ANC-100e and ANC-120e Ethernet and USB to DH+ Converter

Automation Networks

Citect 2016 with ANC-100e or ANC-120e using HMI feature and the ABRSLINX500 driver for a SLC5/04 on a Data Highway Plus network

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This document provides information to set up Citect 2015 running in a computer connected via Ethernet Network with an ANC-100e or ANC-120e to communicate with a SLC5/04 processor on a Data Highway Plus Network using the HMI feature.

Note: Before proceeding, make sure

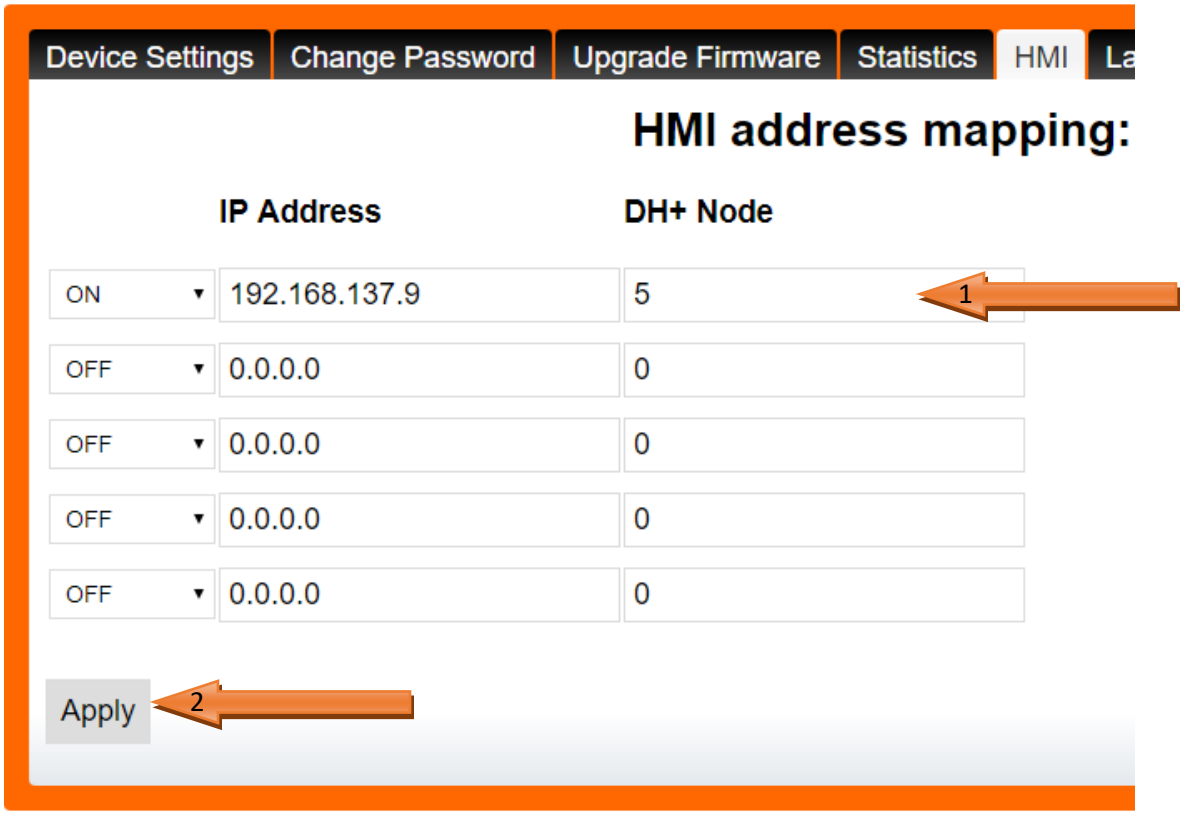
- ✓ ANC-120e Driver is installed *(Only if using ANC-120e)*
- ✓ Network Adapter is correctly configured to access ANC-120e or ANC-100e
- ✓ ANC-120e is connected to the computer and DH+ network or ANC-100e is connected to the same Ethernet network or directly to your computer, and to the DH+ network.

For this example:

ANC-120e IP address = **192.168.137.2**
SLC5/04 DH+ node = **05**
SLC5/04 IP address = **192.168.137.9**

1. Turn ON the first row in the ANC-100e's "*HMI*" tab in the web interface
2. Enter an IP address that is not being used (keep in mind that it has to be in the same network the ANC-100e is) and enter the DH+ node of the device that you are connecting to
3. You can repeat steps 1 and 2 for each row to communicate with up to 5 DH+ devices if necessary, using a different IP address in each row

   Click "*Apply"* and wait for the unit to reboot (5 seconds)



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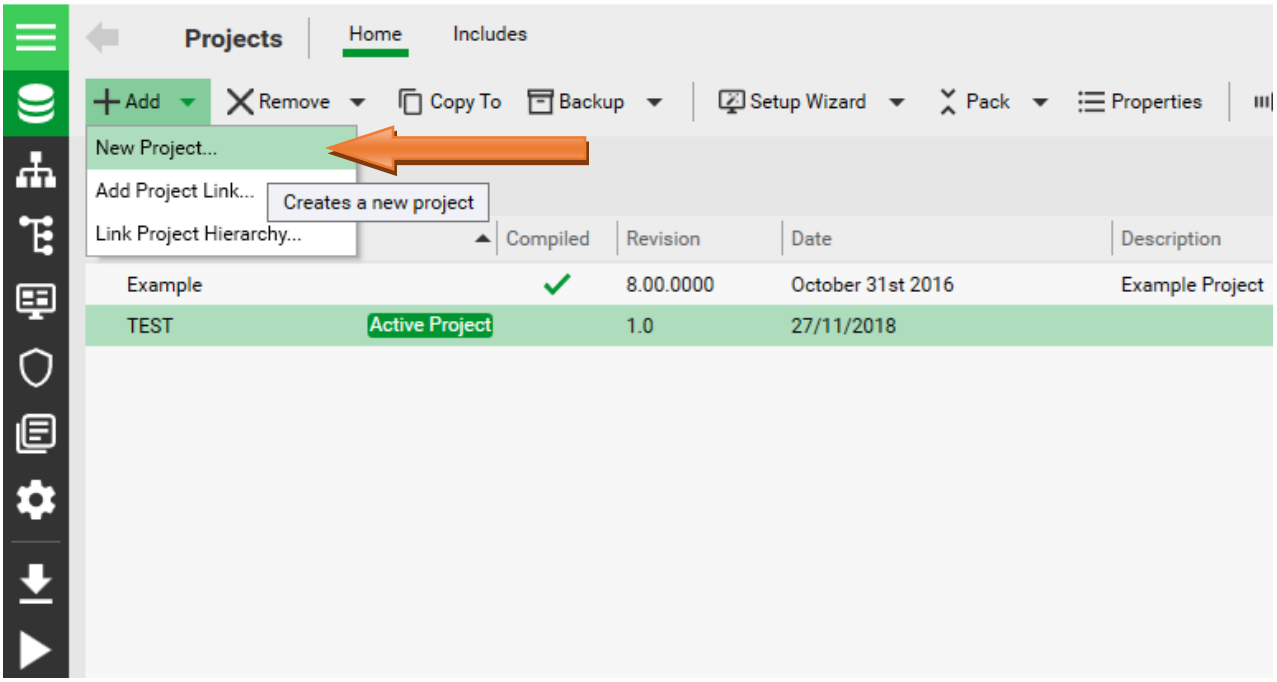
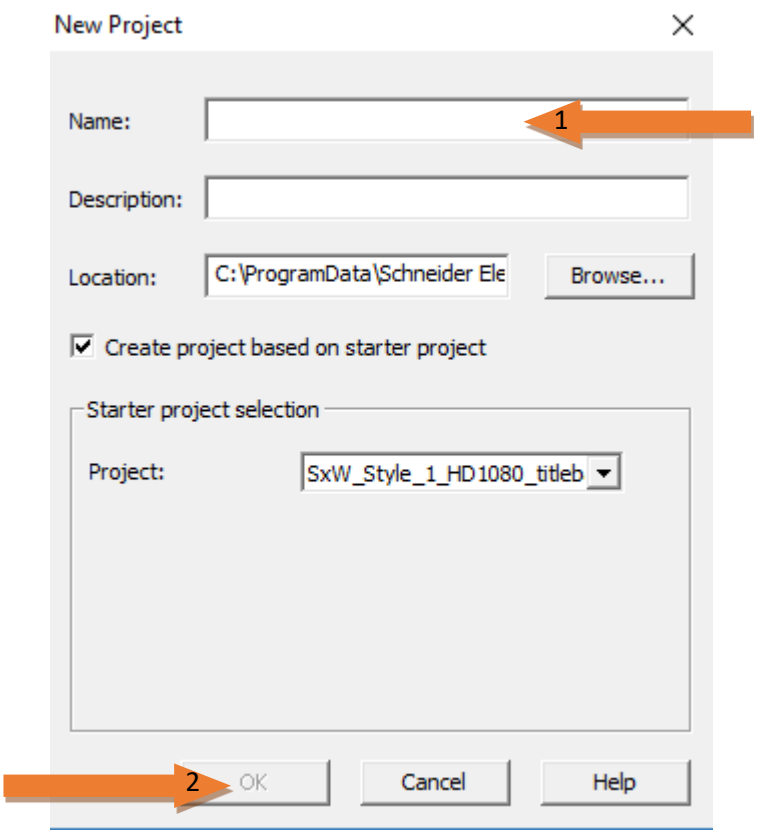
4. Open "*Citect Studio*" application.

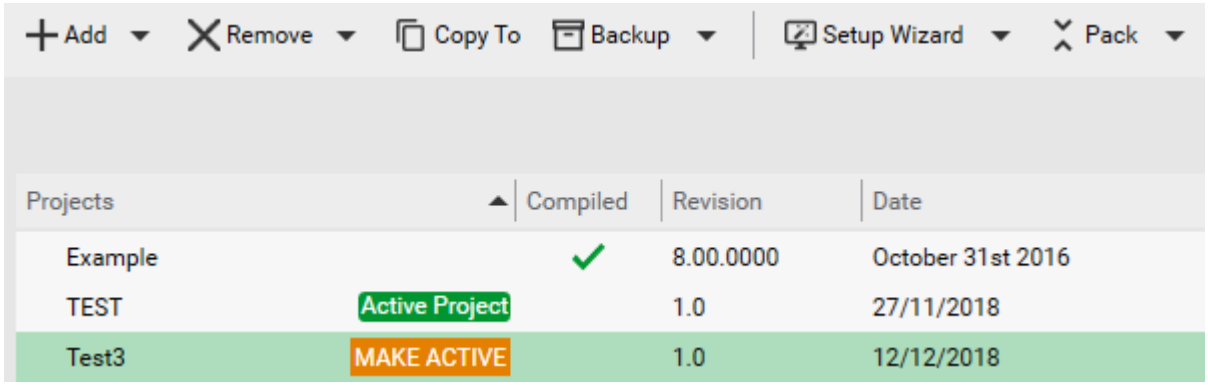
5. Left click *in "Add"* menu and select "*New Project…"*

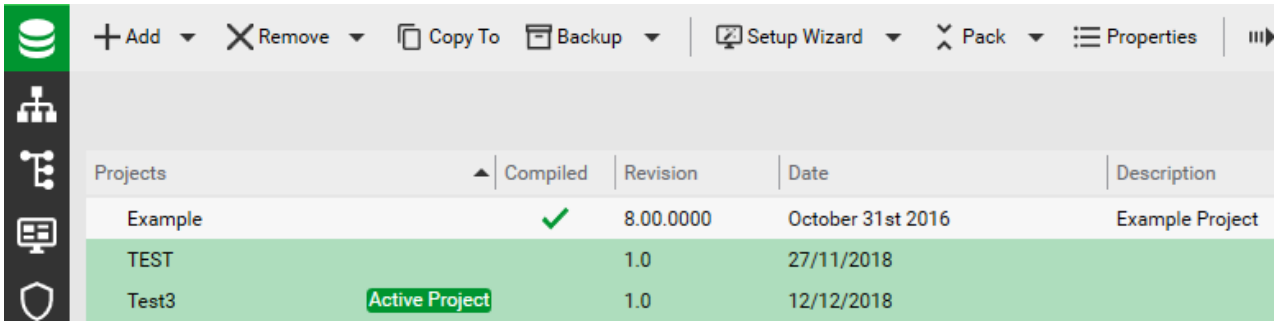


6. Enter a name for the project (*"Test3"* for our example) and click *"OK"*

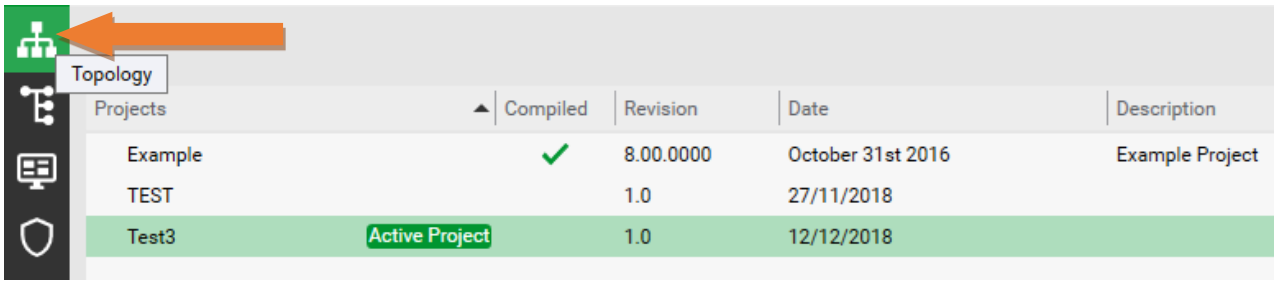


7. Now you will make your project, active. Left click "*MAKE ACTIVE"*. The color will change from orange to green.

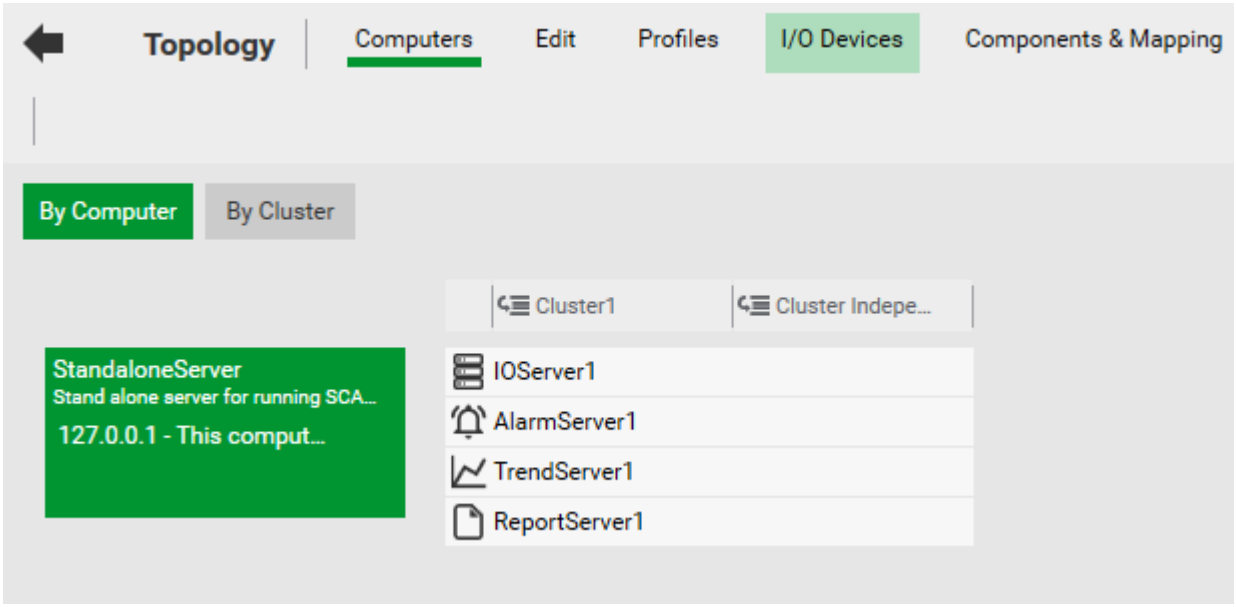




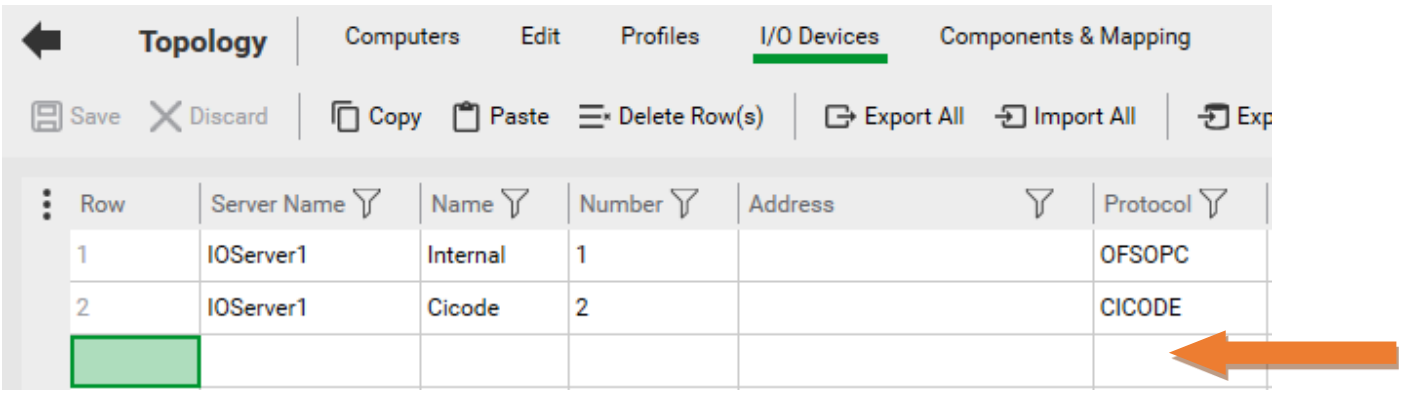
8. From the left toolbar select the icon "*Topology*" and left click on it.



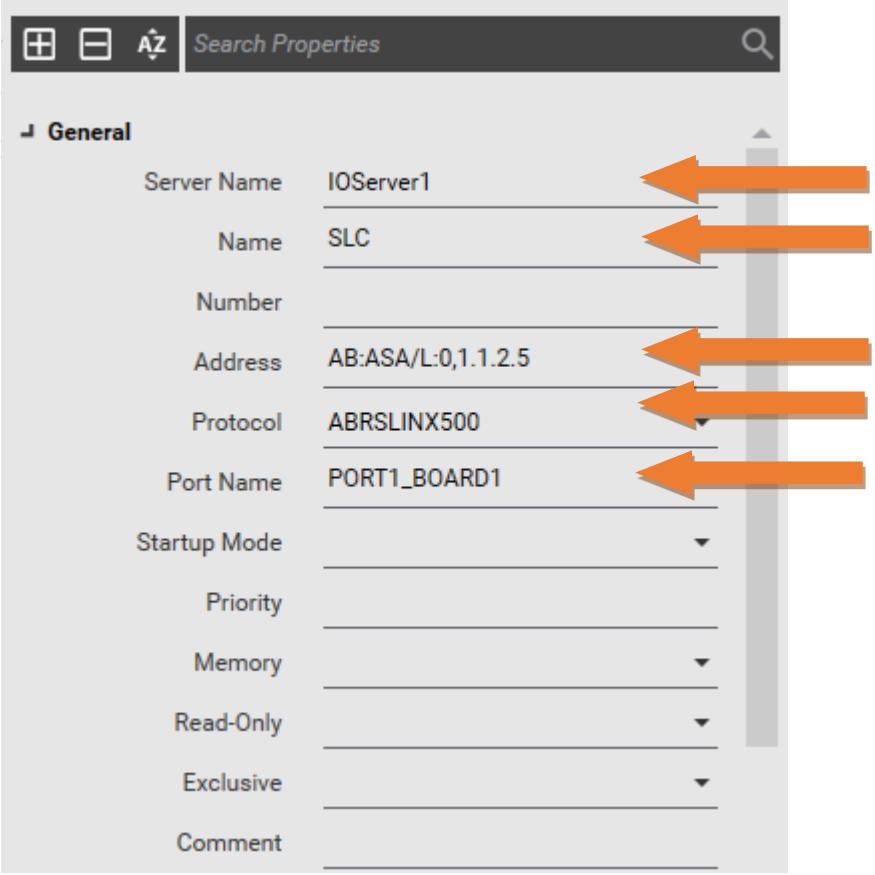
9. Select in "*Topology*" "*I/O Devices*"



10. You will see two I/O devices there and we will create one more.



11. In the right side of the screen you will see the General Tab settings of the I/O Device you are creating (please check the DRIVER REFERENCE GUIDE for more information). After editing the information, you will have to save it.



- Server Name: Here we selected the one that was already created.
- Name: Here we choose a name that reference the device that we will be connecting to.
- Address: The address of the I/O device (64 characters maximum).
The format of the address you enter in this field is determined by the type of I/O device (and protocol) used, as each has a different addressing strategy.

ABRSLINX Driver Device Addressing

The format for entering the I/O device address is as follows:
AB:KEYWORD[/B:b/L:l/G:g/P:p/M:m/C:c/E:e/],StationNumber

KEYWORD is one of the following:
NAME, LOCAL, LONGLOCAL, OFFLINK, PIGATEWAY, PIGATEWAYIP, PIGATEWAYNAME, DF1MASTER, ASA, CIP

- LOCAL - used for devices directly connected to your PC via RS232 or Data Highway
- LONGLOCAL - a valid RSLinx keyword; however no information is currently available on how to use it.
- ASA - used for devices connected via the 1756 ControlLogix Ethernet module.
- NAME - used for devices directly connected to your PC via Ethernet.
- OFFLINK - used for devices connected via the 1756 DHRIO ControlLogix Data Highway or other routing module.
- CIP - used for devices connected via the 1756 CNB ControlLogix ControlNet module.

The following fields are valid only with the keywords OFFLINK, PIGATEWAY, PIGATEWAYIP, PIGATEWAYNAME and ASA.

Field	Description	Field Values
/L:l	Destination link ID	0 – 177777 (octal). This is set in the module using RSLinx (which shows the value in decimal).
/B:b	Bridge address	1 – 376 (octal).
/G:g	Gateway to final DH485 link	0 - 8 (decimal).
/P:p	Pushwheel number	KA, KT, RM.
/M:m	Module type	0, 2, 3.
/C:c	Channel number	0 – 77 (octal).
/E:e	Ethernet interface station number	/KA switch is required to communicate through a 1785-KA from DH+ to DH.
/KA	Bridge requires 1785-KA addressing mode	

Station number string

The station number string specifies the station number of a remote processor on an A-B network.

ControlLogix 1756 DHRIO station number

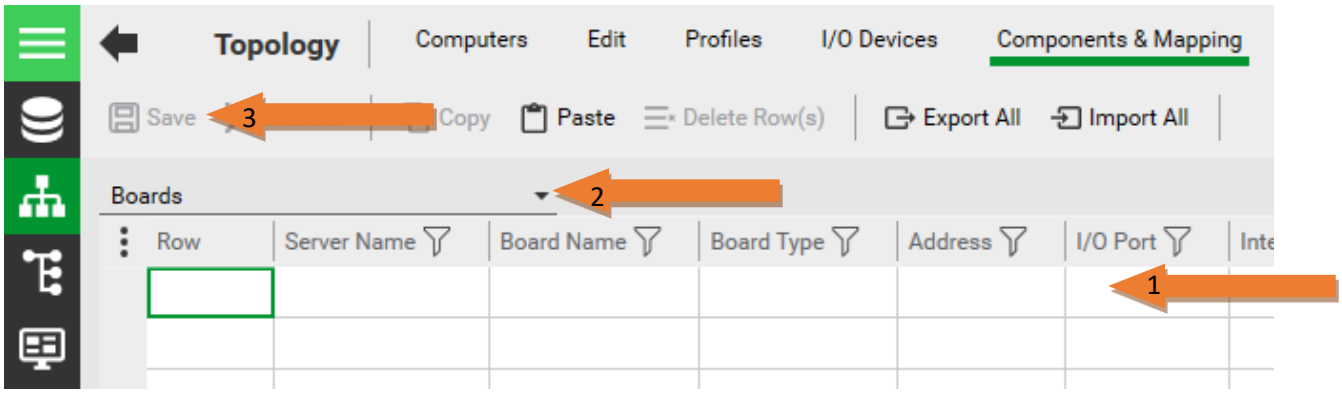
In the case of the 1756 ControlLogix DHRIO Module, connection to the Station number is the path string. P.S.C.R. where

-P is a port number and is 1 (referring to the back plane)
S is the slot number in the ContolLogix chassis to which the DHRIO module is connected. The slot numbers start at 0 (zero) and are counted from the left hand side of the chassis as you face the module. So for example the first module on the left hand side of the chassis is 0, the second 1, and so on.

C is the connector number in the 1756 DHRIO - connector A is 2, connector B is 3, and so on.
R is the DH+ station number of the remote PLC to which you are communicating. This is set in the remote device using its programming software or by switch settings. The station number is in decimal. Note that when viewed in RSLinx the number is octal and needs converting to decimal to use here.
For example:

1.2.3.63 is for slot 2 (third slot from the left) ControlLogix DHRIO module connector B.
The remote PLC has a DH+ station number of 77 octal.

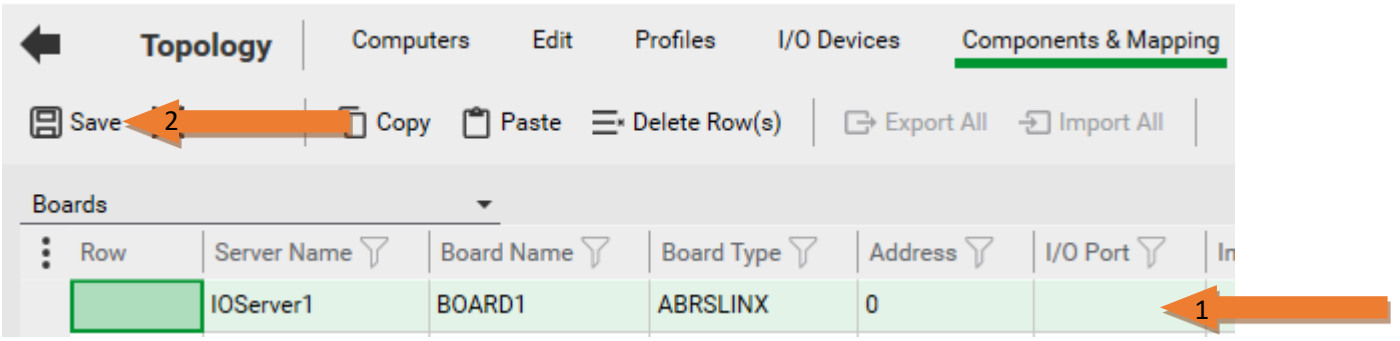
12. We will continue inside “Topology” and go to the tab “*Components and Mapping*”. In this tab we will configure our: BOARDS and PORTS. For that we will click in the dropdown menu and select “*BOARDS”* and then select the first row to start editing the board information.



13. The cells we edited and saved were:

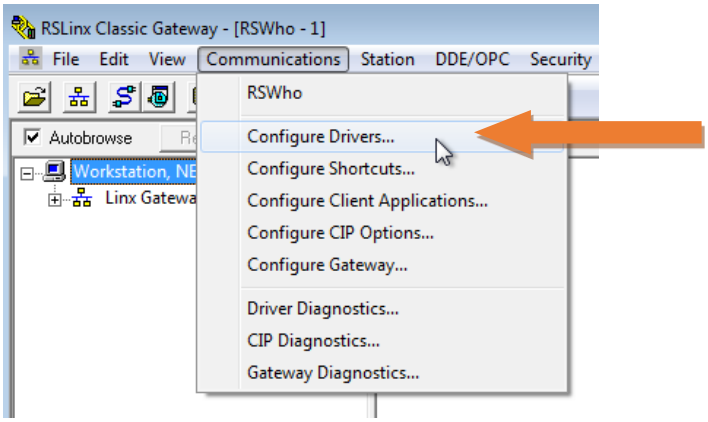
- Server Name: IOServer1
- Board Name: BOARD1
- Board Type: ABRSLINX
- Address: 0

Leaving our BOARD configuration like this:



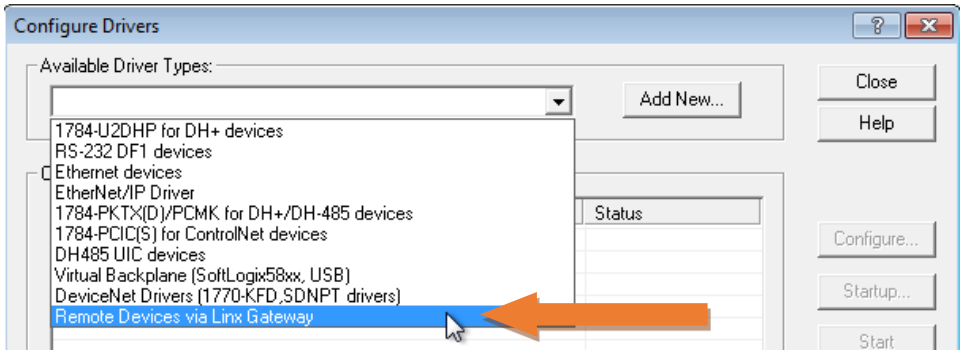
Save the configuration clicking in the "*Save"* button.

14. We will now proceed with adding a driver using Rslinx. Open "RSLinx Classic"
15. Click on "Communications" menu
16. Click on "Configure Drivers"

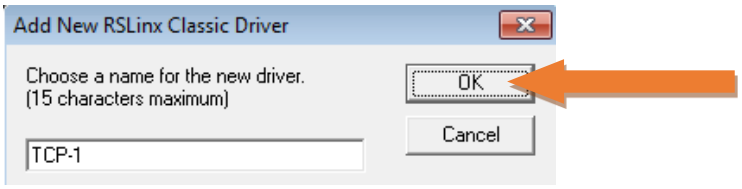


17. Select "Remote Devices via Linx Gateway" from the Drop down list

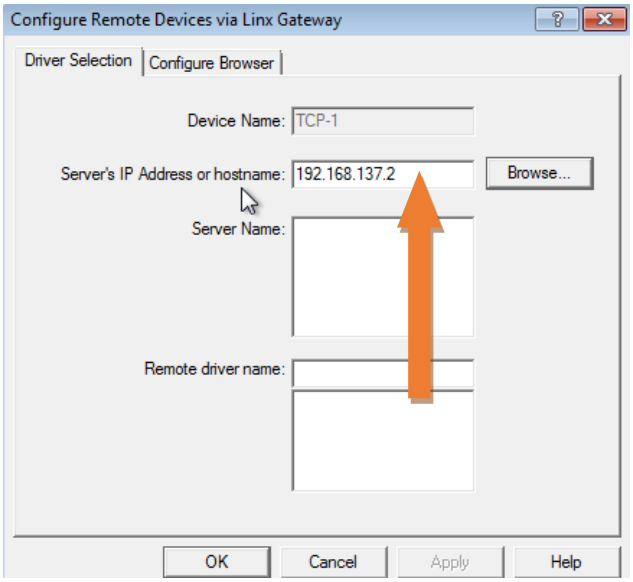
18. Click on “Add New” Button



19. Enter the name for the driver or use the default name
20. Click “OK”

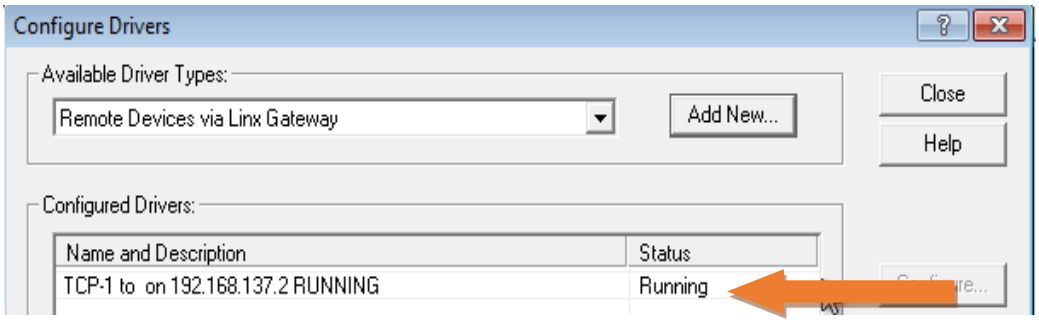


21. Enter the IP address of ANC-100e in the “Server’s IP Address or hostname:” field
22. (Our is 192.168.137.2)
23. Click “OK”

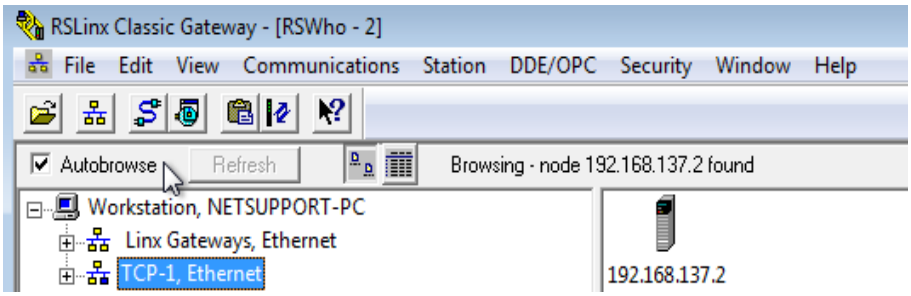


24. Verify that the Driver is “Running”

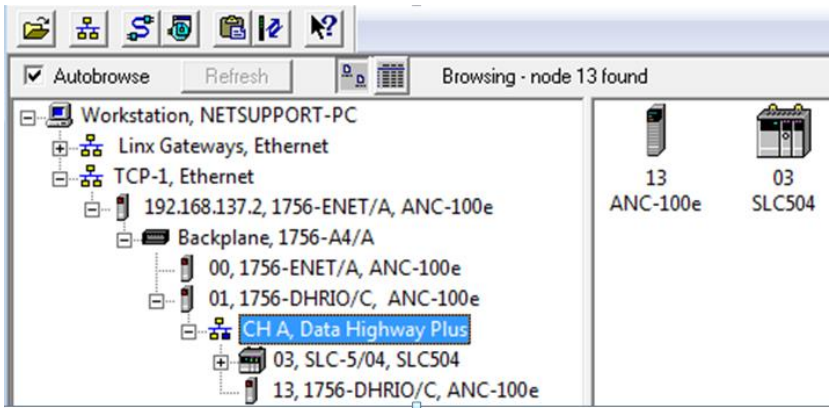
25. Click on “Close” button



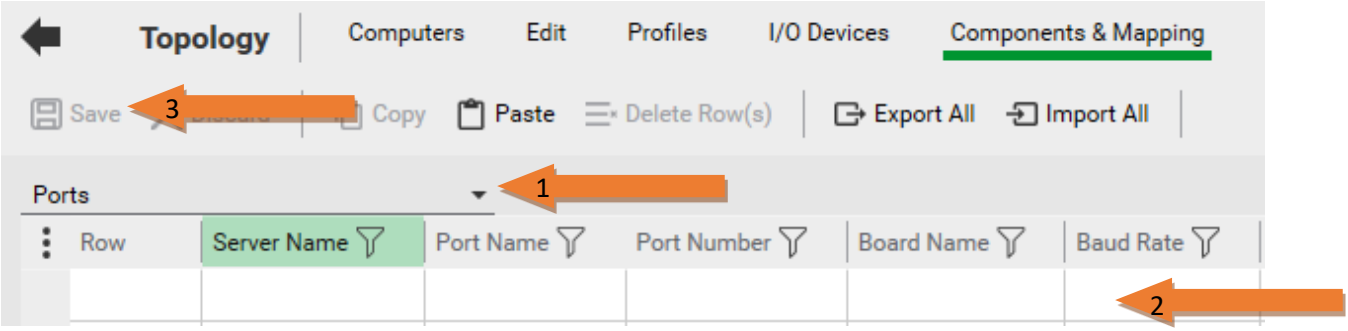
26. Open “RSWho” window
27. Click the checkbox to activate “Autobrowse” option
28. Double click on the driver element (In our example is TCP-1) to start browsing the ANC-100e or ANC-120e. During browsing, you will notice that more elements appear in a branch fashion



29. Keep browsing until you reach “CH A, Data Highway plus”. All the devices connected to the same DH+ network as the ANC-100e will appear here



30. We will now proceed with "*PORTS*". For that we will click in the dropdown menu and select "*PORTS"* and then select the first row to start editing the port information.



31. The cells we edited and saved were:

- Server Name: IOServer1
- Port Name: PORT1_BOARD1
- Port Number:1
- Board Name: BOARD1
- Special Opt: TCP-1

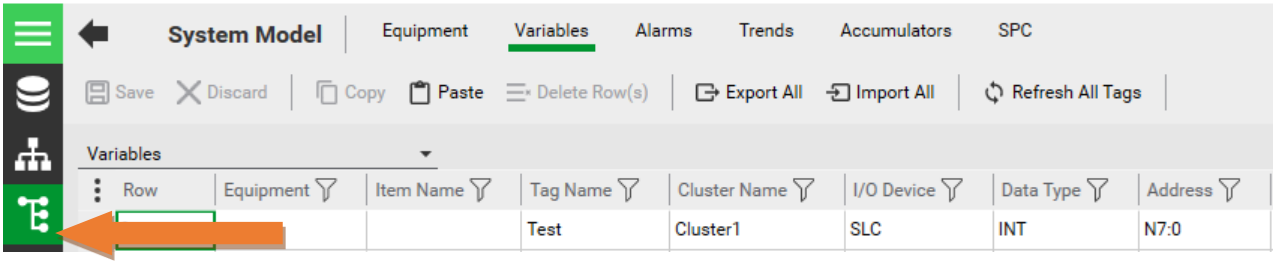
  For the Name, choose something that makes reference to the device to which you are going to connect to, our case SLC.

  For the Protocol you will have to select the one that works with the SLC in this case ABTCP500.

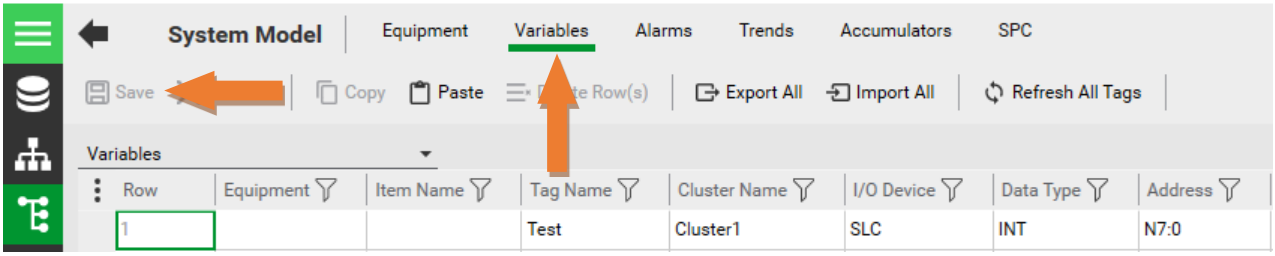
  For the Port Name, choose the one which make reference to the protocol and board you are using.

  For the Number, select the corresponding number of the port you are using.

We will now proceed with the variables (tags). For that we will access to the "*System Model…*" menu left clicking in its icon.



32. In the "*System Model…*" window you will have to access the "*Variables*"



Now you will have to edit the next values and save them:

- Tag Name: Test
- Cluster Name: Cluster1
- I/O Device: SLC
- Address: N7:0
- Data Type: Int

Tag Name: You will write here a name that makes reference and help you remind the TAG you are going to work with.

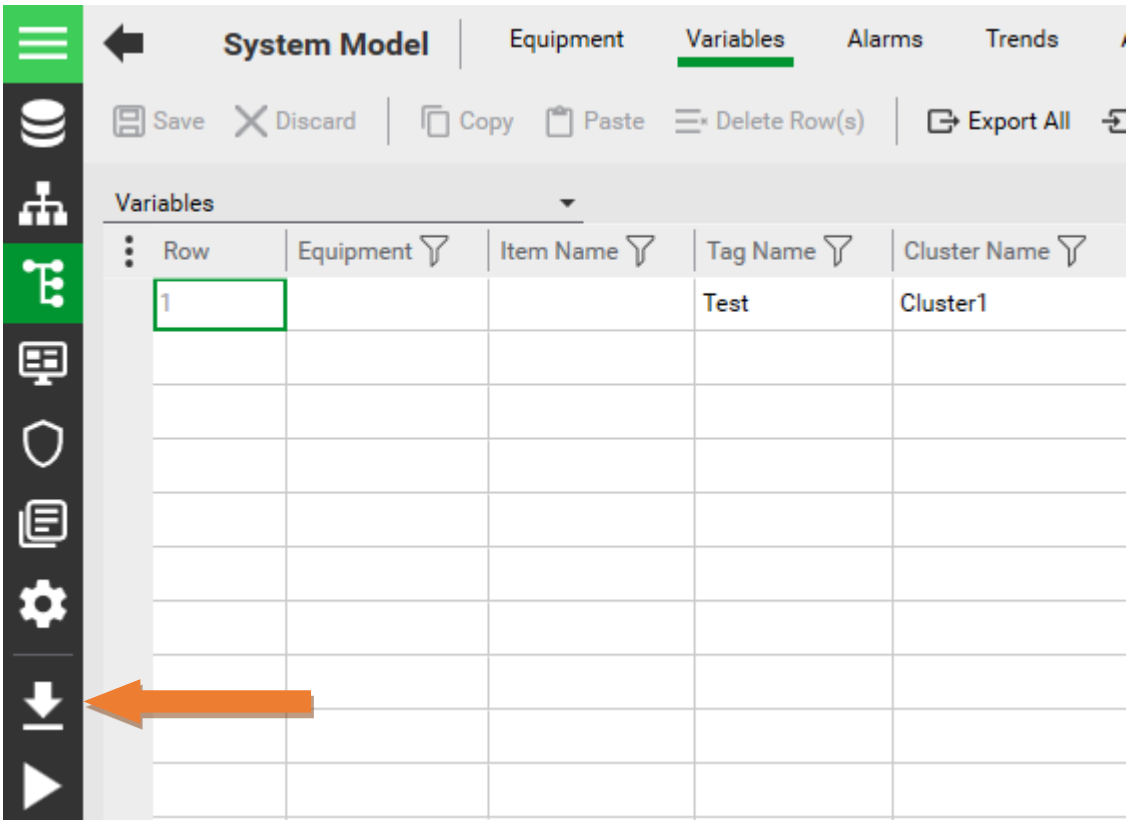
Cluster Name: Name of the Cluster you are working in your project.

I/O Device: Select the device you are working with.

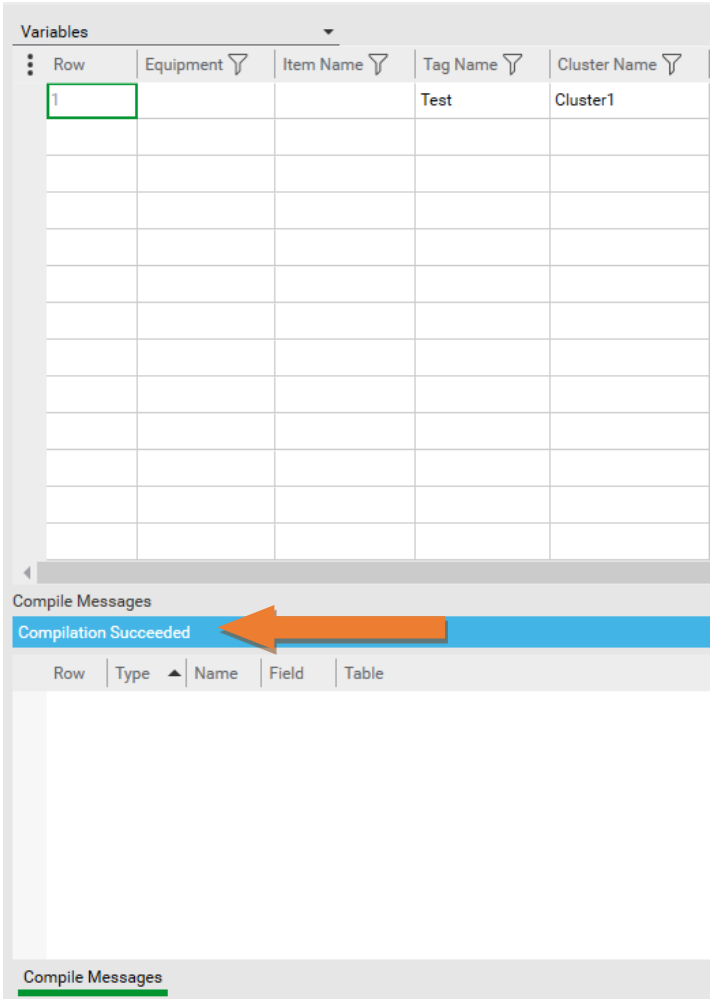
Address: The address of the SLC or PLC you are going to work with.

Data Type: Type of Data the TAG is working with.

33. Now you will have to compile the project to check for errors. Left click in the "*Compile"* icon.

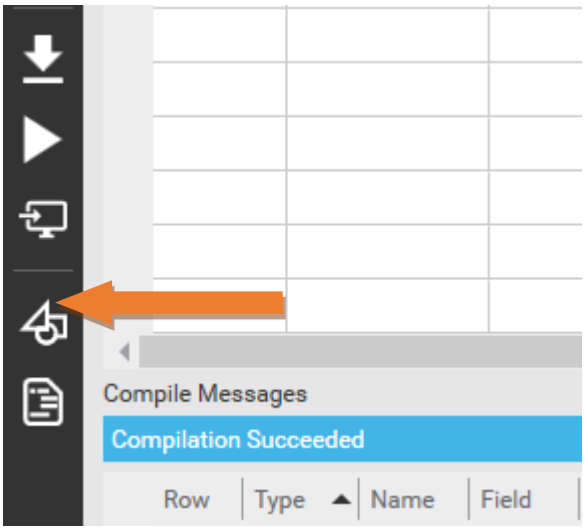


34. If everything is ok you will see the next information: "*Compilation Succeeded*"

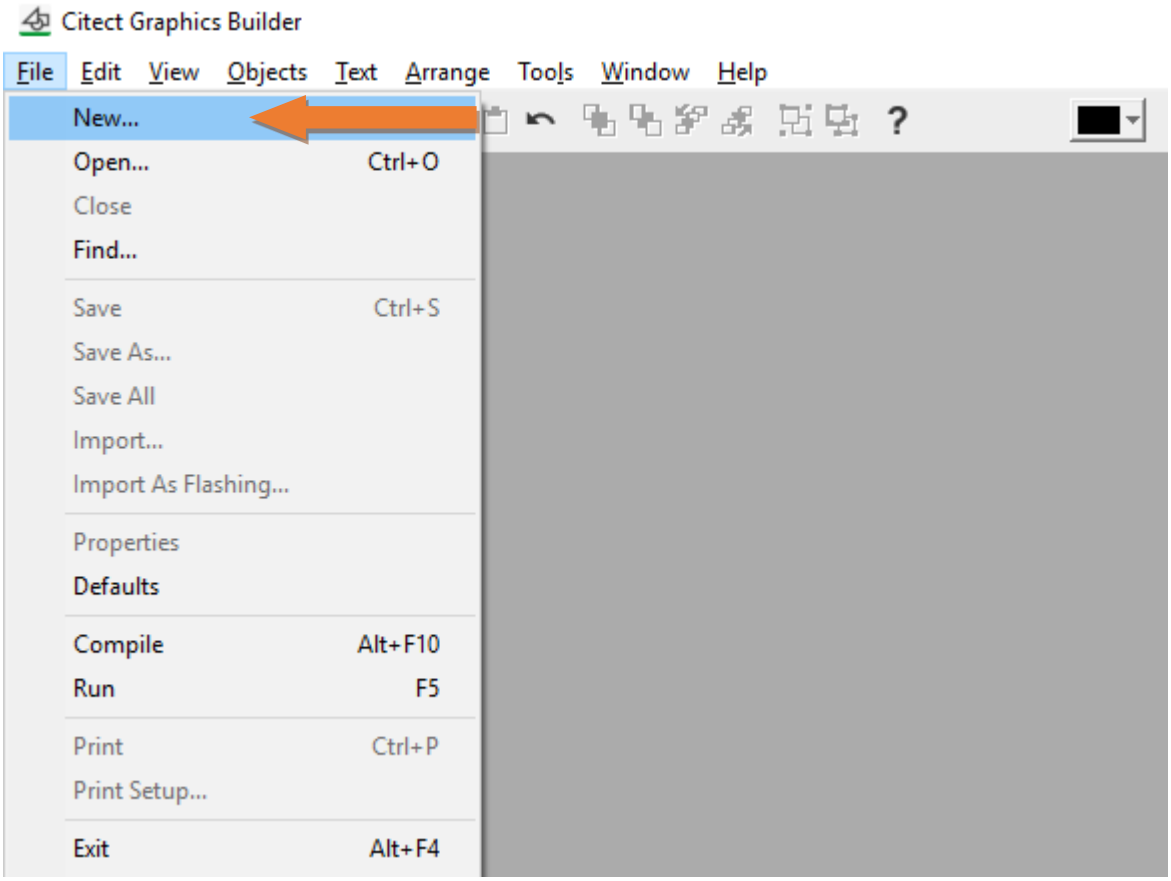


35. Now for testing the communications, Tag and their quality. We will have to create a normal Page in Citect Graphics Builder.

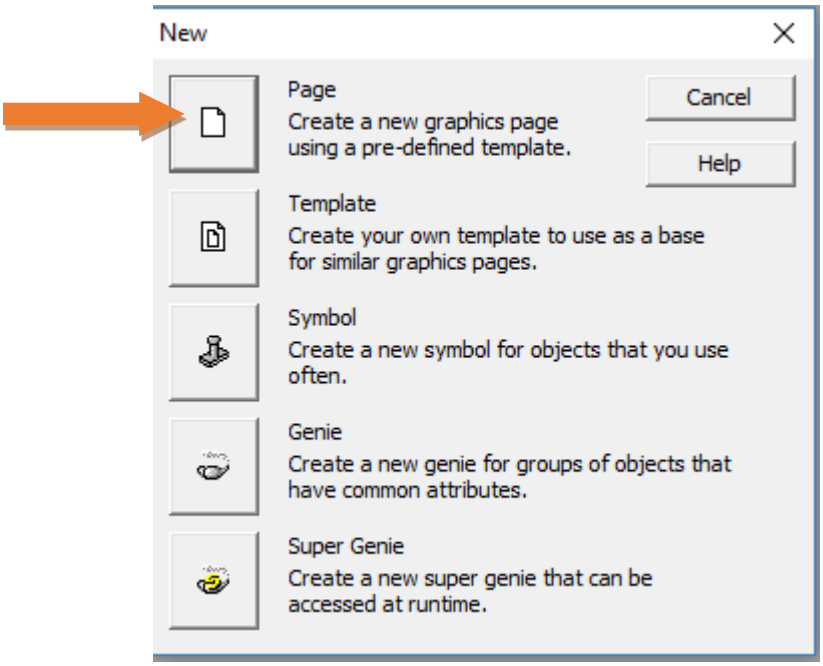
36. Click the "*Citect Graphics Builder*" icon.



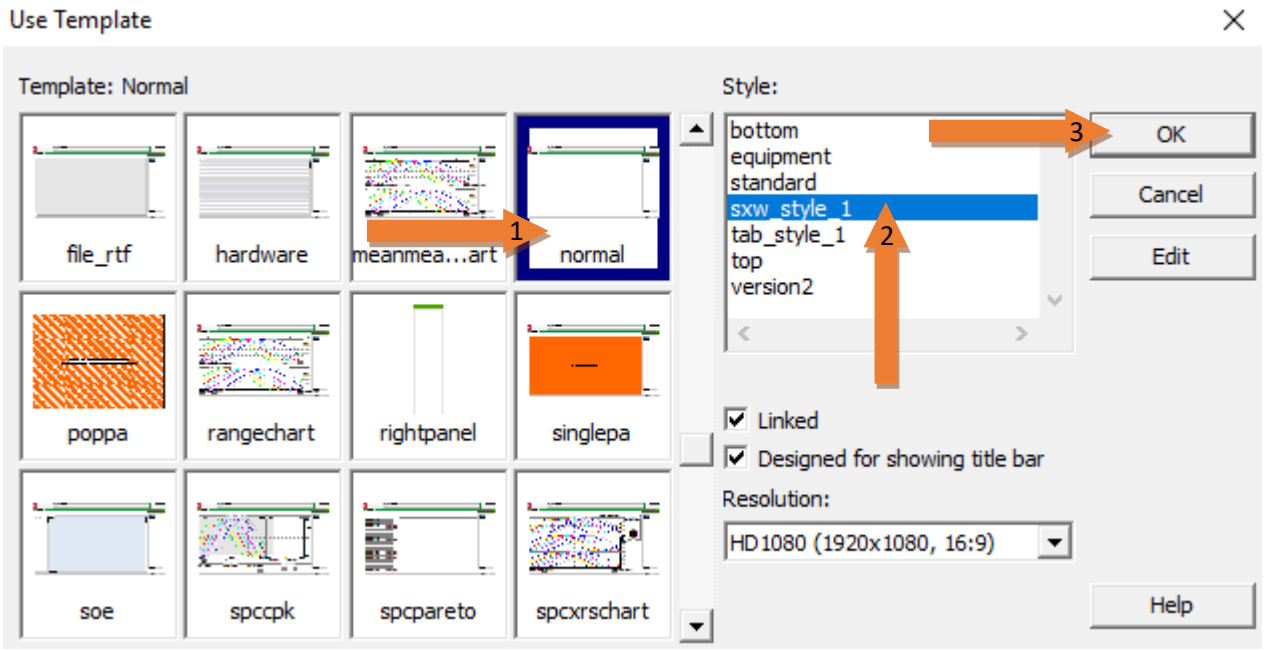
37. In the "Citect Graphics Builder" window you will go to "*File…*" menu and left click on "*New…*"



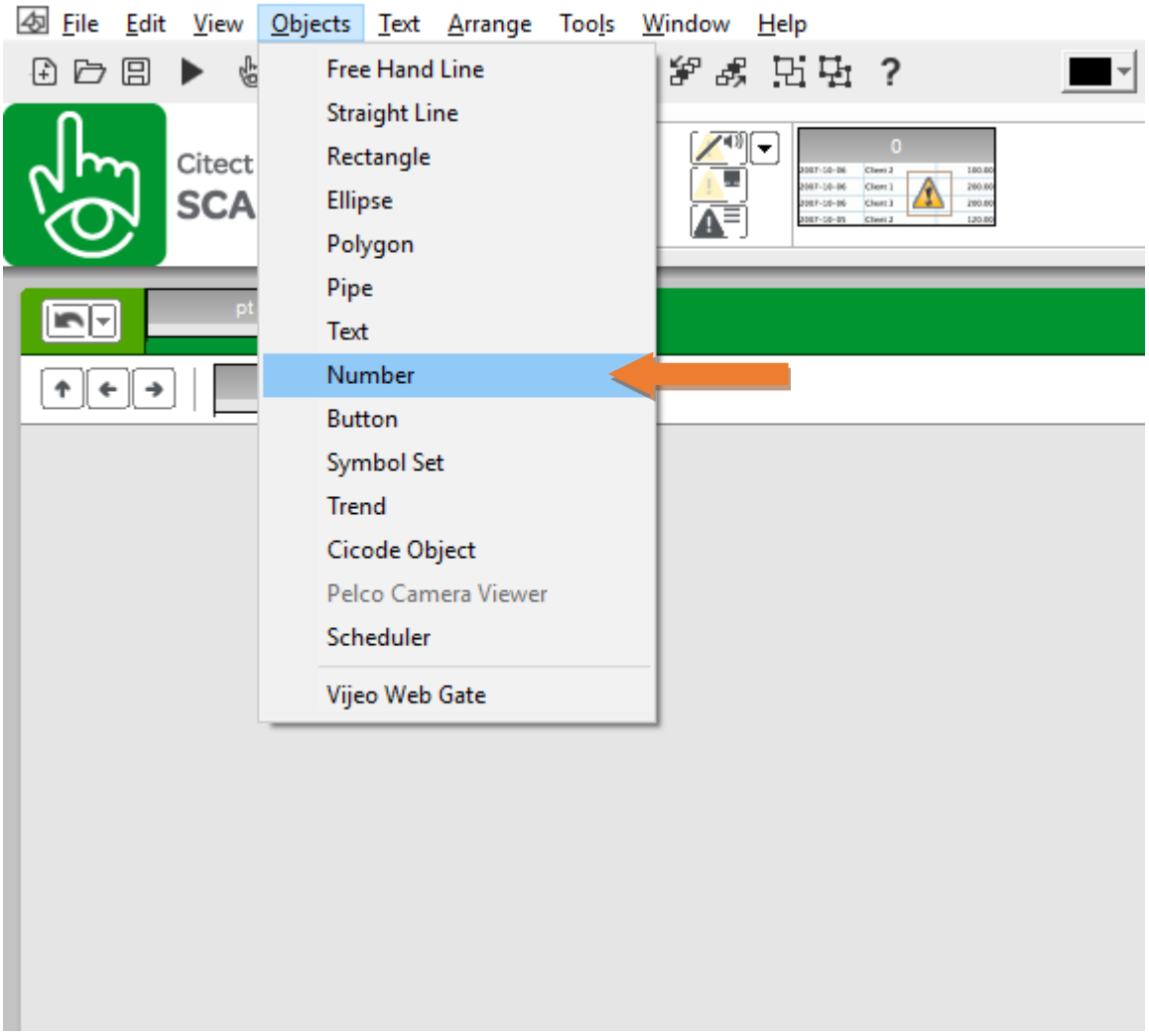
38. Select “Page…”



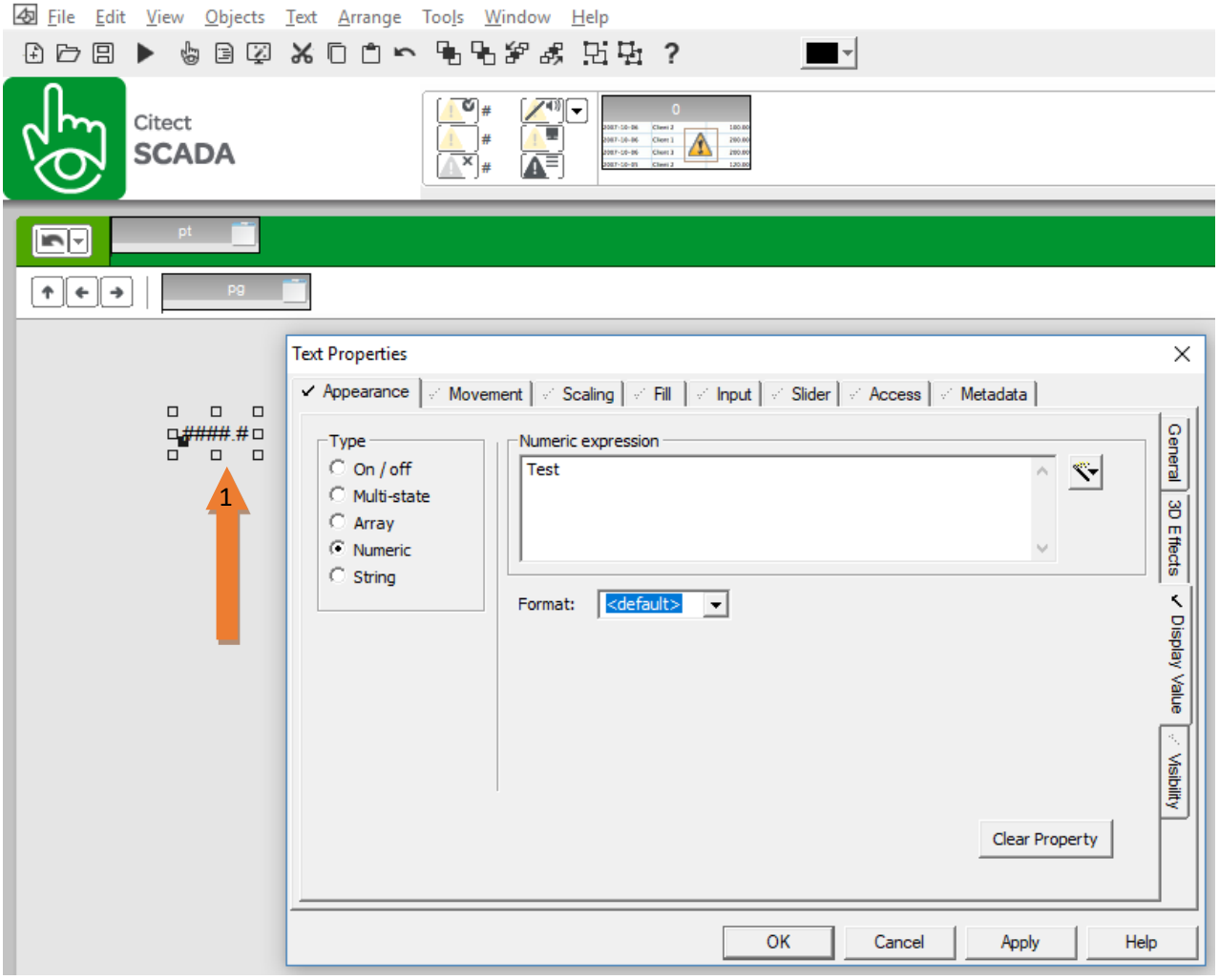
39. Select NORMAL template and SXW_STYLE_1 Style. Click OK



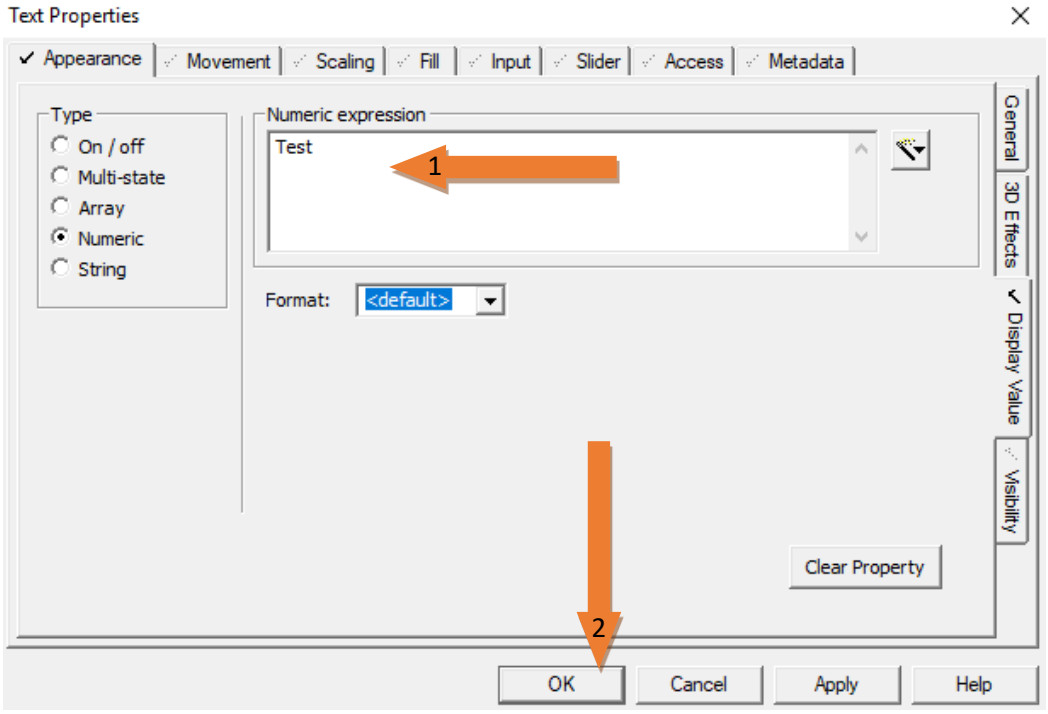
40. Left click in the "*Objects…"* menu and right click the "*Number*" option.



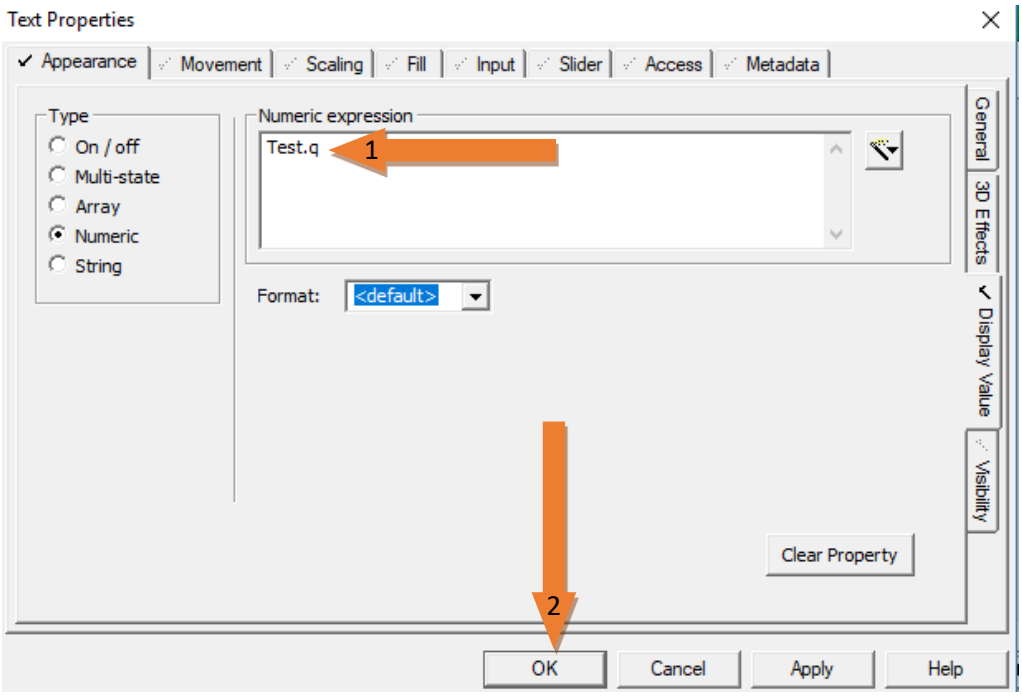
41. You will have to select in the gray area the position where you are going to put the number object.



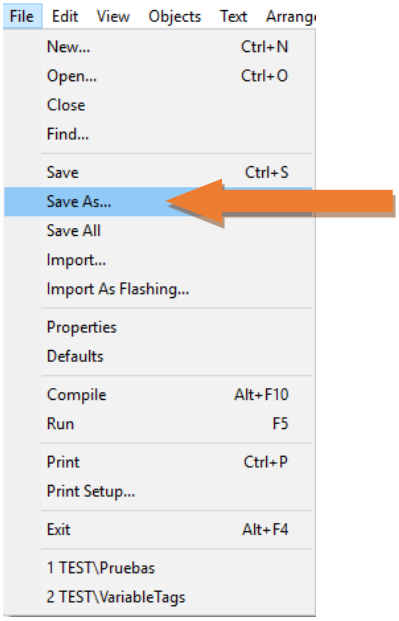
42. You will now see the Number Text Properties. Inside the white box where it says "*Numeric Expression"* you are going to write the name of the tag, in our case: "*Test*".



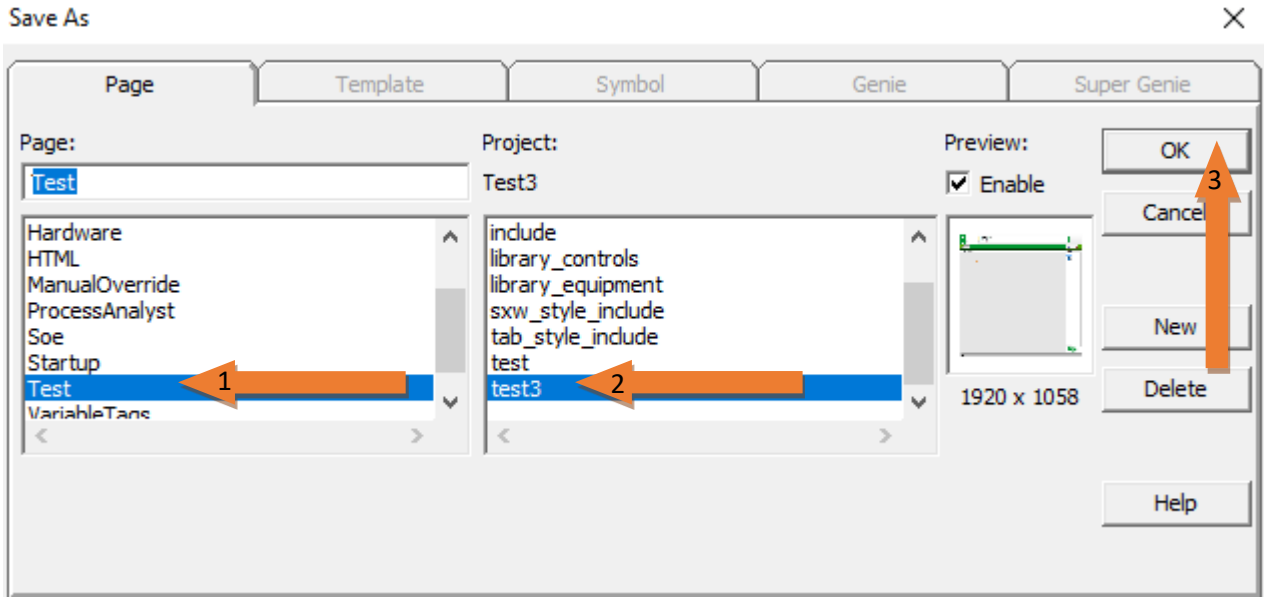
43. You will repeat the steps 40,41, 42 above, but in the 42 step, inside the white box of "Numeric Expresion" you will write "*Test.q*" this will show the quality connection of the driver. Giving you information if the quality is bad.



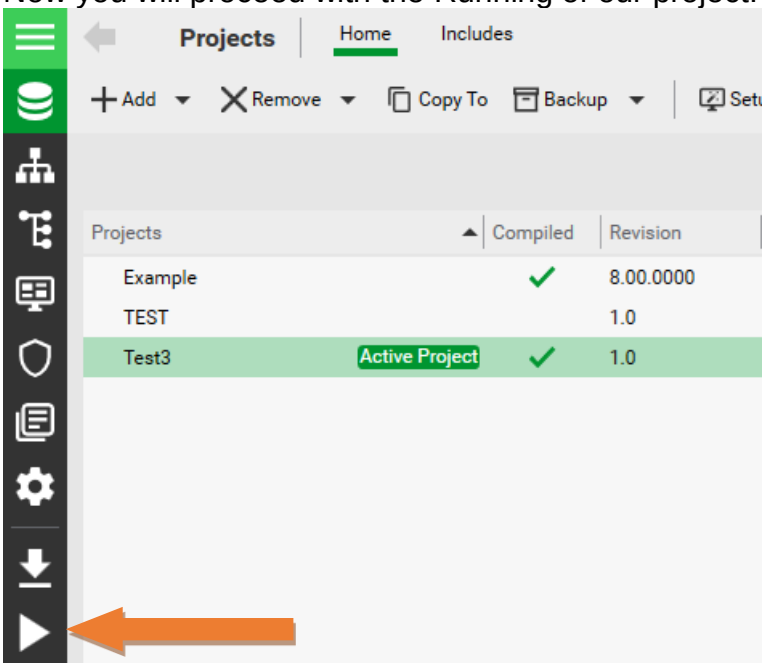
44. Now you will proceed with the saving of the "*Page*".



45. Save the "*Page*" with a name that makes reference to the page you are going to work when you are running your project. In our case: Test, and select the Project where it belongs.

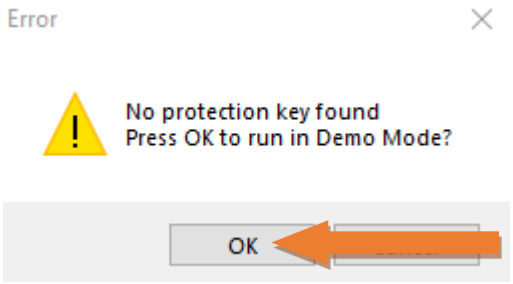


46. Now you will proceed with the Running of our project.

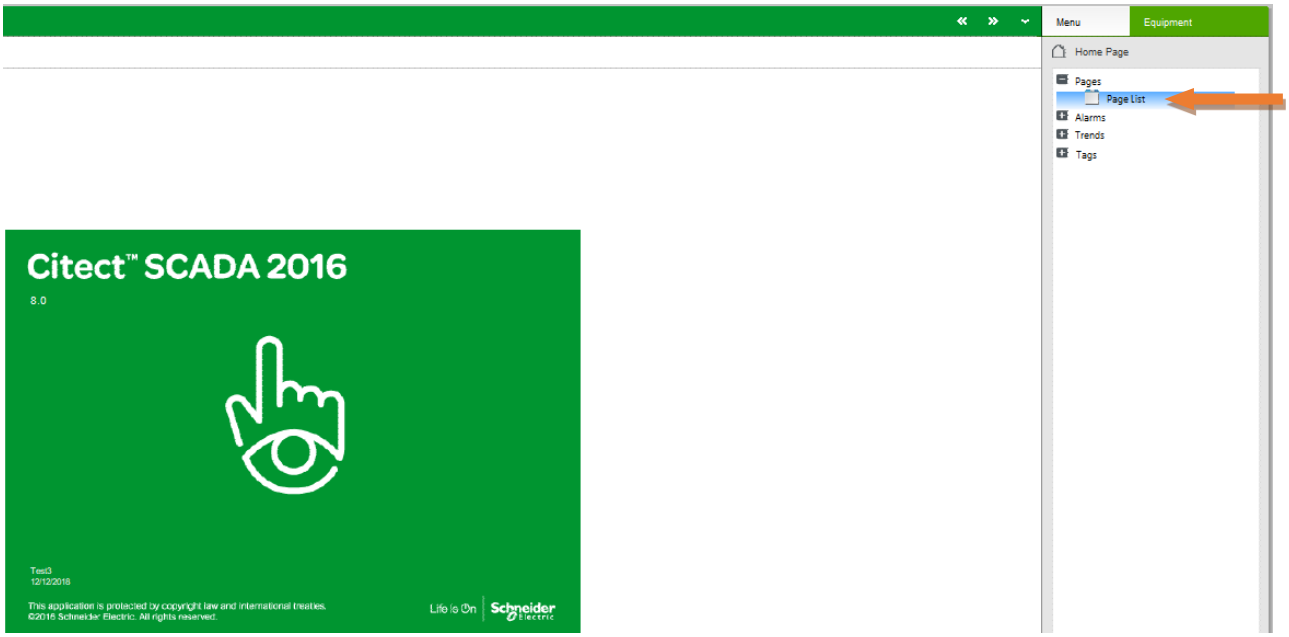


47. If the driver is out of date a warning box could appear. If you are sure your operating system will be able to run the driver select "*Continue"*

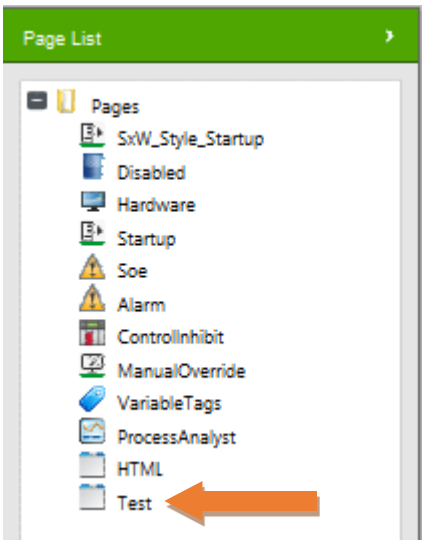
48. If you haven't bought the license of CItect, there could be an error sign after the driver warning telling you there is no protection key found and to press "*OK*" to run DEMO Mode. Press "*OK*".



49. In the Demo window you will go to the right part of the screen and select in the Home Page menu: "*Pages"* and below the Pages item select "*Page List*" and double left click it.



50. This will show a new list. Select the one that says “*Test*”



51. The page “*Test*” will show up. The value that we see here is the value of the tag N7:0, and below that the word Good, meaning the quality of the connection for that driver is good, also it can show additional information. For bad quality you normally won't see any tag value by default.