

Objective

Upon completion of this module, you will be able to perform the following tasks:

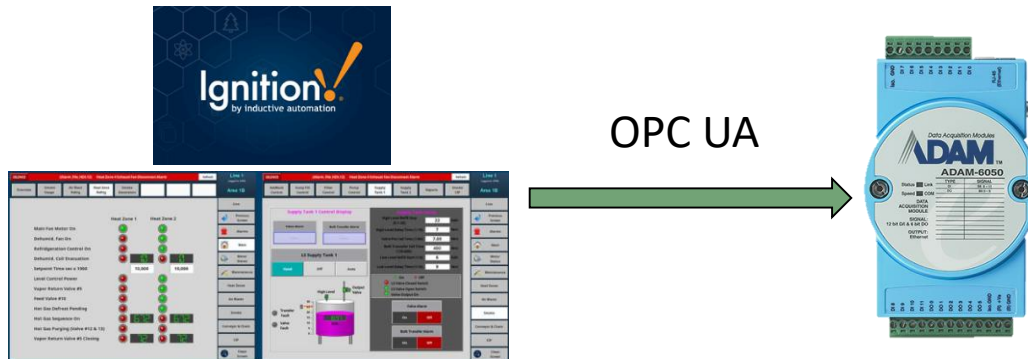
- Understand about SCADA and ADAM6300 through OPC UA
- In the SCADA, monitor DI/O & AI/O value for ADAM6300 series via OPC UA Protocol

Outline

- How to acquire IO data via Ignition
- How to acquire IO data via Uaexpert
- ADAM-6300 OPC UA Security
- ADAM-6300 OPC UA Monitor Items

Establish Connection with OPC UA Device- ADAM-6300 series

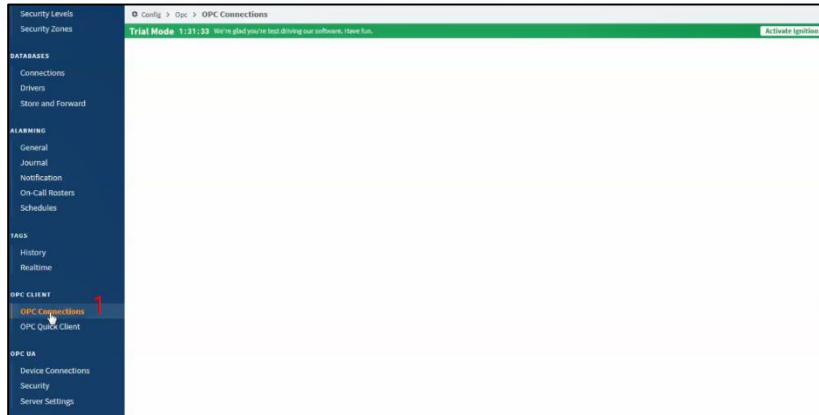
- Create OPC UA Client driver
- Create OPC UA server(ADAM-6300 series)
 - Refer to ADAM-6300 EndPoint URL through the AdamApax .NET Utility
 - Setting the Security type and Key in the Username & Password
- Trust the Server Certificate for Ignition
- Trust the Client Certificate for AdamApax .NET Utility
- Create Project & Test



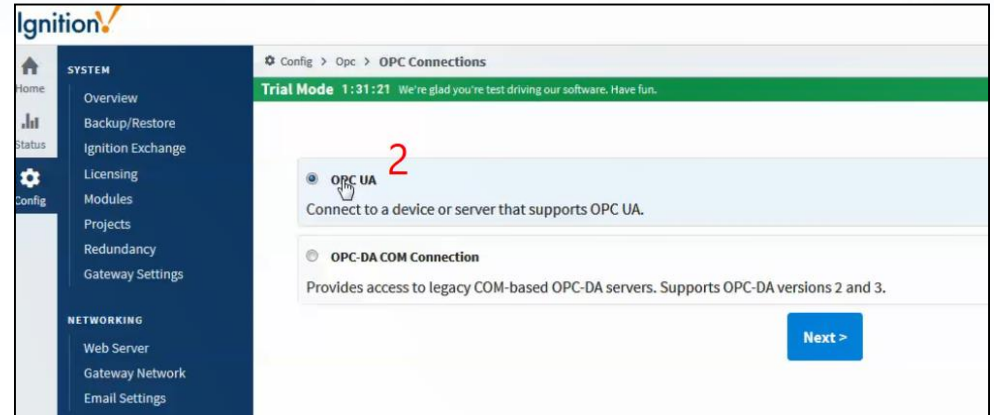
Create OPC UA Client driver

Step1:

Open up Ignition and create OPC UA Client driver, then add an OPCUA server in custom discovery.



Create OPC UA Client driver



Create OPC UA server(ADAM-6300 series)

Create OPC UA server(ADAM-6300 series)

Step2:

Then expand the tree, users could choose either anonymous which is None or security which is Basic128Rsa15-Sign. After choosing the connection type, go set up username and password. Here we choose security connection for instance.

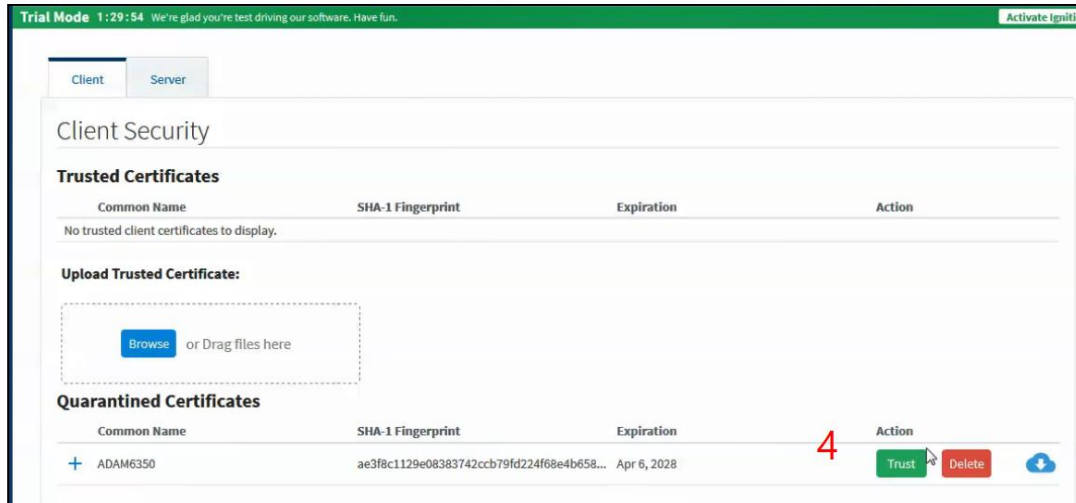
The screenshot displays the configuration interface for an OPC UA server. The top navigation bar shows 'Config > Opc > OPC Connections'. A green banner at the top indicates 'Trial Mode 1:38:39 We're glad you're test driving our software. Have fun. (default: true)'. The 'Select Endpoint' section shows two radio button options for the endpoint 'opc.tcp://10.0.0.1:4840'. The first option is selected and has 'Security Policy: None' and 'Security Mode: None'. The second option is selected and has 'Security Policy: Basic128Rsa15' and 'Security Mode: Sign'. A red arrow with the number '3' points to the second option. Below the options is a blue button labeled 'Previous: Choose Server'. To the right, the 'Read Only' checkbox is checked, with the text 'if selected, the connection to this OPC server will be read-only; all calls to write will fail. (default: false)'. The 'Authentication' section is highlighted with a red box and contains three input fields: 'Username' with the value 'root', 'Password' with masked characters '*****', and another 'Password' field with the label 'Re-type password for verification.' and masked characters '*****'.

Choose connection type and fill in username and password

Trust the Server Certificate for Ignition

Step3:

Then we right click the device and choose Connect, then a Certificate Validation window would pop up due to the untrusted certificate sent from ADAM-6350 which is a OPCUA server. All we need to do is to trust this certificate in order to build up connection.

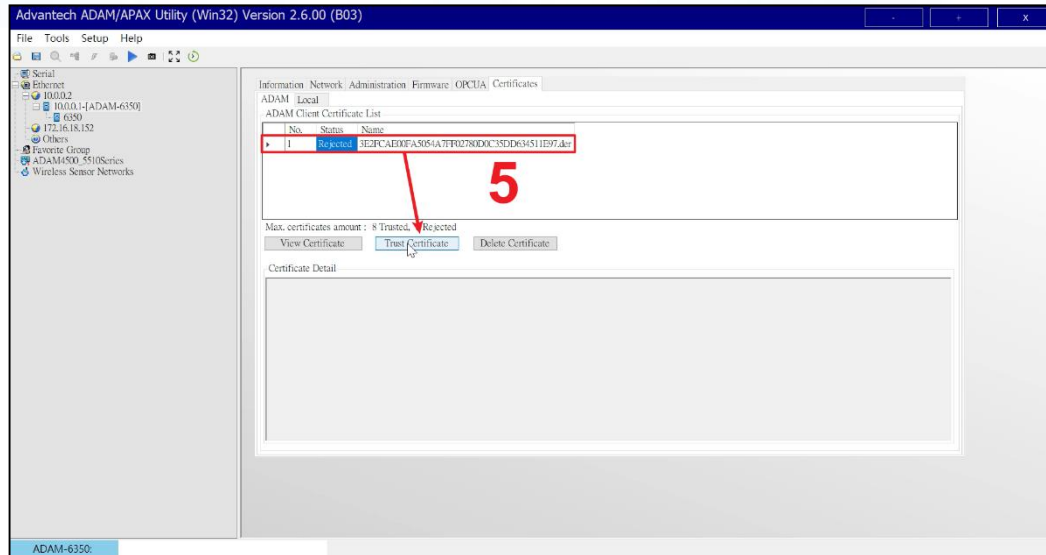


Trust the certificate from OPC UA Server

Trust the Client Certificate for AdamApax .NET Utility

Step4:

Open up Adam/Apax .NET Utility, search for ADAM-6350, choose Certificates tab and trust the Rejected certificate from Ignition. Then go back to Ignition to make the device connect to ADAM-6350 again.

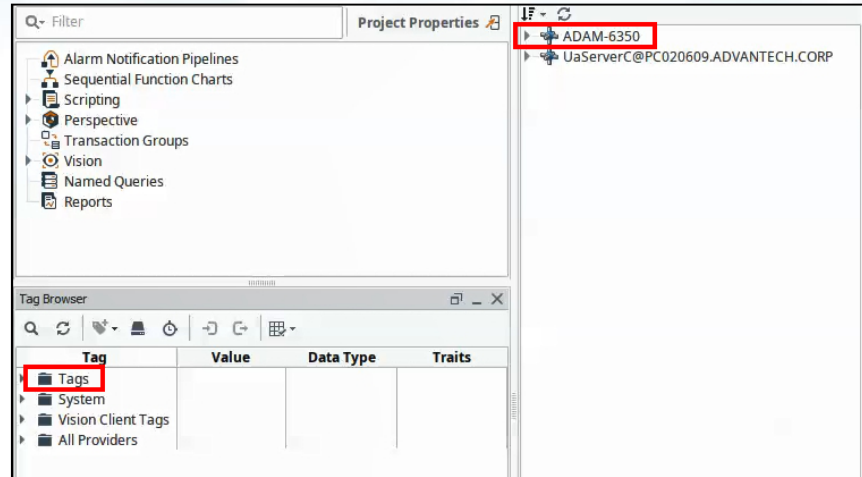


Trust the Rejected certificate from Ignition

Create Project & Test

Step 5:

Expand the tree in red circle above, and drag the tag you want to Data Access View. Then you shall see the IO status.

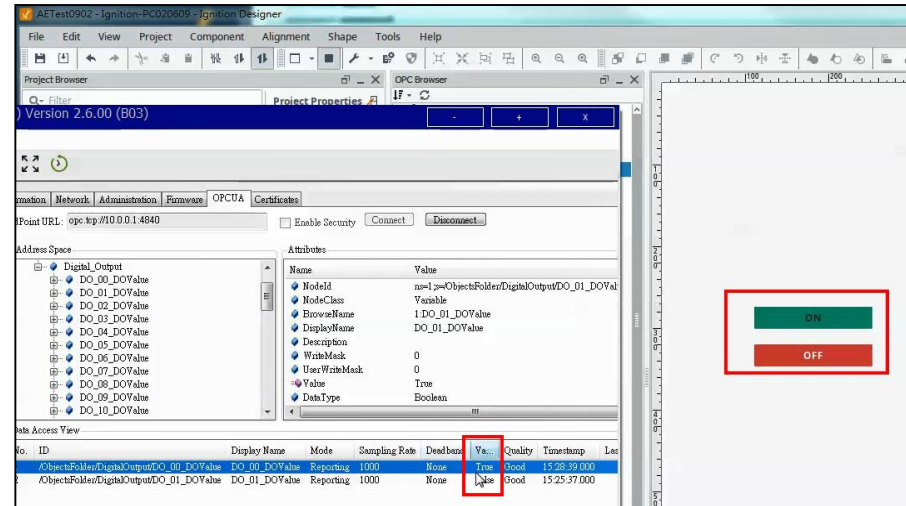
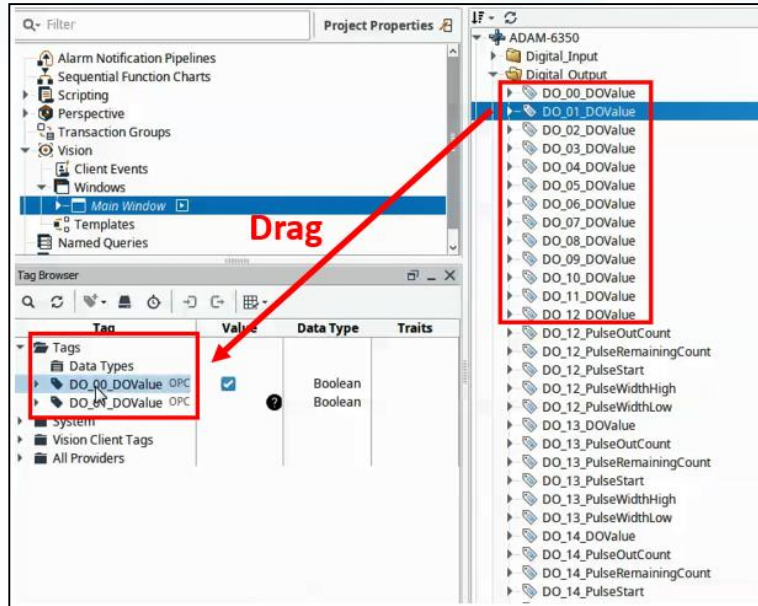


Make Device we created connect to ADAM-6350 again

Create Project & Test

Step 5:

Expand the tree in red circle above, and drag the tag you want to Data Access View. Then you shall see the IO status.



Drag the IO tag to Data Access View for monitoring

Monitor the IO status

