

Reporting from iFIX

XLReporter generates Excel based reports from GE Digital's iFIX using current process values in the tag database, historical logs and alarm archives.

The purpose of this document is to describe how to setup iFIX for **XLReporter**.

Process Values

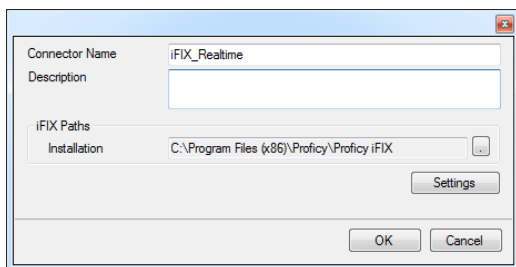
XLReporter can take snapshots of the process values and add them to an existing report worksheet, periodically or on event. To prevent excessive build-up of information in a single worksheet, new workbooks and worksheets can be created automatically.

Process values can be retrieved from iFIX by **XLReporter** by either a native interface or via the Intellution.OPCiFIX.1 OPC Server. The native interface is only available if **XLReporter** is installed on the same machine as iFIX, whereas the OPC interface is available both locally and remotely.

Creating a Real Time Data Connector

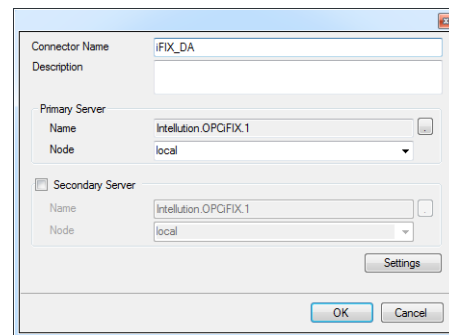
To connect **XLReporter** to iFIX for real time data, you will need to create a **Connector**. To do this, open **XLReporter's Project Explorer**, and open **Connectors** from the **Data** tab. In **Connectors**, select **Add**.

For the native connector, select **GE Digital, iFIX Real-time values (local)**. Under **iFIX Paths**, set **Installation** to the directory where iFIX is installed.



iFIX native Real Time Connector Configuration

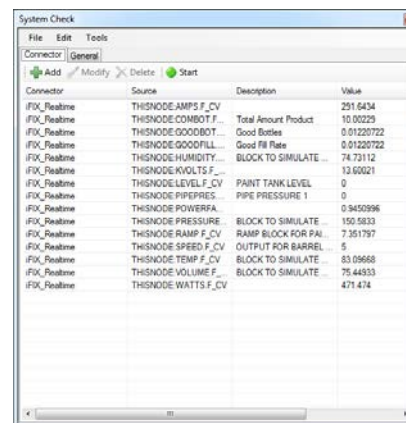
For the OPC connector, select **GE Digital, iFIX Real-time values (OPC)**. Under **Primary Server**, if the server is on a remote machine, set **Node** to the name of that machine, otherwise leave it set to *local*.



iFIX OPC Real Time Connector Configuration

Verifying the Data Connector

To verify the iFIX real time interface, open **XLReporter's Project Explorer**. From the **Tools** tab, start the **System Check** application and select the **Connector** tab. Select **Add**, choose your iFIX Connector from the dropdown list, and click the browse pushbutton [...] to open the **Tag Browser** window.



System Check

Select one or more tags and verify that they update with the current value using **Start** in the **System Check** window.

Historical Data

With process data stored in a historian, the variety of reports that can be produced by **XLReporter** increases many fold.

In addition to sample values, informative metrics such as run times and statistics are obtained by simply selecting the tags and time frame of interest. e.g. hourly average, maximum and minimum for each hour of the day.

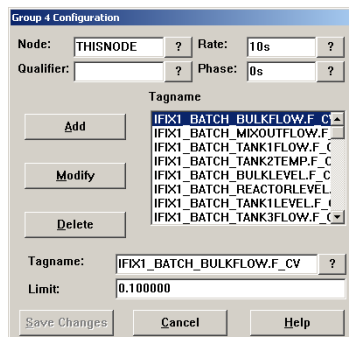
XLReporter performs time-weighted calculations on the historical data retrieved.

Setting up Data Logging

To set up data logging in iFIX, from the **iFIX Workspace**, expand **Historical Configuration** and select **Historical Assignment**.

In **Historical Assignment** you can specify how you want the historical files to be generated and how often to remove them (if at all). Depending on the selection, the file extension will be *.h04 (4 hour files), *.h08 (8 hour files) or *.h24 (24 hour files).

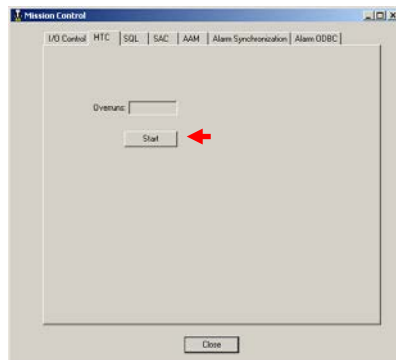
A list of **Configured Historical Collect Groups** is also provided. Double-click on an open row to configure a new group.



Historical Collect Group Configuration

Add each tag you wish to collect and specify how often you want values collected for the selected tags.

To start historical data logging, in **iFIX Workspace**, open **Mission Control**.

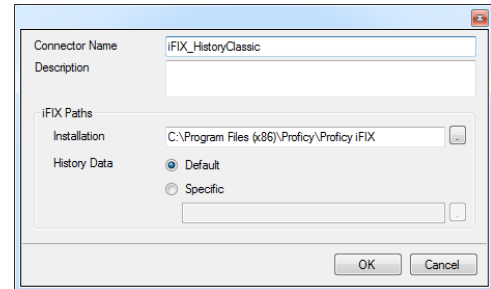


Mission Control

In **Mission Control**, under the **HTC** tab, click **Start**. This starts the iFIX historical data logging.

Creating a Historical Data Connector

To connect **XLReporter** to iFIX historical data you will first need to create a **Connector**. To do this, open **XLReporter's Project Explorer**, and open **Connectors** from the **Data** tab. In **Connectors**, select **Add**, and select **GE Digital, iFIX Historical values (classic)**.



iFIX History Connector Configuration

Under **iFIX Paths**, set **Install** to the directory where iFIX is installed. For the **History Data** path, specify **Default** to use the **Historical Data** path as specified in the iFIX System Configuration Utility or **Specific** to use a specific folder on the local system or network. Note, the **Specific** path should point to the folder containing subfolders for every node with historical data.

Verify the Historical Data Connector

XLReporter accesses process values stored in the historian using a connector group.

From **XLReporter's Project Explorer**, under the **Tools** tab, select **Diagnostics, Connector Groups**. Select the iFIX history connector and click **Add**.

Select the **Type** of group and click **OK**.

On the **Columns** tab, select the tag **Name** and **Calculation** for each tag in the group (for summary values groups).

On the **Time Period** tab, select the **Start Time**, **End Time** and **Interval** for the group. By default this is set to one hour intervals over the current day.

The **Preview** menu can be selected to preview the result of the current configuration.

Date	FLOW01	FLOW02	FLOW03	FLOW04
10/1/2013	71.2474484761556	64.4929216066896	32.4819314320882	65.688044611613
10/1/2013 1:00:00 AM	66.2536656697591	53.1530426389608	34.9991117477417	60.1344185511271
10/1/2013 2:00:00 AM	78.7583703558968	66.8680634498936	33.7002795662678	59.7727679799398
10/1/2013 3:00:00 AM	71.6823314666748	54.3723221460978	31.9870604915076	64.7202777833066
10/1/2013 4:00:00 AM	66.1845698038727	57.8811047540416	35.0655181884766	73.2722684732073
10/1/2013 5:00:00 AM	78.0385364278158	78.9815465428402	37.535586884257	82.4242586771647
10/1/2013 6:00:00 AM	72.9651168823242	61.0762748252319	46.949956899334	88.3777421315911
10/1/2013 7:00:00 AM	76.1162672224935	63.2840408914653	52.1044570287069	90.643874456787
10/1/2013 8:00:00 AM	63.947635234782	77.505205754988	51.897953414917	86.8526187896728
10/1/2013 9:00:00 AM	77.3452783146891	56.0890043703716	62.6666134516288	78.9163791654684
10/1/2013 10:00:00 AM	78.5410724938933	69.8882724761963	67.167685508728	69.612035368672
10/1/2013 11:00:00 AM	64.9920135498647	61.0963741938273	68.3760268118286	62.1888630742212
10/1/2013 12:00:00 PM	66.6623261763613	59.008049632662	71.7531196594238	59.24263954626
10/1/2013 1:00:00 PM	77.966878010544	60.444063305744	76.0119304203288	61.7999157587687
10/1/2013 2:00:00 PM	66.6261160532633	46.4779631932577	76.7051423390706	66.9683601379295
10/1/2013 3:00:00 PM	59.6842877705852	56.9765511830648	55.9398724238078	78.24363074444295

Preview

Preview displays the data exactly the same way it will be written into the report.

Customizing the Tags

By default, when browsing for tags for iFIX history you are presented with all the tags configured in the iFIX system, regardless if they are configured to log historically or not. The browser, however, can be restricted to show only tags that are being historically logged.

Open the **iFIX Workspace** and open **Historical Assignment**.

Select **File, Save As**. Set the Location to the **iFIX** folder located in the **Data** folder of your current **XLReporter** project. The file **Name** must start with **IFIX_** and have a **.csv** file extension.

From the **Project Explorer** open **Connectors** from the **Data** tab. In **Connectors**, select the iFIX history connector previously configured and click **Modify**. Click **OK**.

Now, when you browse for tags in the connector group, only those logged historically are shown.

Remote Historical Data

Historical values may be retrieved remotely from a non iFIX node. In order to do so, you must have the iFIX software installed on the machine. This does not need to be a licensed copy of iFIX and will not have to be running.

In addition, you must have access to the directory on the remote machine where the iFIX historical data is stored.

When configuring the iFIX history connector, for the **History Data** path, select **Specific** and point to the network folder when the historical data is stored.

Alarm Data

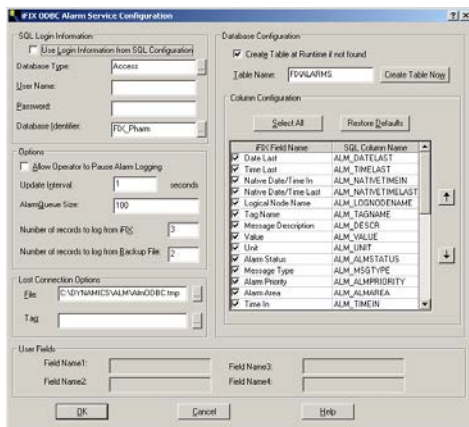
Any tag in iFIX can be configured in the **iFIX Database Manager** to generate an alarm whenever it exceeds specified limits. The resulting alarms can be logged in a relational database. If alarms are set up to log this way, **XLReporter** can use alarm data in a report.

Setting up Alarm Logging

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

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

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



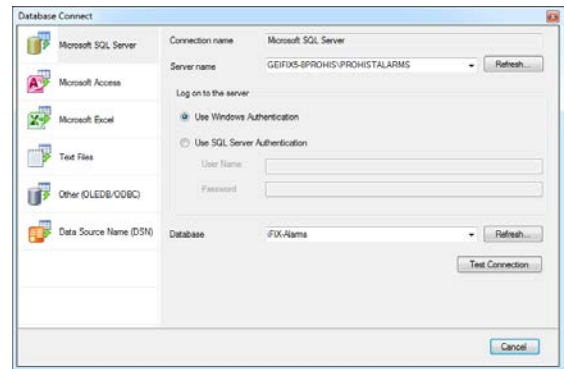
iFIX ODBC Alarm Service Configuration

Here you specify all the settings to log alarms to a database, including the type of database, the table within that database and what alarm fields to log. Be sure to select *Native Date/Time In* and *Native Date/Time Last* in **Column Configuration**.

Creating an Alarms Connector

To connect **XLReporter** to iFIX alarm data you will first need to create a **Connector**. To do this, open **XLReporter's Project Explorer**, and open **Connectors** from the **Data** tab. In **Connectors**, select **Add**, and select **GE Digital, iFIX Alarms**.

Under **Primary Database**, for **Type**, click the browse pushbutton [...] to define a connection to the alarm database.



iFIX Alarms Database Configuration

Select the appropriate database type and specify the information in order to connect to the database where iFIX is set to log the alarms. Click **Test Connection** to verify the settings.

Under **Table/Column**, set **Table** to the **Table Name** as specified in the **iFIX Alarm ODBC Service Configuration**.

For **Date Column**, select either *ALM_NATIVEIN* or *ALM_NATIVELAST*. This is used to filter alarm records based on time.

Verify the Alarm Data Connector

XLReporter accesses alarm data stored in the database using a connector group.

From **XLReporter's Project Explorer**, under the **Tools** tab, select **Diagnostics, Connector Groups**. Select the iFIX alarm connector and click **Add**.

On the **Columns** tab, select the **Columns** for the alarm data you wish to retrieve.

On the **Time Period** tab, select the **Start Time**, **End Time** and **Interval** for the group. By default this is set to the first 60 values over the current day.

On the **Filters** tab, specify filtering to limit the type or amount of alarms returned. You can filter based on any available column in the alarm table. This includes filtering on alarm type, tag name, etc.

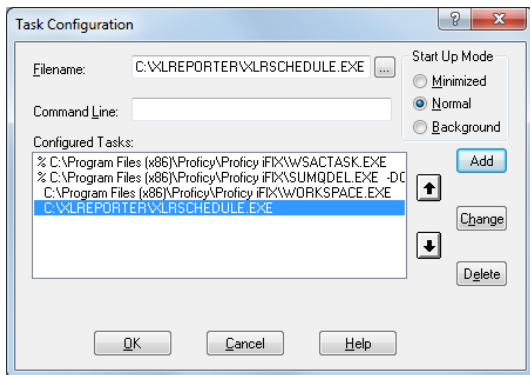
The **Alarm Type** setting is a built in filter that allows you to restrict the data based on a specific type. To view all the alarms regardless of type, select *Any*, otherwise select a specific type.

The **Preview** menu can be selected to preview the result of the current configuration.

Starting the Scheduler from iFIX

To start XLReporter's Scheduler when iFIX starts, open the iFIX System Configuration Utility (SCU).

In the SCU 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* and click **Add**. Use the down arrow to move this to the bottom of the **Configured Tasks** list. Click **OK**.

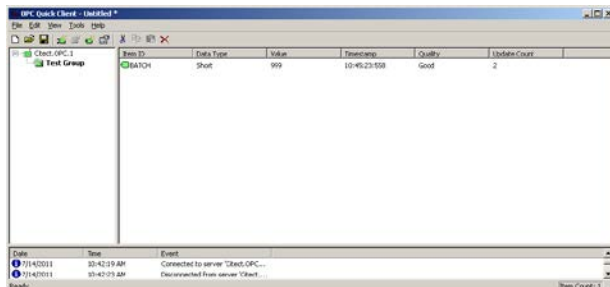
Save and close the SCU. The next time iFIX is started, XLReporter's Scheduler will start with it.

Troubleshooting - Real Time Data

If you are experiencing issues connecting to or retrieving data from iFIX as an OPC Server with **XLReporter**, a generic OPC test client is provided to test the OPC Server.

This client is available from the Tools folder of the **XLReporter** installation disk and can be downloaded from www.SyTech.com.

To open, double-click **SampleClientDA.exe**. This opens the **OPC Quick Client** window.



OPC Quick Client

To connect to an OPC server, select **Edit, New Server Connection** to open the **Server Properties** window. Select *Intellution.OPCiFIX.1* and click **OK**.

Once the connection is made, select **Edit, New Group**. Specify **Name** and click **OK**. Click on the group name

created, and select **Edit, New Item**. This opens the **Add Items** window. Browse for tags and double click any to select. Once tag selection is complete click **OK** to return to the **OPC Quick Client** window.

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, it is an indication that there is something wrong with the iFIX OPC server, since now two OPC clients have demonstrated issues.

At this point, contact GE Digital technical support to troubleshoot and correct these issues.