

## Using XLReporter with Ignition OPC-UA

### Overview

**XLReporter** takes process values directly from a PLC to a report without requiring a historian or database. This is accomplished by “report-as-you-run” technology that automatically populates a workbook, periodically or on event, without needing Excel. Completed reports are produced in workbook, PDF and web formats.

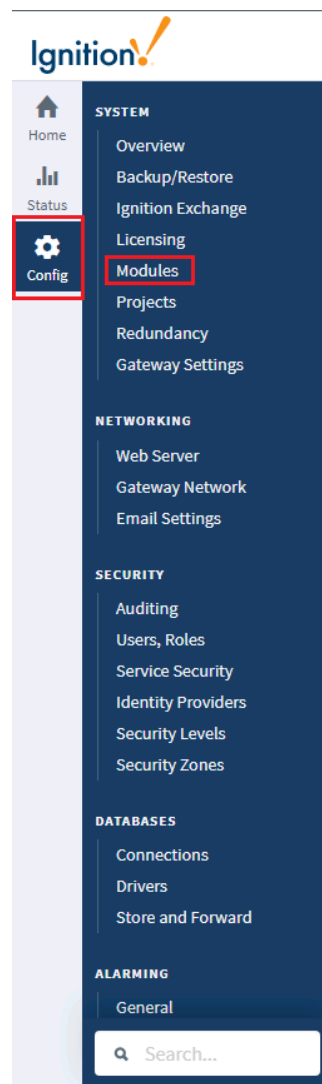
### Prerequisites

#### Verify OPC-UA Module

Ignition settings are available through a web browser. Open a web browser and navigate to:

*localhost:8088*

Log in to Ignition.



On the left, select **Config**, then under **SYSTEM** select **Modules**.

## Inductive Automation

[View Certificate](#)

| Name                      | Version             | Description  | License | State   |        |         |
|---------------------------|---------------------|--|---------|---------|--------|---------|
| Alarm Notification        | 5.0.7 (b2019122014) | Provides alarm notifications via email   | Trial   | Running | More ▾ | restart |
| Allen-Bradley Driver      | 5.0.7 (b2019122014) | Allen-Bradley driver suite for the OPC UA module.  | Trial   | Running | More ▾ | restart |
| DNP3 Driver               | 3.0.7 (b2019122014) | A driver supporting DNP3 (Distributed Network Protocol) device.  | Trial   | Running | More ▾ | restart |
| Enterprise Administration | 3.0.7 (b2019122014) | A remote Gateway administration system, allowing you to manage Gateways and automate tasks from a single controller. | Trial   | Running | More ▾ | restart |
| Logix Driver              | 4.0.7 (b2019122014) | A driver for communicating with Allen-Bradley Logix5000 series PLCs, and includes firmware version 21 support        | Trial   | Running | More ▾ | restart |
| Modbus Driver             | 6.0.7 (b2019122014) | A driver for communicating with devices via Modbus-TCP.  | Trial   | Running | More ▾ | restart |
| Omron Driver              | 3.0.7 (b2019122014) | A driver for Omron NJ series PLCs.   | Trial   | Running | More ▾ | restart |
| OPC-UA                    | 8.0.7 (b2019122014) | Provides Ignition's OPC UA client and server functionality.  | Trial   | Running | More ▾ | restart |
| OpcCom                    | 5.0.7 (b2019122014) | Bridge that exposes COM based OPC-DA servers to the system.  | Trial   | Running | More ▾ | restart |
| Perspective               | 1.0.7 (b2019122014) | A module that provides modern, responsive html based graphical interfaces for Ignition projects.                     | Trial   | Running | More ▾ | restart |
| Reporting                 | 5.0.7 (b2019122014) | Adds reporting capability.   | Trial   | Running | More ▾ | restart |
| SFC                       | 4.0.7 (b2019122014) | Sequential Function Charts are customizable logic execution environments.  | Trial   | Running | More ▾ | restart |

Make sure the **State** for the *OPC-UA* module is *Running*. If it is not, click the button to **Start**.

## UA Server Settings

In order for **XLReporter** to connect to the Ignition OPC UA server, there are a few settings that must be configured. To configure, under **Config**, select **OPC UA, Server Settings**.

| Endpoint Configuration |   |
|------------------------|---|
| Bind Port              | <input type="text" value="62541"/><br><small>(default: 62,541)</small>  |
| Bind Addresses         | <input type="text" value="192.168.8.85"/><br><small>(default: localhost)</small>  |
| Endpoint Addresses     | <input type="text" value="&lt;localhost&gt;,&lt;192.168.8.85&gt;"/><br><small>(default: &lt;hostname&gt;,&lt;localhost&gt;)</small> |
| Security Policies      | <input type="text" value="None"/><br><small>(default: Basic256Sha256)</small>   |

| Authentication           |   |
|--------------------------|---|
| Anonymous Access Allowed | <input type="checkbox"/><br><small>(default: false)</small> |
| User Source              | <input type="text" value="opcua-module"/>                   |

Set **Bind Addresses** to the *IP Address* of the system. The *localhost* setting is not supported.

Make sure the IP Address is also configured for **Endpoint Addresses** in the format *<IP Address>*.

Finally, set **Security Policies** to *None*.

Save the settings.

## Create a Project

From the **XLReporter Project Explorer** select **File, New** to start the **Project Wizard**. This will give step-by-step instructions on creating a project

## Step 1

- Enter a **Project Name** and **Description** (optional).

The screenshot shows a dialog box titled "New Project" with the subtitle "Step 1 : Specify the Project Name and its Location." It contains three input fields: "Project Name" with the value "XLR\_Project", "Description" with the value "Customer or Site name", and "Project Location" with the value "c:\XLRprojects". There is a checkbox for "Project Off Line" which is unchecked. At the bottom, there are four buttons: "< Back", "Next >", "Finish", and "Cancel".

## Step 2

- Configure the data connector, click **Add**

The screenshot shows a dialog box titled "New Project" with the subtitle "Step 2 : Configure the Connectors (data sources) of the Project." It features a toolbar with icons for "Add" (highlighted with a red box), "Modify", "Delete", and "Catalog". Below the toolbar is a table with three columns: "Name", "Provider", and "Description". The table has one row with a yellow asterisk in the "Name" column.

### Select **Inductive Automation, Ignition Real-time values**

The connector requires a **Primary Server**. Click the browse pushbutton ([...]) for **Name** to define.

The screenshot shows a dialog box titled "Server" with a close button (X) in the top right corner. It has three input fields: "Node" with the value "192.168.8.85" and a "Refresh..." button, "Port" with the value "62541", and "Server" with the value "ua:opc.tcp://192.168.8.85:62541" and a "Refresh..." button. Below these is a "Credentials" section with two radio buttons: "Anonymous Access" (unchecked) and "Specific User" (checked). Under "Specific User", there are three input fields: "User Name" with the value "opcuauser", "Password" with masked characters "\*\*\*\*\*", and "Domain" which is empty. There is an "Options" button to the right of the "Domain" field. At the bottom of the "Credentials" section is a "Test Connection" button. At the very bottom of the dialog are "OK" and "Cancel" buttons.

- For **Node**, specify the **IP Address** configured as the **Bind Address** in the Ignition UA Server settings.
- Depending on the version of Ignition, the default **Port** for the **Ignition OPC-UA** server is either **4096** or **62541** as set his can be found in Ignition UA Server settings.
- For **Server**, click **Refresh** and select from the list of server endpoints listed. If no endpoints are listed, in some versions of Ignition, the discovery server needs to be specified explicitly. To do so, for **Port**, append **/discovery** (e.g., **62541/discovery**) and click **Refresh** again.

- If the server is set for **Anonymous Access**, leave that selected, otherwise select **Specific User** and enter valid credentials.
- Click **Test Connection** to verify connectivity.

## Trusted Clients

In some cases the client has to be accepted by the server to make requests. From within Ignition, select **Config, OPC UA, Security**.

Under the Server tab, in Quarantined Certificates, accept the client certificate listed.

## Remote Communication to Ignition OPC-UA

If Ignition OPC-UA is installed on a workstation remote from the PLC then set the **Node** to an item in the dropdown list or enter an *IP address*.

The workstation must also have the OPC core components installed. To determine if the core components are installed verify the following file exists:

- 64 - bit OS C:\Windows\SysWow64\OPCEnum.exe
- 32 - bit OS C:\Windows\system32\OPCEnum.exe

If the components are not installed then they are provided in the tools folder of the installation or from [www.opcfoundation.org](http://www.opcfoundation.org).

## Verify Data Communication

To verify communication to Ignition OPC-UA, open the **Project Explorer** and select the **Tools** tab. Launch the **System Check** application.

- Click **Add**.
- Choose the *Ignition OPC-UA 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.