



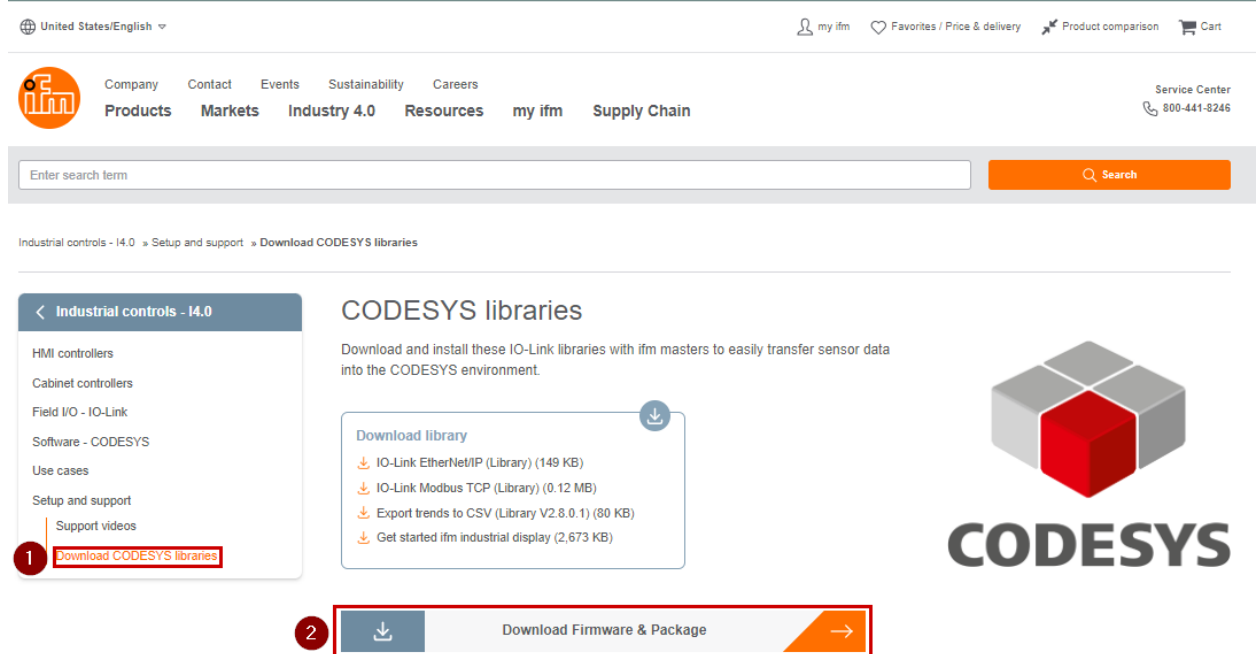
## Ifm Programmable HMI Controller for Industrial Systems

Requirements .....	2
Hardware overview .....	3
Firmware Installation.....	4
ifm ecomat Display Package Installation.....	5
Install Codesys Package .....	5
Create a new Codesys Project .....	6
Go Online with the Project and Controller.....	10

## Requirements

1. Install the latest Codesys x64 from Codesys website (admin rights required)  
<http://us.store.codesys.com>

2. Download ecomat display firmware and package on ifm website  
<https://www.ifm.com/us/en/us/industrial-controls---i4.0/setup-and-support/codesys-libraries>



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Industrial controls - I4.0 » Setup and support » Download CODESYS libraries

**Industrial controls - I4.0**

- HMI controllers
- Cabinet controllers
- Field I/O - IO-Link
- Software - CODESYS
- Use cases
- Setup and support
- Support videos
- 1 Download CODESYS libraries**

**CODESYS libraries**

Download and install these IO-Link libraries with ifm masters to easily transfer sensor data into the CODESYS environment.

**Download library**

- IO-Link EtherNet/IP (Library) (149 KB)
- IO-Link Modbus TCP (Library) (0.12 MB)
- Export trends to CSV (Library V2.8.0.1) (80 KB)
- Get started ifm industrial display (2,673 KB)

**2** Download Firmware & Package

**CODESYS**

3. Controller programming, set up and support videos  
<https://www.ifm.com/us/en/us/industrial-controls---i4.0/setup-and-support/setup-and-support>

4. Codesys online training courses  
<https://us.store.codesys.com/events.html>

- a. Codesys V3 Essential Training (for beginners – no programming background)



CODESYS V3 Essentials Training - LIVE ONLINE - Jan 2023  
 2108100015-T-2023-01-23

**\$1,000.00**

[More Details](#)

This 16-hour training is targeted for individuals who are new to CODESYS and need to get started with a good foundation. Through a mix of lectures and hands-on exercises, this class teaches the basic features and concepts of CODESYS and the IEC 61131-3 programming languages.  
[Learn More](#)

- b. Codesys V3 Intensive Training (for end users with PLC programming background)



CODESYS V3 Intensive Training - Beverly, MA - March 2023  
 2108100012-T-2023-03-28

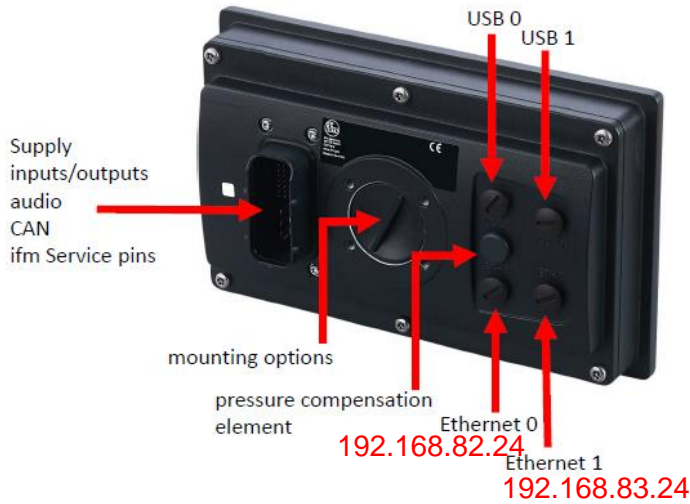
**\$2,500.00**

Available: 2 of 10  
 Mar 28, 2023 (08:00 EDT) - Mar 31, 2023 (17:00 EDT)  
 Beverly, MA

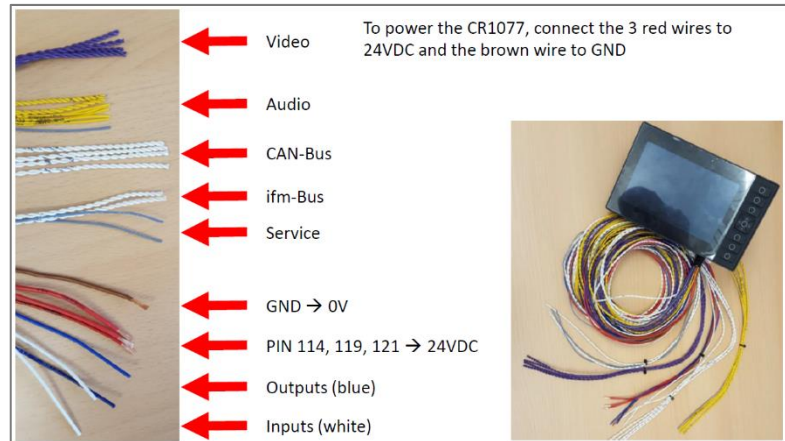
[More Details](#)




This 30-hour training is targeted for experienced control engineers transitioning to CODESYS, or for engineers wishing to take their knowledge of CODESYS to the next level. It combines basic and advanced training modules to give participants a comprehensive understanding of the capabilities of CODESYS, alternating between lectures and hands-on labs. It includes hints, tricks, and best practices compiled from many years of experience.  
[Learn More](#)

## Hardware overview



### EC0705: Connecting cordset with AMP connector



Additional Power Adapters and USB cable	
Part No.	Description
 <a href="#">E70450</a>	Power patch cord, 2-wire M12, 0.6 m PVC
 <a href="#">E70451</a>	Power cordset, 2-wire flying leads, 5 m PVC
 <a href="#">EC2099</a>	USB-cable connection

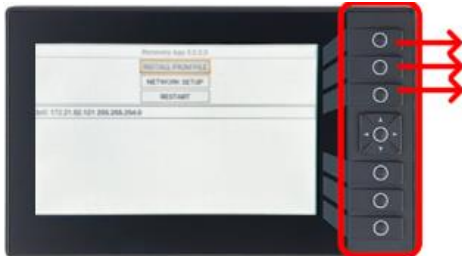
## Firmware Installation

### 1. Start Recovery App

Press 3 keypad keys at powering up the device or using Pins at the compact connector:

SERVICE1 = VBB

SERVICE0 = GND



Press any 3 keypad keys at powering up the device or using Pins at the compact connector:  
SERVICE1 = VBB  
SERVICE0 = GND

### 2. Use local Recovery App

Use "INSTALL FROM FILE" to install \*.swu- or \*.upd-package from USB memory device.

After successful installation, "RESTART" device.

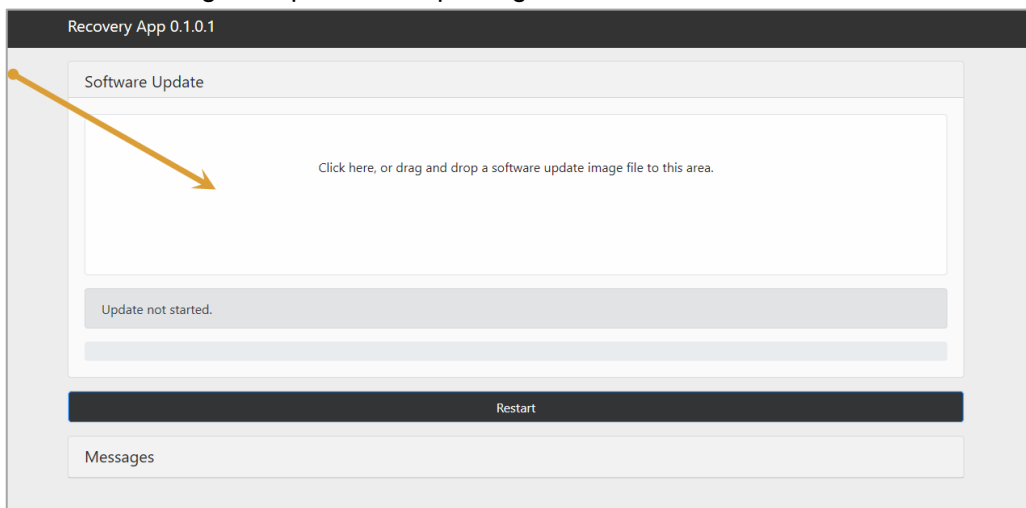
(Use "NETWORK SETUP" to change network parameters for web recovery app.)

### 3. Use Web Recovery App

Connect device to network

Enter device url: <http://192.168.82.247:8080>

Select or drag & drop the \*.swu package here

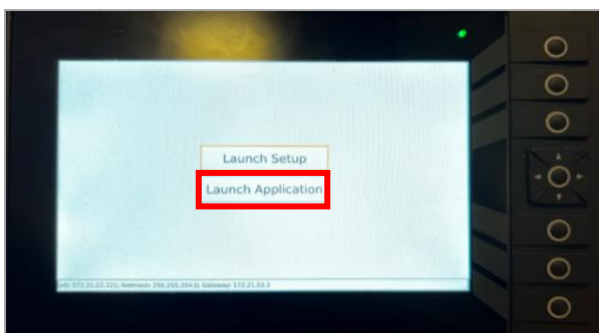


Wait until firmware is successfully loaded

Restart the device

### 4. **Attention:** Launch Application

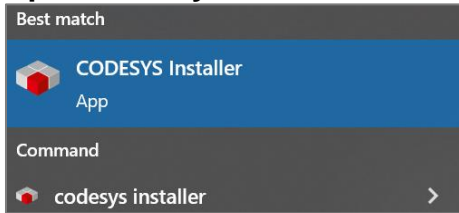
To start Codesys runtime, device application must be launch



# ifm ecomat Display Package Installation

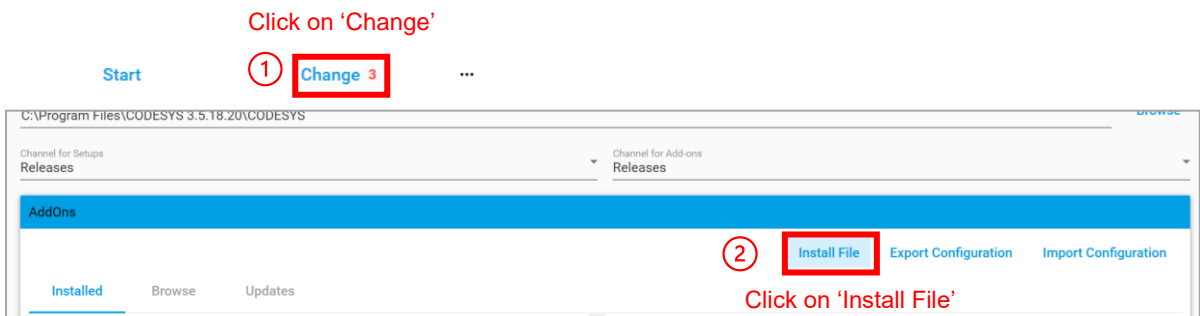
## Install Codesys Package

### 1. Open Codesys Installer with Administration Rights

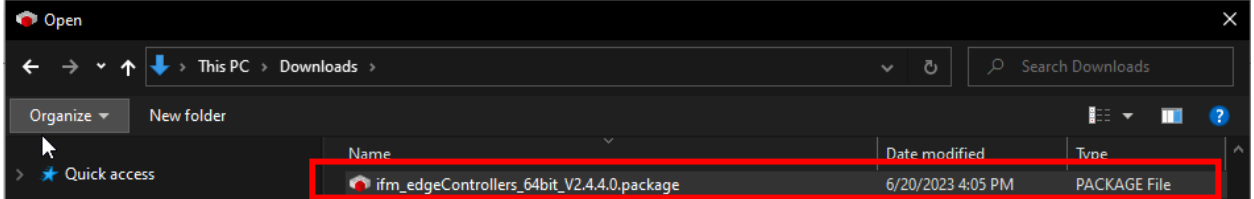


### 2. Follow the steps below to install ecomat display codesys package.

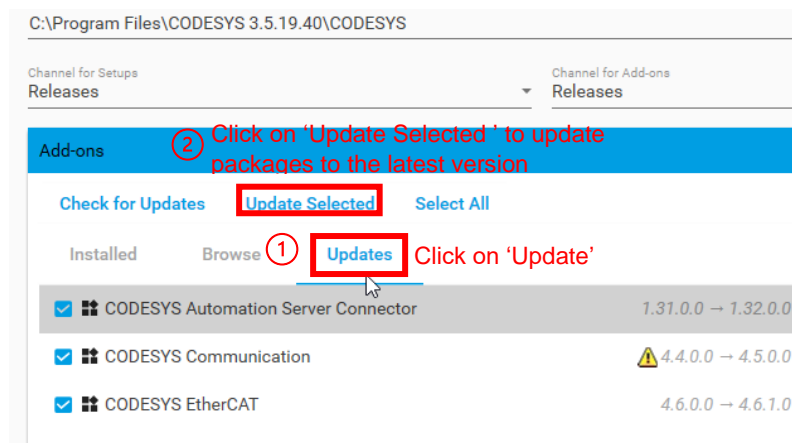
CODESYS 3.5 SP19 (64 bit) Patch 5  
Patch 4



Select the correct package.

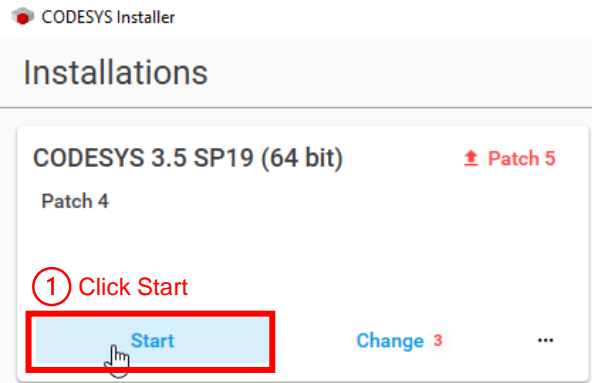


### 3. Update all to latest packages



## Create a new Codesys Project

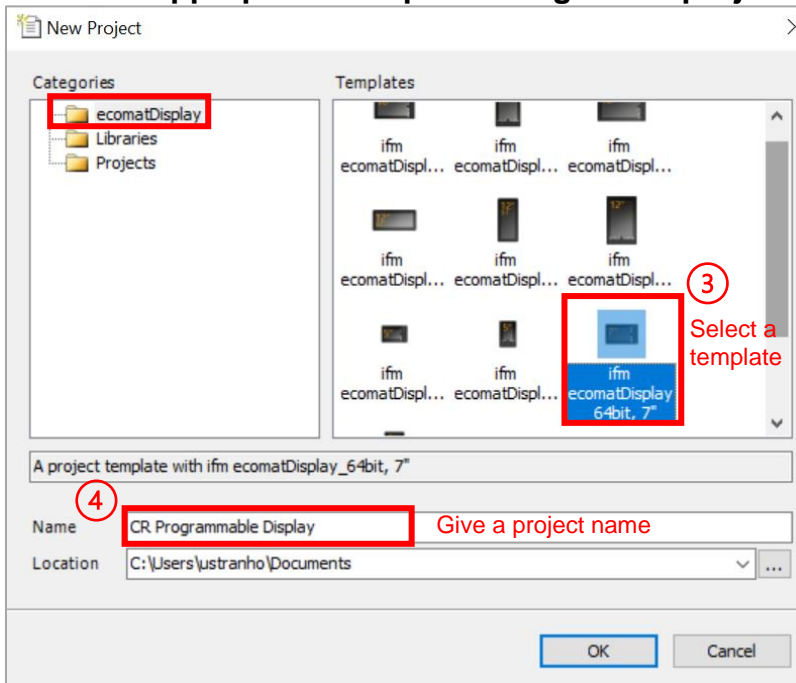
### 1. Open Codesys Installer



### 2. Create a new Project

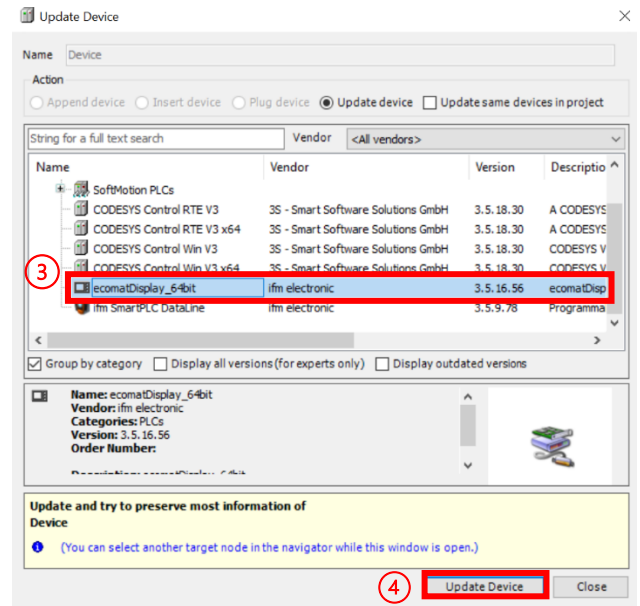
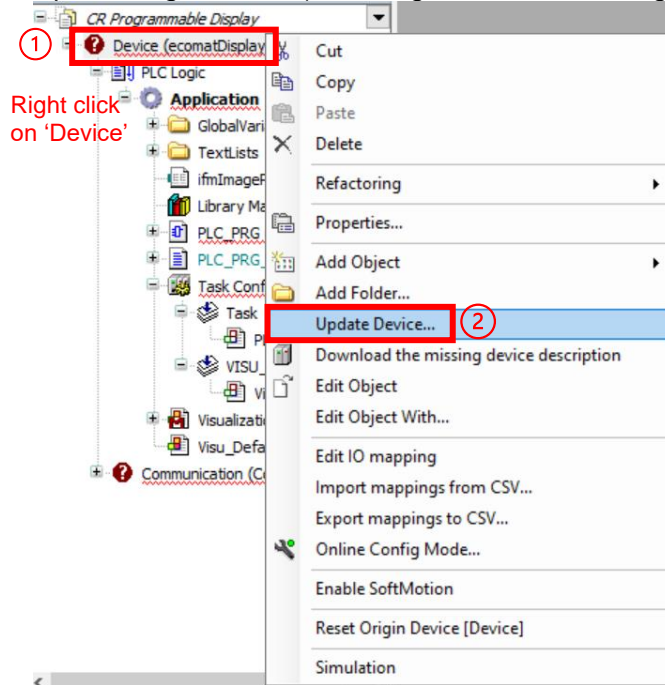


### 3. Select an appropriate Template and give the project a Name

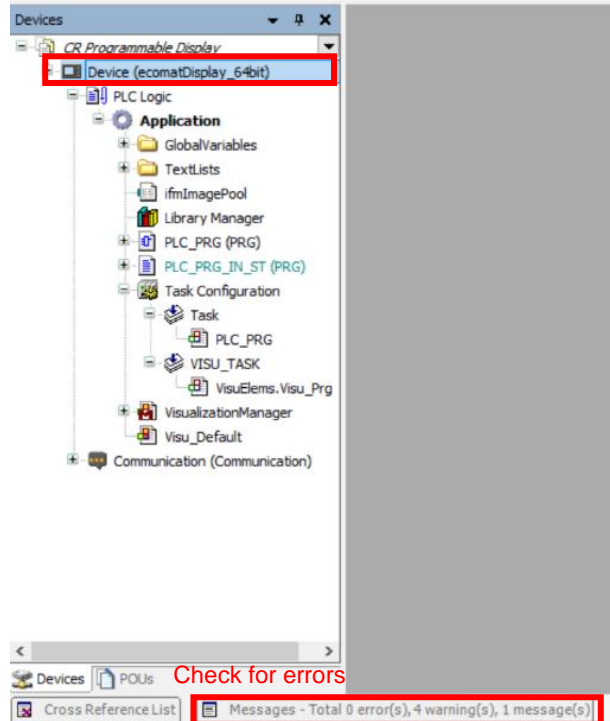


#### 4. Clear errors in a new project

Update target device (if the target device is missing. If not, ignore this step)



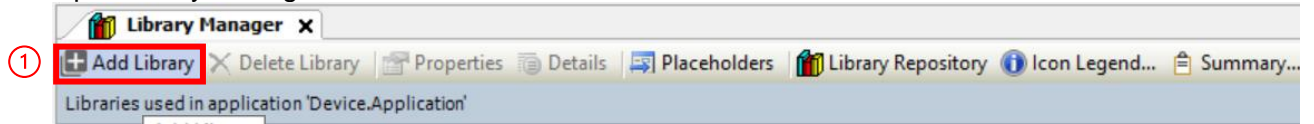
Errors clear after device is updated



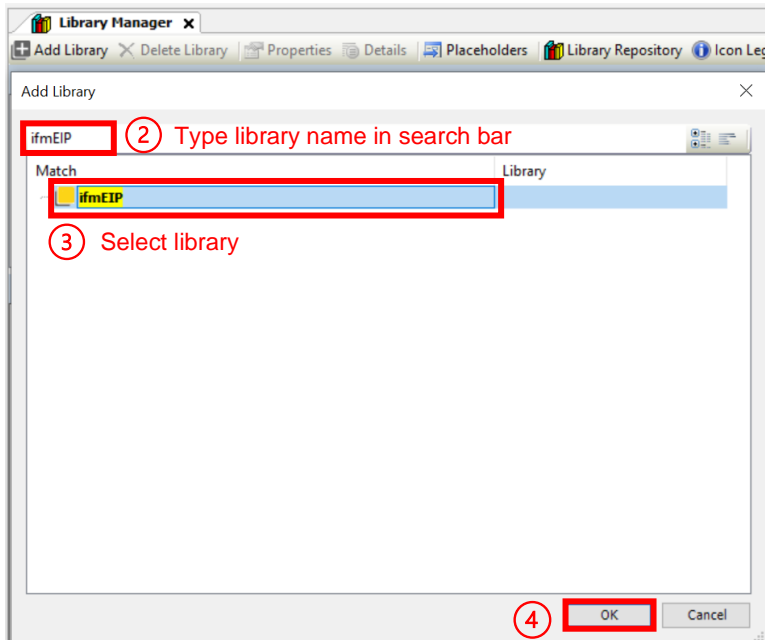


## 5. Add libraries to current project

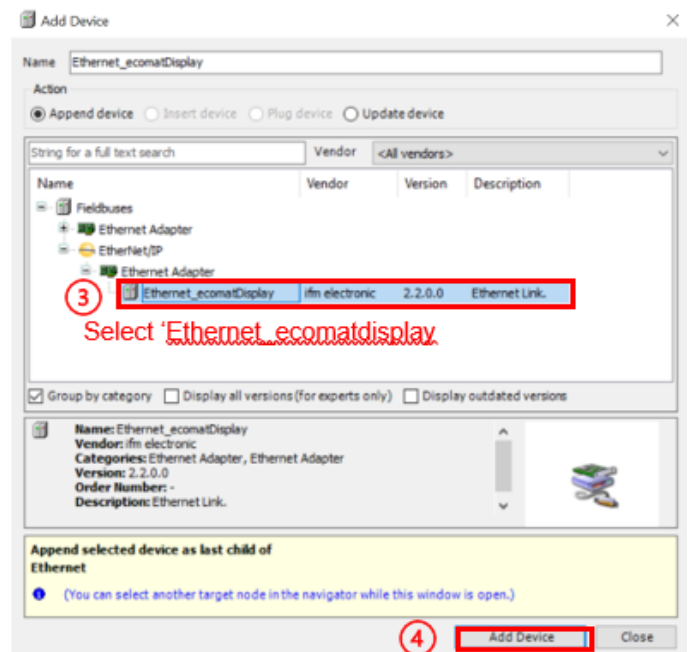
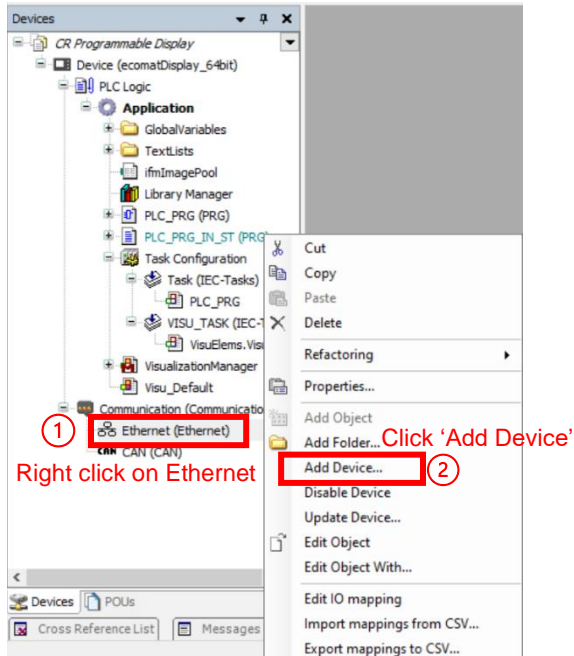
Open library manager



Select ifmEIP and click OK

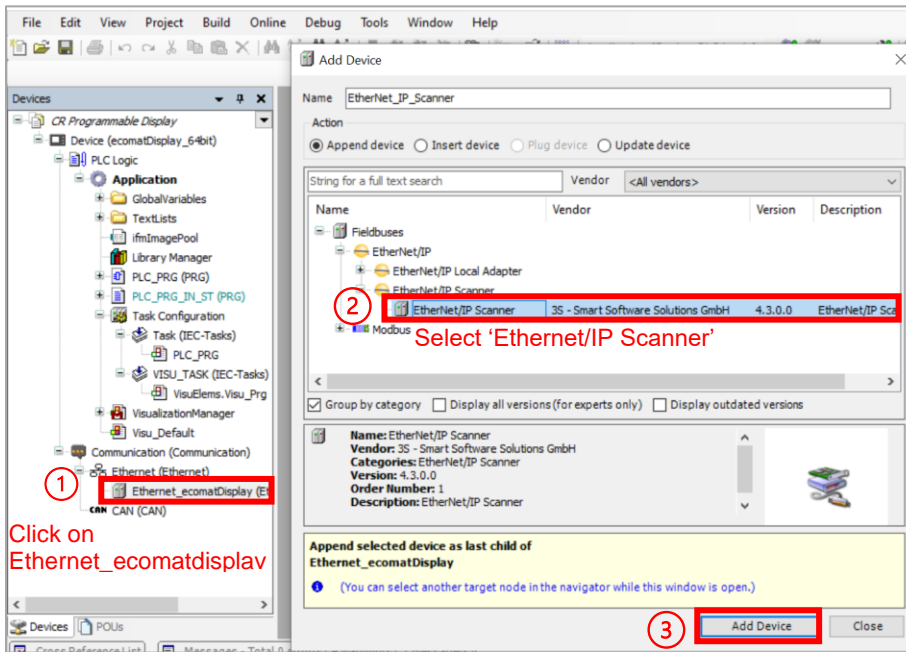


## 6. Add ethernet device to the ethernet tree





### Add an ethernet/IP Scanner

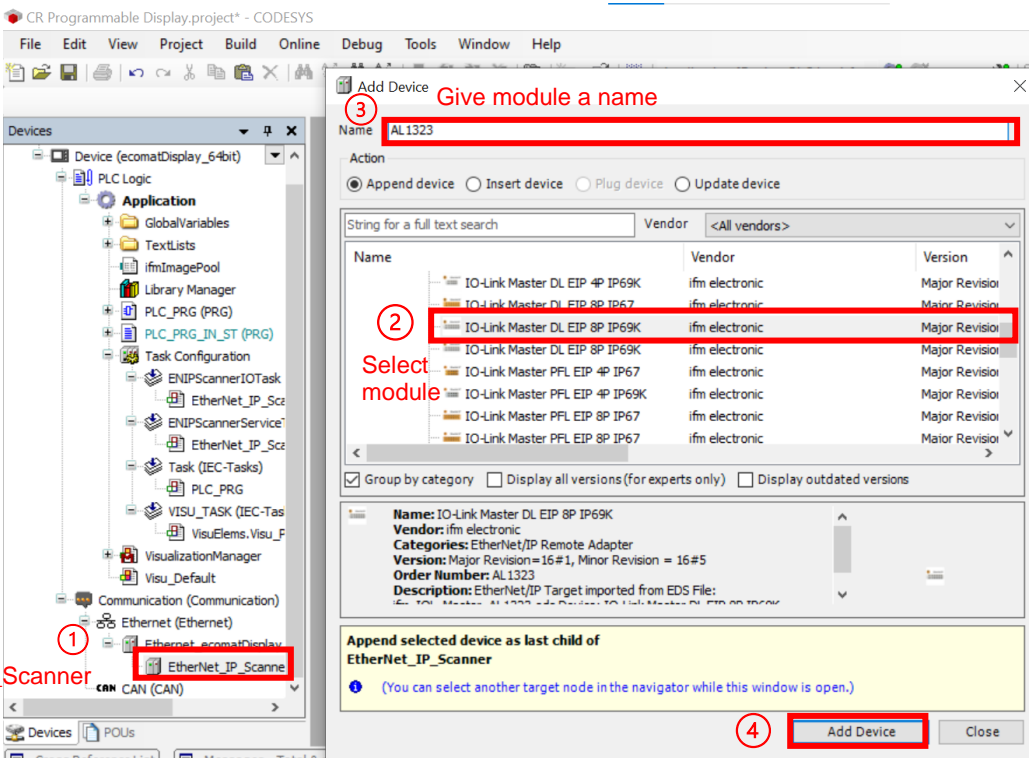


Click on Ethernet\_ecomatdisplay

Select 'Ethernet/IP Scanner'

Add Device

### Add an Ethernet module



Give module a name

Select module

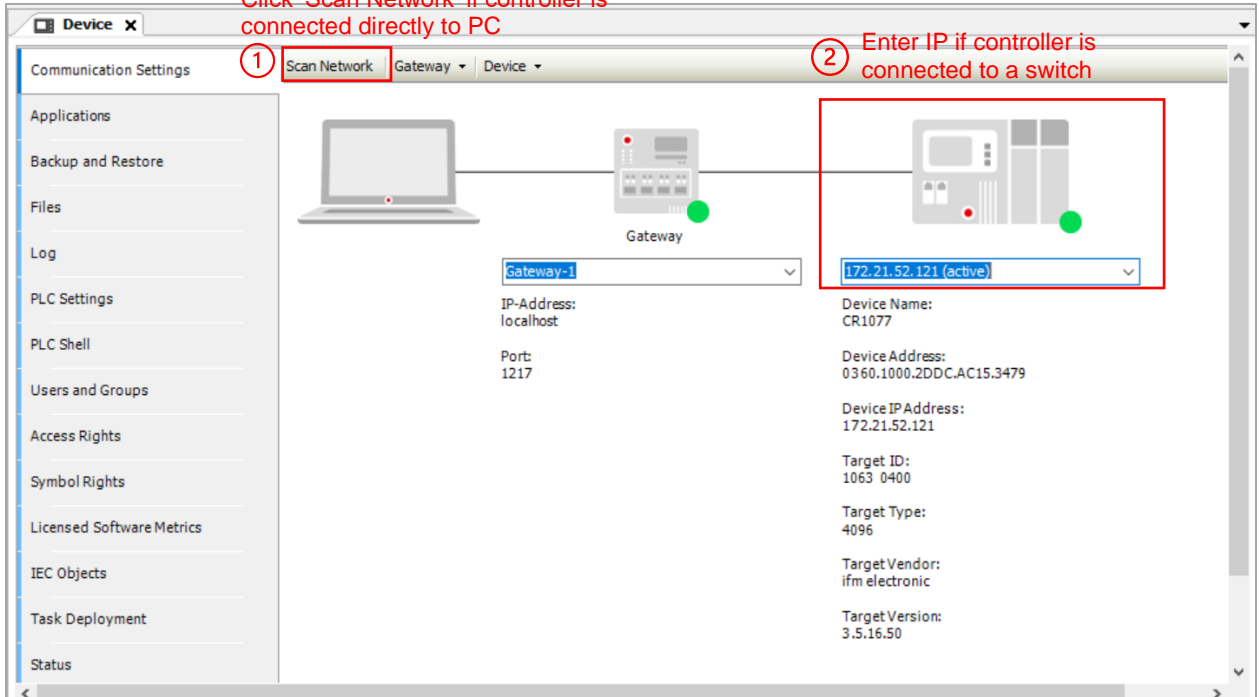
Add Device

Click on Ethernet\_IP\_Scanner

Go Online with the Project and Controller

### 1. Scan Device

Click 'Scan Network' if controller is connected directly to PC

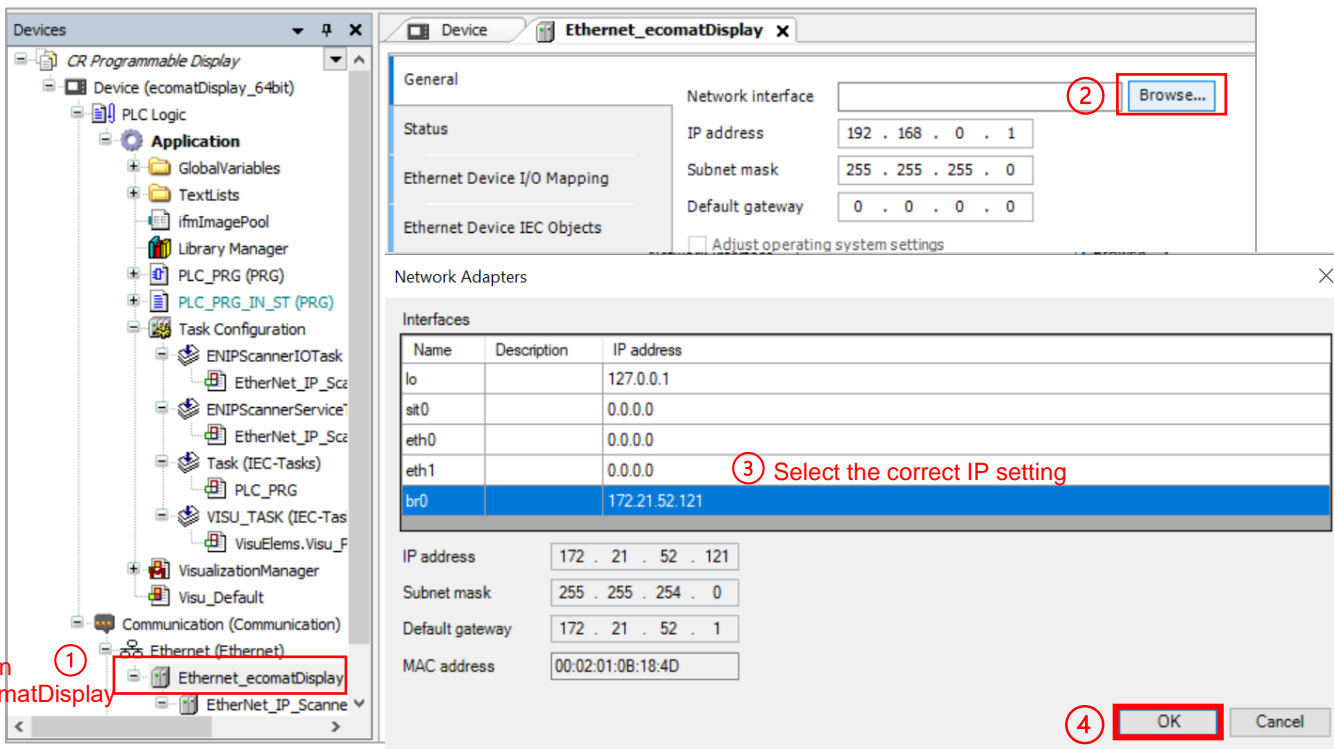


Communication Settings **1** Scan Network Gateway Device **2** Enter IP if controller is connected to a switch

Gateway-1  
IP-Address: localhost  
Port: 1217

172.21.52.121 (active)  
Device Name: CR1077  
Device Address: 0360.1000.2DDC.AC15.3479  
Device IP Address: 172.21.52.121  
Target ID: 1063 0400  
Target Type: 4096  
Target Vendor: ifm electronic  
Target Version: 3.5.16.50

### 2. Set Ethernet Connection



Devices **1** Double click on 'Ethernet\_ecomatDisplay'

**2** Browse...

General  
Network interface  
Status  
IP address: 192 . 168 . 0 . 1  
Subnet mask: 255 . 255 . 255 . 0  
Default gateway: 0 . 0 . 0 . 0

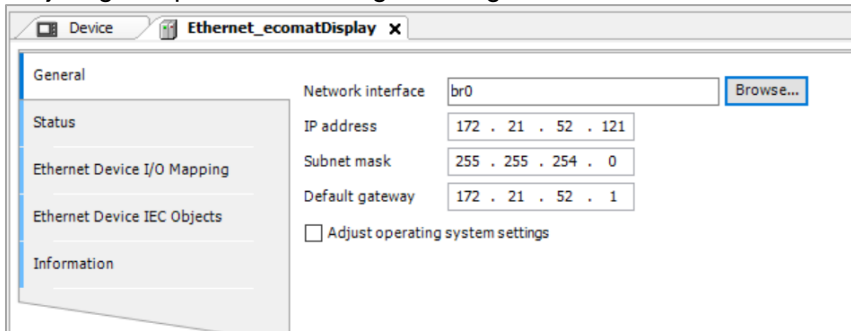
**3** Select the correct IP setting

Name	Description	IP address
lo		127.0.0.1
sit0		0.0.0.0
eth0		0.0.0.0
eth1		0.0.0.0
<b>br0</b>		<b>172.21.52.121</b>

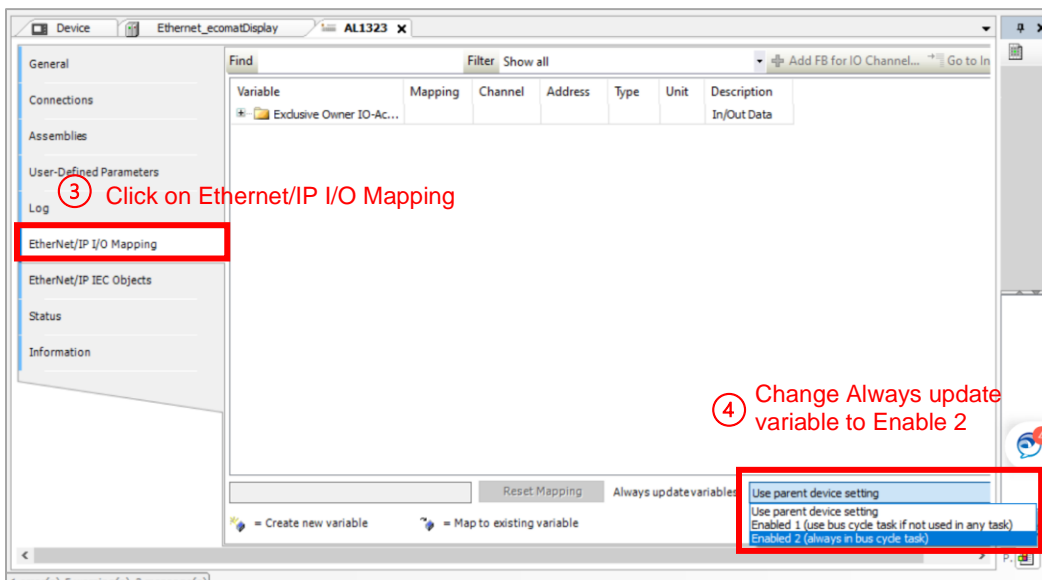
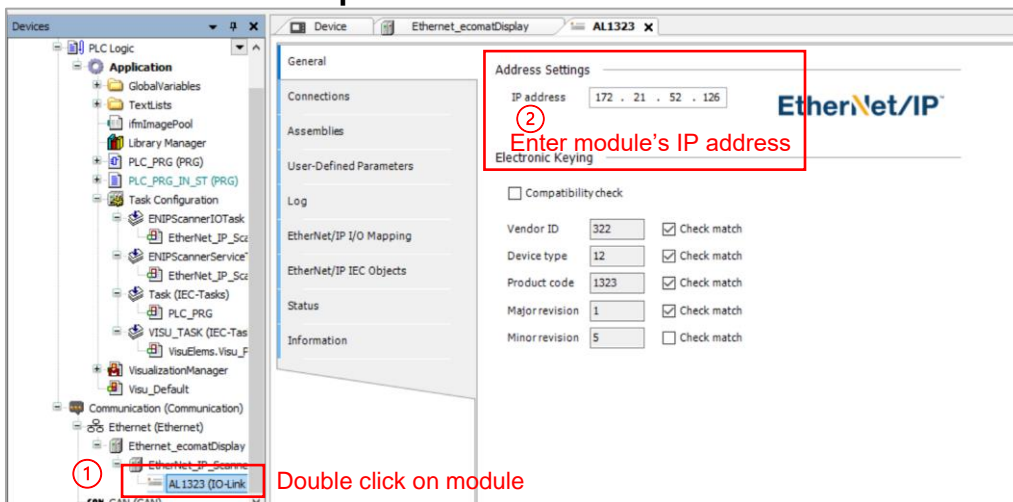
IP address: 172 . 21 . 52 . 121  
Subnet mask: 255 . 255 . 254 . 0  
Default gateway: 172 . 21 . 52 . 1  
MAC address: 00:02:01:0B:18:4D

**4** OK Cancel

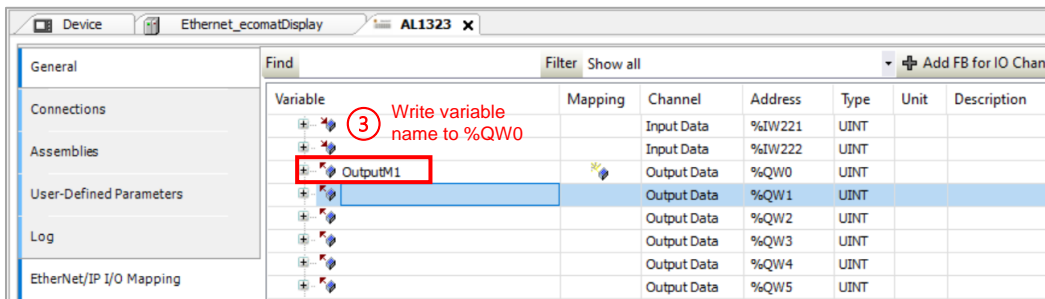
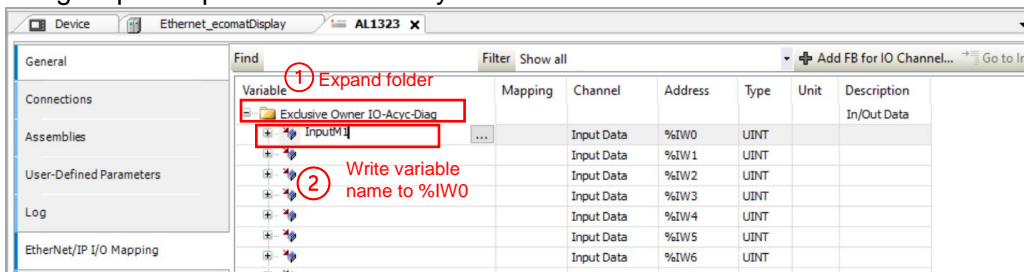
Project gets update with the right setting



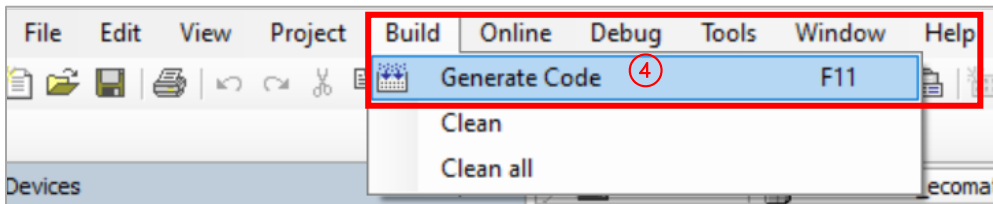
### 3. Ethernet module set up



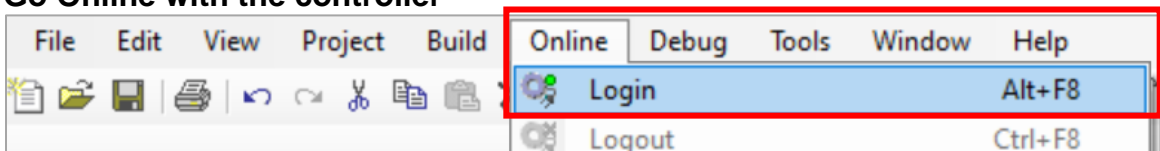
### Assign input/output variable to array



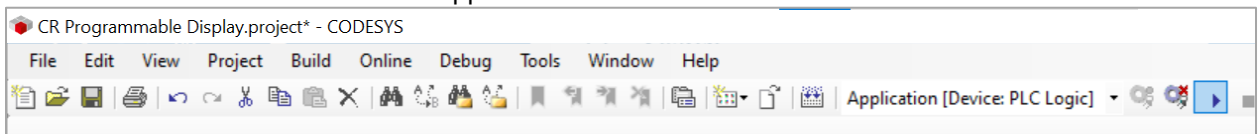
### Generate Code to check for errors



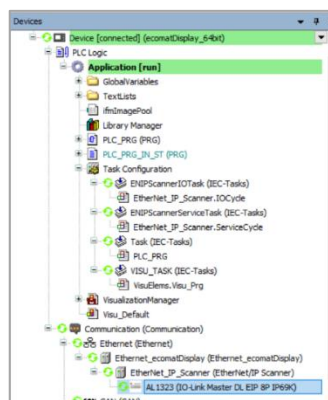
### 4. Go Online with the controller



### Click the Start icon or F5 to start the Application



### Green circles indicate everything is communicating





For additional technical support, please reach out to us at [info.us@ifm.com](mailto:info.us@ifm.com) or call into 800-441-8246 and one of our technical engineers will be able to assist you with your questions.