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Introduction

This guide is intended to help first-time users set up communication between Siemens PLCs and Cognex DataMan DM290/390.

Software Tools Needed

- Web browser to connect to the DataMan WebUI
- Siemens TIA Portal
- TIA Portal Integration Guide and Tag Generator V2

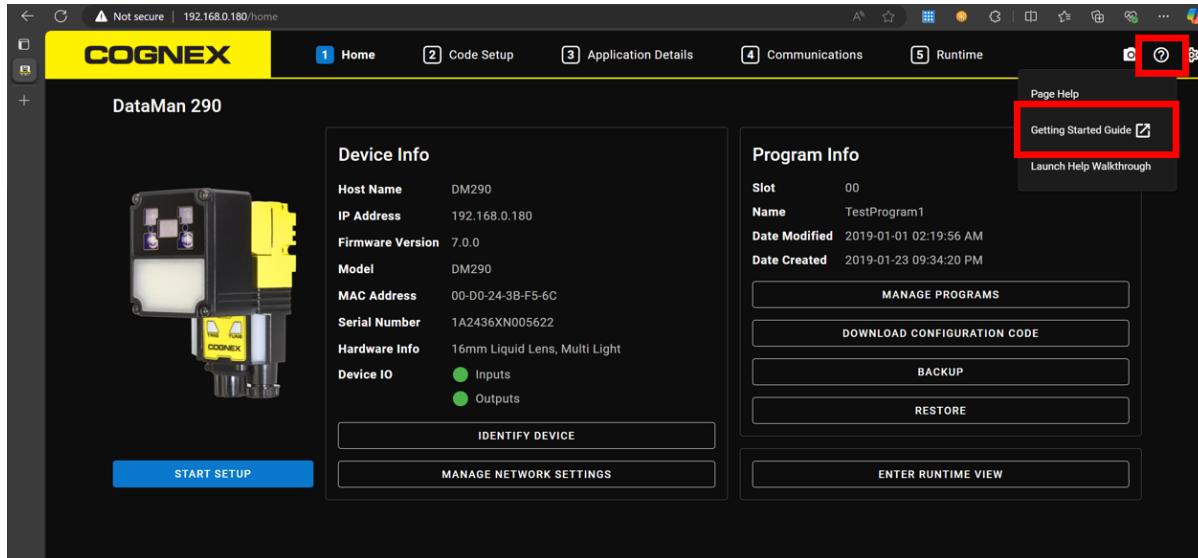
Download Needed Files

GSD Files

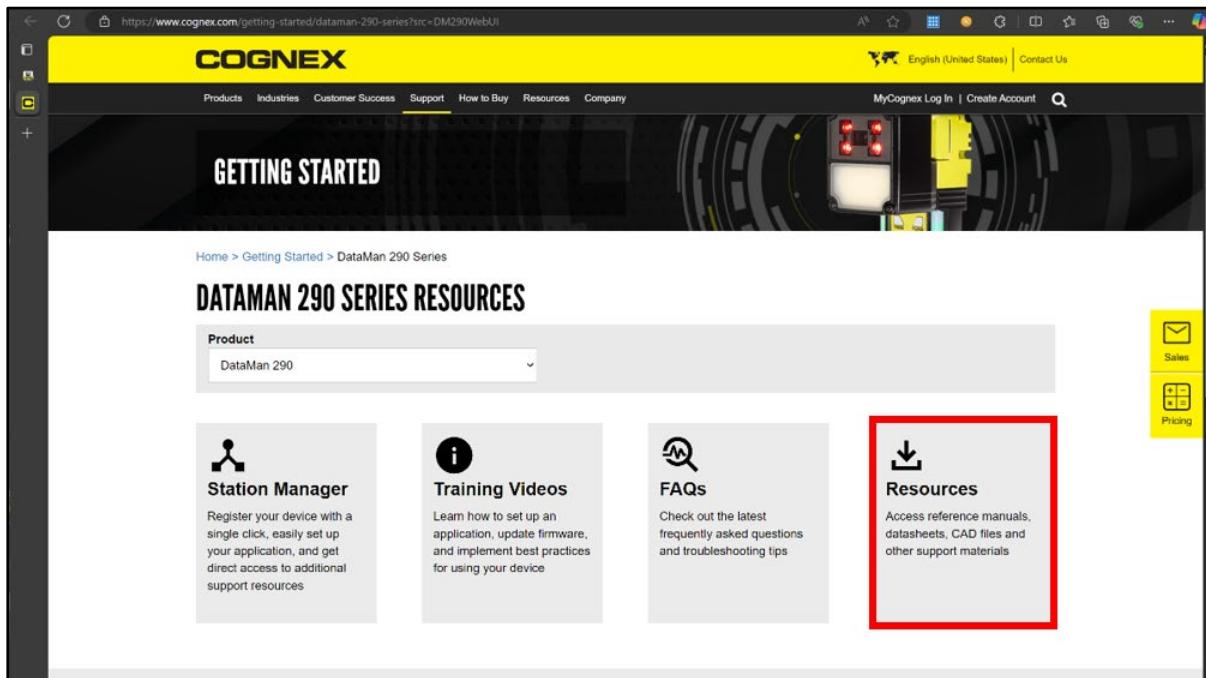
A **GSD file** (General Station Description) is a description of an IO device provided by the device manufacturer. The contents of the GSD consist of configuration information, parameters, modules, diagnostic and alarms, and vendor and device identification. It serves as a "data sheet" for configuring and integrating a device within a networked system.

GSD files can be downloaded from Cognex.com. The recommended way to obtain resources for your device is to use the **DataMan WebUI**. Open your Web Browser and navigate to the assigned IP Address of your device. The DataMan WebUI should appear as shown below.

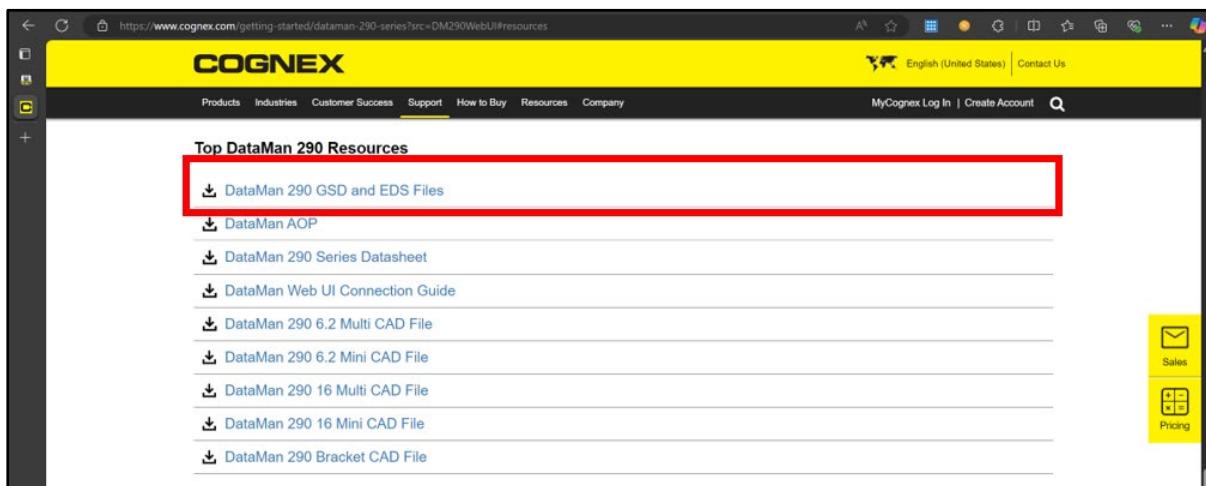
1. Navigate to the **Help** menu in the upper right corner and select **Getting Started Guide**.



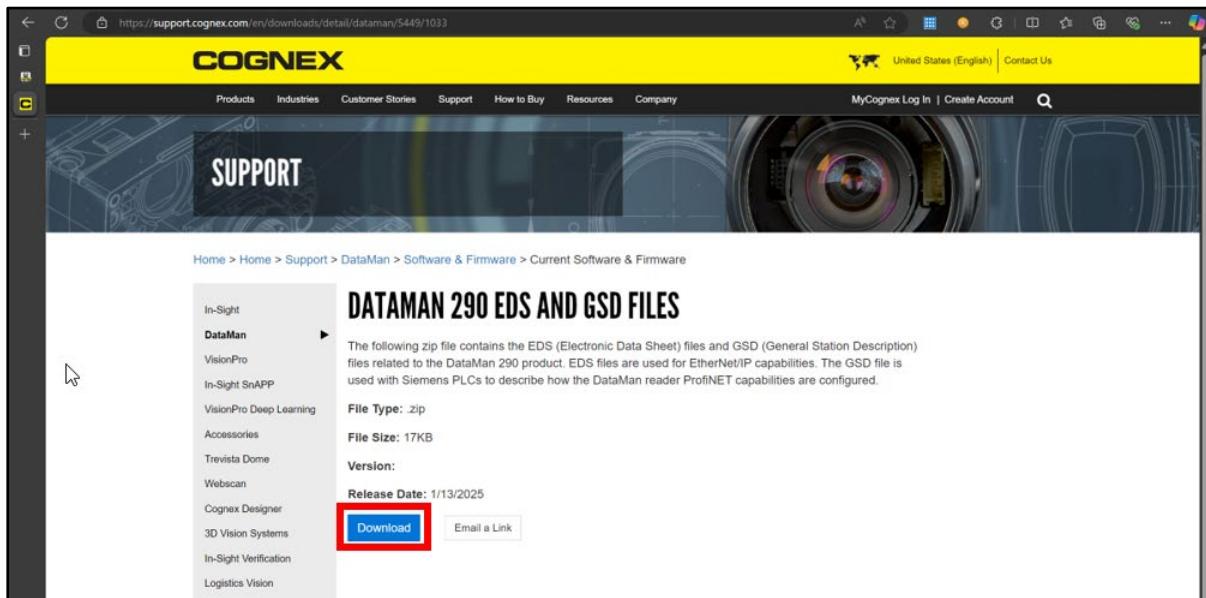
2. Select Resources.



3. Select DataMan 290 GSD and EDS Files from the Resources list.



4. Click the **Download** button.



5. Unzip and copy the downloaded folder to your PLC programming PC.

TIA Portal Integration Guide and Tag Generator

The TIA Portal Integration Guide and Tag Generator is an integration guide for adding various Cognex products to a Siemens PLC using the TIA Portal software. Also included is a spreadsheet for generating all of the tags for the various control and status modules.

1. In your Web Browser navigate to: [Support - TIA Portal Integration Guide and Tag Generator V2 | Cognex](#)

The TIA Portal Integration Guide Webpage displays.

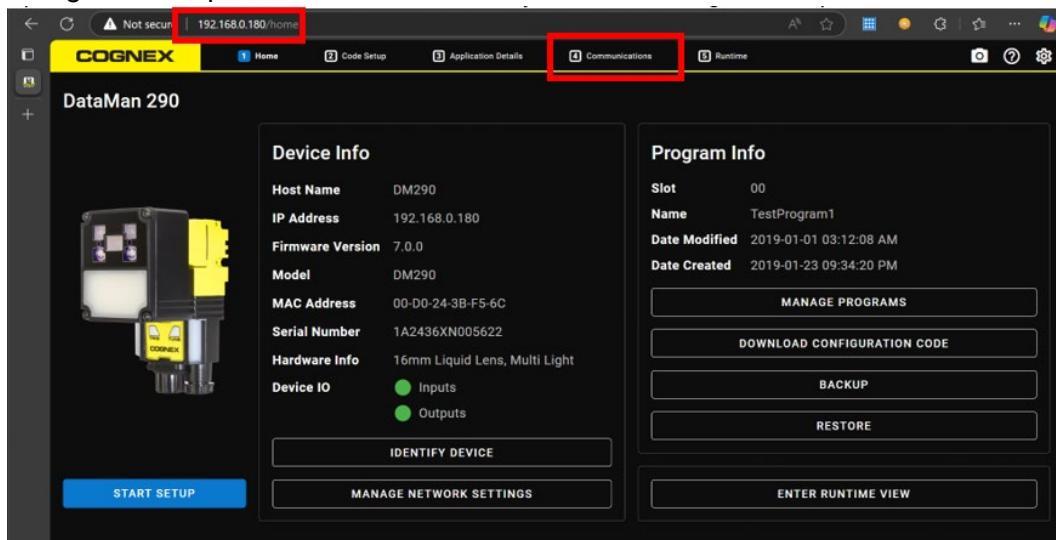
2. Click the **Download** button.

The screenshot shows the Cognex Support website. The top navigation bar includes links for Products, Industries, Customer Stories, Support, How to Buy, Resources, Company, and MyCognex Log In. A world map icon indicates the United States. The main content area has a banner with the word "SUPPORT" and a camera lens image. Below the banner, the page title is "TIA PORTAL INTEGRATION GUIDE AND TAG GENERATOR V2". To the left is a sidebar with a list of products: In-Sight, DataMan, VisionPro, In-Sight SnAPP, VisionPro Deep Learning, Accessories, Trevista Dome, Webscan, Cognex Designer, 3D Vision Systems, In-Sight Verification, Logistics Vision, ISVC200, Mobile Solutions, and CVL. The main content area contains a description of the guide, a list of covered products, and download details: File Type: .zip, File Size: 2.1MB, Version: 2.0, Release Date: 9/23/2019. A blue "Download" button is highlighted with a red box, and there is also an "Email a Link" button.

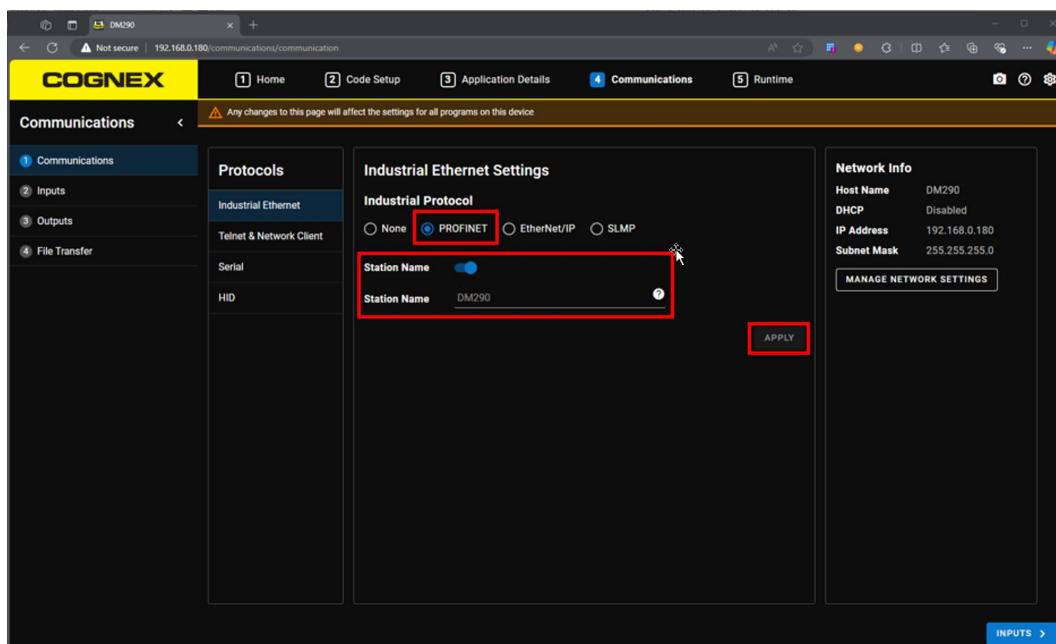
3. Copy this folder to the PLC programming PC.
4. Extract the files. Make note of the file location.

DataMan WebUI Communications Section

1. Open a Web Browser and enter the IP Address of your DataMan 290.
2. Navigate to Step 4 **Communications**.



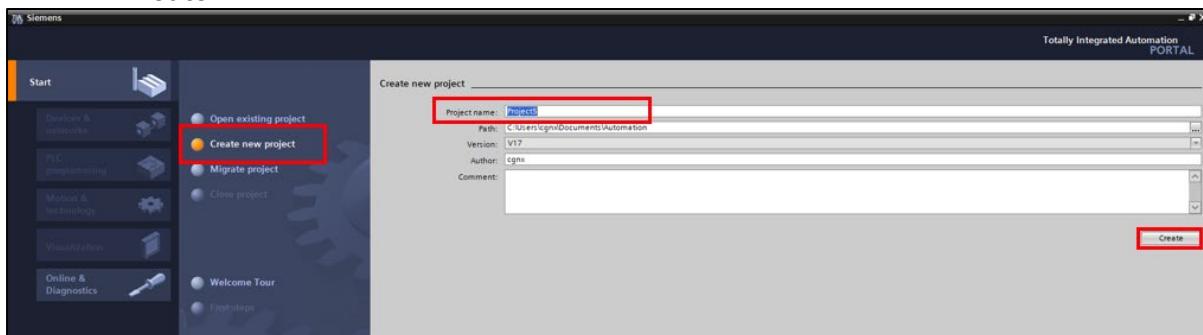
3. Select the **PROFINET** radio button.
4. Toggle the **Station Name** toggle on and enter a unique name in the **Station Name** field.
5. Click the **Apply** button.



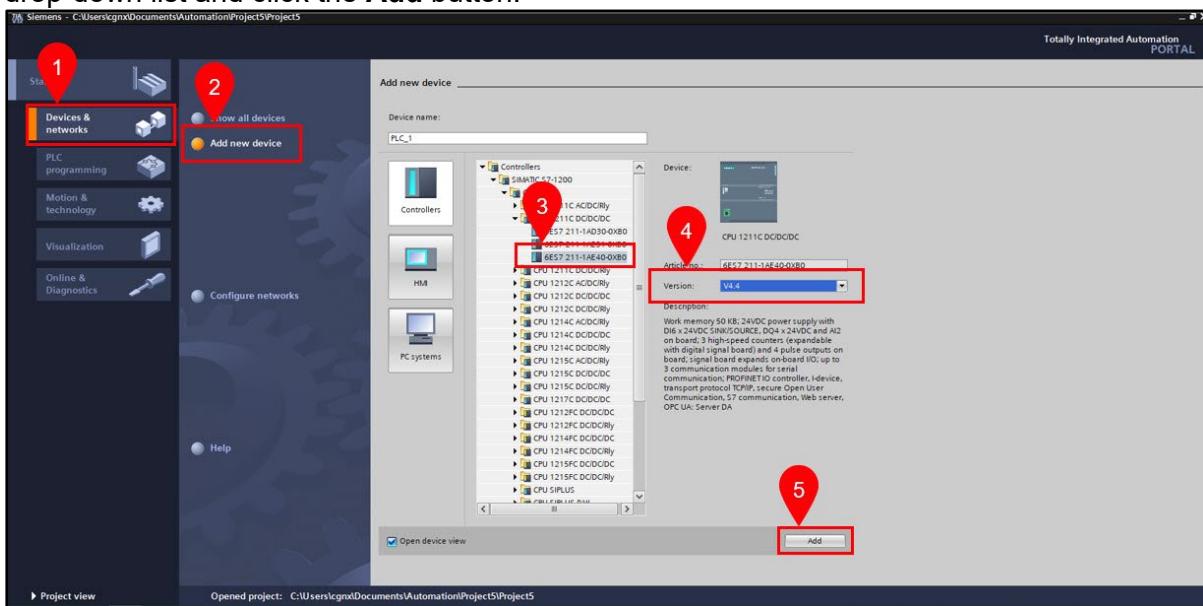
A reboot will be required for the changes to take effect.

PLC Setup

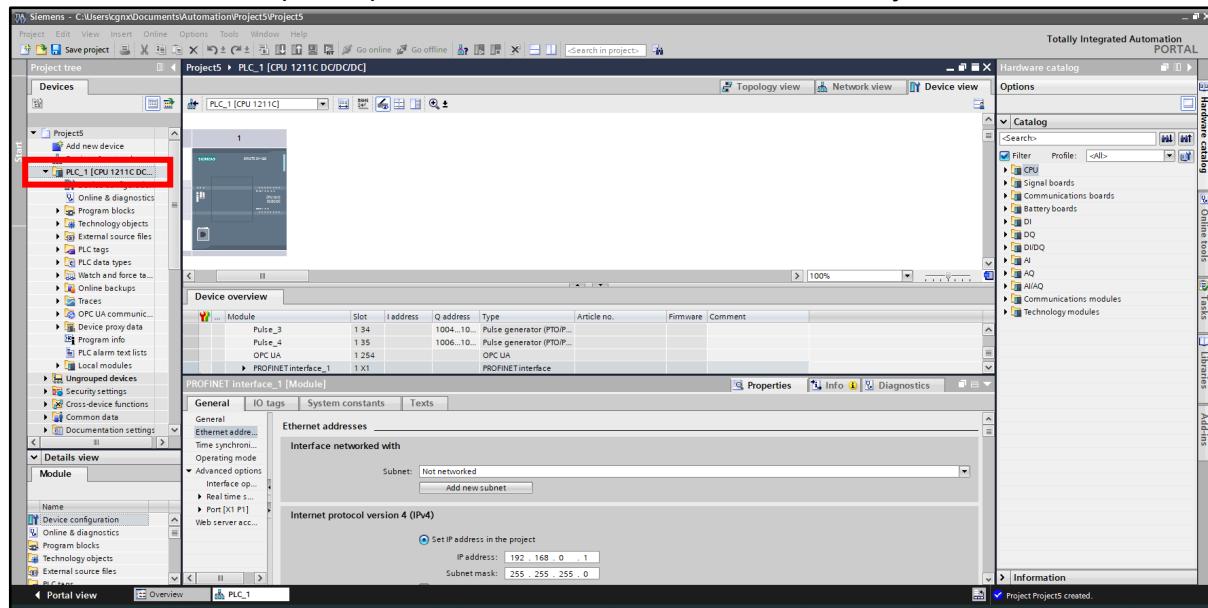
1. After rebooting, open **Siemens TIA Portal**.
NOTE: This example is using TIA Portal Version 17.
NOTE: This example assumes that you have already setup your PLC with a dedicated IP Address.
2. Select **Create new project**, enter the name your project in the **Project Name** field and click the **Create** button.



3. Select **Devices & networks** and select **Add a new device**.
4. Select your PLC hardware from the **Controllers** list, firmware version from the **Version** drop-down list and click the **Add** button.



The TIA Portal workspace opens, and the device is added to the Project tree.

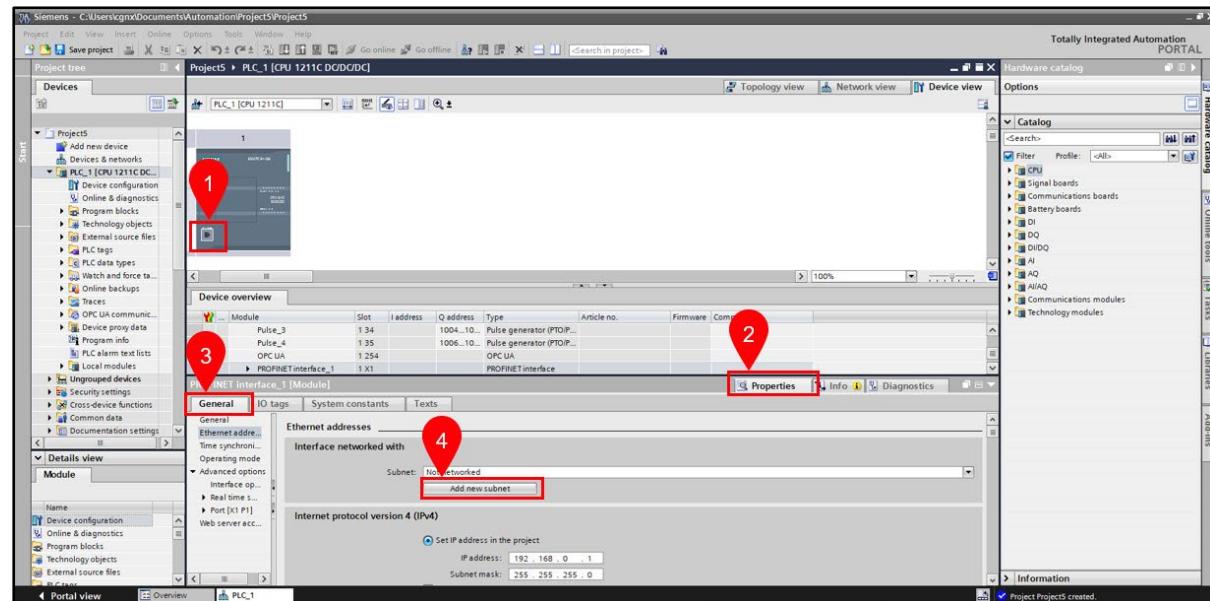


NOTE: You can toggle between the **Project view** and **Portal view** in the lower left-hand corner of the IDE.

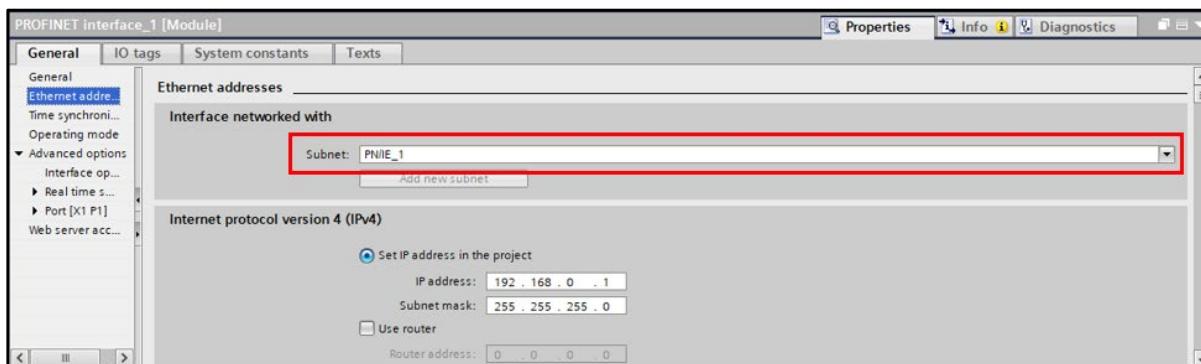
5. Select the **Ethernet port** on the PLC diagram.

NOTE: Selecting different parts of the PLC diagram will show different properties below.

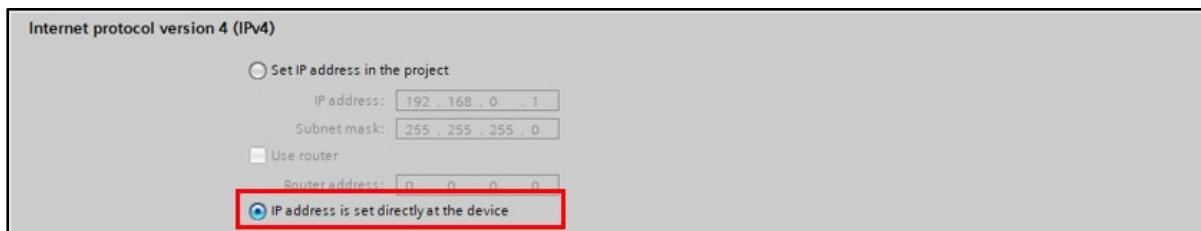
6. Scroll down to the **PROFINET Interface_1 [Module]** settings and select the **Properties** tab, select the **General** tab and click the **Add new subnet** button.



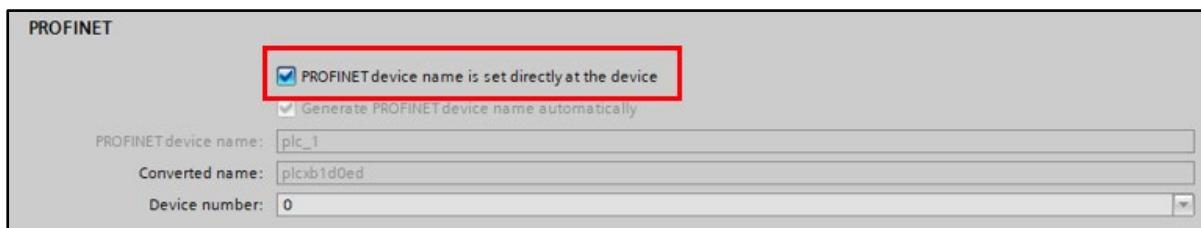
7. Scroll down and select PN/IE_1 from the **Subnet** drop-down list.



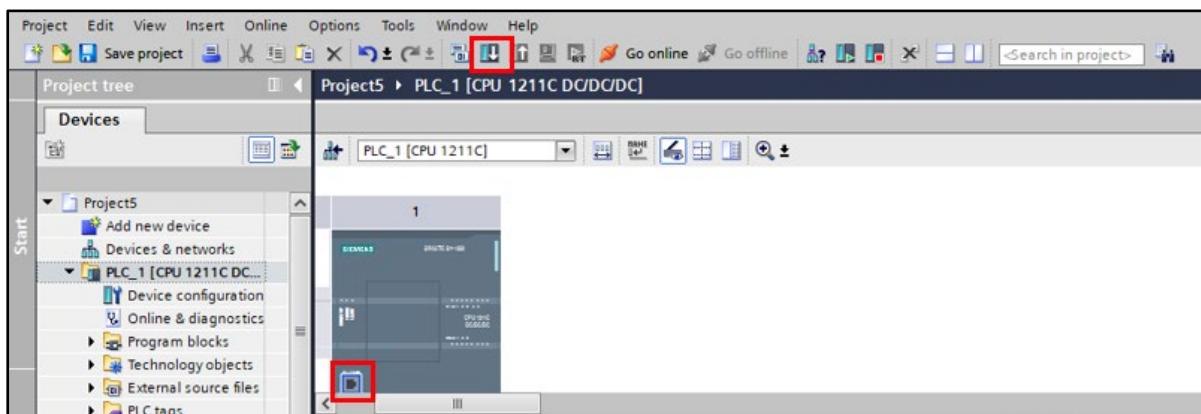
8. Scroll down to the **Internet protocol version 4 (IPv4)** settings. If you have an IP Address click the **IP address is set directly at the device** radio button.



9. Scroll down to the **PROFINET** settings. Check the **PROFINET device name is set directly at the device** checkbox.

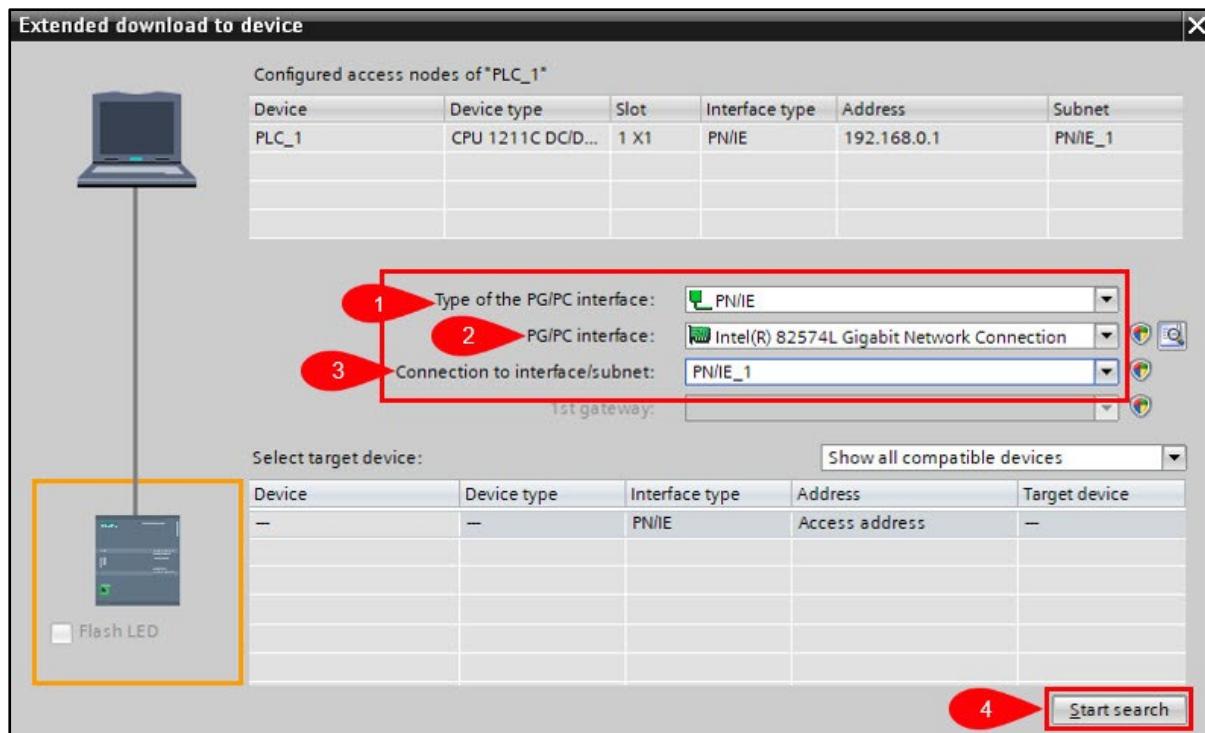


10. Select the **Ethernet port** on the PLC diagram and click the **Download to device** button in the IDE toolbar.

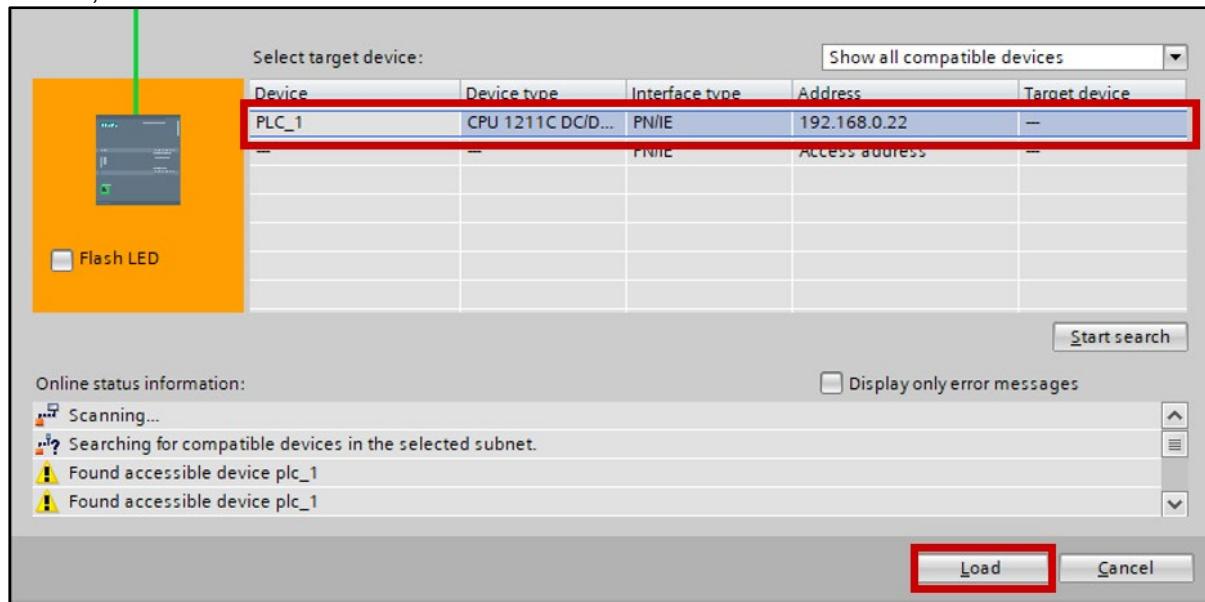


The Extend download to device page displays.

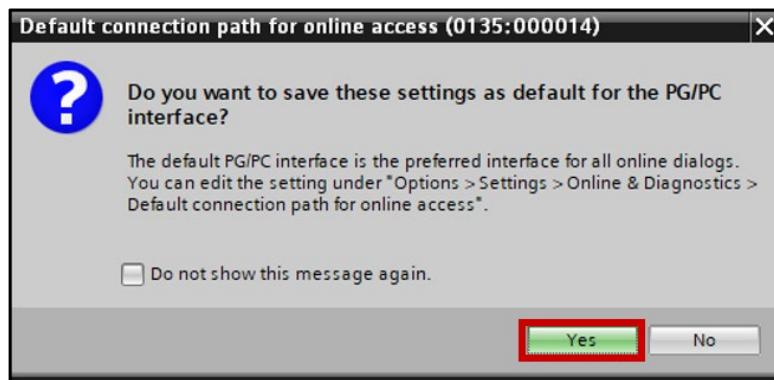
11. Select **PN/IE** from the **Type of the PG/PC interface** drop-down list.
12. Select the **PG/PC interface**, this is NIC the PLC and PC are communicating on.
13. Select **PN/IE_1** from the **Connection to interface/subnet** drop-down list.
14. Click the **Start Search** button.



15. Once the successful connection is made the device will display in the **Select target device** list, select the device and click the **Load** button.



16. The **Default connection path for online access** warning box may display. Click the **Yes** button to continue.

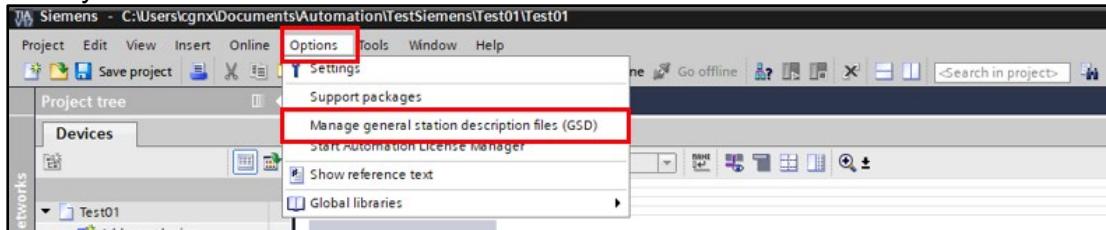


Cognex DataMan 290/390 Set-up

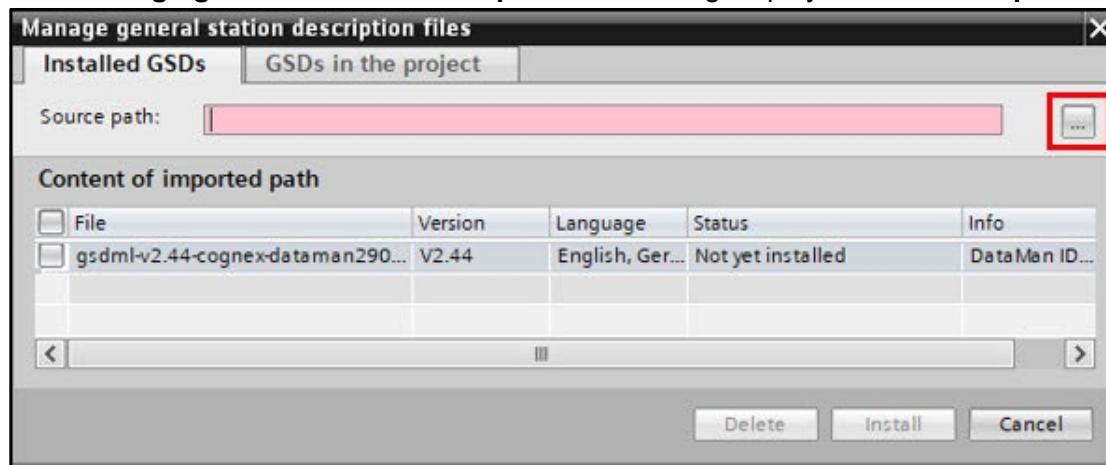
Install GDS File

NOTE: Confirm the PLC is Offline.

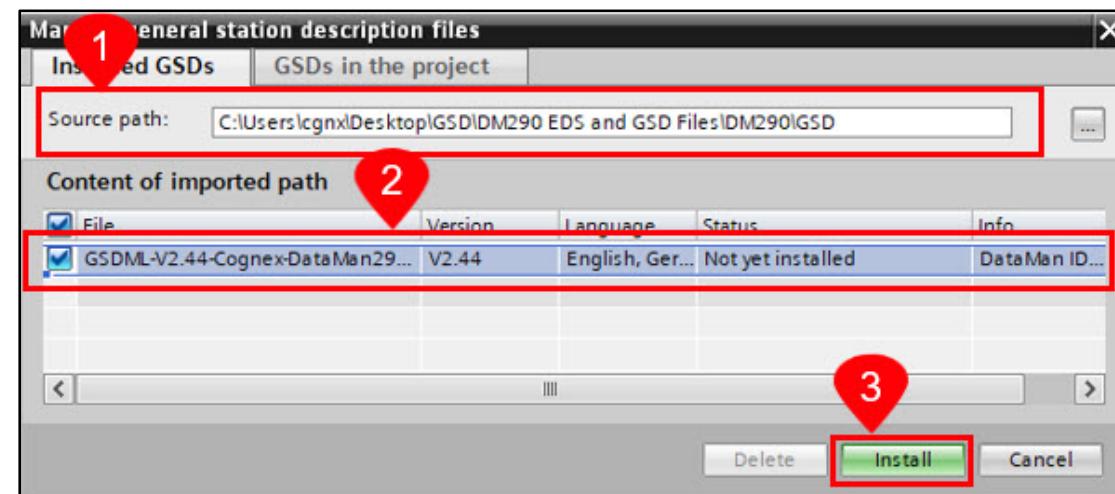
1. Navigate to the downloaded GDS Files.
2. From the **Options** menu select **Manage general station description files (GSD)** from the fly-out list.



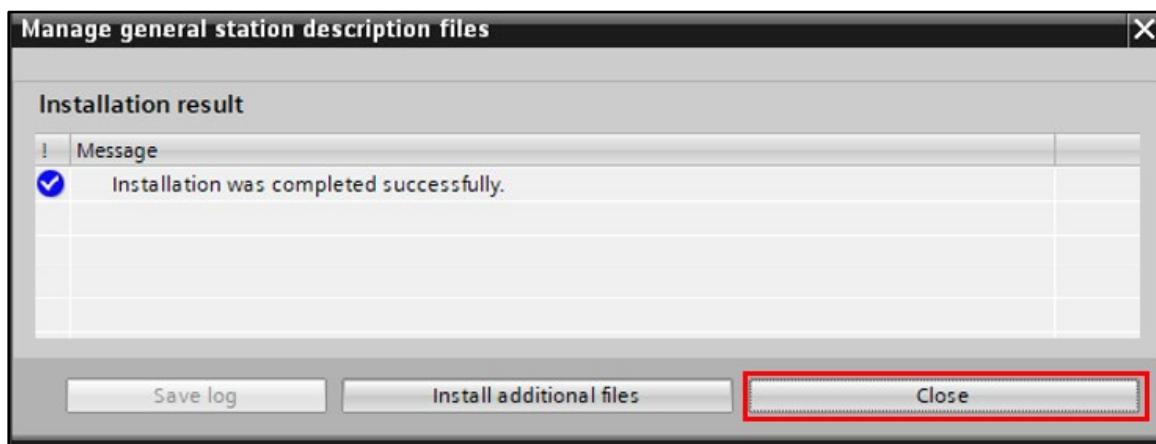
3. The **Manage general station description files** dialog displays. Click the ellipsis button.



4. Navigate to the GDS **Source path** on your PC, select the DataMan 290 and click the **Install** button.

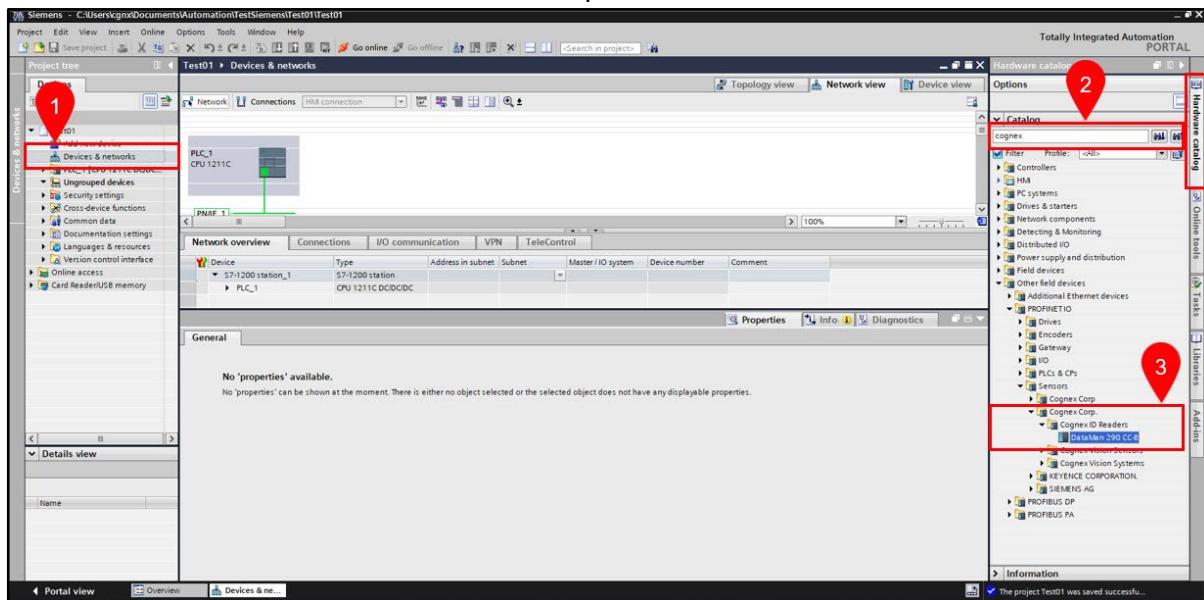


5. The Installation is complete, click the **Close** button.

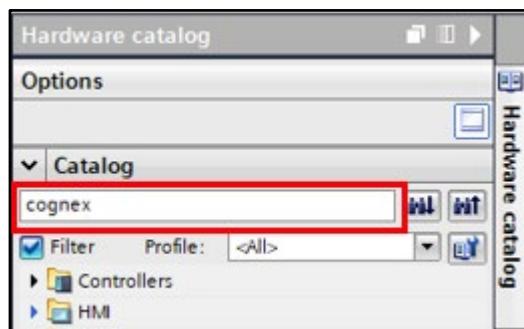


Add the DataMan 290/390 to the Project

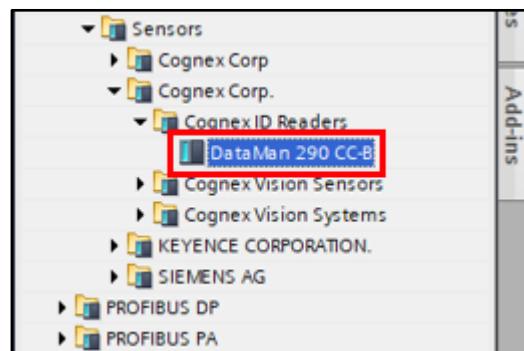
1. Select Devices & networks in the Devices pane on the left.



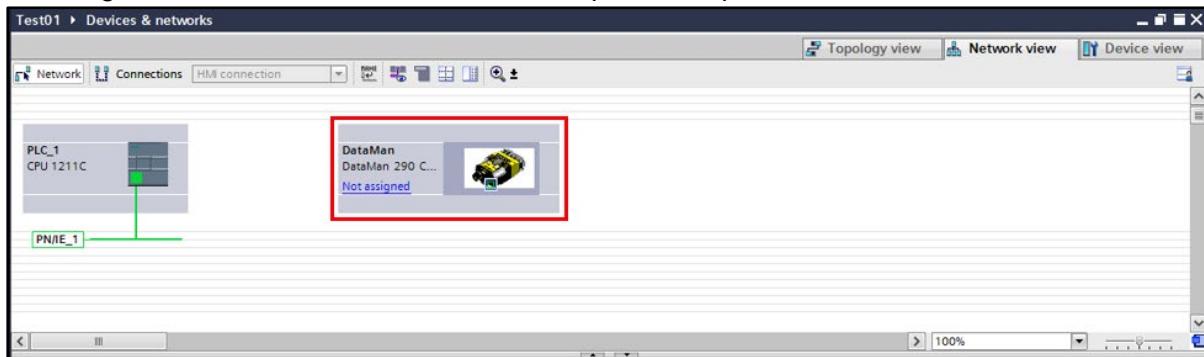
2. Navigate to the Hardware Catalog tab in the right-hand toolbar. Enter Cognex in the Catalog search field.



3. Scroll down until you find the DataMan 290 in the device list.



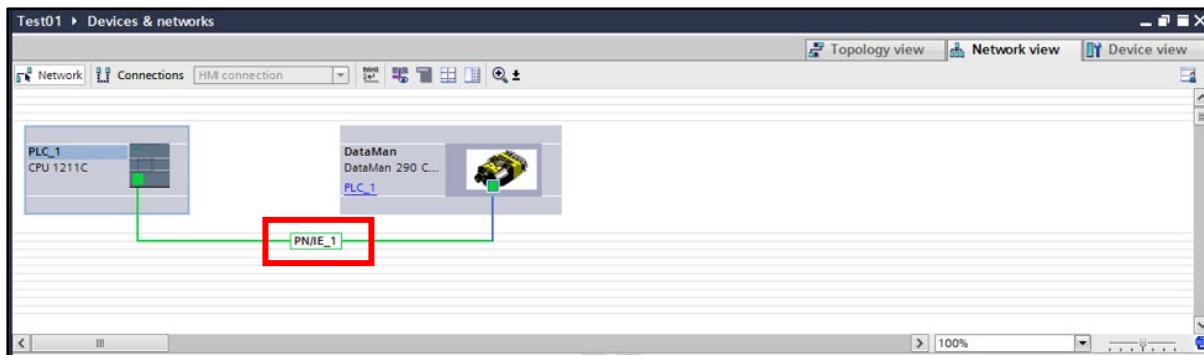
4. Drag the icon into the Device & networks pane and place it next to the PLC icon.



5. Connect the DataMan 290 icon to the PLC.

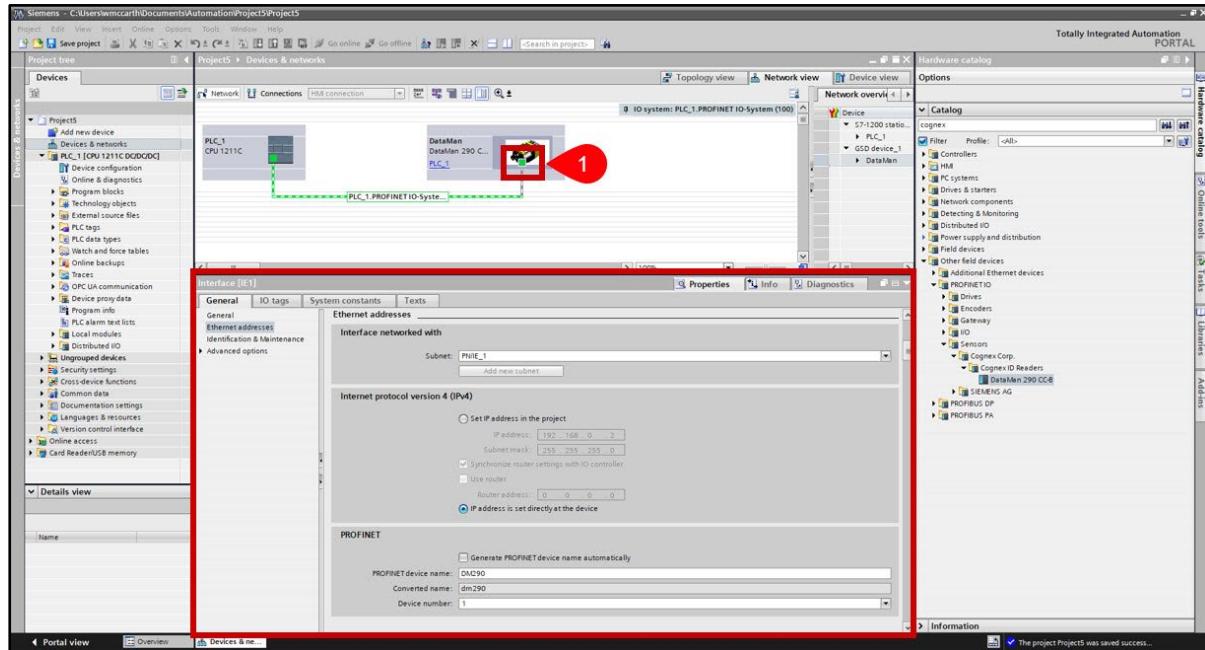
NOTE: Start with the green square in the center of the DataMan icon and connect to the green square on the PLC icon.

The DataMan and the PLC are now connected.

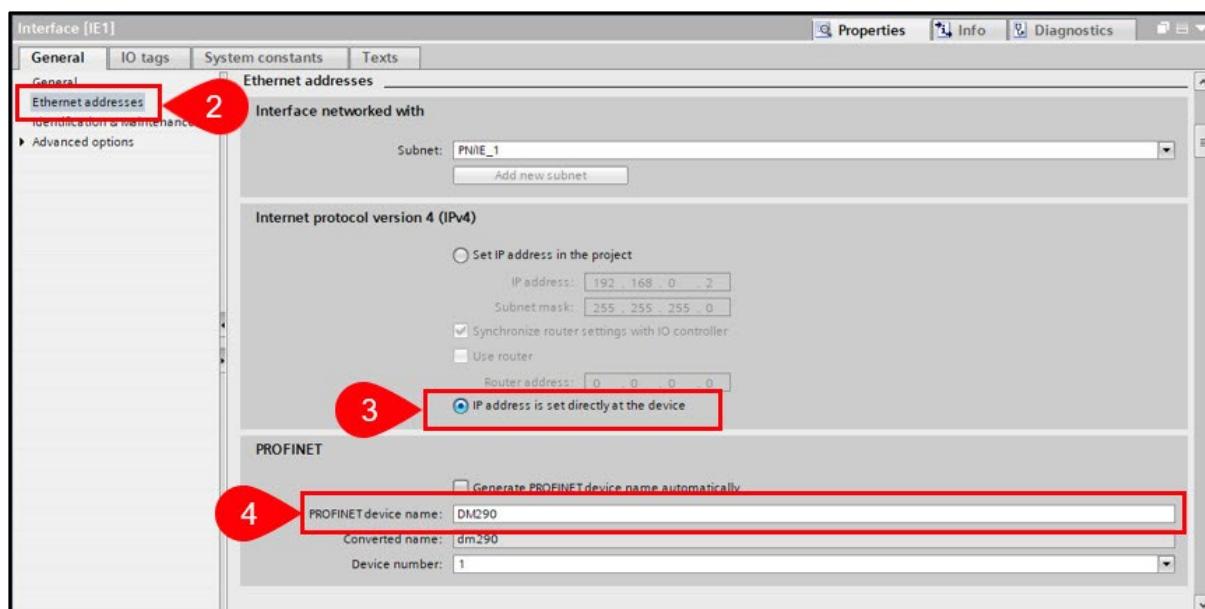


Configure Cognex DataMan 290 on PROFINET

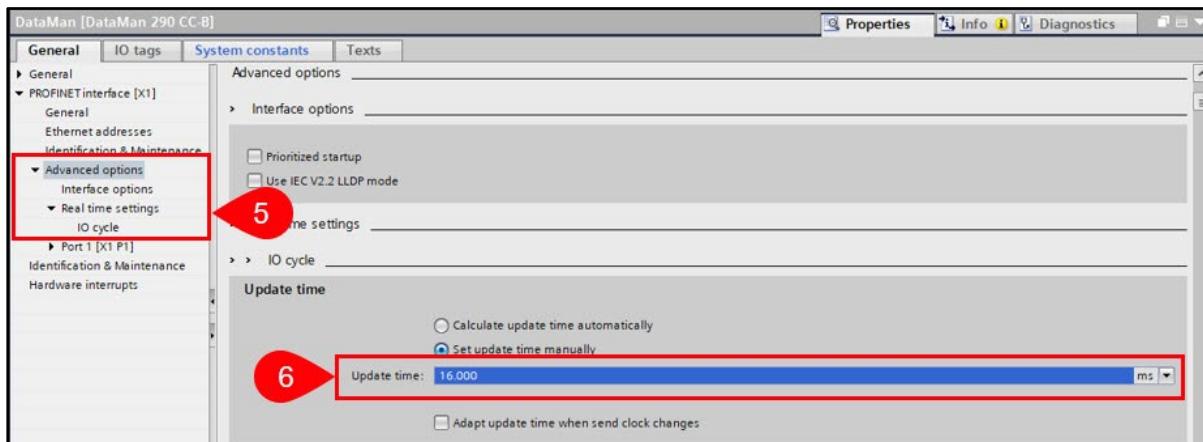
1. Right-click on the Ethernet port on the DataMan 290 icon and select **Properties**.



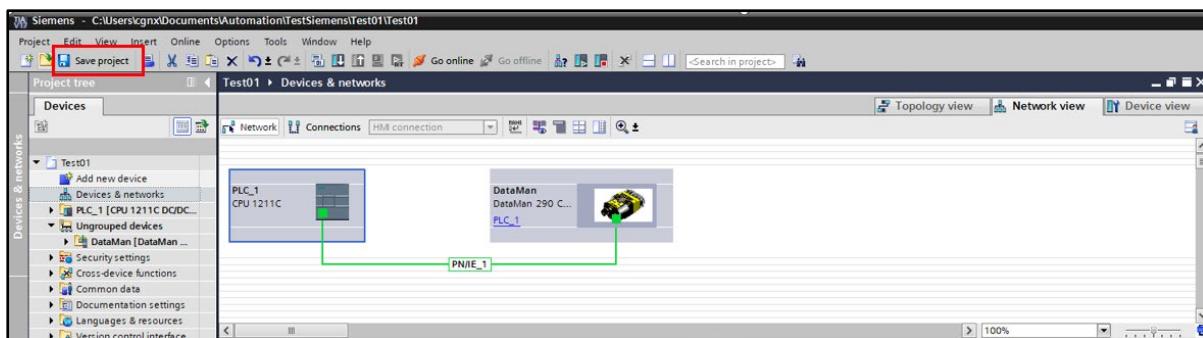
2. Navigate to the **Ethernet Addresses** setting under the **General** Properties tab in the DataMan Properties at the bottom of the interface.
3. Scroll down to the **Internet protocol version 4 (IPv4)** settings and click the **IP address is set directly at the device** radio button.
4. Scroll down to the **PROFINET** settings and confirm the **PROFINET device name** matches what was setup in the DataMan WebUI Communications Section.



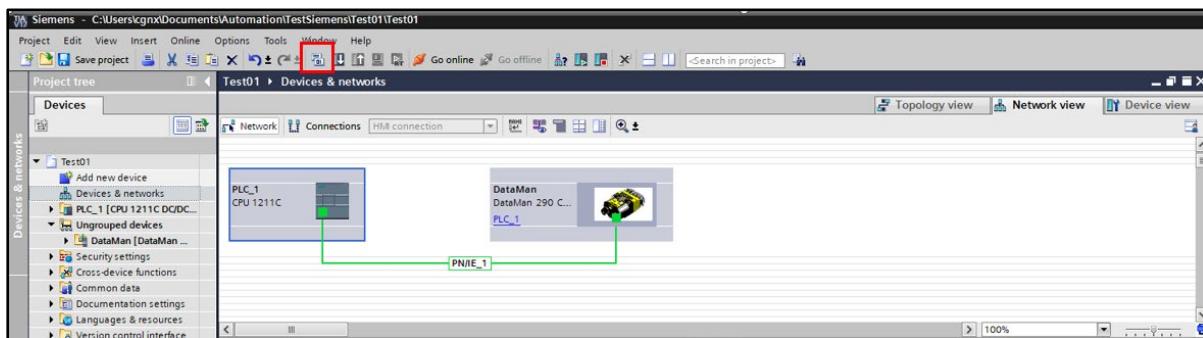
5. Navigate to the **Advanced options** setting under the General Properties tab and navigate to the **IO cycle** setting under the **Real time settings**.
6. Navigate to the **Update time** setting and set the **Update time** accordingly.
NOTE: *The Update time setting is configured separately for each I/O device and determines the time interval in which data is transmitted to and from the PLC to the I/O device (DataMan).*



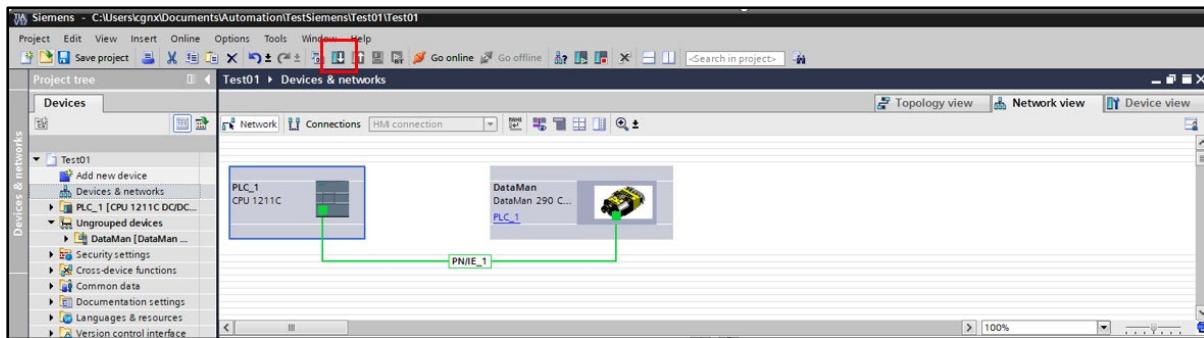
7. Click the **Save Project** button.



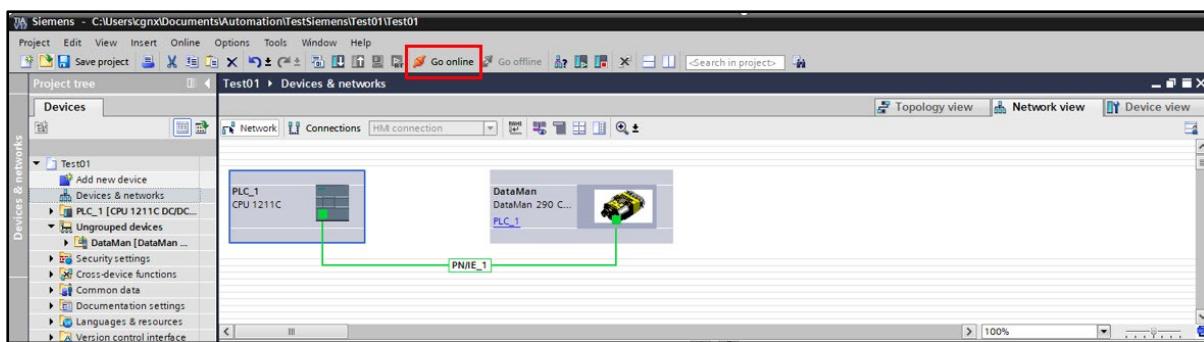
8. Click the **Compile** button.



9. Click the Download button.

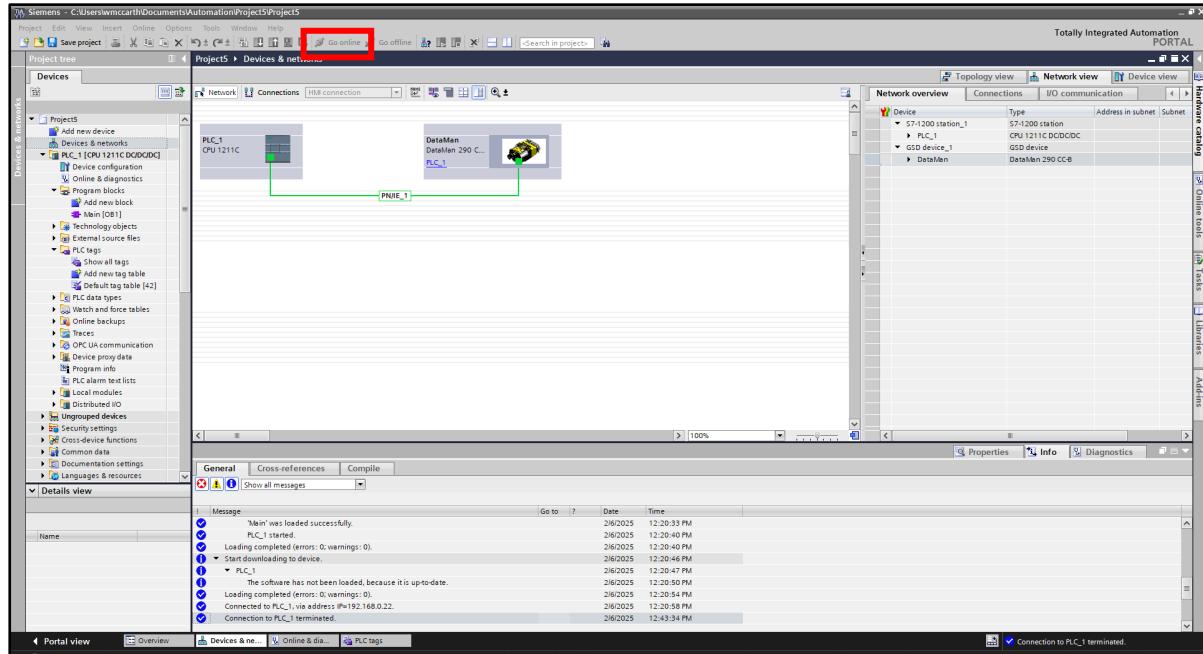


10. Click the Go Online button.

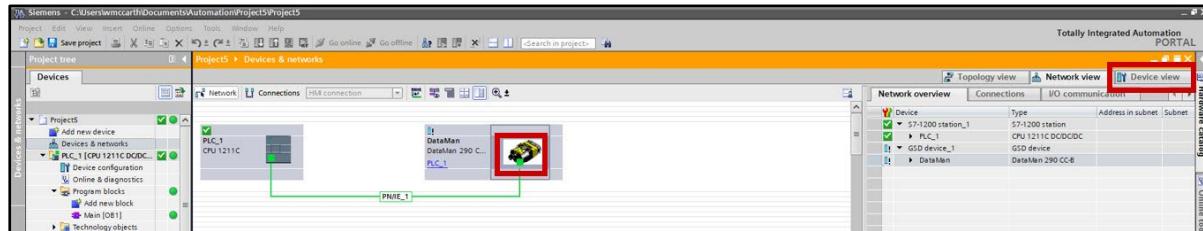


DataMan 290 Device Overview in Siemens TIA Portal

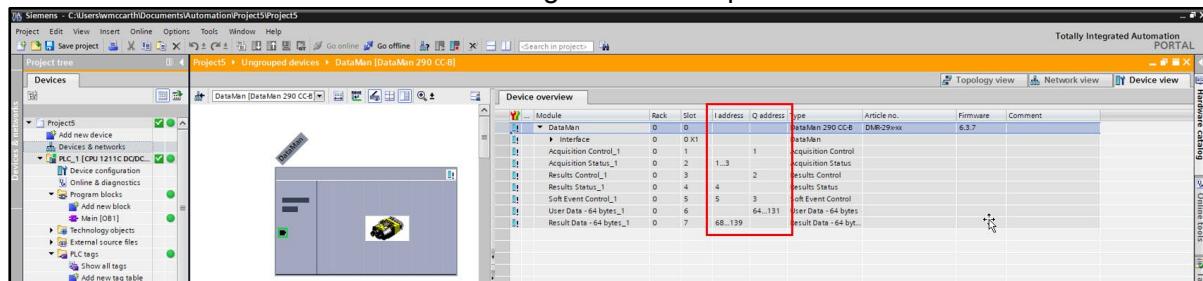
When you are Online the Go online button will be greyed out (inactive).



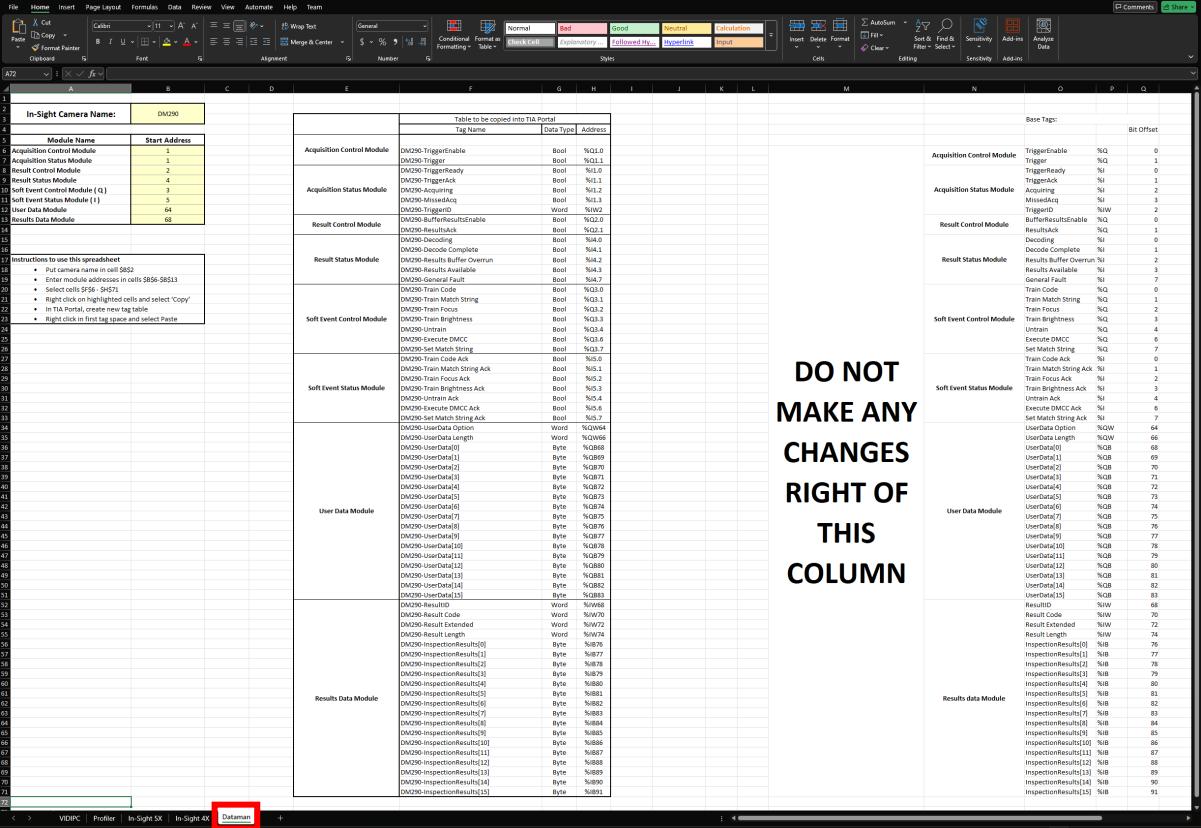
1. Select the DataMan 290 and click the Device View tab.



The **Device Overview** tab opens. Note the starting I and Q addresses, these are the start addresses that will be entered into the Tag Generator Spreadsheet.



2. Navigate to the location of the **PROFINET Tag Generator spreadsheet** on the PC.
3. Open the spreadsheet.
4. Navigate to the **DataMan** tab. This is where you will find the start address for each module. These are the Start Addresses that will be entered into the PROFINET Tag Generator spreadsheet.



The screenshot shows a Microsoft Excel spreadsheet titled "PROFINET Tag Generator". The "DataMan" tab is selected. The table lists tags grouped by module:

	Tag Name	Data Type	Address
Acquisition Control Module	DM290-Triggerable	Bool	%Q1.0
	DM290-Trigger	Bool	%Q1.1
	DM290-TriggerReady	Bool	%N1.0
	DM290-TrainMatchAck	Bool	%N1.1
	DM290-Acquire	Bool	%Q1.2
	DM290-MissedAq	Bool	%N1.3
	DM290-TriggerID	Word	%WV2
	DM290-ResultID	Word	%WV3
	DM290-ResultEnable	Bool	%Q2.0
	DM290-ResultAck	Bool	%Q2.1
Result Control Module	DM290-Decoding	Bool	%N4.0
	DM290-DecodeComplete	Bool	%N4.1
	DM290-Results Buffer Overrun	Bool	%N4.2
	DM290-Results Available	Bool	%N4.3
	DM290-General Fault	Bool	%N4.7
	DM290-Train Match String	Bool	%Q3.0
	DM290-Train Match String Ack	Bool	%Q3.1
	DM290-Train Focus	Bool	%Q3.2
	DM290-Train Focus Ack	Bool	%Q3.3
	DM290-Untrain	Bool	%Q3.4
Result Status Module	DM290-Execute DMCC	Bool	%Q3.6
	DM290-Train Match String	Bool	%Q3.7
	DM290-TrainMatchAck	Bool	%N5.0
	DM290-Train Match String Ack	Bool	%N5.1
	DM290-Train Focus Ack	Bool	%N5.2
	DM290-Untrain Ack	Bool	%N5.3
	DM290-Untrain Ack	Bool	%N5.4
	DM290-Execute DMCC Ack	Bool	%N5.5
	DM290-Userdata Option	Word	%WV4
	DM290-Userdata Length	Word	%WV6
Soft Event Control Module	DM290-Userdata[1]	Byte	%QB80
	DM290-Userdata[2]	Byte	%QB79
	DM290-Userdata[3]	Byte	%QB78
	DM290-Userdata[4]	Byte	%QB77
	DM290-Userdata[5]	Byte	%QB76
	DM290-Userdata[6]	Byte	%QB75
	DM290-Userdata[7]	Byte	%QB74
	DM290-Userdata[8]	Byte	%QB73
	DM290-Userdata[9]	Byte	%QB72
	DM290-Userdata[10]	Byte	%QB71
Soft Event Status Module	DM290-Userdata[11]	Byte	%QB70
	DM290-Userdata[12]	Byte	%QB69
	DM290-Userdata[13]	Byte	%QB68
	DM290-Userdata[14]	Byte	%QB67
	DM290-Userdata[15]	Byte	%QB66
	DM290-ResultID	Word	%WV8
	DM290-ResultCode	Word	%WV9
	DM290-ResultExtended	Word	%WV72
	DM290-ResultLength	Word	%W74
	DM290-InspectionResult[0]	Byte	%N879
DM290-InspectionResult[1]	Byte	%N877	
DM290-InspectionResult[2]	Byte	%N878	
DM290-InspectionResult[3]	Byte	%N879	
DM290-InspectionResult[4]	Byte	%N880	
DM290-InspectionResult[5]	Byte	%N881	
DM290-InspectionResult[6]	Byte	%N882	
DM290-InspectionResult[7]	Byte	%N883	
DM290-InspectionResult[8]	Byte	%N884	
DM290-InspectionResult[9]	Byte	%N885	
DM290-InspectionResult[10]	Byte	%N886	
DM290-InspectionResult[11]	Byte	%N887	
DM290-InspectionResult[12]	Byte	%N888	
DM290-InspectionResult[13]	Byte	%N889	
DM290-InspectionResult[14]	Byte	%N890	
DM290-InspectionResult[15]	Byte	%N891	
User Data Module	DM290-Userdata Option	Word	%WV4
	DM290-Userdata Length	Word	%WV6
	DM290-Userdata[1]	Byte	%QB80
	DM290-Userdata[2]	Byte	%QB79
	DM290-Userdata[3]	Byte	%QB78
	DM290-Userdata[4]	Byte	%QB77
	DM290-Userdata[5]	Byte	%QB76
	DM290-Userdata[6]	Byte	%QB75
	DM290-Userdata[7]	Byte	%QB74
	DM290-Userdata[8]	Byte	%QB73
Results Data Module	DM290-ResultID	Word	%WV8
	DM290-ResultCode	Word	%WV9
	DM290-ResultExtended	Word	%WV72
	DM290-ResultLength	Word	%W74
	DM290-InspectionResult[0]	Byte	%N879
	DM290-InspectionResult[1]	Byte	%N877
	DM290-InspectionResult[2]	Byte	%N878
	DM290-InspectionResult[3]	Byte	%N879
	DM290-InspectionResult[4]	Byte	%N880
	DM290-InspectionResult[5]	Byte	%N881
DO NOT MAKE ANY CHANGES RIGHT OF THIS COLUMN			
Results Data Module	ResultID	Word	68
	ResultCode	Word	70
	ResultExtended	Word	72
	ResultLength	Word	74
	InspectionResult[0]	Byte	76
	InspectionResult[1]	Byte	77
	InspectionResult[2]	Byte	78
	InspectionResult[3]	Byte	79
	InspectionResult[4]	Byte	80
	InspectionResult[5]	Byte	81
InspectionResult[6]	Byte	82	
InspectionResult[7]	Byte	83	
InspectionResult[8]	Byte	84	
InspectionResult[9]	Byte	85	
InspectionResult[10]	Byte	86	
InspectionResult[11]	Byte	87	
InspectionResult[12]	Byte	88	
InspectionResult[13]	Byte	89	
InspectionResult[14]	Byte	90	
InspectionResult[15]	Byte	91	

NOTE: The Control and Status modules match what is in the spreadsheet. Note the spreadsheet has a tab for In-Sight cameras, and a tab for DataMan sensors.

NOTE: In the Results Data Module set the Data Type to Word for the following cells:
DM290-ResultID, DM290-ResultCode, DE290-ResultExtended, DM290-ResultLength

5. Enter the **DataMan 290** sensor name in cell **B2**.
6. Edit the yellow fields in the Spreadsheet to match the I and Q addresses.

Module	Rack	Slot	I address	Q address	Type	Module Name	Start Address
▼ DataMan	0	0			DataMan 290 CC-B	Acquisition Control Module	1
► Interface	0	0 X1			DataMan	Acquisition Status Module	1
Acquisition Control_1	0	1	1		Acquisition Control	Result Control Module	2
Acquisition Status_1	0	2	1...3		Acquisition Status	Result Status Module	4
Results Control_1	0	3		2	Results Control	Soft Event Control Module (Q)	3
Results Status_1	0	4	4		Results Status	Soft Event Status Module (I)	5
Soft Event Control_1	0	5	5	3	Soft Event Control	User Data Module	64
User Data - 64 bytes_1	0	6		64...131	User Data - 64 bytes	Results Data Module	68
Result Data - 64 bytes_1	0	7	68...139		Result Data - 64 bytes		

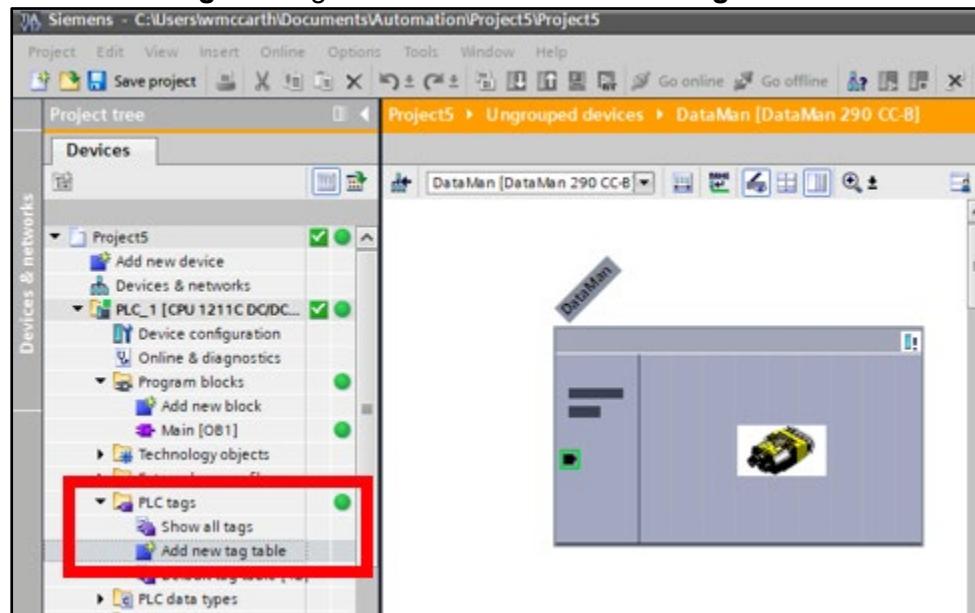
7. Copy cells F6 – H71.

Module Name

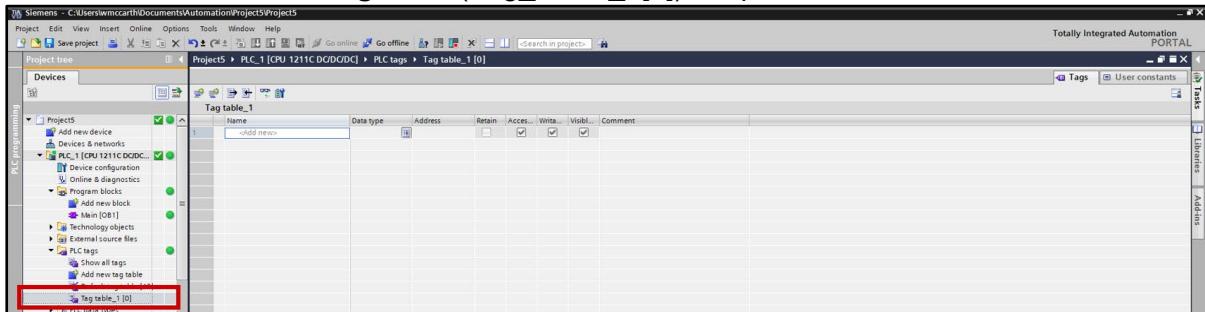
In-Sight Camera Name:	DM290
Module Name	Start Address
Acquisition Control Module	
A290-TriggerEnable	Bool %Q0.0
A290-Trigger	Bool %Q0.1
A290-TriggerReady	Bool %Q1.0
Result Control Module	
A290-Result	Bool %Q1.1
Soft Event Control Module (Q)	
A290-Acquiring	Bool %Q1.2
Soft Event Status Module (1)	
A290-MissedAcq	Bool %Q1.3
User Data Module	
A290-TriggerID	Word %W0.0
Results Data Module	
A290-ResultsAck	Bool %Q2.0
A290-ResultsEnable	Bool %Q2.1
A290-Decoding	Bool %Q4.0
A290-DecodeComplete	Bool %Q4.1
A290-ResultsOverrun	Bool %Q4.2
A290-ResultsAvailable	Bool %Q4.3
A290-ResultsFault	Bool %Q4.4
Soft Event Control Module	
A290-Train	Bool %Q5.0
A290-Train Match String	Bool %Q5.1
A290-Train Focus	Bool %Q5.2
A290-Train Nearness	Bool %Q5.3
A290-Untrain	Bool %Q5.4
A290-Execute DMCC	Bool %Q5.9
A290-Stop	Bool %Q5.7
A290-Train Code Ack	Bool %S0.0
A290-Train Match String Ack	Bool %S0.1
A290-Train Focus Ack	Bool %S0.2
A290-Nearness Ack	Bool %S0.3
A290-Untrain Ack	Bool %S0.4
A290-Execute DMCC Ack	Bool %S0.8
A290-Stop Ack	Bool %S0.9
Soft Event Status Module	
A290-Userdata Option	Word %QW04
A290-Userdata Length	Word %QW08
A290-Userdata[0]	Byte %QB0
A290-Userdata[1]	Byte %QB01
A290-Userdata[2]	Byte %QB02
A290-Userdata[3]	Byte %QB03
A290-Userdata[4]	Byte %QB04
A290-Userdata[5]	Byte %QB05
A290-Userdata[6]	Byte %QB06
A290-Userdata[7]	Byte %QB07
A290-Userdata[8]	Byte %QB08
A290-Userdata[9]	Byte %QB09
A290-Userdata[10]	Byte %QB0A
A290-Userdata[11]	Byte %QB0B
A290-Userdata[12]	Byte %QB0C
A290-Userdata[13]	Byte %QB0D
A290-Userdata[14]	Byte %QB0E
A290-Userdata[15]	Byte %QB0F
A290-Userdata[16]	Byte %QB00
A290-Userdata[17]	Byte %QB01
A290-Userdata[18]	Byte %QB02
A290-Userdata[19]	Byte %QB03
A290-Userdata[20]	Byte %QB04
A290-Userdata[21]	Byte %QB05
A290-Userdata[22]	Byte %QB06
A290-Userdata[23]	Byte %QB07
A290-Userdata[24]	Byte %QB08
A290-Userdata[25]	Byte %QB09
A290-Userdata[26]	Byte %QB0A
A290-Userdata[27]	Byte %QB0B
A290-Userdata[28]	Byte %QB0C
A290-Userdata[29]	Byte %QB0D
A290-Userdata[30]	Byte %QB0E
A290-Userdata[31]	Byte %QB0F
User Data Module	
A290-Result	Word %W0.0
A290-ResultCode	Word %W0.1
A290-Result Extended	Word %W0.2
A290-Result Length	Word %W0.4
A290-InspectionResult[0]	Byte %B0
A290-InspectionResult[1]	Byte %B01
A290-InspectionResult[2]	Byte %B02
A290-InspectionResult[3]	Byte %B03
A290-InspectionResult[4]	Byte %B04
A290-InspectionResult[5]	Byte %B05
A290-InspectionResult[6]	Byte %B06
A290-InspectionResult[7]	Byte %B07
A290-InspectionResult[8]	Byte %B08
A290-InspectionResult[9]	Byte %B09
A290-InspectionResult[10]	Byte %B0A
A290-InspectionResult[11]	Byte %B0B
A290-InspectionResult[12]	Byte %B0C
A290-InspectionResult[13]	Byte %B0D
A290-InspectionResult[14]	Byte %B0E
A290-InspectionResult[15]	Byte %B0F
Results Data Module	
A290-InspectionResult[0]	Byte %B00
A290-InspectionResult[1]	Byte %B01
A290-InspectionResult[2]	Byte %B02
A290-InspectionResult[3]	Byte %B03
A290-InspectionResult[4]	Byte %B04
A290-InspectionResult[5]	Byte %B05
A290-InspectionResult[6]	Byte %B06
A290-InspectionResult[7]	Byte %B07
A290-InspectionResult[8]	Byte %B08
A290-InspectionResult[9]	Byte %B09
A290-InspectionResult[10]	Byte %B0A
A290-InspectionResult[11]	Byte %B0B
A290-InspectionResult[12]	Byte %B0C
A290-InspectionResult[13]	Byte %B0D
A290-InspectionResult[14]	Byte %B0E
A290-InspectionResult[15]	Byte %B0F

8. Return to the Siemens TIA Portal.

9. Expand the PLC tags setting and double-click Add new tag table.



10. Double-click the new Tag table (Tag_Table_1[0]) to open.



The new tag table opens.



11. Select the first three cells in the table.

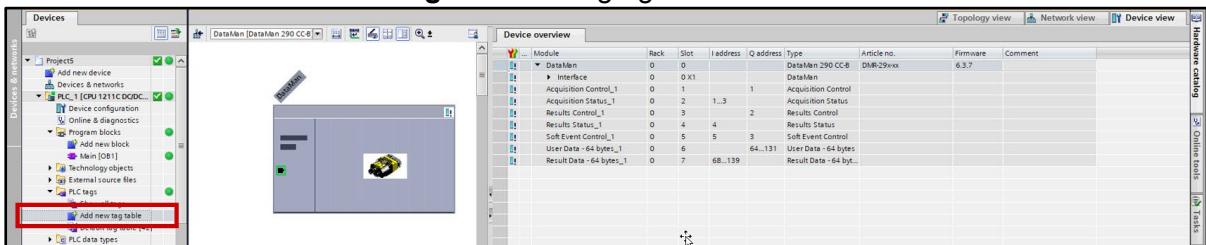


12. Right-click and select Paste.

The Tag Table populates the information.

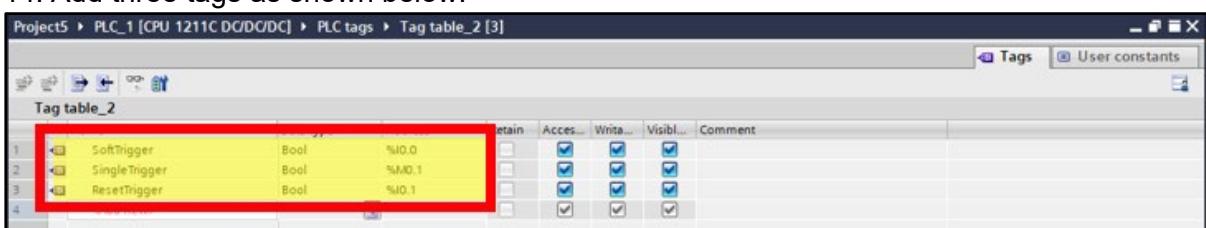
Name	Data type	Address	Retain	Access	Write	Visibility	Comment
DIM90-TriggerEnable	Bool	%Q1.0					
DIM90-TriggerReady	Bool	%Q1.1					
DIM90-TriggerAck	Bool	%I1.0					
DIM90-Acquiring	Bool	%I1.1					
DIM90-AssignedAq	Bool	%I1.2					
DIM90-TriggerID	Word	%Q1.3					
DIM90-BufferResultsEnable	Bool	%Q2.0					
DIM90-ResultsAck	Bool	%Q2.1					
DIM90-Decoding	Bool	%I4.0					
DIM90-Decode Complete	Bool	%I4.1					
DIM90-Results Buffer Overrun	Bool	%I4.2					
DIM90-Results Available	Bool	%I4.3					
DIM90-Train Focus	Bool	%I4.7					
DIM90-Train Code	Bool	%Q3.0					
DIM90-Train Match String	Bool	%Q3.1					
DIM90-Train Match Focus	Bool	%Q3.2					
DIM90-Train Brightness	Bool	%Q3.3					
DIM90-Untrain	Bool	%Q3.4					
DIM90-Execute DMAC	Bool	%Q3.6					
DIM90-Get Match String	Bool	%Q3.7					
DIM90-Train Code Ack	Bool	%I5.0					
DIM90-Train Match String Ack	Bool	%I5.1					
DIM90-Train Focus Ack	Bool	%I5.2					
DIM90-Train Brightness Ack	Bool	%I5.3					
DIM90-Untrain Ack	Bool	%I5.4					
DIM90-Request DMAC Ack	Bool	%I5.6					

13. Double-click the Add new tag table setting again.



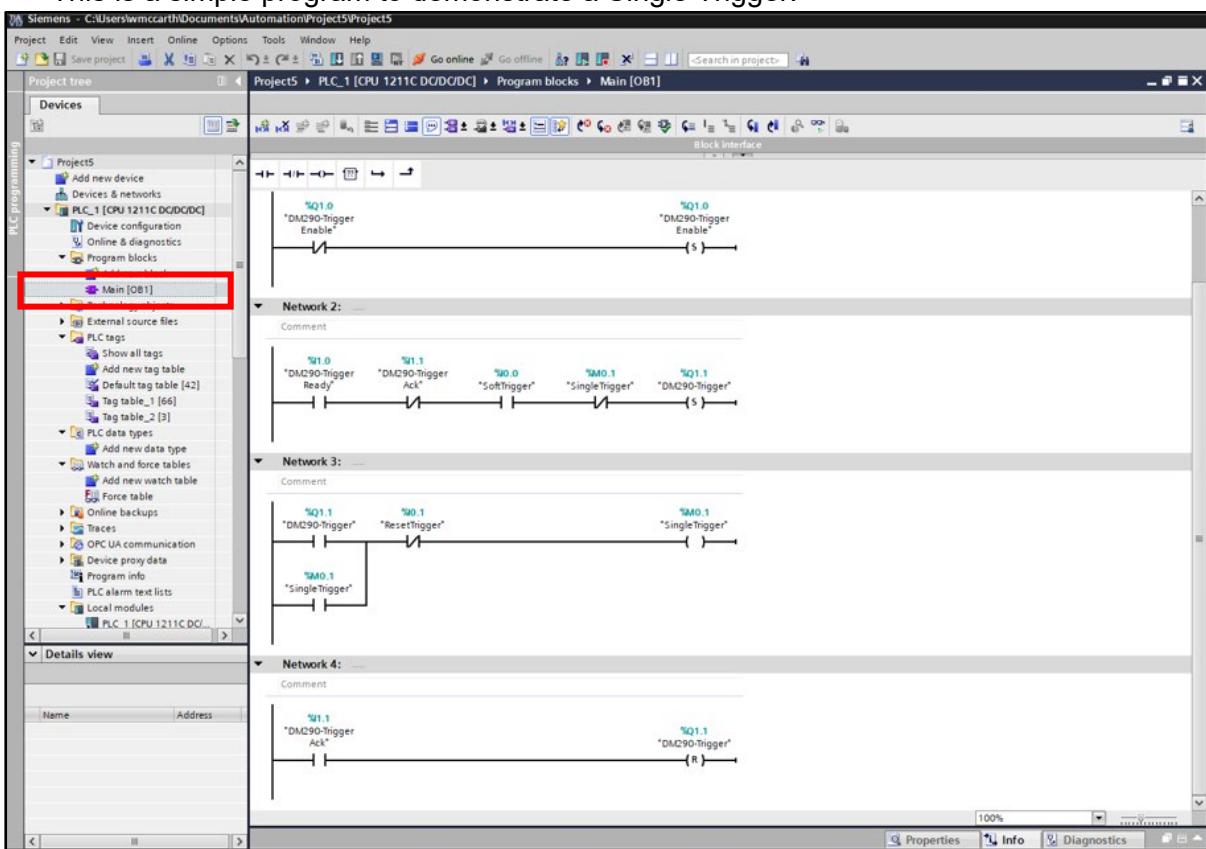
A blank table displays.

14. Add three tags as shown below.

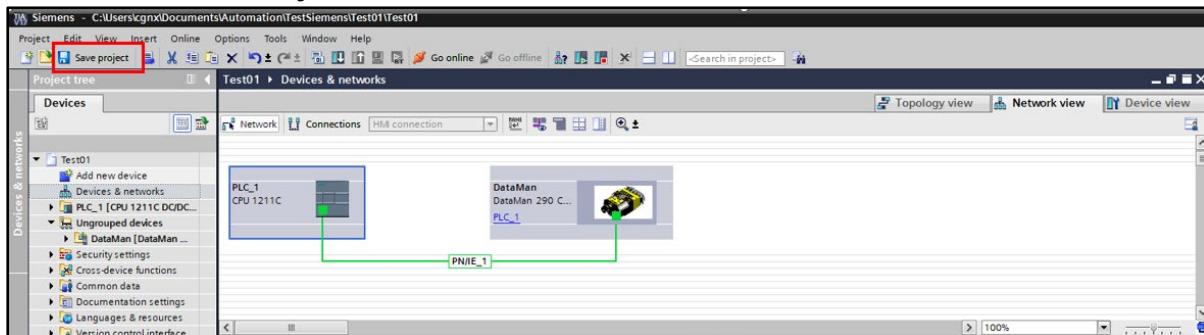


15. Double-click on the **Main [OBJ1]** setting and add logic as shown below .

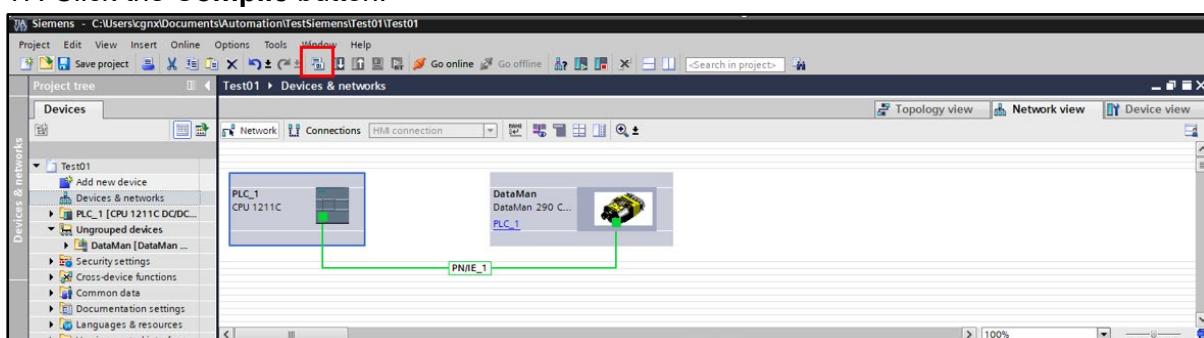
This is a simple program to demonstrate a Single Trigger.



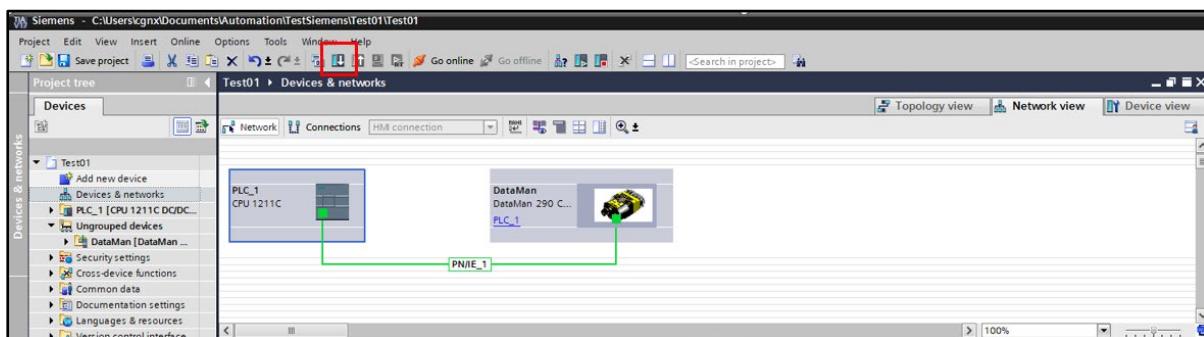
16. Click the **Save Project** button.



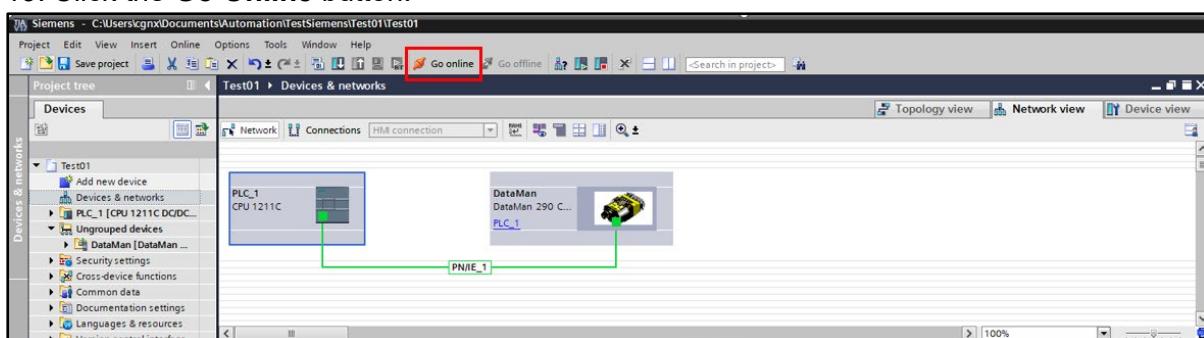
17. Click the **Compile** button.



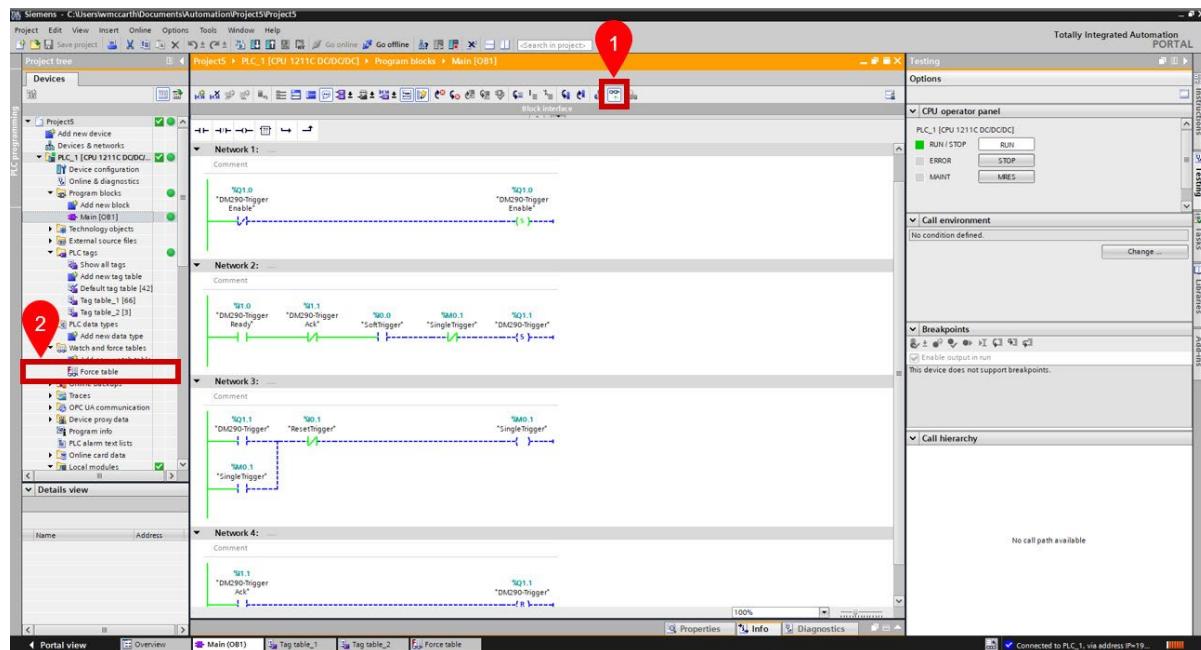
18. Click the **Download** button.



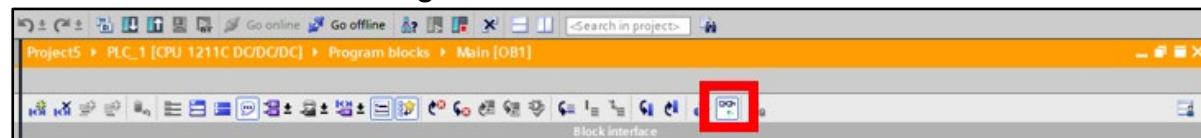
19. Click the **Go Online** button.



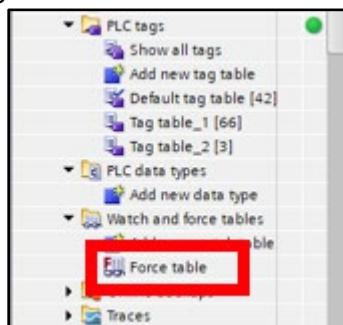
Sample Code



1. Click the **Enable Monitoring** button.



2. Open the **Force table** setting.



3. Add two tags as shown below.

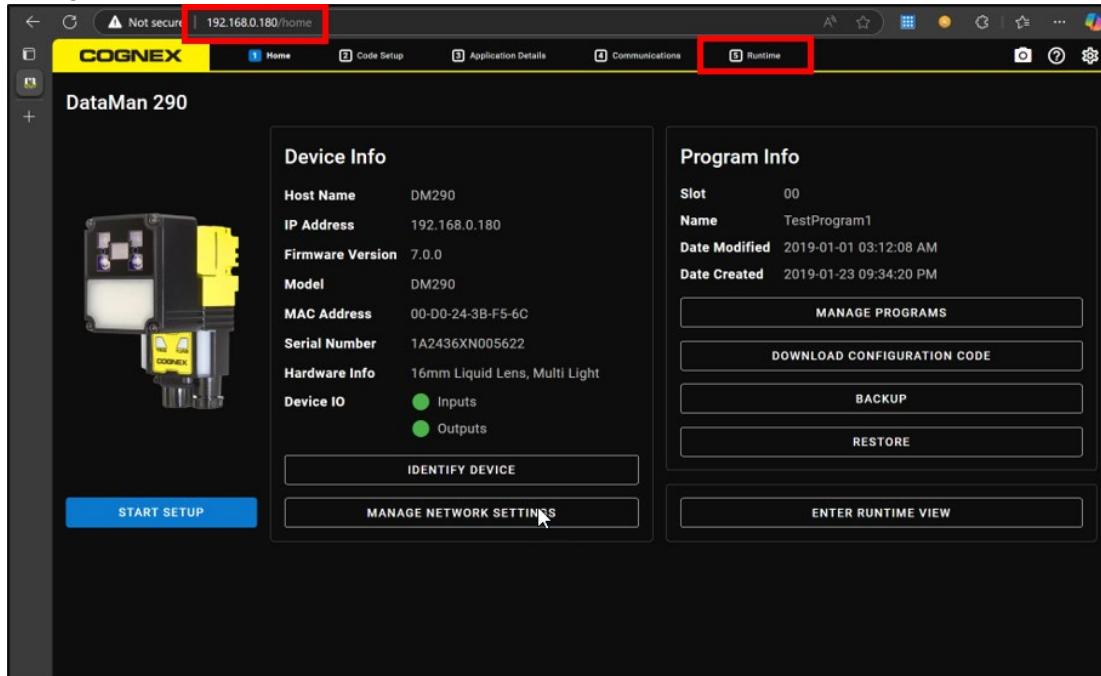
Name	Address	Display terminals	Monitored value	Force value	F	Comment	Tag comment
"SoftTrigger".P	%IO0:I	Bool		TRUE	<input checked="" type="checkbox"/>		
"ResetTrigger".P	%IO1:I	Bool		TRUE	<input checked="" type="checkbox"/>		

NOTE: It is recommended that the Force table is set to Floating as we will want to see the logic while forcing values.

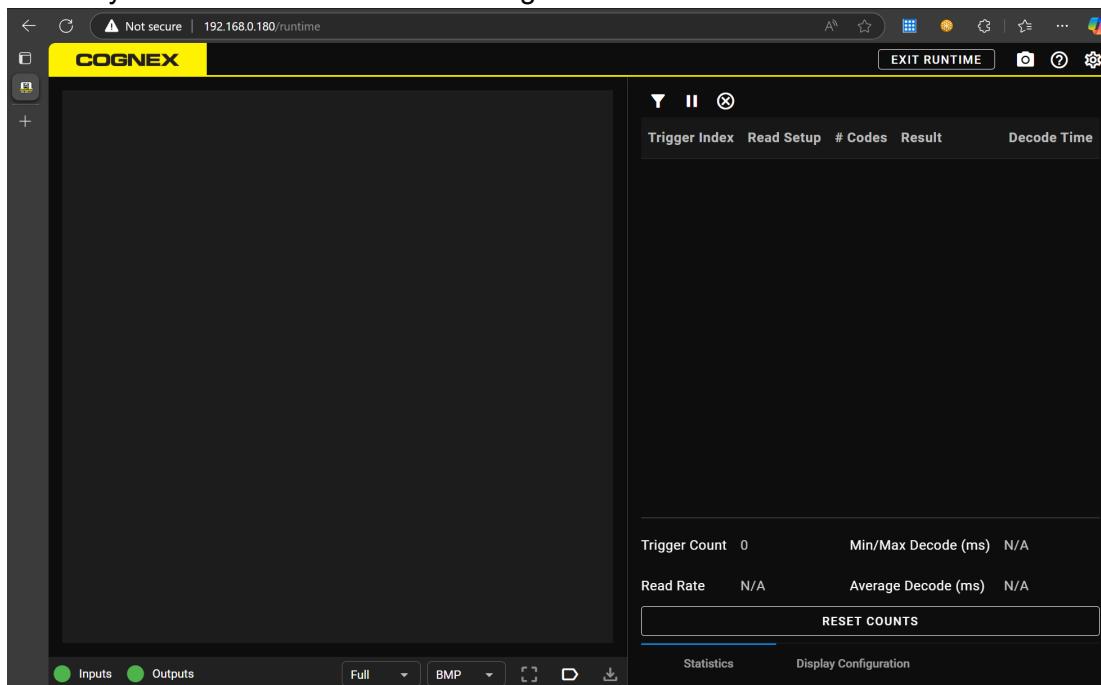
i	Name	Address	Display format	Monitor value	Force value	F	Comment
1	"SoftTrigger":P	%I0.0:P	Bool	<input type="checkbox"/> 0	TRUE	<input checked="" type="checkbox"/>	
2	"ResetTrigger":P	%I0.1:P	Bool	<input type="checkbox"/> 0	TRUE	<input checked="" type="checkbox"/>	
3	<Add new>						

Trigger Camera Verification

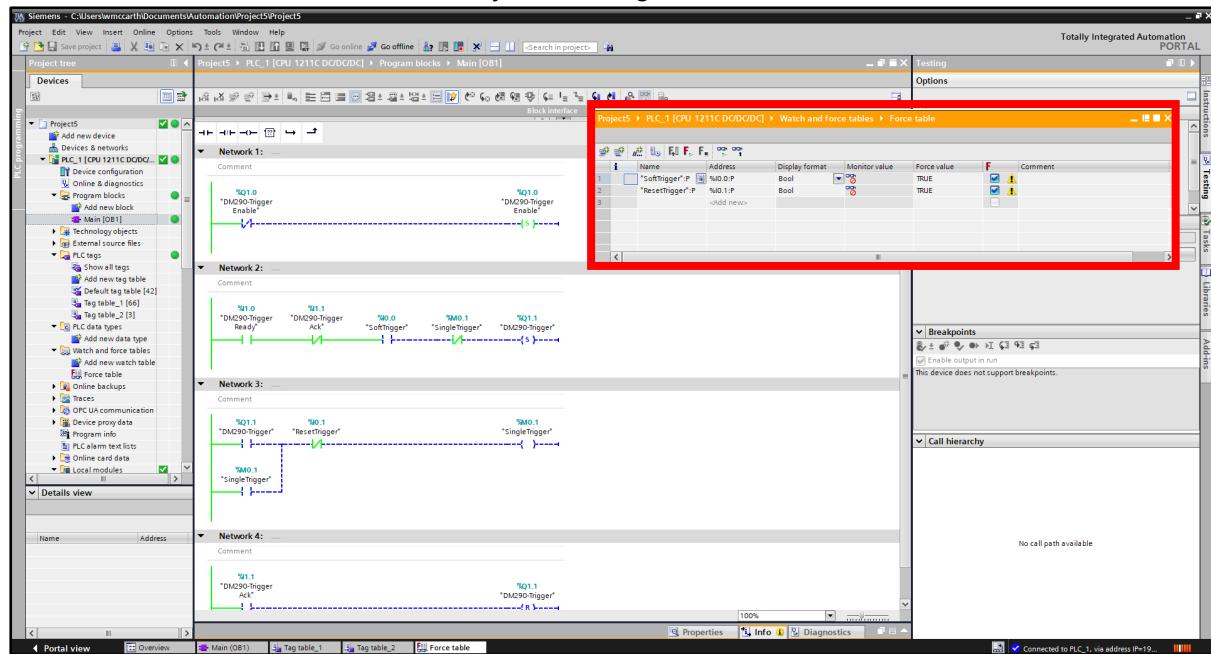
1. Return to the Cognex DataMan WebUI. Open a Web Browser and enter the IP Address of your DataMan 290.
2. Navigate to Step 5 **Runtime**.



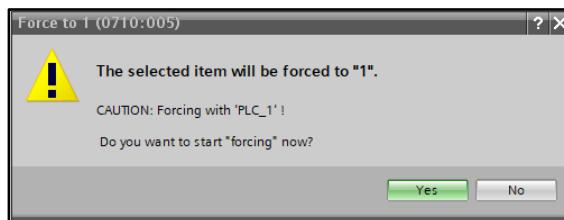
3. Ensure your Runtime looks like this image.



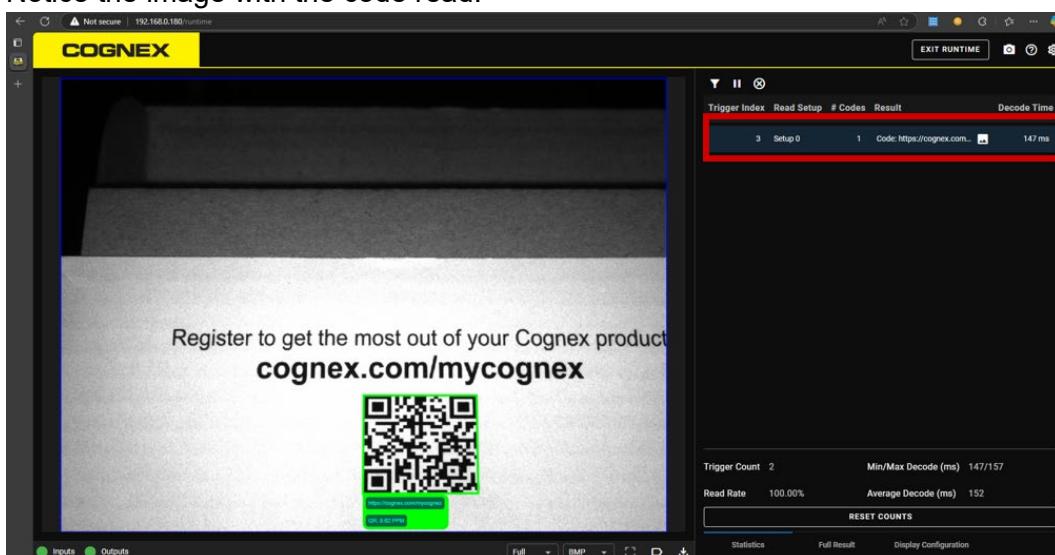
4. In the Siemens TIA Portal, select your floating Force table window.



5. Right-click on the **SoftTrigger** Tag and select Force to 1.
6. Click the **Yes** button to allow **The selected item will be forced to "1"** prompt.



7. Return to the Cognex WebUI.
Notice the image with the code read!

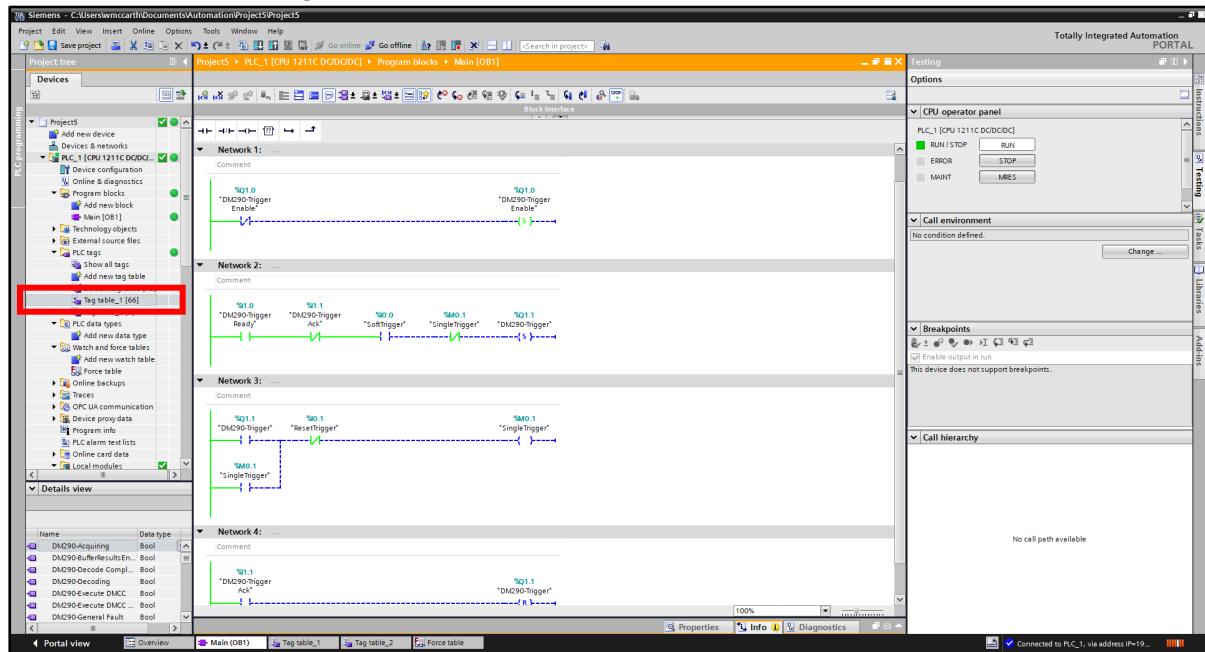


8. Navigate back to the Siemens TIA Portal,
9. Navigate to the floating Force table, right-click on the **SoftTrigger** tag and select **Force-Stop Forcing** – notice the Single Trigger Tag is still *latched* in the logic.
10. Navigate to the floating Force table, right-click on the **ResetTrigger** tag and select **Force-Force to 1** – notice the SingleTrigger tag is now *unlatched*.
11. Navigate to the floating Force table, right-click on the ResetTrigger tag and select **Force-Stop Forcing**.
12. You may repeat this process for Single Trigger testing.

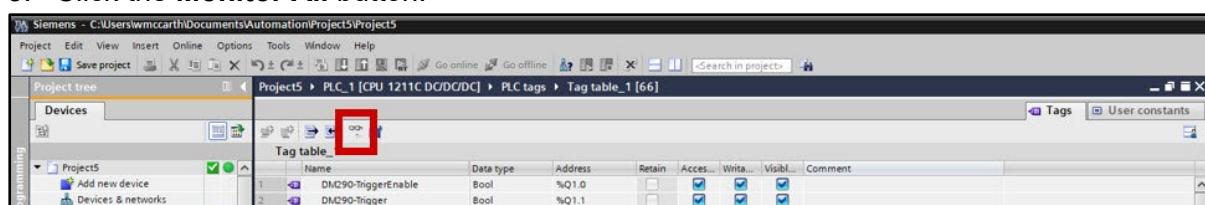
Sample Code

Inspection Results

1. Navigate to the **Siemens TIA Portal**.
2. Double-click on **Tag table_1**.



3. Click the **Monitor All** button.



4. Scroll down to the **InspectionResults** Byte Tags.

The screenshot shows the Siemens TIA Portal interface displaying the 'Tag table_1' table. A red box highlights the first four entries under the 'Name' column: 'DM290-InspectionResults[0]', 'DM290-InspectionResults[1]', 'DM290-InspectionResults[2]', and 'DM290-InspectionResults[3]'. These entries are highlighted with a yellow background.

Name	Data type	Address	Retain	Access...	Write...	Visible...	Monitor value	Comment
DM290-UserData[12]	Byte	%QB80	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#00	
DM290-UserData[13]	Byte	%QB81	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#00	
DM290-UserData[14]	Byte	%QB82	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#00	
DM290-UserData[15]	Byte	%QB83	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#00	
DM290-ResultID	Word	%IW68	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#381C	
DM290-Result Code	Word	%IW70	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#0001	
DM290-Result Extended	Word	%IW72	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#0000	
DM290-Result Length	Word	%IW74	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#001B	
DM290-InspectionResults[0]	Byte	%IB76	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#68	
DM290-InspectionResults[1]	Byte	%IB77	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#74	
DM290-InspectionResults[2]	Byte	%IB78	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#74	
DM290-InspectionResults[3]	Byte	%IB79	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#70	
DM290-InspectionResults[4]	Byte	%IB80	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#75	
DM290-InspectionResults[5]	Byte	%IB81	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#3A	
DM290-InspectionResults[6]	Byte	%IB82	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#2F	
DM290-InspectionResults[7]	Byte	%IB83	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#2F	
DM290-InspectionResults[8]	Byte	%IB84	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#63	
DM290-InspectionResults[9]	Byte	%IB85	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16#6F	

5. From the Monitor Value tags you can view the Hex value stored in the byte of the Result.

Example:

- a. InspectionResults[0] value is 68, hex of this value is “h”
- b. InspectionResults[1] value is 74, hex of this value is “t”
- c. InspectionResults[2] value is 74, hex of this value is “t”
- d. InspectionResults[3] value is 70, hex of this value is “p”

As you can see from the result on the browser the read result is:

<https://cognex.com/mycognex>.

This is evidence that you have successfully triggered the DataMan 290, Read a Code, and Sent the Value to the PLC.

NOTE: Now that the value is in the PLC it can be copied into other logic as needed.

NOTE: The Result Array is 16 bytes, this can be increased using the PROFINET Tag Generator spreadsheet.