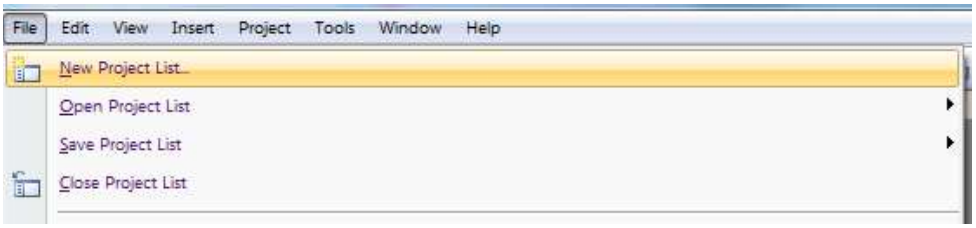
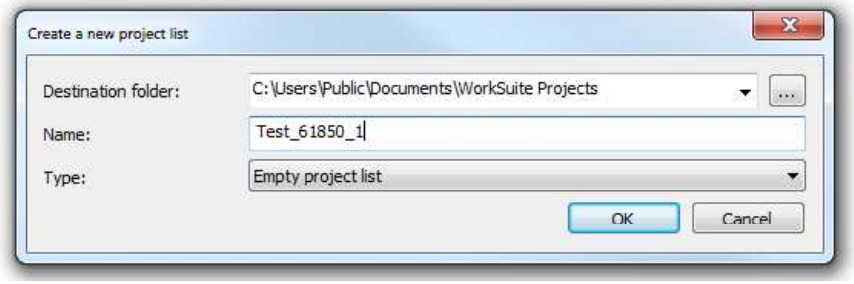
IEC61850 Client Protocol Overview

Creating a Test Application

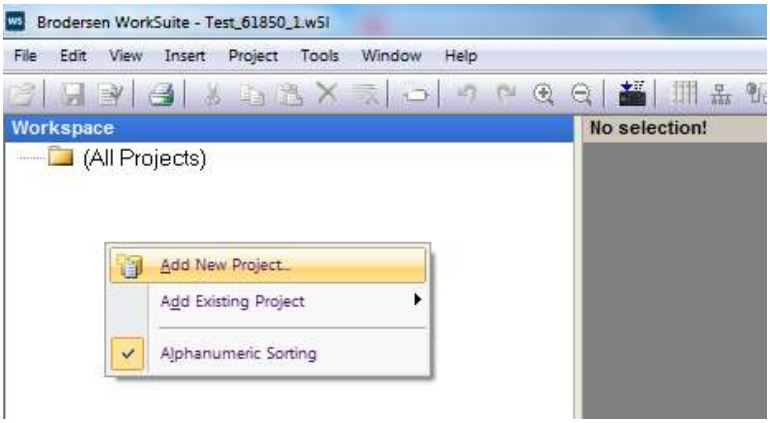
Open WorkSuite and from the File menu, select 'New Project List'.



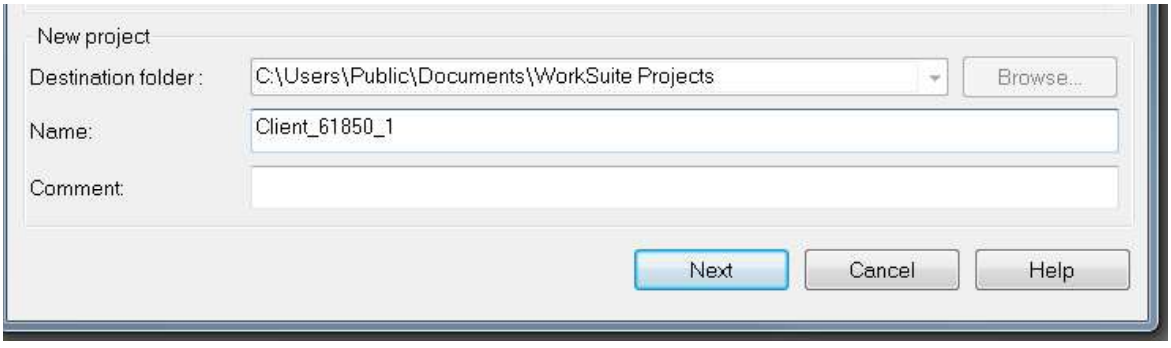
Create a new project list eg. Test_61850_1.



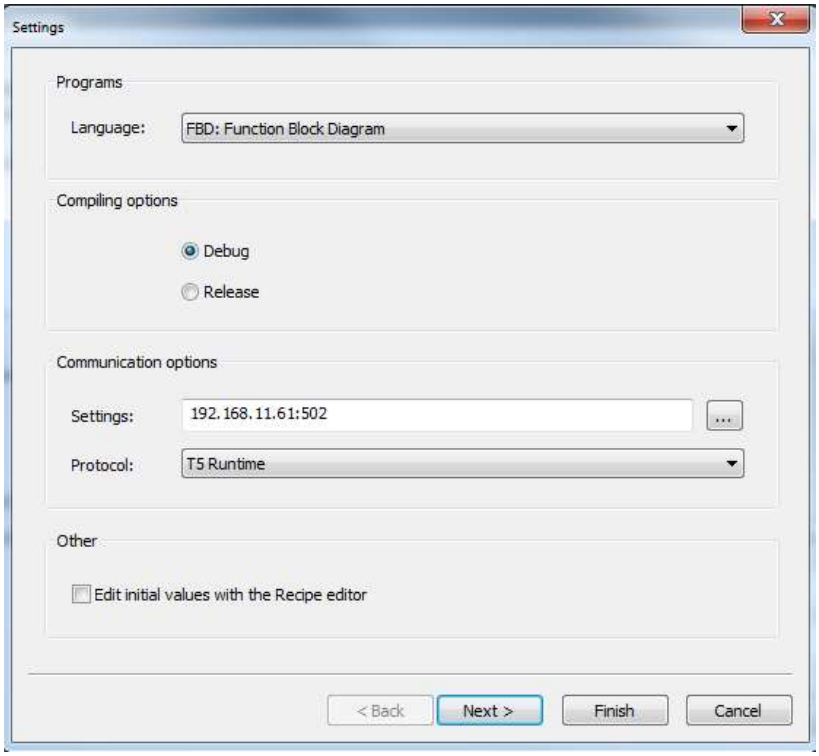
Then add a new project (from the file menu, or right-click in the empty project tree area)



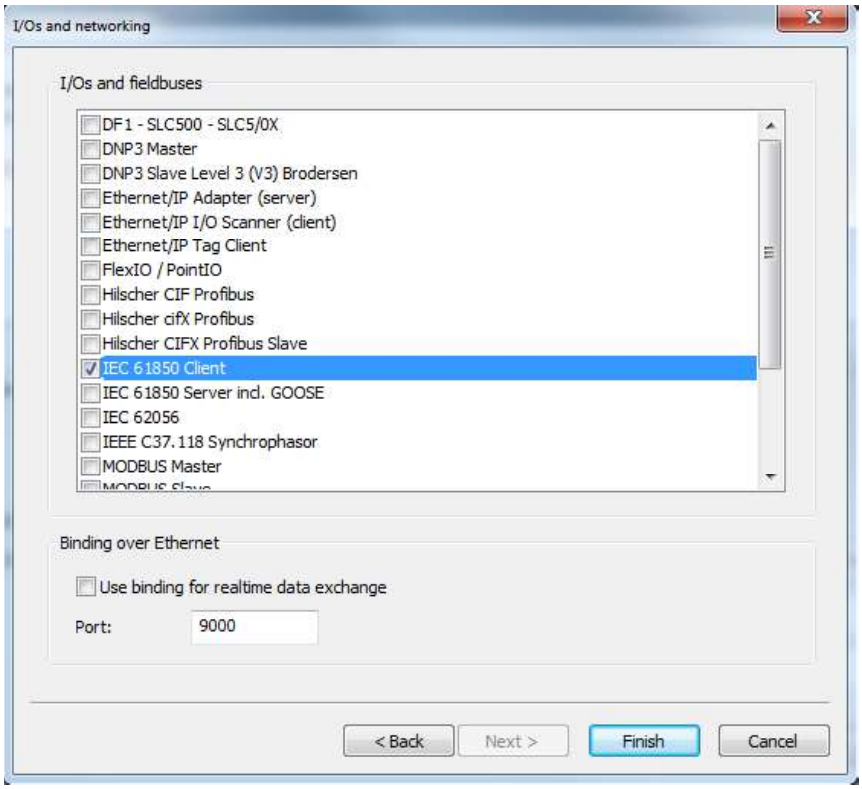
Give the project a name eg. Client_61850_1.



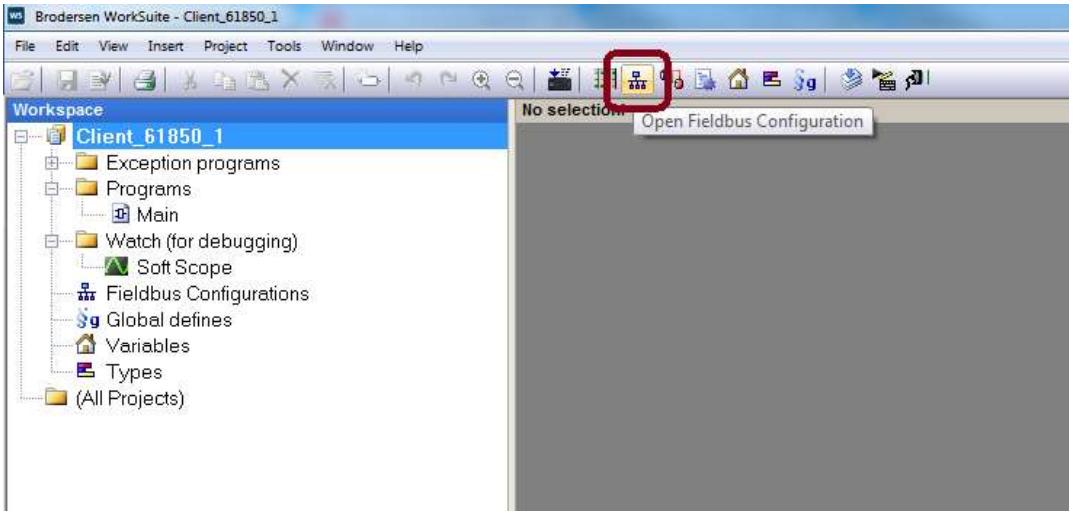
Set the IP address of the RTU32 Series controller that will be running the IEC61850 client protocol.
Eg. 192.168.11.61:502 - remember to include the port extension. Port 502 is the Modbus port that is open by default in RTU32 controllers.



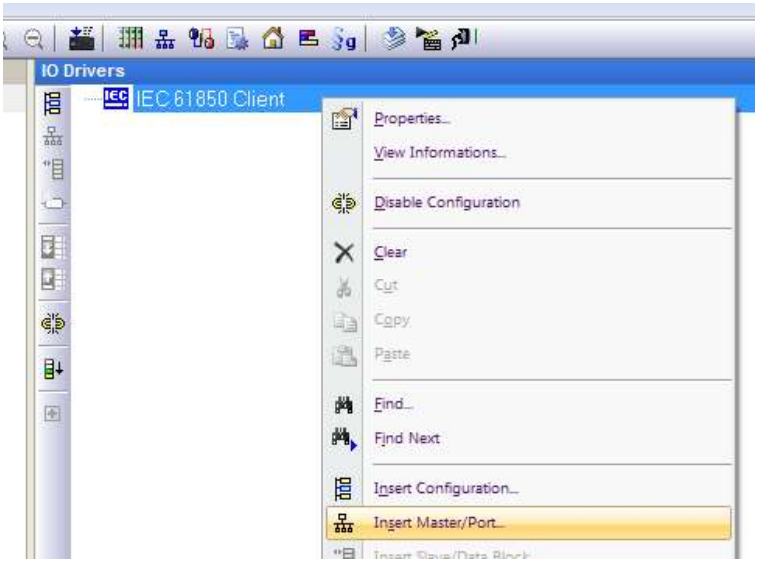
Select the 61850 Client Protocol option.



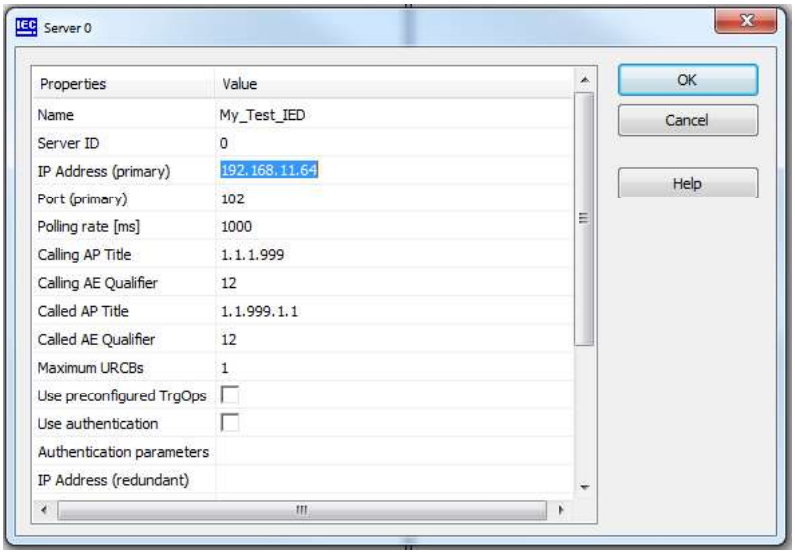
Then open the Fieldbus editor in WorkSuite.



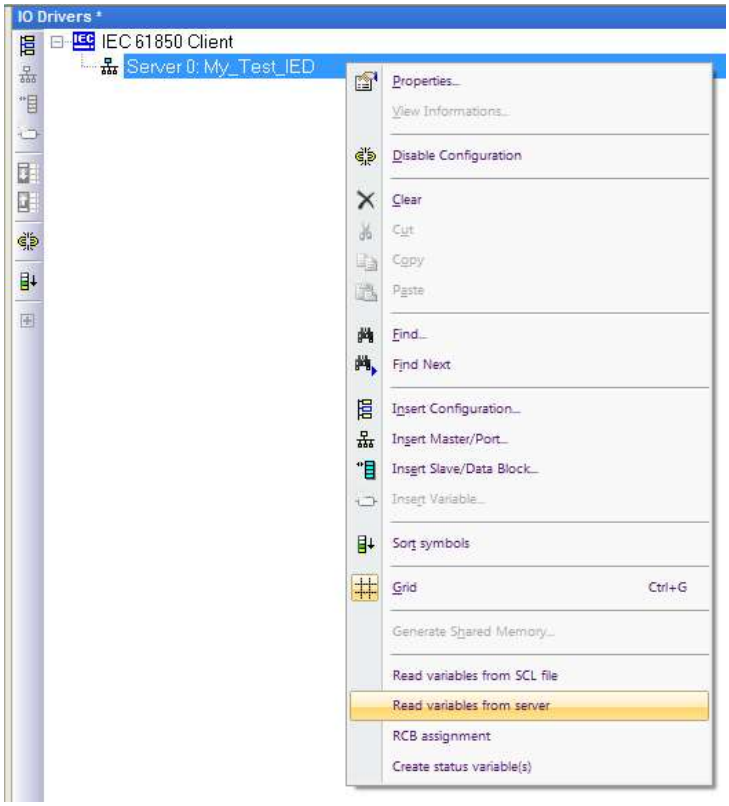
Right Click on the IEC61850 Client heading and then select 'Insert Master/Port'.



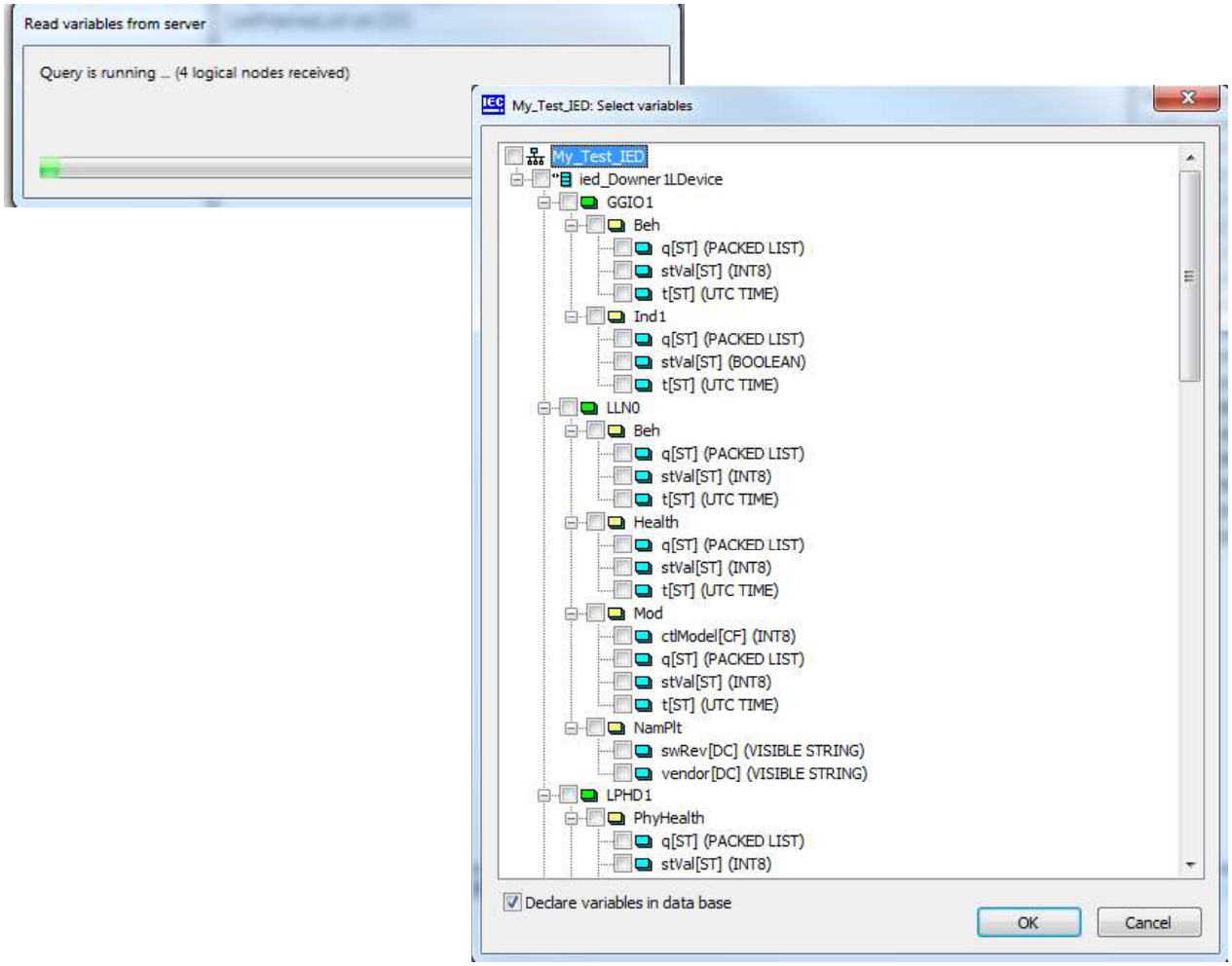
Then enter a Name and IP address for the 61850 Server/IED that you will communicate with.
Eg. 'My_Test_IED' at 192.168.11.64



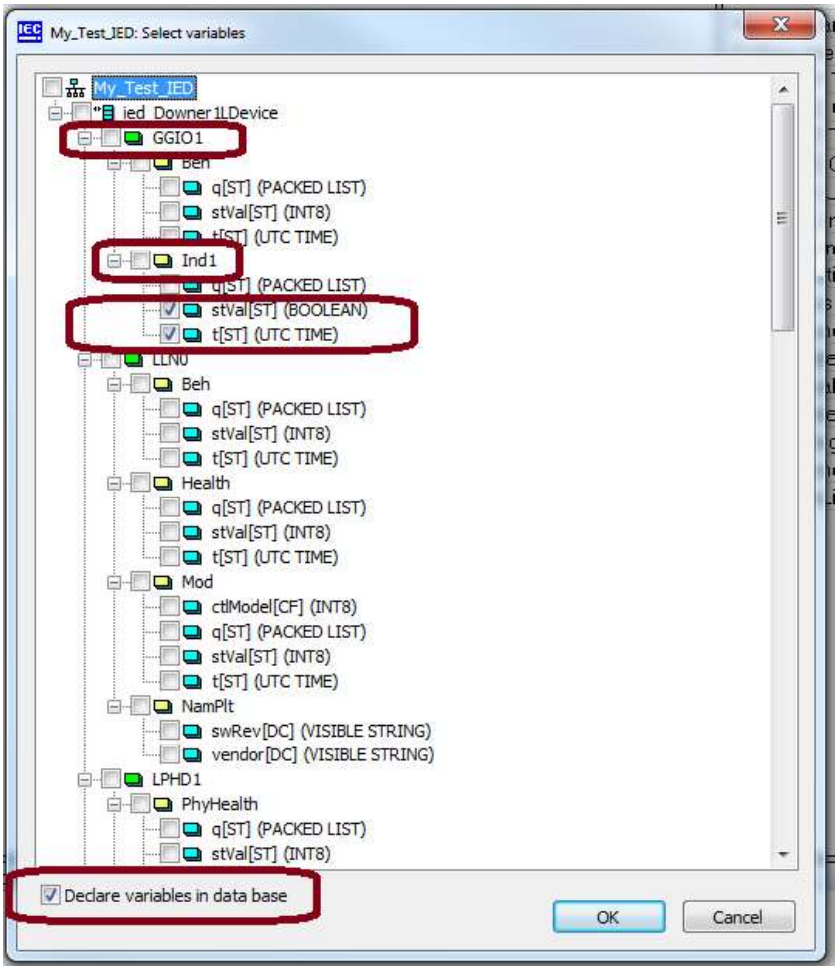
Then select ‘Read variables from server’



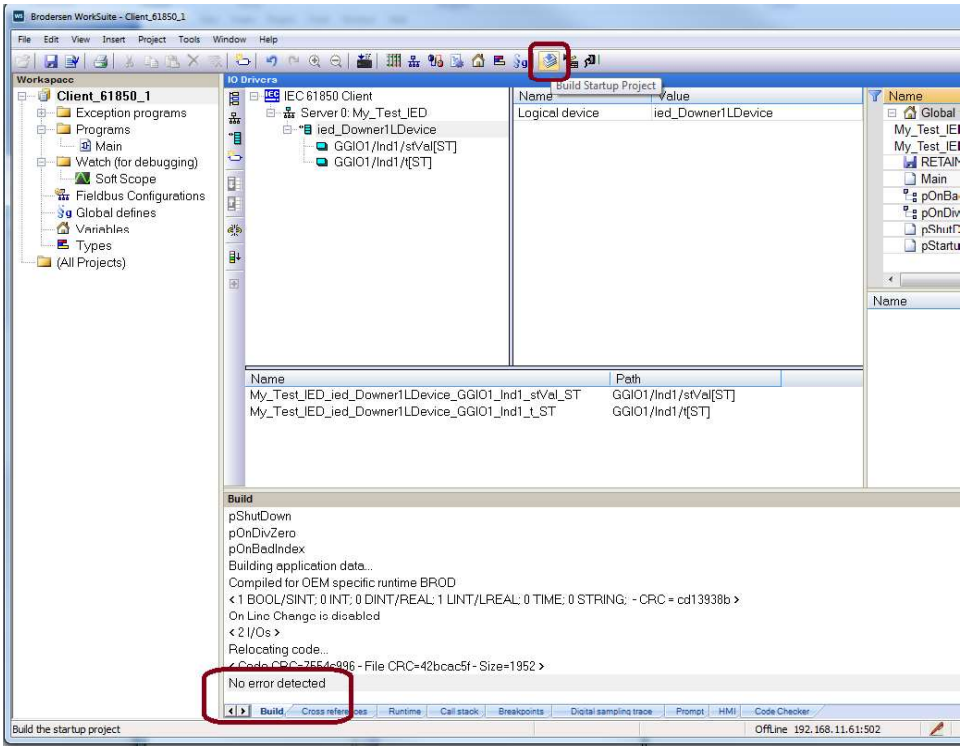
WorkSuite will then establish comms with the server/IED and query the device for information.



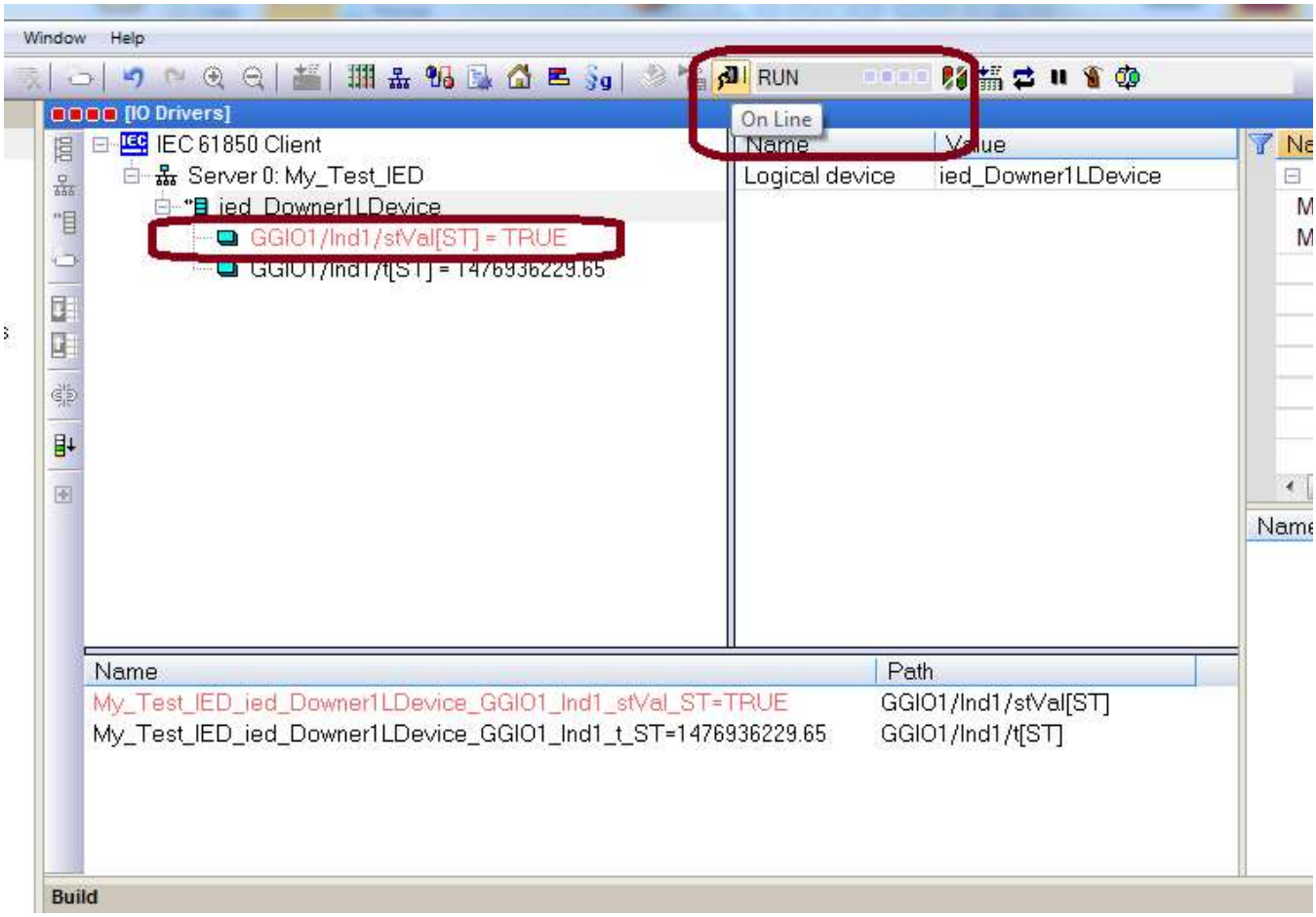
Select the points of interest that you want to 'expose' to the RTU Logic (or tick the box top left to select all). The example below shows GGIO1 – Ind1 status and timestamp have been selected.



The RTU32 IEC61850 Client application is now configured and ready to test. Click on the Build icon to compile the project and check that 'No errors are detected' is displayed in the lower Build tab.



Go online with the RTU to download and debug the application.
Eg. when the GGIO1 point in the IED is changed, the change is shown in WorkSuite.

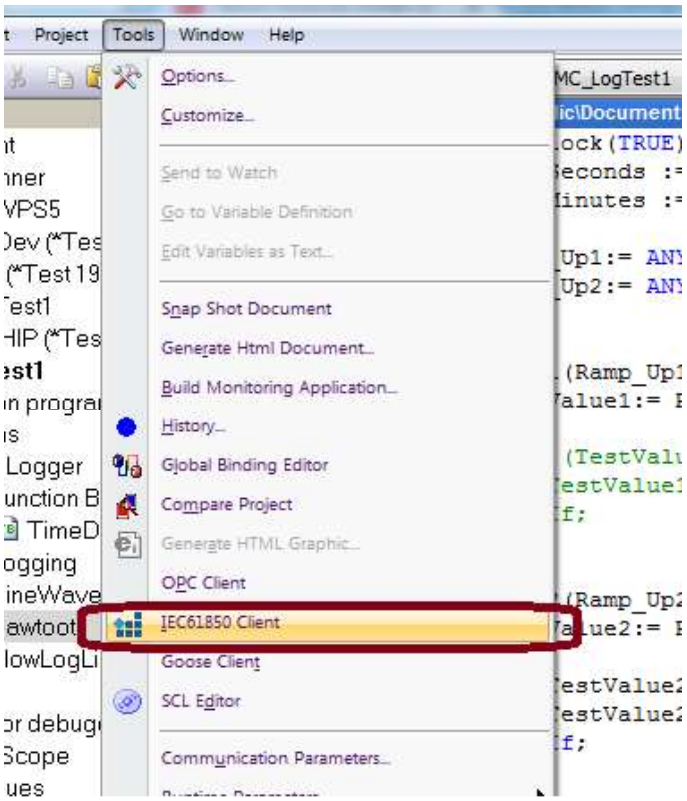


Additional Testing Tools:

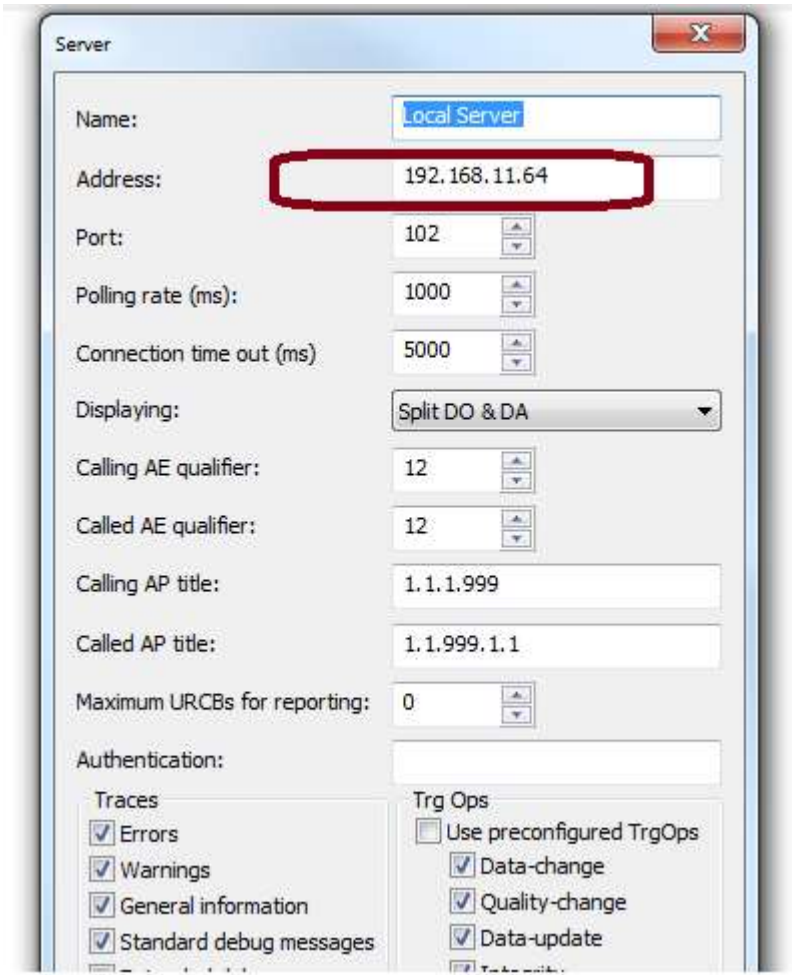
WorkSuite also includes an IEC61850 Client Tool that can be used to test that the RTU client is working as expected.

Note: you can run 2x 'instances of WorkSuite on your PC if required ie. one debugging your RTU application and the other running the IEC61850 client (allows you to watch the IED independently of the RTU32).

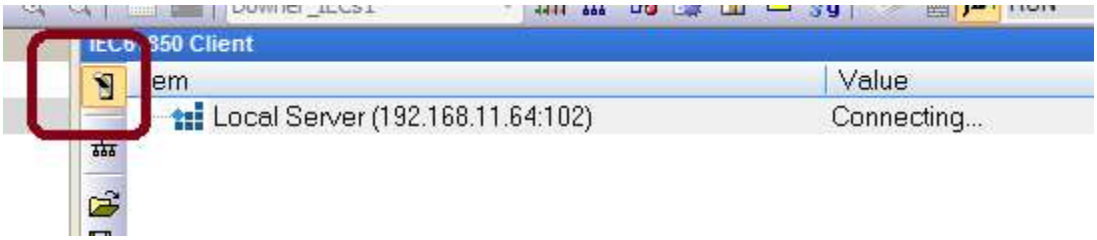
Access the IEC61850 Client from the Tools menu.

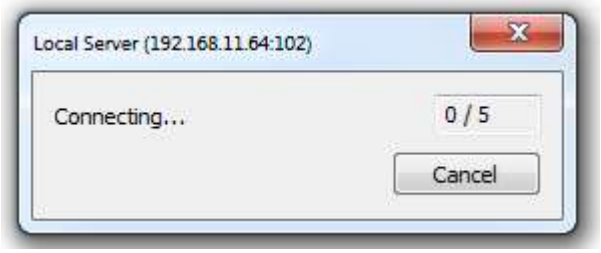


Enter the IP address of the IEC61850 Server/IED.

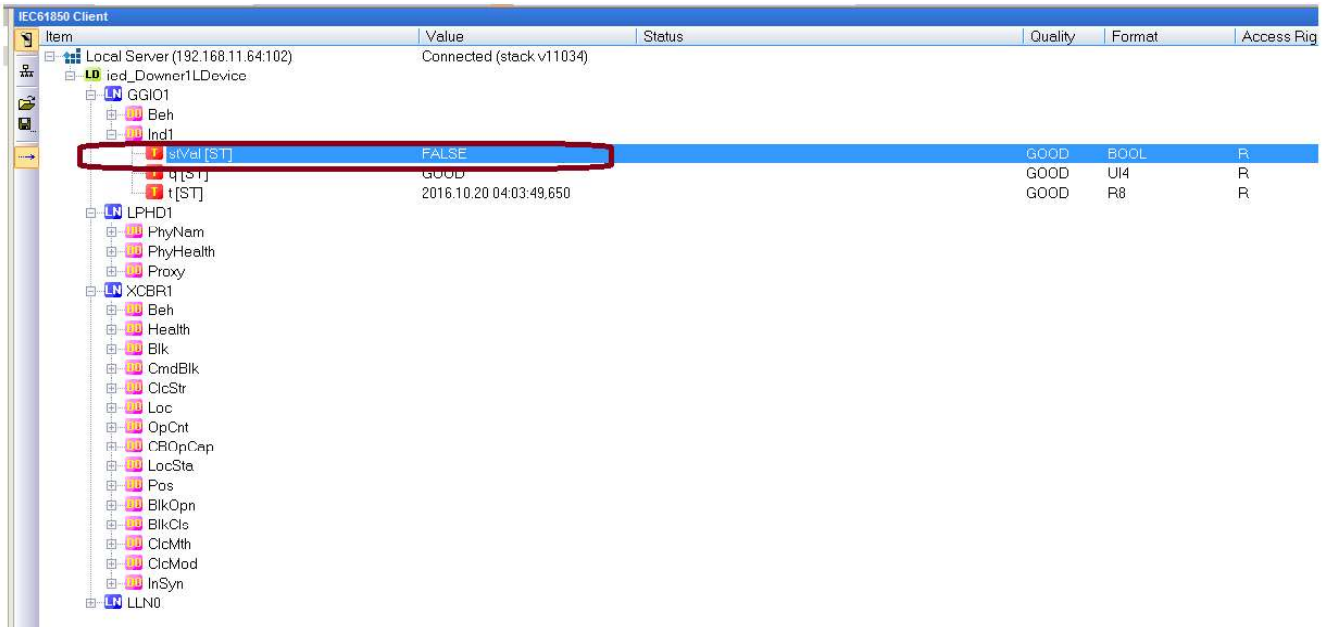


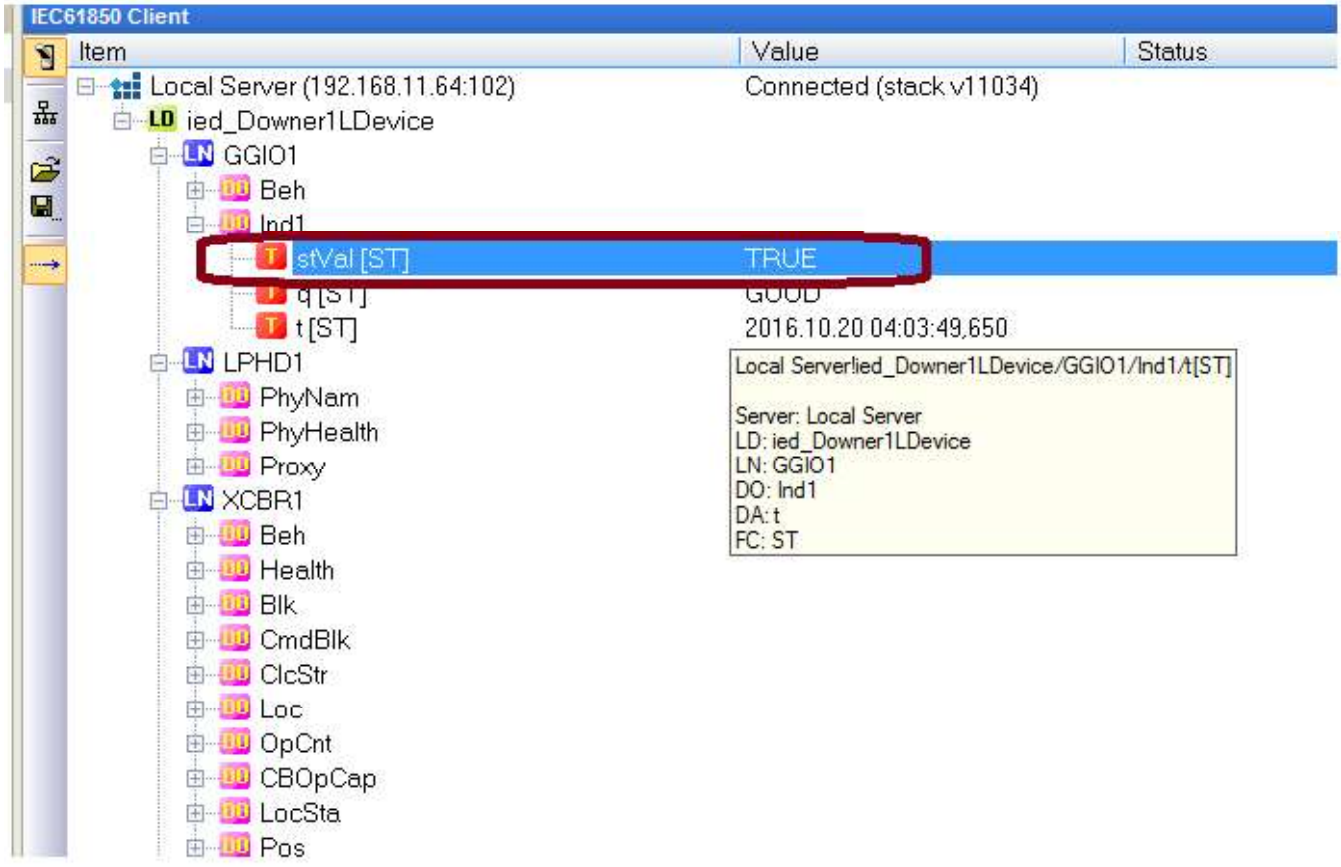
Then turn ON the Client connection.





Once connected, browse the points of interest in the server/IED.





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