iFIX Setup

Reporting from iFIX

XLReporter generates Excel based reports from GE Intelligent Platforms' 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**. Please note the same descriptions hold true for FIX 32 installations, with the exception of alarm data.

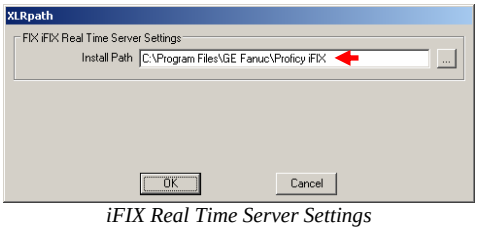
Process Values

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.

XLReporter Configuration

In order for **XLReporter** to retrieve process data from iFIX, iFIX must be running and **XLReporter** must know where iFIX is installed.

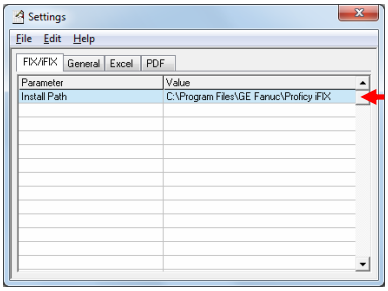
Whenever a new **XLReporter** project is configured and iFIX is set as the real time server, you are prompted for the iFIX installation path.



iFIX Real Time Server Settings

Under **FIX/iFIX Real Time Server Settings**, set **Install Path** to the directory where iFIX is installed.

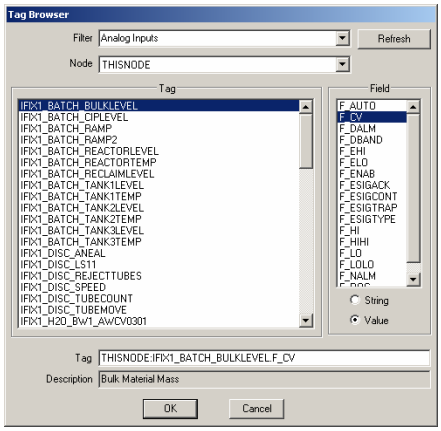
In addition, this setting can be viewed and edited in the **XLReporter's Settings** program, under the **FIX/iFIX** tab.



XLReporter Settings

Verifying the Real Time Connection

To verify that the iFIX real time interface is functional, open **XLReporter's Project Explorer**, from the **Tools** menu start the **System Check** application and select the **Real Time** tab. Select the top row under the Tag Name column and click the pushbutton named (…) to open the **Tag Bowser** window.



Real Time System Check

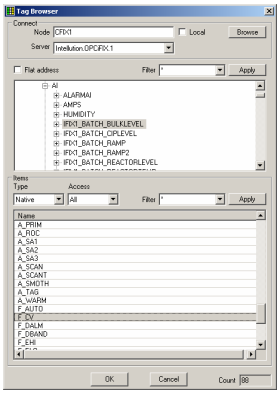
Select one or more tags and click **Read** to verify that they update with the current value.

Remote Real Time Data

Process values may be retrieved remotely from a non iFIX node. This is done by connecting to the iFIX OPC Server that is provided in iFIX version 3.5 and above.

In order for **XLReporter** to retrieve this data, a project must be set up with the **Real Time Server** set to **OPC**.

When verifying the real time interface, specify the **Node** to where iFIX is installed and for the **Server** select **Intellution.OPCiFIX.1**.



OPC Tag Browser

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.

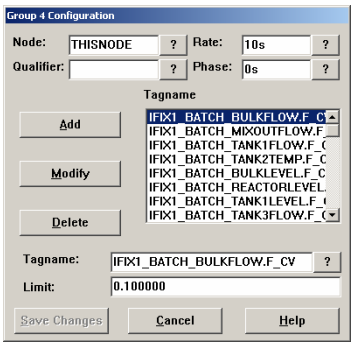
XLReporter performs time-weighted calculations on the historical data retrieved.

Setting up Data Logging

To set up data logging in iFIX, from the **iFIX WorkSpace**, open **Historical Trend Assign**.

In **Historical Assign** 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).

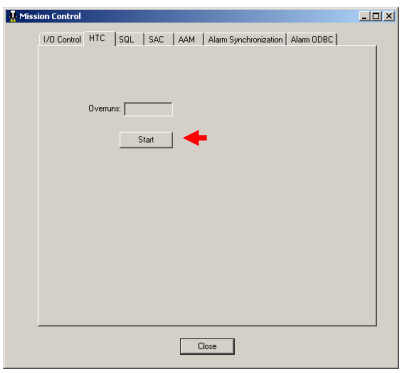
A list of **Configured Historical Collect Groups** is also provided. Double-click on an open row to configure a new group.



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**.



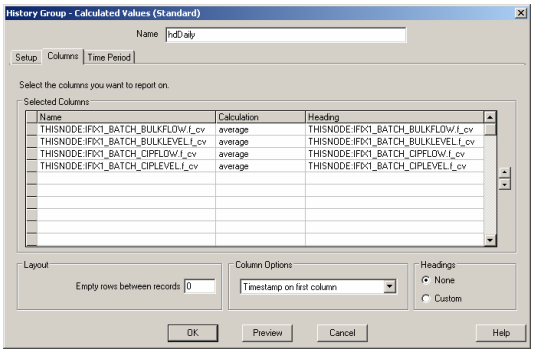
Mission Control

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

Retrieving Historical Data

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

From **XLReporter's Project Explorer**, double click on **History Group** to list the groups already configured in the project. Select **New…** and select the type of group. The standard calculations are calculations performed by iFIX whereas the advanced calculations are client-side calculated derived from samples retrieved from iFIX.



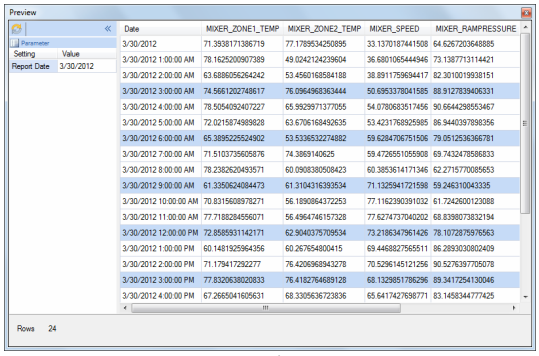
History Group Builder

On the **Setup** tab, you can specify the **Data Path**. You only need to set a specific **Data Path** if the log files are not located in iFIX's **Historical Data Path**. This path can be viewed in the iFIX **System Configuration Utility** (SCU) by selecting **Configure, Paths**.

On the **Columns** tab, select the tag **Name** and **Calculation** for each tag in the group.

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** pushbutton at the bottom of the history group display can be pressed to preview the result of the current configuration.



Preview

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

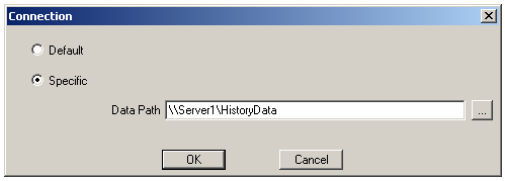
Remote Historical Data

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.

In order for XLReporter to retrieve the historical data from the remote machine, when configuring the history group, select the **Setup** tab.

Click **Connect** to open the **Connection** window. Change the selection to **Specific** and set **Data Path** to the directory on the remote machine where the history data files are stored.



History Group Builder - Connection

Now, when **XLReporter** goes to retrieve the historical data, it will do so from the historical data in this specified directory.

Alarm Data

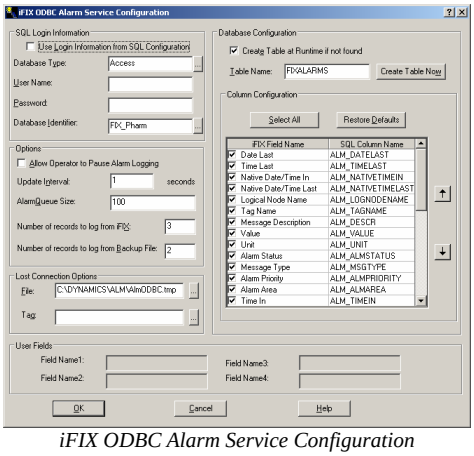
Any tag in iFIX can be configured in the **iFIX Database Manager** to generate an alarm whenever it exceeds specified limits. The resulting alarms can be logged in a relational database. If alarms are se up to log this way, **XLReporter** can use alarm data in a report.

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.



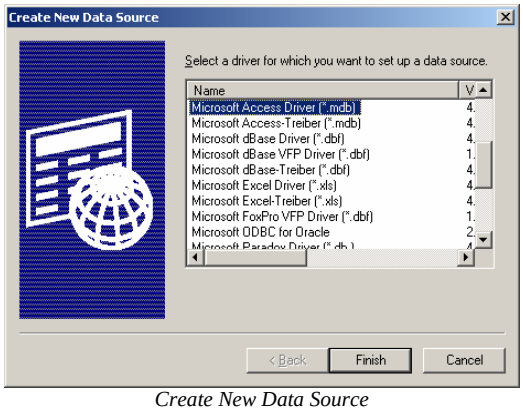
Here you specify all the settings to log alarms to a database, including the type of database, the table within that database and what alarm fields to log.

Creating a Data Source Name (DSN)

A data source name (DSN) can be used to store all the information needed to connect to the database containing the iFIX alarms.

To create a DSN, open the Windows **Control Panel**, select **Administrative Tools** and then select **Data Sources (ODBC)** to open the **Data Source Administrator**.

Click the **System DSN** tab to display all the currently configured DSN's on the system. Click **New** to create a new System DSN.



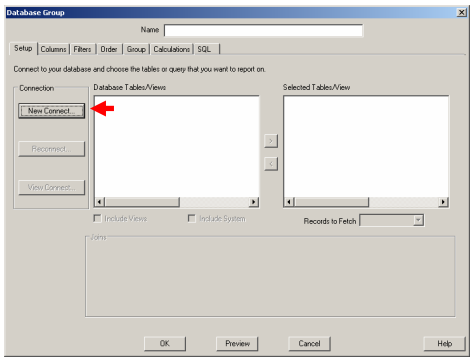
Create New Data Source

Select the driver for the database where iFIX is set up to log its alarm data. Based on the driver selected, complete the DSN setup.

Retrieving Alarm Data

iFIX alarm data can be accessed by **XLReporter** by a database group.

From **XLReporter's Project Explorer**, double click on **Database Group** to list the groups already configured in the project. Select **New…** and select the type of group. The **Standard Query** returns data directly from the database whereas the **Cross Tab Query** cross-tabulates the data from the database.

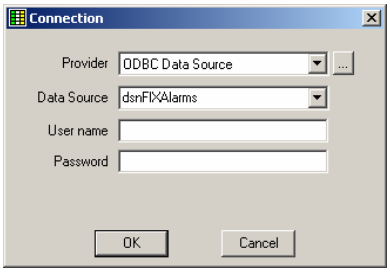


Database Group Builder

After selecting the group type, the database group must be connected to the database. From the **Setup** tab, click **New Connect…**.to open the **Connection** window.

For **Provider**, select the provider of your database.

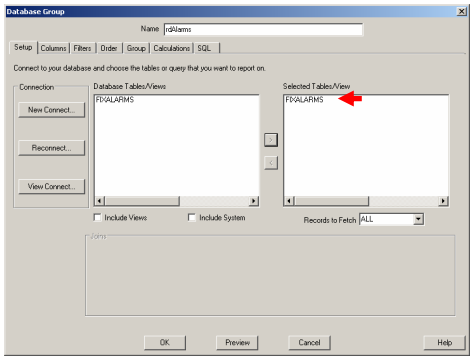
If you choose the **ODBC Data Source** you can select the data source name (DSN) configured earlier.



Database Group Builder – Connection

For **Data Source** select the DSN.

If the database requires a log on, enter a valid **User name** and **Password**. Click **OK** to return to the database group **Setup** tab.



Database Group Builder – Setup Tab

In the **Setup** tab, select the table specified in the **Alarm ODBC Service Configuration**.

Under the **Columns** tab, select the columns in the table you wish to display on the report.

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

Note, if you wish to filter based on time period, use the **ALM_NATIVETIMEIN** or **ALM_NATIVETIMELAST** columns. These columns have been configured as date/time types in the database.

Under the **Order** tab, specify the ordering of the returned alarm data.

Under the **Calculations** tab, specify any client side summary calculations to bring into the report as part of retrieving the alarm data.

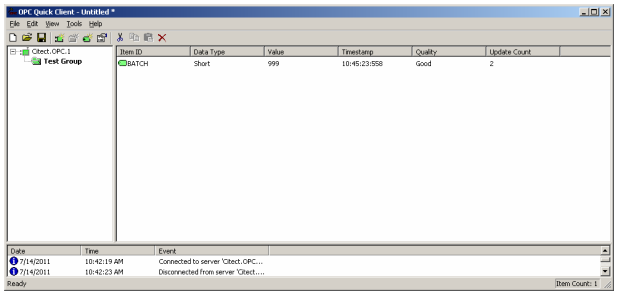
The **Preview** pushbutton at the bottom of the database group display can be pressed to preview the result of the current configuration.

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 iFIX OPC Server.

This client is available from the Tools folder of the XLReporter installation disk and can be downloaded from **www.TheReportCompany.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* 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 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 Intelligent Platforms technical support to troubleshoot and correct these issues.