

NuMicro® Family

VSCode

Quick Start Guide

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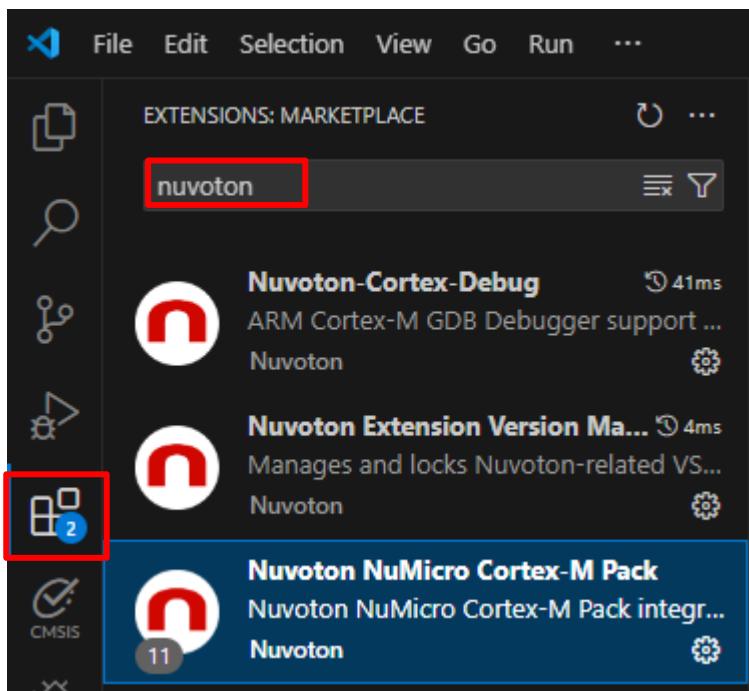
www.nuvoton.com

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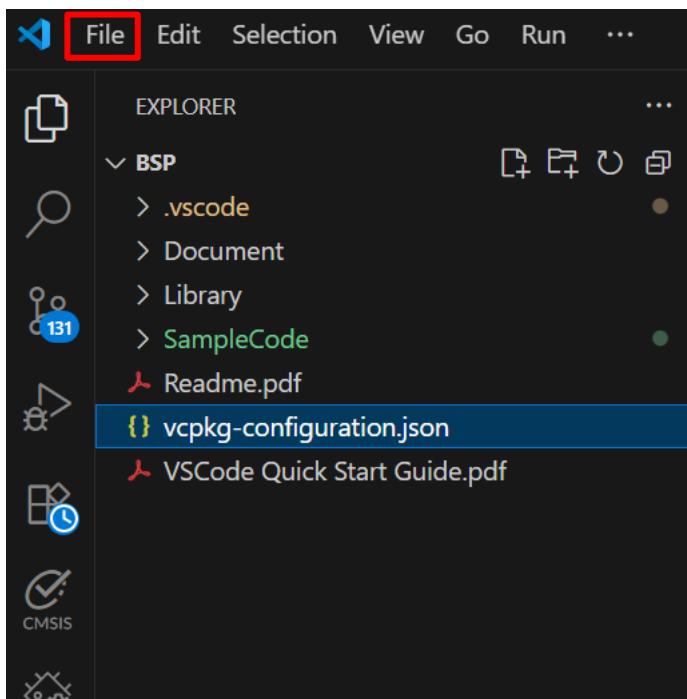
1 INSTALLATION VS CODE AND EXTENSIONS

1. Download VSCode from <https://code.visualstudio.com> and install it.
2. Launch VSCode and click Extensions in the Activity Bar.
3. Text “Nuvoton NuMicro Cortex-M Pack Extension” in search bar. Click install it.

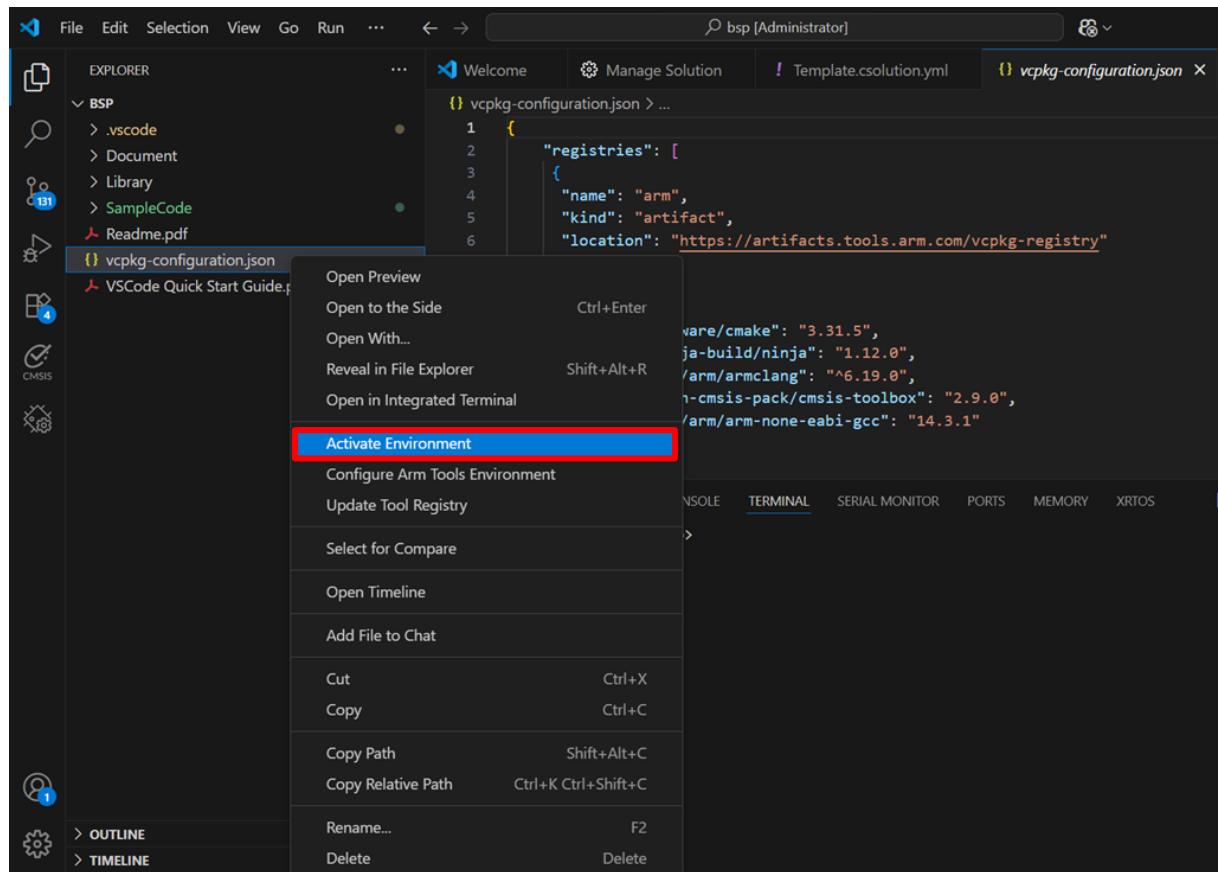


2 GET STARTED WITH AN EXAMPLE PROJECT

1. Click **File** and select "Open Folder" in the toolbar. Then select the path of the example project as below.



2. Right-click `vcpkg-configuration.json` and select **Activate Environment**. (Please use private network connection)



3. Check OUTPUT terminal at the bottom. It will download and install the requires tools.

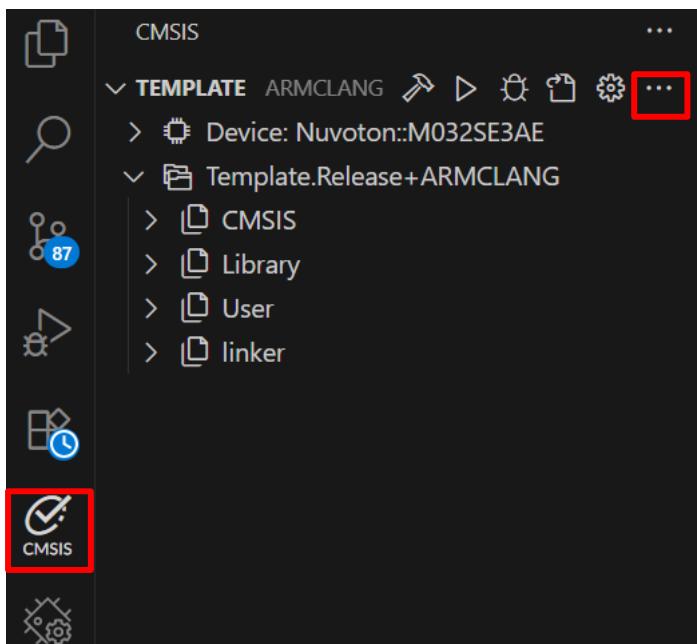
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS MEMORY SERIAL MONITOR XRTOS Arm Tools
Updating registry data from https://aka.ms/vcpkg-ce-default
[1/6] Installing arm:tools/kitware/cmake...
Downloading https://cmake.org/files/v3.11/cmake-3.11.5-windows-x86_64.zip...
35%
85%
98%
Unpacking c:\Users\YTLu\.vcpkg\downloads\tools.kitware.cmake-3.11.5- (44d2d4b9cc6d8daea975a0e6fc42ea9807ef40f79ee6971923fd3788e7917585).zip...
[2/6] Installing arm:tools/ninja-build/ninja...
Downloading https://github.com/ninja-build/ninja/releases/download/v1.12.0/ninja-win.zip...
Unpacking c:\Users\YTLu\.vcpkg\downloads\tools.ninja-build.ninja-1.12.0- (51d9b9e9ceea8835edf536d52d47fa4c316aa332e57f71a08df5bd059da11417).zip...
[3/6] Installing arm:compilers/arm/armclang...
Downloading https://artifacts.tools.arm.com/arm-compiler/6.24/19/standalone-win-x86_64-rel.zip...
5%
13%
Ln 22, Col 2 Tab Size: 4

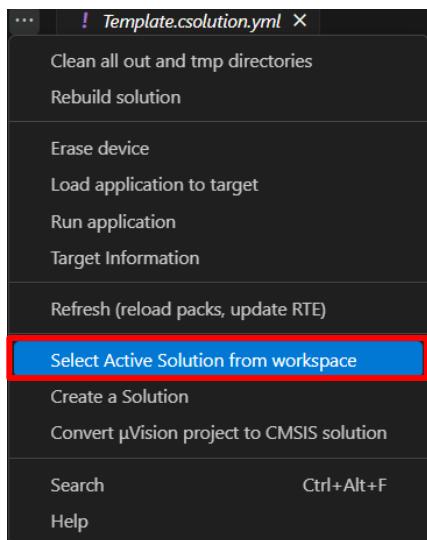
```

4. Click CMSIS in the Activity Bar.

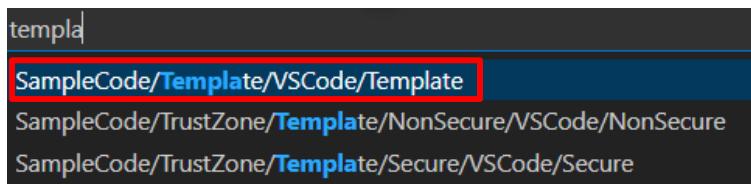
Then click “Views and More Actions” button.



5. Select Active solution from workspace.

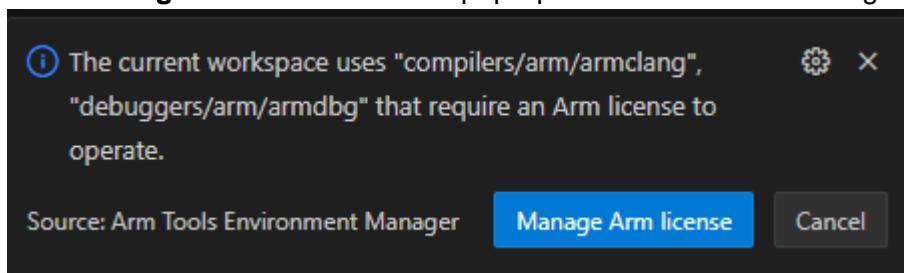


6. Select an example code to active it.

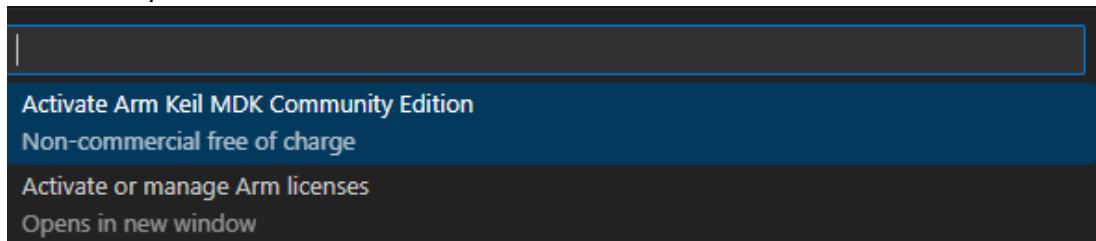


3 MANAGE ARM LICENSE

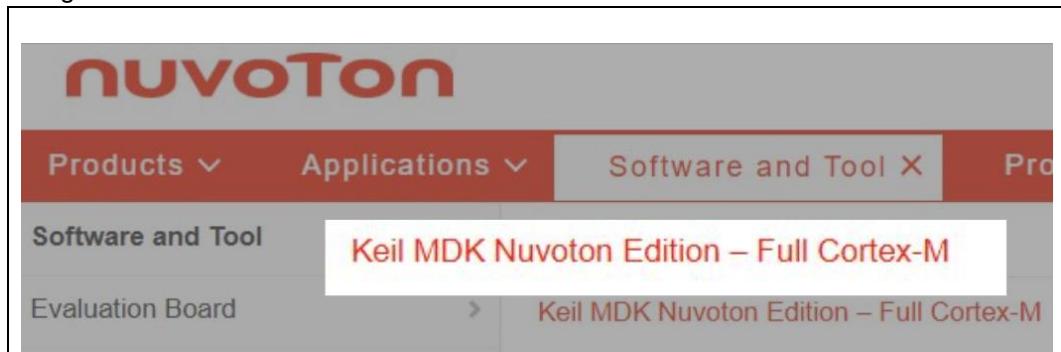
- Click Manage Arm License in the pop-up window at the bottom right.



- In the search bar at the top, select "Activate or manage Arm licenses" from the available options.



- Get Keil MDK License ID code
 - Navigation to Official Website



- Fill Out the Form

Apply for Keil MDK Nuvoton Edition – Full Cortex-M

First Name*

Last Name*

Company / Organization*

Job Title*

Region / Country or region*
...Select Region... Country or region...

State / Province

Email*

Phone*

Industry
... Industry ...

Application*
... Application ...

Sector*
... Select Line Select Category ...

Part No

NUVOTON Privacy Policy

NUVOTON Privacy Policy
Last modified June 01, 2020

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I have read and I accept Nuvoton's Privacy Policy

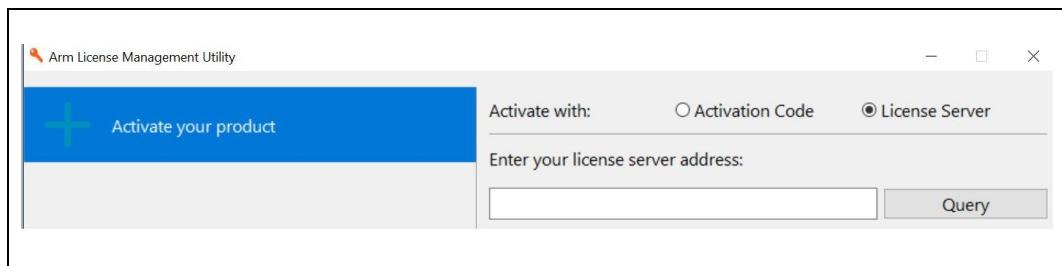
I am 18 years old or older.

*Indicates required field

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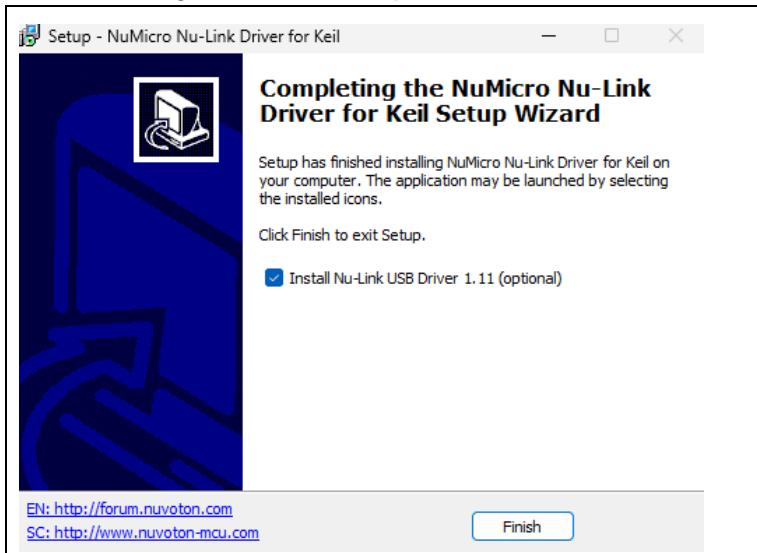
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c. Check Mailbox and Fill in the License Server

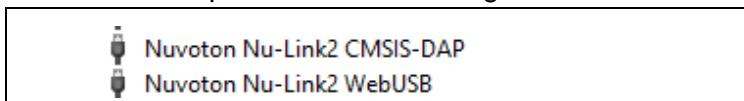


4 CONFIGURE THE DEVICE

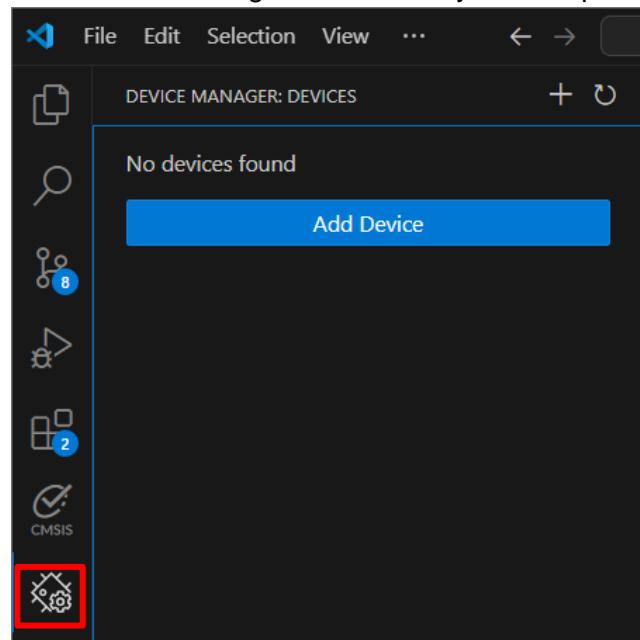
1. Install Nuvoton Nu-Link Keil Driver
2. After installing the Keil driver, please check the box to install the Nu-Link USB Driver.



3. Installation complete in Device Manager

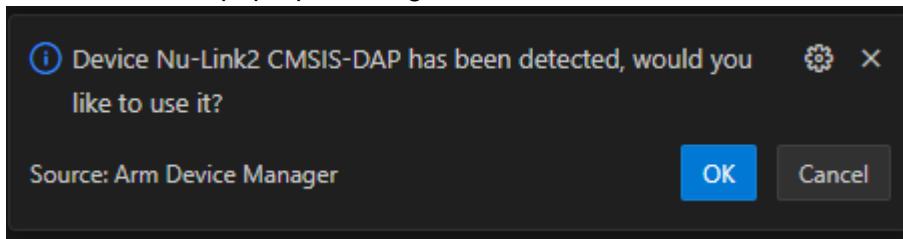


4. Click Device Manager in the Activity Bar to open the Device Manager.

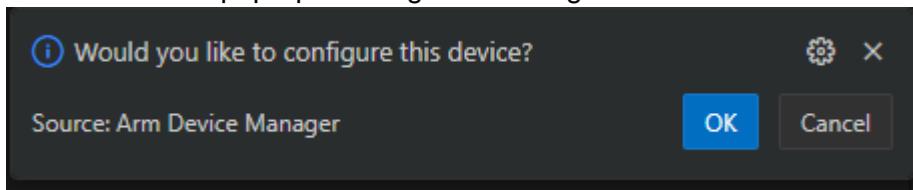


5. Connect device to your computer over USB.

The Device Manager detects the board and displays a pop-up message. Press OK in the pop-up message and use it.



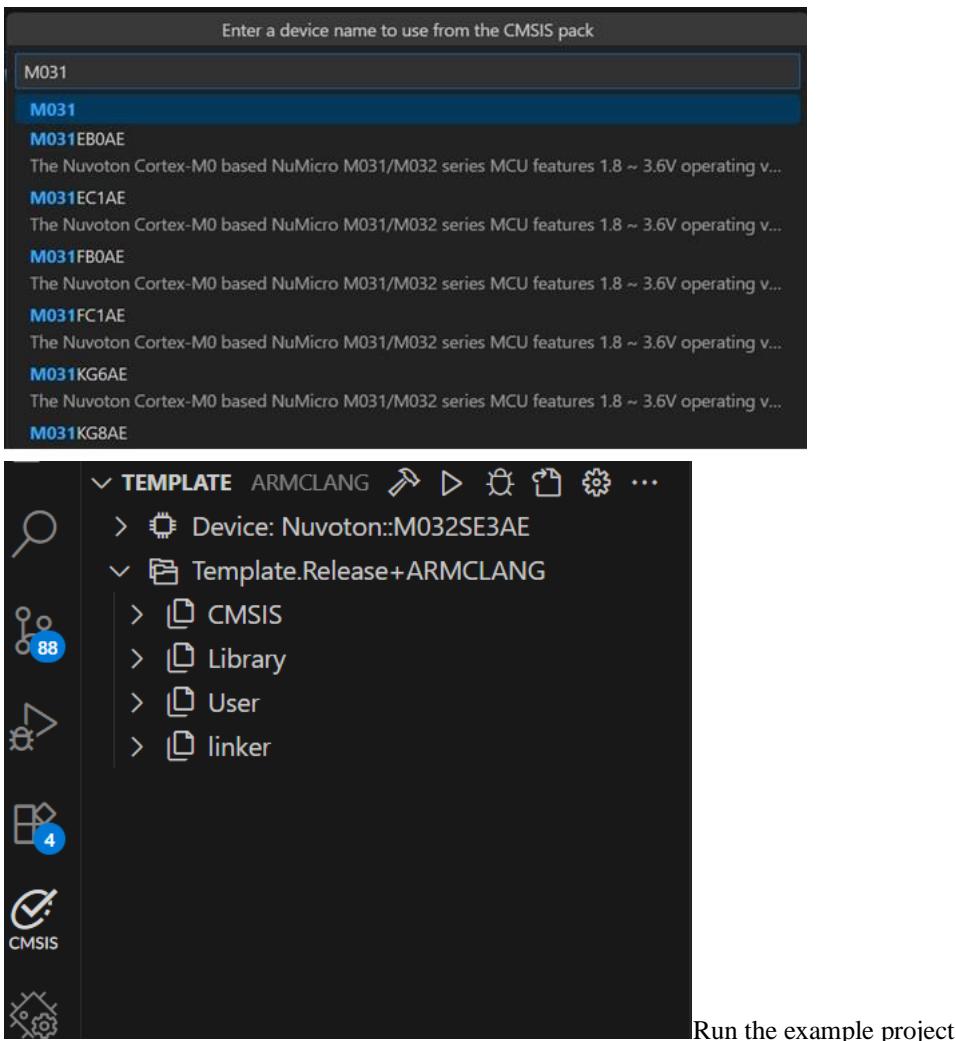
6. Press OK in the pop-up message and configure this device.



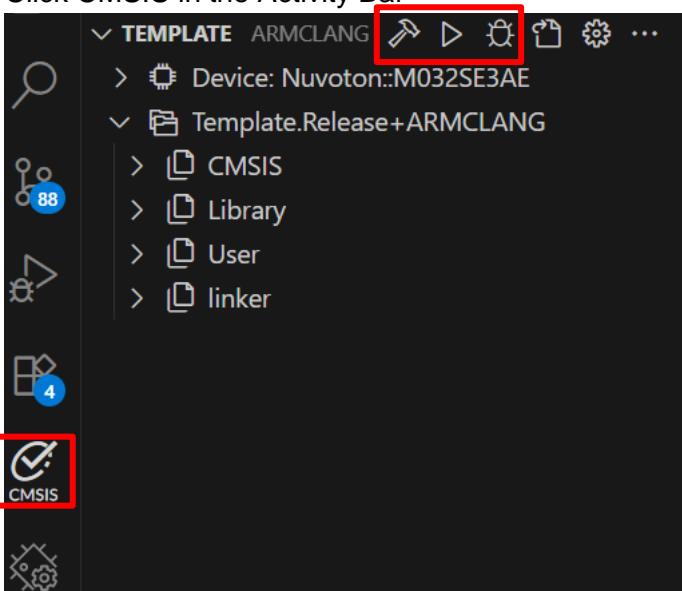
7. Text “nuvoton” in search bar and select CMSIS pack for the device.



8. Text “device model number” in search bar.



1. Click CMSIS in the Activity Bar



2. Click Build



3. Click Load & Run

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL SERIAL MONITOR PORTS ... CMSIS Load - Task ✓ + ⌂ ⌂ ... [ ] ×
● * Executing task: pyocd load --probe cmsisdap: --cbuild-run c:\SPCheng\Git\M031\bsp\SampleCode\Template\VSCode\Template+ARMCLANG.cbuild-run.yml

0006417 I Loading C:\SPCheng\Git\M031\bsp\SampleCode\Template\VSCode\out\Template\ARMCLANG\Release\Template.axf [load_cmd]
[=====] 100%
0006901 I Erased 2560 bytes (5 sectors), programmed 2560 bytes (5 pages), skipped 0 bytes (0 pages) at 5.17 kB/s [loader]
* Terminal will be reused by tasks, press any key to close it.
```

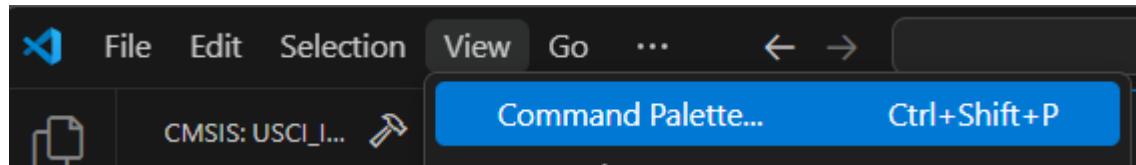
4. Click Load & Debug

The debugger stops at the main function.

The screenshot shows the CMSIS-DAP interface with the following details:

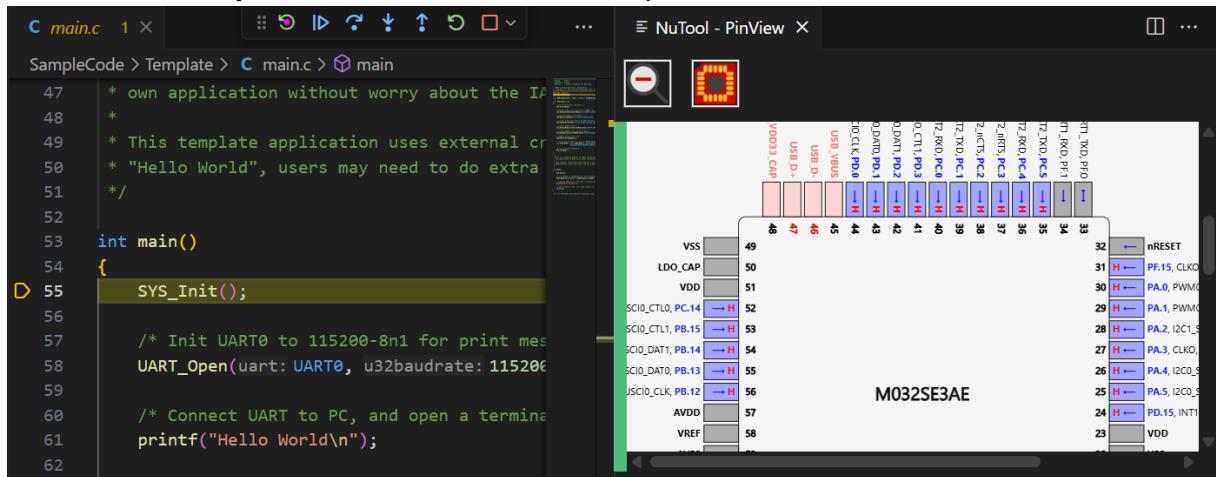
- File Explorer:** Shows a project structure with a 'main.c' file selected.
- Variables:** Local variables are listed, including 'uart' of type 'UART_HandleTypeDef'.
- Registers:** Registers are shown in a hex dump format.
- WATCH:** A watch point is set on variable 'uart'.
- CALL STACK:** The stack trace shows the program is paused at address 0x00000758, which corresponds to the 'main' function in 'main.c'.
- Terminal:** The terminal window displays the assembly code for the main loop, showing the execution of the 'SYS_Init()' function.
- PROBLEMS:** No problems are listed.
- OUTPUT:** The output window shows the assembly code for the main loop, including the 'SYS_Init()' call.
- DEBUG CONSOLE:** The debug console shows the assembly code for the main loop, including the 'SYS_Init()' call.
- TERMINAL:** The terminal window displays the assembly code for the main loop, showing the execution of the 'SYS_Init()' function.
- PROBLEMS:** No problems are listed.
- OUTPUT:** The output window shows the assembly code for the main loop, including the 'SYS_Init()' call.
- DEBUG CONSOLE:** The debug console shows the assembly code for the main loop, including the 'SYS_Init()' call.
- TERMINAL:** The terminal window displays the assembly code for the main loop, showing the execution of the 'SYS_Init()' function.

5. Click View and select “Command palette” in the toolbar.



6. Text “**Nuvoton:Open PinView**” in search bar to open PinView tool.

7. Text “Nuvoton:Open PinLCD” in search bar to open PinLCD tool.



REVISION HISTORY

Date	Revision	Description
2025.10.28	3.01	1. Initially version.

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