

GE Digital Connectors

iFIX Real-time values (local)

This connector is used to get real time values from iFIX via the EDA interface. This connector is provided for backwards compatibility. For later versions of iFIX, it is recommended to use the **iFIX Real-time values (OPC)** connector.

Prerequisites

In order for this connector to function, **XLReporter** must be installed on an iFIX node and iFIX must be running.

Verify Communication

Open the **iFIX WorkSpace** from the **iFIX** program group and select **Application**.

The screenshot shows the iFIX WorkSpace (Configure) application with the 'Applications' tab selected. Below it, the iFIX Database Manager window is open, displaying a table of tag data. The table has the following columns: Tag Name, Type, Description, Scan Time, I/O Dev, I/O Addr, and Curr Value. The data is as follows:

	Tag Name	Type	Description	Scan Time	I/O Dev	I/O Addr	Curr Value
1	REF-AI	AA	BLOCK FOR PROCESS LEVEL	0	SIM	2	????
2	ALARMAI	AI	USER GENERATED ALARMS	0.30	SIM	200	37
3	AMPS	AI		5	SIM	RG	335
4	HUMIDITY	AI	BLOCK TO SIMULATE HUMIDITY	2	SIM	RG	75
5	IFX1_BATCH_BUL	AI	Bulk Material Mass	20	SIM	RH	950
6	IFX1_BATCH_CIP	AI	Clean In Place Tank Level	1	SIM	RA	37.16
7	IFX1_BATCH_RAN	AI	Used for Batch PG_Autobatch	1	SIM	RA	37.16
8	IFX1_BATCH_RAN	AI	Used for Batch PG_Autobatch	1	SIM	RH	92.67
9	IFX1_BATCH_REA	AI	Main Reactor Level	7	SIM	RH	90.83
10	IFX1_BATCH_REA	AI	Main Reactor Temperature	1	SIM	210	117.2
11	IFX1_BATCH_REC	AI	Reclamation Tank Level	2	SIM	RH	926.67
12	IFX1_BATCH_TAN	AI	Chemical Tank #1 Level	1	SIM	200	37
13	IFX1_BATCH_TAN	AI	Chemical Tank #1 Temperature	1	SIM	201	65.0
14	IFX1_BATCH_TAN	AI	Chemical Tank #2 Level	1	SIM	202	22
15	IFX1_BATCH_TAN	AI	Chemical Tank #2 Temperature	1	SIM	203	65
16	IFX1_BATCH_TAN	AI	Chemical Tank #3 Level	1	SIM	204	96.0
17	IFX1_BATCH_TAN	AI	Chemical Tank #3 Level	1	SIM	205	65
18	IFX1_DISC_ANEA	AI	ANEAL MACHINE ANIMATION POSITION	0.05	SIM	941	0

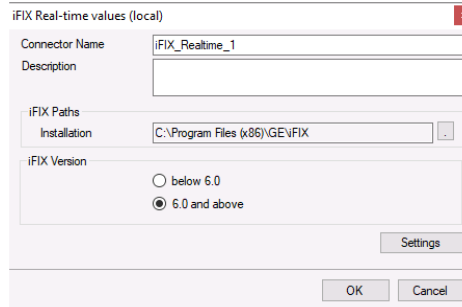
- Select the **Database Manager**
- Verify the tags can be read from the manager

If the manager does not respond as described contact GE Digital technical support to troubleshoot and correct these issues.

Connector

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

- Click **Add**
- Select **GE Digital, iFIX Real-time values (local)**
- Click **OK**



iFIX Paths

The **Installation** path defines where iFIX is installed on the local system.

iFIX Version

This defines if iFIX is below version 6 or version 6 and above.

Settings

The **Settings** button is used to update tuning parameters if there are issues retrieving data from this connector.

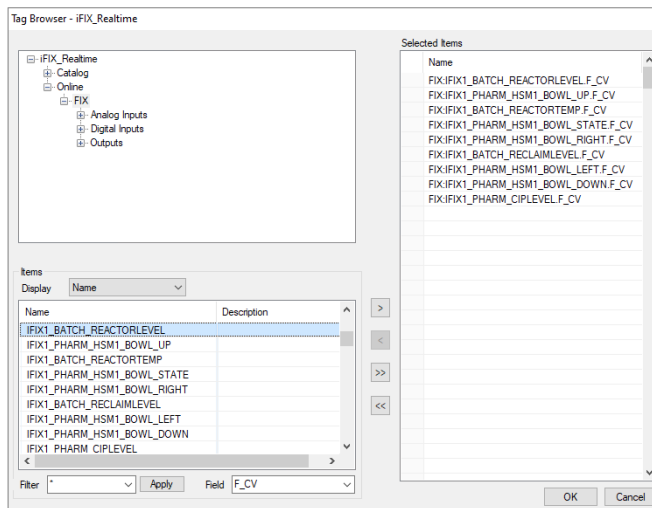
The **Initial Wait** setting is the amount of time (in milliseconds) the **Connector** waits after making a request and before retrieving data. This can be useful when communications do not respond immediately.

Retry determines how many attempts are made when bad values are returned. The default is 2 and it should typically not be changed. The **Retry Time** determines how the time in between retries.

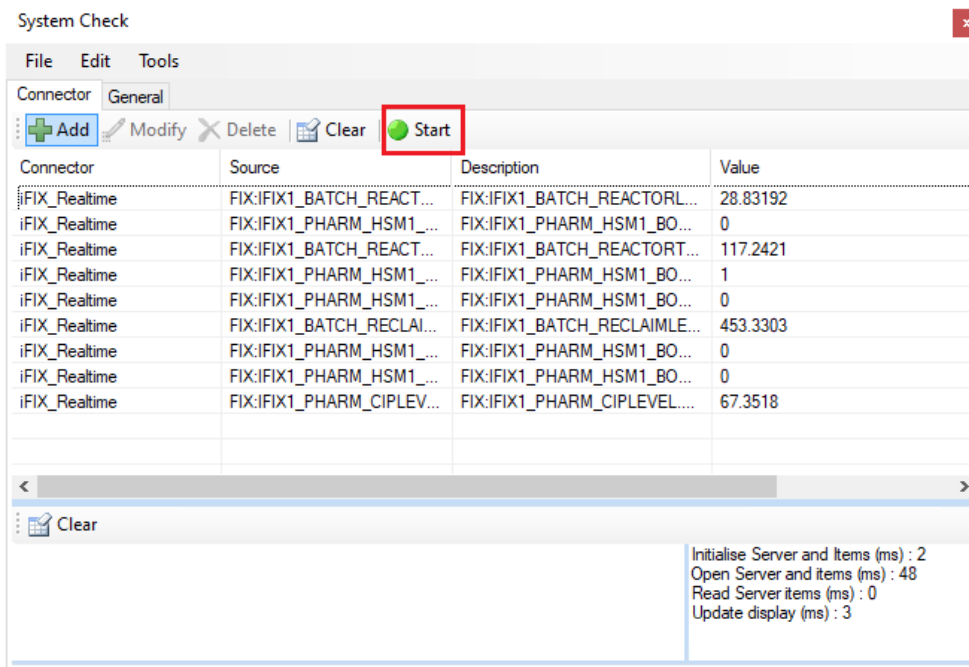
Verify Data Communication

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

- Click **Add**
- Choose the *iFIX Real-time values (local)* connector from the dropdown list.
- Click the pushbutton ([...]) next to **Items** to open the Tag Browser window.



- Select one or more tags, click **OK**.

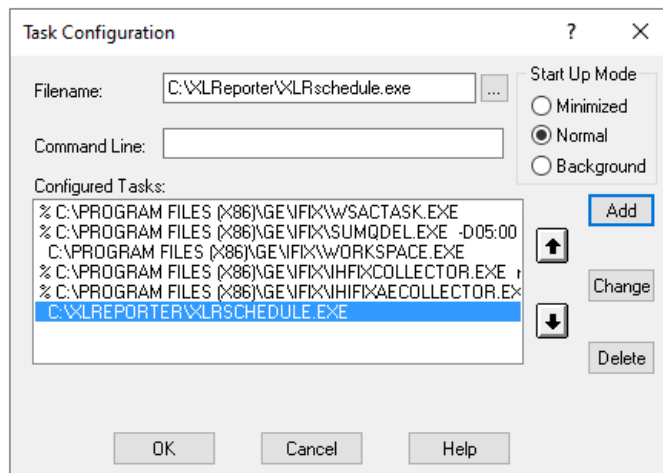


- Click **Start** to verify the communication.

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an iFIX task so it starts when the HMI is started.

To configure, open the **System Configuration (SCU)** from the **iFIX** program group. Select **Configure, Tasks**.



- For **Filename** browse and select **XLRschedule.exe** from the **XLReporter** installation folder (**C:\XLReporter** by default).
- Set **Start Up Mode** to **Normal**.
- Click **Add**.
- Use the down arrow to move this to the bottom of the **Configured Tasks** list.
- Click **OK**.

Save and close the SCU. The next time iFIX is started, **XLReporter's Scheduler** will start with it.

iFIX Real-time values (OPC)

This connector is used to get real time values from iFIX via the iFIX OPC server. This can be used to retrieve data from iFIX both locally on an iFIX node or remotely.

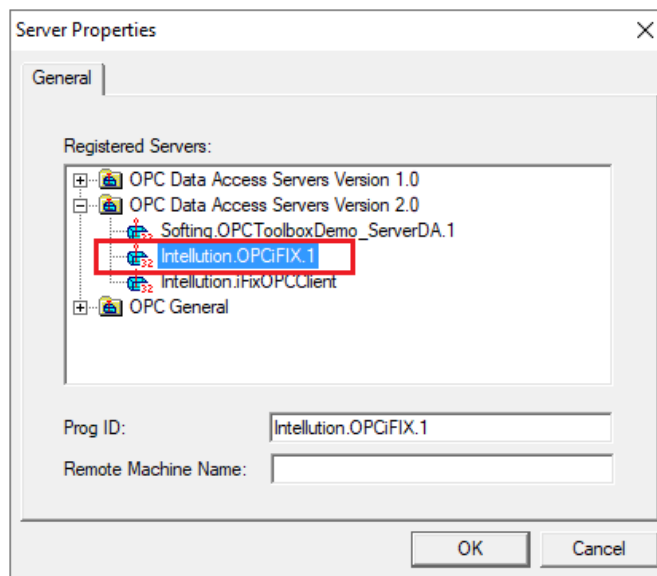
Prerequisites

Verify Communication

Communication between the OPC server and an OPC client must be verified. If an OPC client is not provided with the server, **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.SmartSights.com.

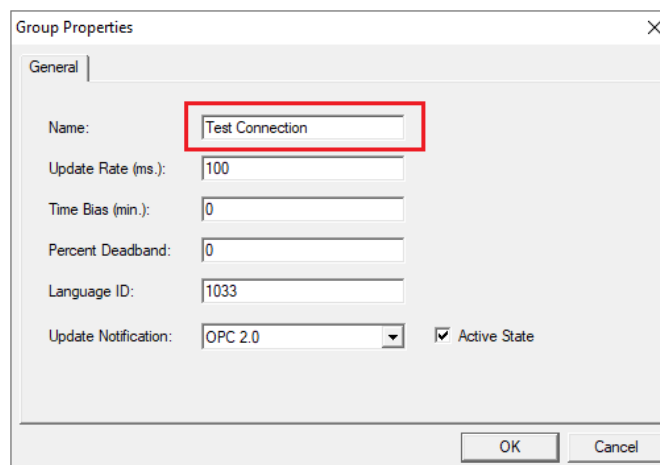
To run, double-click **SampleClientDA.exe**.

To connect to an OPC server, select **Edit, New Server Connection** to open the **Server Properties** window.



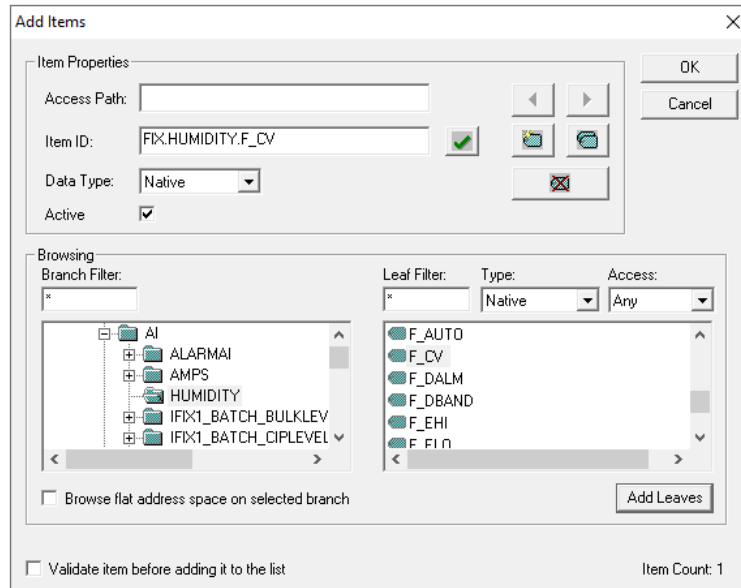
Expand the **OPC Data Access Servers Version 2.0**, select *Intellution.OPCiFIX.1* and click **OK**.

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

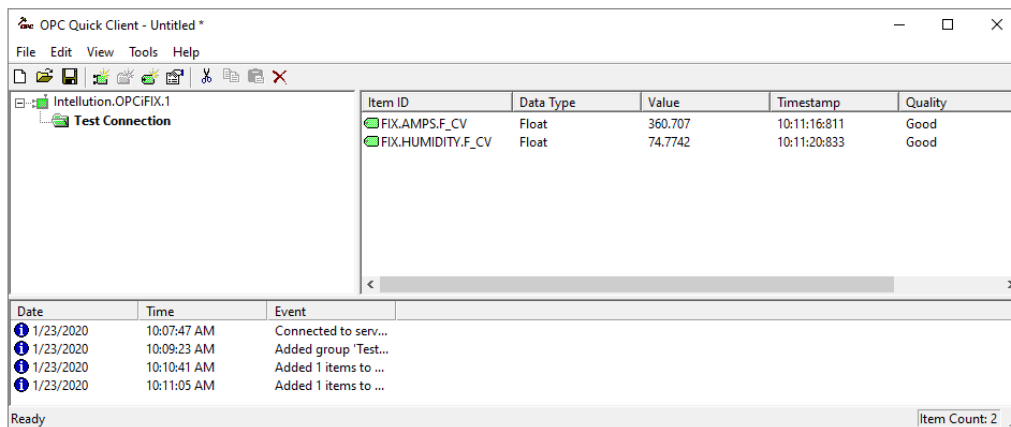


Specify **Name** and click **OK**.

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. To select a leaf, highlight and click the **Add Leaves** button. Click **OK** when selection is complete.



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

If at any point you experience an issue with this client, contact GE Digital technical support to troubleshoot and correct these issues.

Remote Communication

If XLReporter is not installed on the machine where iFIX is installed, 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

In order to connect to iFIX 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 iFIX, certain DCOM settings must be enabled. For details on what DCOM settings to enable, see [OPC and DCOM: 5 Things You Need to Know](#).

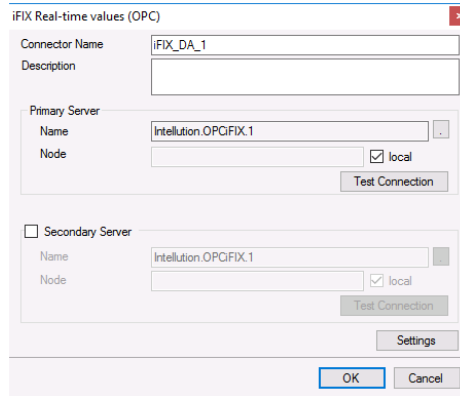
Windows Firewall

If the Windows Firewall is enabled on the machine where iFIX is running TCP Port 135 must be opened in order for remote clients to connect.

Connector

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

- Click **Add**
- Select **GE Digital, iFIX Real-time values (OPC)**
- Click **OK**



Primary Server

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

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

Secondary Server

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

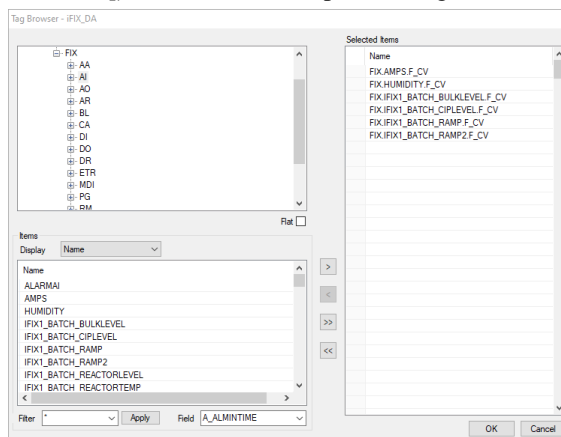
Settings

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

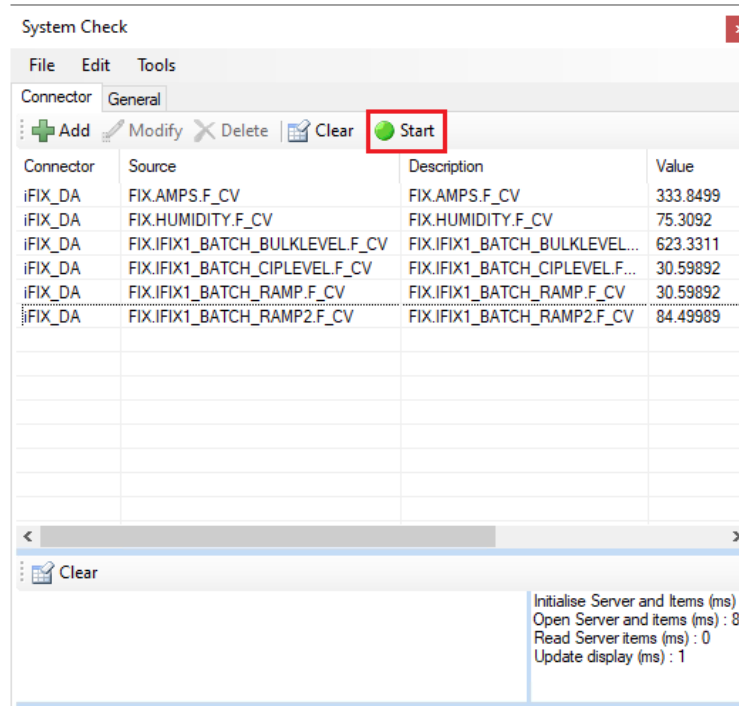
Verify Data Communication

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

- Click **Add**
- Choose the *iFIX Real-time values (OPC)* connector from the dropdown list.
- Click the pushbutton ([...]) next to **Items** to open the Tag Browser window.



- Select on or more tags, click **OK**

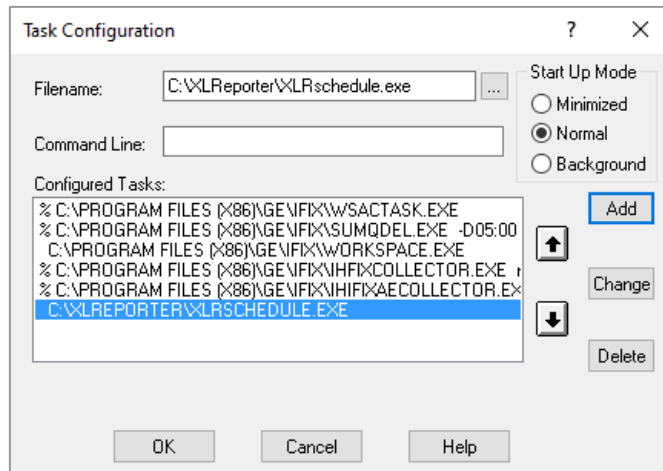


- Click **Start** to verify the communication

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an iFIX task so it starts when the HMI is started.

To configure, open the **System Configuration (SCU)** from the **iFIX** program group. Select **Configure, Tasks**.



- For **Filename** browse and select **XLRschedule.exe** from the **XLReporter** installation folder (*C:\XLReporter* by default).
- Set **Start Up Mode** to *Normal*.
- Click **Add**.
- Use the down arrow to move this to the bottom of the **Configured Tasks** list.
- Click **OK**.

Save and close the SCU. The next time iFIX is started, **XLReporter's Scheduler** will start with it.

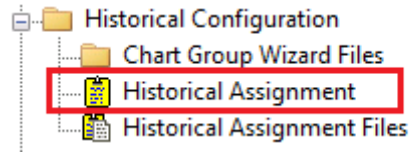
iFIX Historical values (classic)

This connector is used to get historical values from iFIX via the HDA interface from .H04, .H08 or .H24 files.

In order for this connector to function, **XLReporter** must be installed on an iFIX node.

Set up History

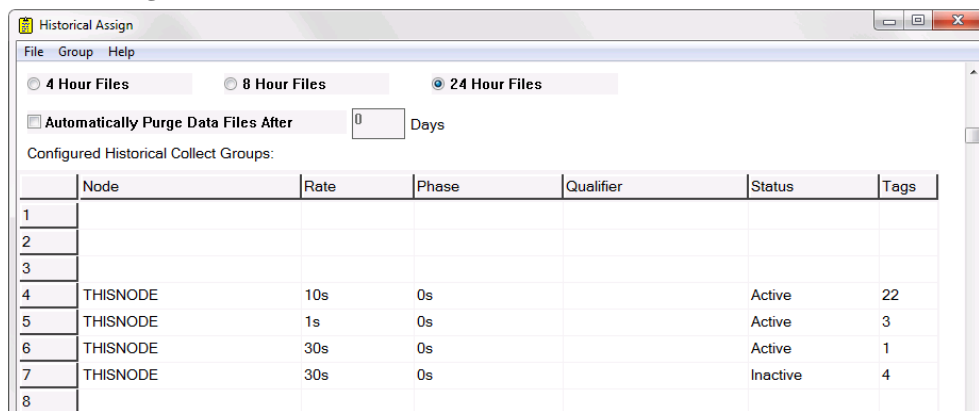
To set up iFIX history logs, open **iFIX WorkSpace**, from the **iFIX** program group.



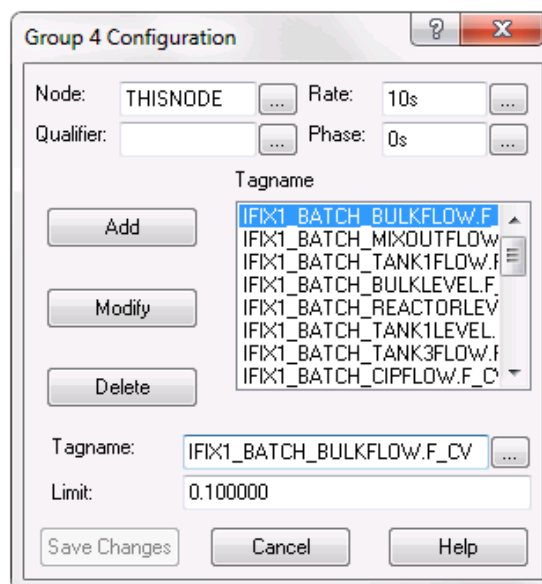
Expand **Historical Configuration** and click on **Historical Assignment**.

If the Historical Assignment does not open, the SIMS required for the logger are not installed. See GE Knowledgebase - KB15171 for more information.

In **Historical Assignment**,



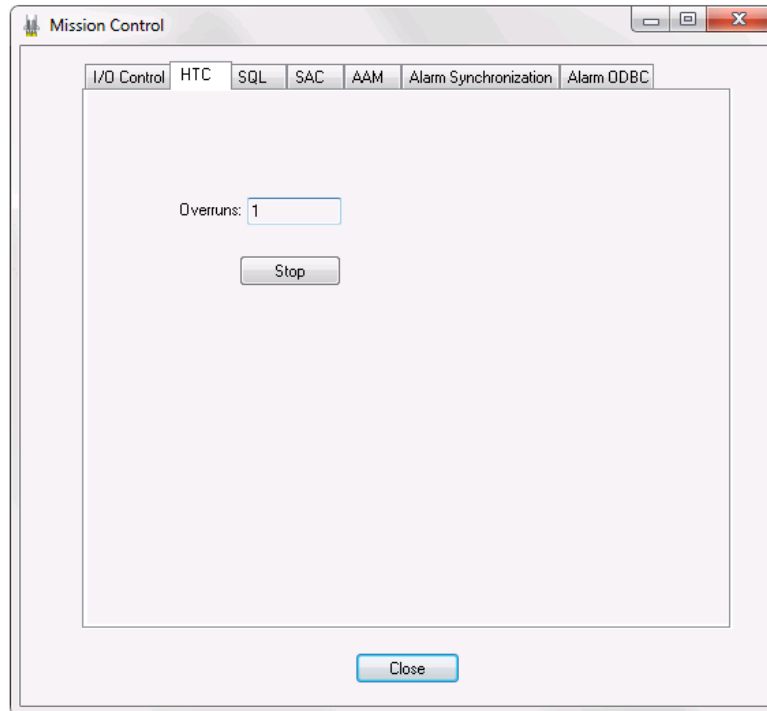
- Select how often a new file is created (*.h04 (4-hour files), *.h08 (8-hour files) or *.h24 (24-hour files))
- Double-click on an open row to configure a new group.



- Add each tag to collect.
- Specify how often to collect values for the group.

Start Historical Data Logs

In **iFIX Workspace**, open **Mission Control**.

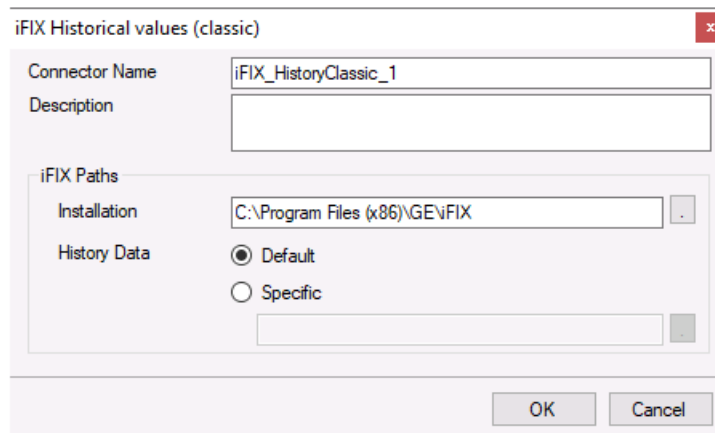


In **Mission Control**, under the **HTC** tab, click **Start**.

Connector

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

- Click **Add**
- Select **GE Digital, iFIX Historical values (classic)**
- Click **OK**



iFIX Paths

The **Installation** path defines where iFIX is installed on the local system.

The **History Data** path specifies where the historical data files (.H04, .H08 or .H24) are located. This can either be the **Default** history path defined in iFIX or a **Specific** path. For **Specific** the path must be defined to the path which contains folders for each iFIX node which is one level above where the historical data files are stored.

Tag Browsing

By default, when browsing for tags using an iFIX History connector, all the tags in the iFIX system are presented regardless of whether or not they are logged historically. To restrict this list to show only tags being logged historically, do the following:

1. Open **iFIX Workspace**.
2. Open **Historical Assignment**.
3. Select **File, Save As**.
4. Go to the **Data** folder of your project and create an *iFIX* folder.
5. In the **iFIX** folder save the file. The file must start with *IFIX_* and have a *.csv* file extension.

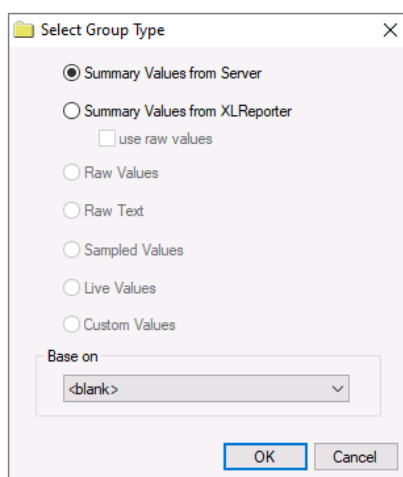
Now, when you create the iFIX History connector, it will present these tags when browsing.

Note, if you have already created the connector before saving these tags simply modify the connector and click **OK** to have it use the tags you have saved.

Data Group

The following describes the historical data group settings specific to the **iFIX Historical Values** connector.

Group Types



For **iFIX Historical Values** 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:

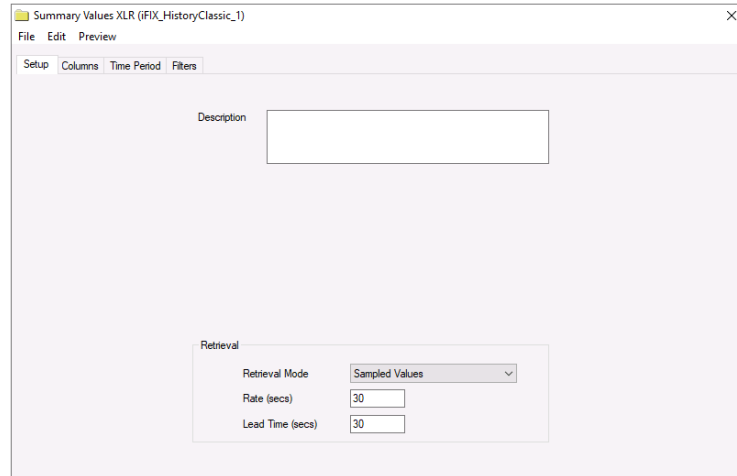
- Average
- Maximum
- Minimum
- Manual
- First Sample
- First Accumulation
- First Difference
- First Accumulated Difference

Summary Values from XLReporter

This group type retrieves sampled values from iFIX 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**.

Group Settings Setup Tab



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. For iFIX Historical Values only *Sampled Values* are available.
- **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.

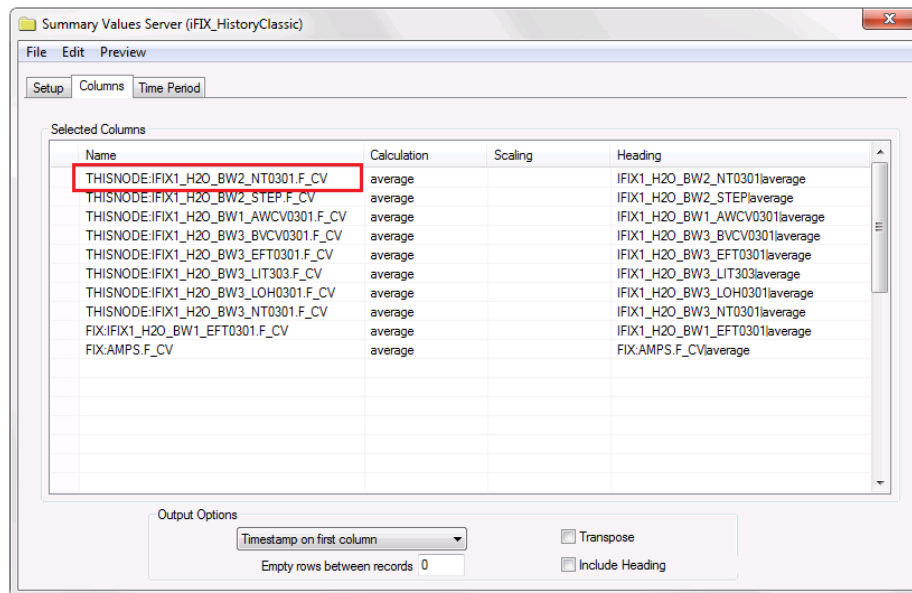
Verify Data Communication

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

Select the *GE iFIX Historical values (classic)* connector and then select Add.

- Set the **Group Type** to Summary Values from Server and click **OK**.

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

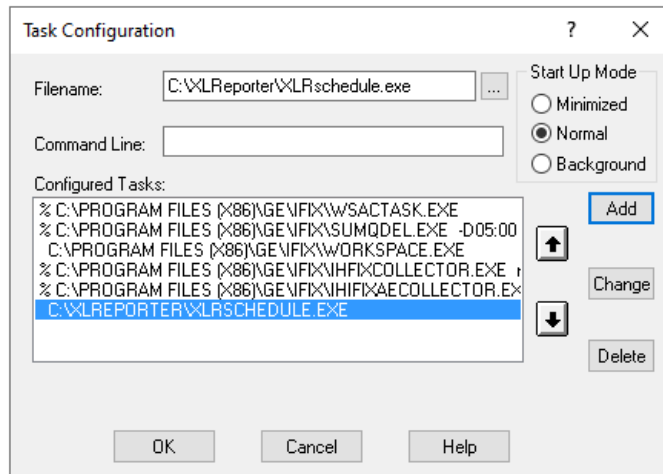


Select **Preview**, pick a *Start* date and click **Refresh**.

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an iFIX task so it starts when the HMI is started.

To configure, open the **System Configuration (SCU)** from the **iFIX** program group. Select **Configure, Tasks**.



- For **Filename** browse and select **XLRschedule.exe** from the **XLReporter** installation folder (*C:\XLReporter* by default).
- Set **Start Up Mode** to *Normal*.
- Click **Add**.
- Use the down arrow to move this to the bottom of the **Configured Tasks** list.
- Click **OK**.

Save and close the SCU. The next time iFIX is started, **XLReporter's Scheduler** will start with it.

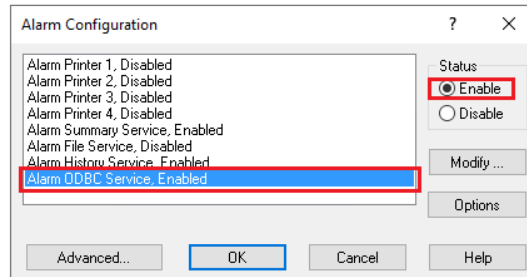
iFIX Alarms

This connector is used to get alarms from iFIX when they are logged to a relational database.

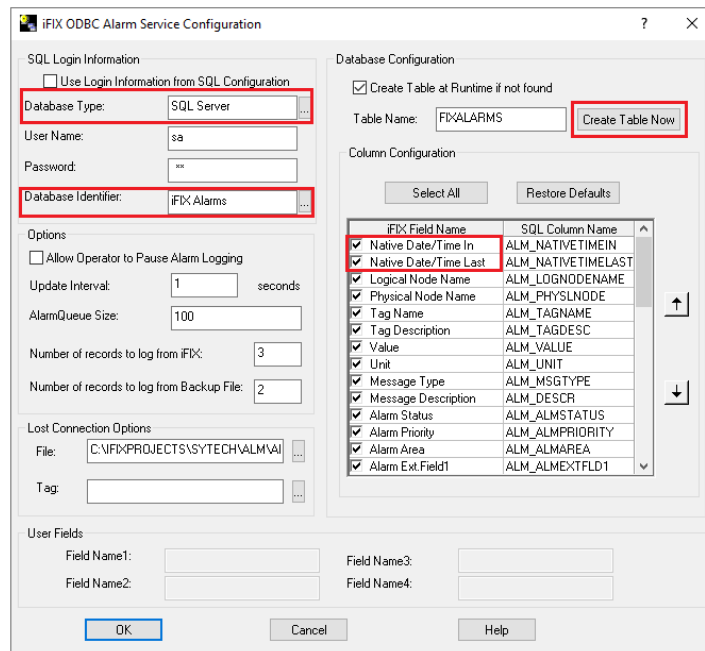
Set up Alarm Logs

To set up iFIX alarm logging to a database, open **System Configuration**, from the **iFIX** program group.

Select **Configure, Alarms** to open the **Alarm Configuration** window.



- Select **Alarm ODBC Service**.
- Set **Status** to **Enable**.
- Click **Modify** to open **Alarm ODBC Service Configuration**.
- Click **Configure** to view and edit the settings.

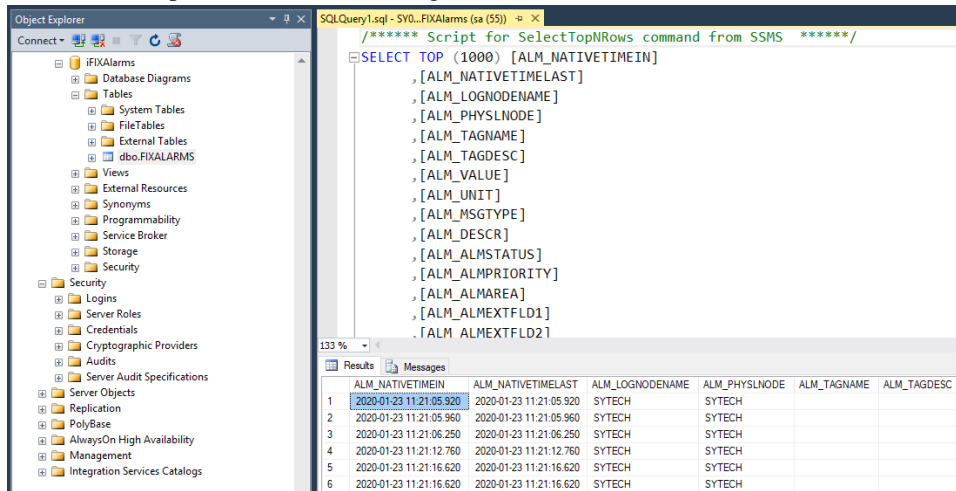


- Select the **Database Type** and the **Database Identifier (DSN)**
- Click **Create Table Now**.
- Specify the columns to configure. Be sure to select *Native Date/Time In* and *Native Date/Time Last* in **Column Configuration**.
- Click **OK** to save the configuration.

Prerequisites

Verify Database

Open **Microsoft SQL Server Management Studio** and connect to the SQL Server or SQL Server Express instance set up for the iFIX Alarm Logs.



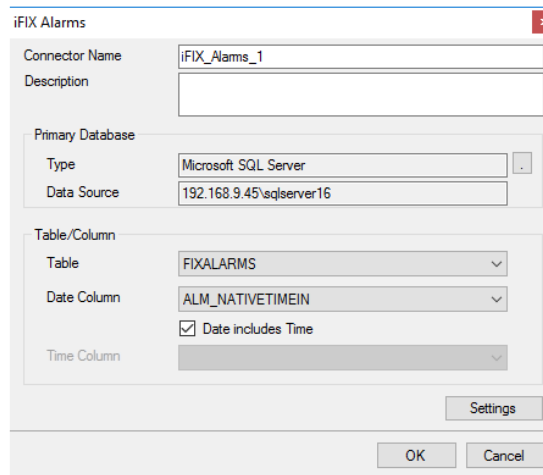
Expand **Database**, the database configured for the alarms and **Tables**. Select the alarm table, right-click and choose **Select Top 1000 Rows**.

If no data is returned contact GE Digital technical support and correct these issues.

Connector

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

- Click **Add**
- Select **GE Digital, iFIX Alarms**.
- Click **OK**



Primary Database

This setting defines the SQL Server connection where the iFIX Alarms are configured to log to. Use the browse button [...] to define the database connection.

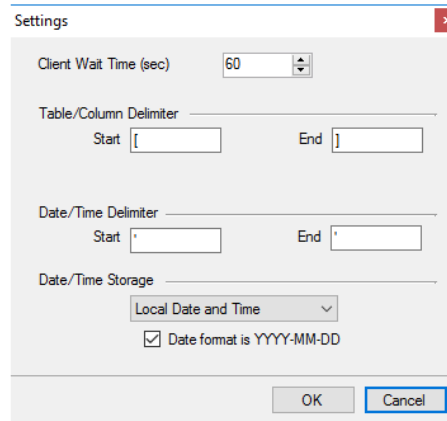
Table/Column

Once the **Primary Database** is configured, set **Table** to the table where the alarms are being logged. This should match the **Database Identifier** configured in iFIX.

Set the **Date Column** to `ALM_NATIVETIMEIN` or `ALM_NATIVETIMELAST` and check **Date includes Time**.

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 **Primary 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.

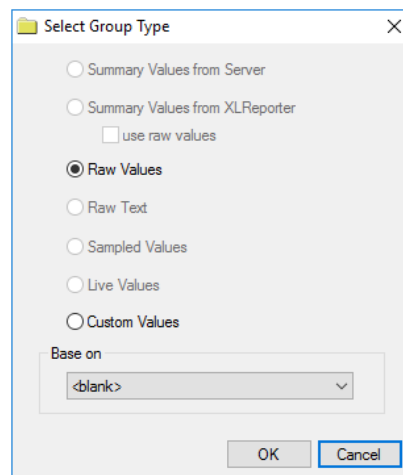
The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

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 **iFIX Alarms** connector.

Group Types



For **iFIX Alarms** the following group types are available:

Raw Values

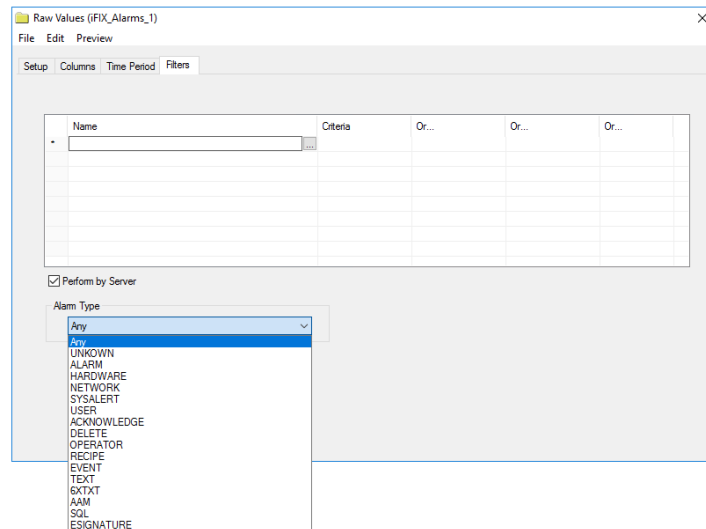
This group retrieves every value logged to the alarms database between the start and end time specified.

Custom Values

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

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.

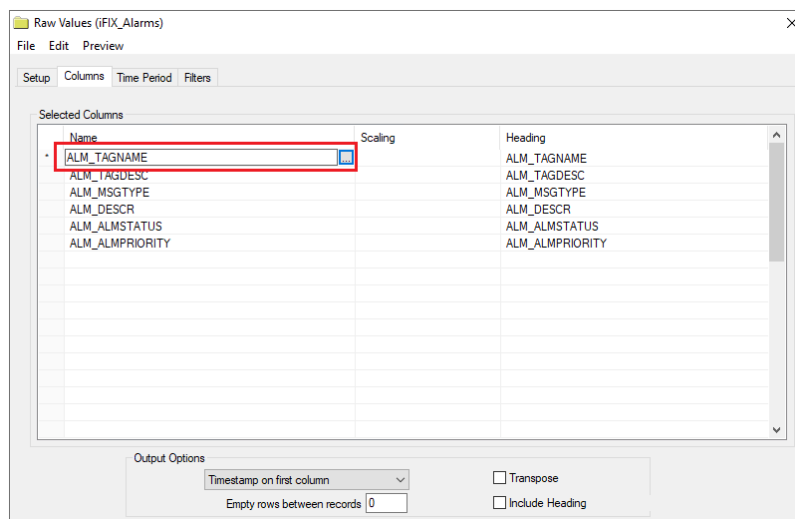
The **Alarm Type** setting is used to retrieve either a specific type of alarm or *Any* to retrieve every time of alarm. For more information on alarm types, see the iFIX documentation.

Verify Data Communication

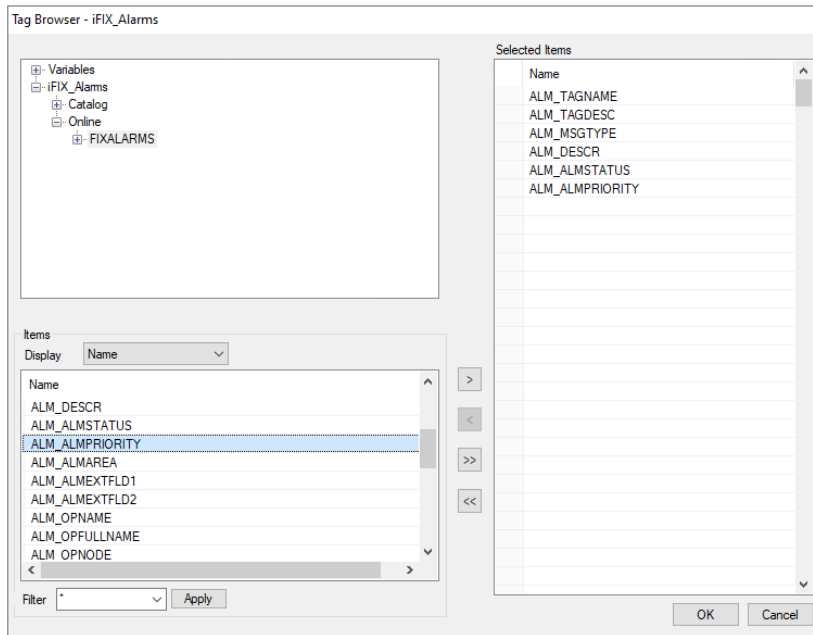
To verify communication, open the **Project Explorer** and select the **Tools** tab. Open **Connector Groups**. Select the *GE iFIX Alarms* connector and then select **Add**.

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

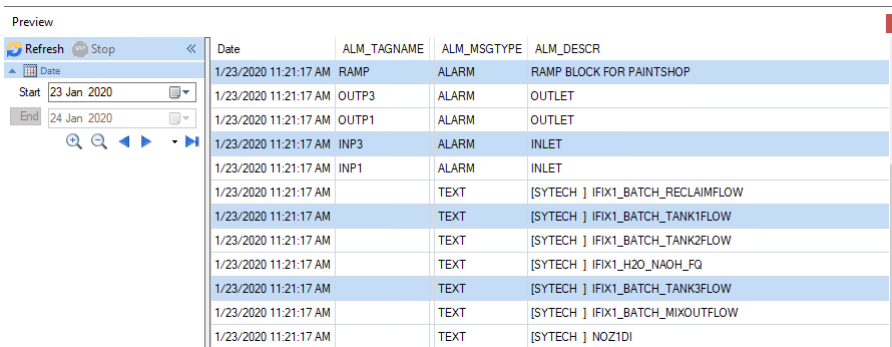
Under the **Columns** tab:



- Select the first row under the **Name** column and click the browse pushbutton ([...]).



- In the Tag Browser expand **Online, FIXALARMS** and add **Items** from the lower left.
- Click **OK** to add these to the group.
- To retrieve data, select **Preview**.

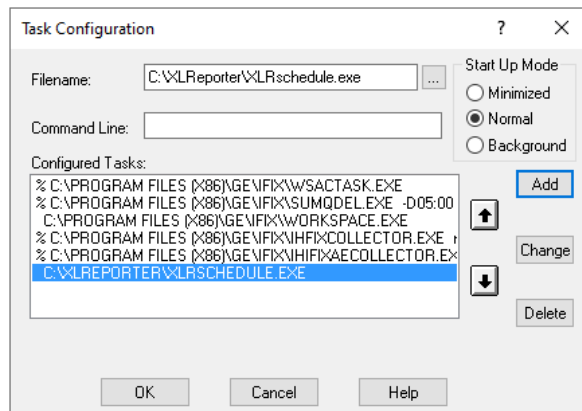


In the **Preview** window, use the date picker to select a date and time where alarms are recorded in the database. Click **Refresh** to view the data. The first 60 alarms starting at the date and time specified should be displayed.

Scheduler Startup

The **XLReporter Scheduler** is used to process reports automatically in the background. The scheduler can be configured to start from an iFIX task so it starts when the HMI is started.

To configure, open the **System Configuration (SCU)** from the **iFIX** program group. Select **Configure, Tasks**.



- For **Filename** browse and select **XLRschedule.exe** from the **XLReporter** installation folder (*C:\XLReporter* by default).
- Set **Start Up Mode** to *Normal*.
- Click **Add**.
- Use the down arrow to move this to the bottom of the **Configured Tasks** list.
- Click **OK**.

Save and close the SCU. The next time iFIX is started, **XLReporter's Scheduler** will start with it.

Historian

This connector is used to get historical data from the GE Historian (formerly Proficy Historian) using the Historian OLEDB Provider. This can be configured both locally on the Historian machine and from a remote machine.

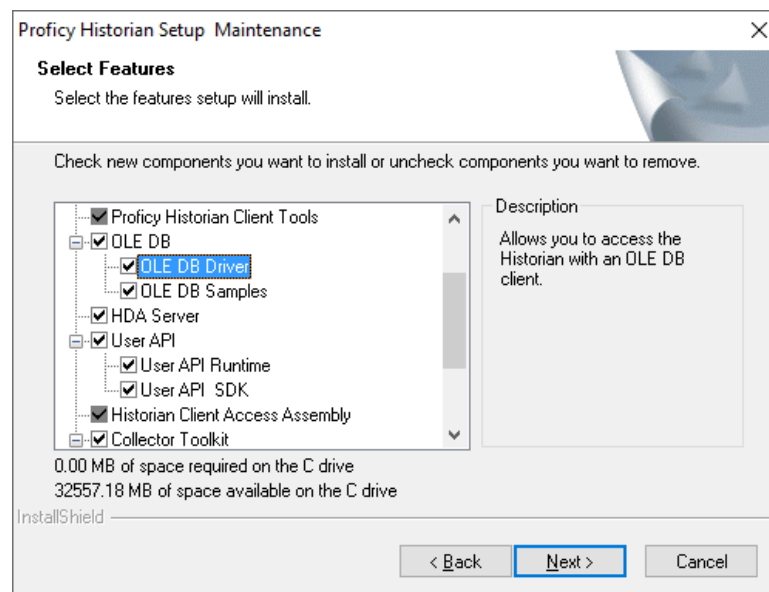
Set up Historian

Client Tools

On the machine where **XLReporter** is installed, the Historian Client Tools must also be installed. These are available on the Historian installation media.

From the **Historian Installation Program**, select **Install Client Tools**.

At minimum, the **OLE DB Driver** must be selected to install. Selecting this forces the **Historian Client Tools** to be selected as well.

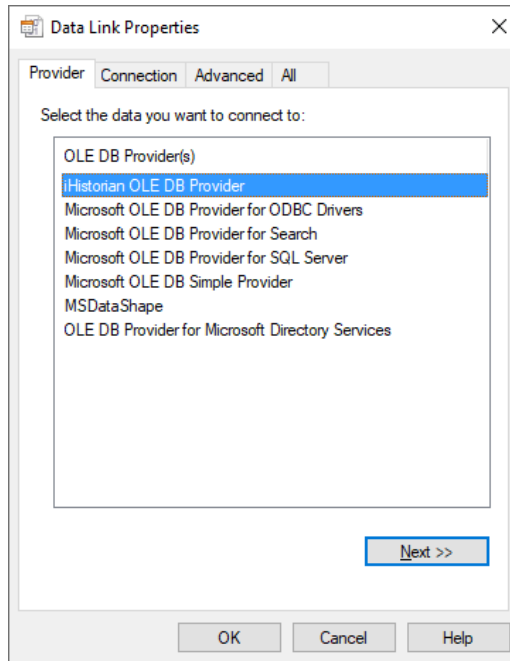


Prerequisites

Verify Driver

To verify the OLE DB Provider exists on the machine,

- On the Windows desktop, create a new text document.
- Rename the text document to *Test.udl*.
- Double click the file to open.

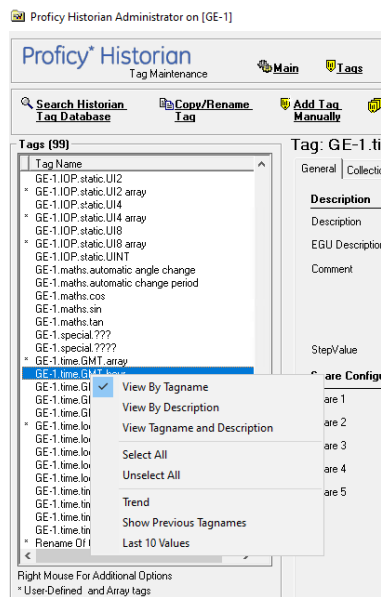


- On the **Provider** tab, verify that the *iHistorian OLE DB Provider* is listed.

Verify Data Storage

From the **GE Historian** program group, select **Historian Administrator**.

- At the top click the **Tags** link.
- Click **Search Historian Tag Database**.
- Leave the Search window blank and click **OK**. All the available tags are now listed.

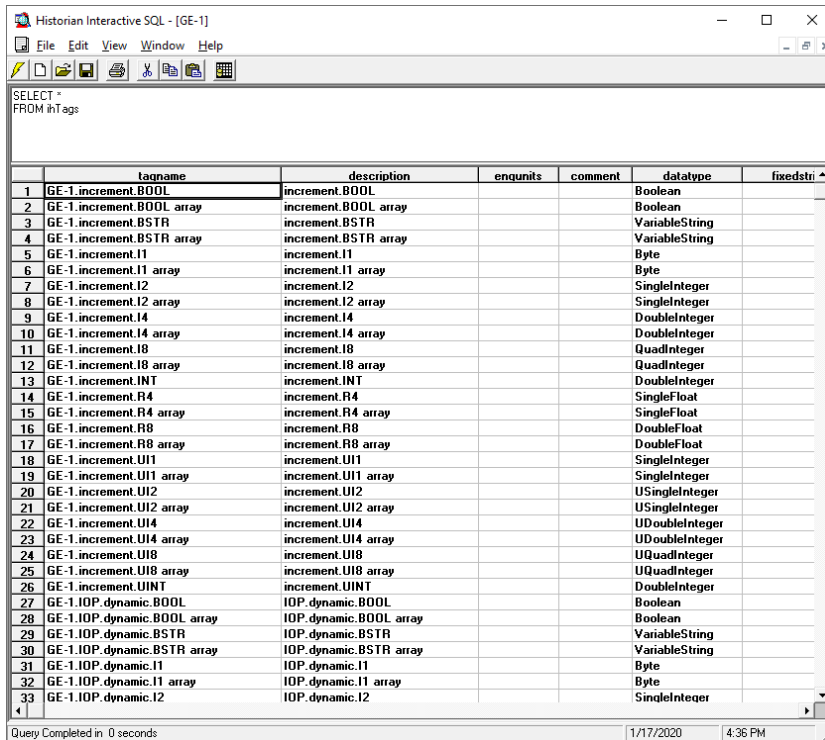


- Right click a tag in the list and choose **Last 10 Values**. This displays the last 10 values logged to the historian for the selected tag.

Verify Data Retrieval


The **Historian Interactive SQL** application can be used to verify data retrieval. To open, from the GE Historian program group select **Historian Interactive SQL**.

- Connect to the historian.



- Queries can be entered at the top of the window. Enter the following query:

SELECT *FROM ihTags

- Click the  button to execute the query

This should list all tags configured in the historian.

Connector

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

- Click **Add**
- Select **GE Digital, Historian**.
- Click **OK**

Historian

Connector Name: GE_Historian_1

Description: GEIFIX6HIST7-1

Primary Server

Name: GEIFIX6HIST7-1

User: sytech

Secondary Server

Name: []

User: []

Settings

OK Cancel

Primary Server

This defines the connection to the GE Historian. The browse button [...] is provided to define.

The **Server Name** can be the physical name of the machine where the historian runs, the IP address of the machine or left blank to use the default historian defined in the Historian Interactive SQL application.

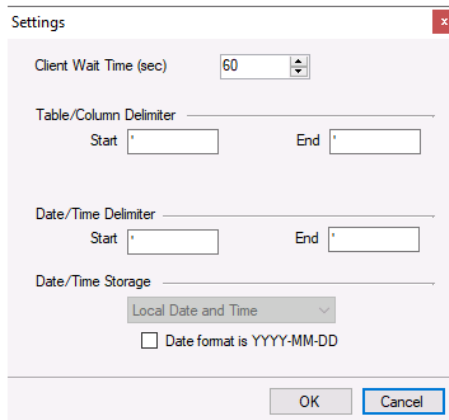
The **User Name** and **Password** settings are provided is required to connect to the GE Historian.

Secondary Server

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

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 GE Historian.

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

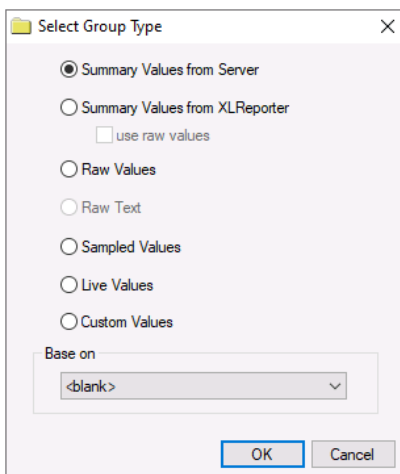
The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

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 **GE Historian** connector.

Group Types



For **GE Historian** the following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian. For GE Historian, the following calculations are available:

- Average
- Maximum
- Time of Maximum
- Minimum
- Time of Minimum
- Count
- Total
- Standard Deviation
- Interpolated
- Raw Average
- Raw Standard Deviation
- Raw Total
- Time Good
- First Raw Value
- First Raw Time
- Last Raw Value
- Last Raw Time
- State Count
- State Time

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.

Sampled Values

This group retrieves lab sample values from the historian between the start, end and interval specified.

Live Values

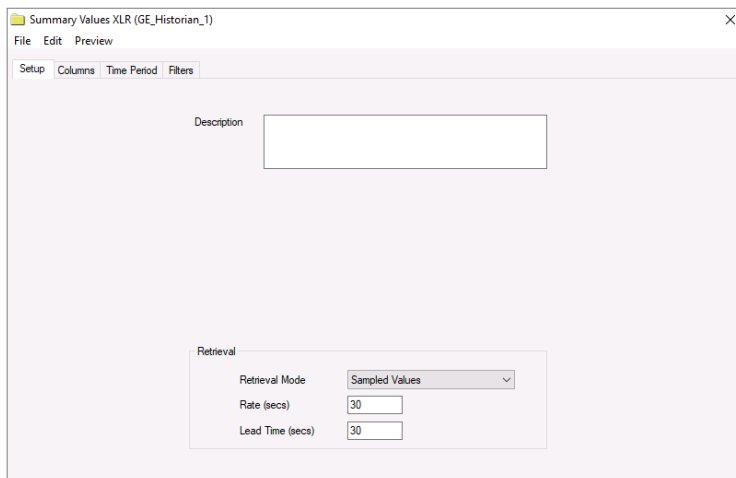
This group retrieves the last recorded values in the historian for every selected tag.

Custom Values

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

Group Settings

Setup Tab (Summary Values for XLReporter)



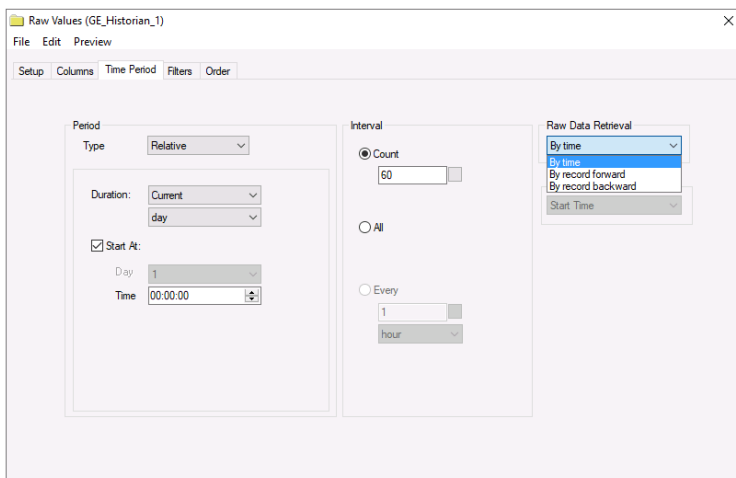
The **Retrieval** settings define how data is retrieved for the calculations selected for the group. The following settings are available:

- **Retrieval Mode**
This setting defines how data is retrieved from the historian. For GE Historian *Sampled Values* and *Raw Values* are available.

Sampled Values use the *Lab Sample* retrieval mode.

- **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.

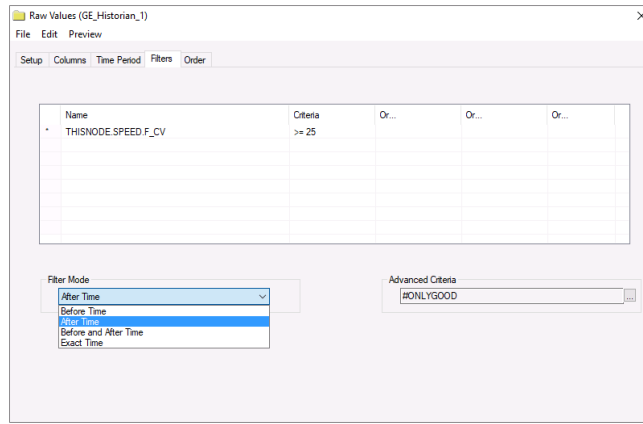
Time Period Tab (Raw Values)



For Raw Values, the **Raw Data Retrieval** defines the time period for the group. The following options are available:

- *By time*
Using this option, raw data is retrieved between the **Start** and **End** configured.
- *By record forward*
Using this option, raw data is retrieved from the **Start** going forward for the number of samples defined in the **Interval Count** setting. The **End** is ignored.
- *By record backward*
Using this option, raw data is retrieved from the **Start** going backwards for the number of samples defined in the **Interval Count** setting. The **End** is ignored.

Filters Tab



All filtering is performed on the Historian server.

Filter Mode

The **Filter Mode** determines how values are interpolated when the filtering is applied.

- *Exact Time* means that data is retrieved for the exact times when the filter condition(s) are true.
- *Before Time* means that data is retrieved from the time of the last false filter condition(s) up until the time of the true condition for each filter.
- *After Time* means that data is retrieved from the time of the true filter condition(s) up until the time of the next false condition for each filter.
- *Before and After Time* means that data is retrieved from the time of the last false filter condition(s) up until the time of the next false condition for each filter.

For more information, see the GE Historian documentation.

Advanced Criteria

Advanced Criteria provides specific, server-based criteria which can be applied to the data returned from Historian. For more information, see **criteriastring** in the GE Historian documentation.

Order By Tab (Raw Values)

For **Raw Values**, the **Order By** tab is provided to order by the *Timestamp* as well as any other selected column on the **Columns** tab.

Verify the Data Connector

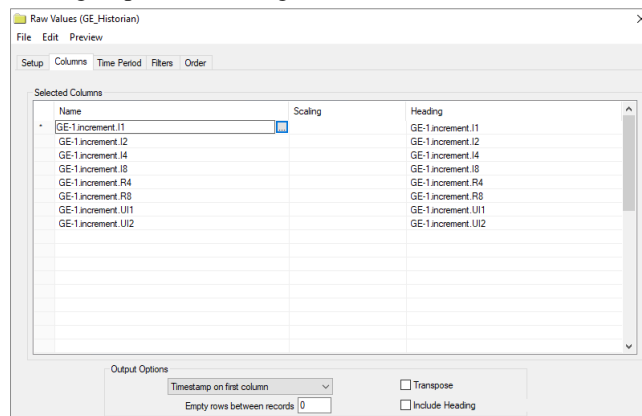
XLReporter retrieves data from the Data Connector using a History Group.

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

Select the GE 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**.

Date	GE-1.increment.I1	GE-1.increment.I2	GE-1.increment.I4	GE-1.increment.I
1/20/2020 4:44:40 PM	2	2	2	2
1/20/2020 4:44:41 PM	3	3	3	3
1/20/2020 4:44:42 PM	4	4	4	4
1/20/2020 4:44:43 PM	5	5	5	5
1/20/2020 4:44:44 PM	6	6	6	6
1/20/2020 4:44:45 PM	7	7	7	7
1/20/2020 4:44:46 PM	8	8	8	8
1/20/2020 4:44:47 PM	9	9	9	9
1/20/2020 4:44:48 PM	10	10	10	10
1/20/2020 4:44:49 PM	11	11	11	11
1/20/2020 4:44:50 PM	12	12	12	12
1/20/2020 4:44:51 PM	13	13	13	13
1/20/2020 4:44:52 PM	14	14	14	14
1/20/2020 4:44:53 PM	15	15	15	15
1/20/2020 4:44:54 PM	16	16	16	16
1/20/2020 4:44:55 PM	17	17	17	17
1/20/2020 4:44:56 PM	18	18	18	18
1/20/2020 4:44:57 PM	19	19	19	19
1/20/2020 4:44:58 PM	20	20	20	20
1/20/2020 4:44:59 PM	21	21	21	21
1/20/2020 4:45:00 PM	22	22	22	22
1/20/2020 4:45:01 PM	23	23	23	23
1/20/2020 4:45:02 PM	24	24	24	24
1/20/2020 4:45:03 PM	25	25	25	25

Limitations

When retrieving data from the Historian, the request can time out if it takes too long to get the data. By default, the timeout setting is *60 seconds*. To change this setting, in the **Historian Administrator** click the **Data Stores** link at the top. Under the **Global Options** tab, in the **Data Queries** section, change **Maximum Query Time (seconds)**. Click **Update** when finished.

Calculated and Sampled Values

When retrieving calculated or sampled values from Historian there is a limit to the amount of values that can be returned. By default, this is *100,000*. To change this setting, in the **Historian Administrator** click the **Data Stores** link at the top. Under the **Global Options** tab, in the **Data Queries** section, change **Maximum Query Intervals**. Click **Update** when finished.

Note that this is a value count and not a row count. For example, to retrieve 1 second values for 2 tags, 172,800 values are retrieved ($86,400 * 2$) so just for this request; the default limit would have to be increased.

Historian Plus

This connector is used to get historical data from the GE Historian (formerly Proficy Historian) using the *ihUser* interface. This connector can only be configured locally on the Historian machine. There is no remote access.

This connector should be used when a large amount of data is required from the GE Historian. It is designed to retrieve large amounts of raw data without timing out.

This connector requires GE Historian 5.5 or above.

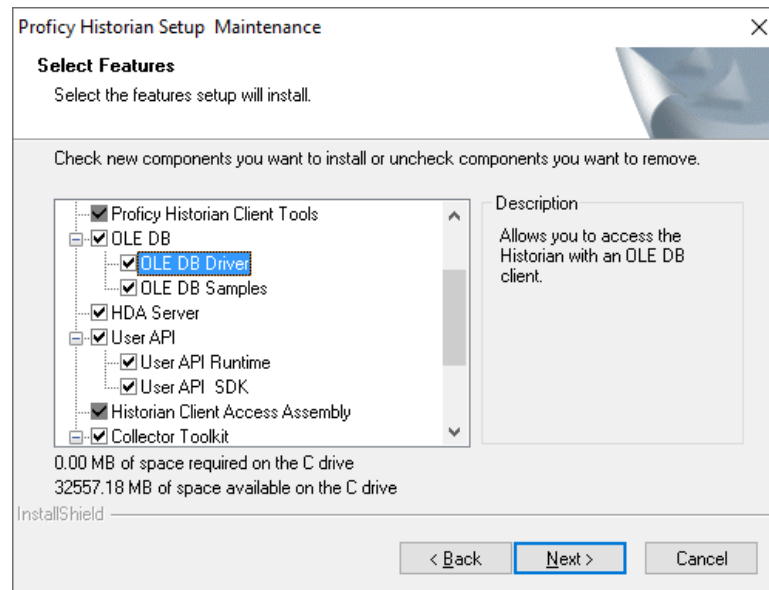
Set up Historian

Client Tools

On the machine where **XLReporter** is installed, the Historian Client Tools must also be installed. These are available on the Historian installation media.

From the **Historian Installation Program**, select **Install Client Tools**.

The **OLE DB Driver** must be selected to install. Selecting this forces the **Historian Client Tools** to be selected as well.

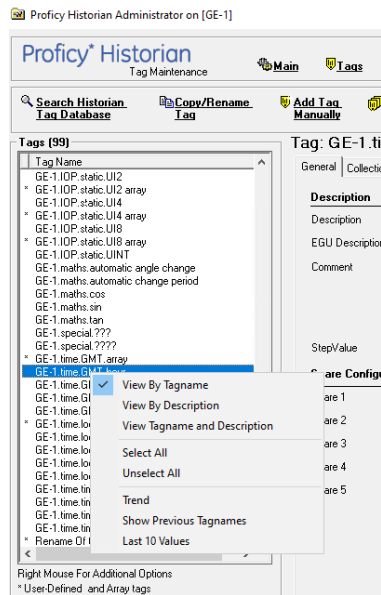


Prerequisites

Verify Data Storage

From the **GE Historian** program group, select **Historian Administrator**.

- At the top click the **Tags** link.
- Click **Search Historian Tag Database**.
- Leave the Search window blank and click **OK**. All the available tags are now listed.



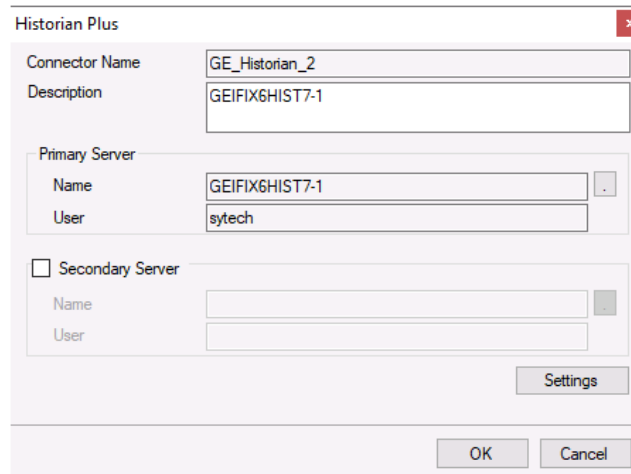
- Right click a tag in the list and choose **Last 10 Values**.

This displays the last 10 values logged to the historian for the selected tag.

Connector

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

- Click **Add**
- Select **GE Digital, Historian Plus**.
- Click **OK**



Primary Server

This defines the connection to the GE Historian. The browse button [...] is provided to define.

The **Server Name** can be the physical name of the machine where the historian runs, the IP address of the machine or left blank to use the default historian defined in the Historian Interactive SQL application.

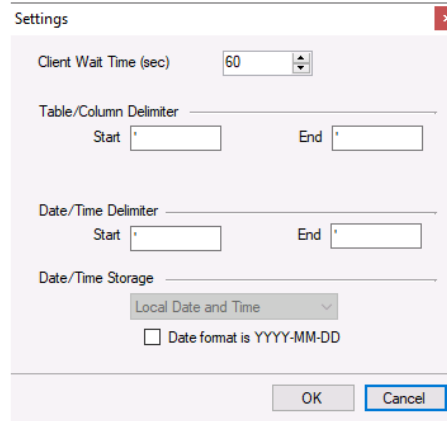
The **User Name** and **Password** settings are provided is required to connect to the GE Historian.

Secondary Server

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

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 GE Historian.

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

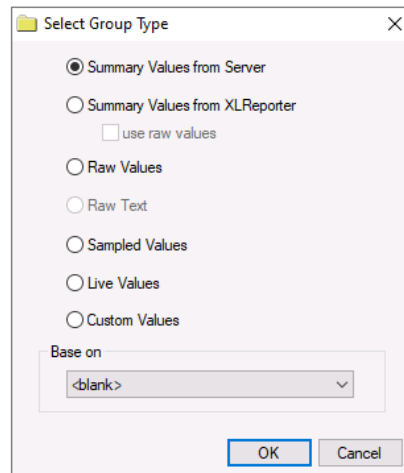
The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

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 **GE Historian** connector.

Group Types



For **GE Historian** the following group types are available:

Summary Values from Server

This group type retrieves summary calculations directly from the historian. For GE Historian, the following calculations are available:

- Average
- Maximum
- Minimum
- Count
- Total

- Standard Deviation
- Interpolated
- Raw Average
- Raw Standard Deviation
- Raw Total
- Time Good
- First Raw Value
- Last Raw Value
- State Count
- State Time

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.

Sampled Values

This group retrieves lab sample values from the historian between the start, end and interval specified.

Live Values

This group retrieves the last recorded values in the historian for every selected tag.

Custom Values

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

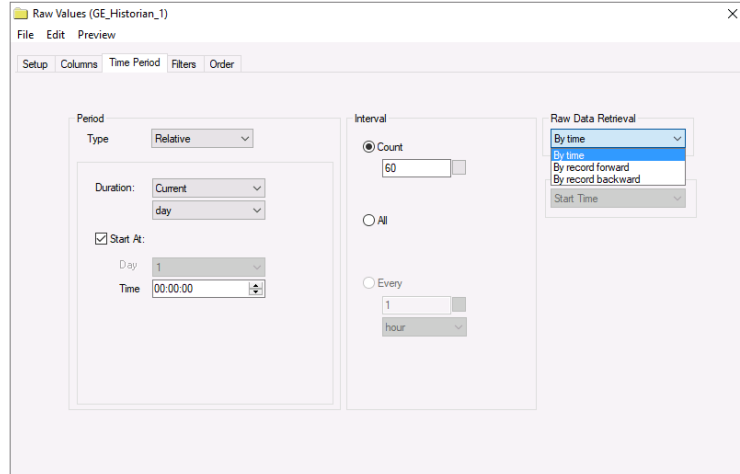
Group Settings

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. For GE Historian *Sampled Values* and *Raw Values* are available. *Sampled Values* use the *Lab Sample* retrieval mode.
- **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.

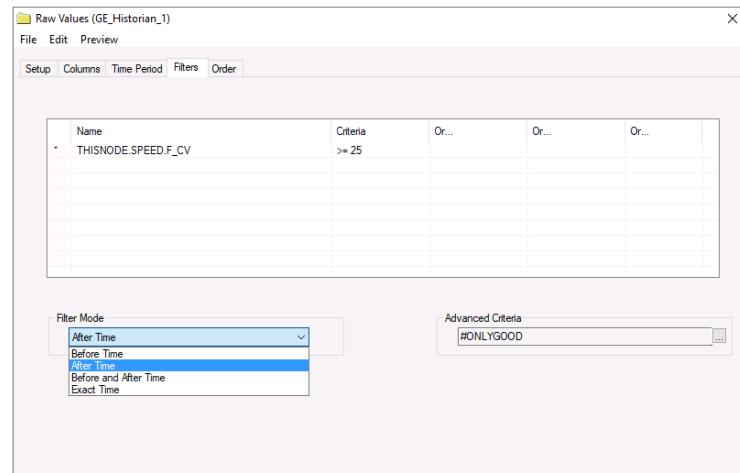
Time Period Tab (Raw Values)



For **Raw Values**, the **Raw Data Retrieval** defines the time period for the group. The following options are available:

- *By time*
Using this option, raw data is retrieved between the **Start** and **End** configured.
- *By record forward*
Using this option, raw data is retrieved from the **Start** going forward for the number of samples defined in the **Interval Count** setting. The **End** is ignored.
- *By record backward*
Using this option, raw data is retrieved from the **Start** going backwards for the number of samples defined in the **Interval Count** setting. The **End** is ignored.

Filters Tab



All filtering is performed on the Historian server.

Verify the Data Connector

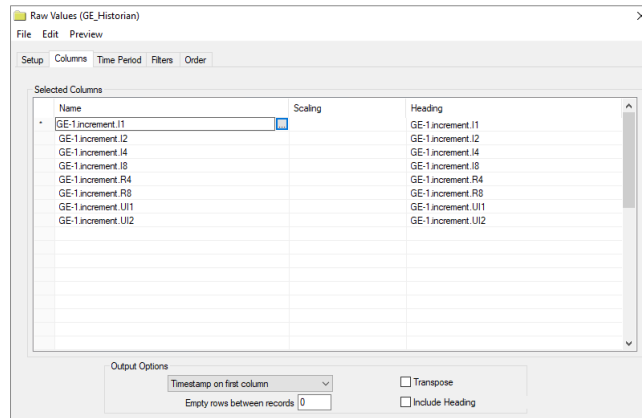
XLReporter retrieves data from the Data Connector using a History Group.

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

Select the GE 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**.

Date	GE-1.increment.I1	GE-1.increment.I2	GE-1.increment.I4	GE-1.increment.I8
1/20/2020 4:44:40 PM	2	2	2	2
1/20/2020 4:44:41 PM	3	3	3	3
1/20/2020 4:44:42 PM	4	4	4	4
1/20/2020 4:44:43 PM	5	5	5	5
1/20/2020 4:44:44 PM	6	6	6	6
1/20/2020 4:44:45 PM	7	7	7	7
1/20/2020 4:44:46 PM	8	8	8	8
1/20/2020 4:44:47 PM	9	9	9	9
1/20/2020 4:44:48 PM	10	10	10	10
1/20/2020 4:44:49 PM	11	11	11	11
1/20/2020 4:44:50 PM	12	12	12	12
1/20/2020 4:44:51 PM	13	13	13	13
1/20/2020 4:44:52 PM	14	14	14	14
1/20/2020 4:44:53 PM	15	15	15	15
1/20/2020 4:44:54 PM	16	16	16	16
1/20/2020 4:44:55 PM	17	17	17	17
1/20/2020 4:44:56 PM	18	18	18	18
1/20/2020 4:44:57 PM	19	19	19	19
1/20/2020 4:44:58 PM	20	20	20	20
1/20/2020 4:44:59 PM	21	21	21	21
1/20/2020 4:45:00 PM	22	22	22	22
1/20/2020 4:45:01 PM	23	23	23	23
1/20/2020 4:45:02 PM	24	24	24	24

Rows: 60

Filter Mode

The **Filter Mode** determines how values are interpolated when the filtering is applied.

- *Exact Time* means that data is retrieved for the exact times when the filter condition(s) are true.
- *Before Time* means that data is retrieved from the time of the last false filter condition(s) up until the time of the true condition for each filter.
- *After Time* means that data is retrieved from the time of the true filter condition(s) up until the time of the next false condition for each filter.
- *Before and After Time* means that data is retrieved from the time of the last false filter condition(s) up until the time of the next false condition for each filter.

For more information, see the GE Historian documentation.

Advanced Criteria

Advanced Criteria provides specific, server-based criteria which can be applied to the data returned from Historian. For more information, see **criteriastring** in the GE Historian documentation.

Historian Alarms

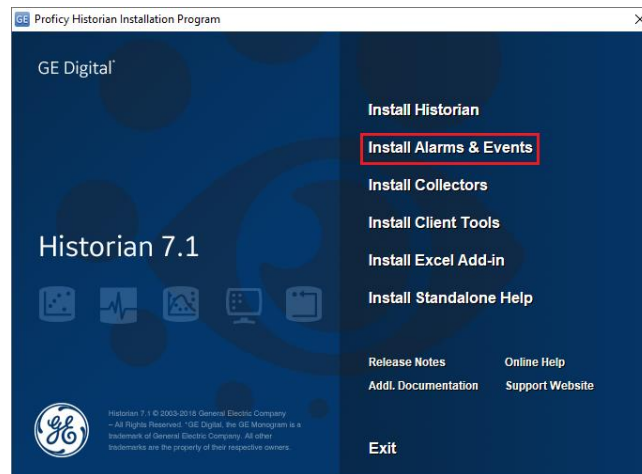
This connector is used to get alarms from the GE Historian (formerly Proficy Historian) using the Historian OLEDB Provider. This can be configured both locally on the Historian machine and from a remote machine.

Set up Alarm Logging

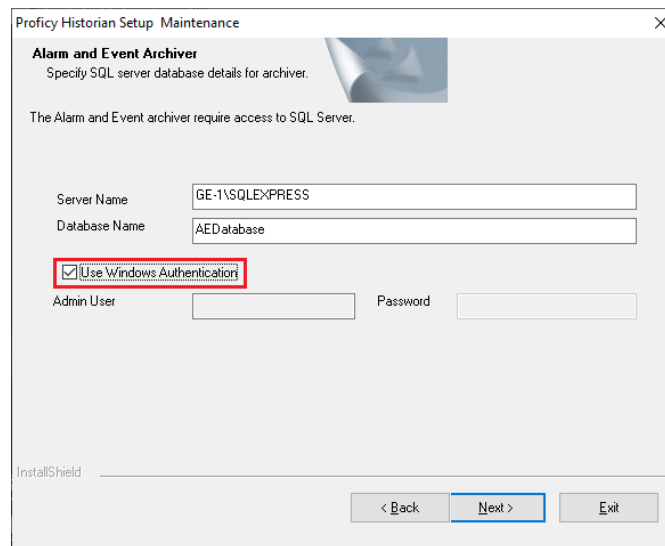
Historian collects alarm and event data from an OPC Alarm & Event compliant server, and stores it alongside Historian process data.

Installation

To install, run **InstallLauncher.exe** as an **Run as Administrator**.



Select the **Install Alarm and Events** option in the historian installation wizard to install the **Historian Alarm Archiver** service.



During the **Maintenance** step of the installation,

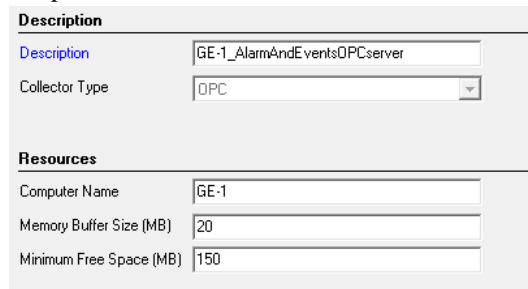
- Set **Server Name** to the SQL Server instance where the alarms will be logged.
- Set **Database Name** to the name of the database in the SQL Server instance for alarms. If this database does not exist, it will be created along with the tables needed.
- Check the box for **Use Windows Authentication** to connect to SQL Server. The Windows user you are logged in as should have *sysadmin* permissions to the SQL server in order to create the database and the required tables.

Alarm Configuration

In order for Historian to log the alarms to the newly created database, a **Collector** must be pointed to the Alarm and Events **OPC Server PROGID**.

Open the **Historian Administrator** from the GE **Historian** program group.

- Select **Collectors** at the top of the **Historian Administrator**.



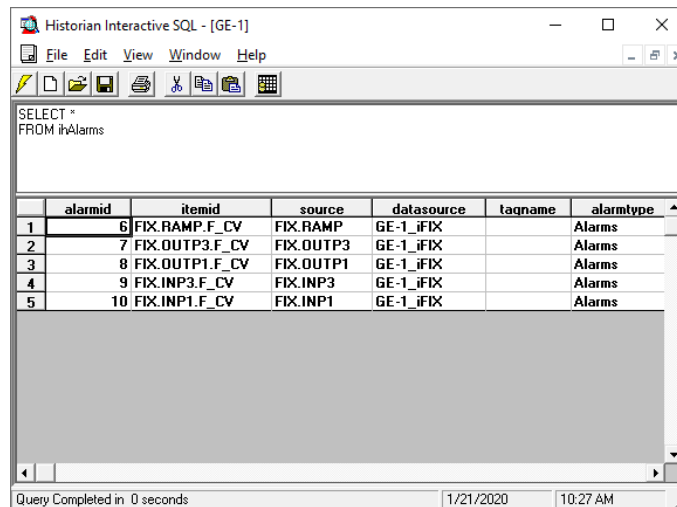
Description	
Description	GE-1_AlarmAndEventsOPCserver
Collector Type	OPC
Resources	
Computer Name	GE-1
Memory Buffer Size (MB)	20
Minimum Free Space (MB)	150

- Configure the settings on the **General, Configuration, Advanced, and Redundancy** tabs to commence alarm logging

Verify the Alarm Data

To check that alarms are logging, open the **Historian Interactive SQL** utility from the Historian program group.

- Log into the Historian.



	alarmid	itemid	source	datasource	tagname	alarmtype
1	6	FIX.RAMP.F_CV	FIX.RAMP	GE-1_iFIX		Alarms
2	7	FIX.OUTPUT3.F_CV	FIX.OUTPUT3	GE-1_iFIX		Alarms
3	8	FIX.OUTPUT1.F_CV	FIX.OUTPUT1	GE-1_iFIX		Alarms
4	9	FIX.INP3.F_CV	FIX.INP3	GE-1_iFIX		Alarms
5	10	FIX.INP1.F_CV	FIX.INP1	GE-1_iFIX		Alarms

- At the top, enter the following query:
`SELECT * FROM ihAlarms`

- Click the  button to execute the query

The query should return any records logged to the ihAlarms table in the SQL Server database.

Connector

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

- Click **Add**
- Select **GE Digital, Historian Alarms**.
- Click **OK**

Primary Database

This defines the connection to the GE Historian. The browse button [...] is provided to define.

The **Server Name** can be the physical name of the machine where the historian runs, the IP address of the machine or left blank to use the default historian defined in the Historian Interactive SQL application.

The **User Name** and **Password** settings are provided is required to connect to the GE Historian.

Table/Column

Once the **Primary Database** is configured, set **Table** to the table where the alarms are being logged. This should be *ihAlarms*.

Set the **Date Column** to *Timestamp* and check **Date includes Time**.

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 GE Historian.

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

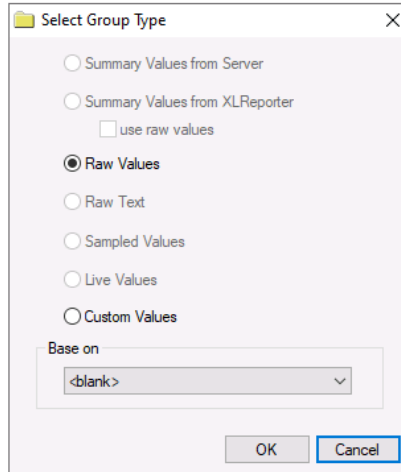
The delimiter and timestamp settings are typically filled in automatically for the database and can be modified for other databases.

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 **GE Historian Alarms** connector.

Group Types



For **GE Historian Alarms** the following group types are available:

Raw Values

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

Custom Values

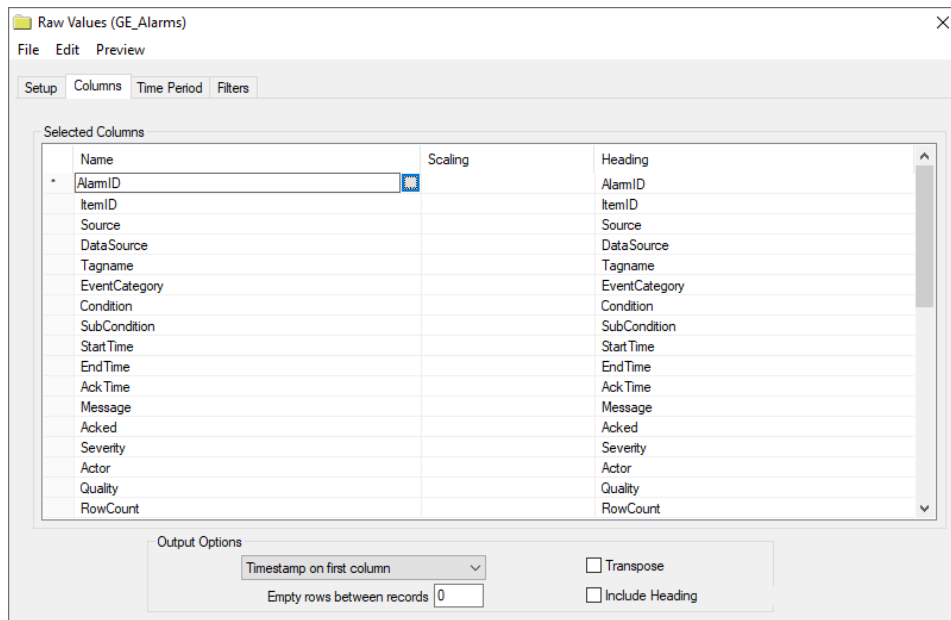
This option opens the Database Group builder where a query can be configured to retrieve data from any table available in the database connected to by the connector.

Verify Data Communication

To verify communication with the Alarms and Events Server, open the Project Explorer and select the Tools tab.

- Open **Connector Groups**
- Select the **GE Alarms** connector and then select **Add**.
- Set the **Group Type** to *Raw Values* and click **OK**.

Under the **Columns** tab:

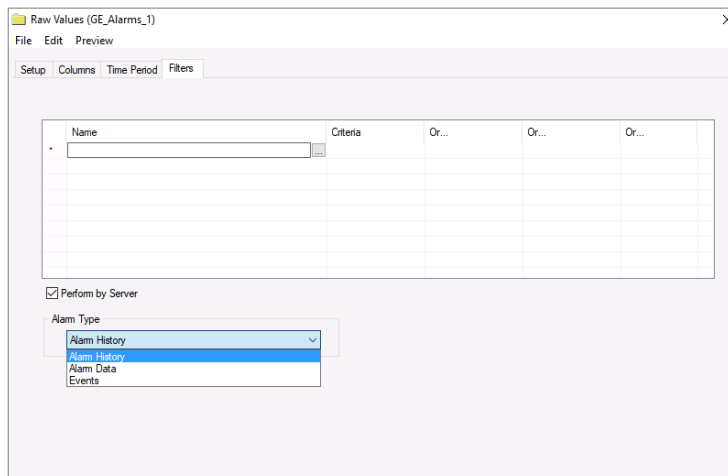


- Select the first row under the **Name** column
- Click the browse pushbutton ([...]).
- In the Tag Browser expand **Online, ihAlarms** and add **Items** from the lower left.
- Click **OK** to add these to the group.

To retrieve data, select **Preview**. In the **Preview** window, use the data picker to select a date and time where alarms are recorded in the database. Click **Refresh** to view data. The first 60 alarms starting at the date and time specified should be displayed.

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.

The **Alarm Type** defines how the alarms are returned from the Proficy Historian.

- *Alarms* returns an entire alarm life cycle as a single record.
- *Alarm History* returns separate records for every alarm transition.
- *Events* returns the simple and tracking events.

For more information, see ihAlarms in the Proficy Historian documentation.

Cimplicity Real-time values

This connector is used to get real time values from Cimplicity via the Cimplicity OPC server.

Setup Cimplicity

Verify the Project

In order for XLReporter to connect to the Cimplicity OPC Server, the Cimplicity project must be running. To do so,

- From the Windows Start menu, open **Cimplicity Options**
- Under the **Projects** tab, verify the project is listed in the running projects list.

Add the Project to the OPC Server

To add the project to the CIMPLICITY OPC server, do the following:

- From the Windows Start menu, open **OPC Server** within the **Proficy HMI/SCADA - CIMPLICITY** program group.
- Select **Edit, Server Configuration....**
- In **OPC Server Configuration**, click **Add** to add the project.
- In **Project Properties**, select the **Project name** from the drop-down list.
- Specify the CIMPLICITY **User name** and **Password** to be used for the OPC Server. This is recommended to be a highly privileged user who has access to all the points (e.g., Administrator)
- Back in **OPC Server Configuration**, select the newly added entry and click **Show this name space**.
- Make sure the **Reconcile Cache** check box is checked.
- Click **OK**.

Prerequisites

Verify Communication

Communication between the OPC server and an OPC client must be verified. If an OPC client is not provided with the server, **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.SmartSights.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 *CIMPLICITY.HMI.OPCServer.1* 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. To select a leaf, highlight and click the **Add Leaves** button. Click **OK** when selection is complete.

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

If at any point you experience an issue with this client, contact GE Digital technical support to troubleshoot and correct these issues.

Remote Communication

If XLReporter is not installed on the machine where Cimplicity is installed, 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

In order to connect to Cimplicity 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 Cimplicity, 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 Cimplicity is running TCP Port 135 must be opened in order for remote clients to connect.

Connector

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

- Click **Add**
- Select **GE Digital, Cimplicity Real-time values**.
- Click **OK**

The screenshot shows a dialog box titled "Cimplicity Real-time values". It contains the following fields and controls:

- Connector Name:** Cimplicity_DA_1
- Description:** (empty text box)
- Primary Server:**
 - Name:** CIMPLICITY.HMI.OPCServer.1
 - Node:** local
 - Test Connection:** (button)
- Secondary Server:**
 - Name:** CIMPLICITY.HMI.OPCServer.1
 - Node:** local
 - Test Connection:** (button)
- Settings:** (button)
- OK:** (button)
- Cancel:** (button)

Primary Server

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

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

Secondary Server

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

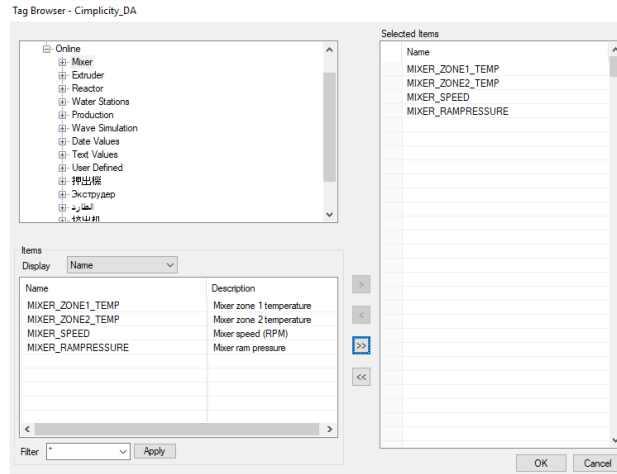
Settings

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

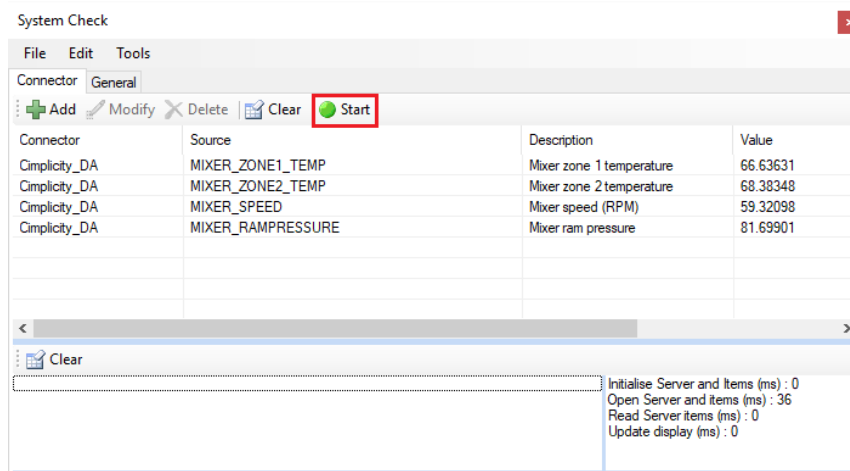
Verify Data Communication

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

- Click **Add**
- Select the Cimplicity 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.



Primary Server

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

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

Secondary Server

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

Settings

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

Cimplicity Historical values

This connector is used to get historical values from the Cimplicity Database Logger.

Set up Cimplicity

To set up data logging in Cimplicity, from the **CIMPLICITY Workbench**, double-click **Database Logger**.

To determine what database the historical data is logged to select **Edit, Logging Properties**.

Under the **Default Point Connection** tab, choose an existing **ODBC data source**. If there is not one there that fits your needs, you can create a new ODBC data source from **XLReporter's Project Explorer**, under the **Tools** tab by selecting **Database, DSN Settings**.

There are 2 methods of historical data logging, **Point Data** logging and **Group Point** logging. With **Point Data** logging every configured point is logged as a separate record. With **Group Point** logging every configured point is logged as a single record at the same time.

Cimplicity has provided a default table for both **Point Data** logging (*DATA_LOG*) and Group Point logging (*GROUP_LOG*). You can either add points to these tables or create your own by selecting **File, New Table**.

To add points to a table, right-click the table and select **Add Points**.

Connector

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

- Click **Add**
- Select **GE Digital, Cimplicity Historical values**.
- Click **OK**

Cimplicity Historical values

Connector Name: Cimplicity_History_1

Description:

Primary Database

Type: Microsoft SQL Server

Data Source: 192.168.9.45\\sqlserver16

Table

Name: DATA_LOG

Type: Point Data Group Point

Settings

OK Cancel

Primary Database

This defines the connection to the database where the Cimplicity Data Logger is logging. The browse button [...] is provided to define.

Table

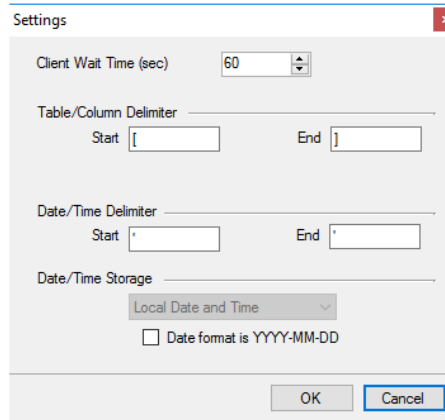
Once the connection is made, under **Table**, specify the **Name** of the table containing the logged data.

The default **Table** for *Point Data* is *DATA_LOG*. The default table for *Group Point* is *GROUP_LOG*.

As stated above, **Point Data**, causes every configured point to be logged as a separate record (also known as a *Narrow Table*) and **Group Point** causes every configured point to be logged as a single record (also known as a *Wide Table*). For more information, see the **Cimplicity** documentation.

Settings

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



The Settings dialog box includes the following controls:

- Client Wait Time (sec): 60
- Table/Column Delimiter: Start [] End]
- Date/Time Delimiter: Start * End *
- Date/Time Storage: Local Date and Time
- Date format is YYYY-MM-DD
- Buttons: OK, Cancel

Typically, these settings are defaulted correctly for the **Primary Database**.

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.

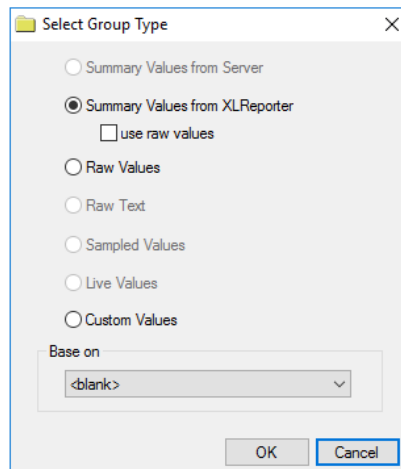
The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

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 **Cimplicity Historical Values** connector.

Group Types



The Select Group Type dialog box includes the following controls:

- Summary Values from Server
- Summary Values from XLReporter
 - use raw values
- Raw Values
- Raw Text
- Sampled Values
- Live Values
- Custom Values
- Base on: <blank>
- Buttons: OK, Cancel

For **Cimplicity Historical Values** the following group types are available:

Summary Values from XLReporter

This group type retrieves sampled values from the database 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

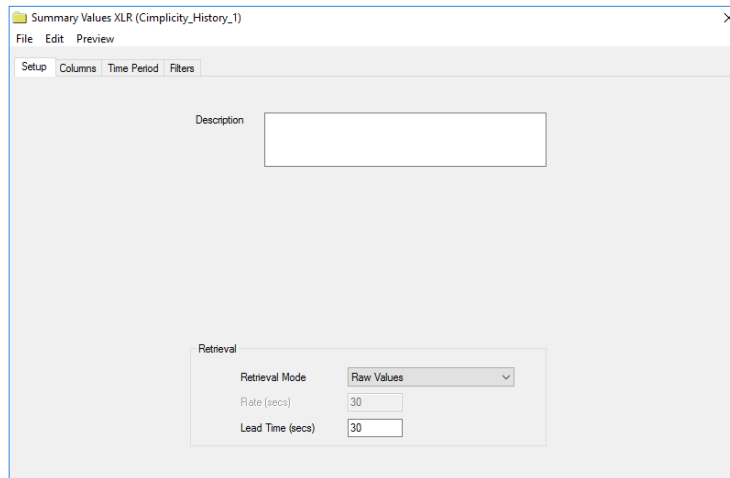
This group retrieves every numeric value logged to the database between the start and end time specified.

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



Retrieval (Summary Values for XLReporter Group)

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. For Cimplicity only *Raw Values* are available.
- **Lead Time**
The amount of time (in seconds) to retrieve data before the start time.

Verify the Data Connector

XLReporter retrieves data from the **Data Connector** using a **History Group**. To verify communication, open the **Project Explorer** and select the **Tools** tab and open **Connector Groups**. Select the **Cimplicity 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) using the ([...]) pushbutton.

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

Cimplicity Alarms

This connector is used to get alarms from Cimplicity when they are logged to a relational database.

Set up Cimplicity

To add points to the Cimplicity alarm log you can do so either through the **Point Properties** dialog box or by adding to the *ALARM_LOG* table in the **Database Logger**.

Connector

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

- Click **Add**
- Select **GE Digital, Cimplicity Alarms**.
- Click **OK**

The screenshot shows the 'Cimplicity Alarms' configuration dialog box. It has a title bar with a close button. The main area is divided into sections: 'Connector Name' with a text field containing 'Cimplicity_Alarms_1'; 'Description' with an empty text field; 'Primary Database' section containing 'Type' (Microsoft SQL Server) and 'Data Source' (192.168.9.45\\sqlserver16); 'Table/Column' section containing 'Table' (ALARM_LOG), 'Date Column' (timestamp), a checked 'Date includes Time' checkbox, and an empty 'Time Column' field. At the bottom right, there are 'Settings', 'OK', and 'Cancel' buttons.

Primary Database

This defines the connection to the database where the Cimplicity alarms are logging. The browse button [...] is provided to define.

Table/Column

Once the connection is made, under **Table**, specify the **Name** of the table containing the alarms. This is *ALARM_LOG*. Set **Date Column** to *timestamp* and check **Date includes time**.

Settings

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

The screenshot shows the 'Settings' dialog box. It has a title bar with a close button. The main area contains: 'Client Wait Time (sec)' with a spin box set to 60; 'Table/Column Delimiter' with 'Start' and 'End' fields containing '[' and ']' respectively; 'Date/Time Delimiter' with 'Start' and 'End' fields containing '' and '' respectively; 'Date/Time Storage' with a dropdown menu set to 'Local Date and Time' and a checked 'Date format is YYYY-MM-DD' checkbox. At the bottom right, there are 'OK' and 'Cancel' buttons.

Typically, these settings are defaulted correctly for the **Primary Database**.

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.

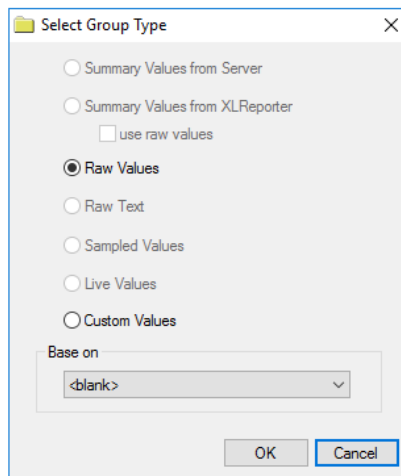
The **Date/Time Storage** settings define how timestamps are stored in the database. Using this setting the timestamps are manipulated when data is retrieved so that local timestamps are submitted in and returned.

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 **Cimplicity Alarms** connector.

Group Types



For **Cimplicity Alarms** the following group types are available:

Raw Values

This group retrieves every value logged to the alarms 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 available in the database connected to by the connector.

Group Settings:

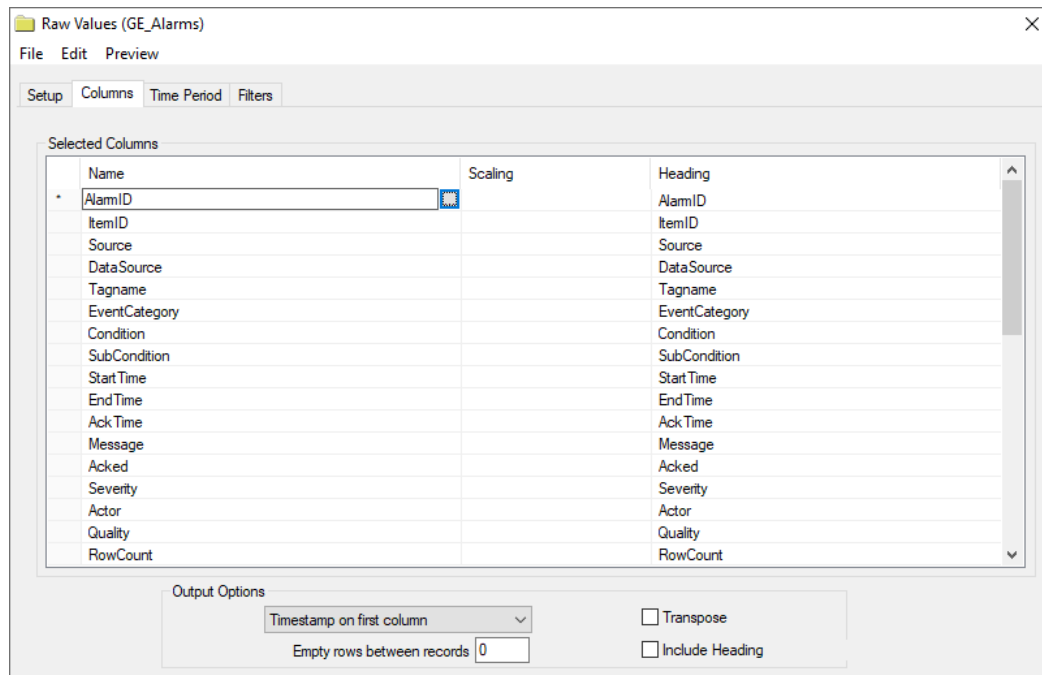
Filters Tab

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.

Verify Data Communication

To verify communication with the Alarms and Events Server, open the Project Explorer and select the Tools tab. Open Connector Groups.

- Select the **Cimplicity Alarms** connector and then select **Add**.
- Set the **Group Type** to **Raw Values** and click **OK**.
- Under the **Columns** tab:



- Select the first row under the Name column
- Click the browse pushbutton ([...]).
- In the **Tag Browser** expand Online, ALARM_LOG and add Items from the lower left.
- Click **OK** to add these to the group.

To retrieve data, select **Preview**. In the Preview window, use the data picker to select a date and time where alarms are recorded in the database. Click **Refresh** to view data. The first 60 alarms starting at the date and time specified should be displayed.

Information in this document is subject to change without notice. SmartSights, LLC assumes no responsibility for any errors or omissions that may be in this document. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the prior written permission of SmartSights, LLC.

Copyright 2000 - 2024, SmartSights, LLC. All rights reserved.

XLReporter® is a registered trademark of SmartSights, LLC.

Microsoft® and Microsoft Excel® are registered trademarks of Microsoft, Inc.
All registered names are the property of their respective owners.