SC52
QUICK START
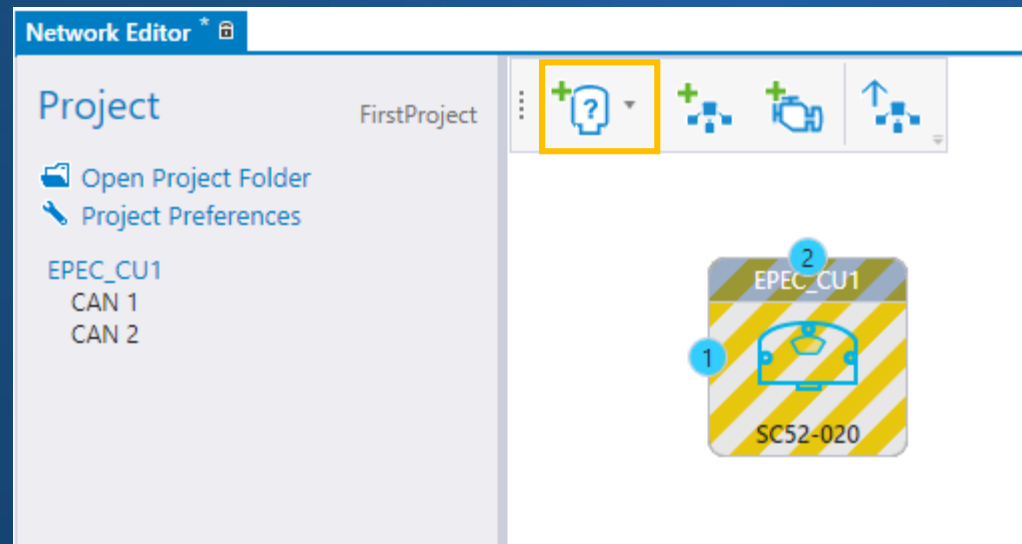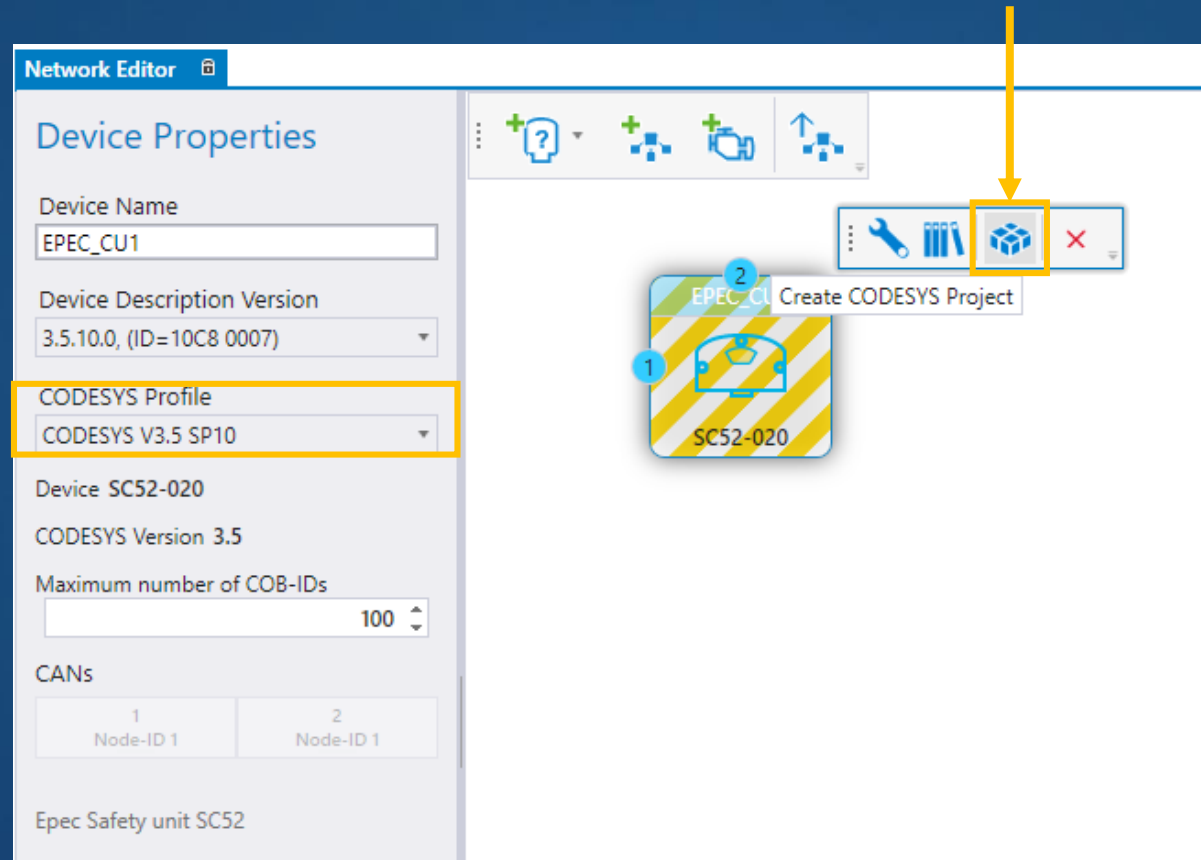
REQUIRED INSTALLATIONS

1. CODESYS IDE version 3.5 SP10 (3.5.10.0)
   - With safety projects this is the exact version that needs to be used
2. CODESYS SIL2 3.5.10.0 package
   - Double-clicking the package installs using CODESYS 3.5 package manager
3. Epec SDK 2.9 or newer
4. Epec CANmoon 3.1.0.2 or newer

EPEC

FIRST SC52 APPLICATION

- Open MultiTool and create a new project
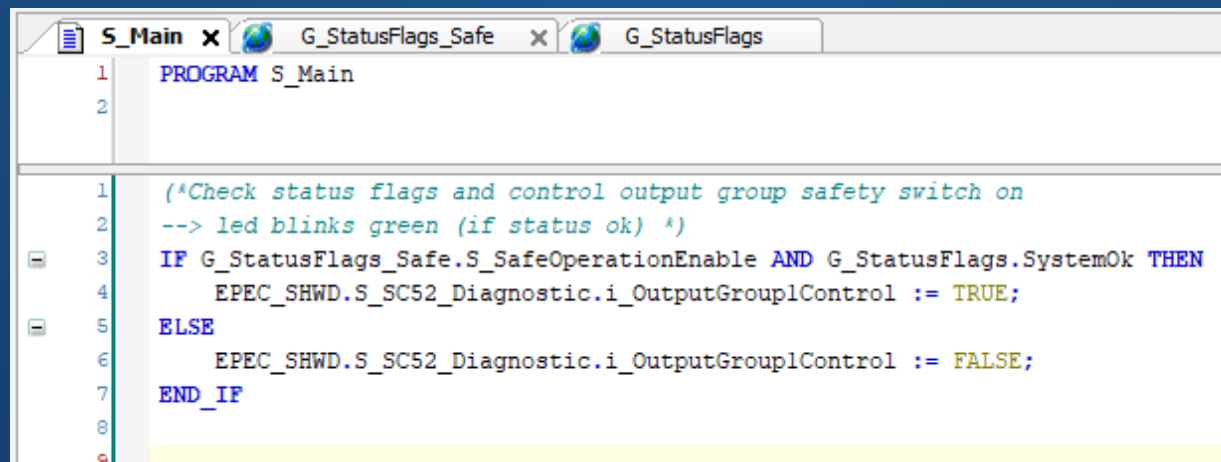- Add SC52 device to the project

CREATE CODESYS PROJECT
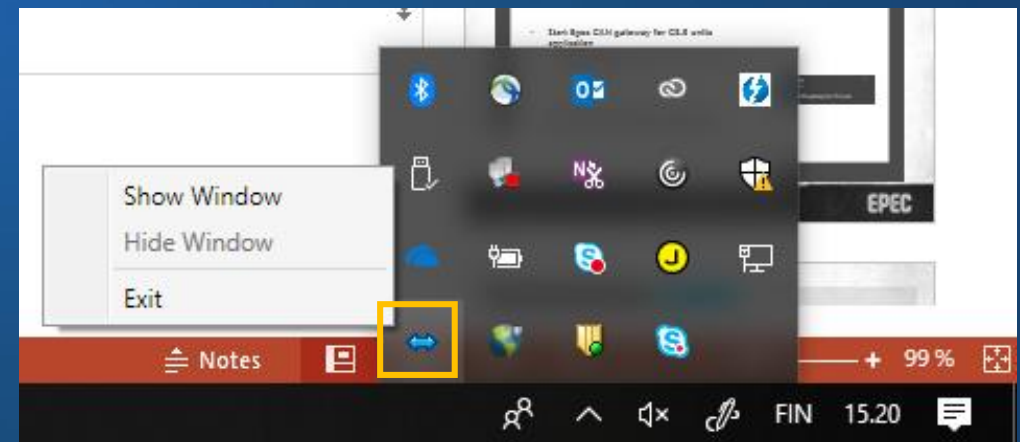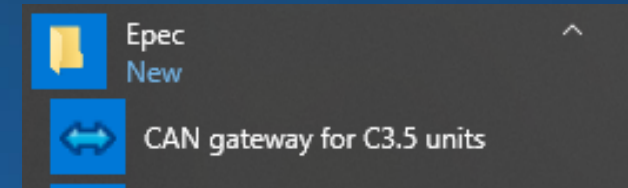
CONTROL SAFETY SWITCH

- To use outputs (and have green LED blinking), output group safety switch has to be energized

- Control output group's safety switch according to global status variables *G_StatusFlags_Safe.S_SafeOperationEnable* and *G_StatusFlags.SystemOk*
  - If statuses are TRUE, set the output group safety switch to TRUE


```
PROGRAM S_Main

(*Check status flags and control output group safety switch on
--> led blinks green (if status ok) *)
IF G_StatusFlags_Safe.S_SafeOperationEnable AND G_StatusFlags.SystemOk THEN
    EPEC_SHWD.S_SC52_Diagnostic.i_OutputGroup1Control := TRUE;
ELSE
    EPEC_SHWD.S_SC52_Diagnostic.i_OutputGroup1Control := FALSE;
END_IF
```
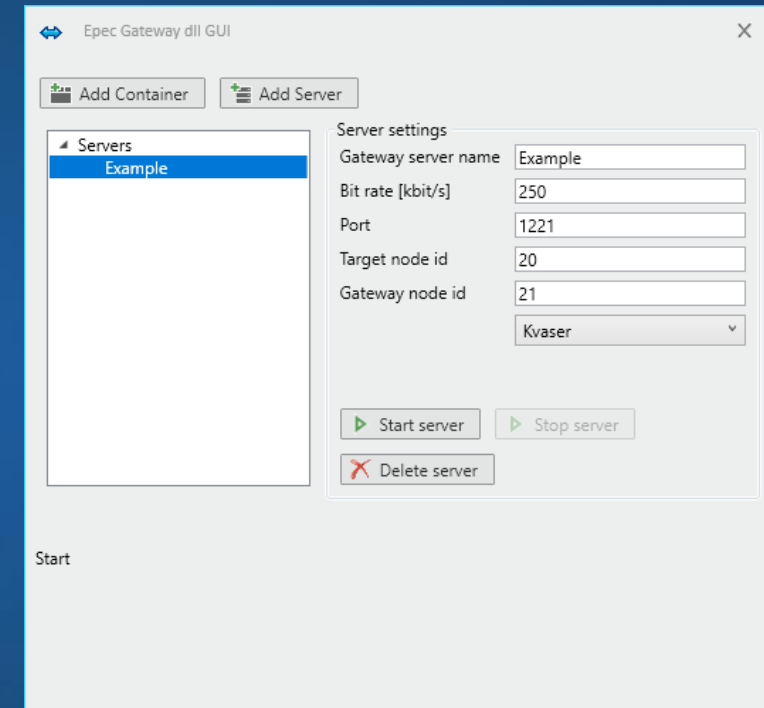
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START CAN GATEWAY FOR C3.5 UNITS

- Start **Epec CAN gateway for C3.5 units** application
  - This is needed for CODESYS 3.5 and SC52 CAN connection

- Gateway application starts as a hidden application, it can be found from the system tray

DOWNLOADING THE APPLICATION

1. Set the *Bit rate* (default 250 kbit/s)
2. Set *Port* to be the same as in CODESYS gateway settings
3. Define *Gateway node ID* to an unique value on the CAN bus
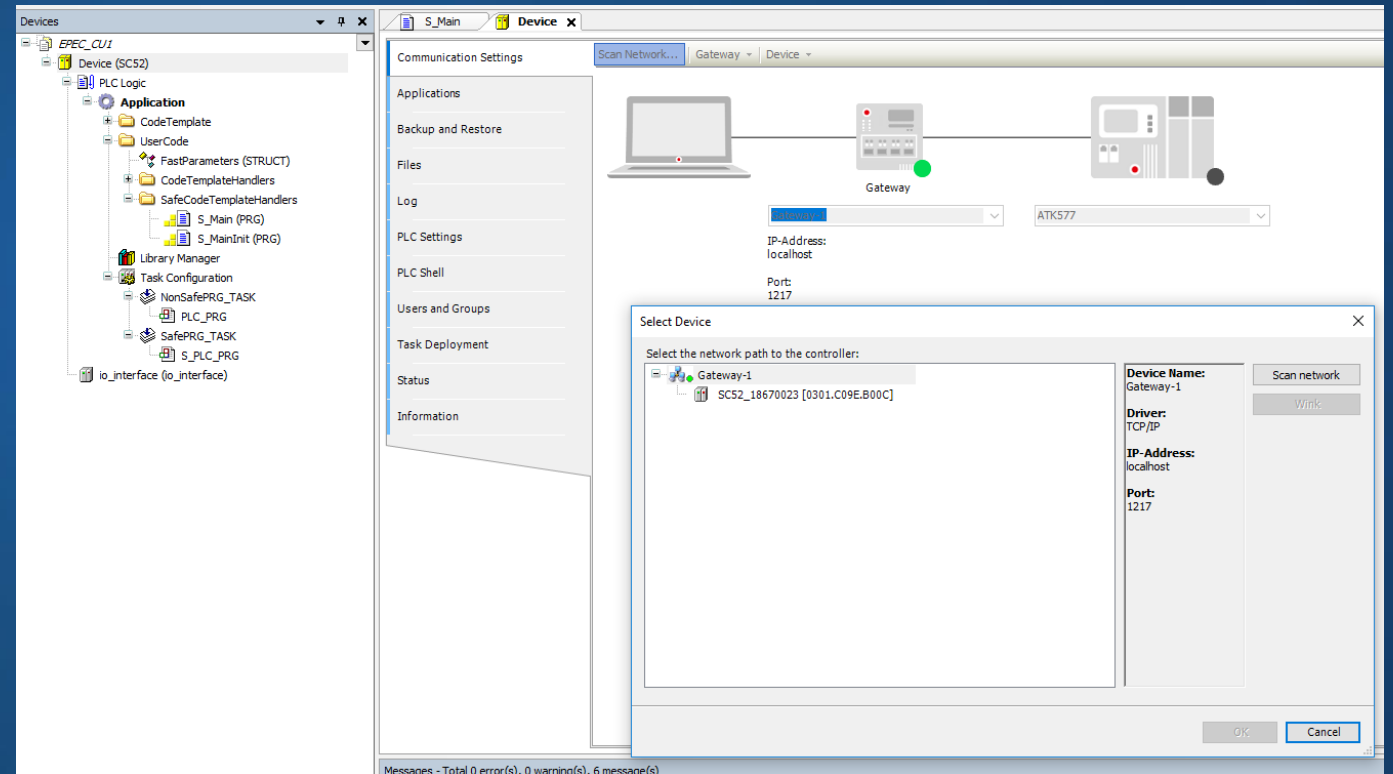4. Set used CAN card
5. Select **Start server**

Note!
Once in a while, the gateway needs to be restarted. Select **Stop server** and **Start server** again if CODESYS scan cannot find the device
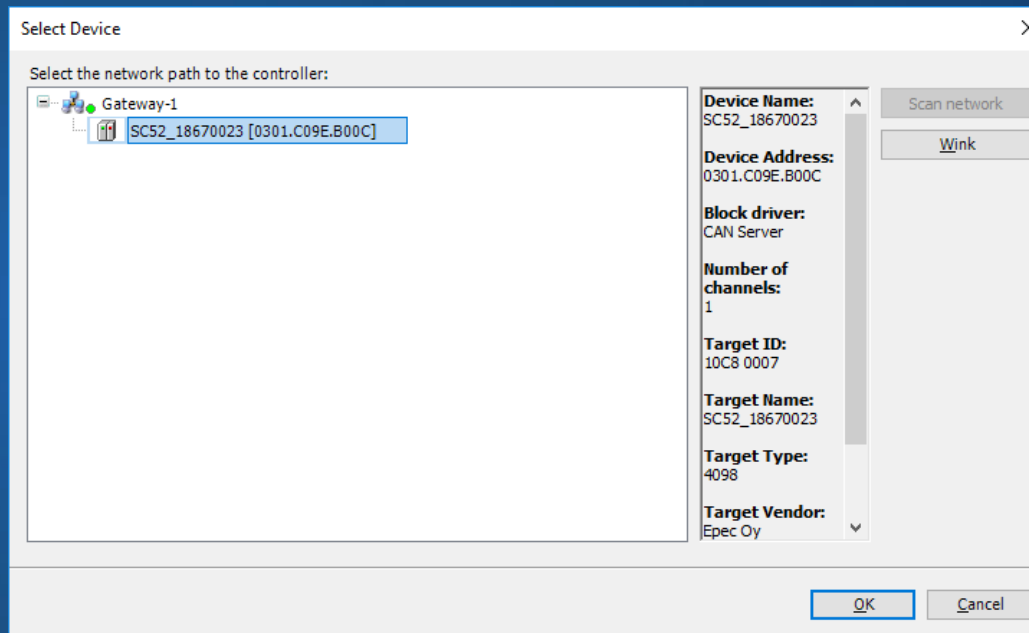
SCAN NETWORK

- Double click the *Device* in CODESYS 3.5 device tree
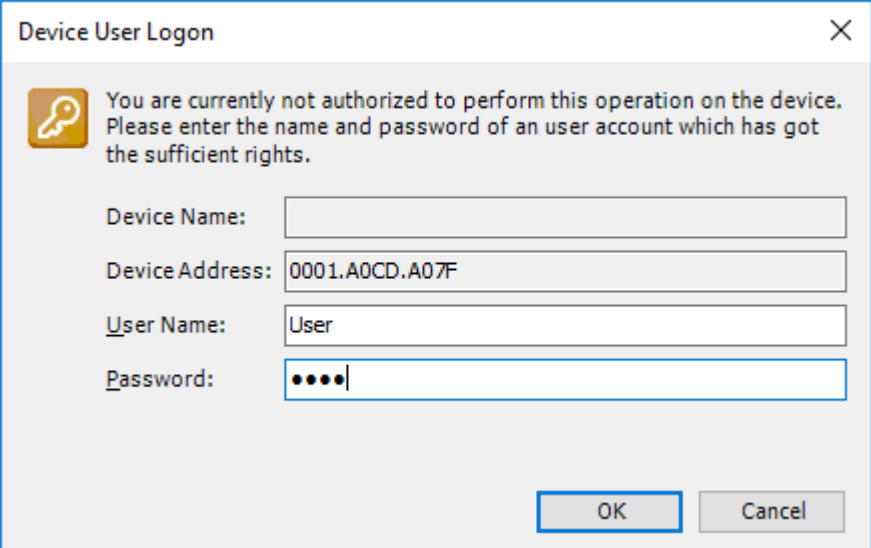- Select **Scan Network**

SELECT DEVICE

- *Select Device* popup lists found devices with the same target ID

- The device name is constructed with SC52_ prefix and device's serial number

AUTHENTICATION

- Double-click the found device
- Give username and password
  - User name: User
  - Password: 4 last digits from serial number
    - Note, that the password is asked twice (CODESYS feature)

Device User Logon ✕

🔑 You are currently not authorized to perform this operation on the device. Please enter the name and password of an user account which has got the sufficient rights.

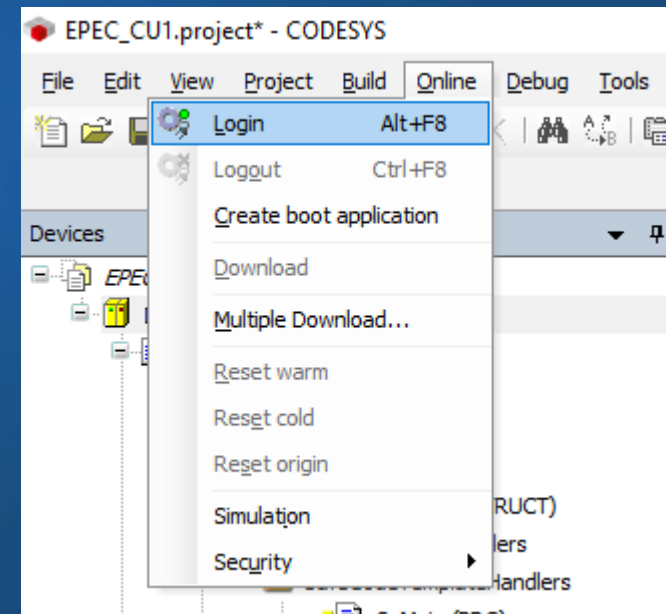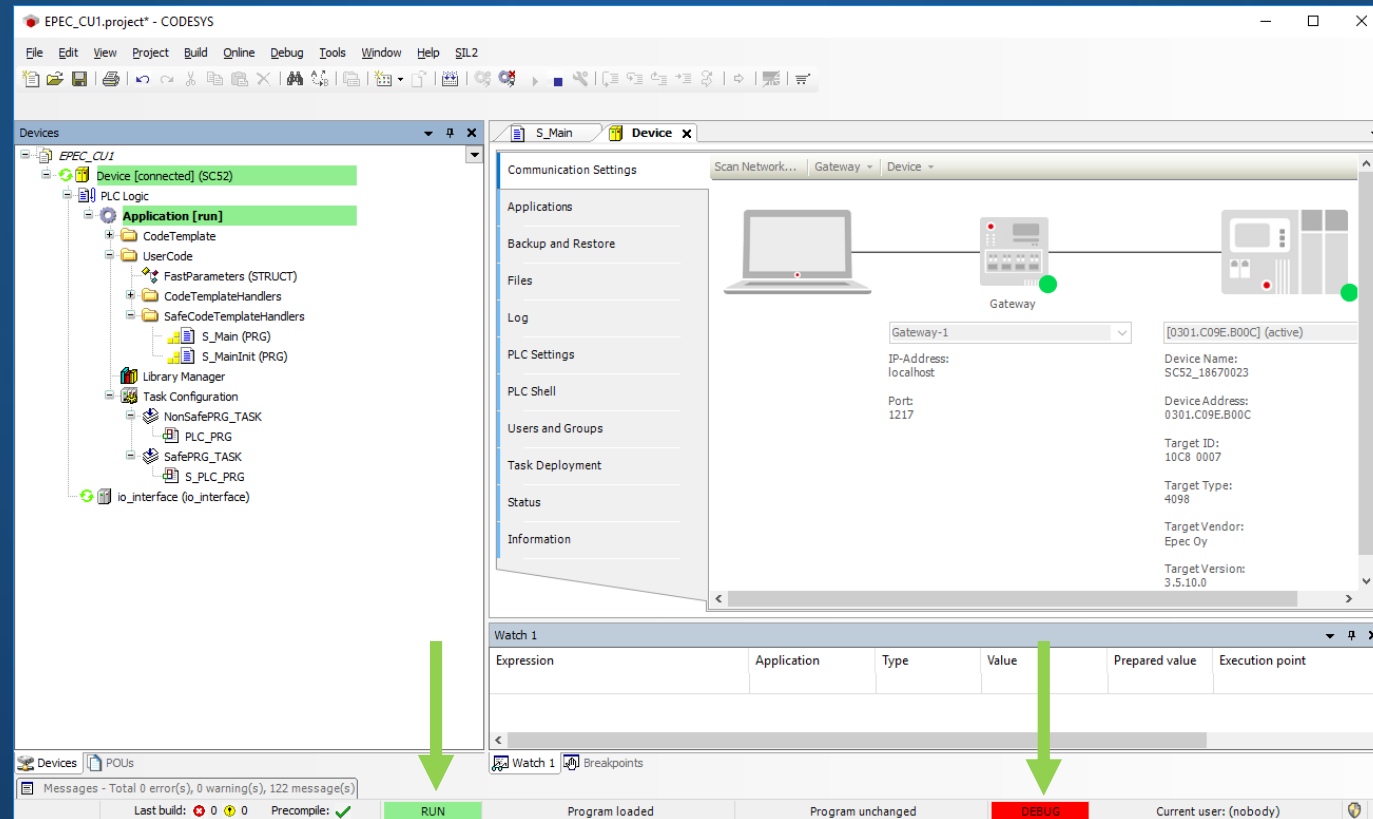|	
Device Name:	
Device Address:	0001.A0CD.A07F
User Name:	User
Password:	••••

OK   Cancel

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ENTER DEBUG MODE…

- The device needs to be set to debug mode before application download can be done

- Select **SIL2 > Enter debug mode…**

- When the device is set to debug mode, download new application with **Online > Login**

START APPLICATION

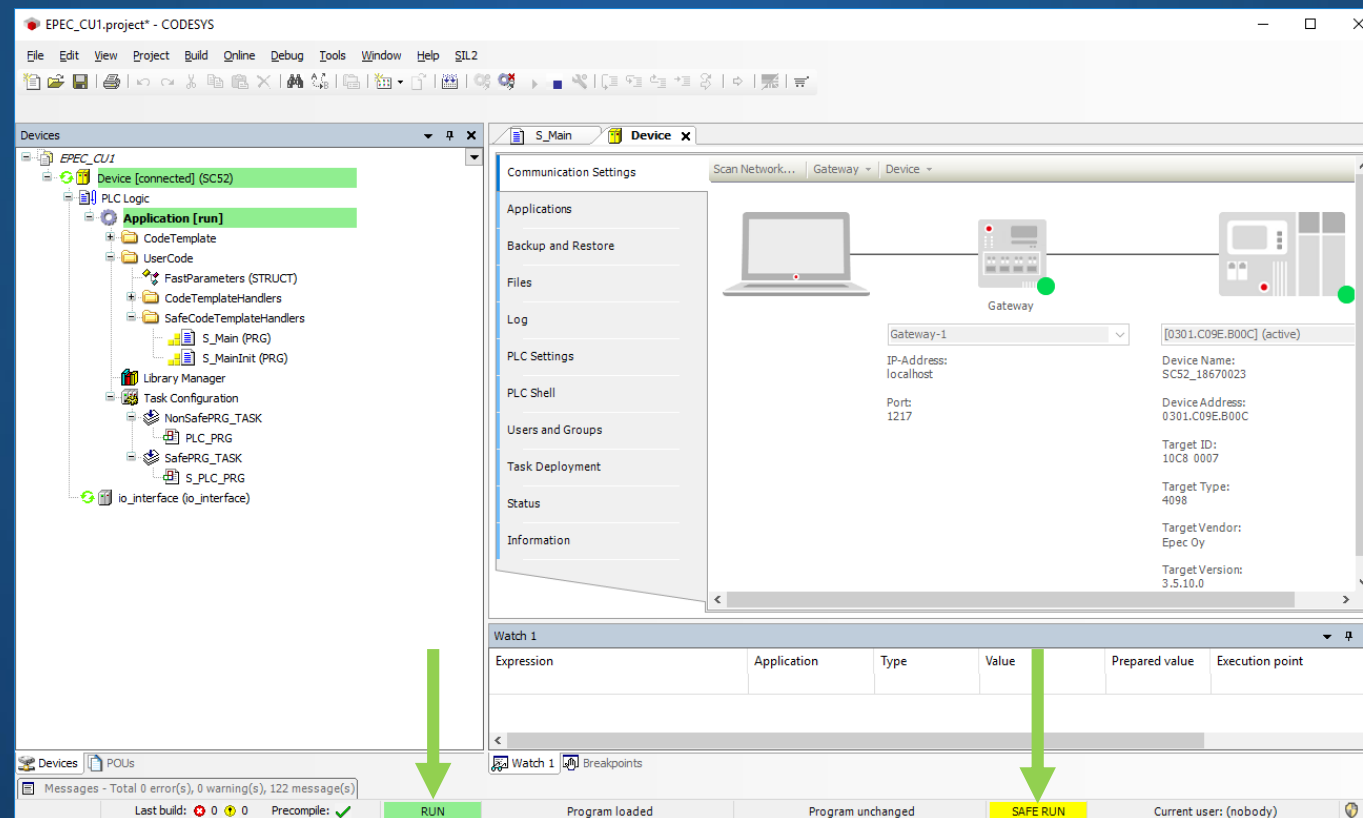- Set the application to running mode by selecting **Debug > Start (F5)**

USING OUTPUTS

- The output group cannot be enabled when
  - the device is set to debug mode
  - an application is downloaded
  - → Outputs cannot be used
- To be able to use outputs, the safety control unit needs to be power cycled
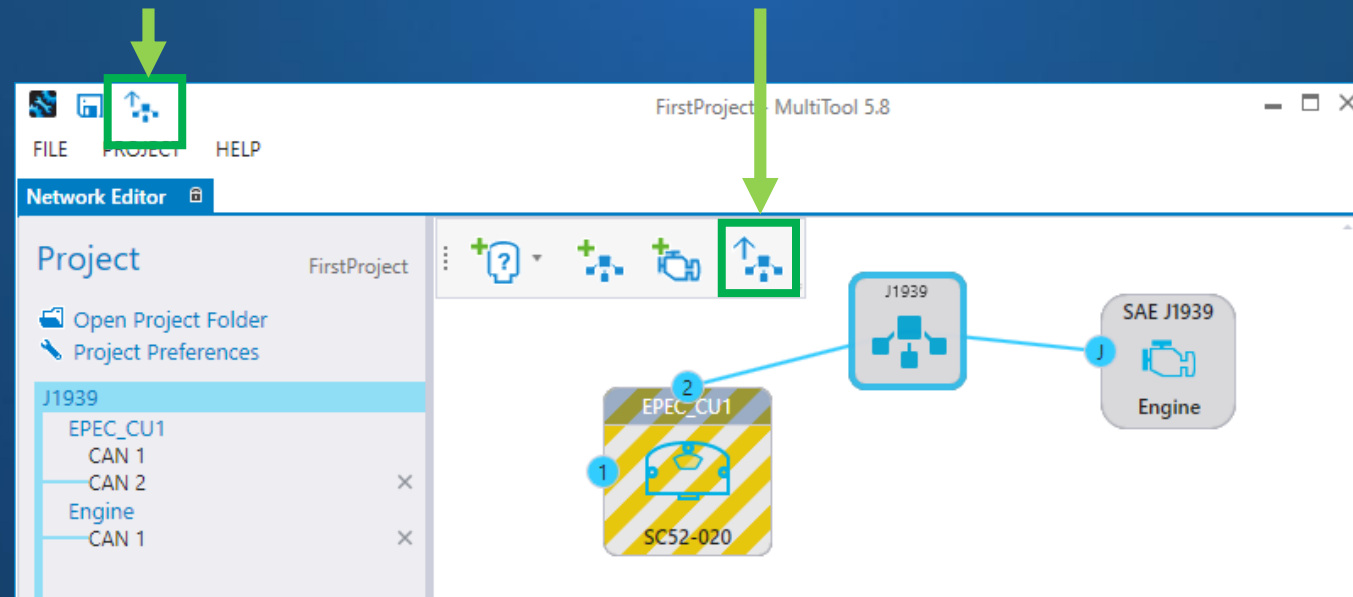
1.11.2018

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POWER CYCLE AND LOGIN

- Debug mode is not required when going online with an up-to-date application
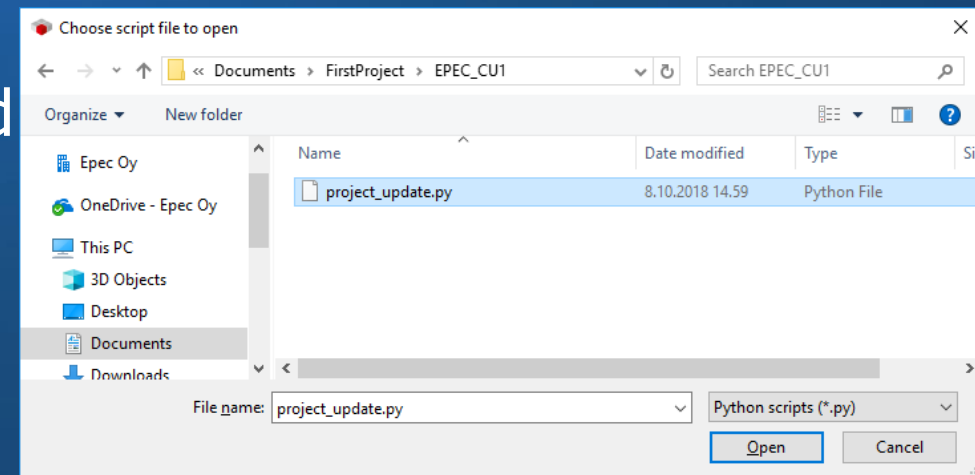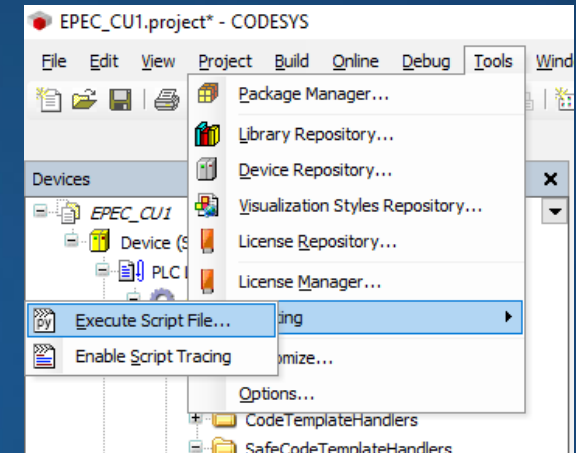
MAKING CHANGES TO MULTITOOL PROJECT

- Changes in MultiTool project are easily updated to CODESYS 3.5 project
  - Make MultiTool **System Export** using short cuts or using **Project > System Export**

IMPORT CHANGES TO CODESYS PROJECT

- To import MultiTool project changes to the CODESYS project,
  - Open CODESYS project
  - Select **Tools > Scripting > Execute Script File...**
  - Select *project_update.py* file from the unit's directory created by MultiTool

EPEC DOCUMENTATION

- **Epec Extranet,** *Programming Manuals*
  - CODESYS Safety SIL2 User manual (PDF)
  - SC52 Safety Manual (PDF)
  - Programming and Libraries Manual (HTML, CHM)
- *Epec Programming And Libraries Manual*
  - SDK installs to *C:\Program Files (x86)\Epec\SDKDocumentation*
    - Open via **MultiTool > Help**
  - *Programming book*
    - *Programming Safety Projects*
    - *Programming SC52 Safety Control Unit*
  - *Libraries book*
    - *S Series Specific Libraries*
    - *Common Libraries for Safety Project*

Thank you!

Any questions?

Contact our technical support
techsupport@epec.fi

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