# How to make your project on OPC Server UA

# **OPC UA Server Configuration**

In the Engineering Environment, navigate to the Info > Settings tab, and look for the OPC Server Runtime configuration. Select the OPC UA, and click on Settings.

Version Settings Redundancy	
Product: FactoryStudio ProjectPath: C:\FactoryStudio\Projects\ Family: Express • Target Framework: NET Framework 4.6.2 • Model: 500 • Culture Info: Português (Brasil) • Default Code: CSharp • Limit values to Min-Max Target Lavout size (on Efit-Displays-Lavouts)	Force 32-bit
Width: 1366 View Height: 768	Width: 1366 Height: 728
Run Modules inside main Runtime process Script Tasks First Device Channel	OPC Server Runtime OPC-DA OPC-UA Settings
Security AD/LDAP Server:	Python Interpreter: C:\Program Files\Python36\python.exe

An OPC Server configuration dialog will open that will request admin privileges. In the configuration manager, we can configure Endpoint characteristics for the server, manage Client certificates, and create a certificate for the Server.

#### Endpoints

In this tab, you can define the Endpoints in which the OPC Server will be deployed, select the Security Policies, and enable/disable anonymous user log in.

Clicking on the <u>Add</u> or <u>Edit</u> buttons will open a popup that allows the user to select the IP Address and Port number. Its also possible to define the IP for a specific network adapter that is available in the system. This can guarantee some security to your OPC; like making it inaccessible for anyone outside of your network.

It is important to make sure the defined ports are not blocked by the OS firewall.

III UA Serve	er Configuration Helper		×
Endpoi	nts Client Certificates Server Cer	rtificate	
	URIS		
	opc.tcp://localhost:4840		
	Add Edit Remove	- AND	
	Security Policies	_	
	Basic256Sha256	✓ Sign	
	Basic256 (Deprecated)	Sign And Encrypt	
	Basic128Sha15 (Deprecated)		
	Vone (Insecure)	1	
	Authentication Settings		
	Allow Anonymous Logon		
Server must	t be restarted to apply changes		OK Cancel

The OPC Server's user management is done by the project's Security Module. The existing Users and Runtime Users, and their associated passwords, can be used to allow client connection.

### **Client Certificates**

In this tab, you can import Client Certificates and choose to Trust or Reject them.



The list will display all Clients Certificates that were imported and their current trust status.

#### **Server Certificate**

In this tab, you can view the details of the Server Certificate, export the file (to import and trust the OPC Client), and Reissue it.

When the Reissue option is selected, all existing trust relationships that depended on the Server Certificate will be invalidated.



## **Project Runtime**

Once all the configurations are done, you can launch the Project to test the communication exchange. Remember to have the *OPC Server* Module enabled in **Run** > **Startup**.

🌞 🐴 🕟 🕕	Startup
Luit Draw Run     Run mod     Build     Test     Startup     Publish   Tools   UseCount	Startup Settings         UserName:       Guest       Password:         Project server:       localhost         Port:       3101       PortWA:         Startup computer:       Local       Execution Path:         Project Server       Custom:         Run Local Diagnostics Tools       Custom:         Image: Computer of the server       Custom:         Startup computer of the server       Custom:         Image: Computer of the server       Custom:         Image: Custom server       Image: Custom server         Image: Custom server       Image: Custom server
Dictionaries	Status: Project not running

Open your OPC Client of choice (that is trusted by the OPC Server) and connect to the Endpoint defined to it. If all your configuration was done correctly, you should see the following Folders in the Server Address Space:

- Tag: Contains the Project Tags with properties based on the Visibility (defined in Edit Objects).
- Public: Can be read and write in your OPC
   Protected: Can only be read
- 3. Private: will not be seen or browsed.
- Device: Information of the existing communication Nodes [Read-Only].
- Info: Contains the following subfolders:
- License: Details on the current license applied to the Project Server [Read-Only].
   Module: Details on every Module of the Product (Alarms, Scripts, Report, etc) [Read-Only].
- 3. Project: Project information available at Info Version [Read-Only].
- 4. ProjectSettings: Project information available at Info Settings [Read-Only].
- Server: Information available at the Server Namespace (ComputerIP, PrimaryIP, IsRedundancyEnabled, etc) [Read-Only].

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## **TroubleShoot**

The status of the Server can be observed through the Diagnostic tools, which are:

- Trace Window: Enable the OPC Server and Debug CheckBoxes (in the settings menu) to visualize all information about this Module.
- Module Information: Here you should be able to see the following information:
   State: Whether the Server is running, paused or stopped state.

  - Available Items: Amount of variables in the Address Namespace.

  - Last Error: Last error message that happened in the connection.
     Last Error Timestamp: Timestamp when the last error happened.
  - OPC Clients Connected: Amount of clients connected to the Server.
  - OPC Client: Individual information for each client connected (Name, Identity and Connection Time).