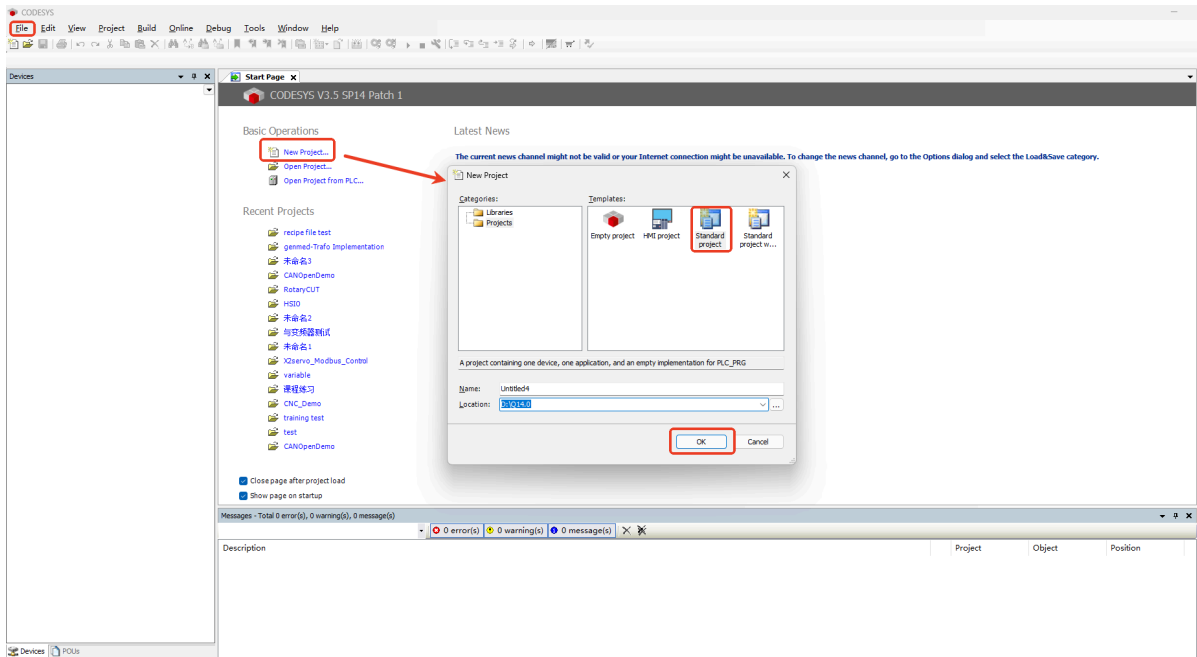


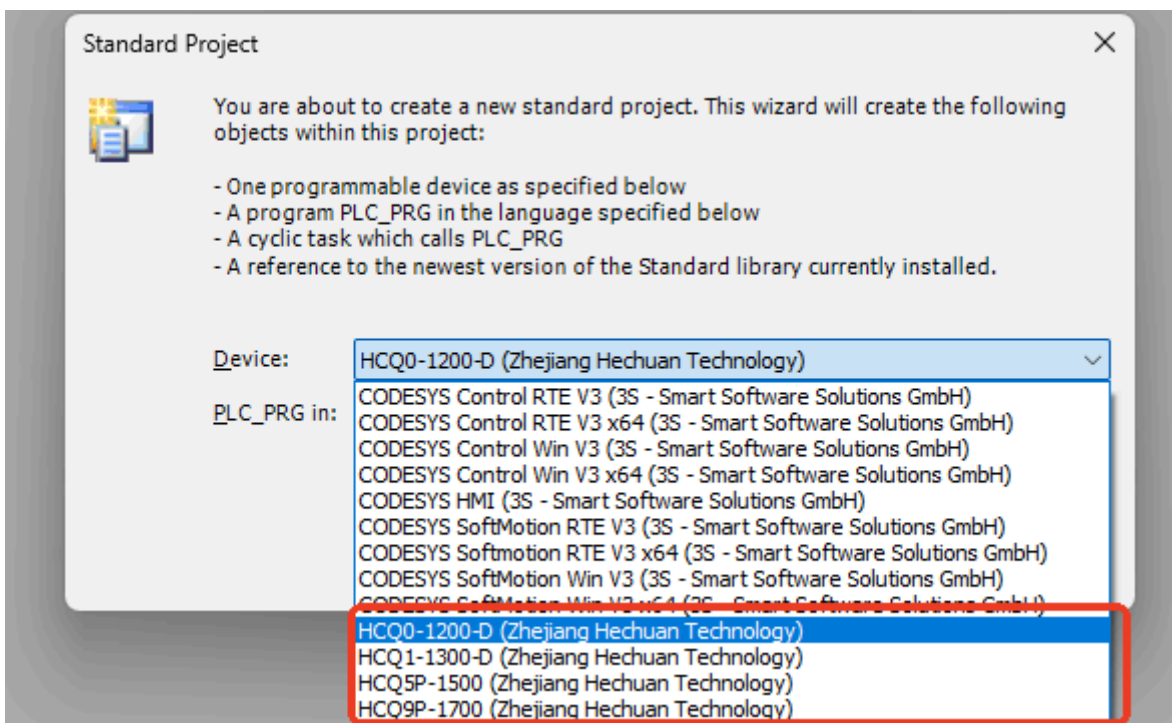
Q series PLC setup

Create a new project

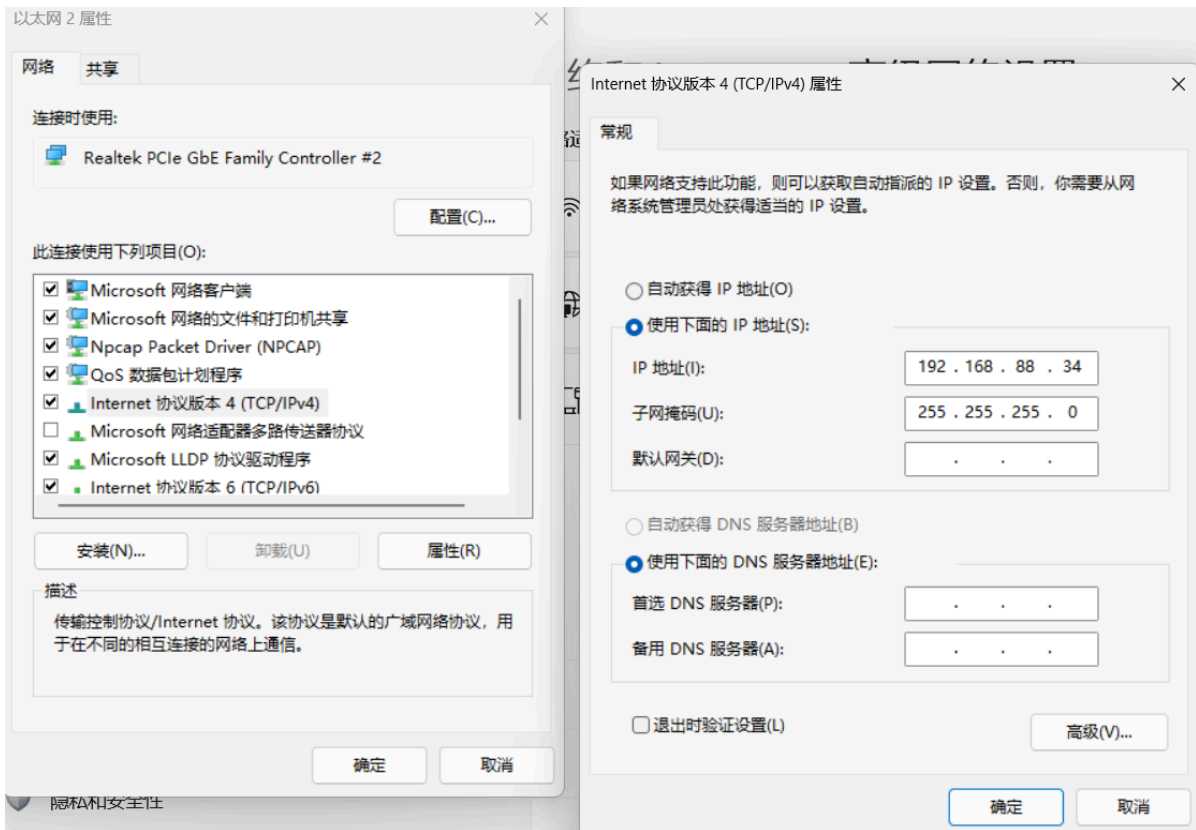
1. Choose the Standard project.



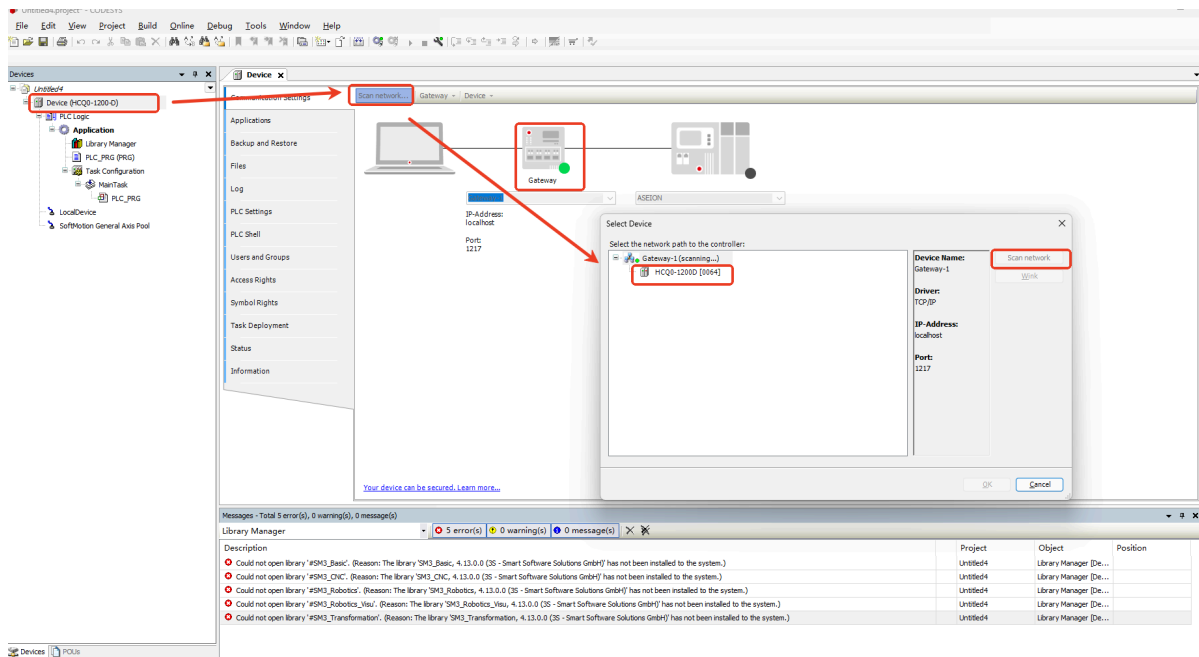
2. Select the PLC you are using

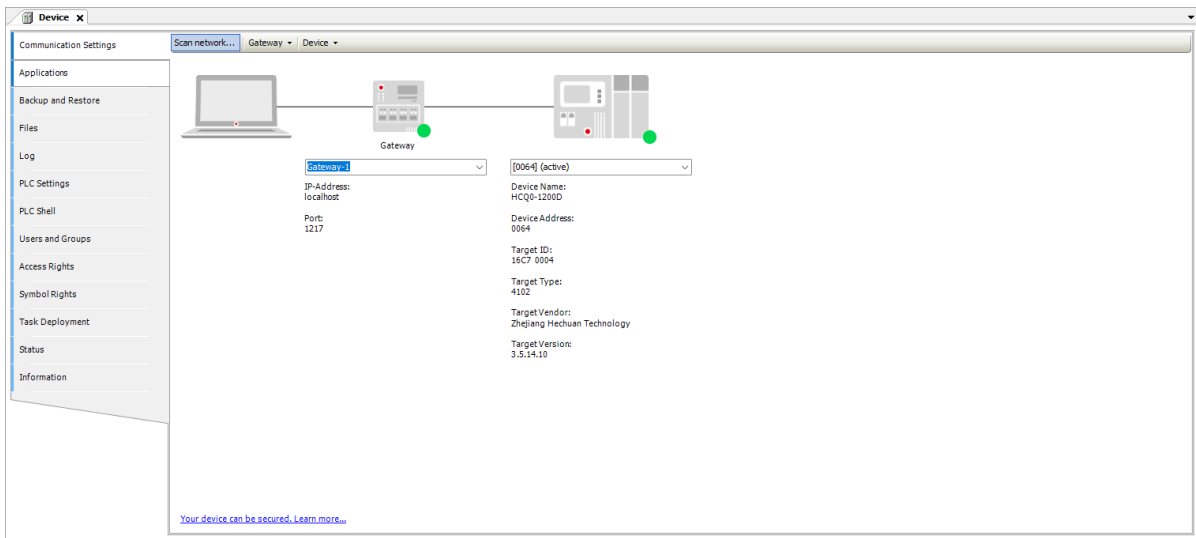


3. Check the PC's IP setting, since the Q0's default IP is 192.168.88.100, Change the PC's Ip setting to 192.168.88.xxx

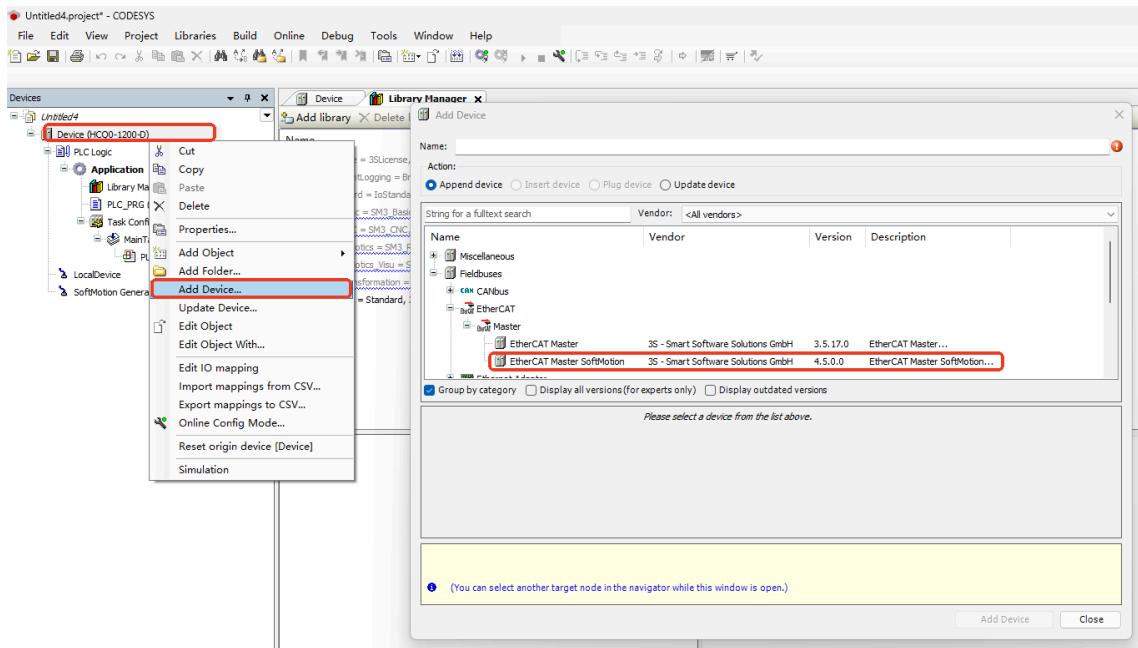


4. Connect PLC to codesys software, make sure the gateway's indicator is green, then double click the PLC device

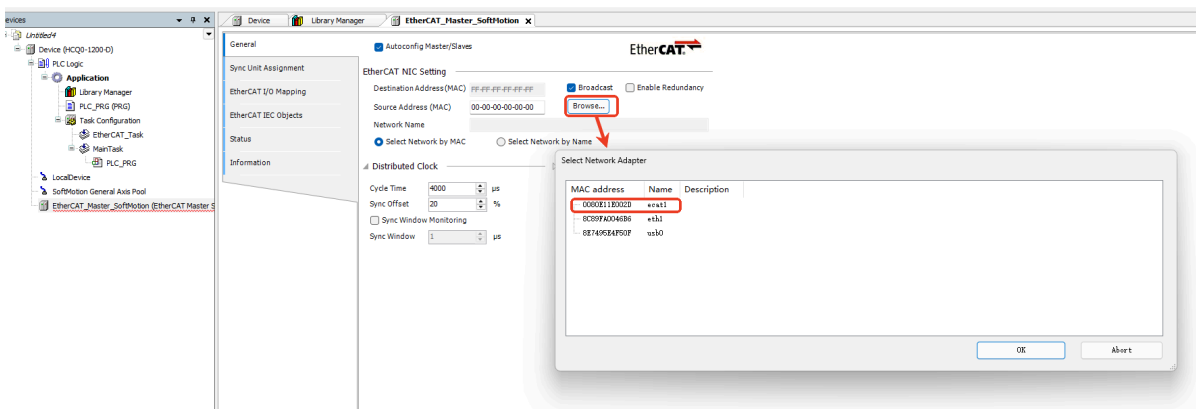




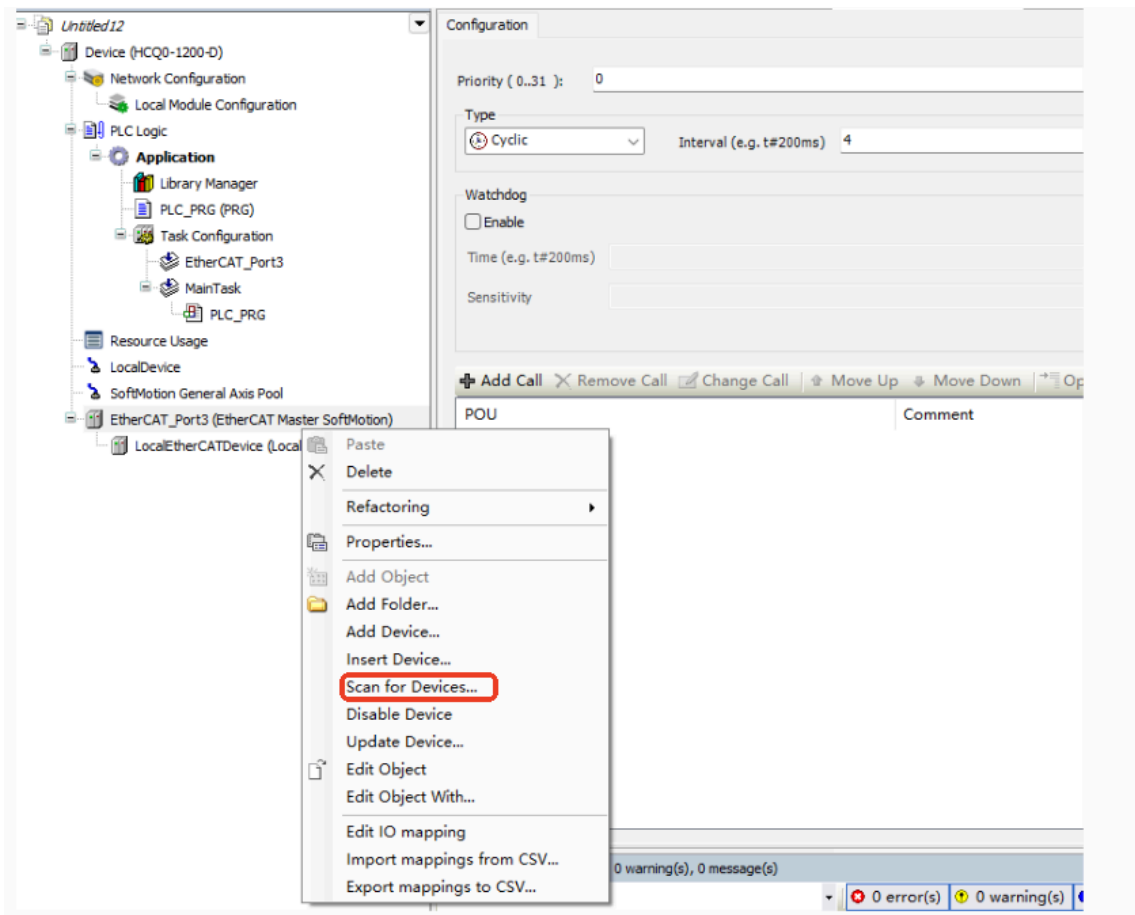
5. Device -> Add device -> Add EtherCAT master motion



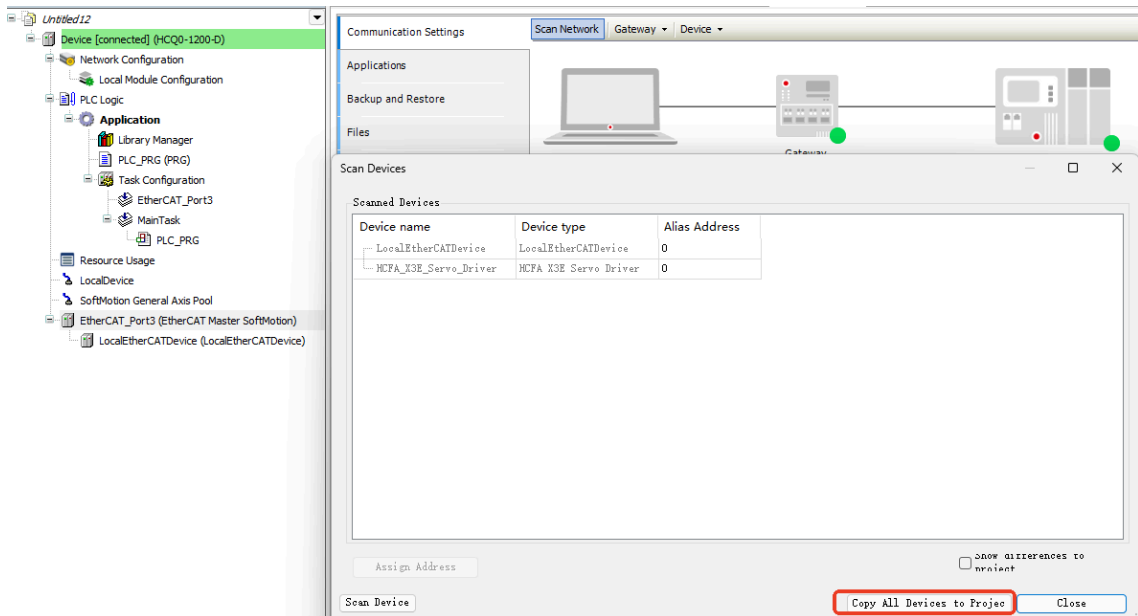
6. Click browse then select the ecat1 or choose the "Select Network by Name"



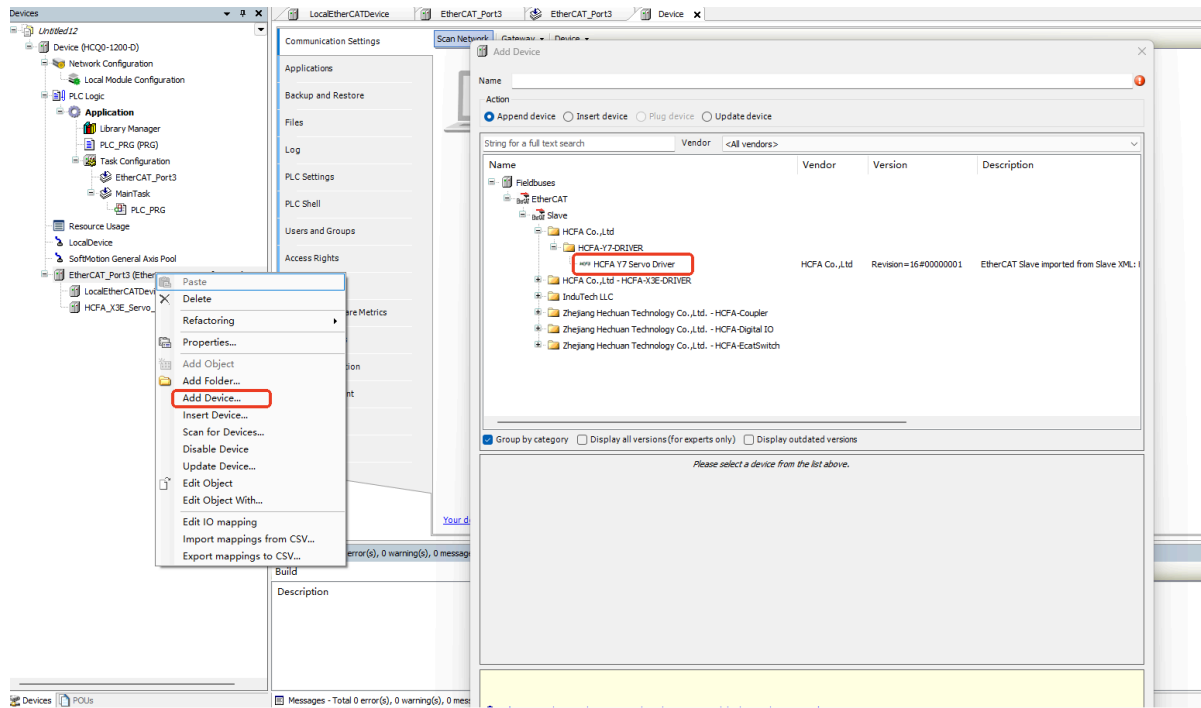
7. Click the "Scan for Devices"



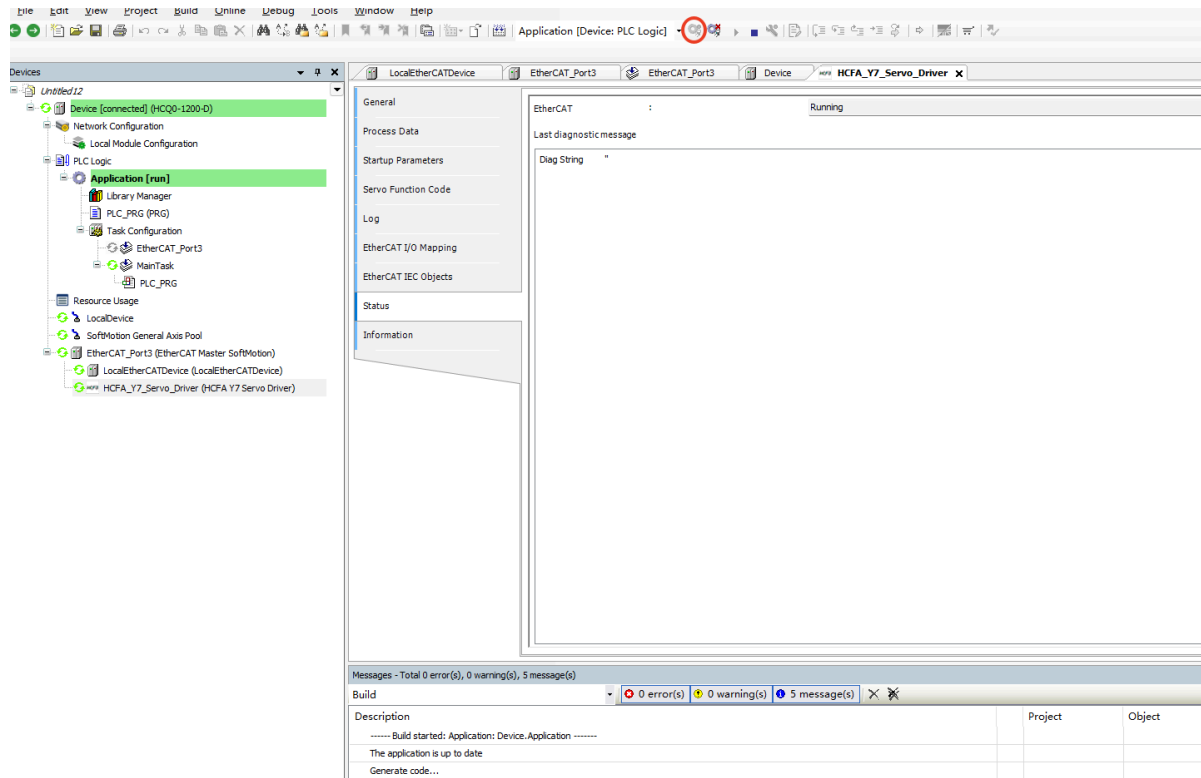
8. Copy all devices to projects or add manually



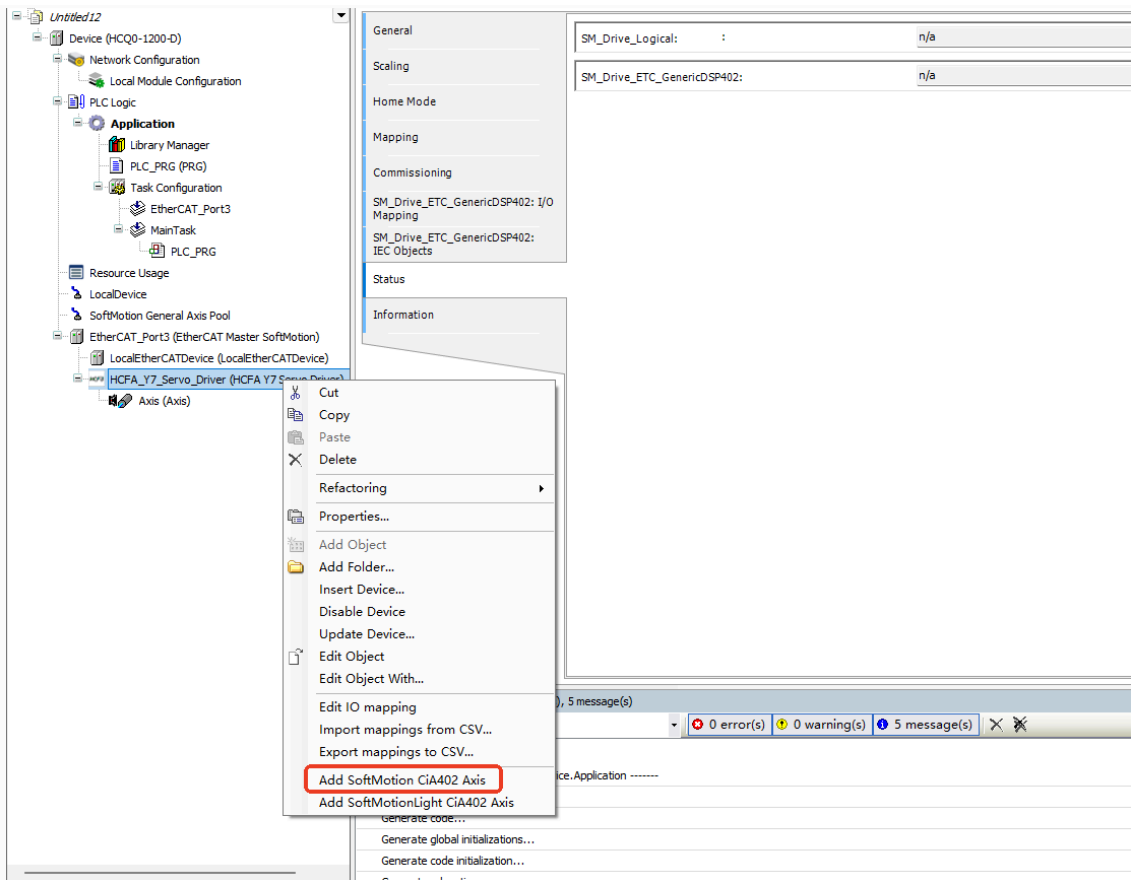
Manually add:



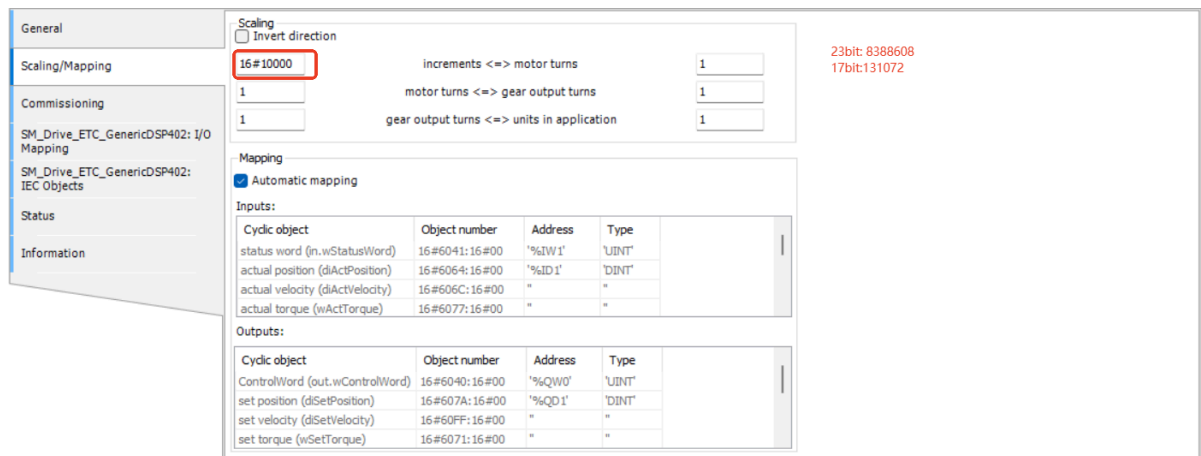
9. Then Click login to check the connection status



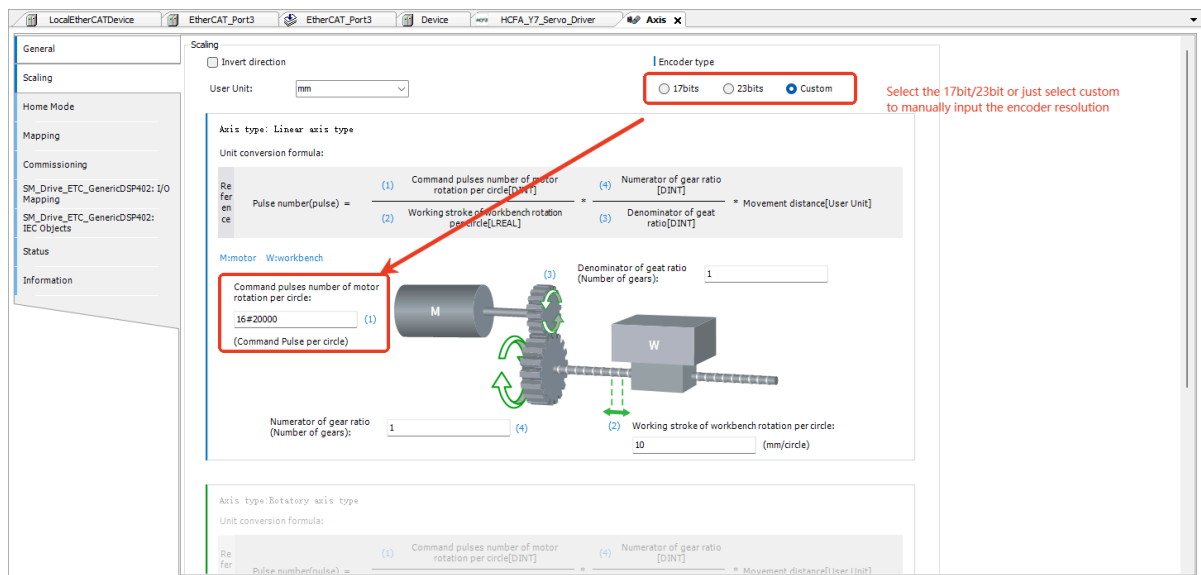
10. Add axis, select the SoftMotion CiA402 Axis.



11. Scaling setting:



If using the HCPWorks3



12. PDO/SDO related parameters for Servo:

Check the **Expert settings**

The screenshot shows the configuration interface for an EtherCAT device. The left sidebar shows a tree view with 'HCF_A_Y7_Servo_Driver (HCF_A_Y7 Servo Driver)' selected. The main window displays the 'Expert Process Data' configuration for this device. The 'Additional' section is expanded, and the 'Expert settings' checkbox is checked. The 'Sync0' and 'Sync1' sections are also visible, showing parameters like 'Enable Sync', 'Sync unit cycle', and 'Cycle time (µs)'. The 'Identification' section shows 'Disabled' selected.

The screenshot shows the 'PDO Assignment' and 'PDO Content' configuration windows. The 'Expert Process Data' tab is selected. The 'PDO Assignment' window shows a table of assignments for address 16#1600. The 'PDO Content' window shows a table of content for address 16#1600.

| SM | Size | Type |
|----|------|-------------|
| 0 | 128 | Mailbox Out |
| 1 | 128 | Mailbox In |
| 2 | 9 | Outputs |
| 3 | 23 | Inputs |

| Index | Size | Name | Fla... | SM |
|---------|------|-------------------|--------|----|
| 16#1600 | 9.0 | 1st RxPdo mapping | | 2 |
| 16#1601 | 19.0 | 2nd RxPdo mapping | F | |
| 16#1602 | 15.0 | 3rd RxPdo mapping | F | |
| 16#1603 | 21.0 | 4th RxPdo mapping | F | |
| 16#1604 | 19.0 | 5th RxPdo mapping | F | |
| 16#1A00 | 23.0 | 1st TxPdo mapping | | 3 |
| 16#1A01 | 29.0 | 2nd TxPdo mapping | F | |
| 16#1A02 | 25.0 | 3rd TxPdo mapping | F | |
| 16#1A03 | 25.0 | 4th TxPdo mapping | F | |
| 16#1A04 | 33.0 | 5th TxPdo mapping | F | |

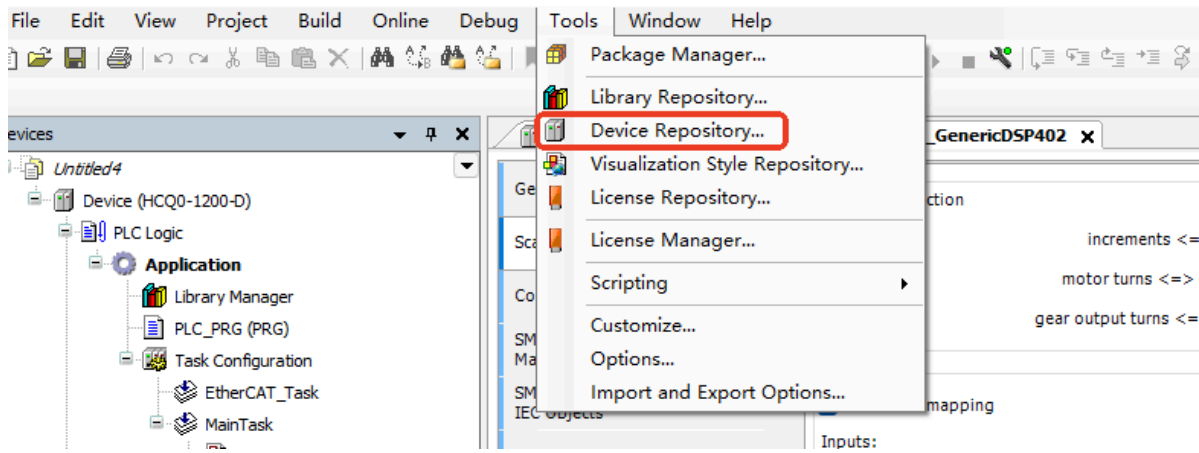
| Index | Size | Offs | Name | Type |
|------------|------|------|----------------------|------|
| 16#6040:00 | 2.0 | 0.0 | Control Word | UINT |
| 16#6060:00 | 1.0 | 2.0 | Modes of operation | SINT |
| 16#607A:00 | 4.0 | 3.0 | Targetposition | DINT |
| 16#60B8:00 | 2.0 | 7.0 | Touch Probe Function | UINT |
| | | 9.0 | | |

Startup Parameters

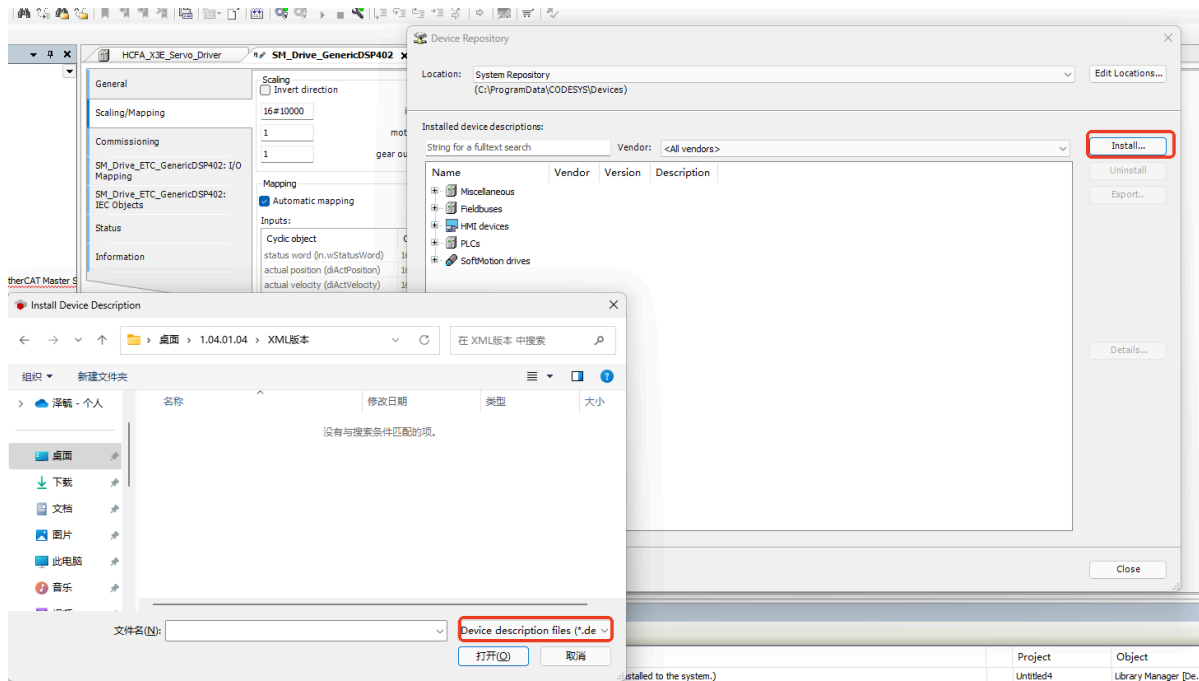
The screenshot shows the 'Startup Parameters' configuration window. The 'Startup Parameters' tab is selected. The window displays a table of parameters for address 16#6060:16#00.

| Line | Index/Subindex | Name | Value | Bit Length | Download | Abort on Error | Jump to Line on Err... | Next Line | Comment |
|------|----------------|-----------|-------|------------|-------------------------------------|--------------------------|--------------------------|-----------|---------|
| 1 | 16#6060:16#00 | Command_0 | | 8 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | |

Install the Device description files



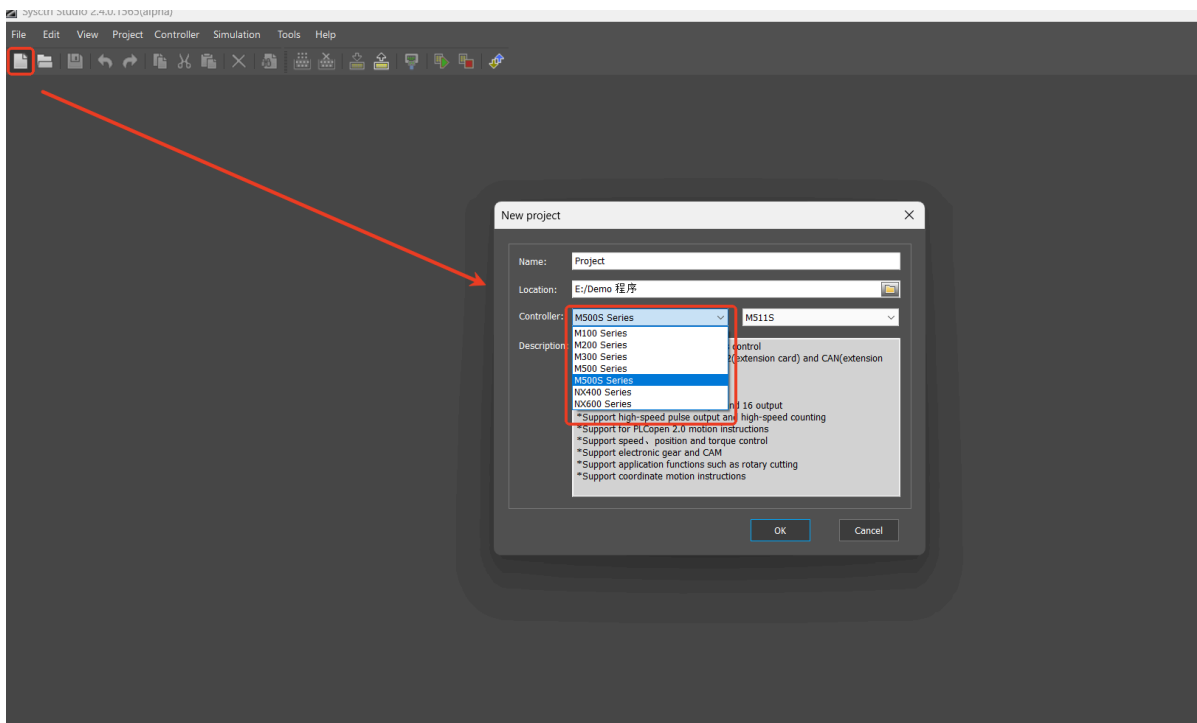
Click the install then choose the XML files you need to install



M series PLC

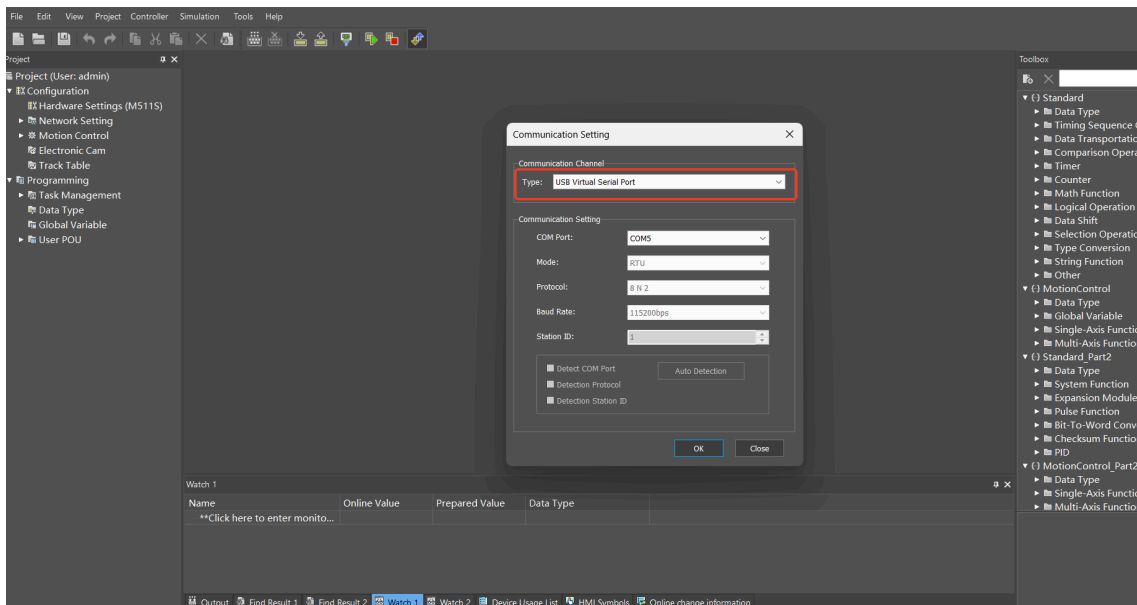
Create a new project

1. Choose the PLC that you are using



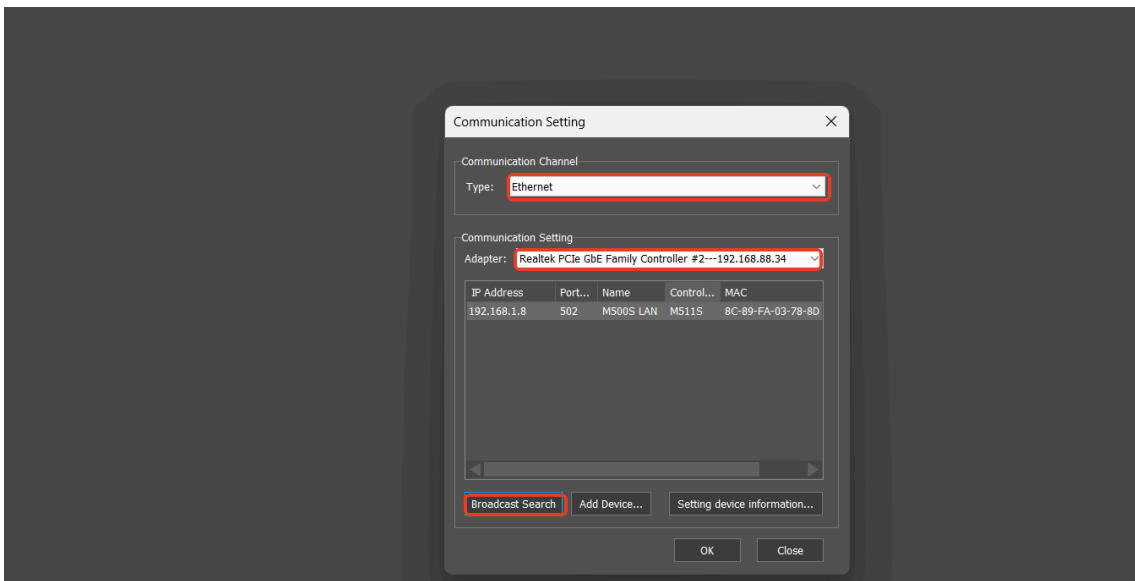
2. M511s provides two methods to connect the device: 1. USB-C port 2. EtherNet port

Use USB to connect:



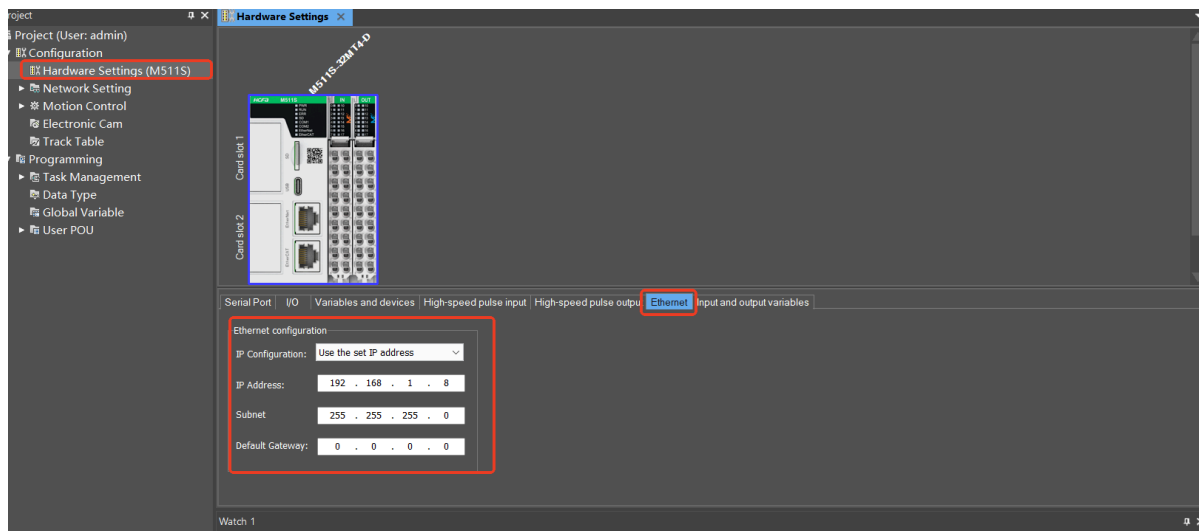
3. Use the EtherNet port to connect, Type: Ethernet, the Adapter uses as the photo shows.

Then Click the Broadcast Search,

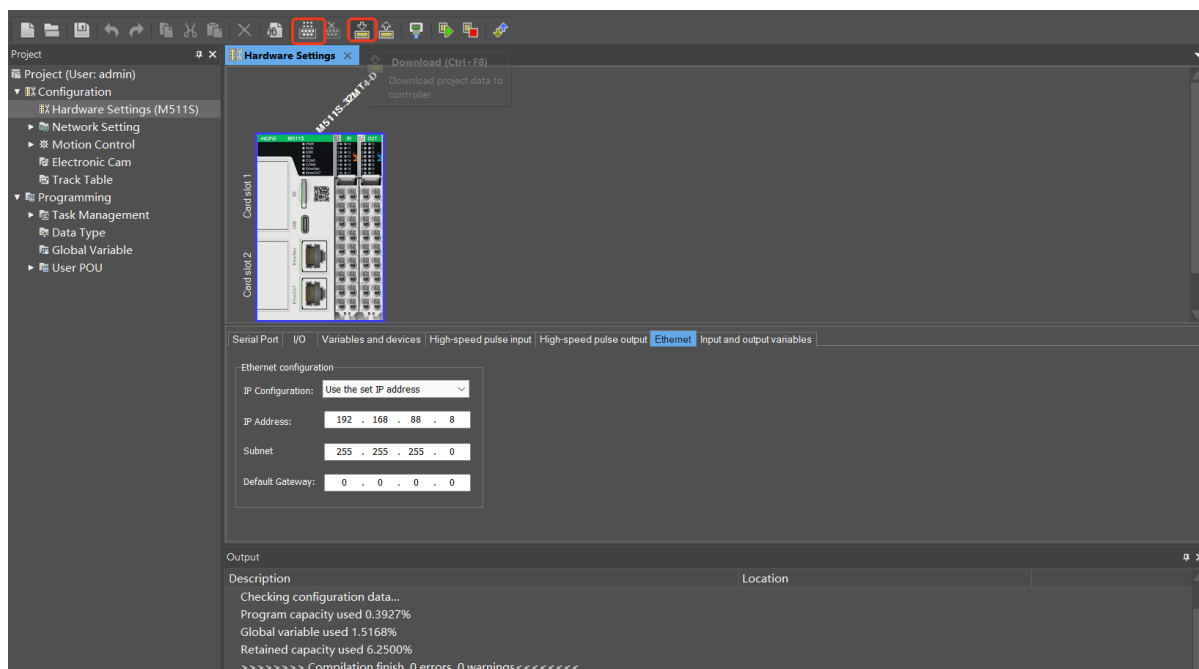


4. Change the IP address of the PLC.

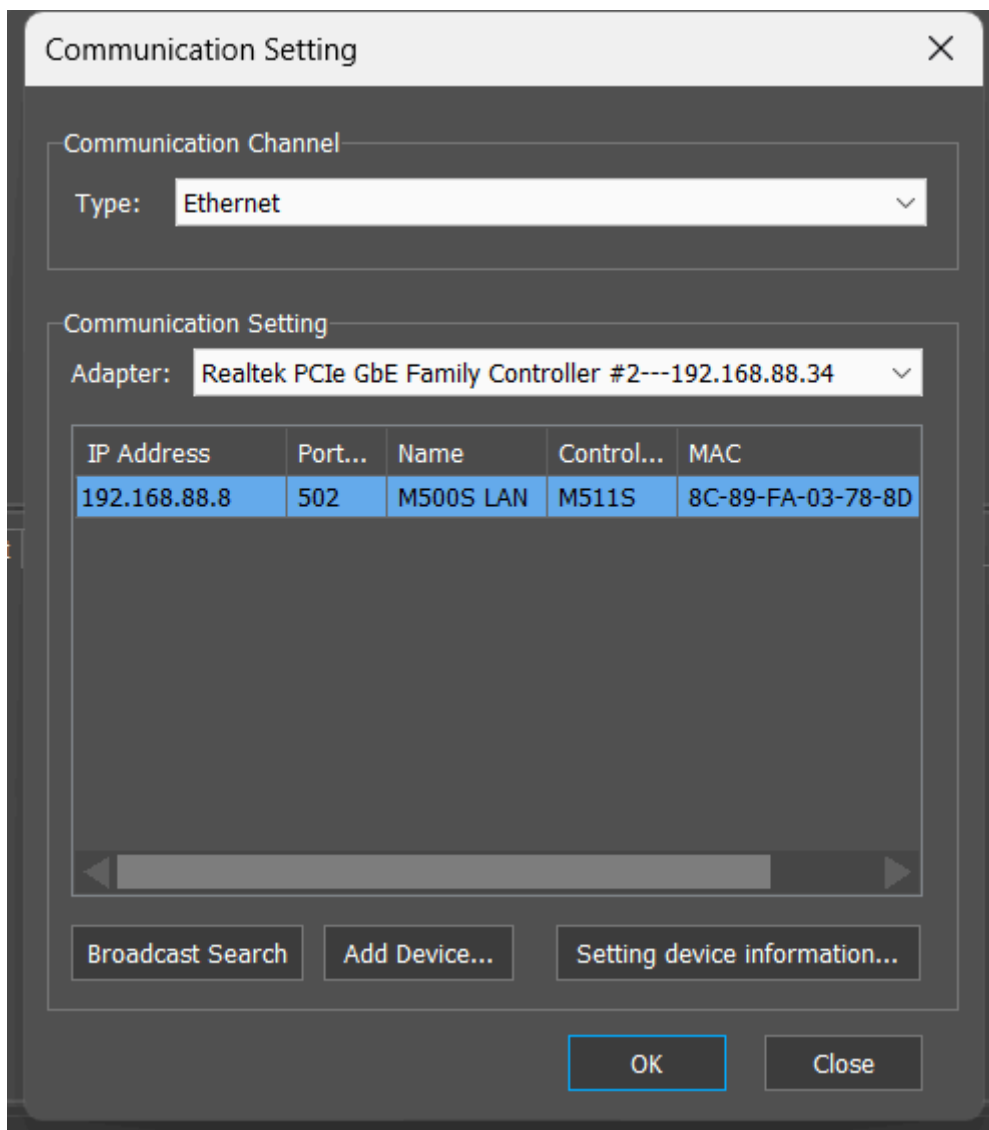
Since we can use the USB to connect the device, we can modify the PLC's IP address



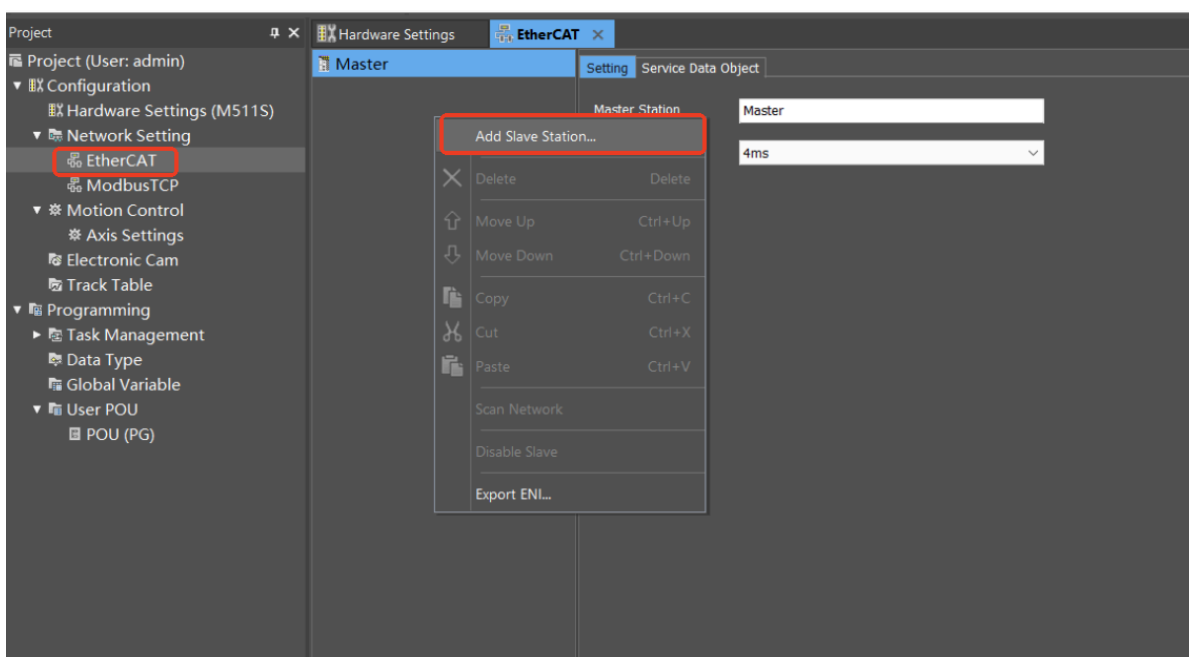
Compile and download to device, then power Off and On to check the IP address.



Then re-broadcast search to check the IP



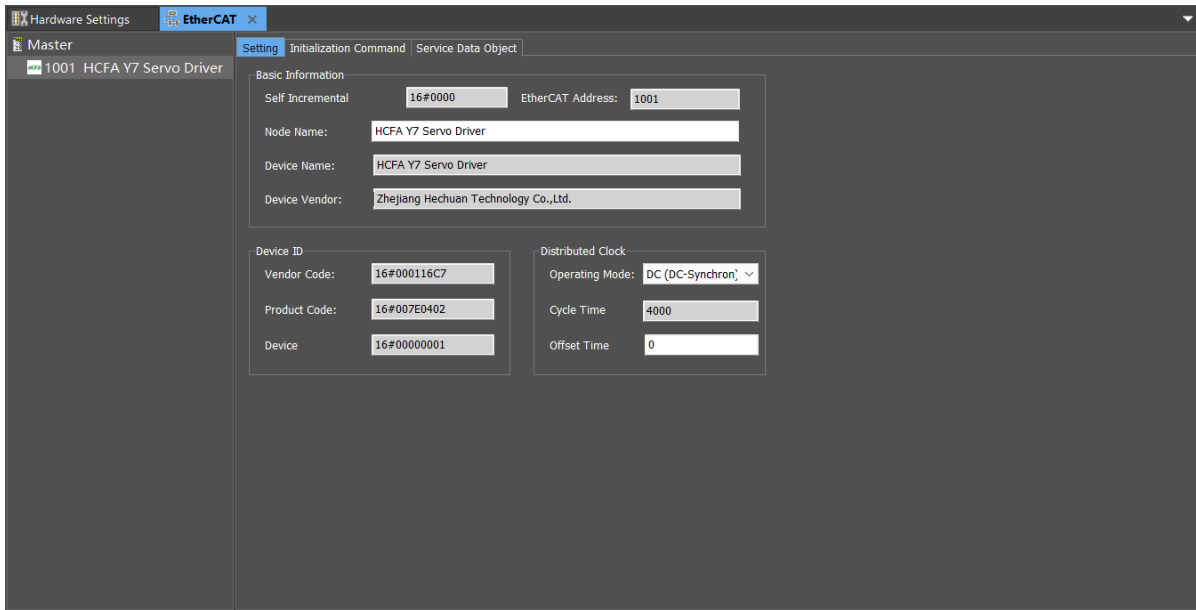
5. Add EtherCAT devices, right click to add the slave station:



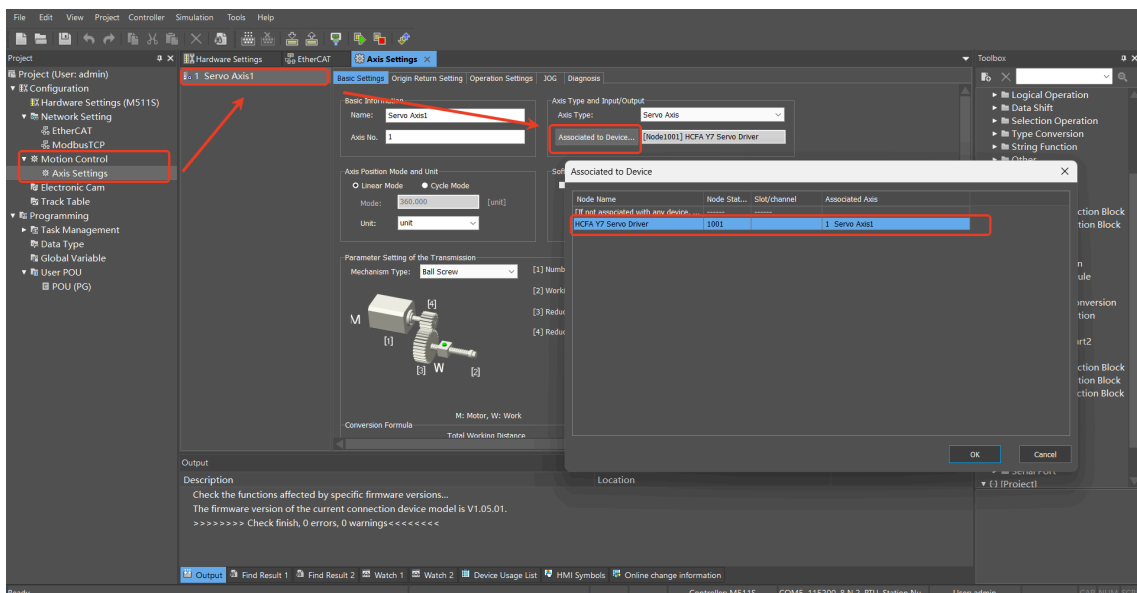
Since the M511s not supports 3rd party devices, the supported slave devices are shown as the list:



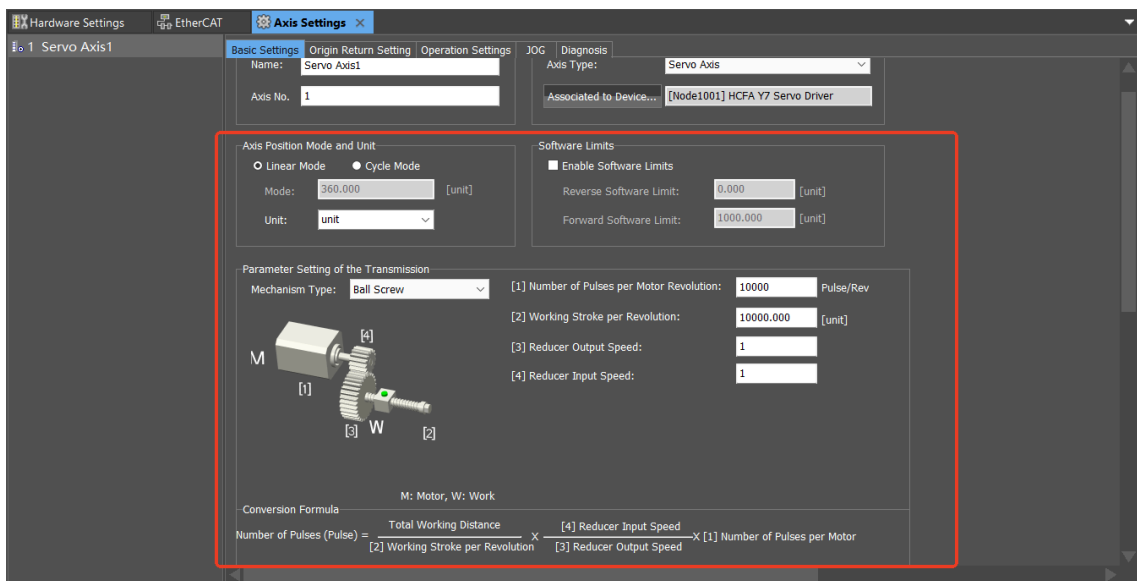
6. Add EtherCAT devices, right click to add the slave station:

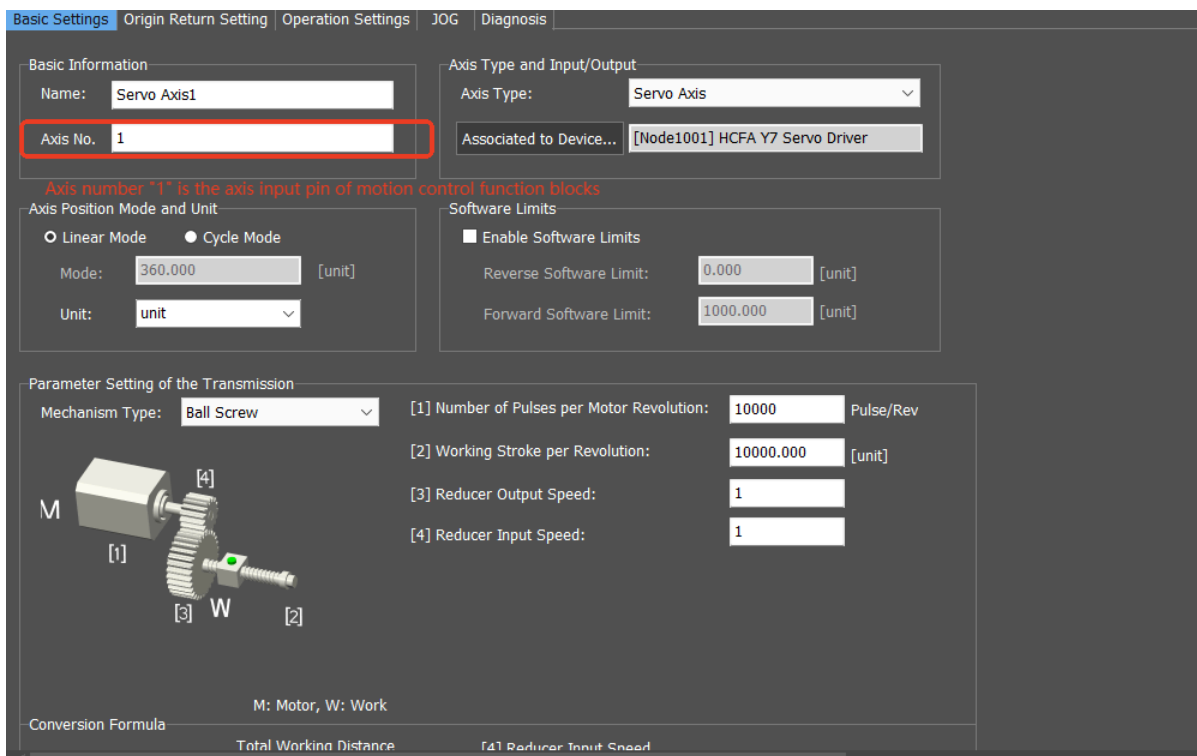


7. Add axis method: Right click to add the servo axis then associate to the servo drive



8. Axis setting (Gear ratio setting)

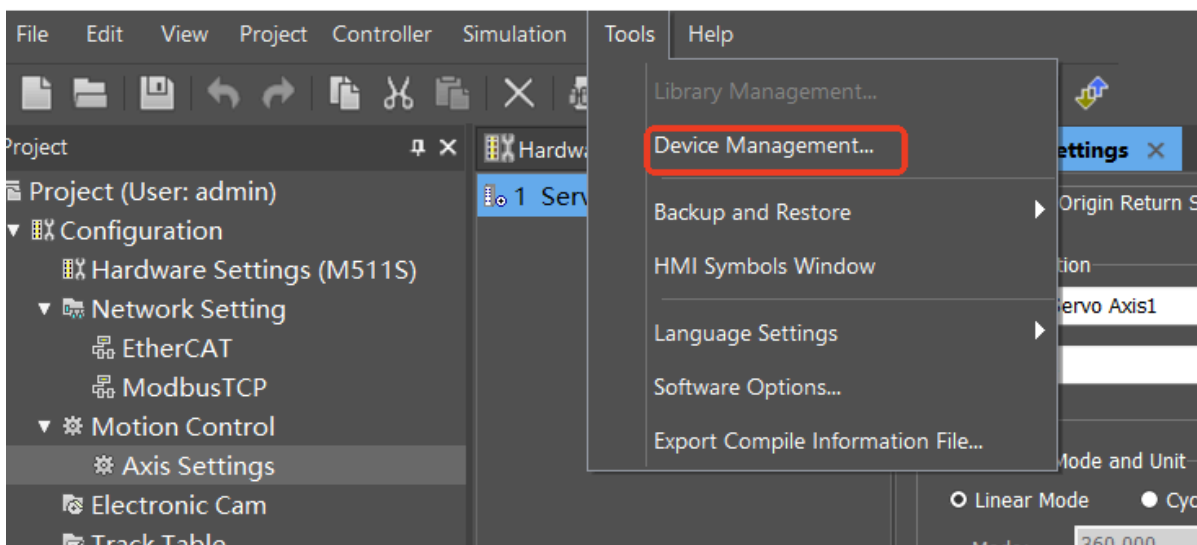




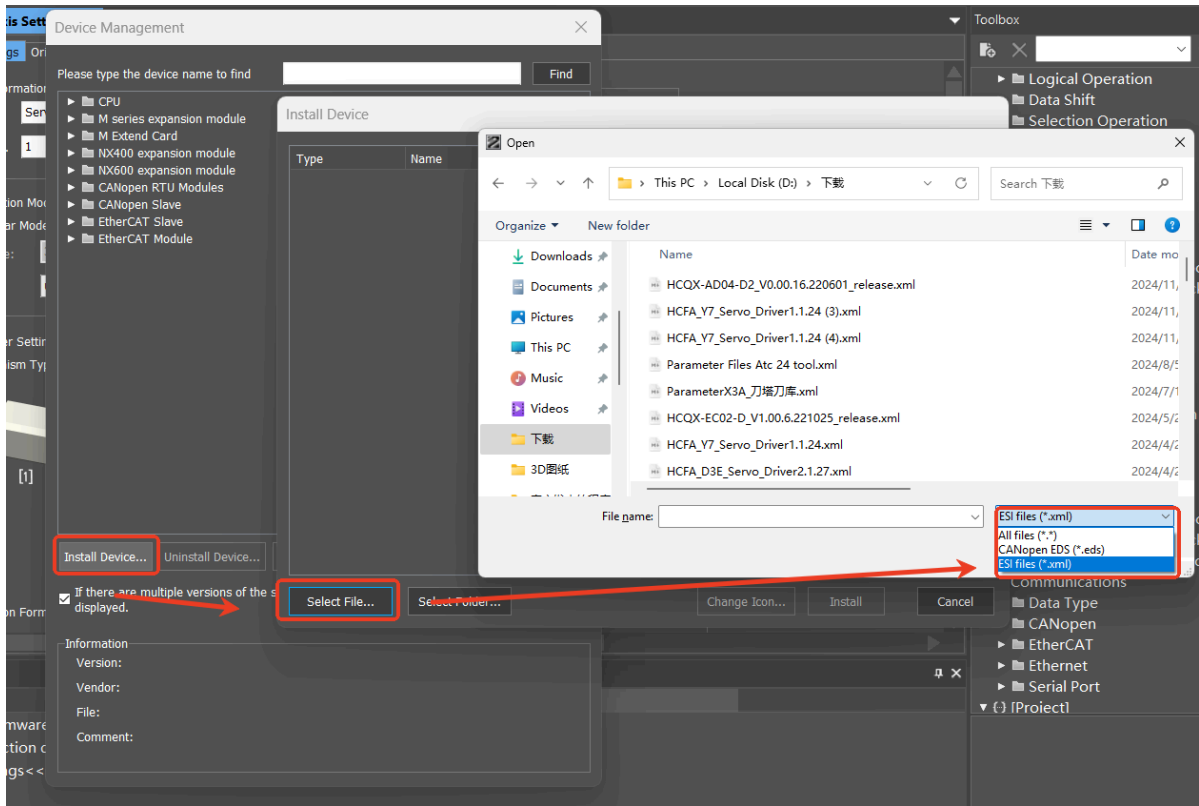
Install the Device description files

Not for M500s series(not supports the EtherCAT 3rd party devices), even if you install the new xml files, the device will not show in the list.

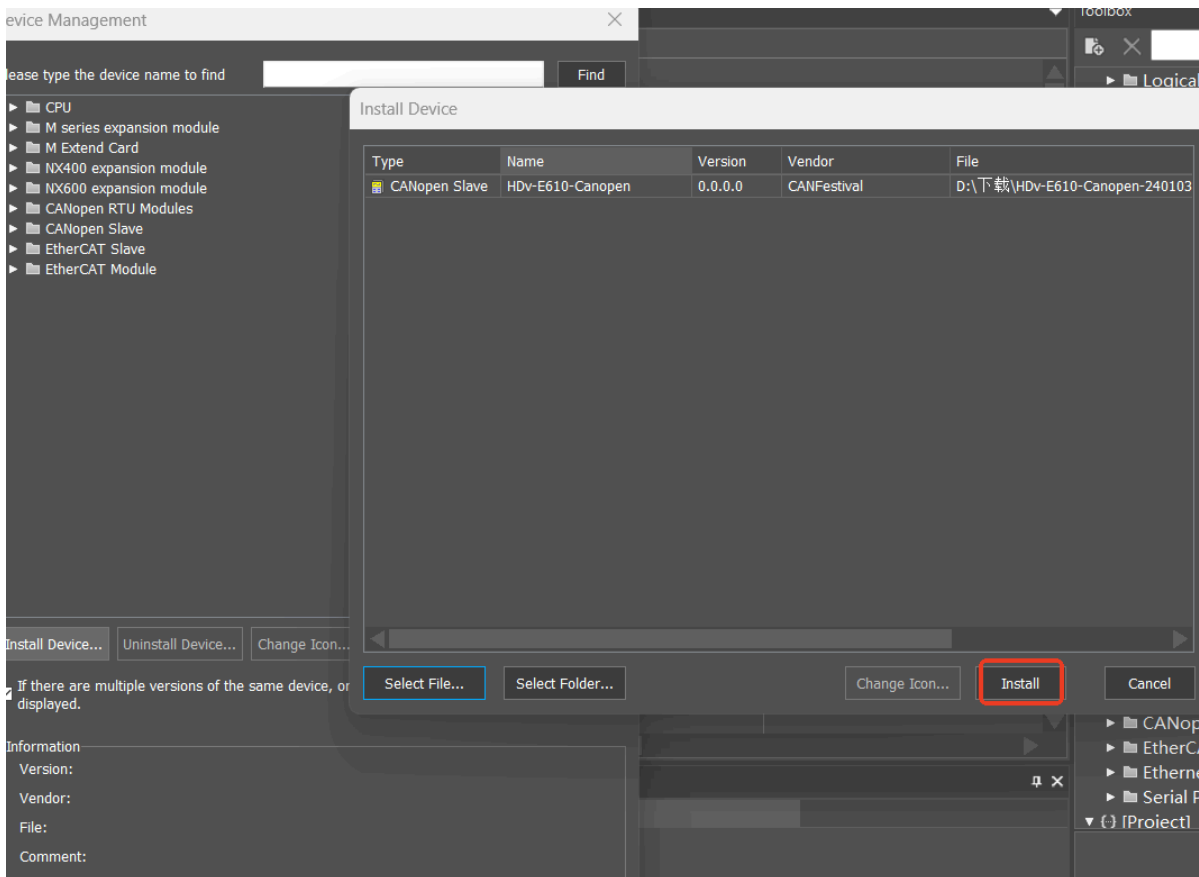
1. Open the device management:



2. Select the files you need to add (CANopen EDS files or EtherCAT XML files)



3. Install the file



3. Then you can check the installed devices in the device list:

