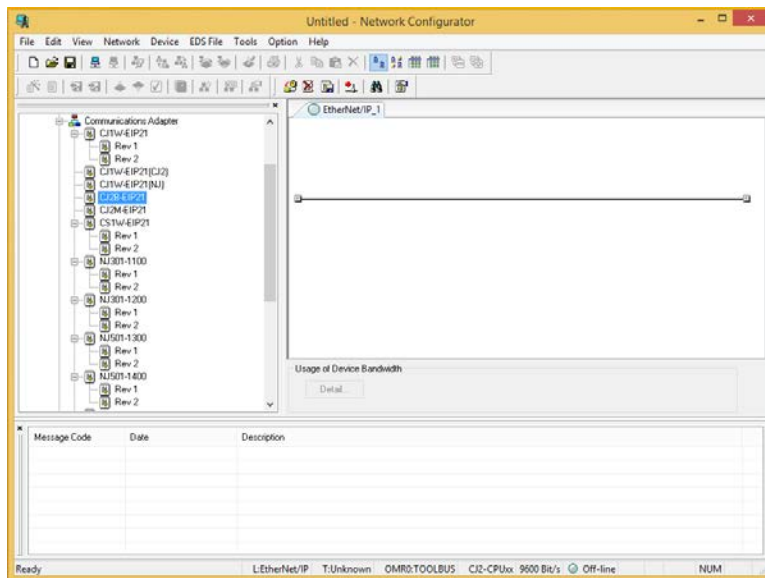
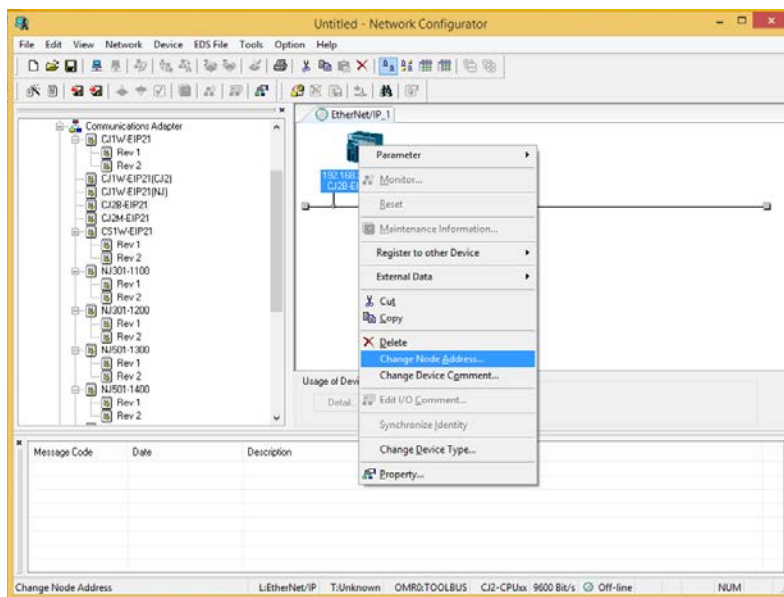


Establishing an EtherNet/IP Connection between a DXM and Omron CJ2H PLC

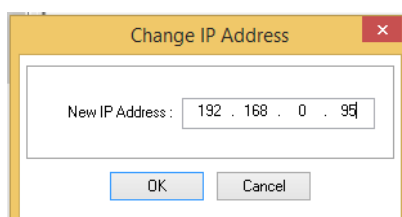
1. Open the Omron Network Configurator software.



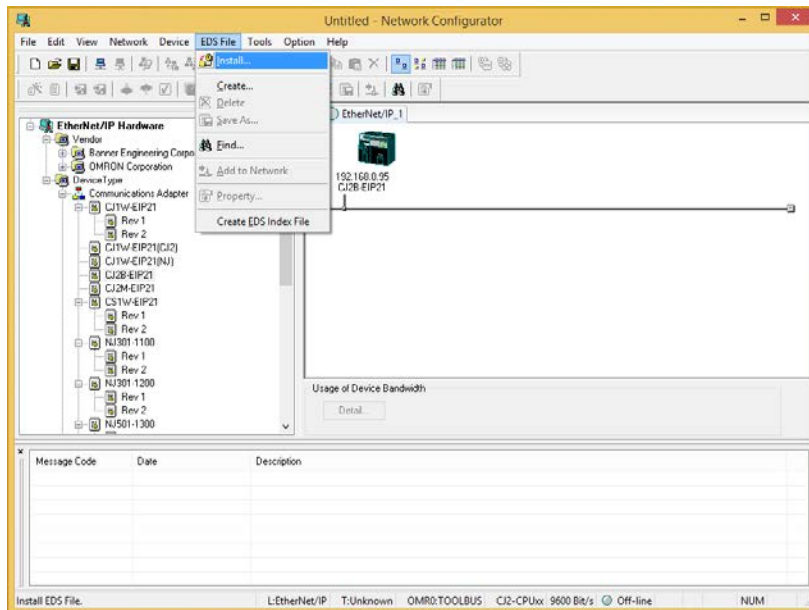
2. Add the correct PLC to the network. Then right click on the PLC to change it's IP address.



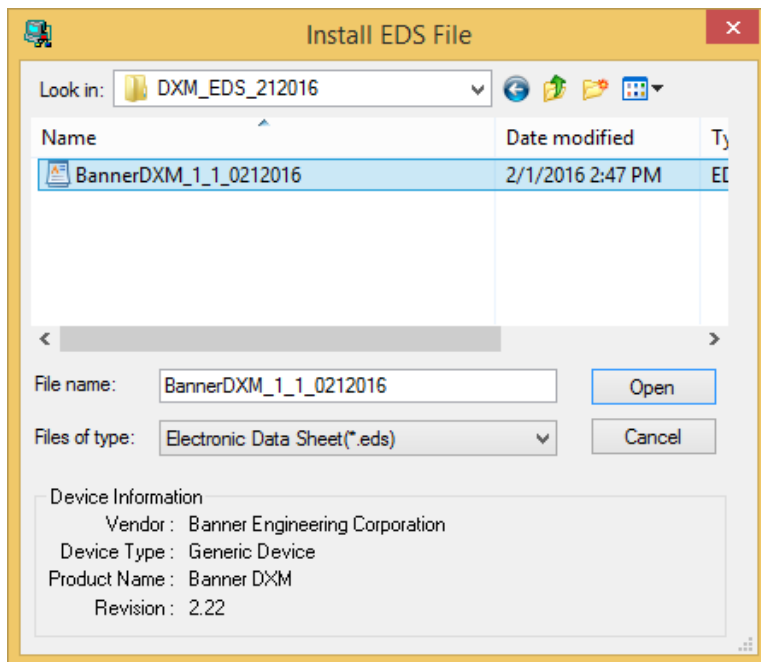
3. Here is the PLC's IP address



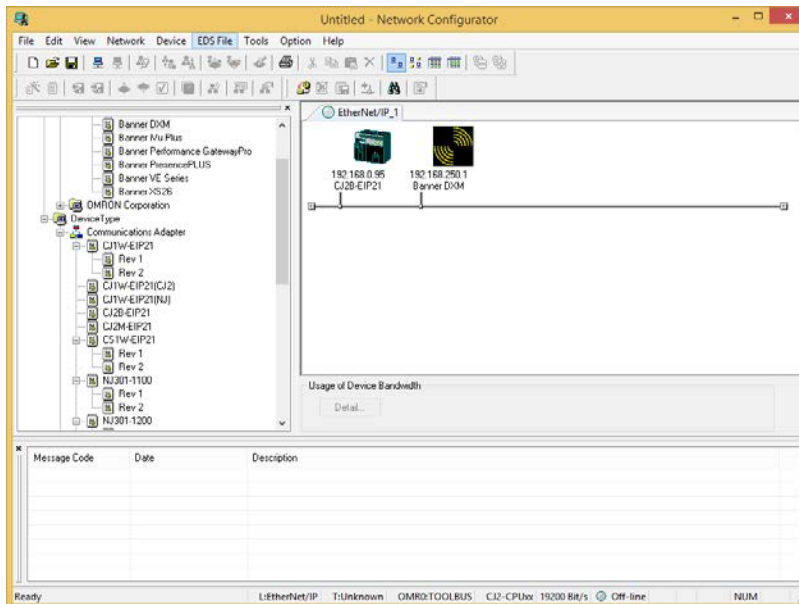
4. Install the DXM EDS file. Choose EDS_File, then Install.



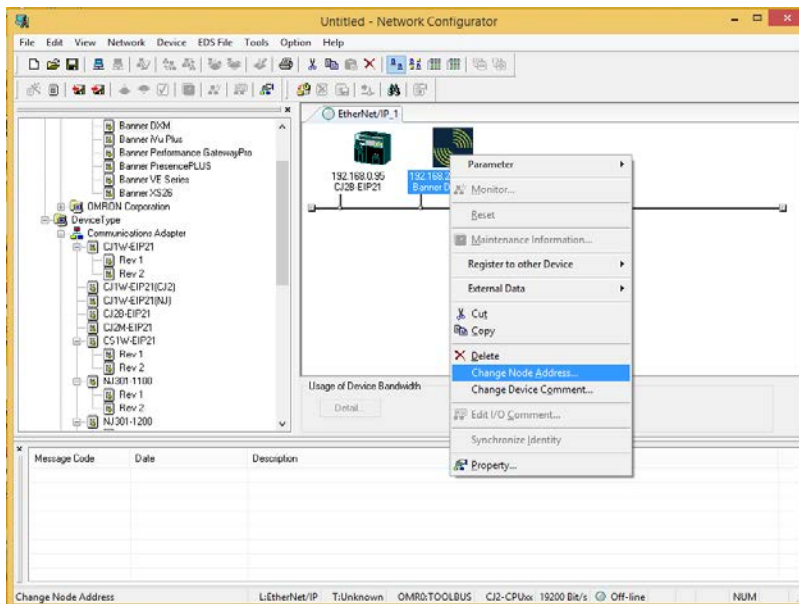
5. Choose the EDS file.



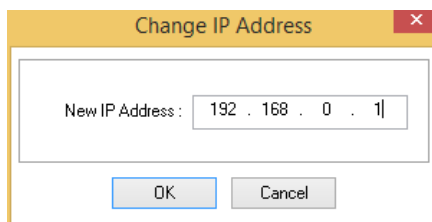
6. Double click the new item from the list at left to add it to the network.



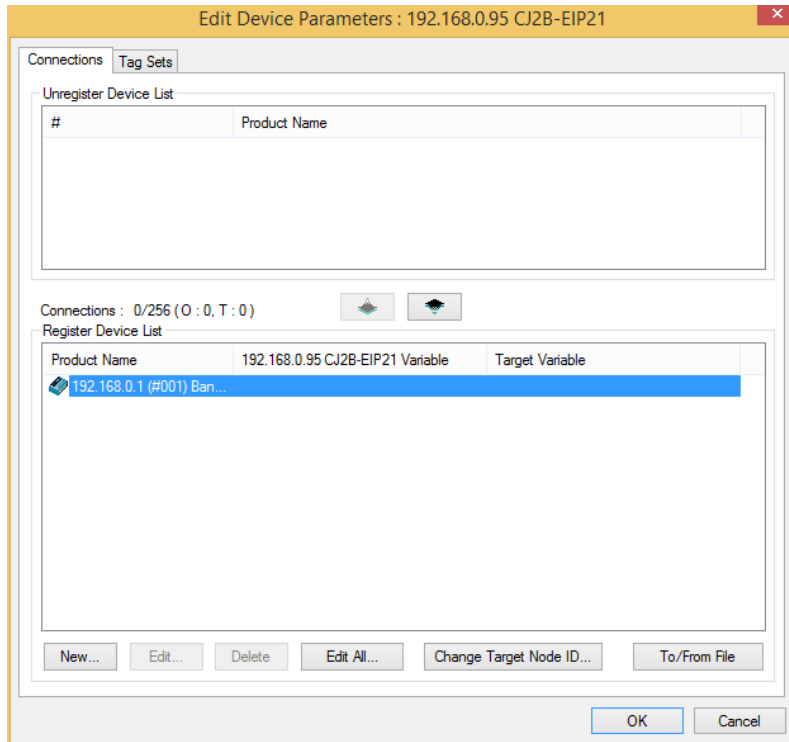
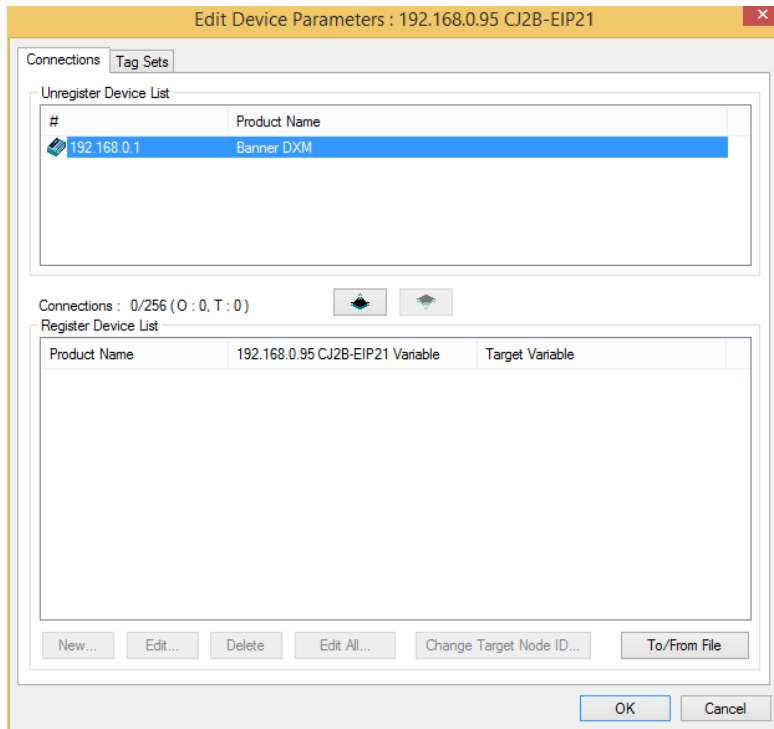
7. Right click on the DXM to change the IP address.



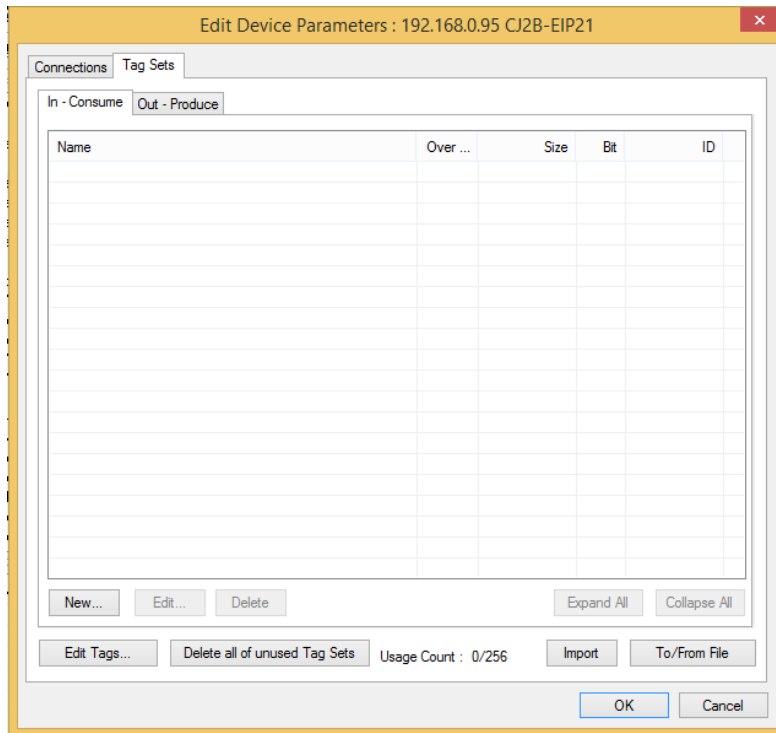
8. Enter the DXM's IP address.



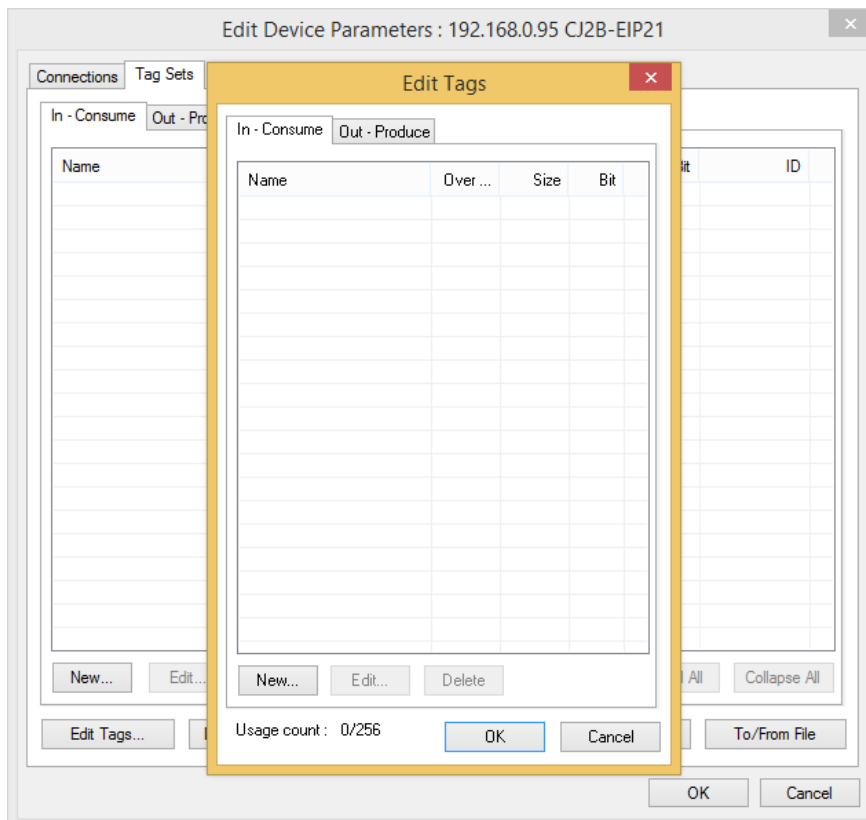
9. Double click on the PLC icon to edit the device parameters. Choose the DXM from the “Unregister Device List”, then click the down arrow to send it to the “Register Device List”.



10. Click on the “Tag Sets” tab (to see the window below), then click the “Edit Tags...” button.



11. Choose the “In- Consume” tab, then click “New”.



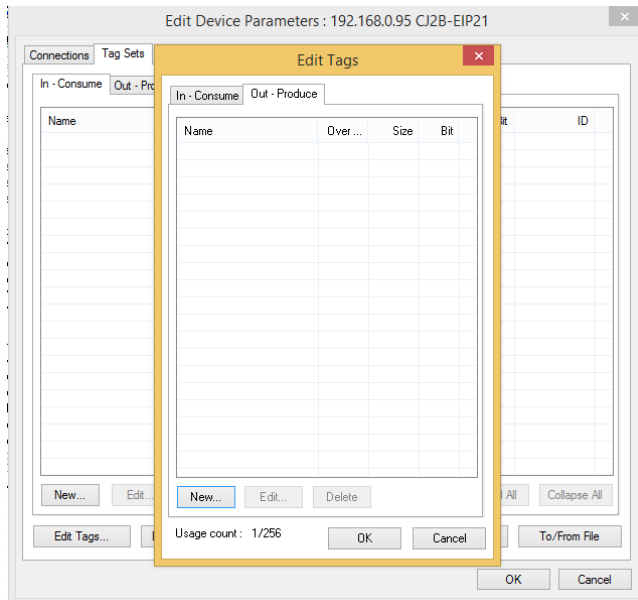
12. Choose an appropriate type and size CPU Data Area. In our case, the DXM will be sending out 16-bit words, so the DM area works. Choose a number of bytes equal to the DXM assembly. Here we are looking at “In- Consume” (from the PLC’s point of view), which is the T→O assembly.

a. 100 (0x64), size 456 bytes

The screenshot shows the 'Edit Tags' dialog box. The 'In - Consume' tab is active. A table with columns 'Name', 'Over ...', 'Size', and 'Bit' is present. An 'Edit Tag' sub-dialog is open, displaying the following fields: 'Name' with the value 'D00000', 'Size' set to '456' with the unit 'Byte', an unchecked 'Use Bit Data' checkbox, 'Bit Size' set to '0' with the unit 'Bit', and 'Over Load' radio buttons where 'Enable' is selected. The sub-dialog has 'Register' and 'Close' buttons. The main dialog has 'New...', 'Edit...', and 'Delete' buttons at the bottom, and a 'Usage count: 0/256' indicator.

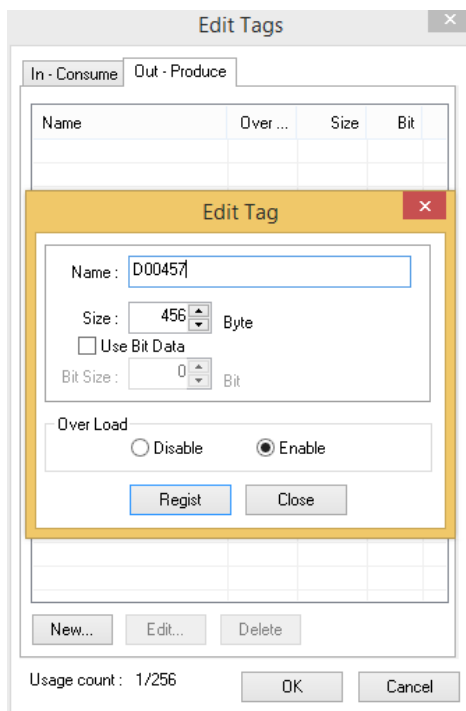
13. After filling in the Name (remember that this refers to a CPU Data Area on the PLC) and size in bytes, click the “Register” button, then click “Close”.

14. Click on the Out- Produce tab, then click “New”.



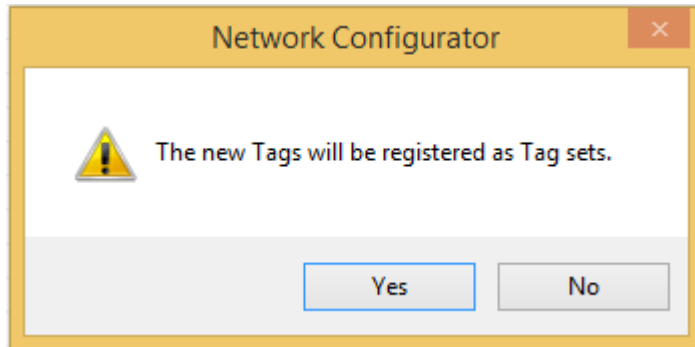
15. Choose an appropriate type and size CPU Data Area. In our case, the DXM expects 16-bit words as inputs, so the DM area works. Choose a number of bytes equal to the DXM assembly. Here we are looking at “Out- Produce” (from the PLC’s point of view), which is the O→T assembly.

a. 112 (0x70), size 456 bytes

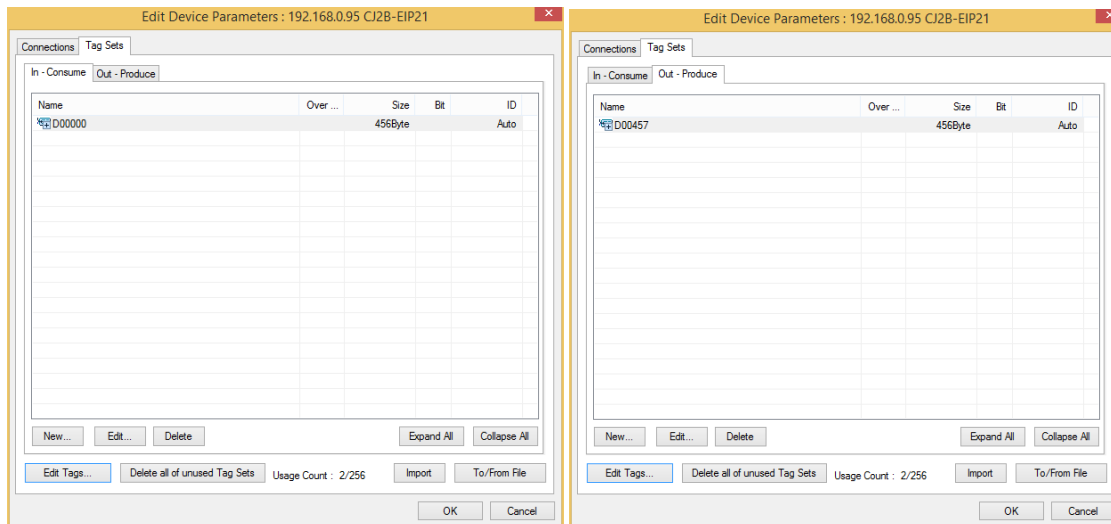


16. After filling in the Name (remember that this refers to a CPU Data Area on the PLC) and size in bytes, click the “Register” button, then click “Close”.

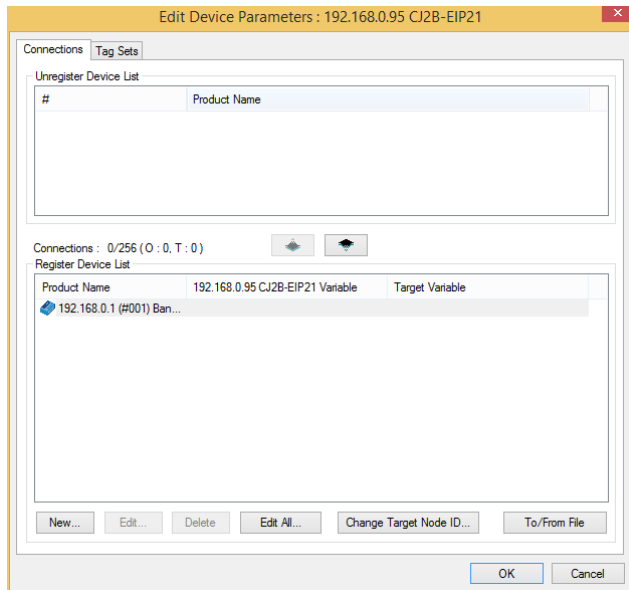
17. Click OK on the Edit Tags window, then click Yes when the software tells you “The new Tags will be registered as Tag sets.”



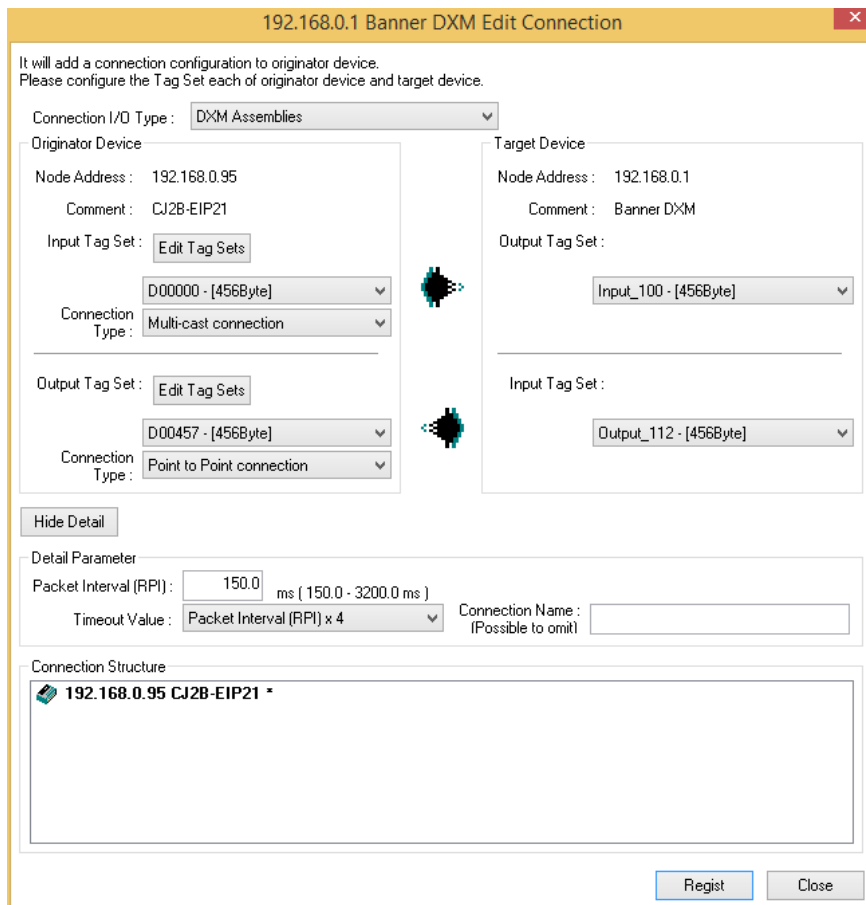
18. Double check the tags by clicking on both the In- Consume and Out- Produce tabs.



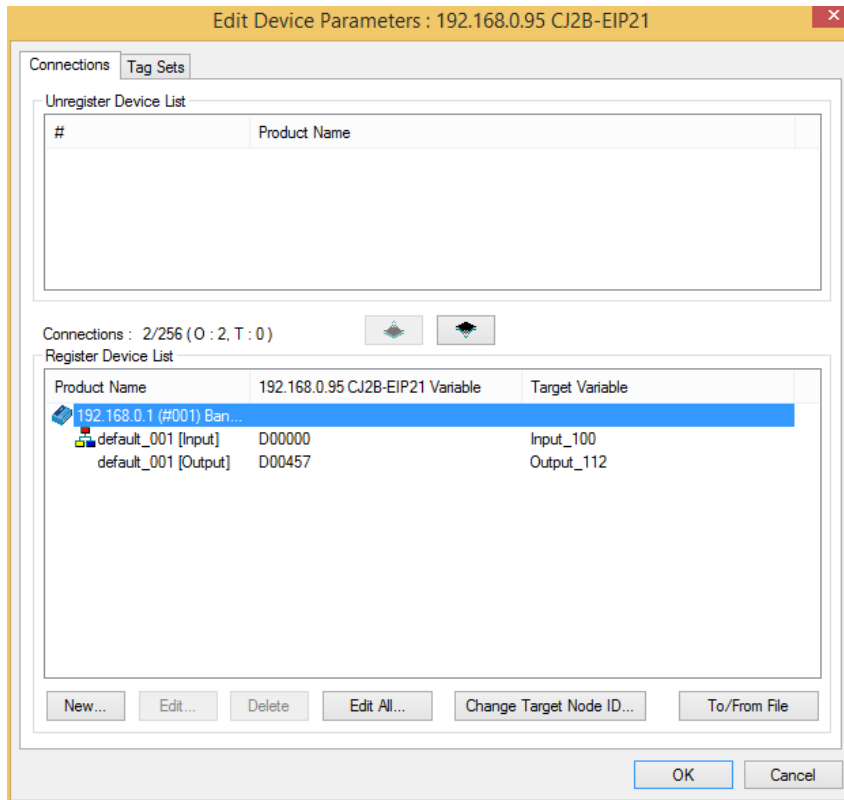
19. Go back to the “Connections” tab (to see the window below) then double click on the DXM seen in the “Register Device List” to bring up the Edit Connection window.



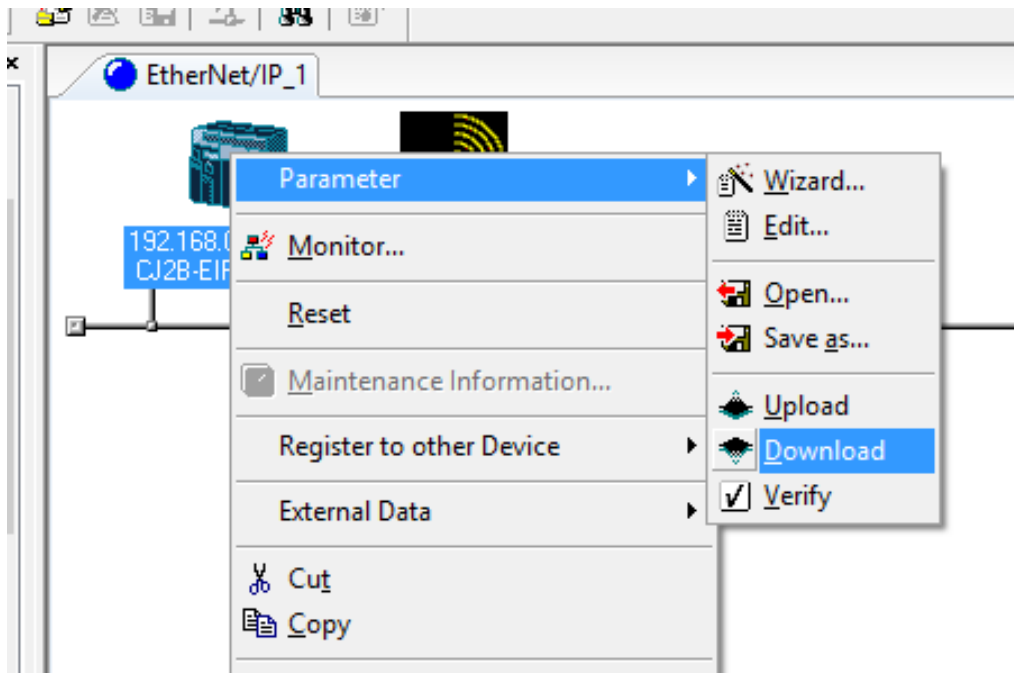
20. Fill in the connections and RPI, then click “Regist”, then “Close”.



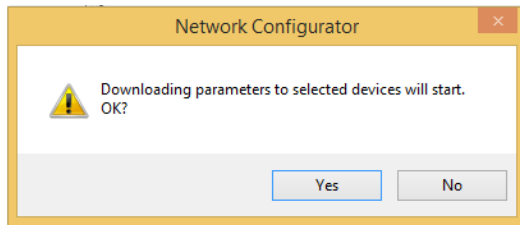
21. Now click "OK".



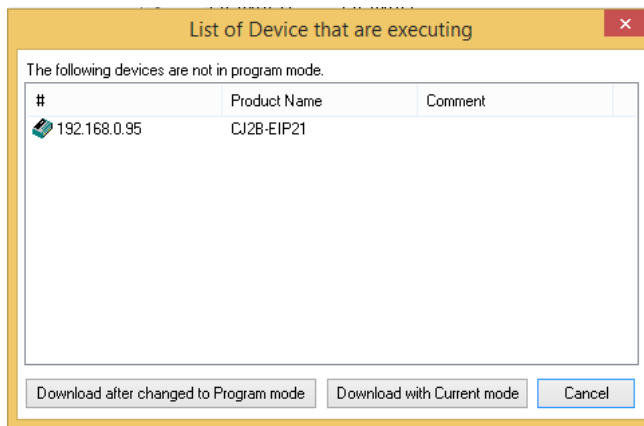
22. Go online and download the configuration to the PLC.



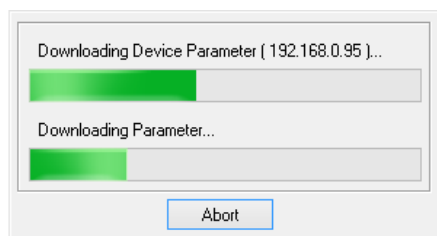
23. Click Yes.



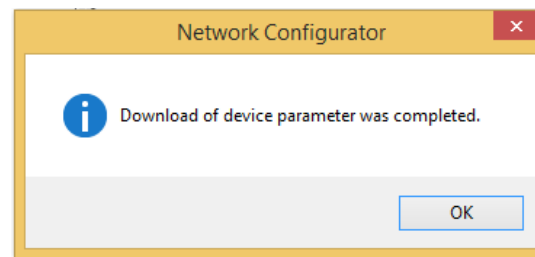
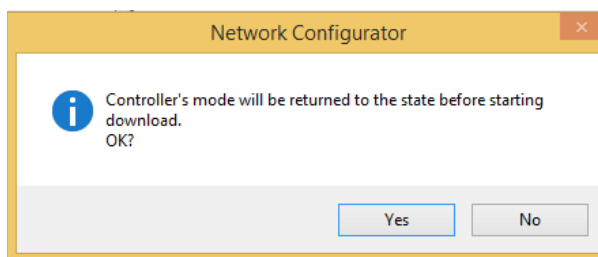
24. Choose a Download option.



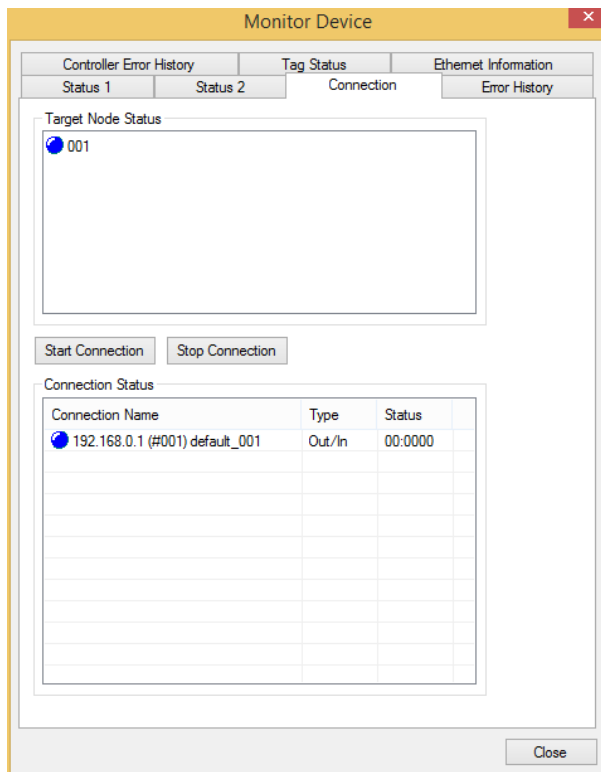
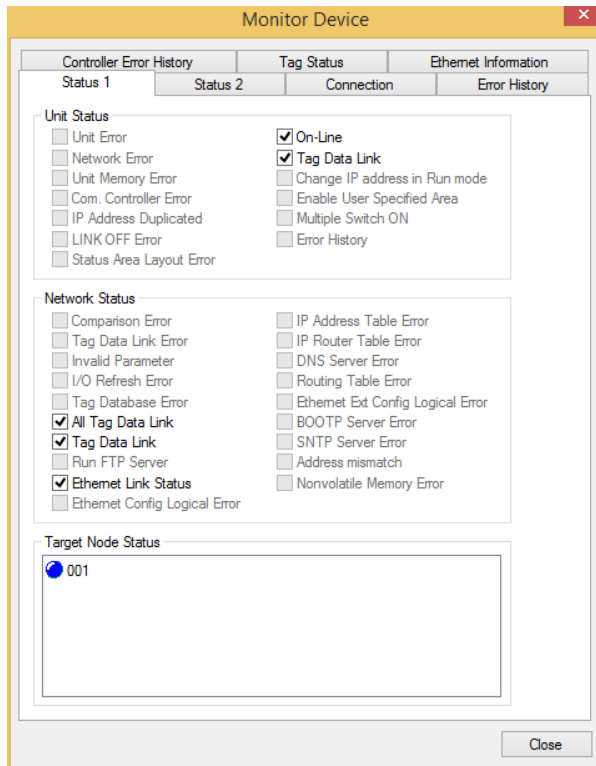
25. Downloading...



26. Click Yes, then click OK.



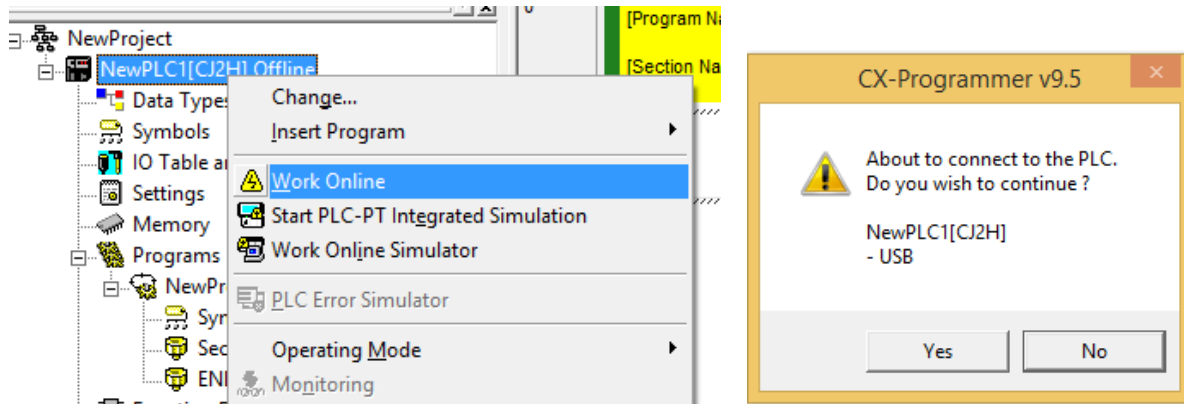
27. Now we can right click on the PLC icon and choose "Monitor". This window can tell us if the connection looks good. Blue icons indicate a connection running fine, without errors.



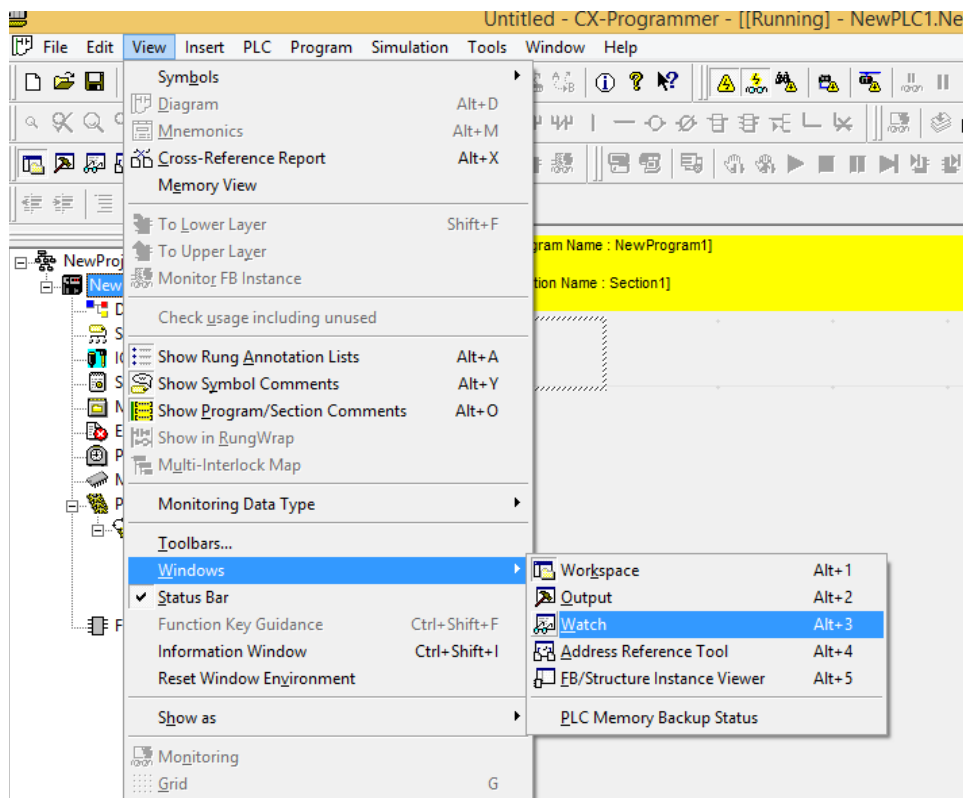
The left window, titled "Device Type Settings [CJ2H]", features a "General" tab. It contains several settings sections: "CPU Type" with a dropdown menu showing "CPU64-EIP"; "Total Program Area Size" with a dropdown showing "50K [Step]" and an unchecked "Read Only" checkbox; "Expansion Memory" with a dropdown showing "32KW [4 Banks]" and an unchecked "Read Only" checkbox; "File Memory" with a dropdown showing "None" and an unchecked "Read Only" checkbox; and "Timer / Clock" with a checked "Installed" checkbox. A "Make Default" button is located at the bottom right of the settings area. The bottom of the window has "OK", "Cancel", and "Help" buttons.

The right window, titled "Change PLC", contains a "Device Name" text field with "NewPLC1", a "Device Type" dropdown menu showing "CJ2H" with a "Settings..." button, a "Network Type" dropdown menu showing "USB" with a "Settings..." button and an unchecked "Show all" checkbox, and a "Comment" text area. The bottom of the window has "OK", "Cancel", and "Help" buttons.

30. Go Online with the PLC. Click Yes.



31. Go to View→Windows→Watch



32. Click on the top line in the Watch window.

PLC Na...	Name	Address	Data Type / Format	FB Usage	Value	Value(...	Comment

33. Add some registers to the watch window.

Edit dialog

PLC:

Name or address:

Data Type / Format:

PLC Na...	Name	Address	Data Type / Format	FB Usage	Value	Value(Binary)	Co
NewPLC1		D0	INT (Signed Decimal,Channel)		+3	0000 0000 0000 0011	
NewPLC1		D1	INT (Signed Decimal,Channel)		0	0000 0000 0000 0000	
NewPLC1		D2	INT (Signed Decimal,Channel)		+82	0000 0000 0101 0010	
NewPLC1		D3	INT (Signed Decimal,Channel)		0	0000 0000 0000 0000	
NewPLC1		D4	INT (Signed Decimal,Channel)		0	0000 0000 0000 0000	

In the watch window above, we see the first 5 registers of DXM Output (PLC Input) data. The picture below shows the configuration of these sample registers in the DXM software.

Local Registers	Local Register Configuration	Modify Multiple Registers	Local Registers In Use	Protocol Conversion Overview
Register Mapping	1	None	Units: None Constant: 3	
	2	None	Units: None Constant: 0	
	3	None	Units: None Timer that increments every: 100 ms	
Action Rules	4	None	Units: None	