

## Using XLReporter with FactoryTalk Linx Gateway

### Overview

**XLReporter** takes process values directly from a PLC through FactoryTalk Linx Gateway 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.

The versions of FactoryTalk Linx Gateway that support OPC DA & UA include:

**FactoryTalk Linx Gateway Basic** – Local FactoryTalk Directory up to 1000 tags

**FactoryTalk Linx Gateway Standard** – Local FactoryTalk Directory up to 5000 tags

**FactoryTalk Linx Gateway Distributed** – Local or Network FactoryTalk Directory up to 32,000 tags

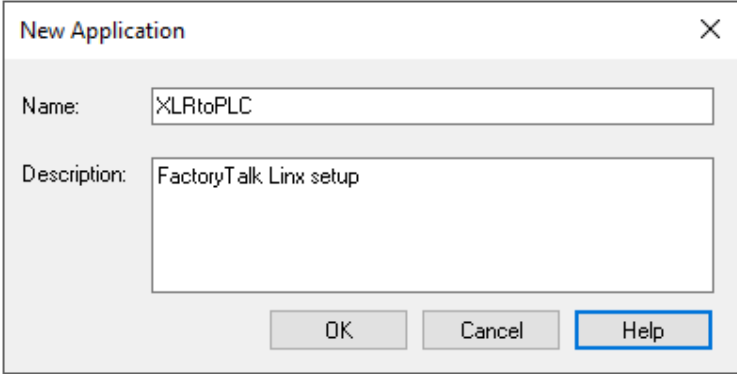
**FactoryTalk Linx Gateway Professional** – Local or Network FactoryTalk Directory No limit on tags

### Set up FactoryTalk Linx

Open the **FactoryTalk Administration Console** from the **Rockwell Software** program group and select the directory type (*Local or Network*).

#### Create a New Application

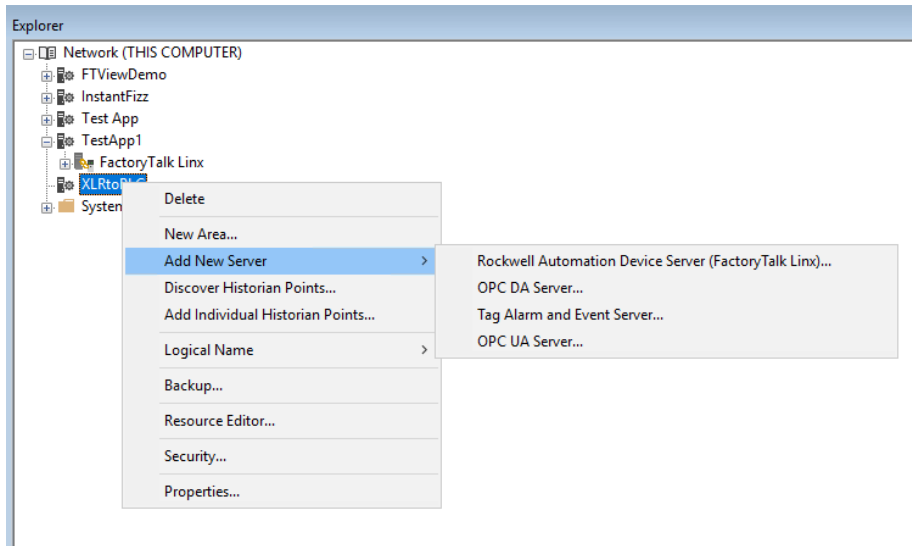
If no application is currently set up, right click the top level of the left panel tree and select **New Application...**



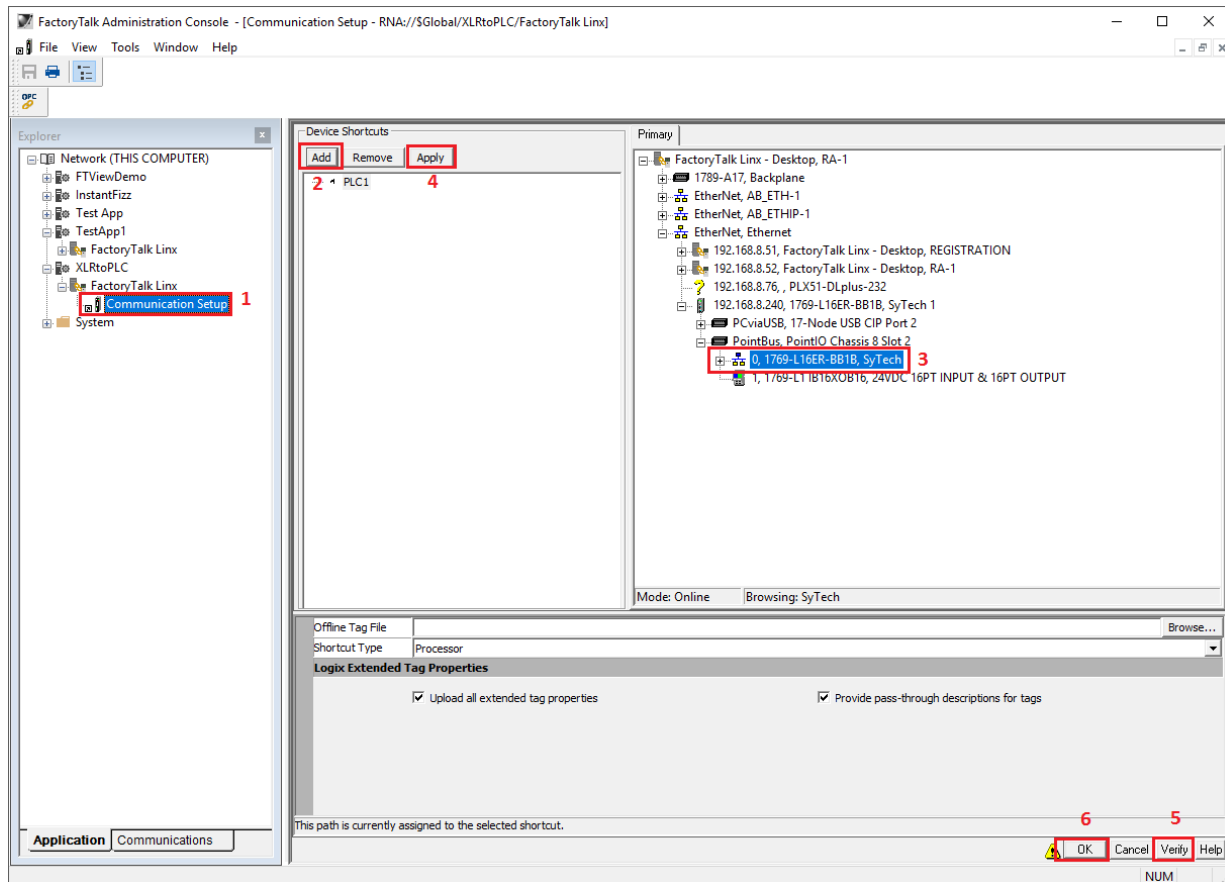
The screenshot shows a 'New Application' dialog box. The 'Name' field contains 'XLRtoPLC' and the 'Description' field contains 'FactoryTalk Linx setup'. The 'Help' button is highlighted with a blue border.

- Enter a **Name** and **Description**
- Click **OK**

In the left panel tree right click the new application.



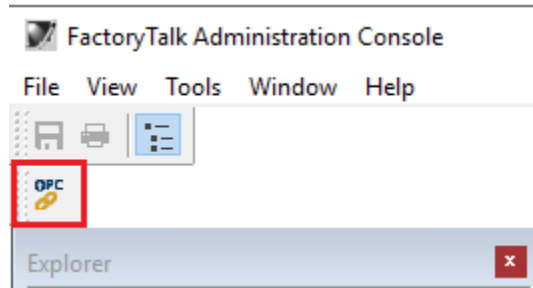
- Select **Add New Server, Rockwell Automaton Device Server (FactoryTalk Linx)...**
- Click **OK**.
- **Expand FactoryTalk Linx.**
- Double click onto **Communication Setup**.



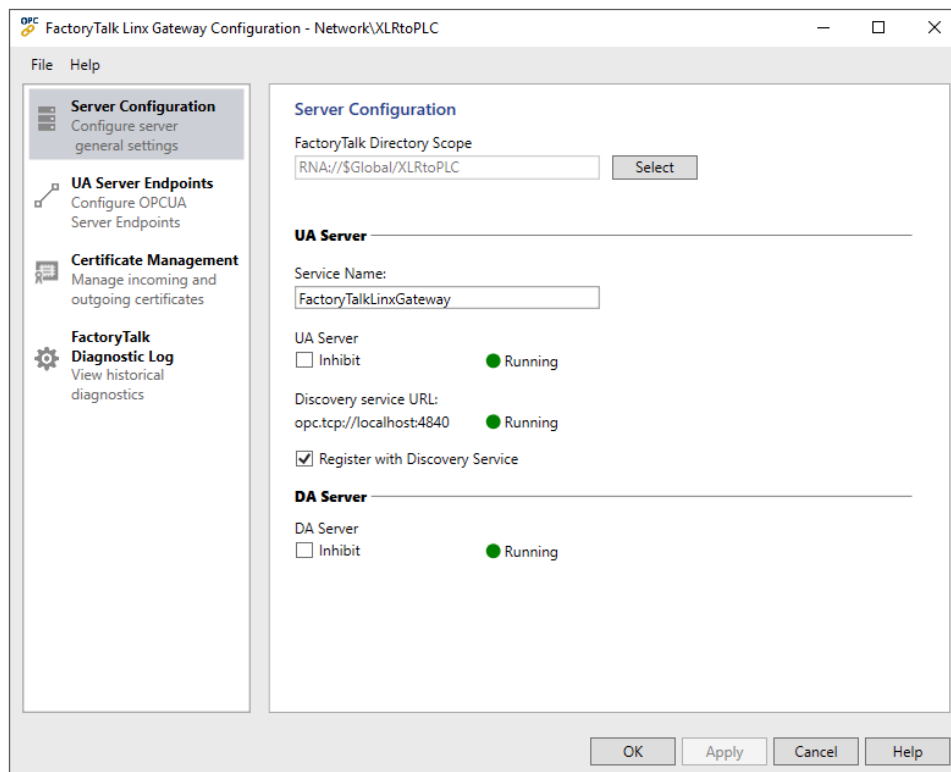
In the **Device Shortcuts** panel click **Add**.

- Enter a *name* for the shortcut.
- *Browse* to the device.
- Click **Apply**.
- Select **Verify**.
- Click **OK**.

Set up FactoryTalk Linx Gateway Configuration  
In the **FactoryTalk Administration Console** select **OPC**.

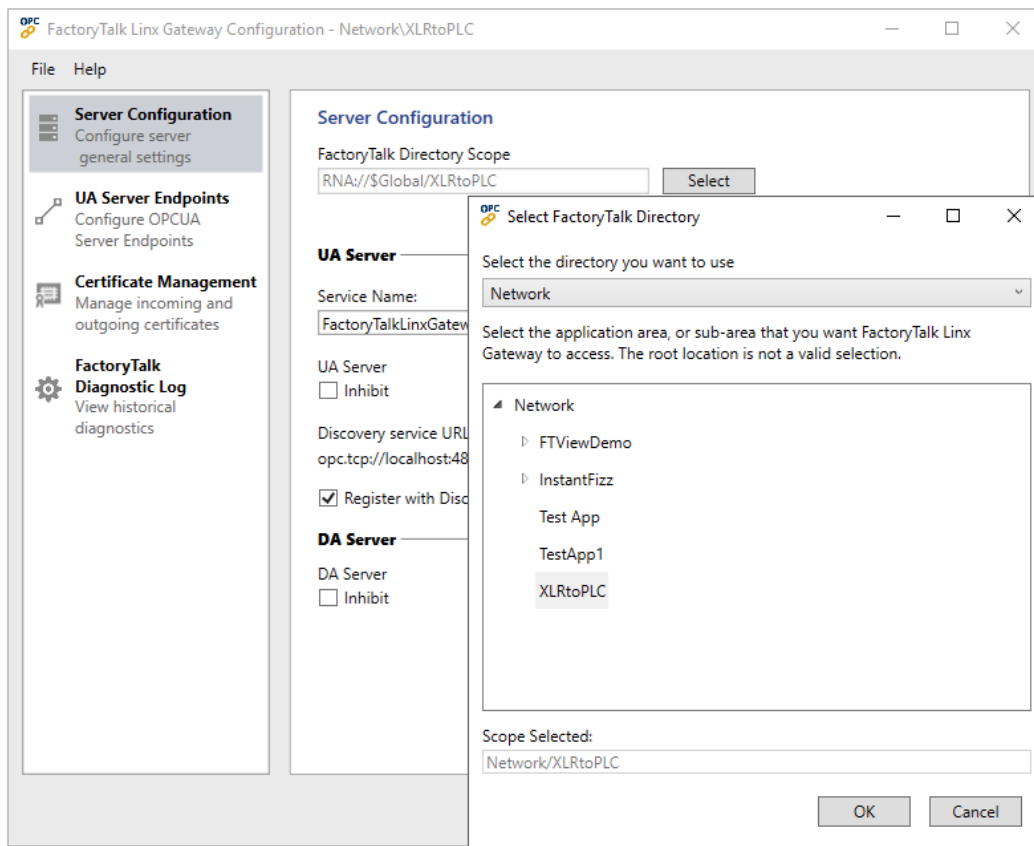


Server Configuration  
In the **FactoryTalk Linx Gateway Configuration** select **Server Configuration**.



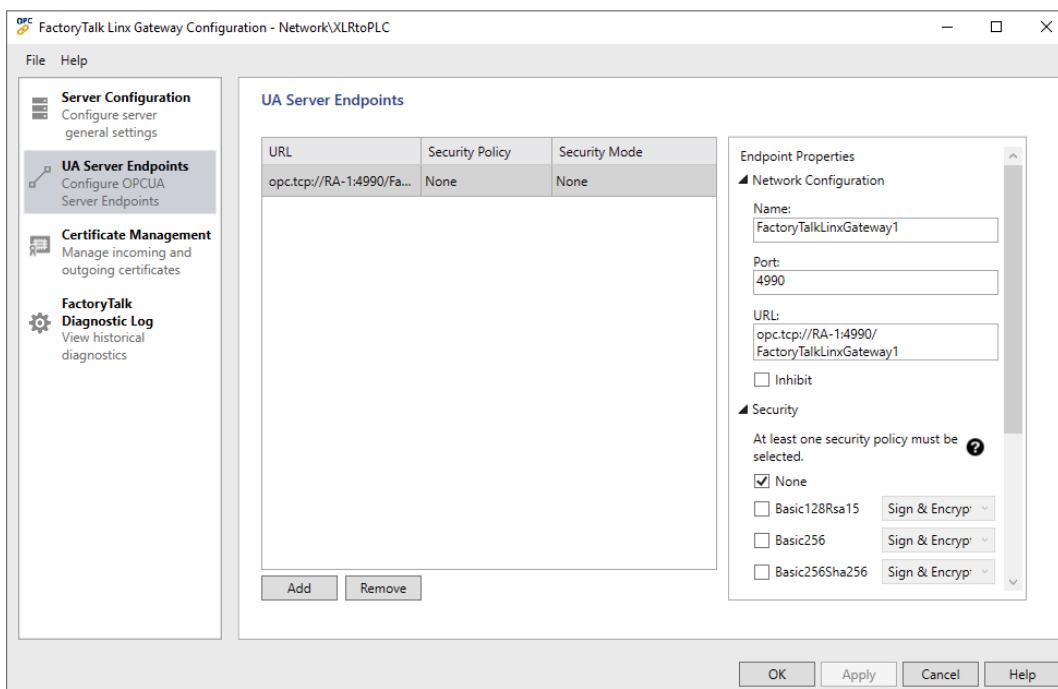
Under **Server Configuration**, for **FactoryTalk Directory Scope**,

- Click **Select**.



- Select the **Directory** from the drop down list at the top.
- Expand the **Directory** and select the application or sub-area to access
- Click **OK**.
- Back in the FactoryTalk Linx Gateway configuration click **Apply**.

To access the FactoryTalk Linx Gateway using the OPC UA server, in the **FactoryTalk Linx Gateway Configuration** select **UA Server Endpoints**.

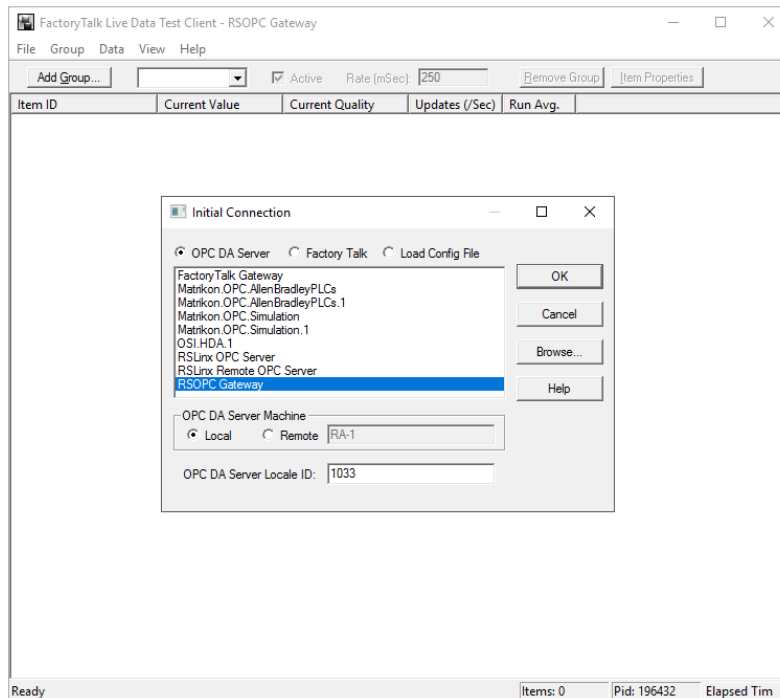


- Click **Add**.
- Click **OK**.

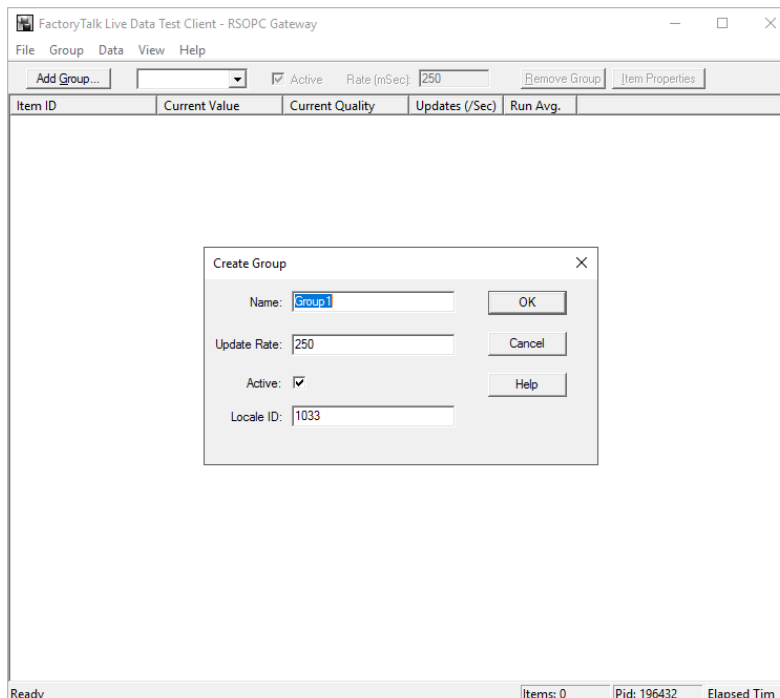
## Verify Communication

Communication between FactoryTalk Linx DA and the PLC can be verified using the OPC test client provided by Rockwell Software.

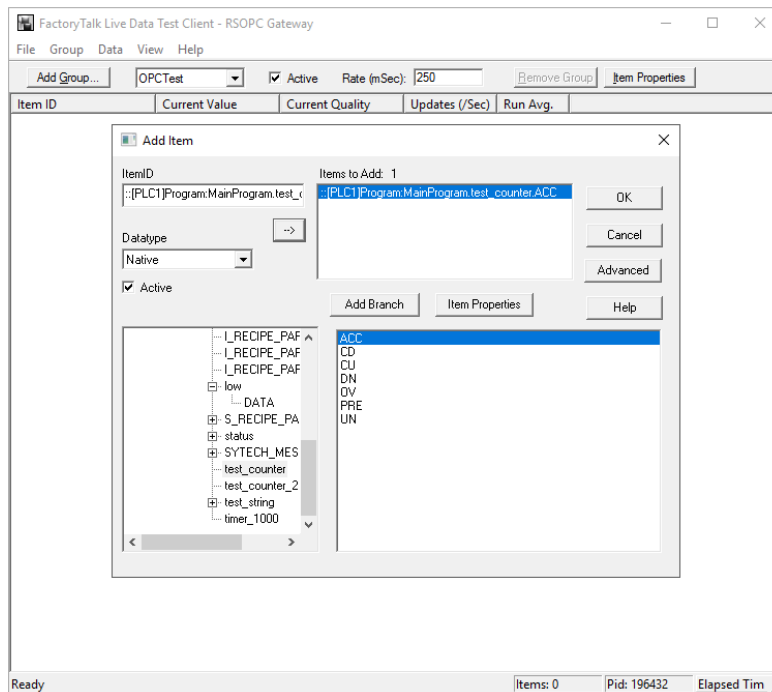
From the **Rockwell Software** program group and select the **FactoryTalk Live Data Test Client**. This client validates the communication and also verifies that FactoryTalk Linx is capable of exchanging data with **XLReporter**.



- Choose *RSOPC Gateway* and click **OK**.



- Enter a **Group Name** and click **OK**.



- Select a tag by navigating in the lower left list, selecting a tag on the lower right list
- Click **OK** to return to the window.

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

If the client does not respond as described contact Rockwell Automation technical support to troubleshoot and correct these issues.

# Create a Project

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

## Step 1

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

The screenshot shows the 'New Project' dialog box at Step 1. The title is 'New Project' and the subtitle is 'Step 1 : Specify the Project Name and its Location.' There are 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 the 'New Project' dialog box at Step 2. The title is 'New Project' and the subtitle is 'Step 2 : Configure the Connectors (data sources) of the Project.' There is a toolbar with buttons: '+ Add' (highlighted with a red box), 'Modify', 'Delete', and 'Catalog'. Below the toolbar is a table with columns 'Name', 'Provider', and 'Description'. The table is currently empty, with a yellow asterisk in the first row.

## OPC-DA

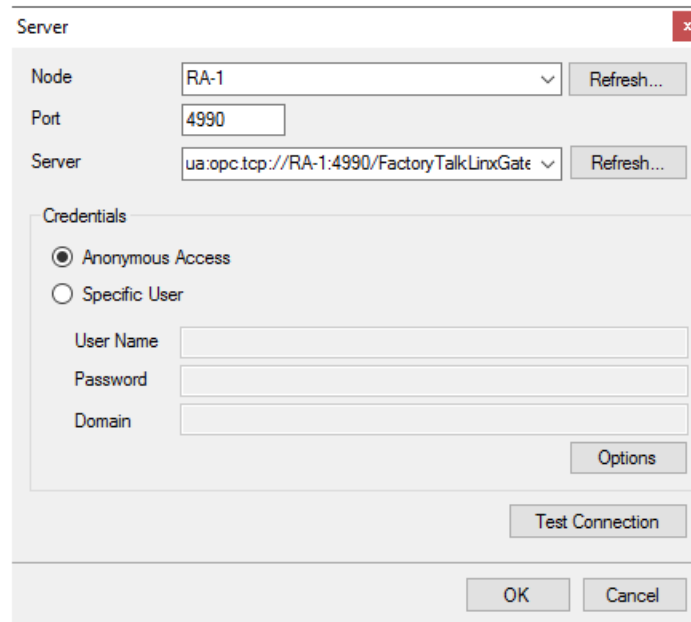
Select **OPC, OPC DA Real-time values**.

The screenshot shows the 'OPC DA Real-time values' dialog box. The title is 'OPC DA Real-time values'. There are two main sections: 'Primary Server' and 'Secondary Server'. The 'Primary Server' section is active and contains fields for 'Connector Name' (FactoryTalk\_Linx\_DA), 'Description' (RSOPC Gateway), 'Name' (RSOPC Gateway), and 'Node' (local). There is a 'Test Connection' button. The 'Secondary Server' section is inactive and contains similar fields. At the bottom, there are 'Settings', 'OK', and 'Cancel' buttons.

The connector requires a **Primary Server** which, by default has **Node** set to *local*.

## OPC-UA

Select **OPC**, **OPC UA Real-time values**.



The screenshot shows a dialog box titled "Server" with a close button (X) in the top right corner. It contains the following fields and controls:

- Node:** A dropdown menu with "RA-1" selected and a "Refresh..." button to its right.
- Port:** A text input field containing "4990".
- Server:** A dropdown menu with "ua.opc.tcp://RA-1:4990/FactoryTalkLinxGate" selected and a "Refresh..." button to its right.
- Credentials:** A section with two radio buttons: "Anonymous Access" (selected) and "Specific User". Below these are three text input fields for "User Name", "Password", and "Domain", followed by an "Options" button.
- Test Connection:** A button located below the Credentials section.
- OK** and **Cancel** buttons are located at the bottom of the dialog.

The connector requires a **Primary Server**. Click the browse pushbutton ([...]) for **Name** to select an available OPC UA Server.

If the OPC UA server is running on a remote machine, set **Node** to the name or IP address of that machine.

Typically information about the **Port** number to use can be found in the OPC UA server settings.

The **Server** dropdown displays all the available servers based on the **Node** and **Port**.

If the **Server** supports **Anonymous Access**, leave that selected, otherwise select **Specific User** and enter the credentials.

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.

### Remote Communication to FactoryTalk Linx

If FactoryTalk Linx 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

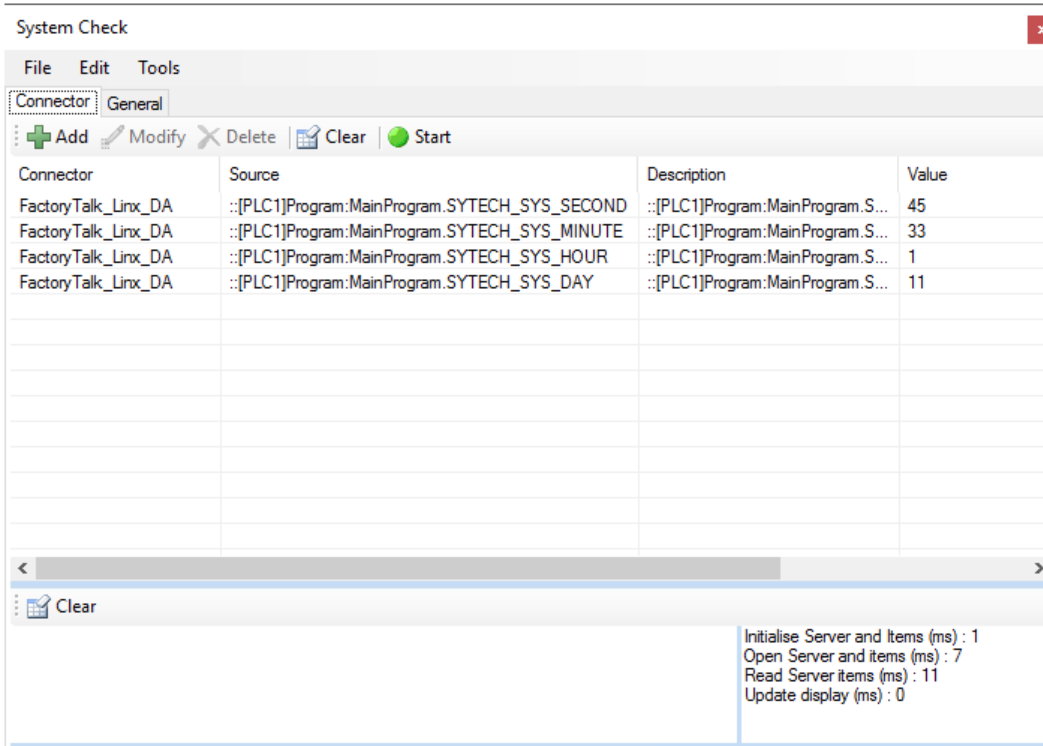
If the components are not installed then they are provided in the tools folder of the installation or from [www.opcfoundation.org](http://www.opcfoundation.org).



## Verify Data Communication

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

- Click **Add**
- Choose the *FactoryTalk Linx 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

## Event Triggers

If the Scheduler is configured perform actions on events that involve multiple PLCs it is recommended that a unique Data Connector is defined for each PLC.

When a PLC goes offline, the Scheduler will require a restart. A restart of the Scheduler can be automated by configuring a *Run an Application* action with the **Application** set as `bin\xlrScheduleReset.exe`. This should be triggered periodically at a time when the events are typically not active.