

Reporting from Ignition

XLReporter generates Excel based reports from Inductive Automation's Ignition historical archives. The purpose of this document is to describe how to interface **XLReporter** to Ignition. This document covers all initialization steps to Ignition.

Process Data

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 gets real time data from Ignition through the Ignition OPC UA server.

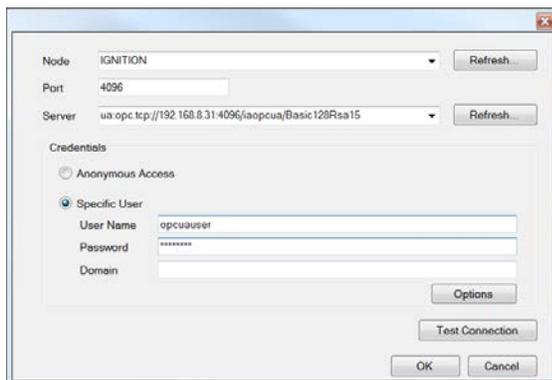
Before you Begin

In order for **XLReporter** to communicate with Ignition, the machine where **XLReporter** is installed must also have the OPC core components installed. The OPC core components are provided in the tools folder of the **XLReporter** install CD or from www.OPCFoundation.org.

Creating a Data Connector

To connect **XLReporter** to Ignition, 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 **Inductive Automation, Ignition Real-time values**.

Connectors for Ignition require a **Primary Server**. Click the browse button [...] to define the server.



If Ignition is running on a remote machine, set **Node** to the name of that machine.

The default **Port Number** is **4096**. This can be found in Ignition under the **Configure** tab. On the left, under **Ignition OPC-UA Server** click **Settings**. In the **Server** section, see **Server Port**.

The **Server Name** drop down contains a list of all the available servers. This can be identified in Ignition. In **Configuration**, under **OPC Connections**, click **Servers**. For **Ignition OPC-UA Server** click **endpoint**. Note, there may be multiple names listed that start with this endpoint. Select the one that matches the security settings of the server.

In the server settings of Ignition if **Allow Anonymous Access** is checked, in the **Connector** set **Credentials** to **Anonymous Access**. Otherwise, select **Specific User**. To find the **User Name**, on the left, under **OPC Connections**, click **Servers**. For **Ignition OPC-UA Server** click **edit**. **Username** appears in the **Authentication** section.

Click **Test Connection** to ensure connectivity. This may require an exchange of certificates between the client and the server. If prompted to exchange, click **Yes**. This action requires Windows administrator rights.

Verifying the Data Connector

To verify that the **Data Connector** is functional, open **XLReporter's Project Explorer**. From the **Tools** tab start the **System Check** application and select the **Connector** tab.

Select **Add**, choose your Ignition Connector from the dropdown list, and click the pushbutton ([...]) next to **Items** to open the **Tag Browser** window.

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.

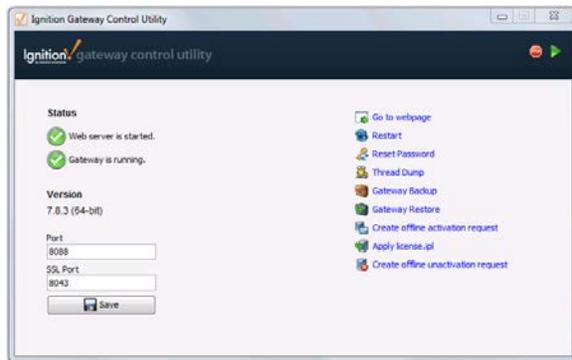
In addition to sample values, informative metrics such as run times and statistics are obtained by simply selecting the tags and time frame of interest. e.g. hourly average, maximum and minimum for each hour of the day.

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

Setting up Tag Data Logging

It is recommended that a separate database is created before Historical logging is established. Open the native client tool such as Microsoft SQL Server Management Studio or the MySQL Workbench and add a new Database.

From the **Start** menu select **All Programs, Inductive Automation**, and **Launch Gateway Control Utility**.



Ignition Gateway Control Utility

Click the **Go to Webpage** link to open the **Ignition Gateway**.



Ignition Gateway

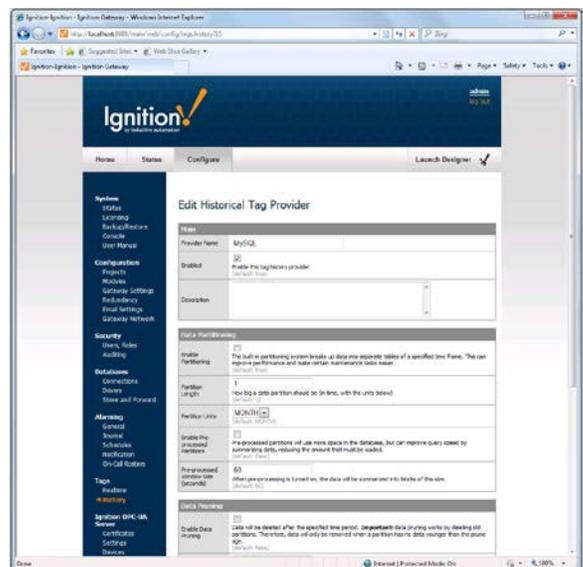
From the **Ignition Gateway** click the **Configure** tab. If prompted to, log in. In the menu on the left, select **Databases, Connections**. Make the connection to the database you have configured.



Ignition Gateway- Database Connection

Under the **Configure** tab, on the left, click **Tags, History** and create a new Historical Tag Provider.

Inductive Automation recommends enabling **Partitioning** to make data retrieval faster. This is supported by **XLReporter** at any **Unit** and **Length** you want.



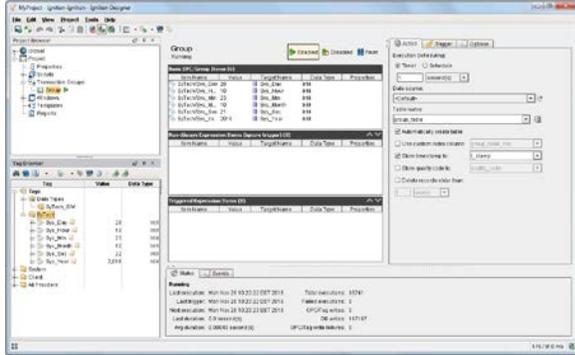
Ignition Gateway- Edit Historical Tag Provider

From the **Ignition Gateway** click **Launch Designer** and select your project.

Setting up Transaction Groups

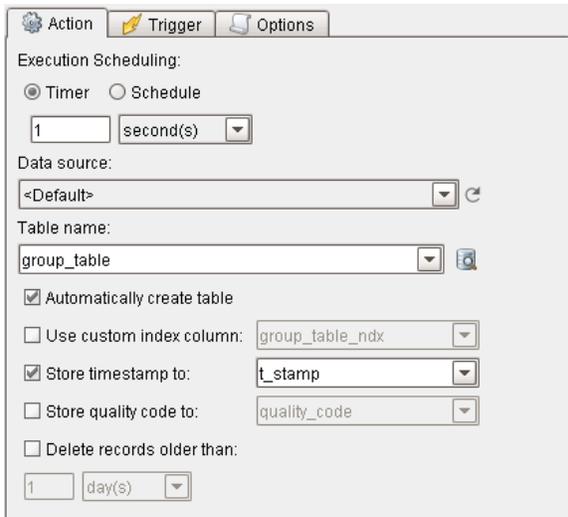
In addition to tag history, **XLReporter** can also retrieve historical data from Ignition Transaction Groups.

To configure a Transaction Group, in the **Ignition Designer**, under the **Project Browser** panel, right click **Transaction Groups** and select **New Transaction Group, New Historical Group**.



Ignition Designer- Transaction Groups

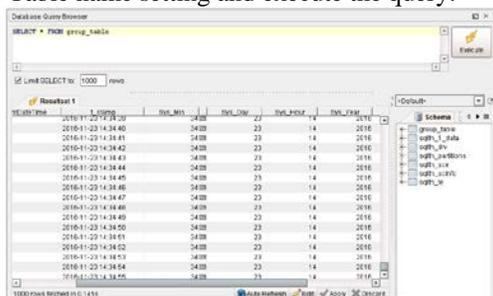
To add tags to the **Transaction Group** drag and drop the tags from the **Tag Browser** panel of the **Ignition Designer**.



Transaction Groups- Action

Under the **Action** tab on the right, set **Data Source** to a configured database. Click **Enabled** when finished.

To verify the group is logging, click the button to the right of the Table name setting and execute the query.

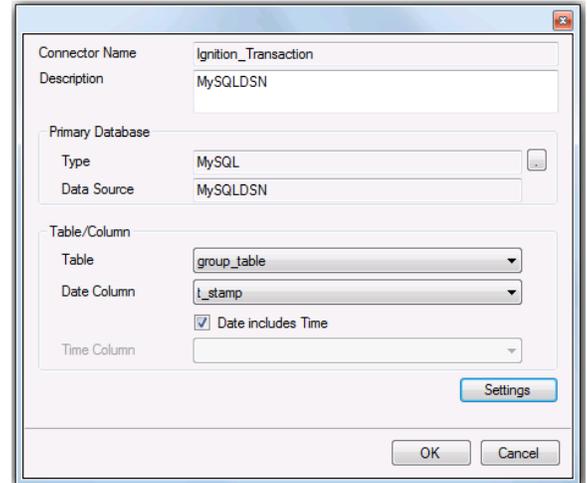


Database Query Browser

Create a Data Connector

To connect **XLReporter** to **Inductive Automation – Ignition** server, 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 **Inductive Automation, Ignition Transaction Groups** values.

Under **Primary Server** connect to your database created for historical logging.



Data Connectors

Verify the Historical Data Connector

Create a **Connector Group** to verify that data can be retrieved from the connector. **Connector Groups** are designed in **Project Explorer, Tools, Connector Groups**. Select your Ignition historical connector and then select **Add**. Select the **Type** and click **OK**.

On the **Columns** tab of the group, 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 upper-left of the history group display can be pressed to preview the result of the current configuration.



Preview