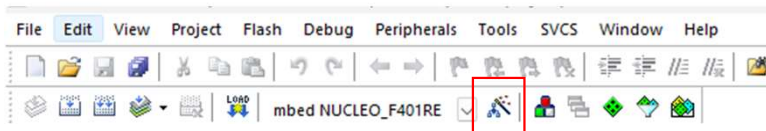# MICROPROCESSOR -LAB

Lab3: MBED Library install

MBED Project Template

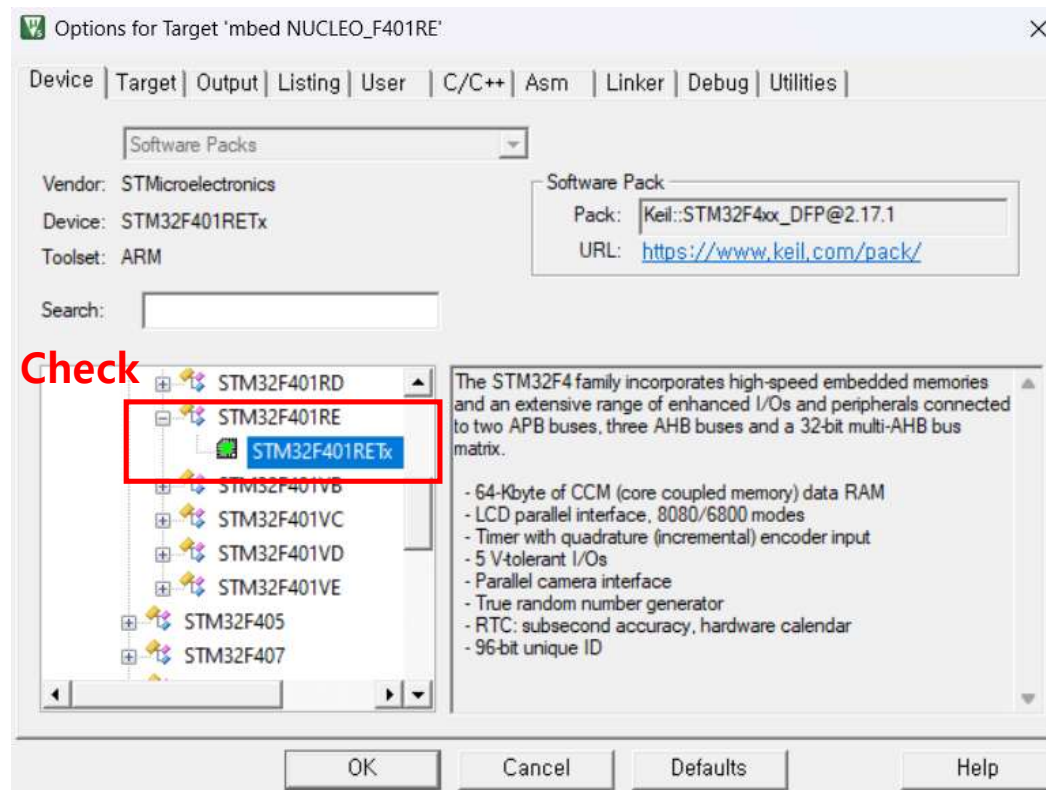- Project template to develop with mbed library

1. Unzip "F401RE_mbed_Template.zip"

2. Set the project name (Rename the file "Nucleo_blink_led.uvprojx")

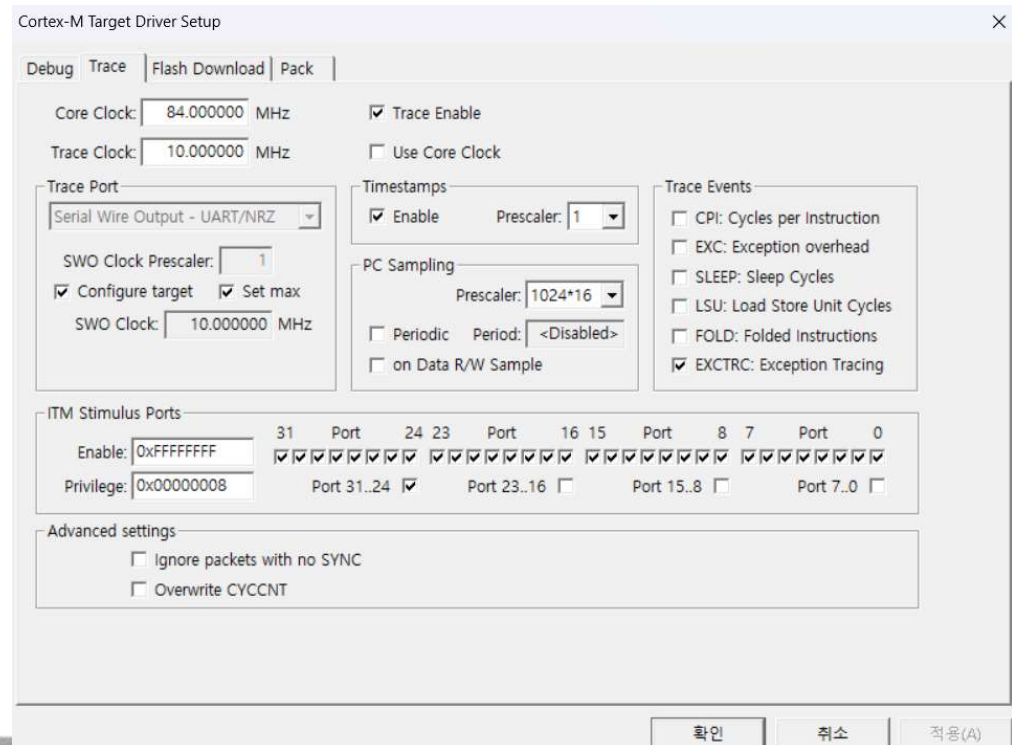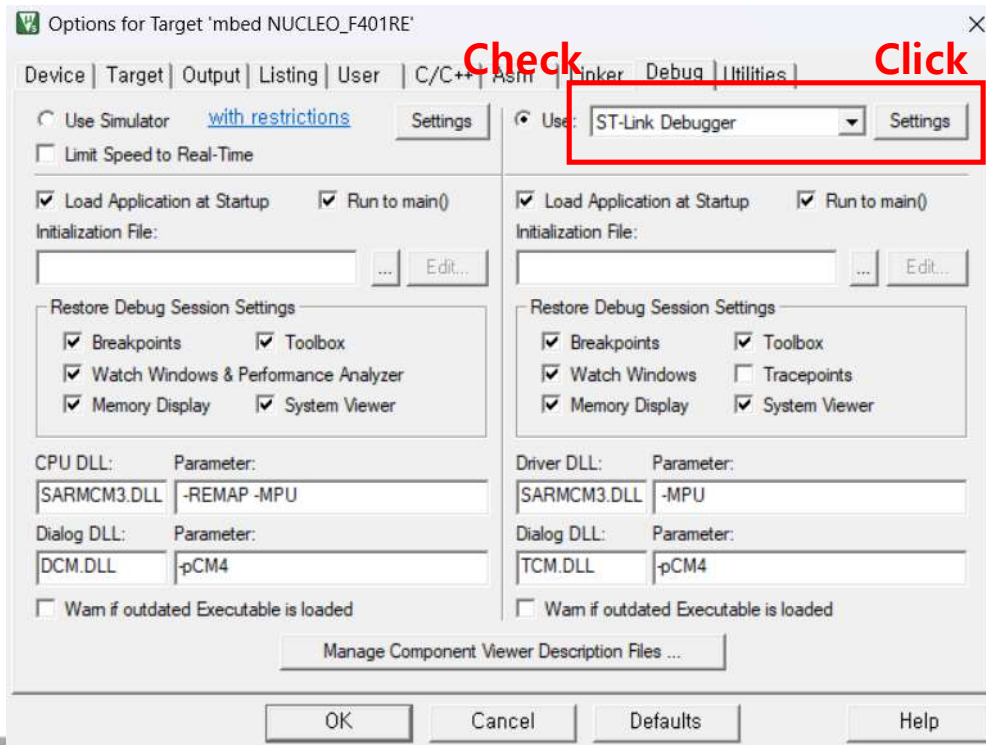3. Open "Options for Target…"

MBED Project Template

• Project template to develop with mbed library

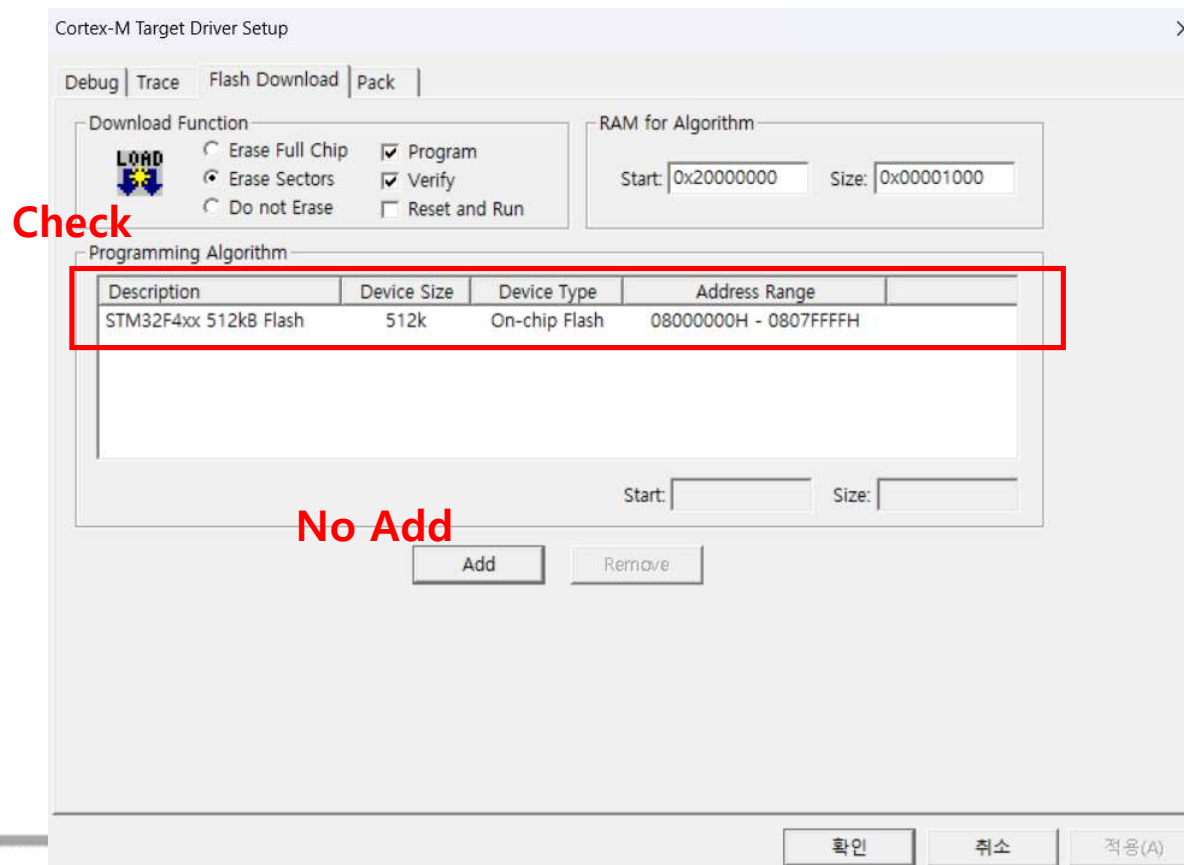4. [Device]-> Check "STM32F401RETx"

MBED Project Template

• Project template to develop with mbed library

5. [Debug]-> Check ST-Link Debugger

6. [Debug]->[Settings]->[Trace]->Set Core Clock to 84 & Check Trace Enable

MBED Project Template

• Project template to develop with mbed library

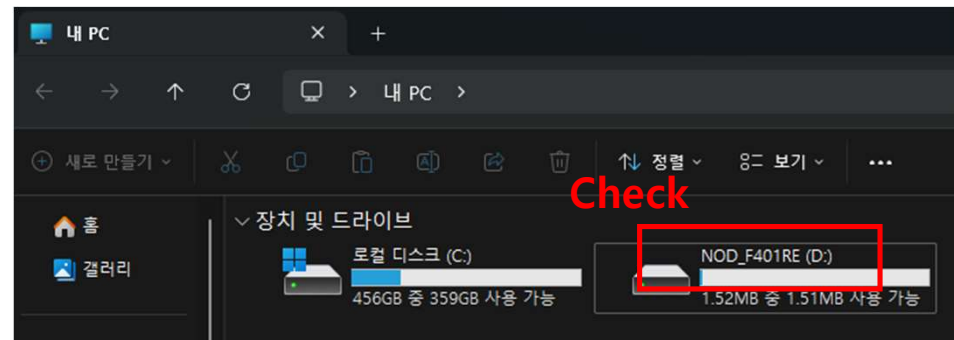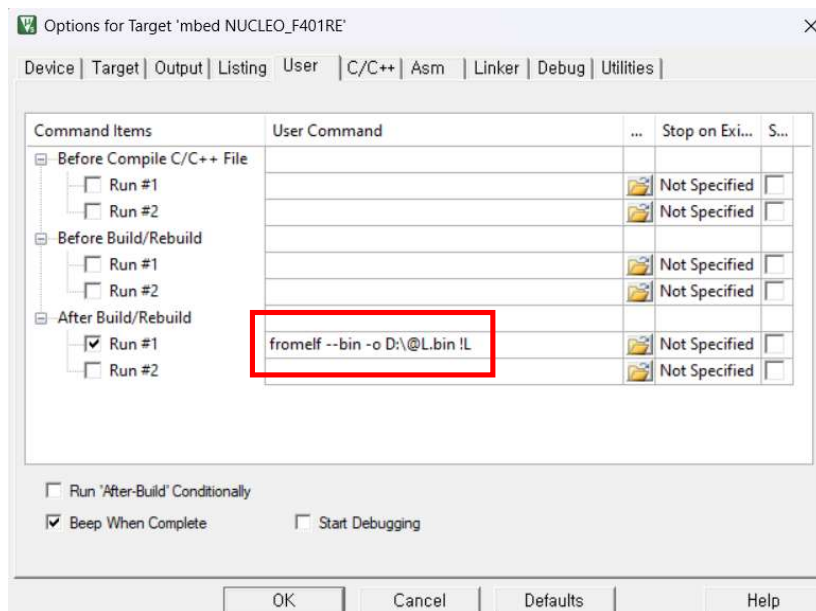7. [Flash Download]-> Check "STM32F4xx 256kB Flash" is in the Programming Algorithm

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MBED Project Template

- Settings for easy board builds

1. Open "Options for Target…"

2. Go to [User] tab and set "After Build/Rebuild" "User Command" as
"fromelf --bin -o D:₩@L.bin !L"
If the board drive name is F:, User Command => "fromelf --bin -o F:₩@L.bin !L"

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Add Compiler (If compiler version doesn't match)

1. Unzip ARMCompiler_506_Windows_x86_b960

2. Run "setup.exe" **(Reboot your laptop after the installation is complete)**

3. Install location: Download it into the ARM folder within the Keil_v5 subdirectory "C:₩Users₩{....}₩AppData₩Local₩Keil_v5₩ARM₩ARM_Compiler_5.06u7"
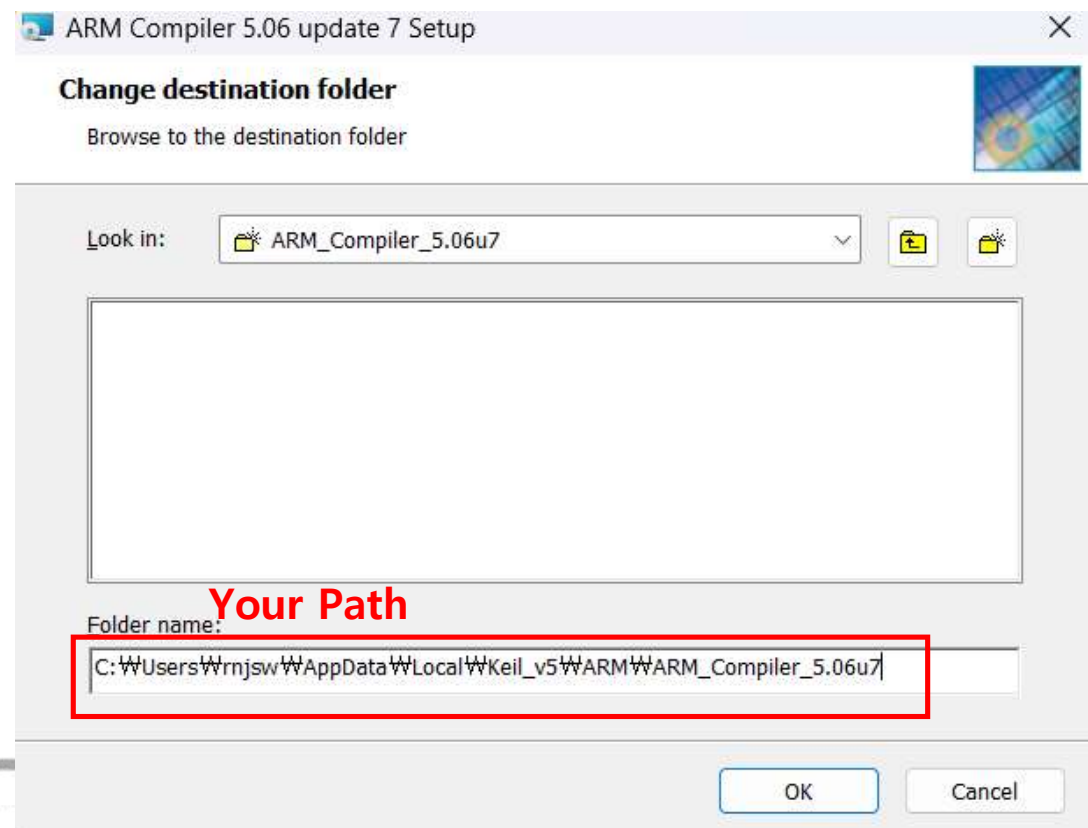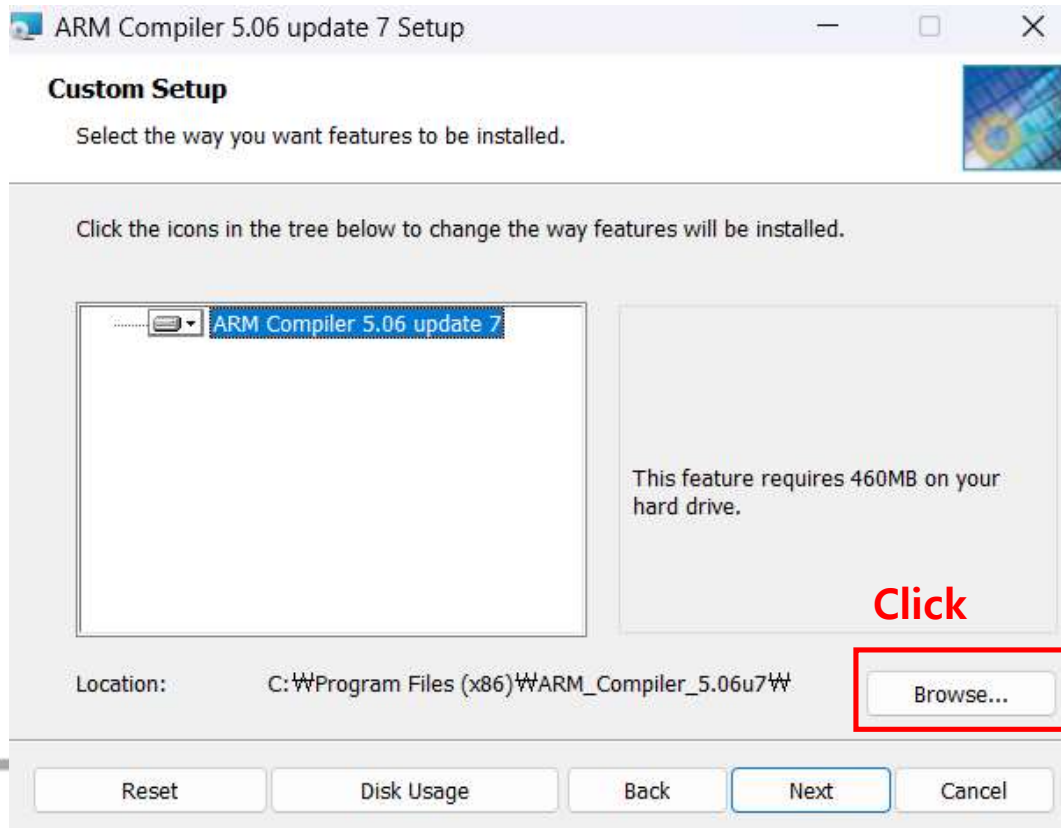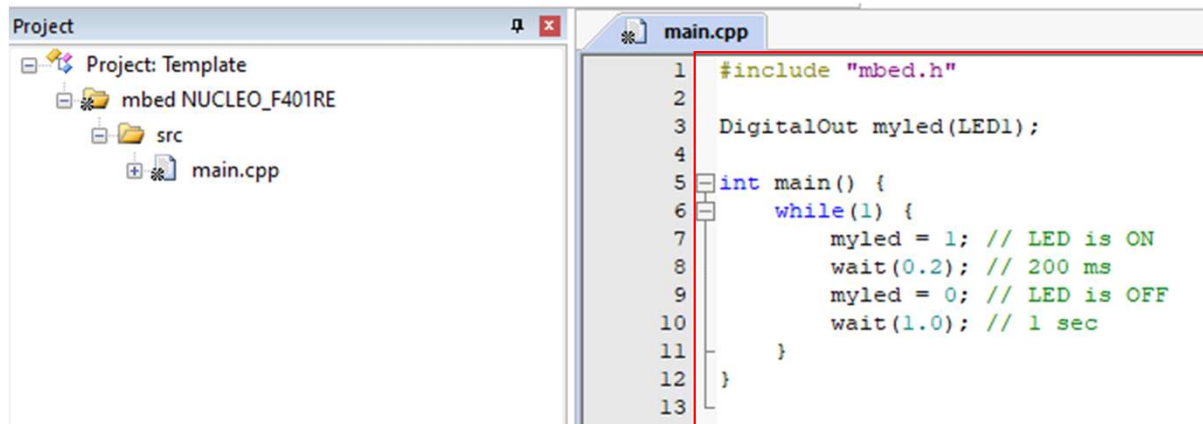
Add Compiler (If compiler version doesn't match)

After running the project, add the compiler as shown in the following image
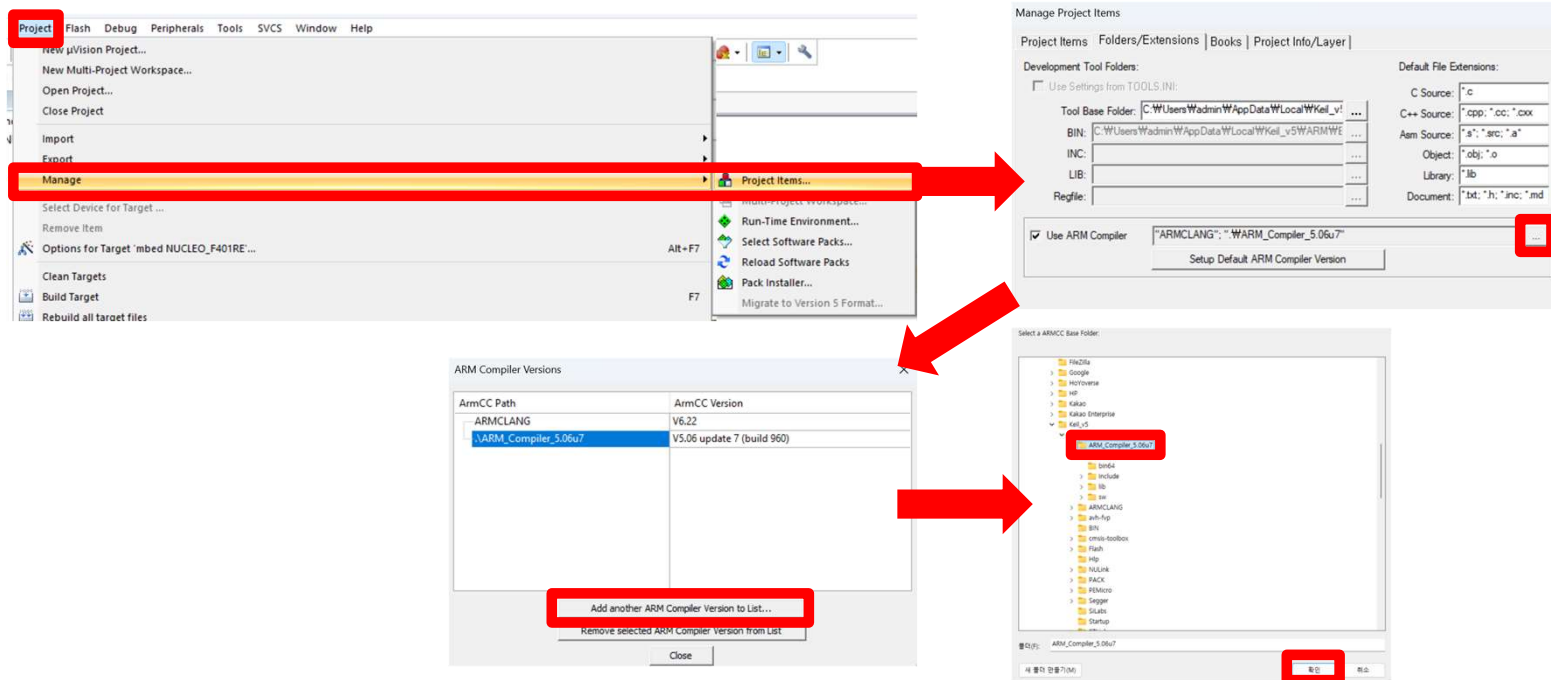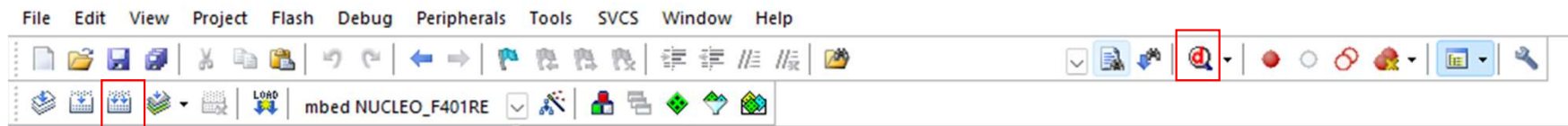
MBED Project Template

- Done! Modify the main.cpp file and build your code!
- Build -> Debug -> Run

Replace this code with your own code

Build and upload the code

Debug the code

Useful Links

- ARM MBED - DigitalOut class Reference
  - https://os.mbed.com/docs/mbed-os/v6.16/apis/digitalout.html

- STM32F401xD/E advanced Arm-based 32bit MCUs – Reference Manual
  (Automatic download on click)
  - https://www.st.com/resource/en/reference_manual/rm0368-stm32f401xbc-and-stm32f401xde-advanced-armbased-32bit-mcus-stmicroelectronics.pdf