. Click **OK** when you have selected the tags to read.

All of the selected tags appear along with their real time values, type, quality, and timestamp.

If the client does not respond as described, contact Schneider Electric technical support to troubleshoot and correct these issues.

Remote Connectivity

To access data from the Geo SCADA OPC DA server remotely, the Geo SCADA Expert Data Access Components need to be installed on the machine where XLReporter is installed.

To install, run the **Geo SCADA Expert** installation. Under **Choose Setup Type**, select **Custom**.

In **Custom Setup**, only install **Data Access** (e.g., select every other option and choose **Entire Feature will be unavailable**).

After installing the **Data Access Components**, from the **EcoStruxure Geo Scada** program group open **Configure Connections**.

In the **Geo SCADA Expert Client**, click **Add**.

Set **System Name** to the same **System Name** configured on the Geo SCADA server machine. Under the **Node A** column, set **Node Name** to the Name or IP address of the Geo SCADA server machine.

This now sets up an OPC DA Server for Geo SCADA on the client machine which in turn accesses data from the Geo SCADA server on the network.

Connector

To configure the connector, from the **Project Explorer** select **Data, Connectors**.
- Click **Add**
- Select **Schneider Electric Software**, **EcoStruxure Geo SCADA Real-time values**
- Click **OK**

Primary Server

These settings define the **Name** and **Node** of the OPC DA server. For **Name**, click the browse pushbutton […] to browse the list of OPC DA servers.

For **Node**, leave **local** checked even for remote connections and click **Refresh**. Select the **Server** that starts with *Serck.ScxV6OPCDA* and contains the **System Name** as defined in the Geo SCADA Expert Client.

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

Settings

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

Verify Data Communication

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

- Click **Add**
- Choose the *Geo SCADA Real-time values* 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

EcoStruxure Geo SCADA Historical values

This connector is used to get historical values from the Geo SCADA (formerly ClearSCADA) Historian via the Geo SCADA OPC HDA Server.

Prerequisites

Permissions

For any OPC HDA client, including **XLReporter**, to browse tags and read data, the **Guest** account must have *Browse* and *Read* permissions to the item(s) in the database you wish to make accessible.

In **ViewX**, on the **Database** tab, right click the root branch of the tree (the **System Name**) and select **Configure, Edit Security**.
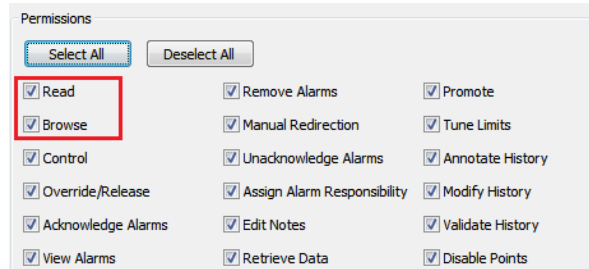

Make sure that either the **Guest** account or **Everyone** has at least *Read* and *Browse* permissions checked.

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**.
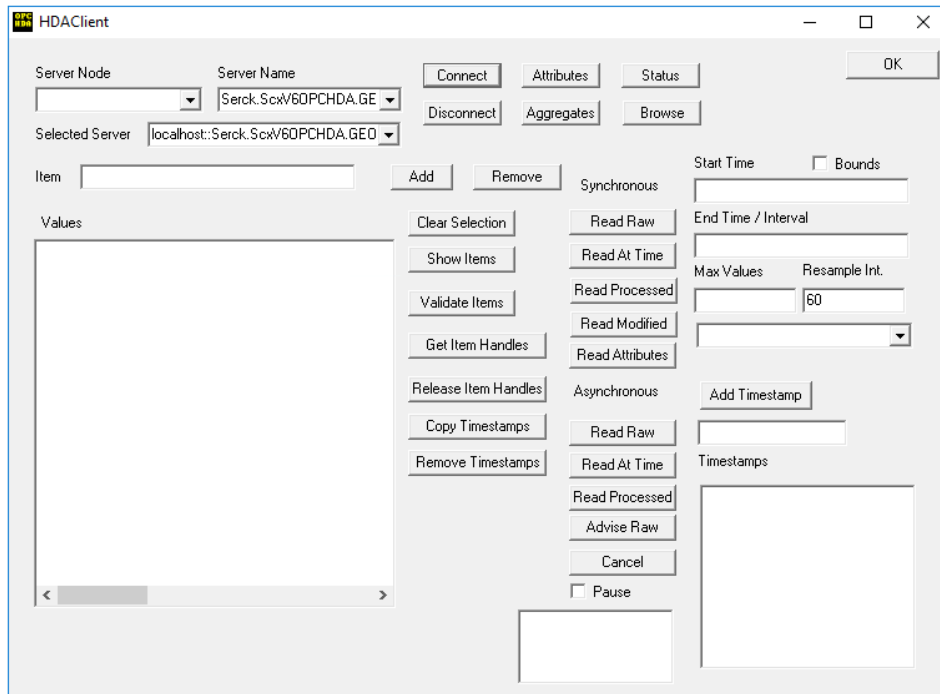
To connect to the Geo SCADA OPC HDA server select the **Server Name** from the dropdown list and click **Connect**.

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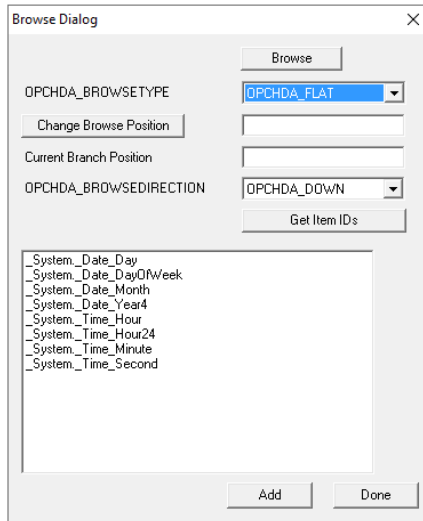
The easiest way to get a list of tags is to set **OPCHDA_BROWSETYPE** to *OPCHDA_FLAT*. Choose each tag to test by selecting it and clicking **Add**. When complete, click **Done** to return to the **HDA Client** window.

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 Schneider Electric technical support to troubleshoot and correct these issues.

Remote Connectivity

To access data from the Geo SCADA OPC HDA server remotely, the Geo SCADA Expert Data Access Components need to be installed on the machine where XLReporter is installed.

To install, run the **Geo SCADA Expert** installation. Under **Choose Setup Type**, select **Custom**.

In **Custom Setup**, only install **Data Access** (e.g., select every other option and choose **Entire Feature will be unavailable**).

After installing the **Data Access Components**, from the **EcoStruxure Geo Scada** program group open **Configure Connections**.

In the **Geo SCADA Expert Client**, click **Add**.

Set **System Name** to the same **System Name** configured on the Geo SCADA server machine. Under the **Node A** column, set **Node Name** to the Name or IP address of the Geo SCADA server machine.

This now sets up an OPC HDA Server for Geo SCADA on the client machine which in turn accesses data from the Geo SCADA server on the network.

Connector

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

- Click **Add**
- Select **Schneider Electric Software**, **EcoStruxure Geo SCADA Historical values**
- Click **OK**

Primary Server

These settings define the **Name** and **Node** of the OPC HDA server. For **Name**, click the browse pushbutton […] to browse the list of OPC HDA servers.

For **Node**, leave **local** checked and click **Refresh**. Select the **Server** that starts with *Serck.ScxV6OPCHDA* and contains the **System Name** as defined in the Geo SCADA Expert Client.

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

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 **Geo SCADA Historical Values** 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
- Variance
- Range
- Duration Good
- Duration Bad
- 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 *Geo SCADA Historical Values* 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.**

EcoStruxure Geo SCADA Alarms and Events

This connector is used to get alarm and event data from Geo SCADA (formerly ClearSCADA) Historian via the Geo SCADA OLE DB provider.

Remote Connectivity

To access data from the Geo SCADA OLEDB provider remotely, the Geo SCADA Expert Data Access Components need to be installed on the machine where XLReporter is installed.
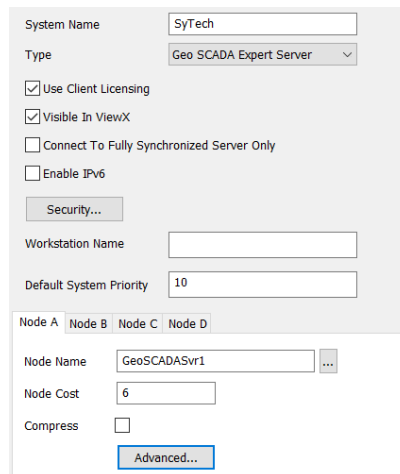
To install, run the **Geo SCADA Expert** installation. Under **Choose Setup Type**, select **Custom**.

In **Custom Setup**, only install **Data Access** (e.g., select every other option and choose **Entire Feature will be unavailable**).

After installing the **Data Access Components**, from the **EcoStruxure Geo Scada** program group open **Configure Connections**.

In the **Geo SCADA Expert Client**, click **Add**.

Set **System Name** to the same **System Name** configured on the Geo SCADA server machine. Under the **Node A** column, set **Node Name** to the Name or IP address of the Geo SCADA server machine.

Connector

To configure the connector, from the **Project Explorer** select **Data, Connectors**.
- Click **Add**
- Select **Schneider Electric Software**, **EcoStruxure Geo SCADA Alarms and Events**
- Click **OK**

Primary Database

These settings define the connection settings for the Geo SCADA OLEDB provider. For **Type**, click the browse pushbutton […] to configure.

Set **Date Source** to the *System Name* as defined in the **Geo SCADA Expert Client**. If required, specify the **User Name** and **Password** to a valid user as configured in **Geo SCADA**.

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

Table/Column

By default. **Table** is set to *CDBEventJournal* with **Date Column** set to the *Time* column. This table contains alarm and event records where each state is logged as a separate record. For example, for an alarm there is a record when the alarm is activated, a record when it is acknowledged and a record when it becomes inactive.

As an alternative, **Table** can be set to *CDBAlarmSummary* with **Date Column** set to *ActiveTime*. This table records the entire lifecycle of an alarm in a single record. This table is only available if Alarm Summary is enabled in Geo SCADA.

To enable, open **Server Configuration**. Under **Historic Configuration**, select **Alarm Summary**.
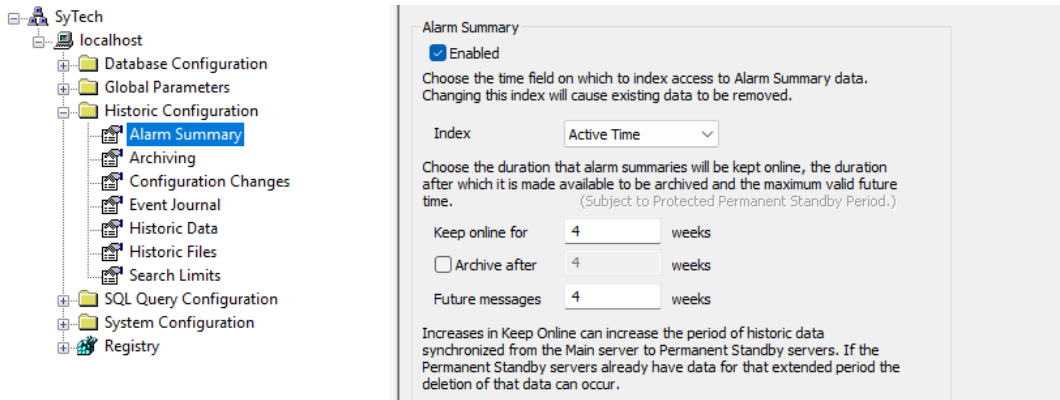
On the right side, check **Enabled** and specify the settings according to your system.

Note that the **Table/View** settings specified in the connector are used as the default. When configuring the **Data Group**, a different **Table/View** can be specified for that group.

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 based on the Geo SCADA OLEDB provider.

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 **Geo SCADA Alarms and Events** connector.

Group Types
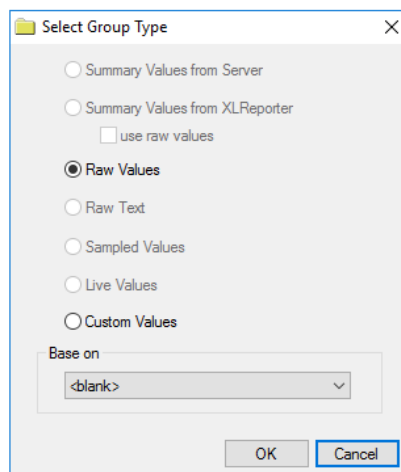
For this connector, the following group types are available:

Raw Values

This group retrieves every alarm logged to the database between the start and end time specified.

Custom Values

This option opens the Database Group builder where a query can be configured to retrieve data from any table in the database.

Group Settings

Setup Tab

In the **Database** section, the **Definition** can be set to use the **Table/View** as specified in the *Connector* or to a *Specific* **Table/View** just for this group.

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 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.

Verify the Data Connector

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

Select the *Geo SCADA Alarms and Events* connector and then select **Add.**
- Set the **Type** *Raw Values* and click **OK**.

On the **Columns** tab of the group
- Select the first row under the **Name** column
- Click the browse pushbutton (…)
- In the **Tag Browser** expand **Online, All Event** and add **Items** from the lower left.
- Click **OK** to add these to the group

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

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