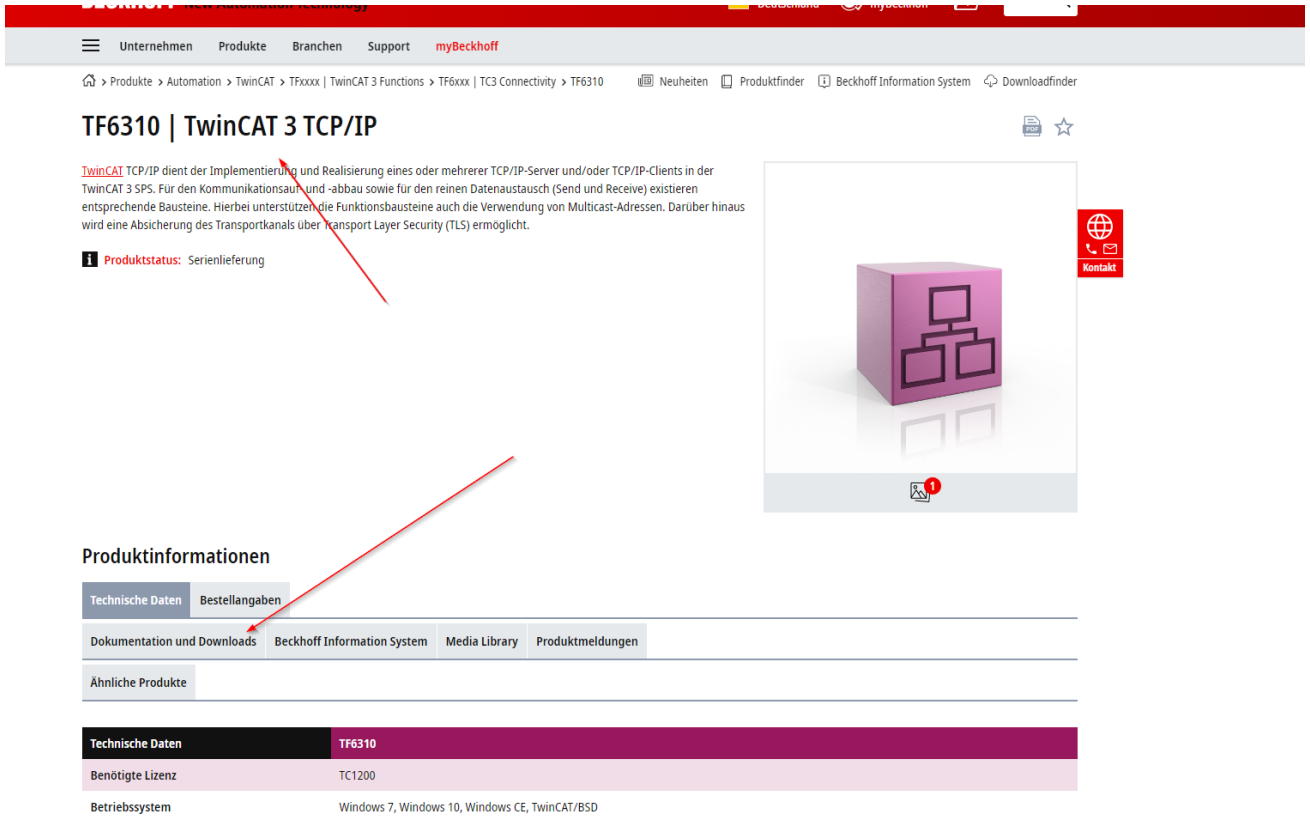
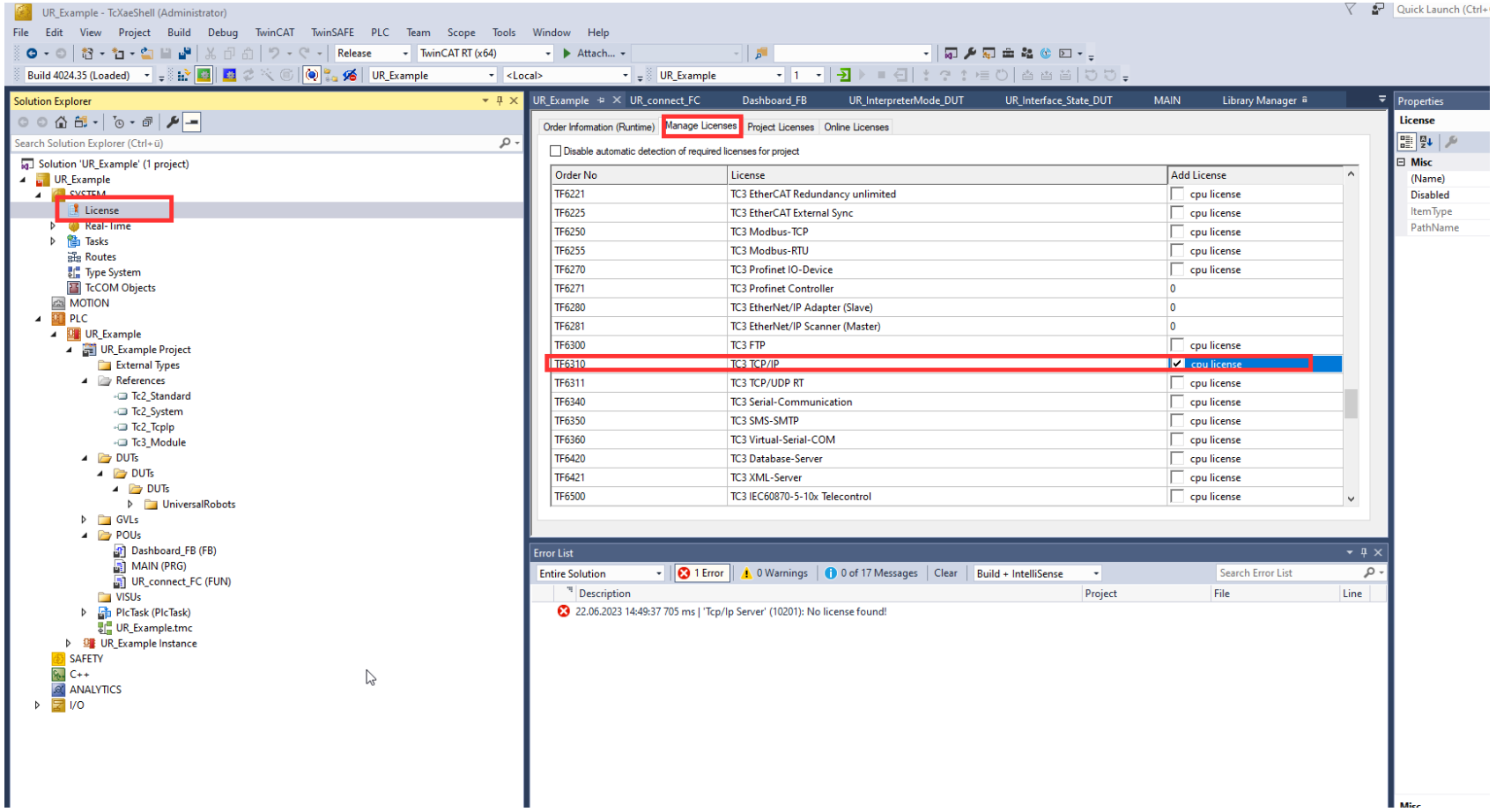
TF6310

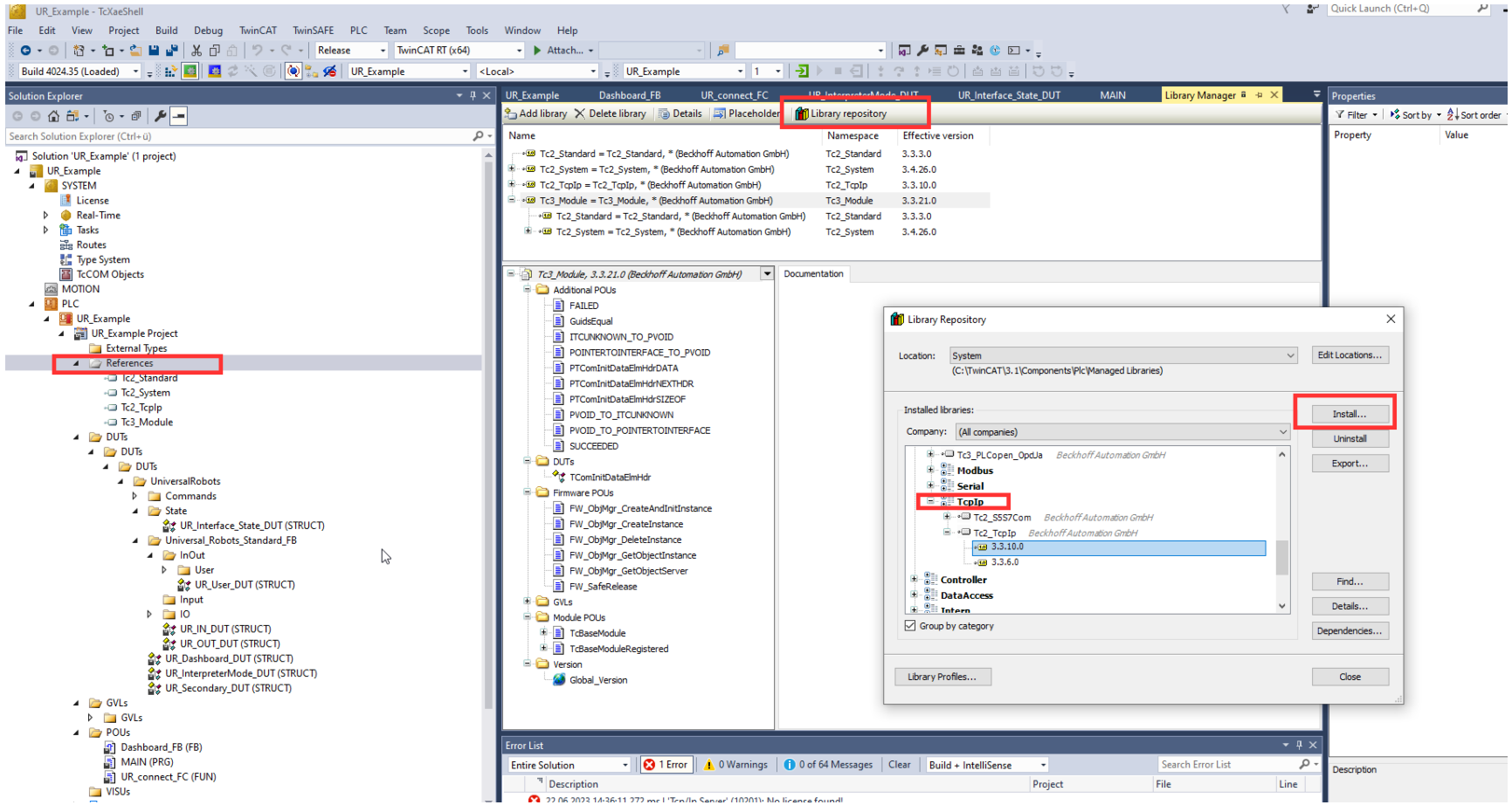
- Before Using the UR example you have to install for all socket communications the tcp/ip library



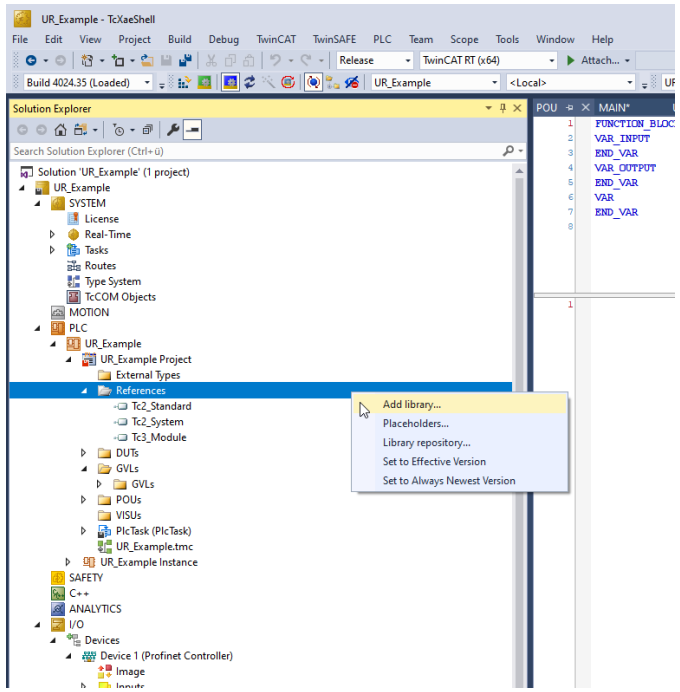
Get Trial license for if needed

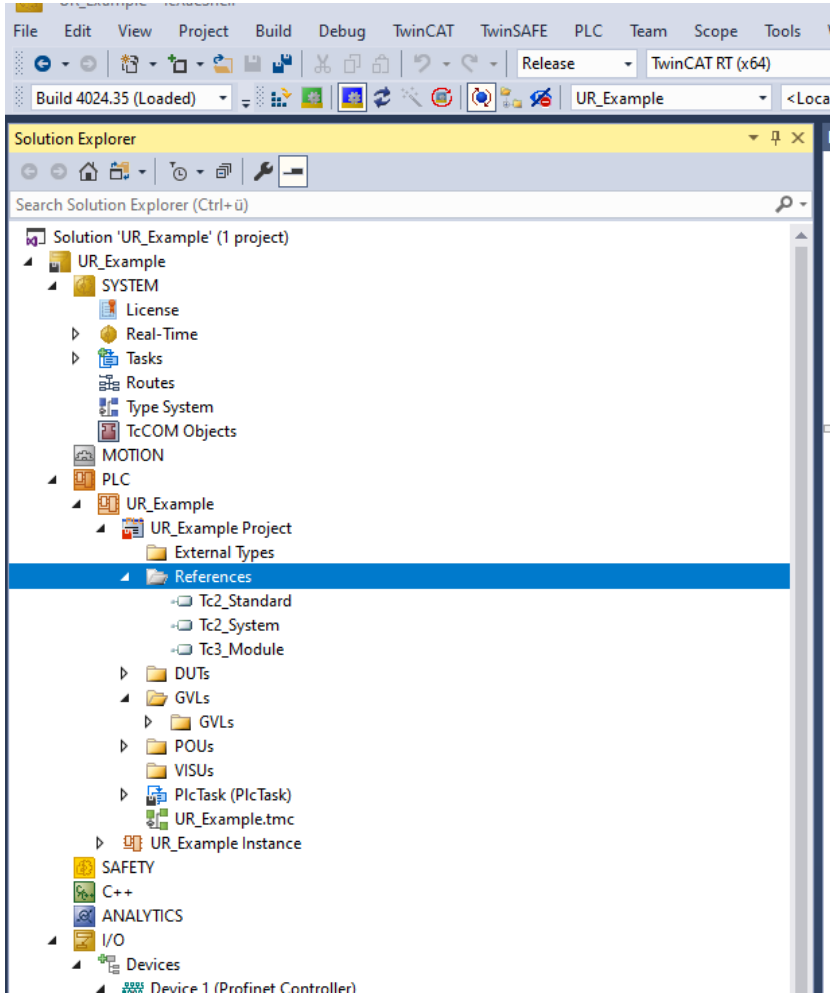


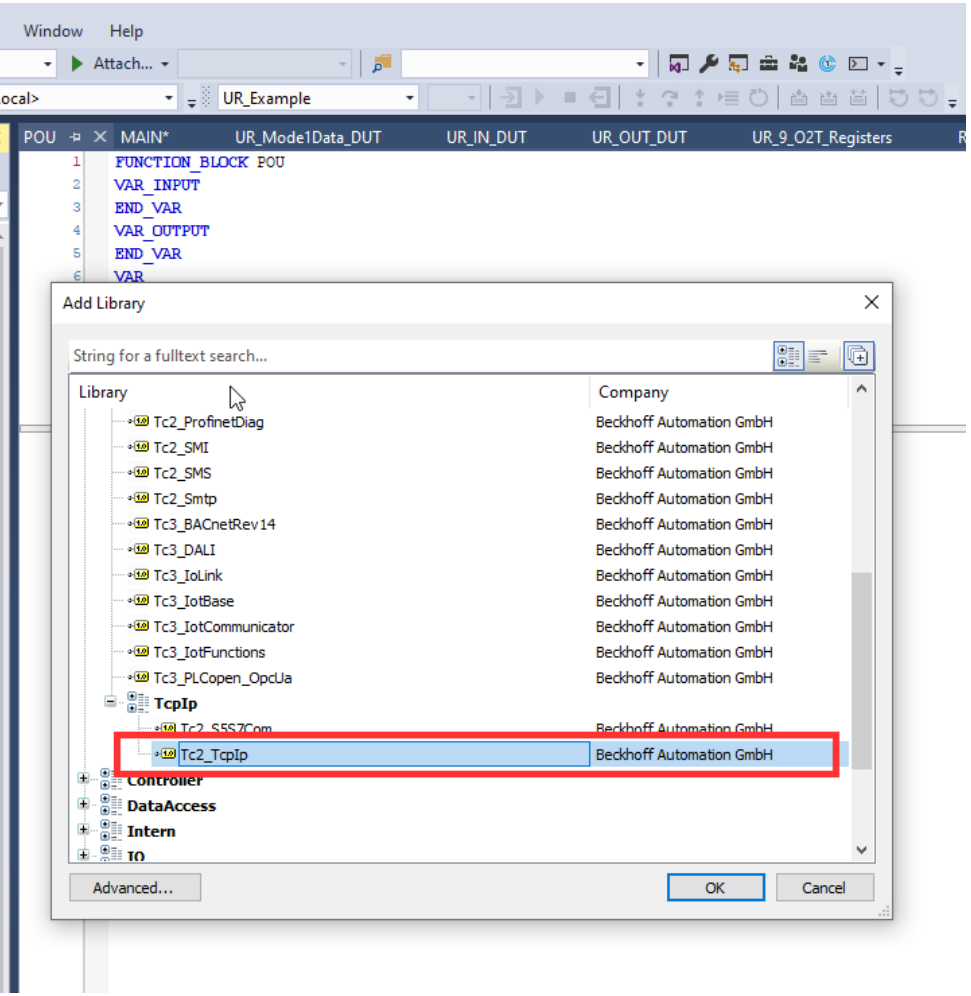
Install library Tc2_TcpIp (Communication)



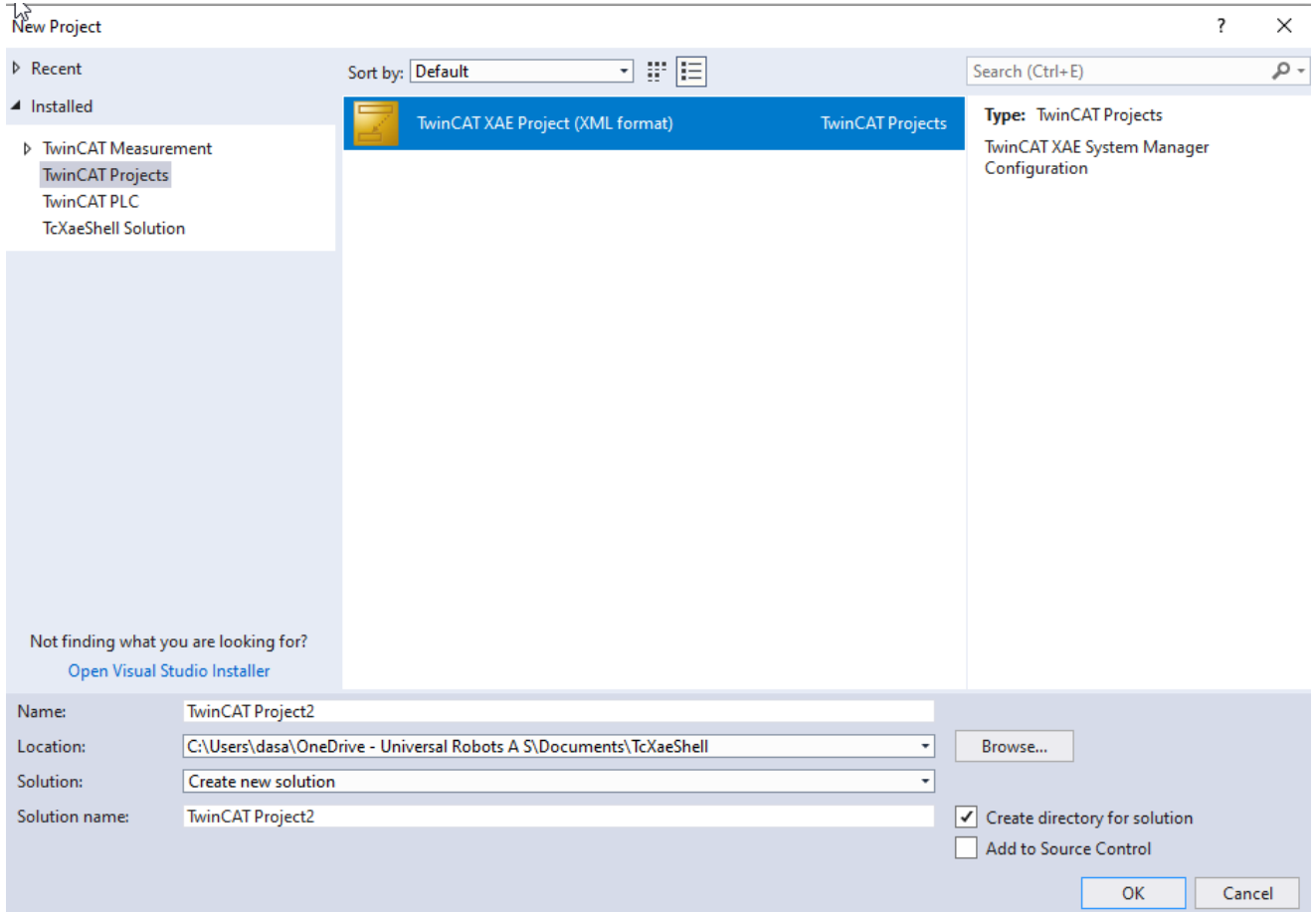
add Tc2_TcpIp (Communication) library it is necessary for all TCP communications

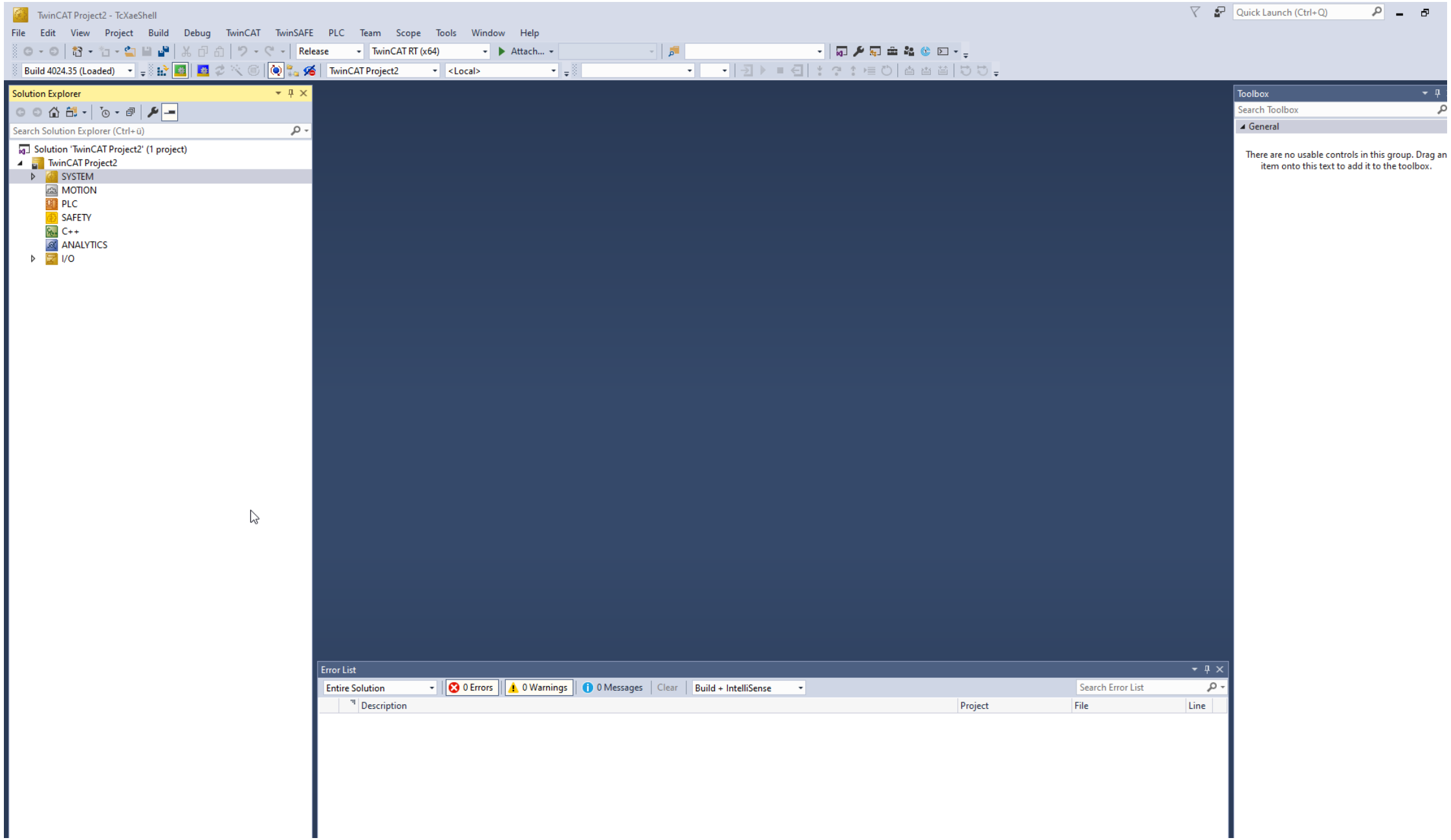






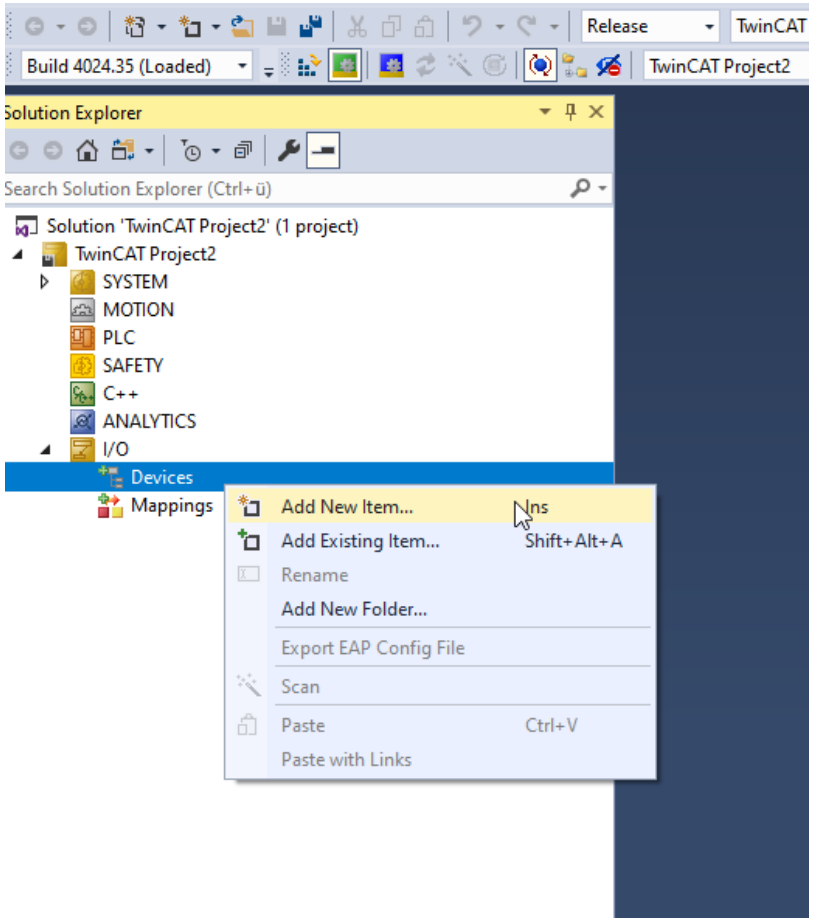
Create new project



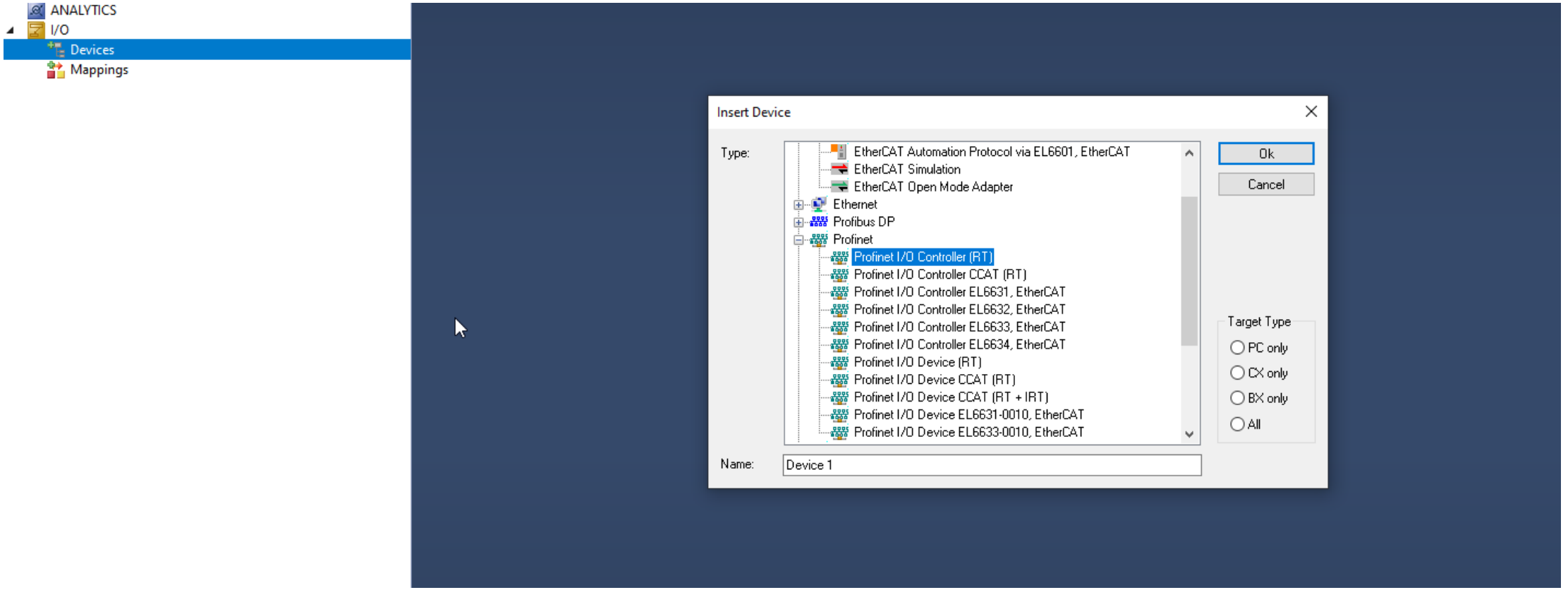

TwinCAT Project2 - TcXaeShell
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug TwinCAT TwinSAFE PLC Team Scope Tools Window Help
Release
TwinCAT RT (x64)
Attach...
Build 4024.35 (Loaded)
TwinCAT Project2
<Local>
Solution Explorer
Search Solution Explorer (Ctrl+ü)
Solution 'TwinCAT Project2' (1 project)
TwinCAT Project2
SYSTEM
MOTION
PLC
SAFETY
C++
ANALYTICS
I/O
Toolbox
Search Toolbox
General
There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.
Error List
Entire Solution
0 Errors
0 Warnings
0 Messages
Clear
Build + IntelliSense
Search Error List
Description
Project
File
Line

Config for profinet controller (RT)

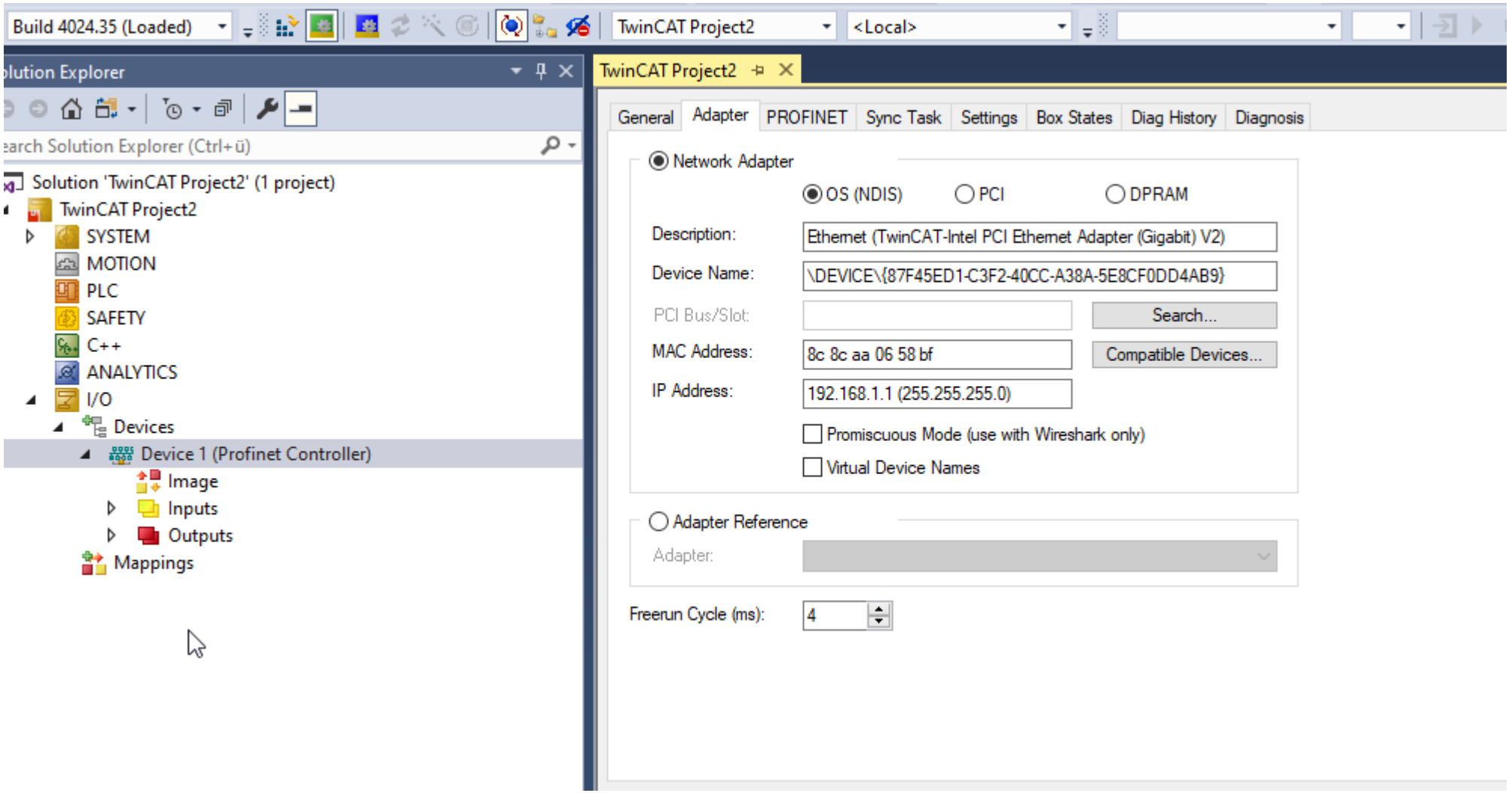
Add new item to devices



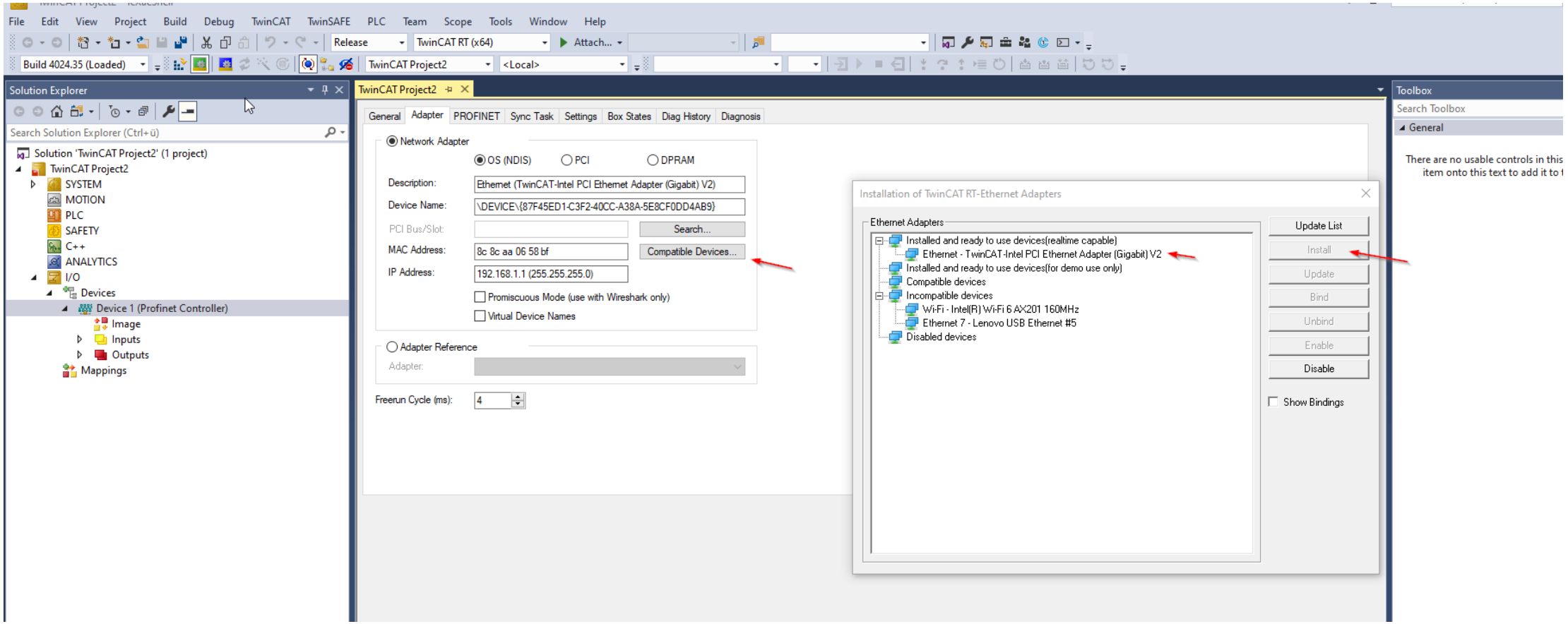
Add profinet IO controller RT



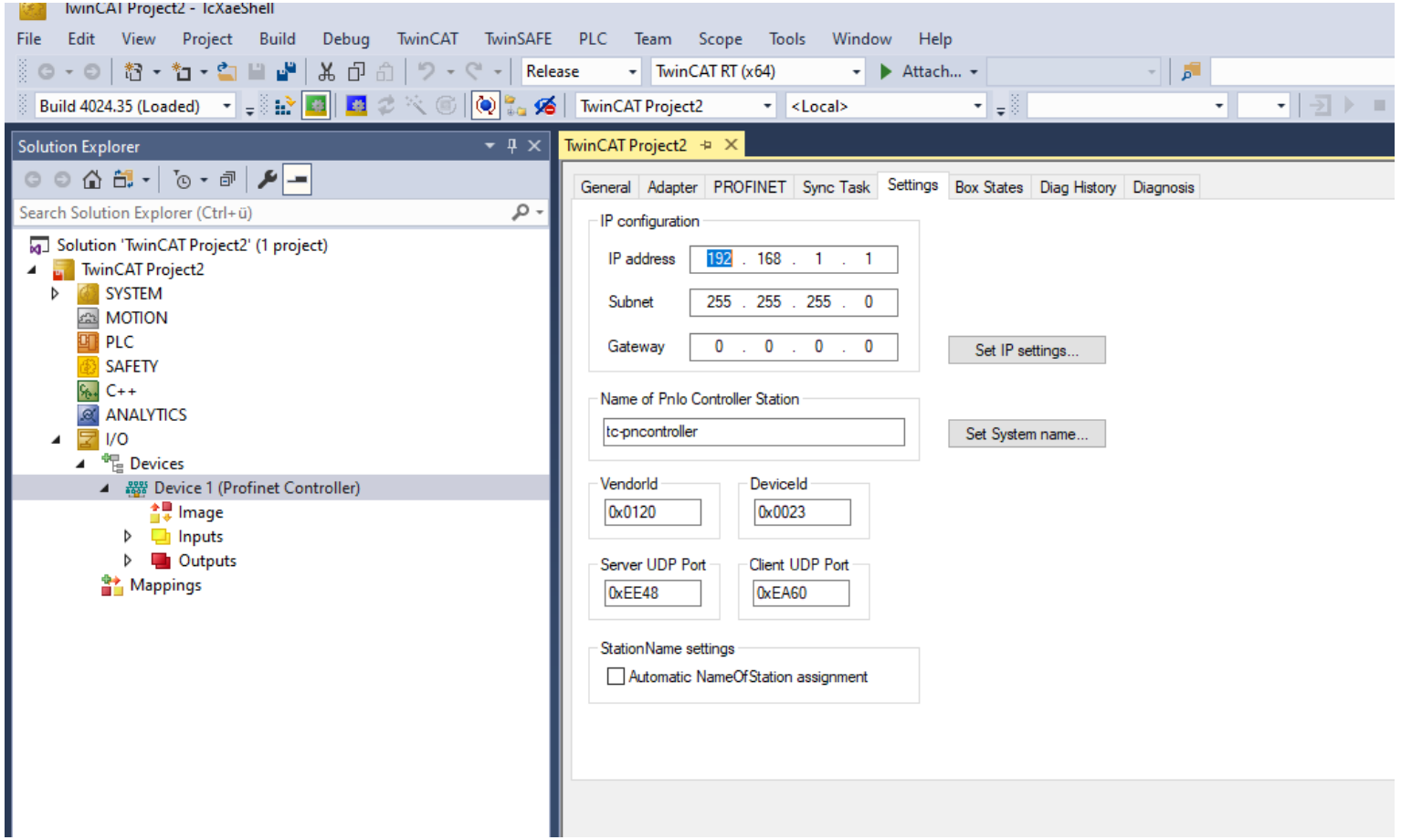
- If ethernet driver already installed choose your prefered ethernet slot (PLC/Laptop) and skip next slide
- In case it is not installed check next slide.



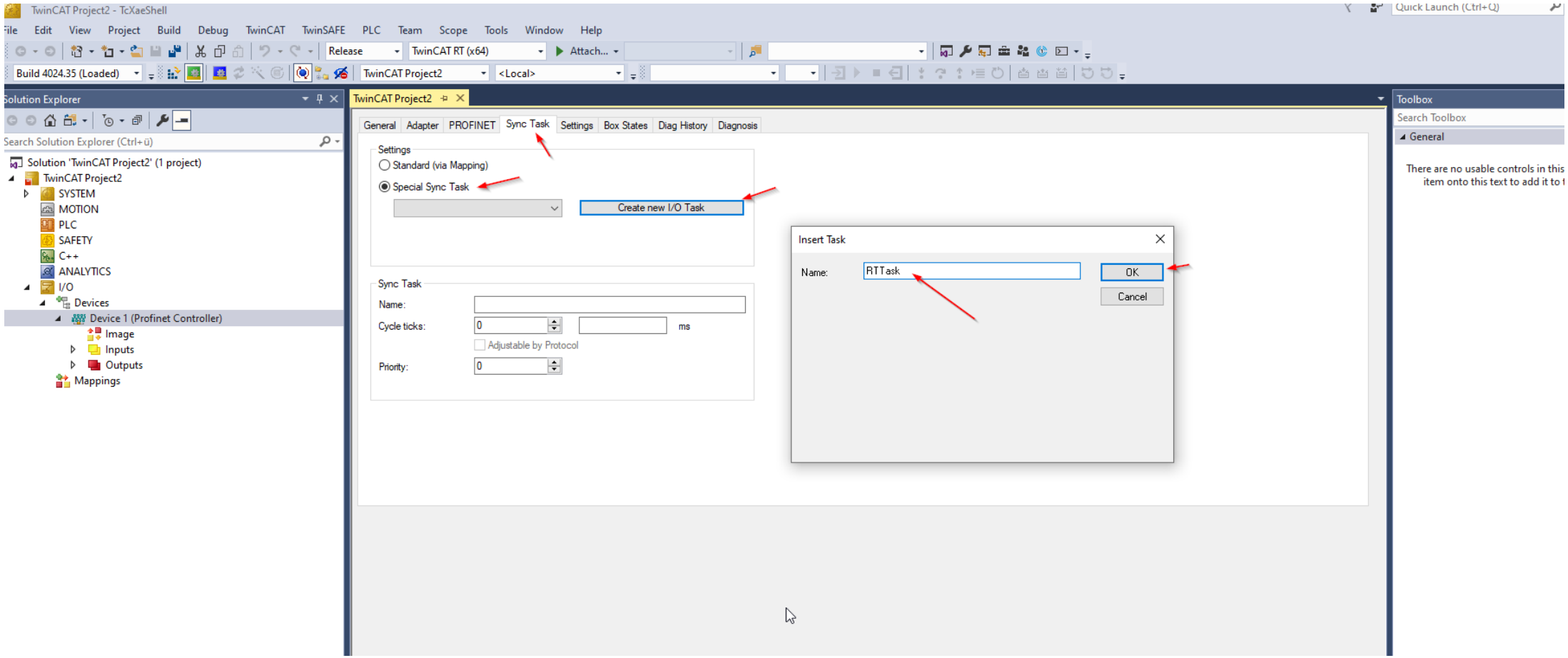
in case driver is not installed



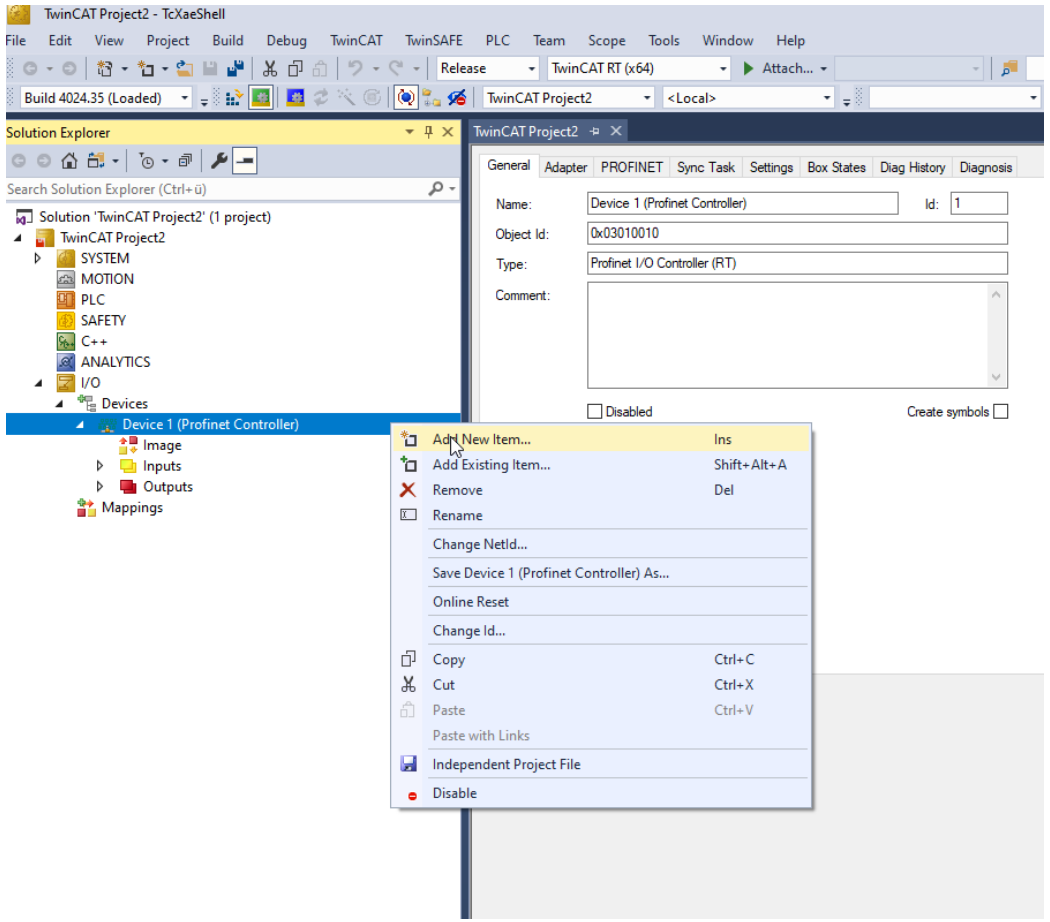
First setup ip configs of PN Controller

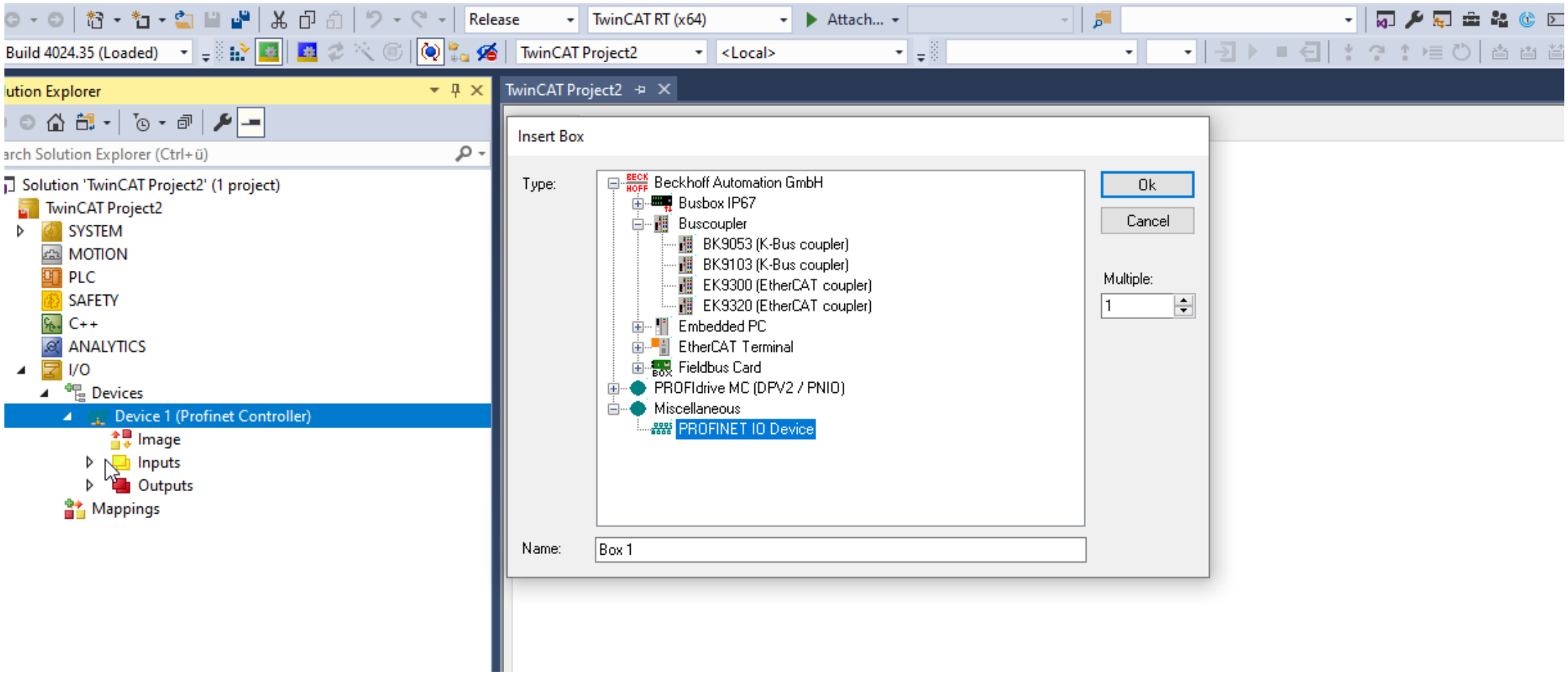


Create new task

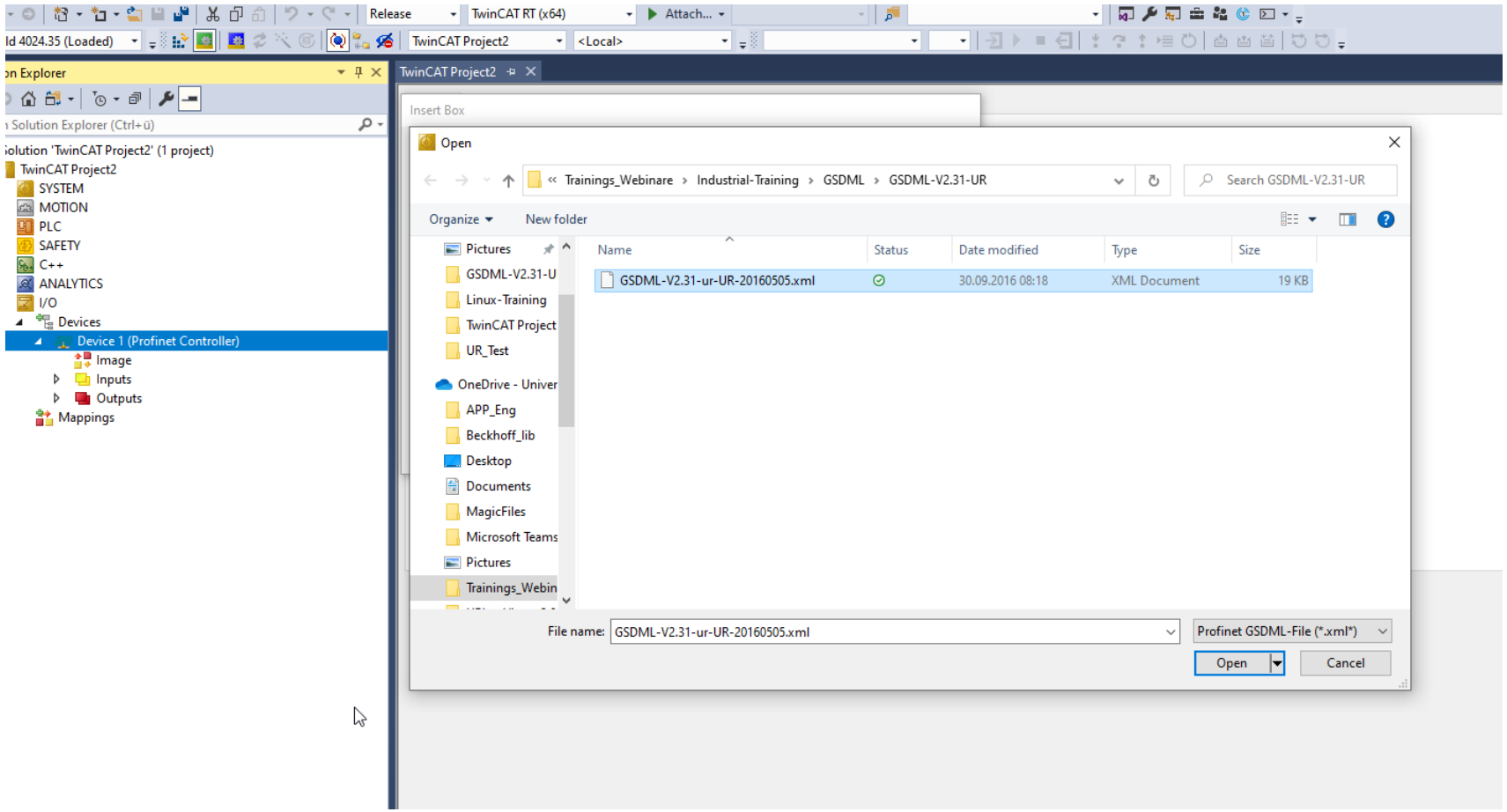


Add new IO Device (UR robot)

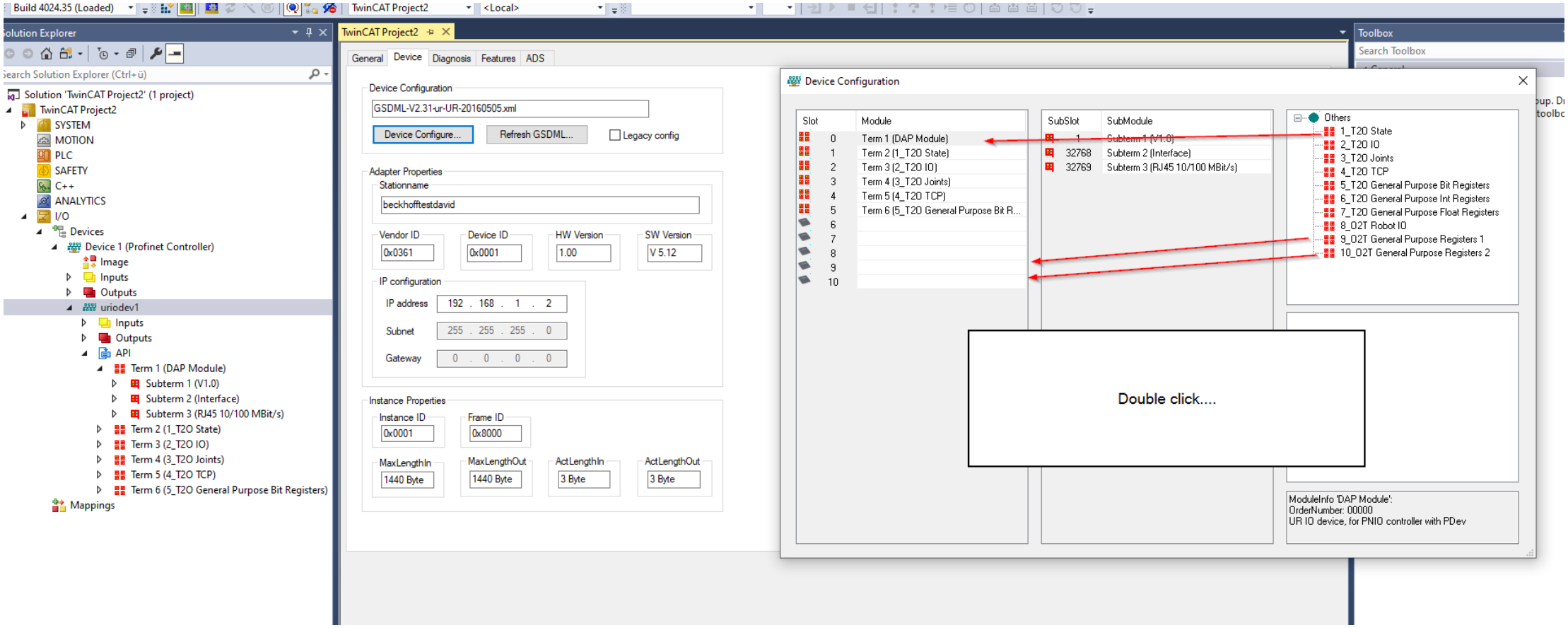



Release
TwinCAT RT (x64)
Attach...
Build 4024.35 (Loaded)
TwinCAT Project2
<Local>
ution Explorer
arch Solution Explorer (Ctrl+ü)
Solution 'TwinCAT Project2' (1 project)
TwinCAT Project2
SYSTEM
MOTION
PLC
SAFETY
C++
ANALYTICS
I/O
Devices
Device 1 (Profinet Controller)
Image
Inputs
Outputs
Mappings
TwinCAT Project2
Insert Box
Type:
Beckhoff Automation GmbH
Busbox IP67
Buscoupler
BK9053 (K-Bus coupler)
BK9103 (K-Bus coupler)
EK9300 (EtherCAT coupler)
EK9320 (EtherCAT coupler)
Embedded PC
EtherCAT Terminal
Fieldbus Card
PROFIdrive MC (DPV2 / PNIO)
Miscellaneous
PROFINET IO Device
Ok
Cancel
Multiple:
1
Name:
Box 1

UR GSDML


Release
TwinCAT RT (x64)
Attach...
TwinCAT Project2
<Local>
TwinCAT Project2
Solution Explorer (Ctrl+ü)
Solution 'TwinCAT Project2' (1 project)
TwinCAT Project2
SYSTEM
MOTION
PLC
SAFETY
C++
ANALYTICS
I/O
Devices
Device 1 (Profinet Controller)
Image
Inputs
Outputs
Mappings
Insert Box
Open
Trainings_Webinare › Industrial-Training › GSDML › GSDML-V2.31-UR
Search GSDML-V2.31-UR
Organize
New folder
Pictures
GSDML-V2.31-U
Linux-Training
TwinCAT Project
UR_Test
OneDrive - Univer
APP_Eng
Beckhoff_lib
Desktop
Documents
MagicFiles
Microsoft Teams
Pictures
Trainings_Webin
Name
Status
Date modified
Type
Size
GSDML-V2.31-ur-UR-20160505.xml
30.09.2016 08:18
XML Document
19 KB
File name:
GSDML-V2.31-ur-UR-20160505.xml
Profinet GSDML-File (*.xml*)
Open
Cancel

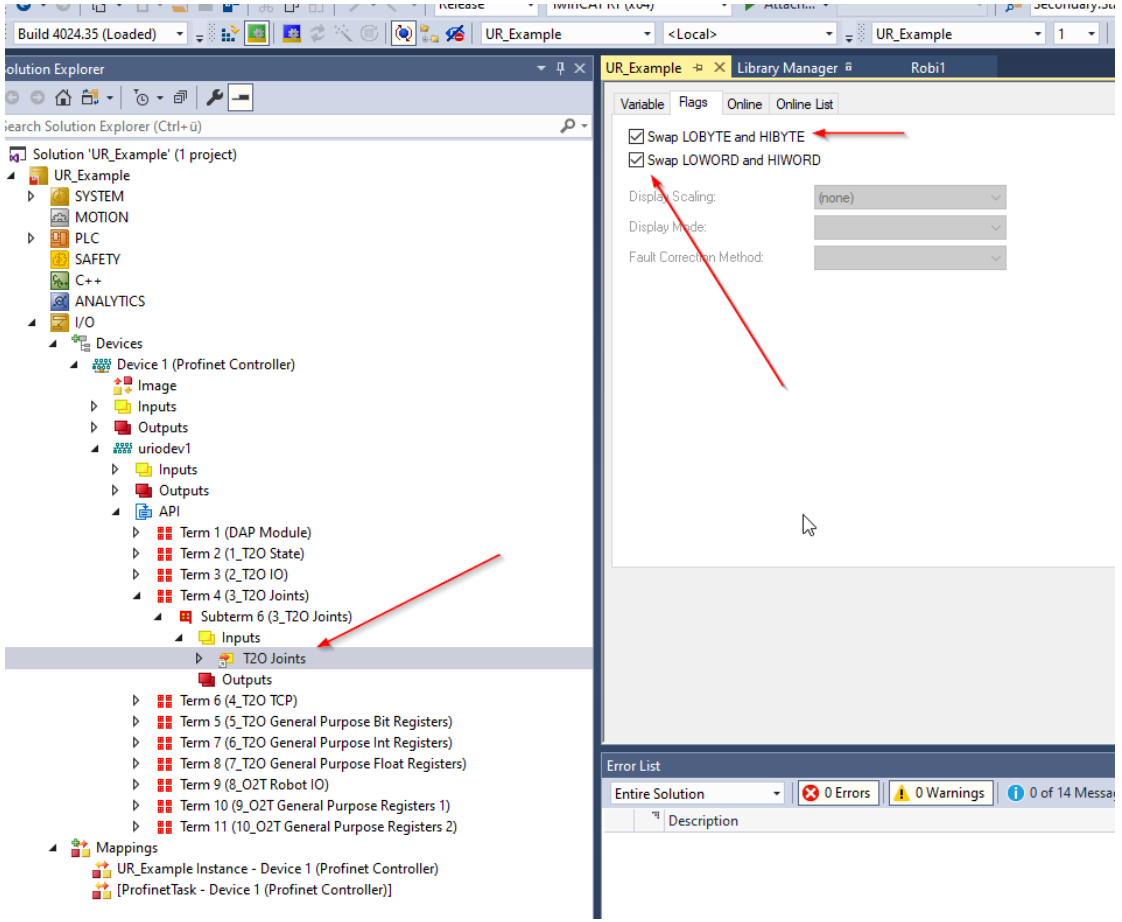
Device config. Choose all of them



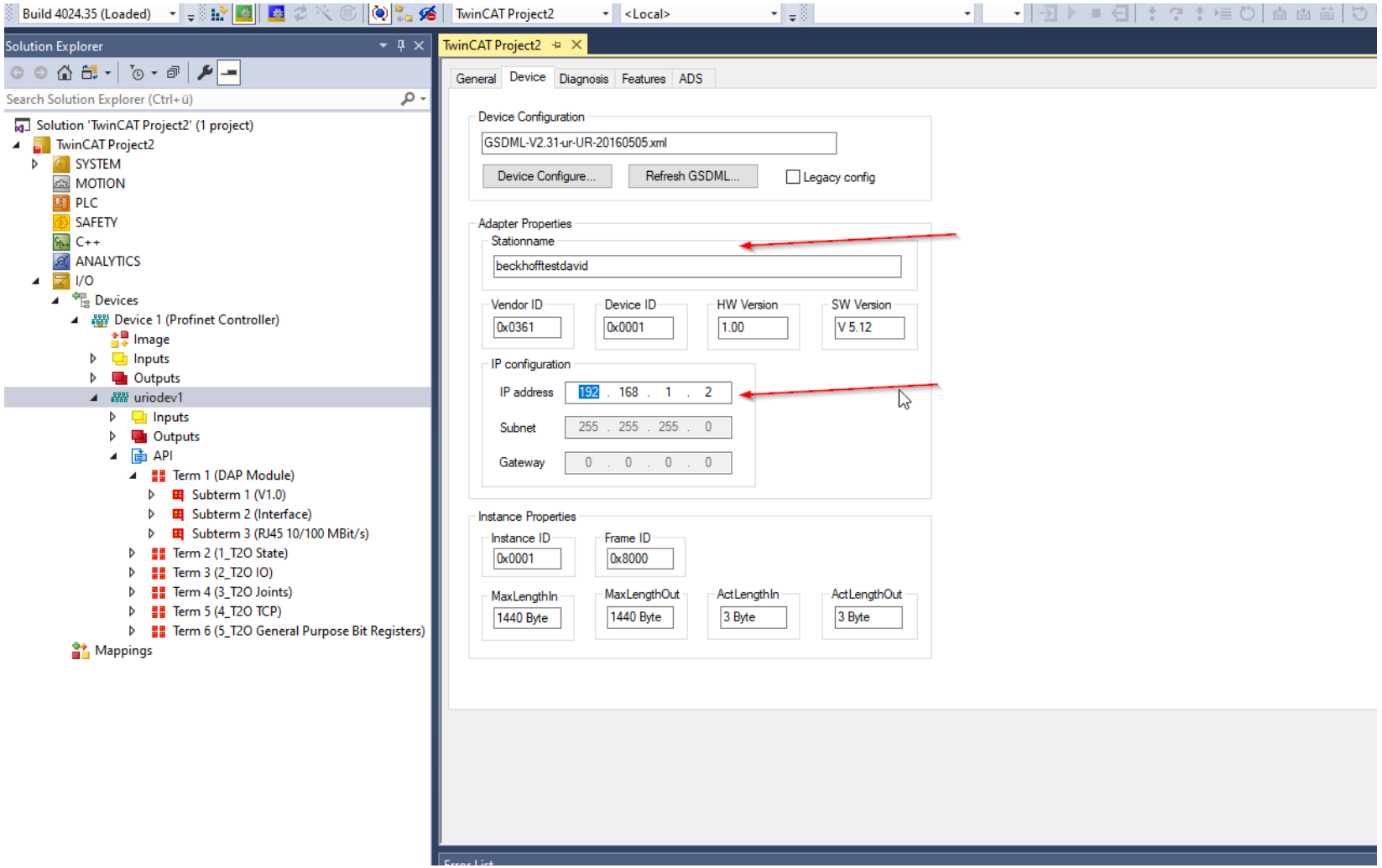
Due to the Intel standard some registers have to be swapped to the motorola standard

Please set byte swap and word swap for the following terms. Otherwise this example will not work properly:

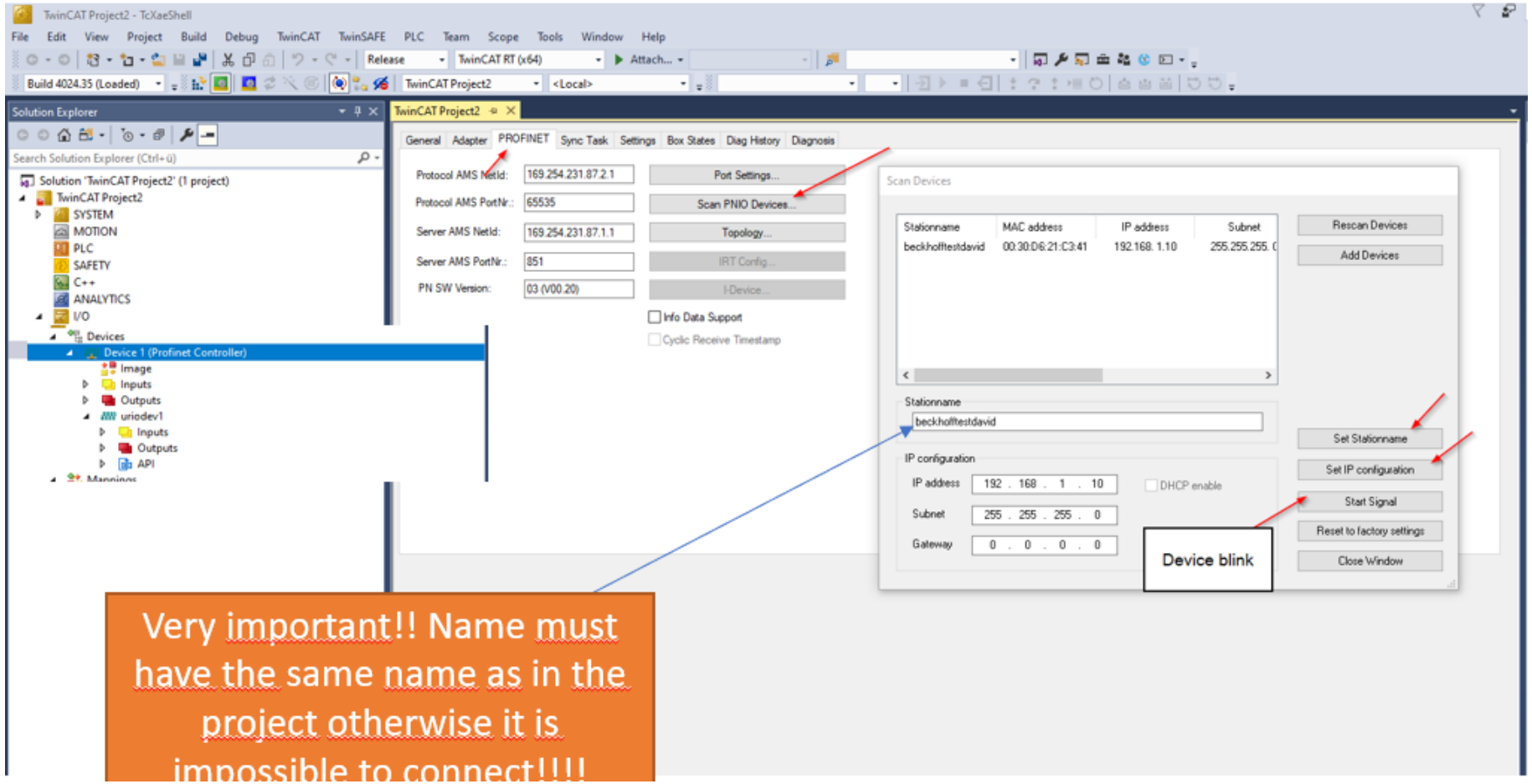
- Term 4 – Joints
- Term 6 – TCP
- Term 7 – Int Registers
- Term 8 – Float Registers



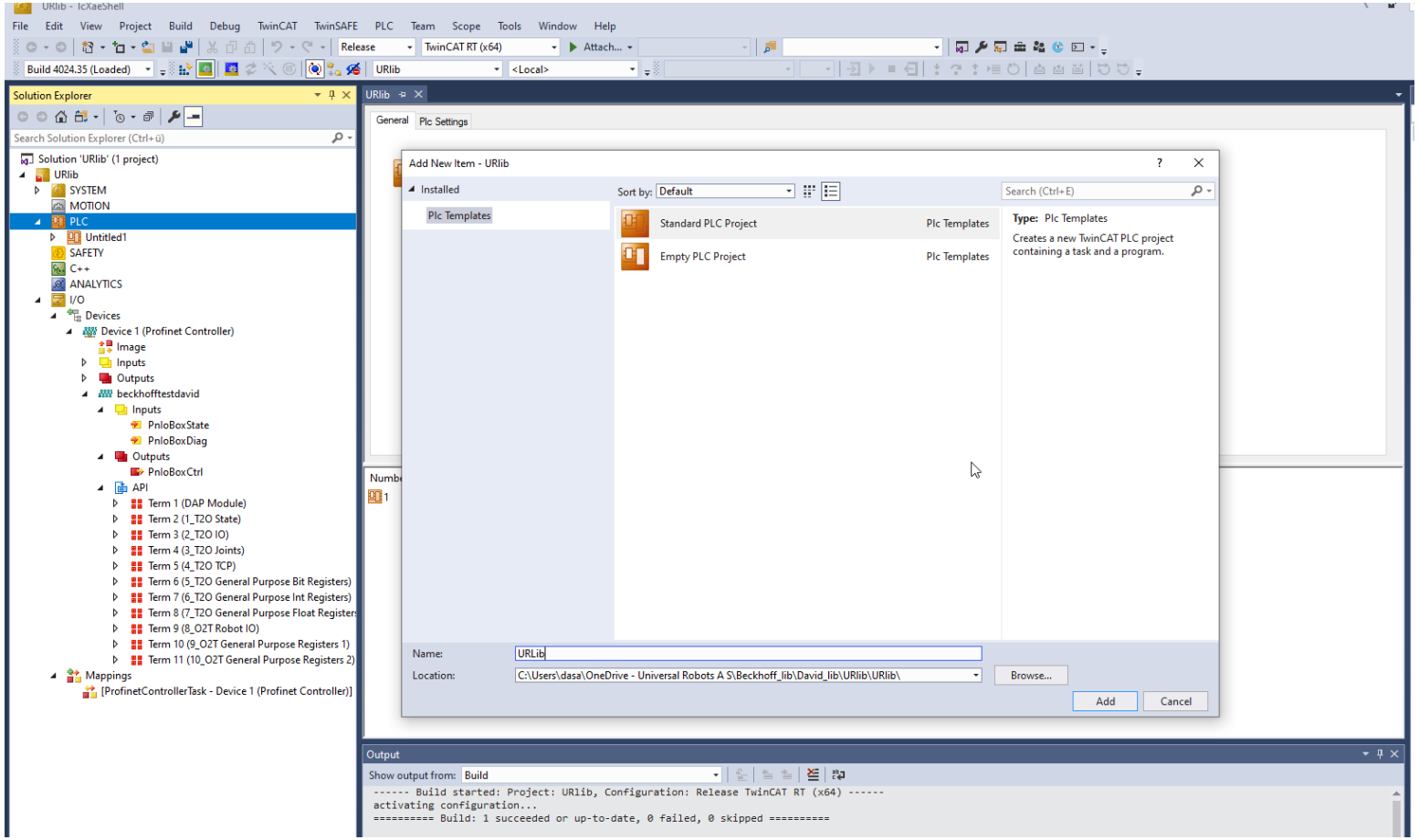
IP config and choose stationname



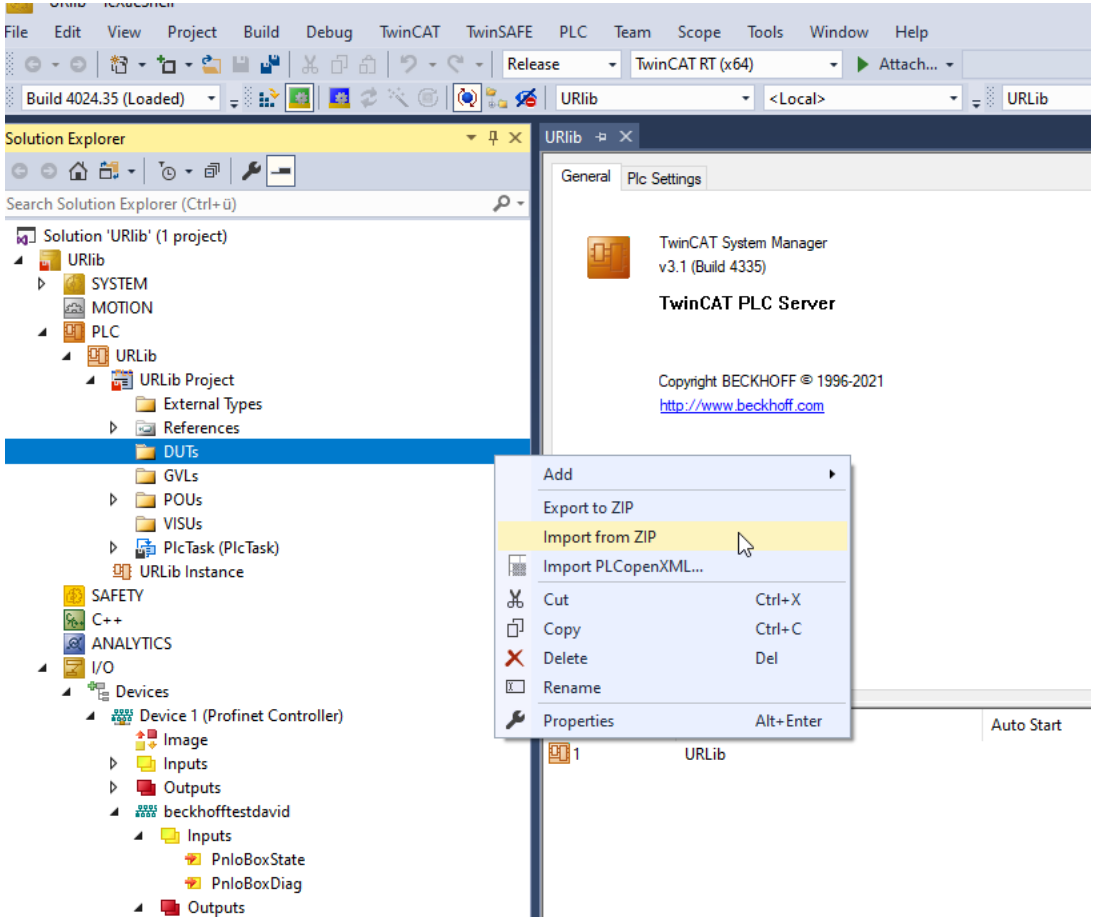
Search for your Robot and set configs



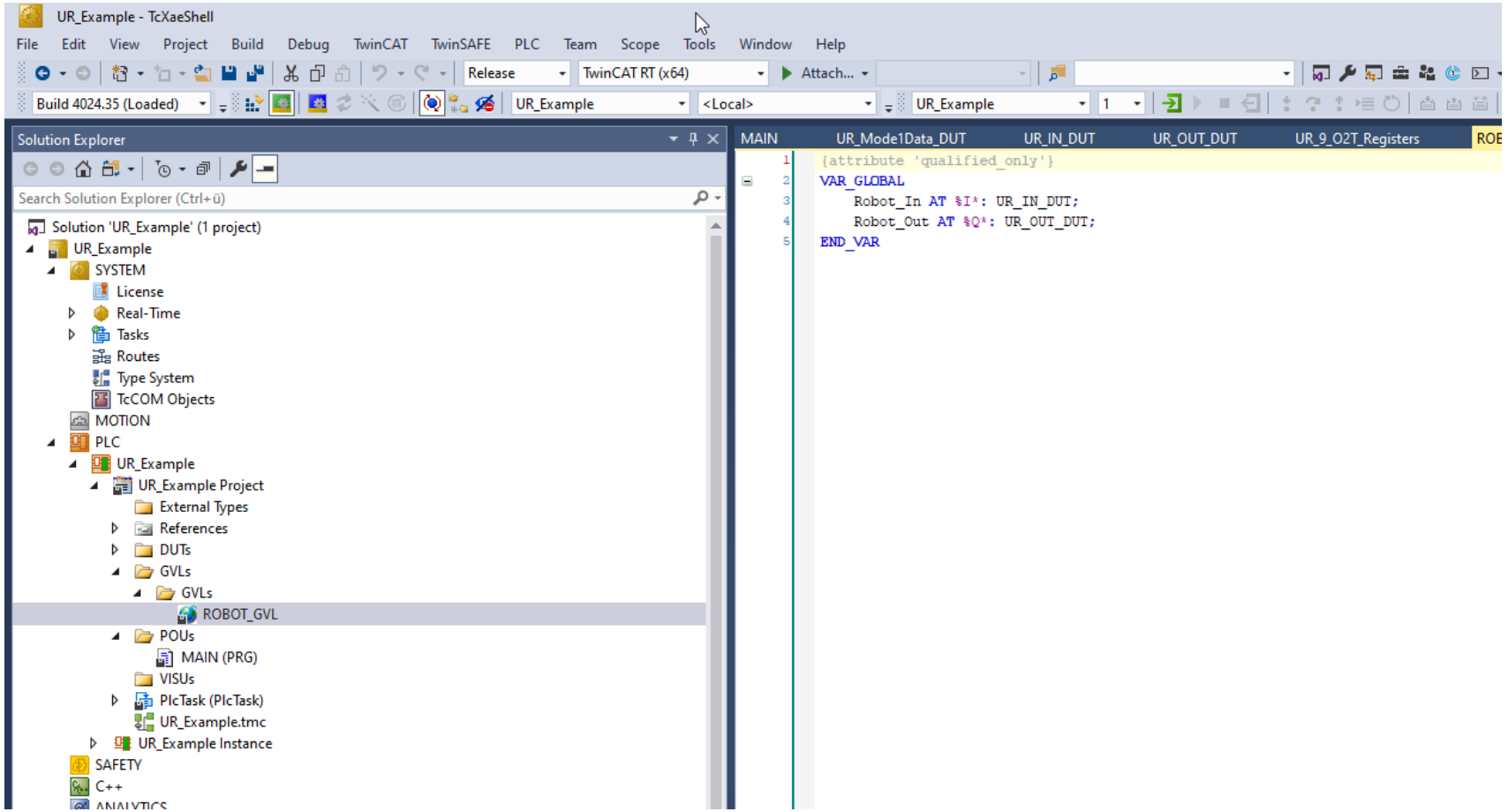
Right click on plc and create new standard project



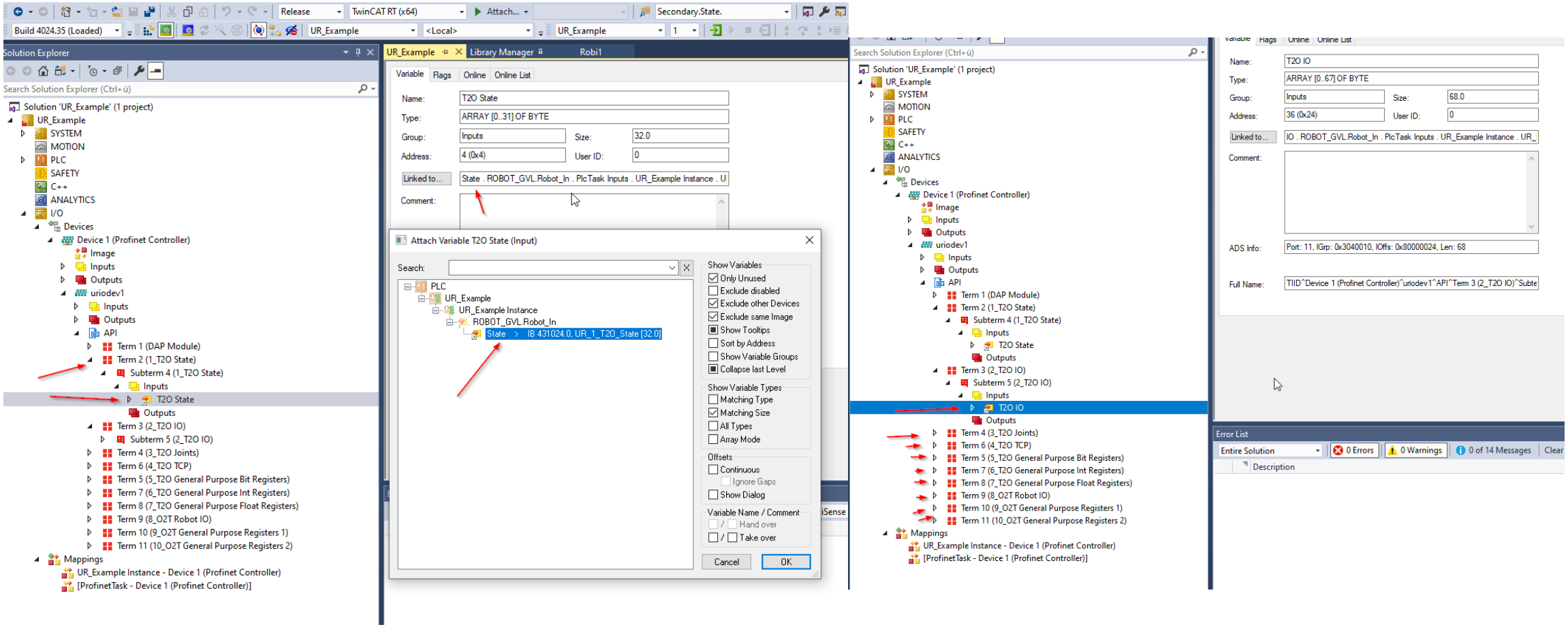
UDT / DUTS import



Create some variables for example in GVL



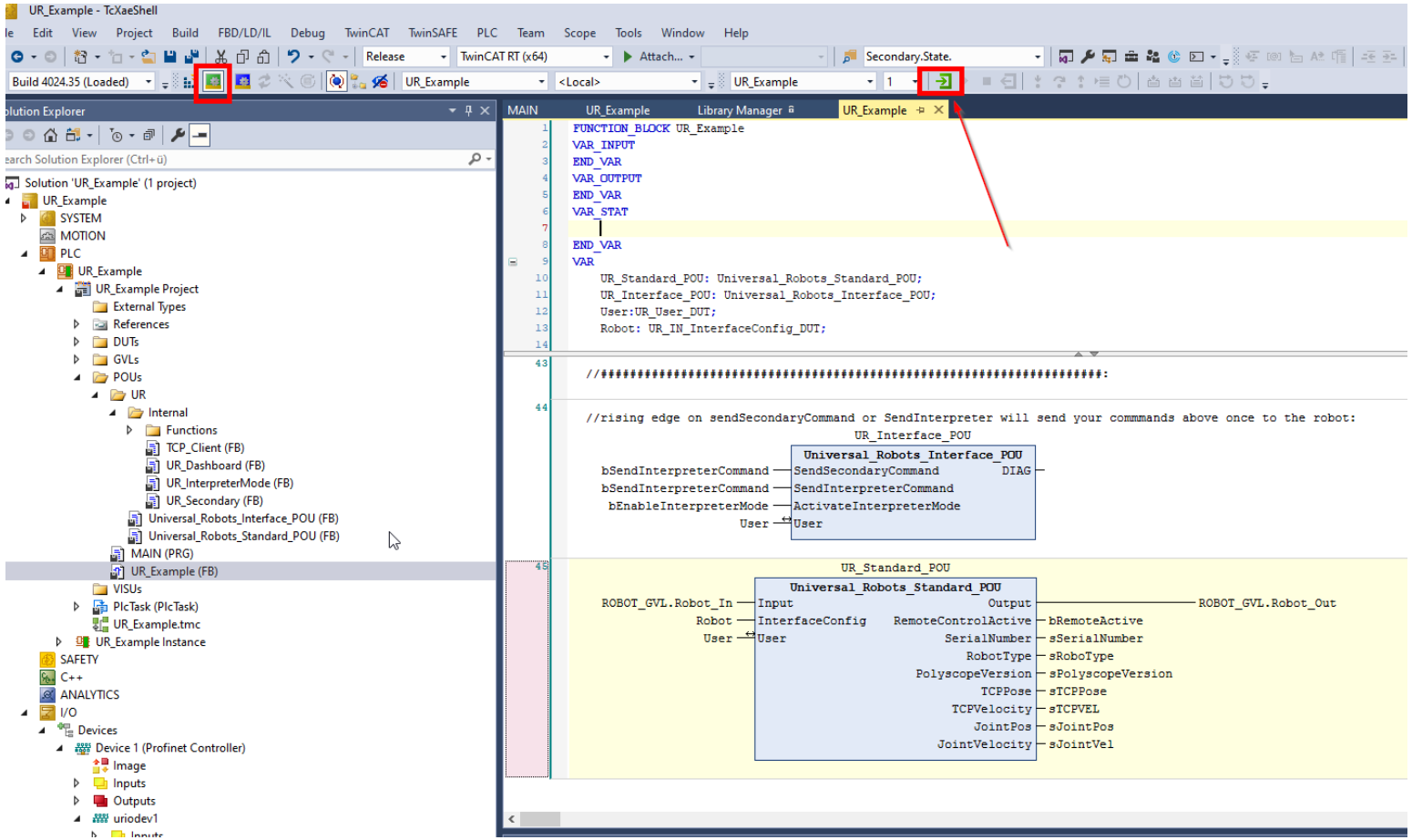
Map all robot API Terms



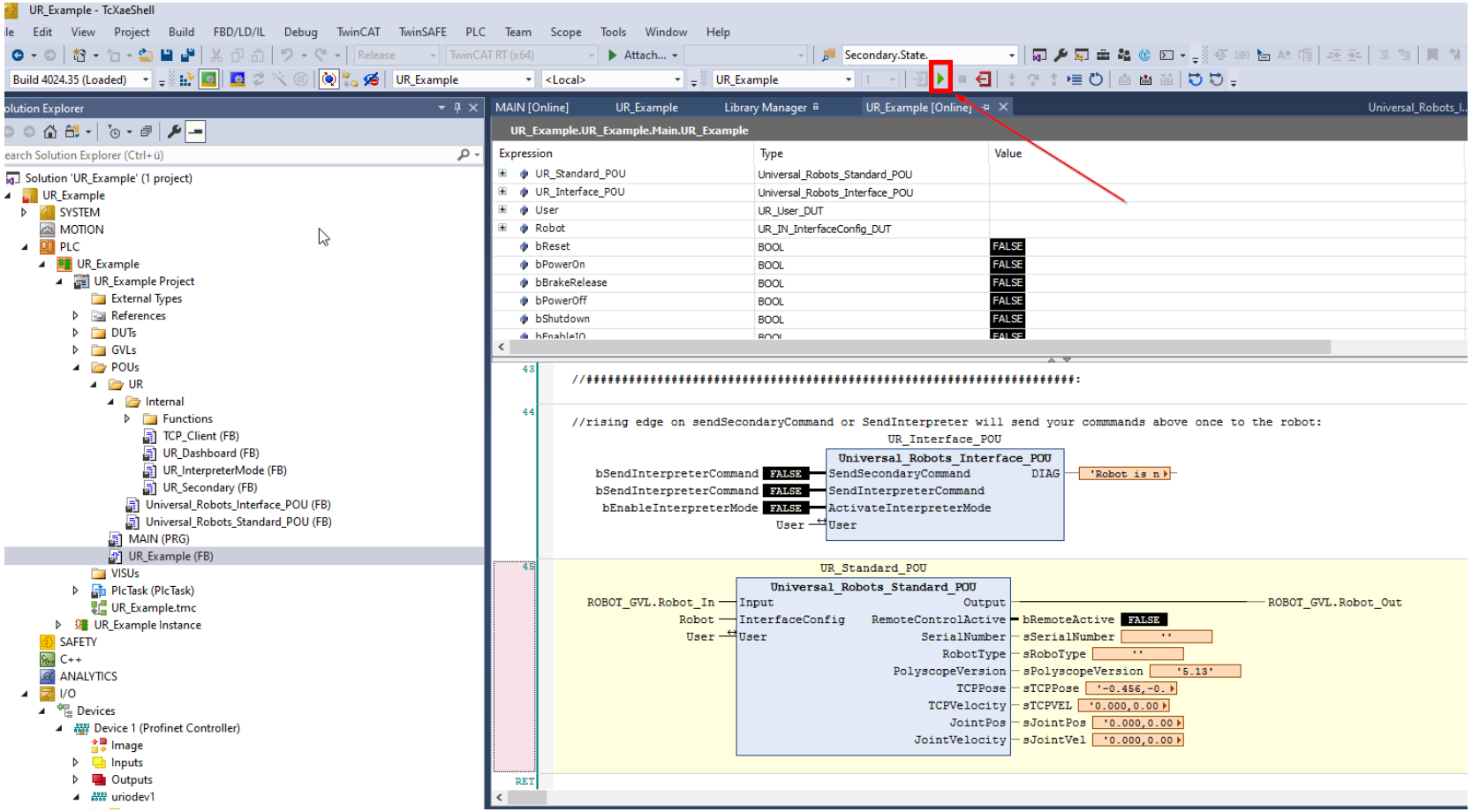
How to use UR-Example

- 1. Install TF6310 as shown in (0. TCP/IP Beckhoff info)
- 2. enable Profinet at your Robot
- 3. set robot to remote control
- 4. open the project
- 5. Set up IP configuration as showed in (2. Profinet Controller settings with UR)
- 6. start the project

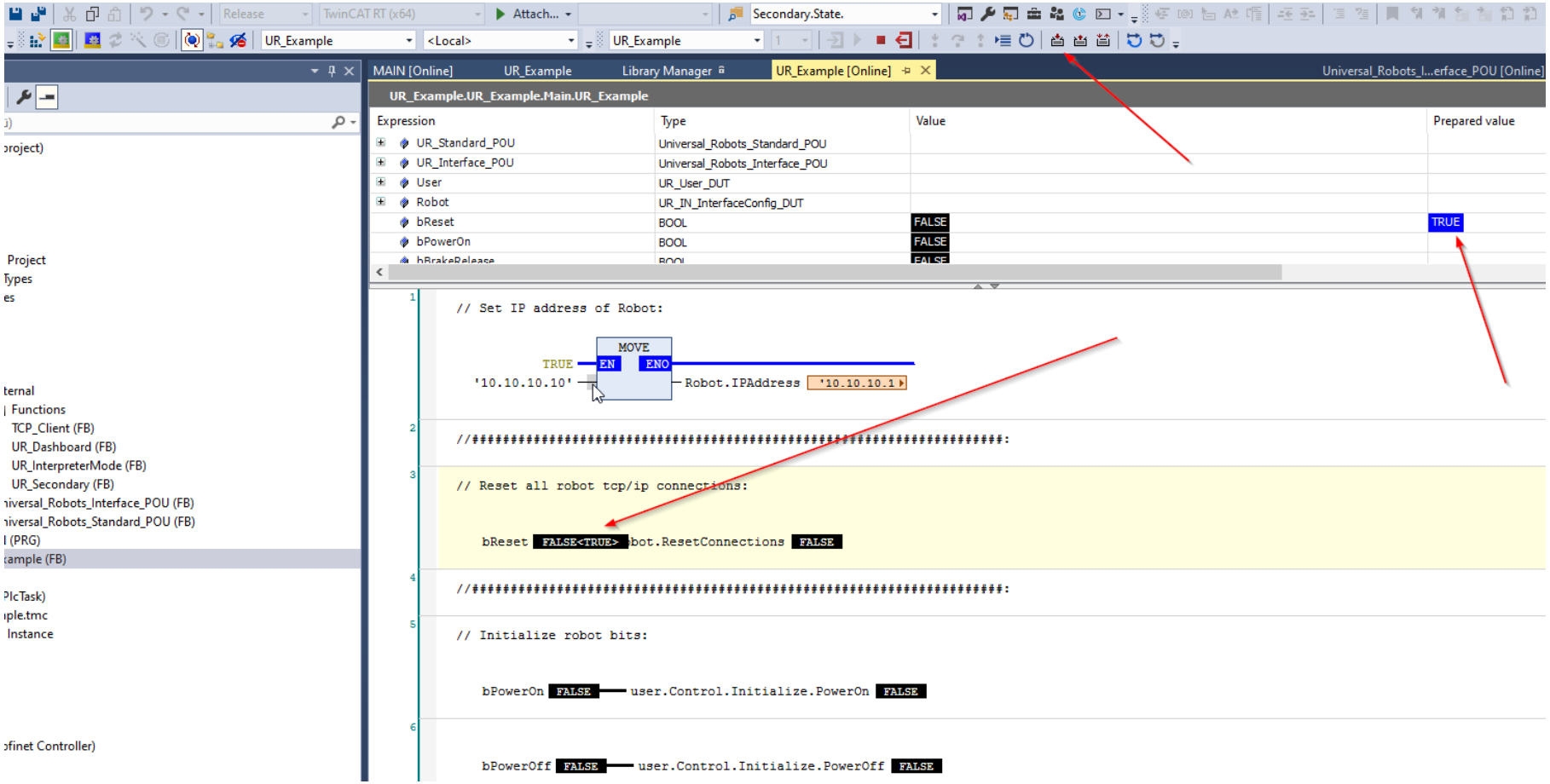
Start project



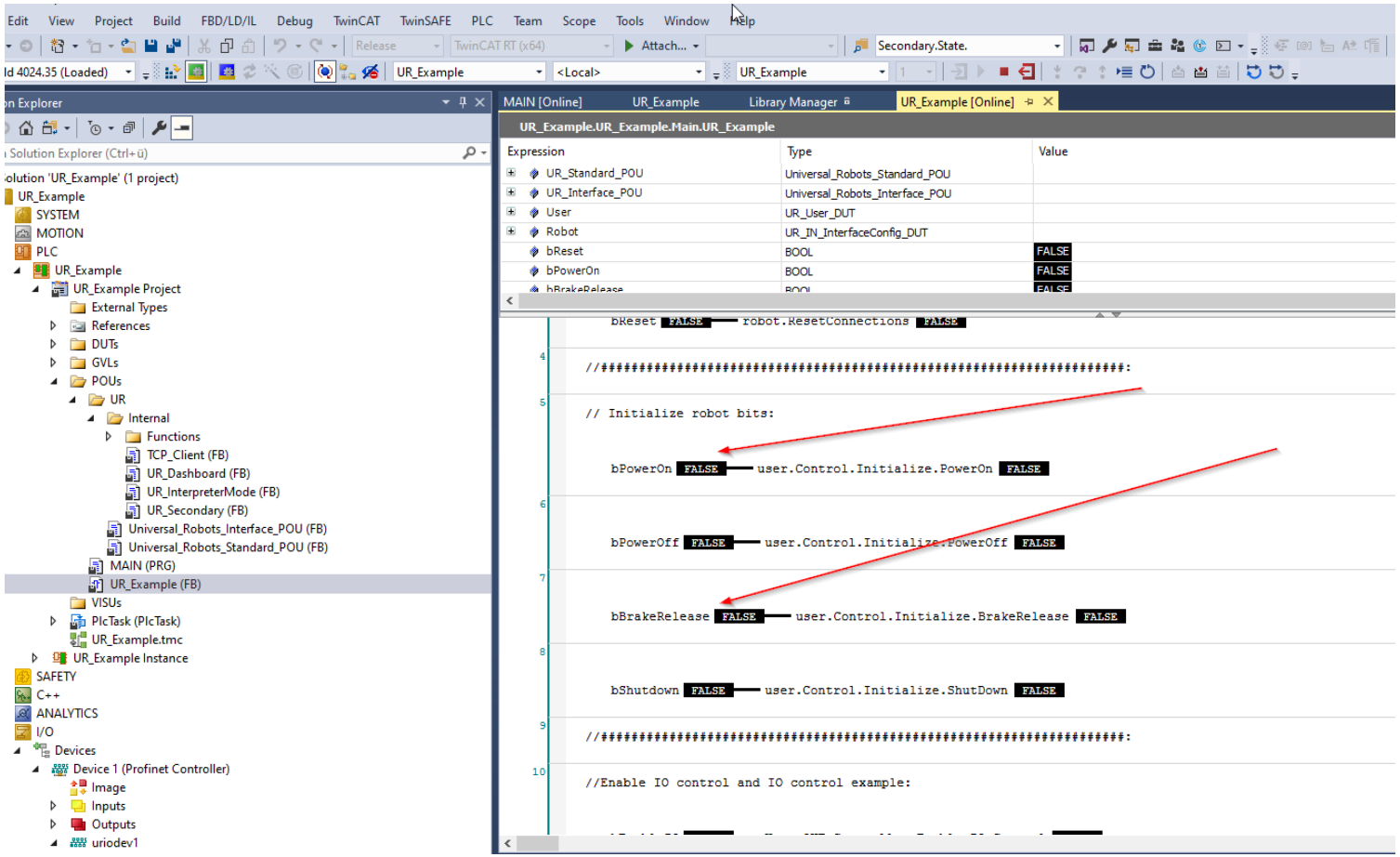
Start project



Reset all connections



Power on robot (only in remote control)



Connected and ready to use