



User Manual

## *cMT3090 and Remote I/O Quick Start Guide*

This is a step-by-step instruction on how to set up cMT3090 and Remote I/O.

V1.00

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## Table of Contents

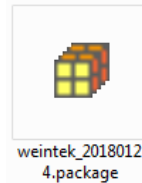
1	Installing Weintek Built-in CODESYS .....	1
2	Creating cMT3090 CODESYS Project.....	3
3	Connecting iR-COP .....	5
4	Connecting iR-ETN .....	8
5	EasyBuilder Connection Settings .....	12
5.1	Exporting Tag.....	12
5.2	Configuring EasyBuilder .....	13
6	Removing Weintek Built-in CODESYS.....	15

Software version: CODESYS V3.5 SP10 Patch 3

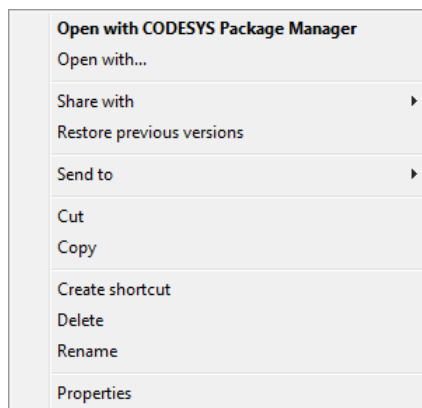
## 1 Installing Weintek Built-in CODESYS

Installing Weintek Built-in CODESYS allows users to easily create a cMT3090 CODESYS project in CODESYS software. Please find the Package file we prepared and follow these steps for quick installation.

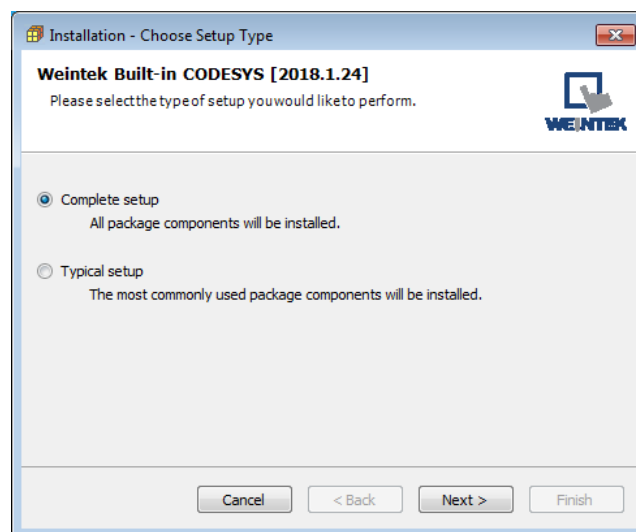
1. Firstly, get a working CODESYS Package file.



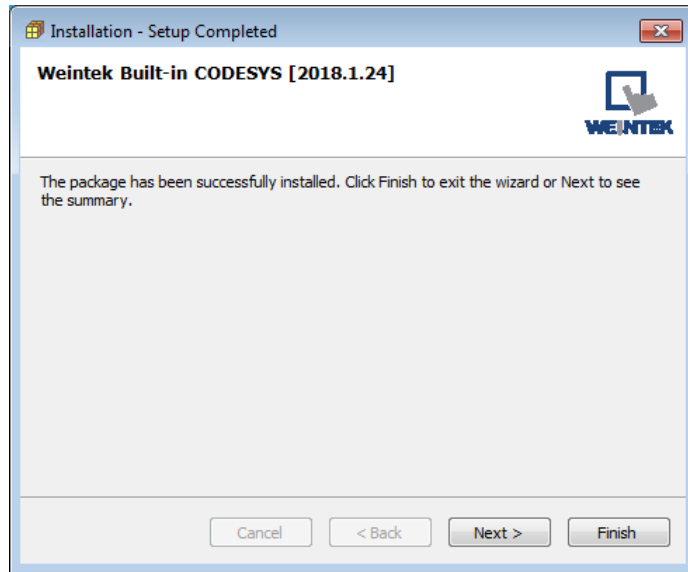
2. On your PC, right-click the mouse button and select [Open with CODESYS Package Manager].



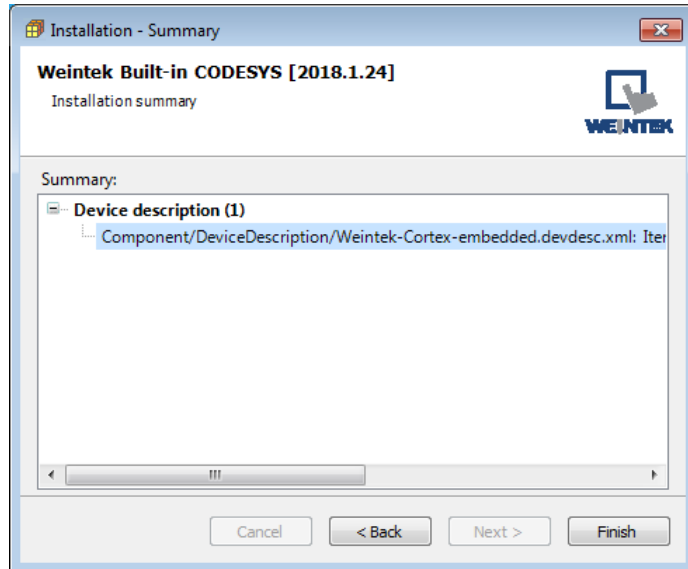
3. Select Complete Setup or Typical Setup (you may select any of these setup types since the components used by Weintek Built-in CODESYS exist in both types.)



4. Click [Next] when seeing the following message.

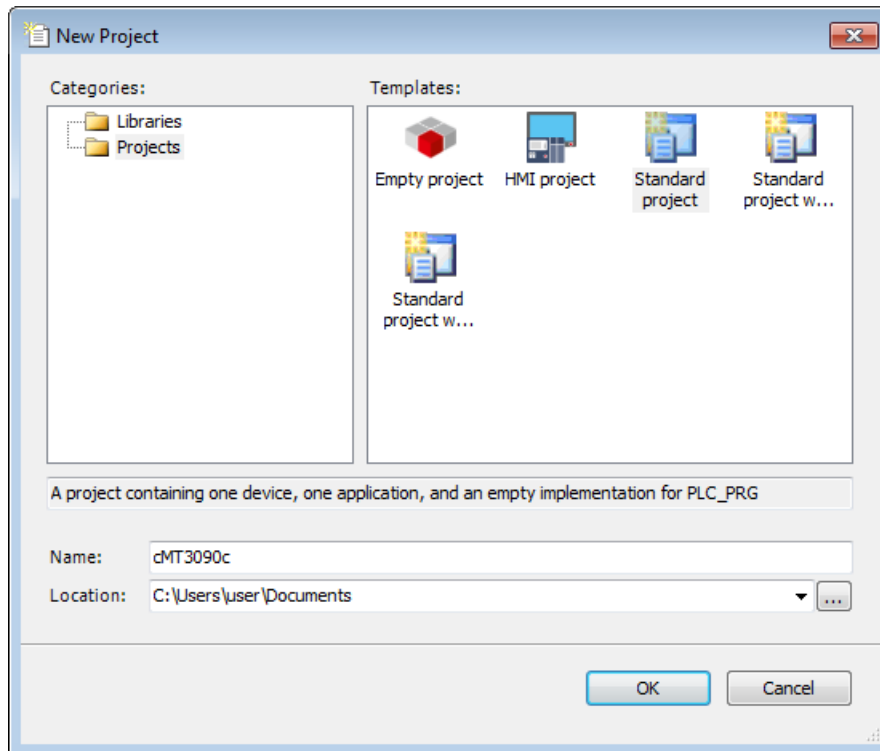


5. The installed component will be shown in the installation summary.

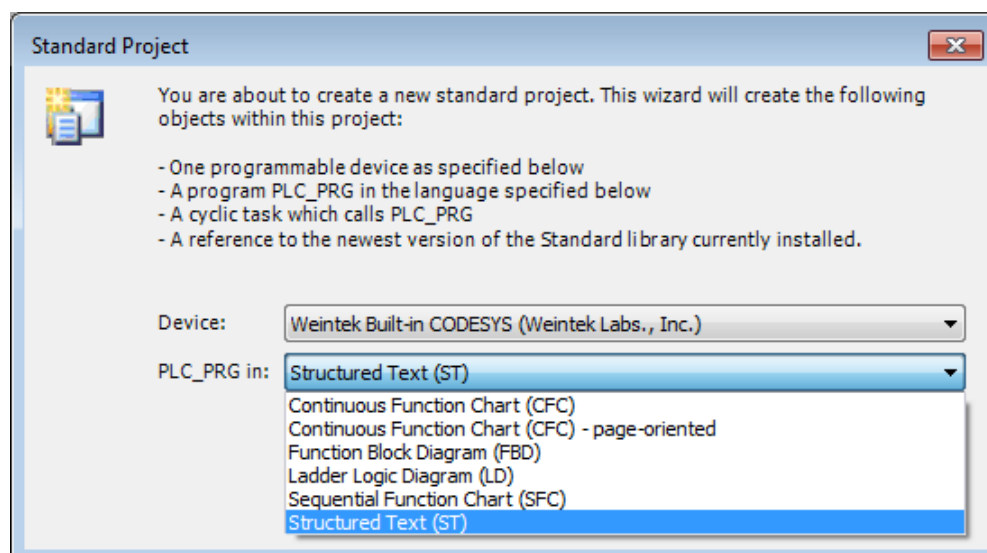


## 2 Creating cMT3090 CODESYS Project

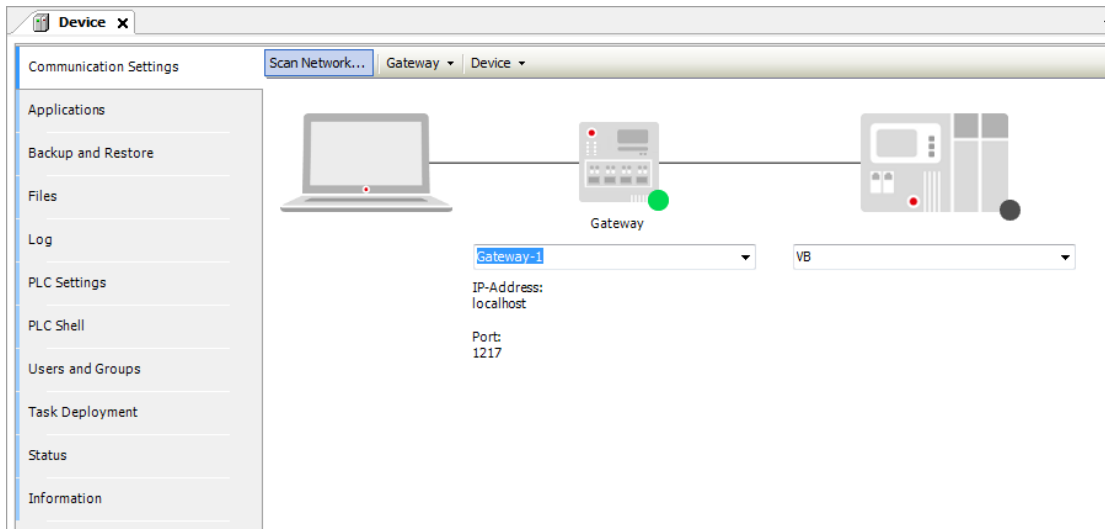
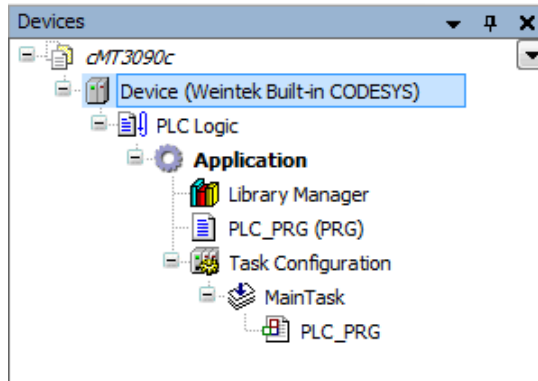
1. Launch CODESYS V3.5 and click [File] » [New Project], and then select [Standard project]. Enter the project name in Name field, browse for the location, and then click [OK] to leave.



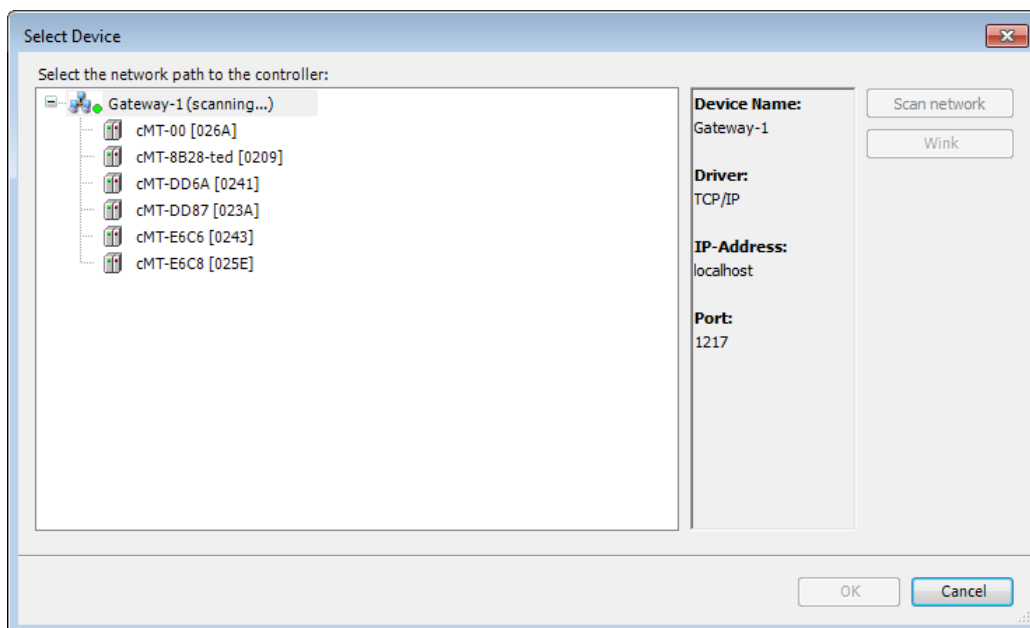
2. CODESYS software provides 6 languages that can be selected in [PLC\_PRG in:] drop-down list as shown below.



3. Double-click on Device (Weintek Built-in CODESYS) to open the settings window.

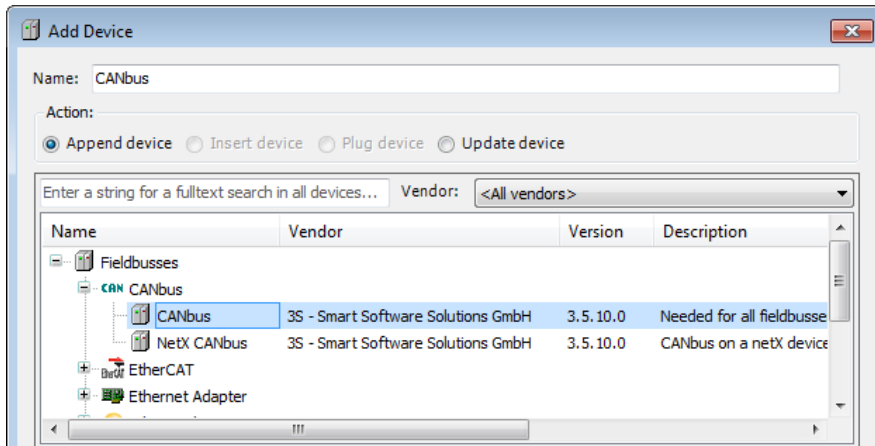


4. Open Scan Network tab, CODESYS software will start searching for the CODESYS devices on the same network. Select the desired device and then click [OK] to leave. The project will connect the selected device.

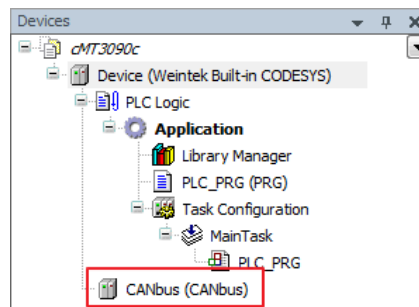


### 3 Connecting iR-COP

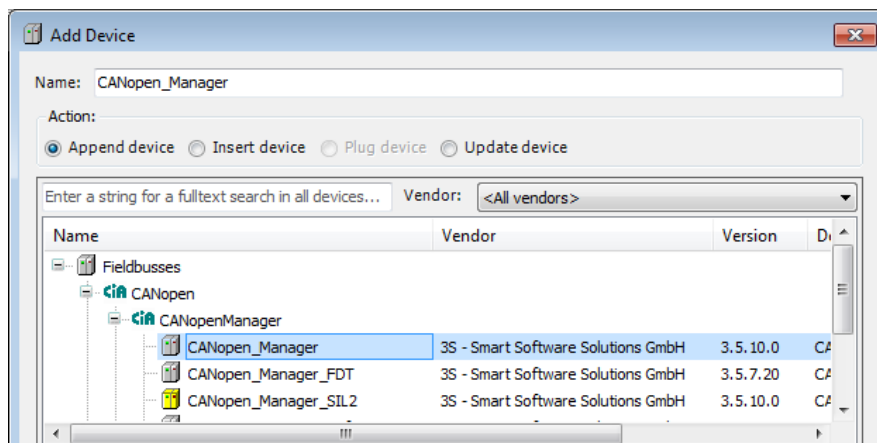
1. Right-click on Device (Weintek Built-in CODESYS) and then select [Add Device].
2. Select [Canbus] » [Canbus], and then select [Add Device].



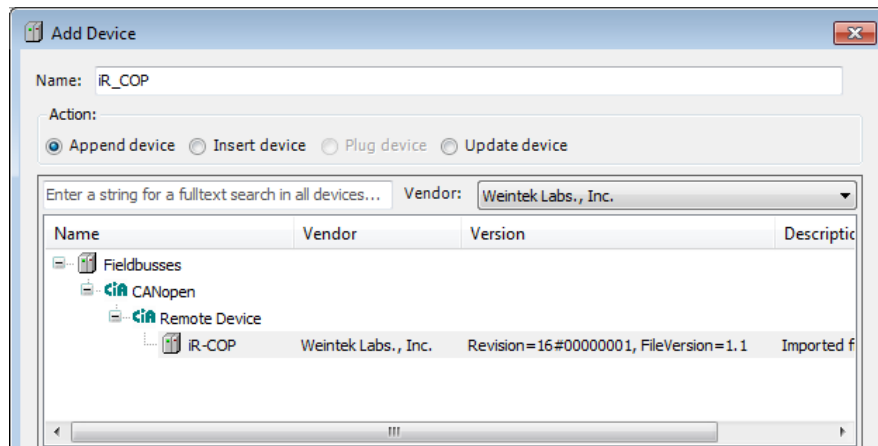
3. CANbus (CANbus) can be found in Devices tree.



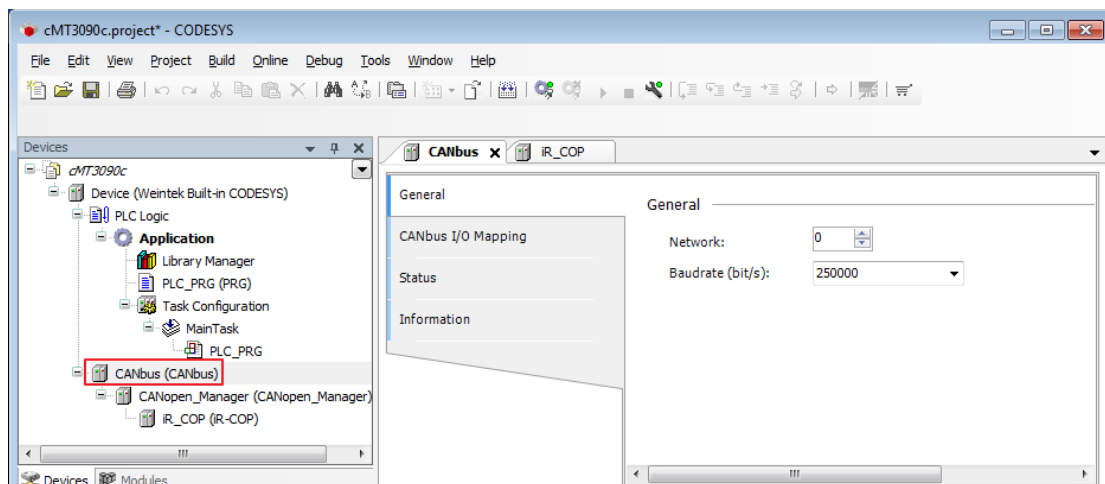
4. Double-click on CANbus (CANbus) with the current window opened in Devices tree, or right-click on CANbus (CANbus) and then select [Add Device].
5. Click [Fieldbuses] » [CANopen] » [CANopen Manager] » [CANopen Manager], and then select [Add Device].



6. Double-click on CANopen\_Manager with the current window opened in Devices tree or right-click on CANopen\_Manager and then click [Add Device].
7. Click [Fieldbusses] » [CANopen] » [Remote Device], find iR-COP and then select [Add Device].



8. Double click on CANbus (CANbus) in Devices tree to open the settings window. Please select the correct baud rate for iR-COP in General tab.



9. Create CANopen variables in PLC\_PRG, for example:

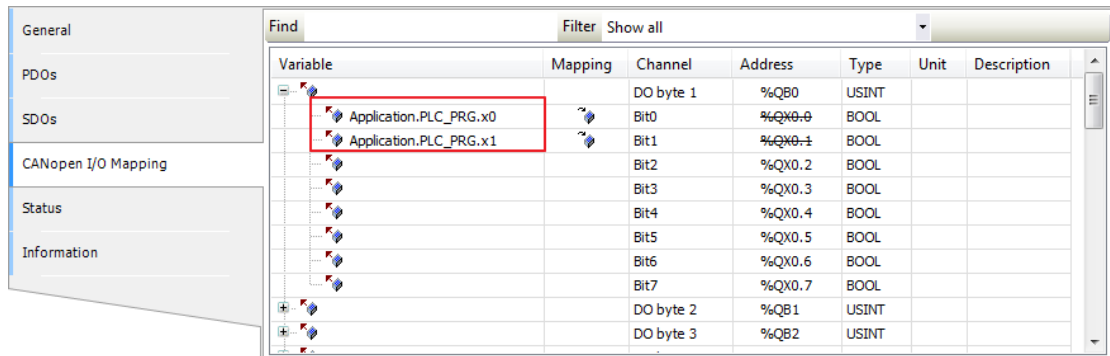
```

1  PROGRAM PLC_PRG
2  VAR
3      x0 : BOOL;
4      x1 : BOOL;
5
6  END_VAR

```

10. Double click on iR\_Cop in Devices tree to open the settings window. Select related variables in CANopen I/O Mapping tab.



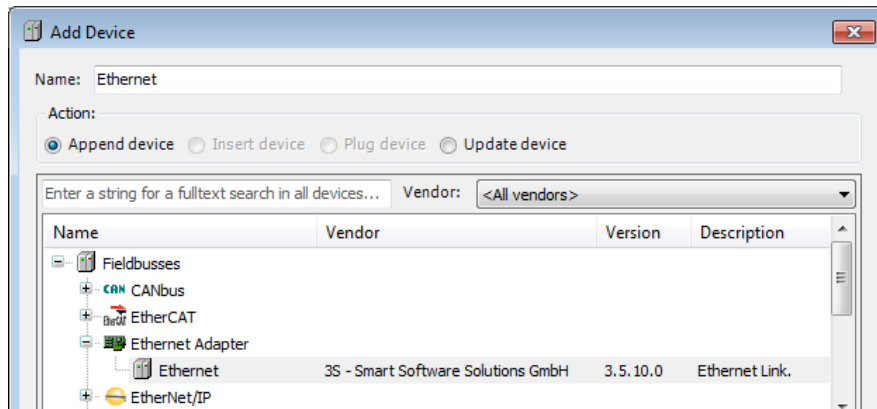


Variable	Mapping	Channel	Address	Type	Unit	Description
		DO byte 1	%QB0	USINT		
Application.PLC_PRG.x0		Bit0	%QX0.0	BOOL		
Application.PLC_PRG.x1		Bit1	%QX0.1	BOOL		
		Bit2	%QX0.2	BOOL		
		Bit3	%QX0.3	BOOL		
		Bit4	%QX0.4	BOOL		
		Bit5	%QX0.5	BOOL		
		Bit6	%QX0.6	BOOL		
		Bit7	%QX0.7	BOOL		
		DO byte 2	%QB1	USINT		
		DO byte 3	%QB2	USINT		

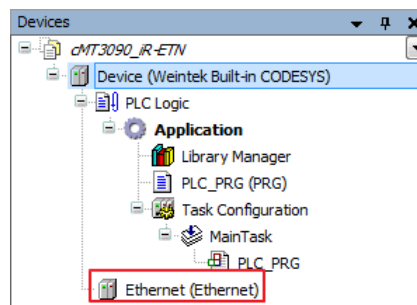
11. When finished, click [Online] » [Login] to download the project to cMT3090.

## 4 Connecting iR-ETN

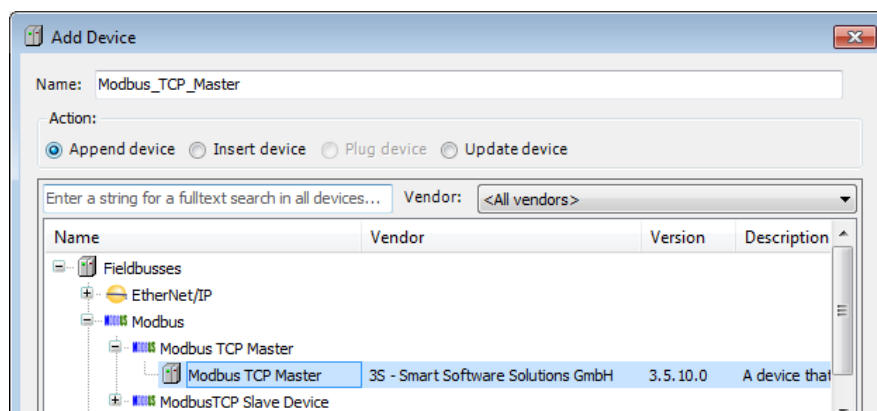
1. Right-click on Device (Weintek Built-in CODESYS) and then select [Add Device].
2. Select [Ethernet Adapter] » [Ethernet] and then click [Add Device].



3. Ethernet (Ethernet) can be found in Devices tree.



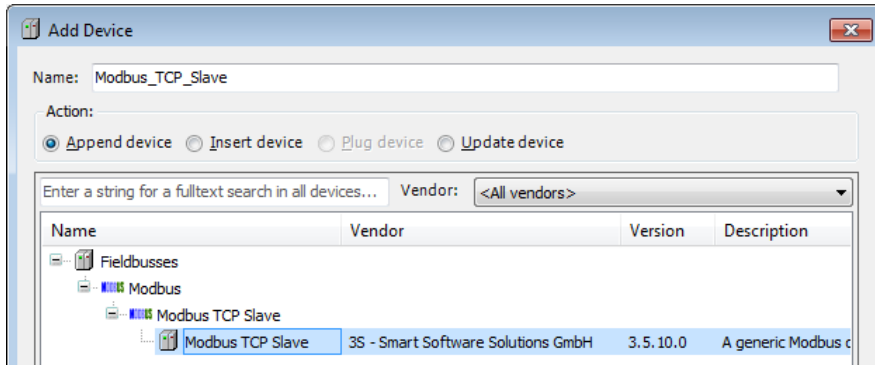
4. Double-click on Ethernet with the current window opened in Devices tree or right-click on Ethernet and then select [Add Device].
5. Click [Fieldbuses] » [Modbus] » [Modbus TCP Master] » [Modbus TCP Master], and then select [Add Device].



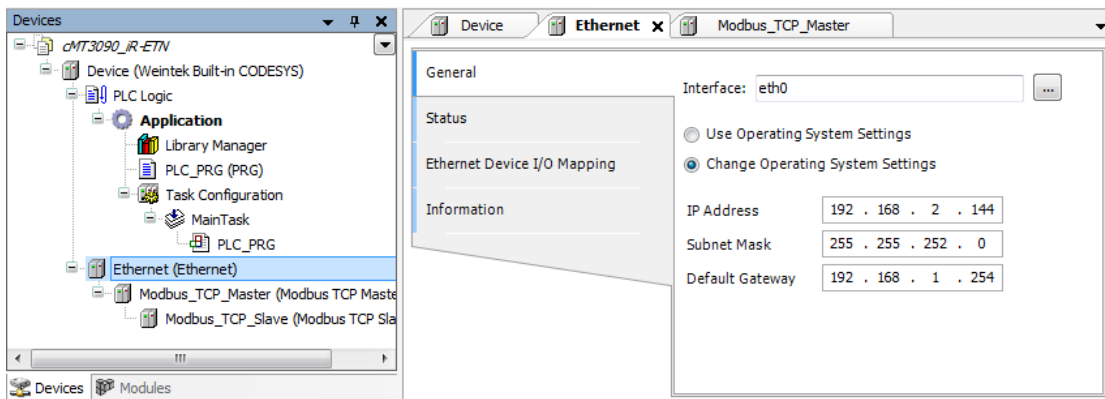
6. Double-click on Modbus TCP Master with the current window opened in Devices tree or right-click on Modbus TCP Master and then click [Add

Device].

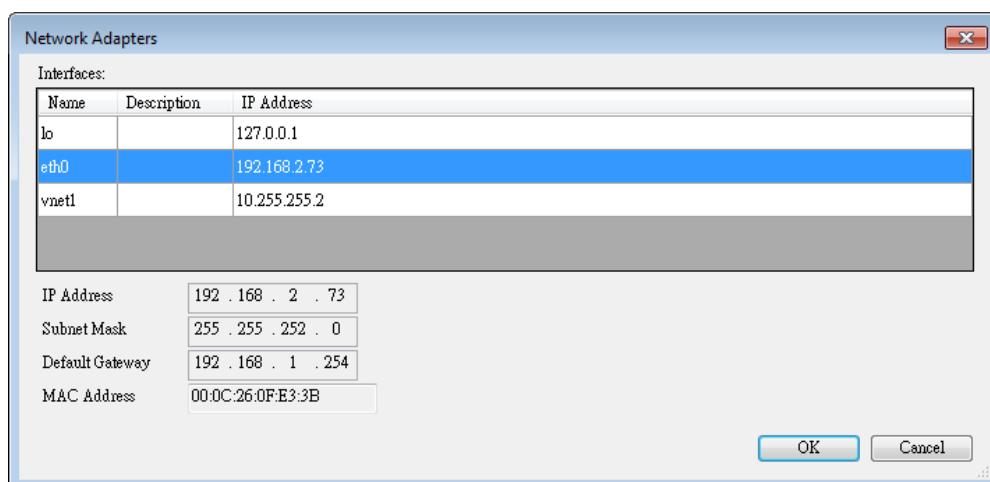
- Click [Fieldbusses] » [Modbus] » [Modbus TCP Slave] » [Modbus TCP Slave], and then select [Add Device].



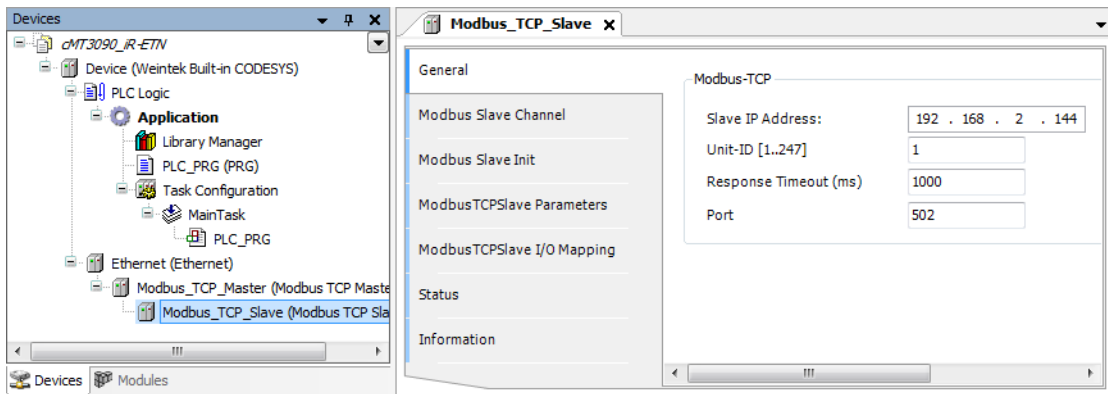
- Double click on Ethernet in the Devices tree, enter cMT3090's IP address in General tab, and then select [Change Operating System Settings].



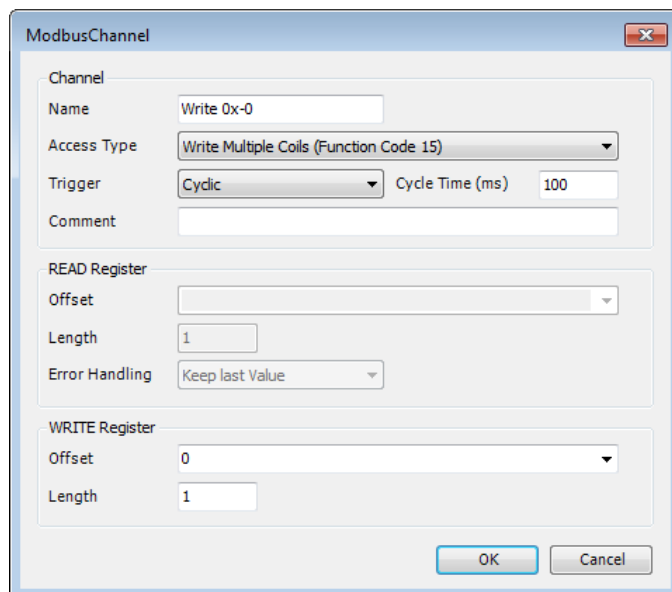
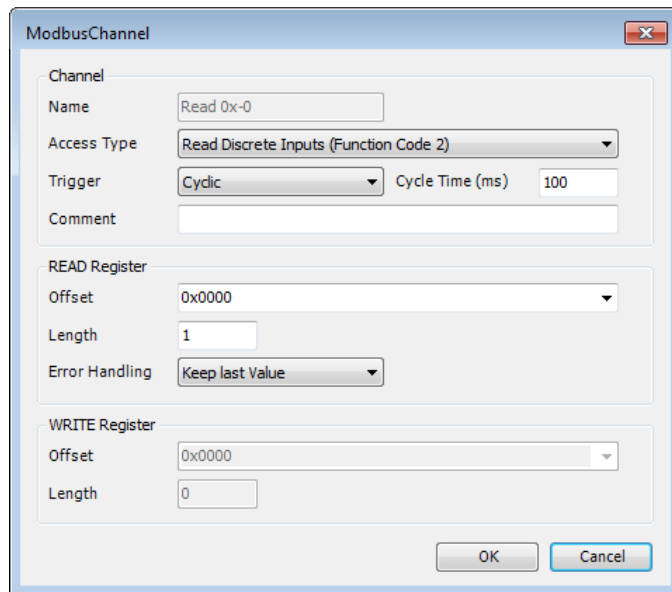
- When cMT3090 is already connected, go to General tab and click the [...] button near Interface field and select eth0.



- Select Modbus\_TCP\_Slave in the Devices tree and then go to General tab to set up IR-ETN's IP address and Unit ID.



11. Open [Modbus Slave Channel] tab and create Modbus Variable.



12. Open PLC\_PRG in Devices tree, create variable and set Bool as data type.

```

1  PROGRAM PLC_PRG
2  VAR
3      read: BOOL;
4      write: bool;
5  END_VAR
    
```

13. Open Modbus\_TCP\_Slave in Devices tree and then go to [Modbus\_TCPSlave I/O Mapping] tab to set up iR-ETN’s IP address and Unit ID.

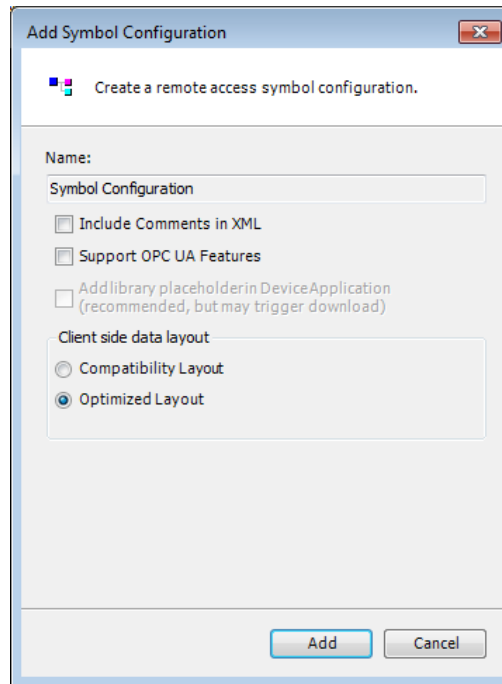
Variable	Mapping	Channel	Address	Type	Unit	Description
		Read 0x-0	%IB0	ARRAY [0..0] OF BYTE		Read Discrete Inputs
		Read 0x-0[0]	%IB0	BYTE		Read Discrete Inputs
Application.PLC_PRG.read		Bit0	%IX0-0	BOOL		0x0000
		Write 0x-0	%QB0	ARRAY [0..0] OF BYTE		Write Multiple Coils
		Write 0x-0[0]	%QB0	BYTE		Write Multiple Coils
Application.PLC_PRG.write		Bit0	%QX0-0	BOOL		0x0000

14. When finished, click [Online] » [Login] to download the project to cMT3090.

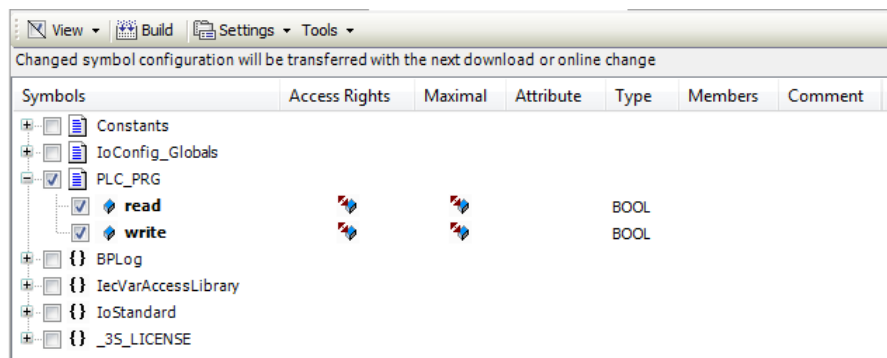
## 5 EasyBuilder Connection Settings

### 5.1 Exporting Tag

1. Right-click on Application in Devices tree and then select [Add Object] » [Symbol Configuration], use defaults.



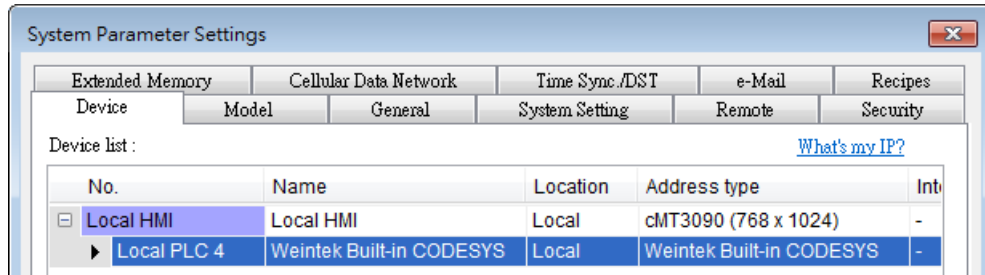
2. Find PLC\_PRG, select the variables to be exported, and then click [Build].




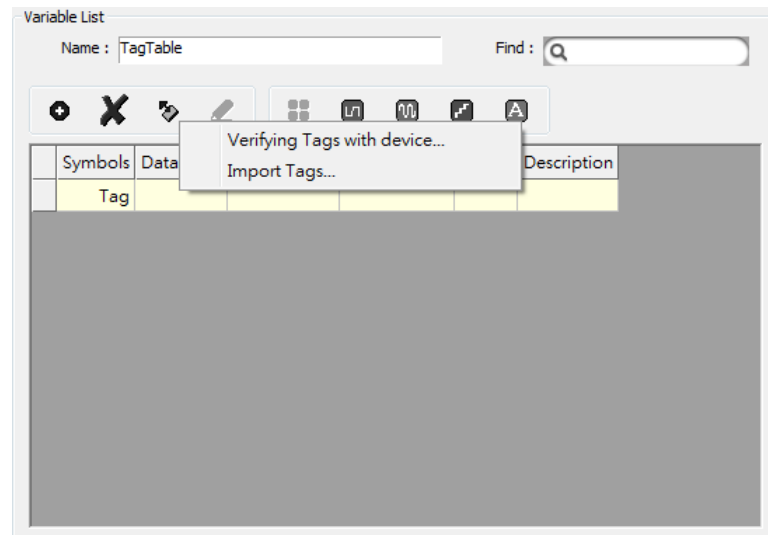
3. Select [Build] » [General code], the \*.xml file can be found in the directory of the project.

## 5.2 Configuring EasyBuilder

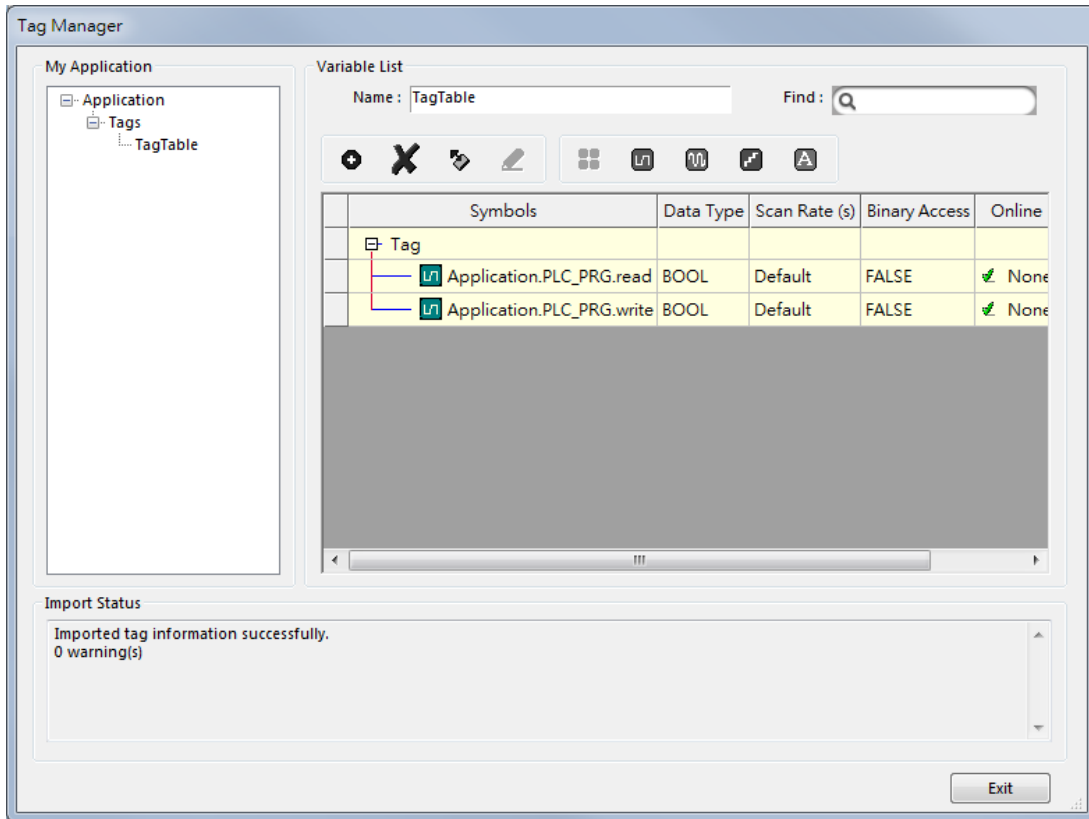
1. Create a project and select Weintek Built-in CODESYS in the device list.



2. Open Tag Manager and click , and then click [Import Tag] to import the \*.xml file.



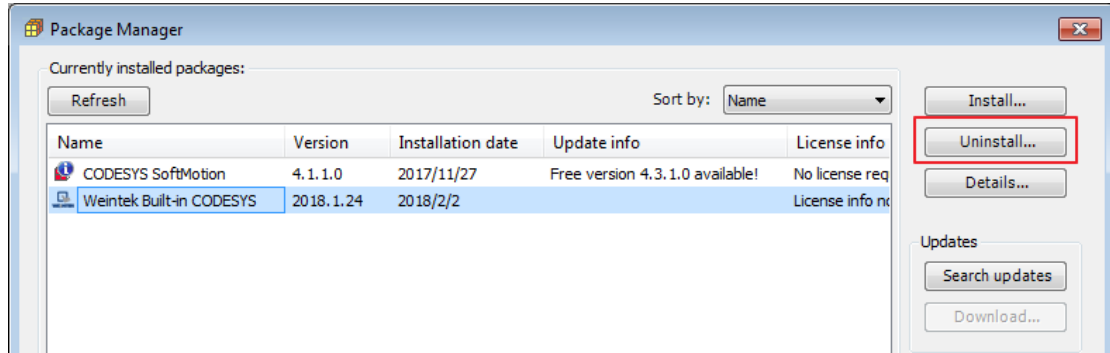
3. The CODESYS tags can now be found in Tag Manager.



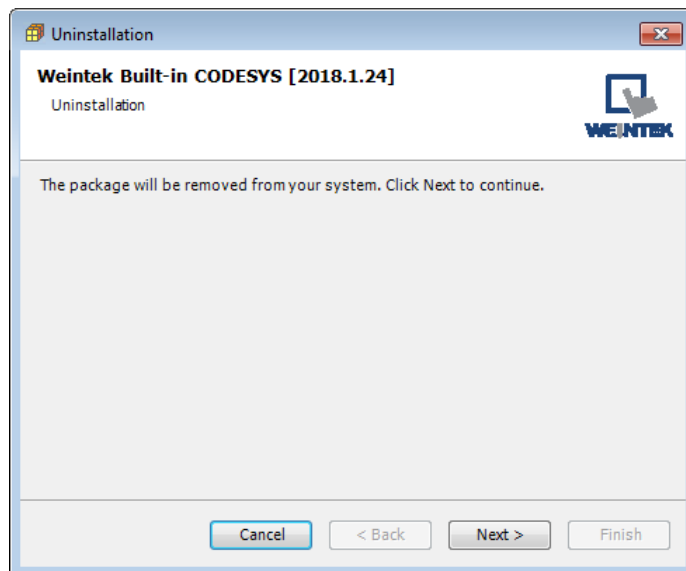


## 6 Removing Weintek Built-in CODESYS

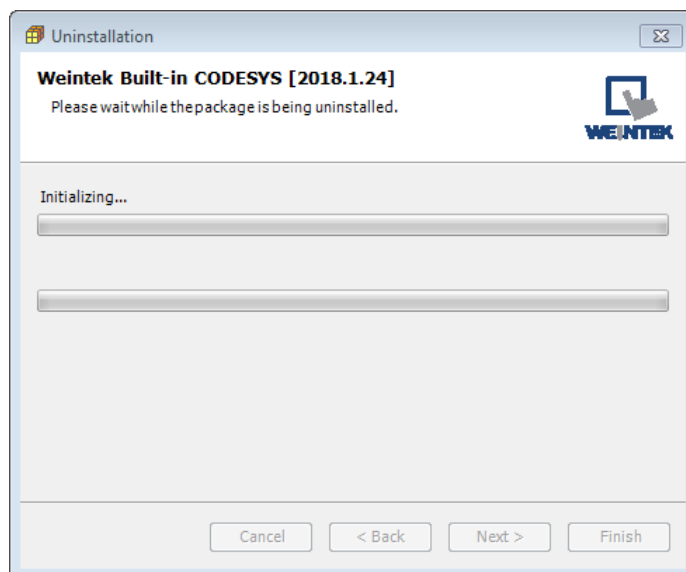
1. Click [Tools] » [Packages Manager].
2. Find Weintek Built-in CODESYS and then click [Uninstall].



3. Click [Next] when seeing the window below.



4. Removing the program.



5. Click [Finish].

