

NuMicro® Family

VS Code

Quick Start Guide

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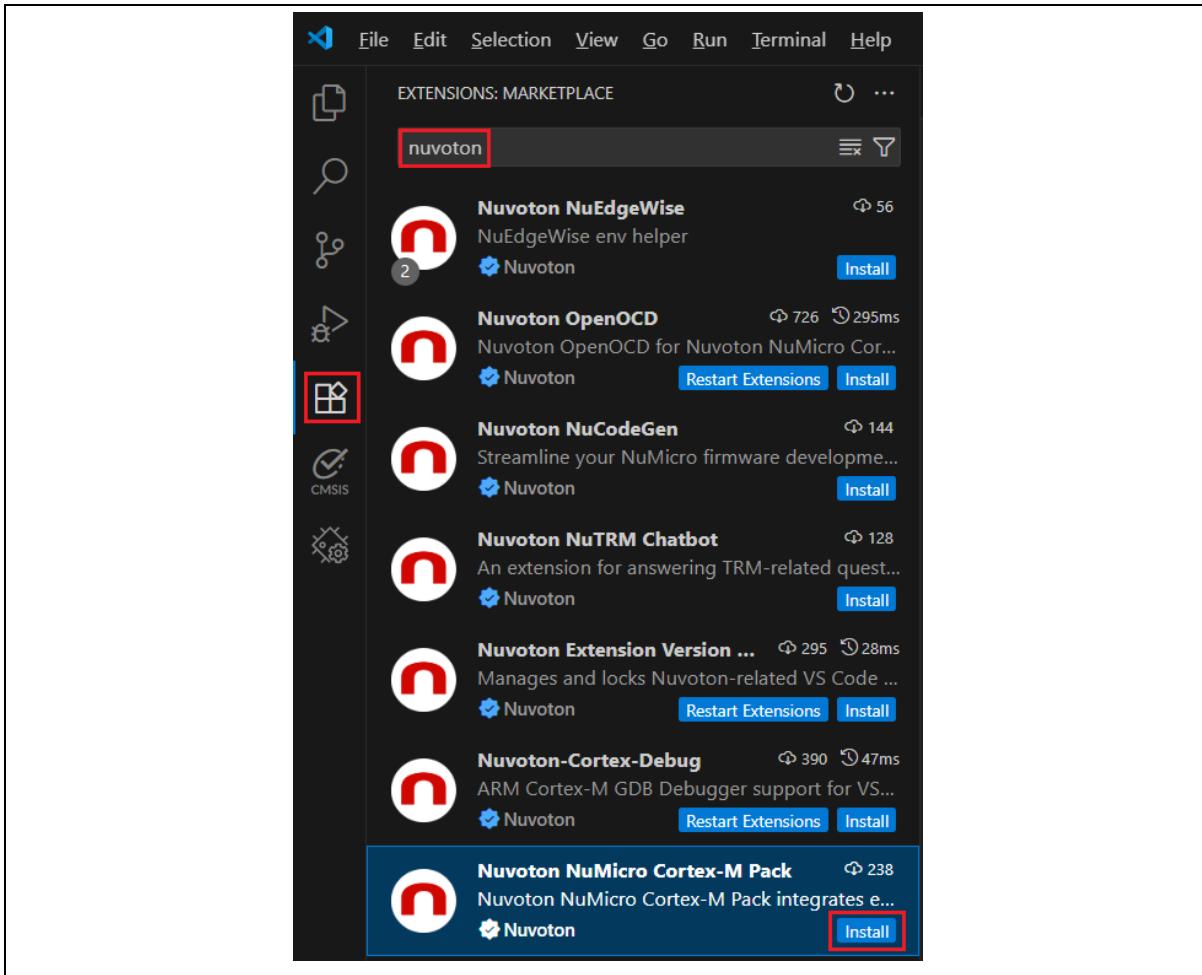
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TABLE OF CONTENTS

| | | |
|---|---|----|
| 1 | INSTALLATION VS CODE AND EXTENSIONS | 3 |
| 2 | GET STARTED WITH A SAMPLE PROJECT..... | 4 |
| 3 | MANAGE ARM LICENSE..... | 7 |
| 4 | CONFIGURE THE DEVICE | 9 |
| 5 | RUN THE SAMPLE PROJECT..... | 12 |

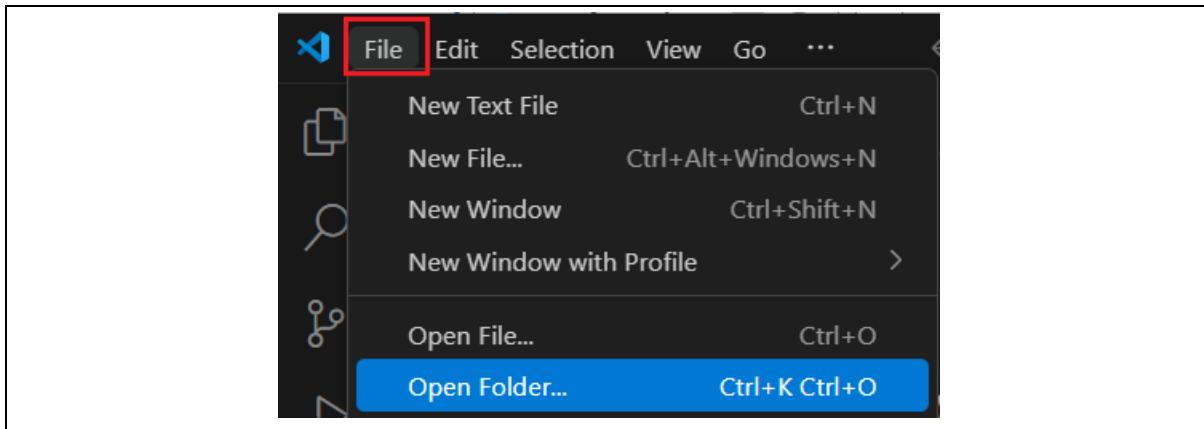
1 INSTALLATION VS CODE AND EXTENSIONS

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 the “**Install**” button to install.

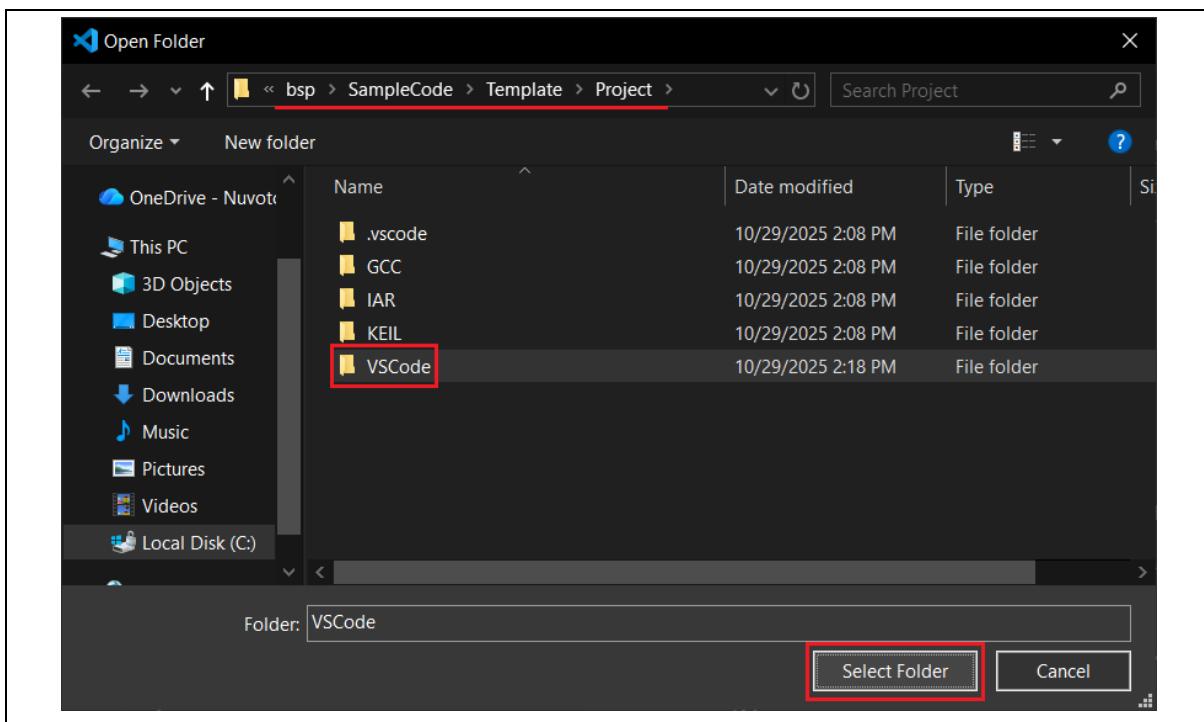


2 GET STARTED WITH A SAMPLE PROJECT

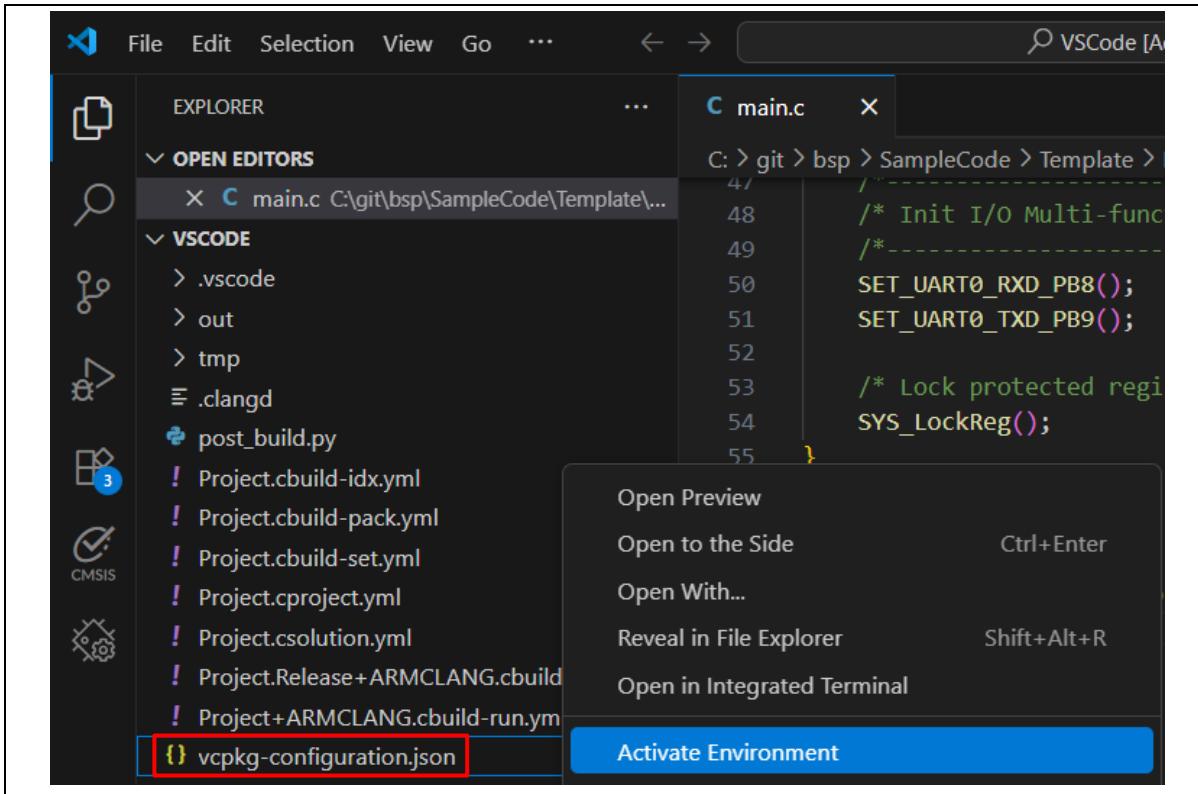
1. Click “File” menu and select “Open Folder” in the toolbar.



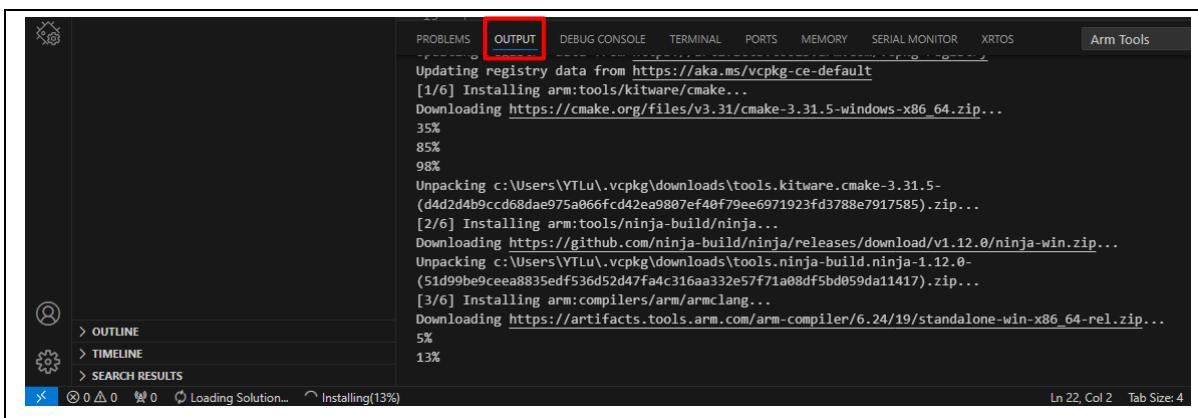
2. Select the "VSCode" folder of a sample project to open the project.



3. Right-click “**vcpkg-configuration.json**” file and select “**Activate Environment**” command. (Please use private network connection.)

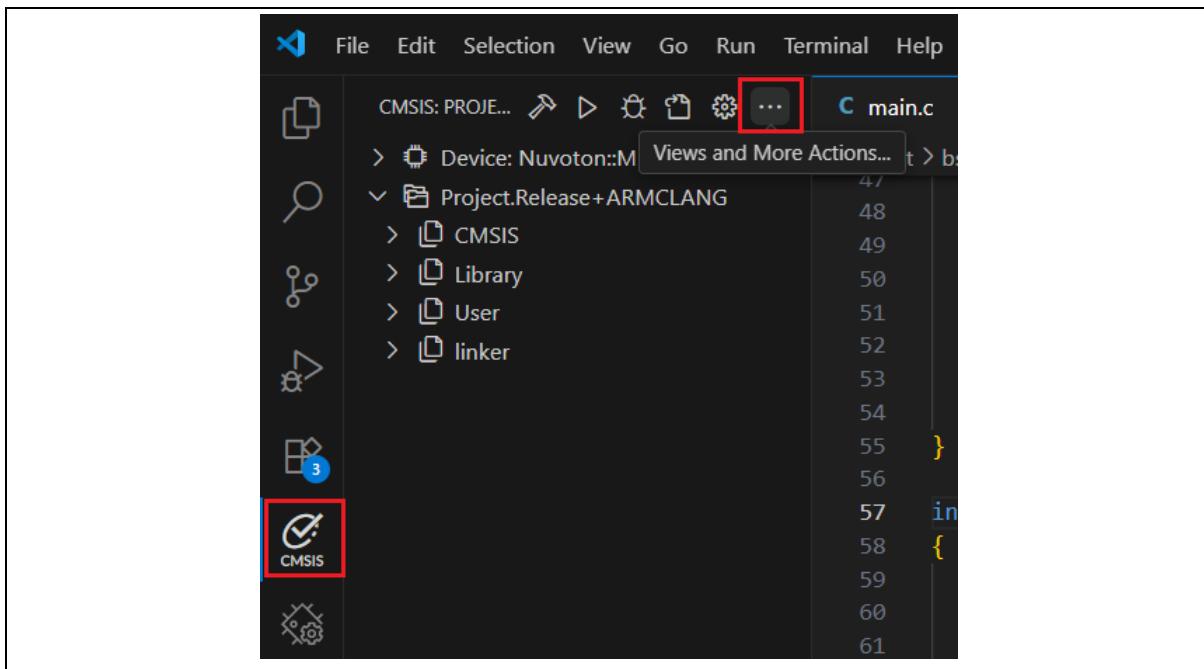


4. Check **OUTPUT** terminal at the bottom. It will download and install the requires tools.

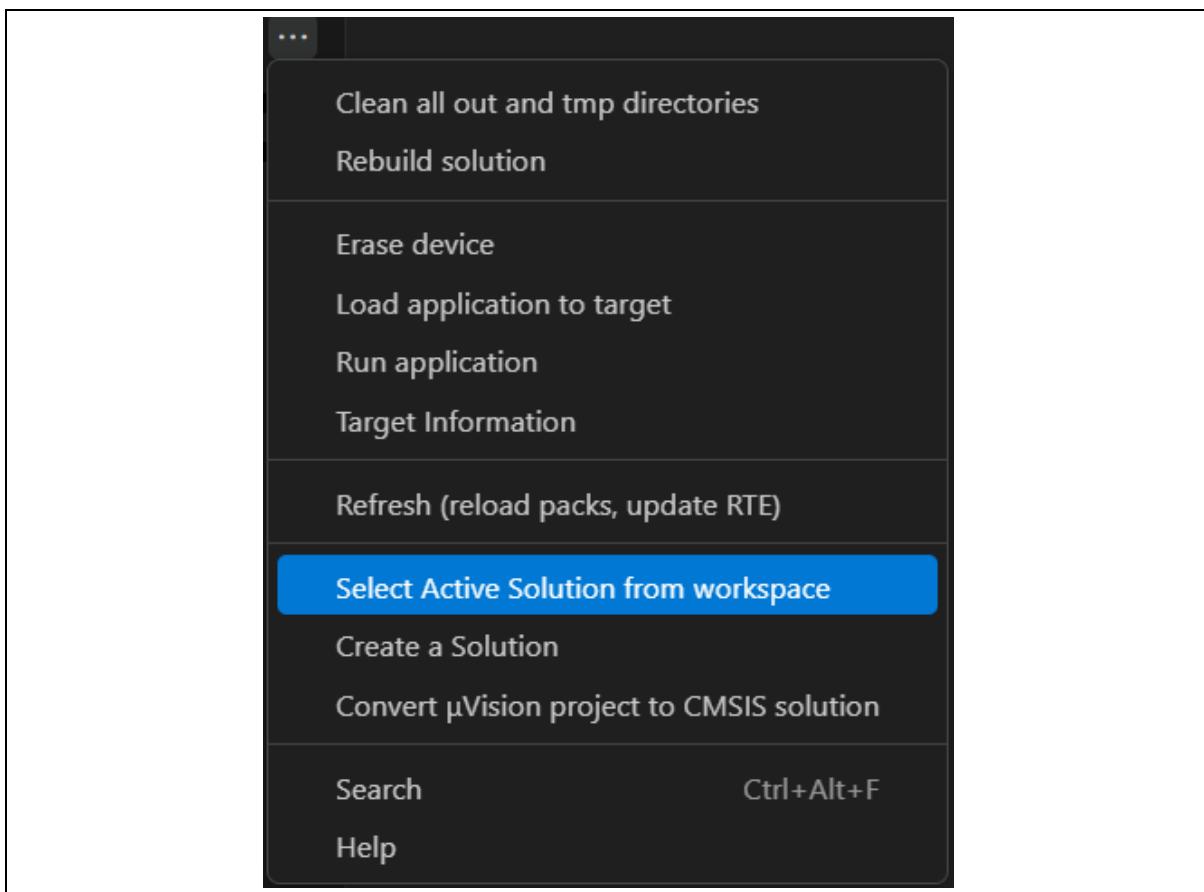


5. Click **CMSIS** icon in the Activity Bar.

Then click “**Views and More Commands**” button.

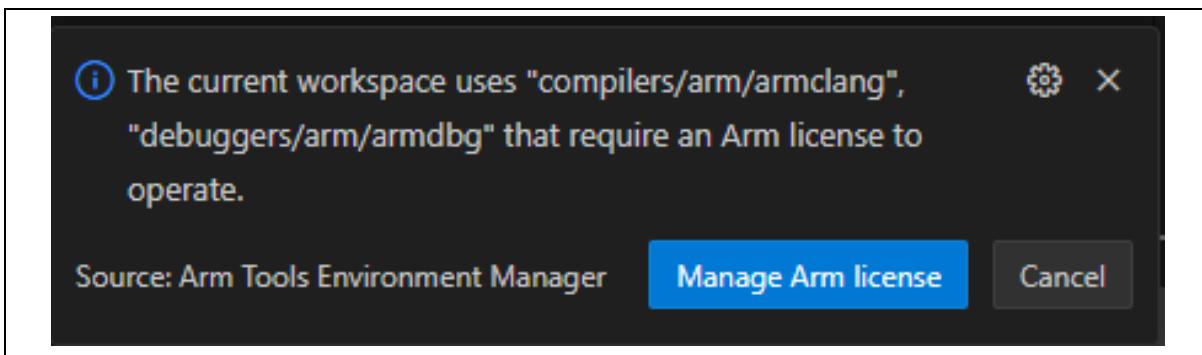


6. Select “**Select Active solution from workspace**” command.

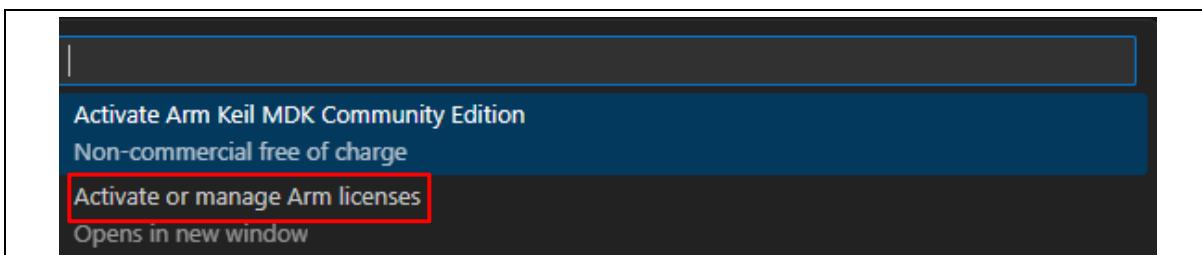


3 MANAGE ARM LICENSE

1. Click “Manage Arm License” button in the pop-up window at the bottom right.



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



3. Get Keil MDK License ID code.

- 1) Navigation to [Official Website](#).

2) 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*

State / Province

Email*

Phone*

Industry – Industry –

Application* – Application –

Series* – Select Line – – Select Category –

Part No.

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NUVOTON Privacy Policy
Last modified July 01, 2023

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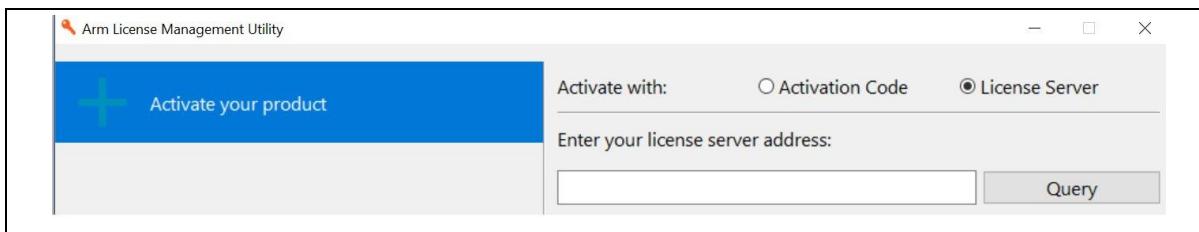
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3) Check mailbox and fill in the License Server.

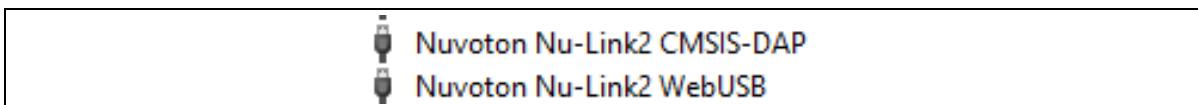


4 CONFIGURE THE DEVICE

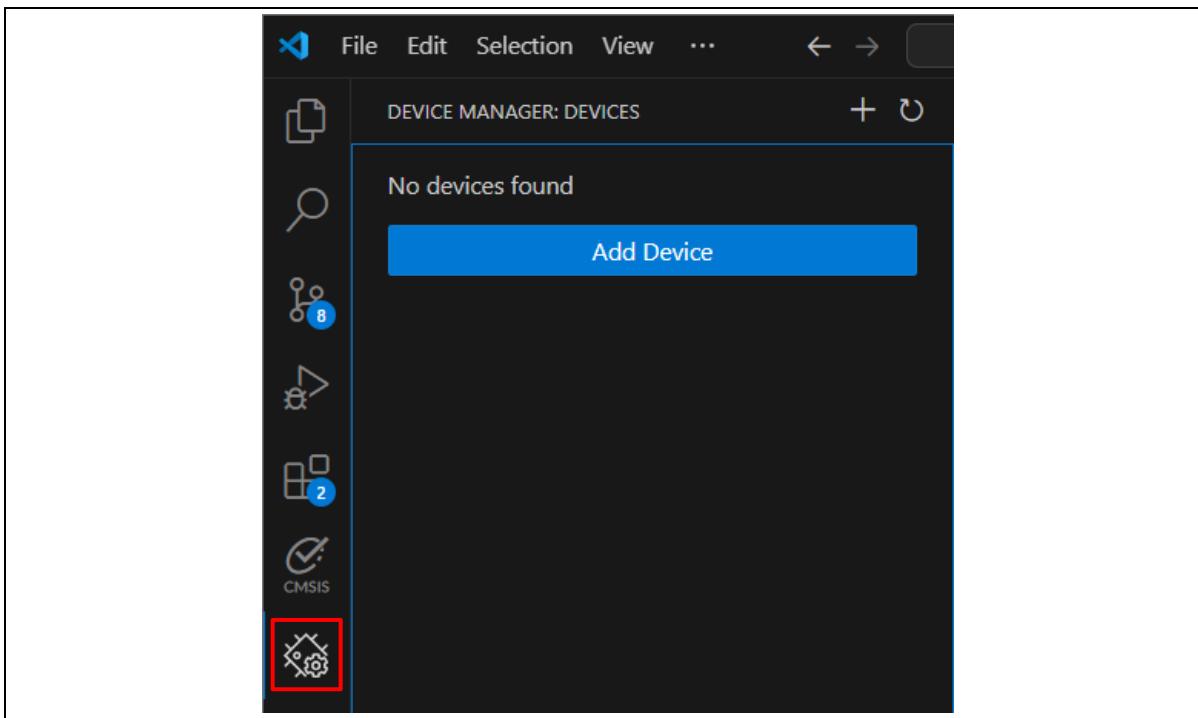
1. Install Nuvoton Nu-Link Keil Driver.
2. After installing the Keil driver, please check the box to install the Nu-Link USB Driver.



3. Installation complete in Windows Device Manager.



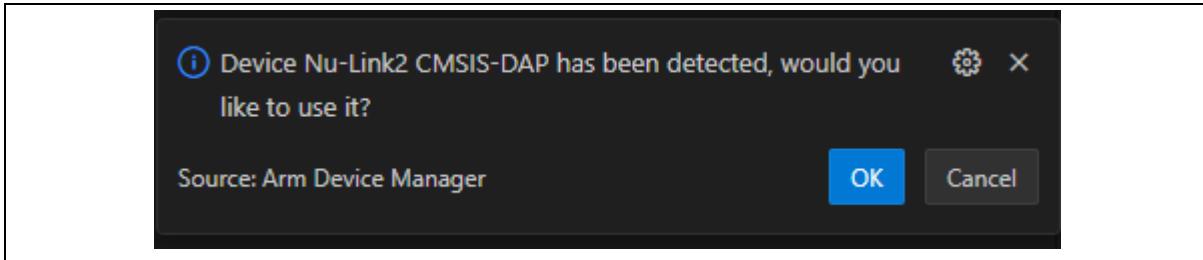
4. Click “Device Manager” icon in the Activity Bar to open the Device Manager.



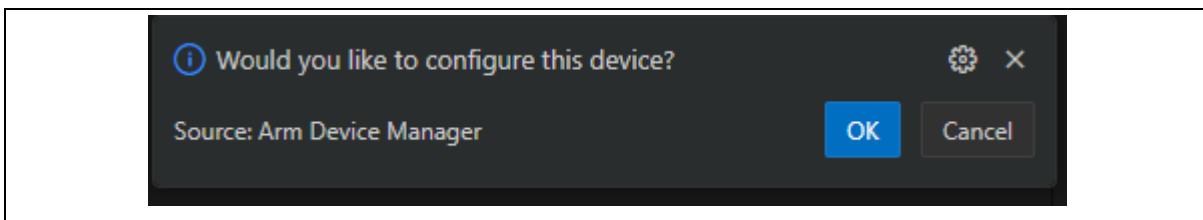
5. Connect device to your computer over USB.

The Device Manager detects the board and displays a pop-up message.

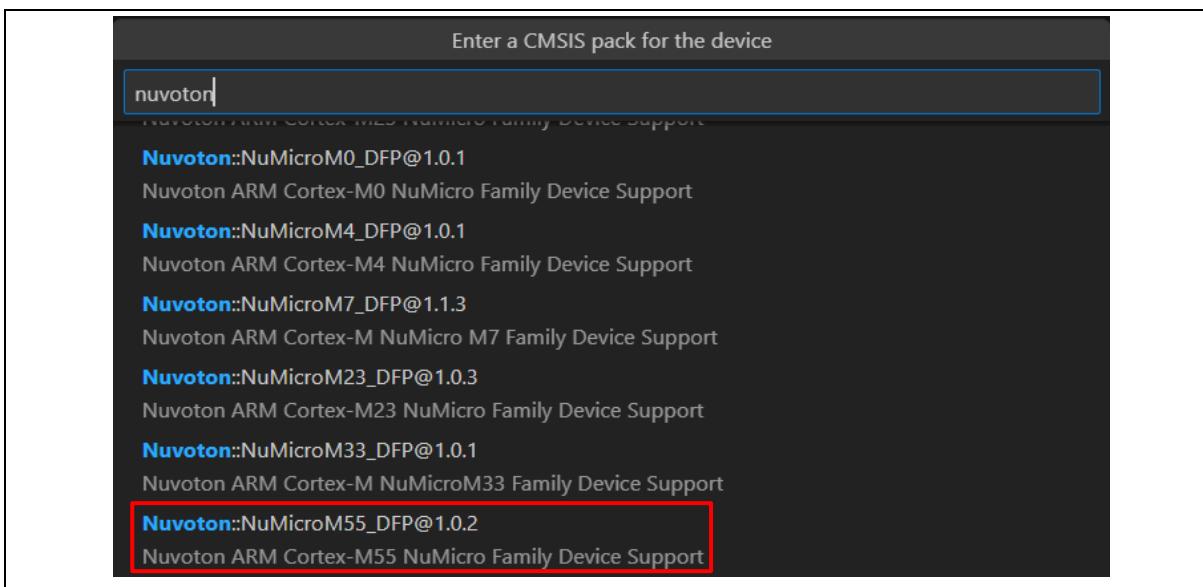
Press OK in the pop-up message and use it.



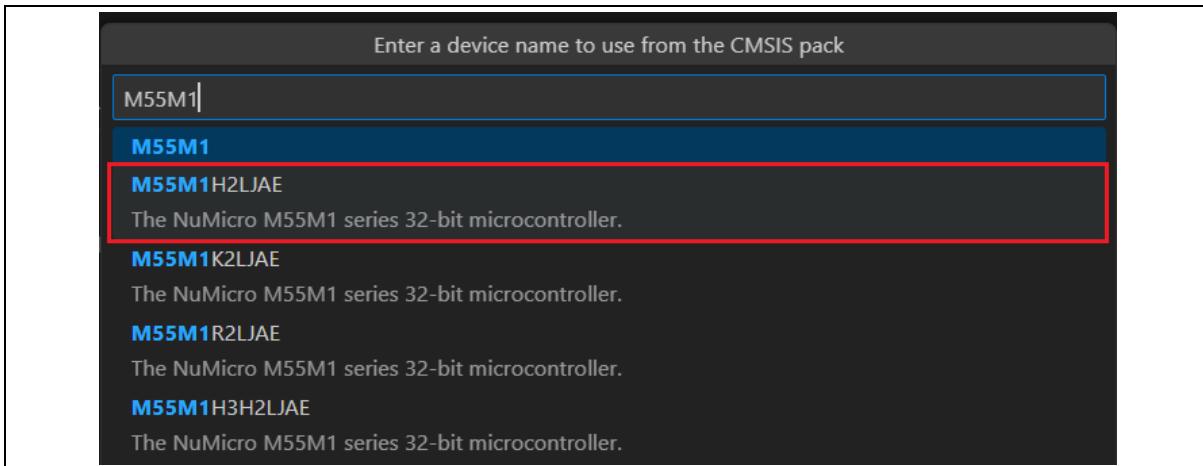
6. Press OK in the pop-up message and configure this device.



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

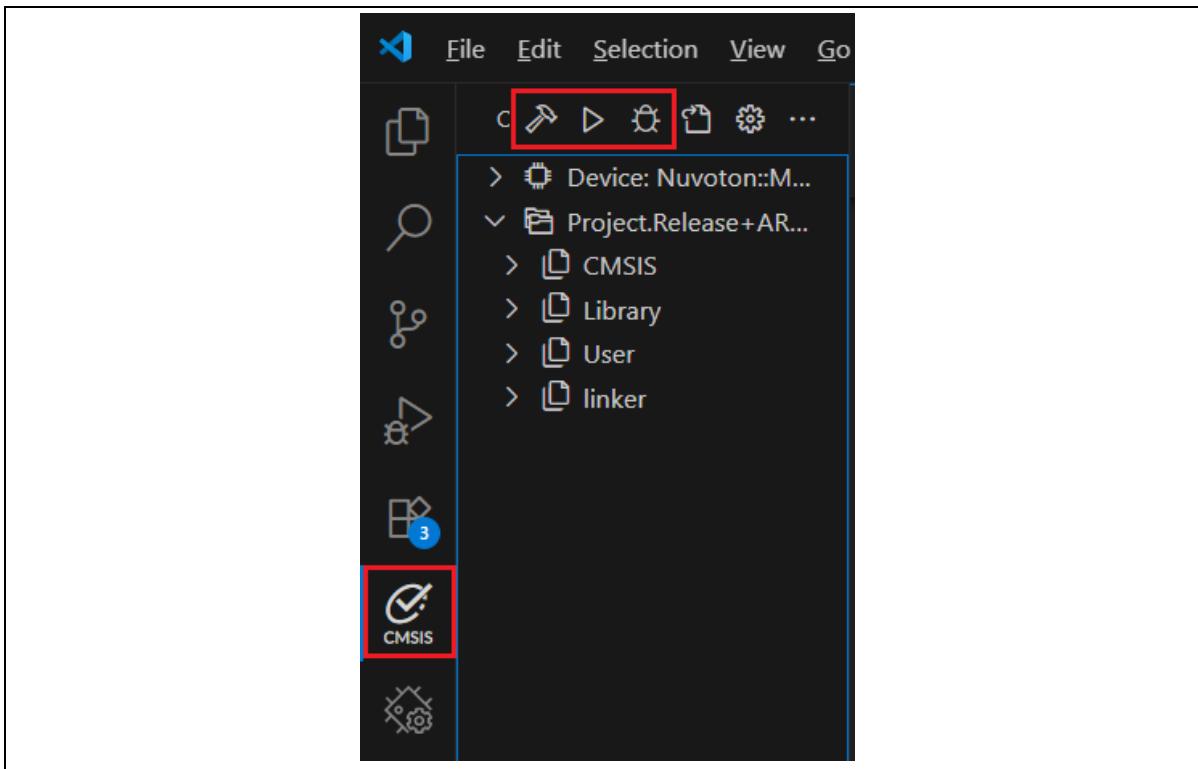


8. Text your “**device model number**” in search bar.



5 RUN THE SAMPLE PROJECT

1. Click “**CMSIS**” icon in the Activity Bar.



2. Click “Build” button.

3. Click “Load & Run” button.



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS MEMORY XRTOS SERIAL MONITOR CMSIS Load - Task ✓ + ⌂ ⌂ ... |
```

* Executing task: pyocd load --probe cmsisdap: --cbuild-run c:\git\bsp\SampleCode\Template\Project\VSCode\Project+ARMCLANG.cbuild-run.yml

0002310 I Loading C:\git\bsp\SampleCode\Template\Project\VSCode\out\Project\ARMCLANG\ReLase\Project.axf [load_cmd]
[=====] 100%

0002861 I Erased 16384 bytes (2 sectors), programmed 10752 bytes (21 pages), skipped 0 bytes (0 pages) at 19.13 kB/s [loader]

* Terminal will be reused by tasks, press any key to close it.

4. Click “Load & Debug” button.



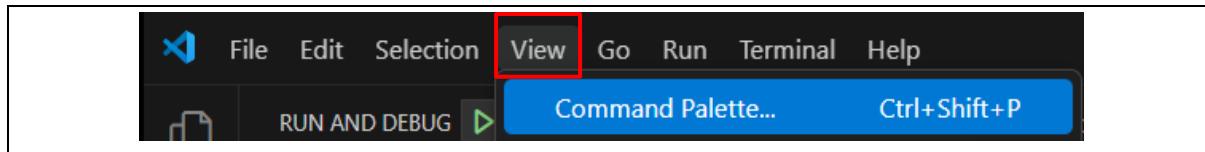
The debugger stops at the main function.

The screenshot shows the Visual Studio Code interface with the following details:

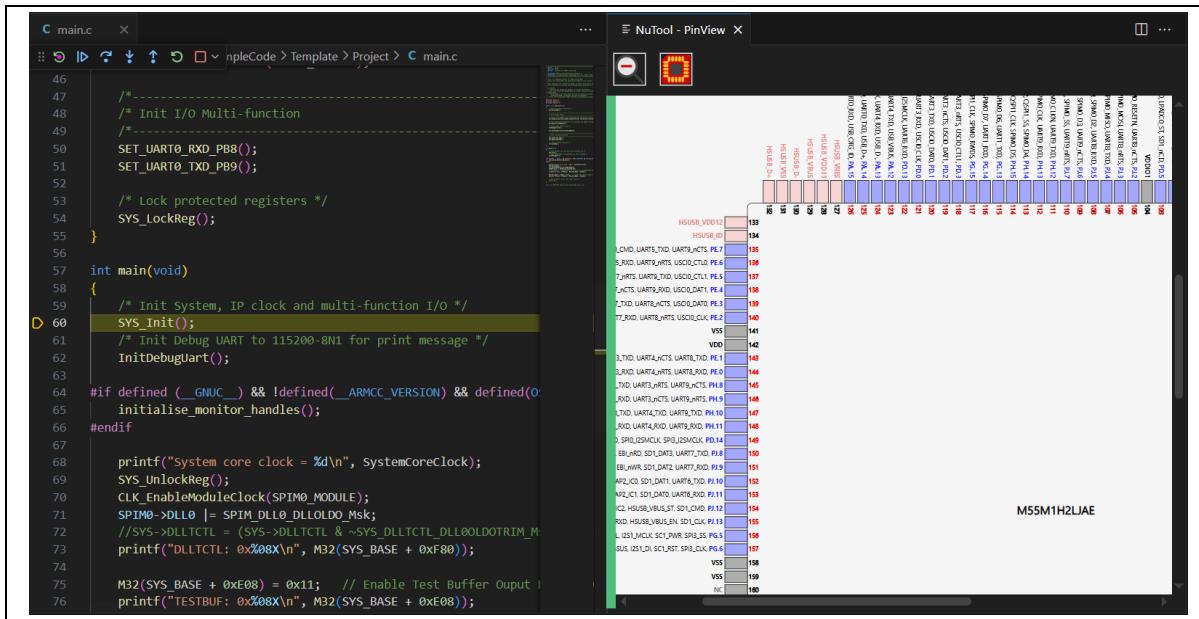
- File Explorer:** Shows a project structure under "SampleCode > Template > Project".
- Editor:** The main editor window displays the "main.c" file with code related to UART initialization and system clock printing.
- Breakpoints:** A yellow box highlights the line `SYS_Init();` at line 60, indicating it is the current breakpoint.
- Output:** The DEBUG CONSOLE tab shows the following output:

```
79     while (1) ;
Program stopped, probably due to a reset and/or halt issued by debugger
[cortex_m.cpu] halted due to debug-request, current mode: Thread
XPSR: 0x01000000 pc: 0x00101494 msp: 0x20020000
warning: could not convert 'main' from the host encoding (CP1252) to UTF-32.
This normally should not happen, please file a bug report.
```
- Call Stack:** The CALL STACK tab shows the stack pointer at `main@0x00101e18`.
- Breakpoints:** The BREAKPOINTS tab shows a temporary breakpoint at line 60.
- Bottom Status Bar:** Shows the file path as `C:/git/bsp/SampleCode/Template/Project/main.c:60`, along with ARMCLANG, Arm Tools: 6, and Hardware Success Kit (Early Access) status.

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



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



REVISION HISTORY

| Date | Revision | Description |
|------------|----------|---------------------|
| 2025.10.29 | 1.00 | 1. Initial version. |

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