STM32CubeIDE installation

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STM32CubeIDE is a free software, the tutorial demonstrates the installation and use of the software!

```
The [Attachment → Software Tools] in the document provides an installation
package, you can skip the download step and install it directly
```

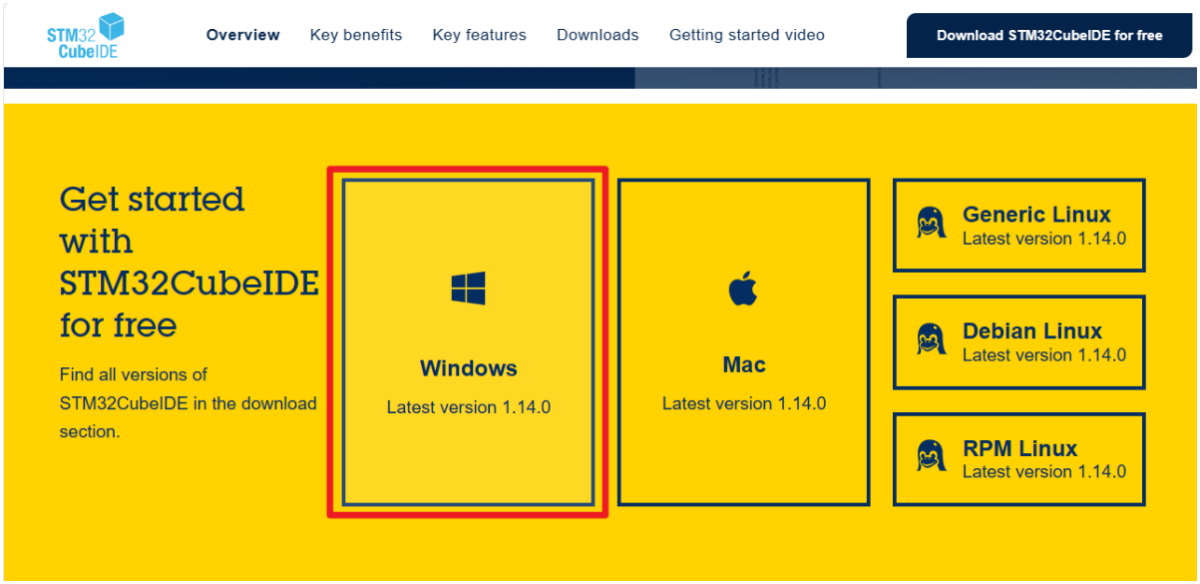
1. Software Download

1、Software download

ST office website：https://www.st.com/content/st_com/en/stm32cubeide.html

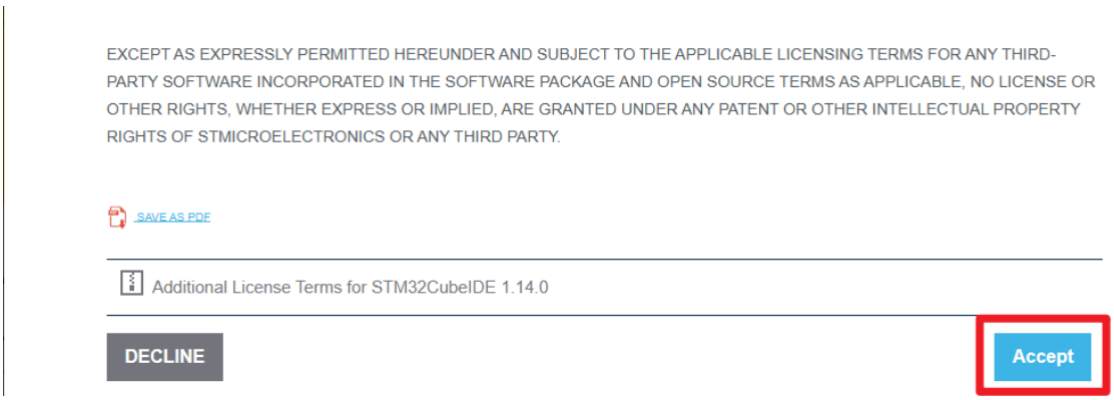
2. Select the platform

- **Platform**: Windows

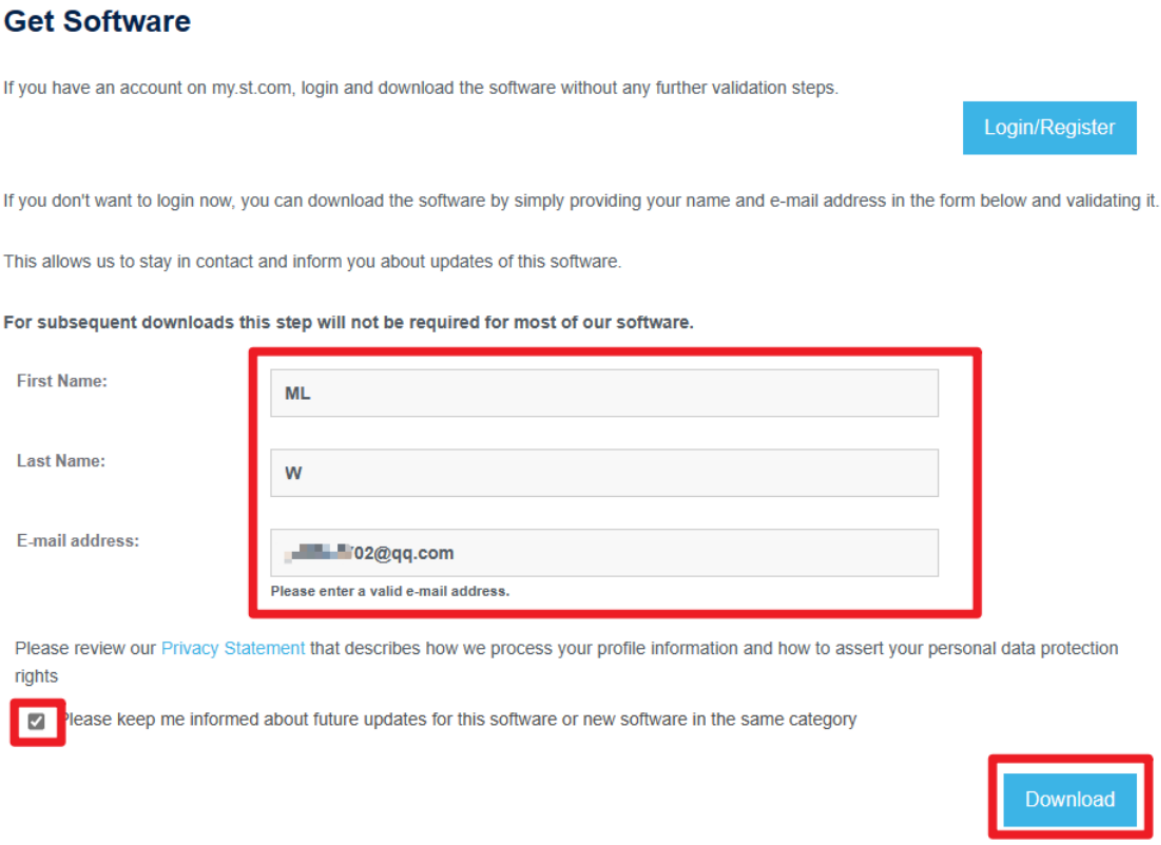


3. Fill in the information

- **Agree to the agreement**

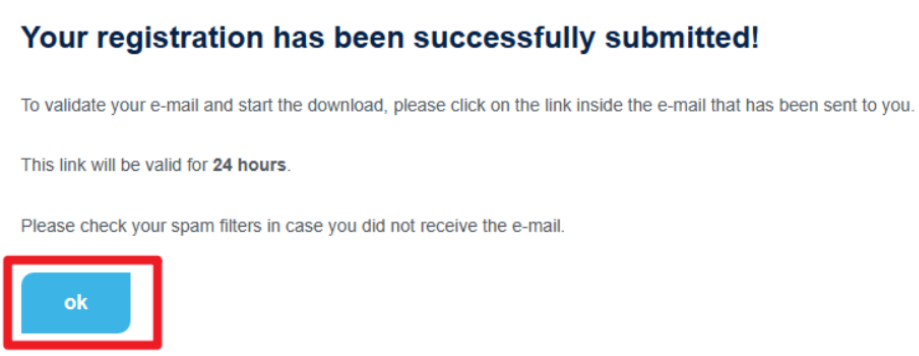


- **Fill in the information**

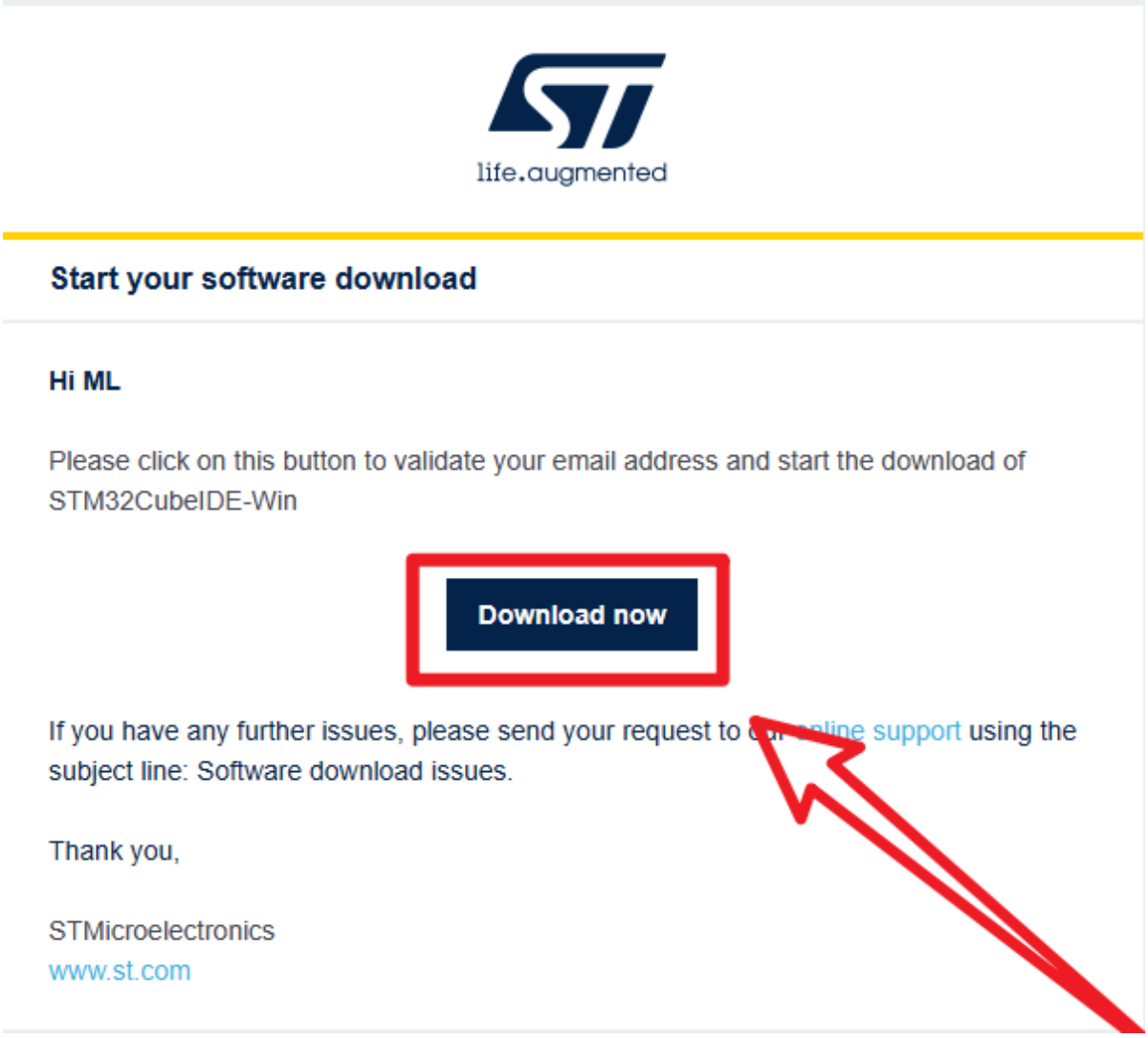



```
The email address needs to be filled in accurately, and the software download link will be sent to you via email
```

- **Submission completed**



- **Download the installation package via email**



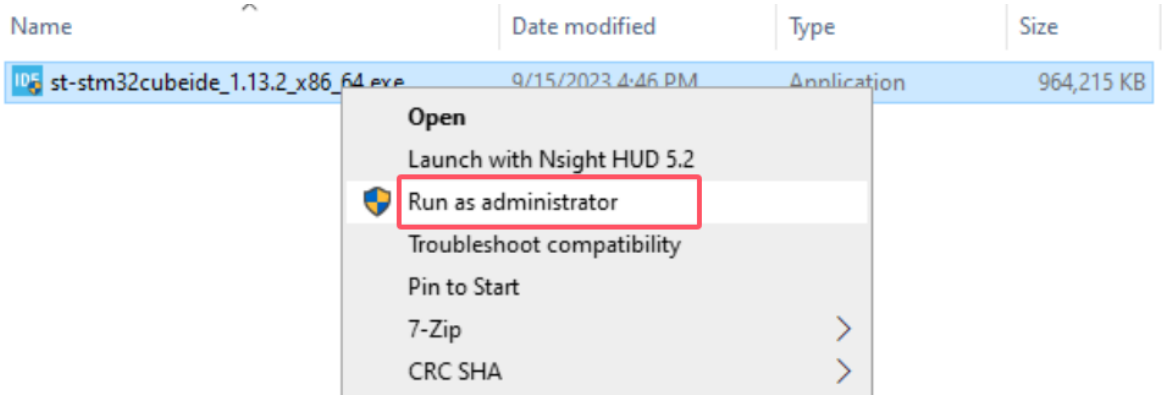

```
Click the link to jump to the official website, and the website will
automatically pop up a pop-up window for downloading the software compressed
package
```

2. Software installation

1. Open the installation package

- **Administrator**

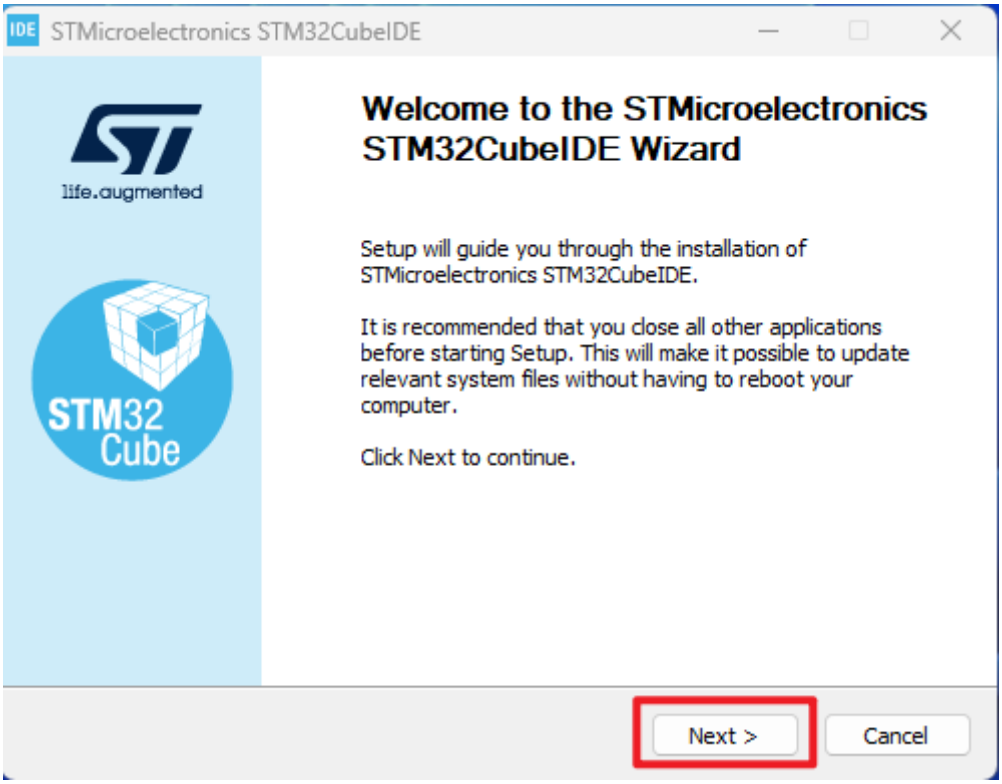
Open the installation package as an administrator



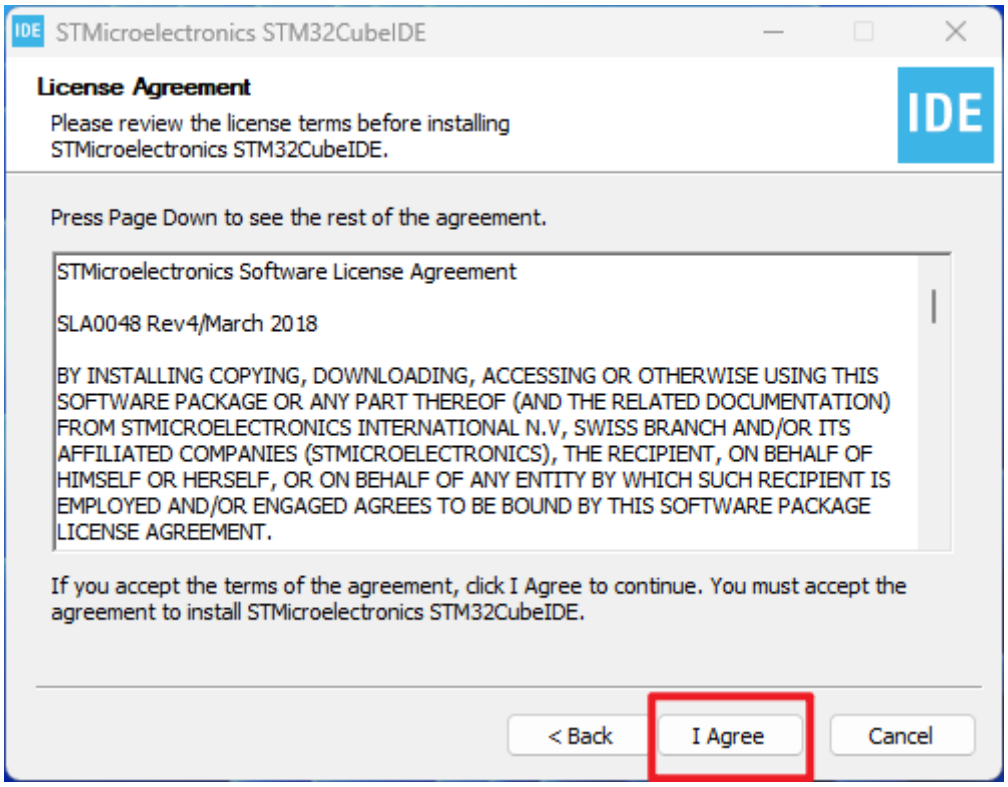
```
If you open the software installation package and see "NSIS ERROR: error
"Launching installer" error message:
Please put the installation package in a path without Chinese characters
```

2. Installation process-settings

- **Next**

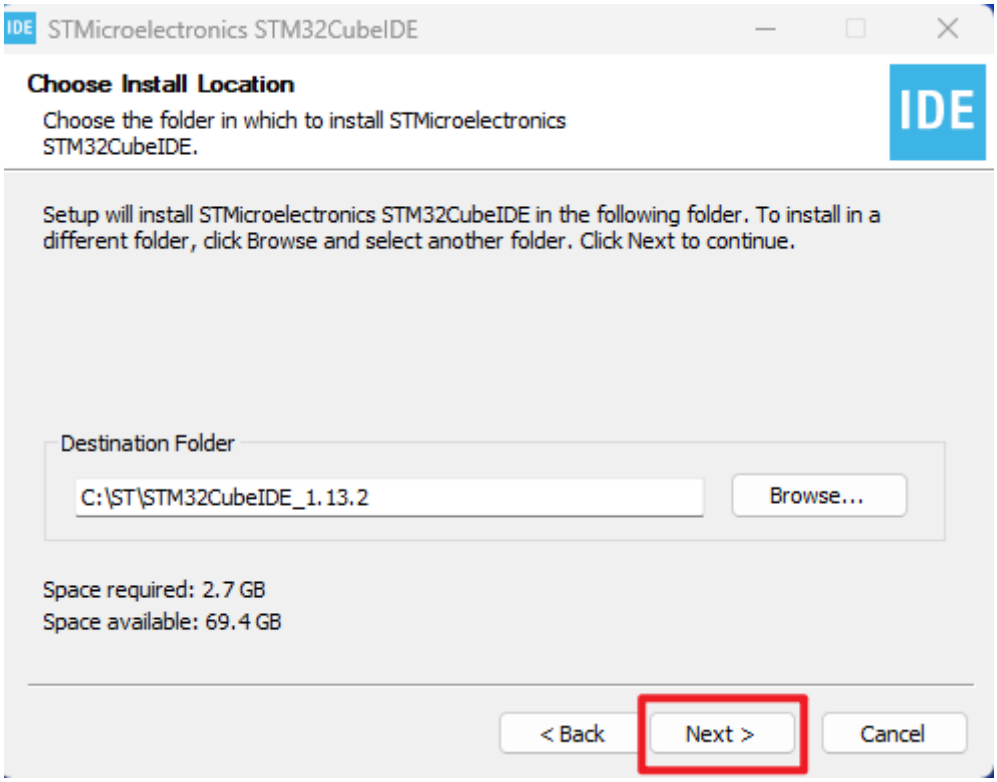


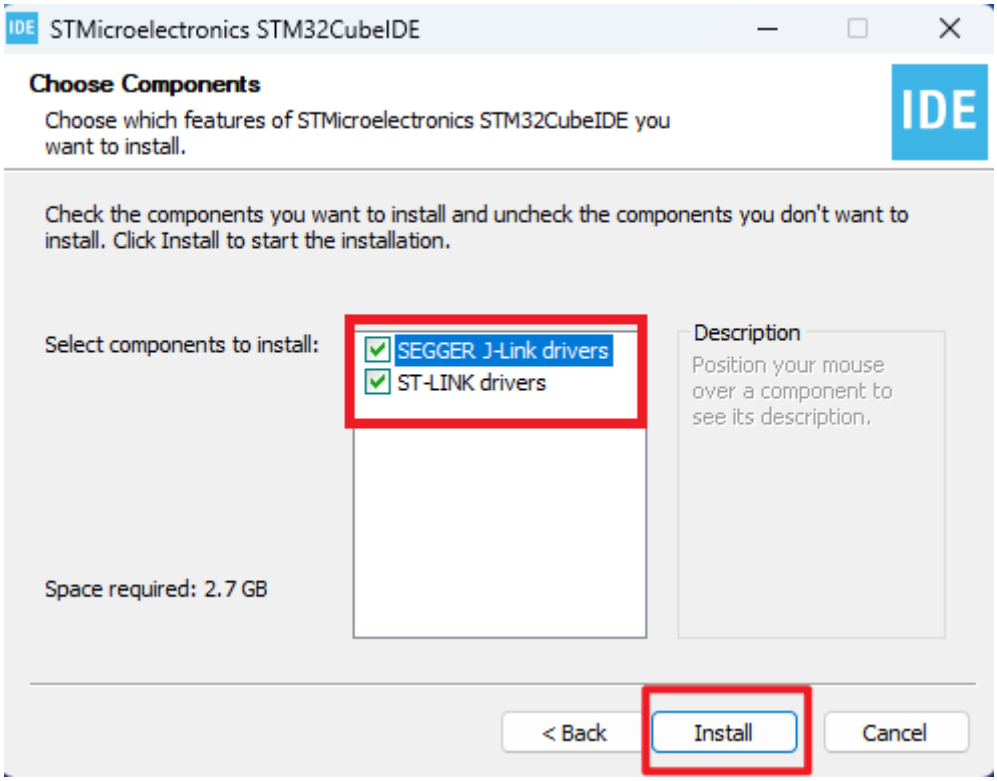
- **Agree to the agreement → I agree**



- **Installation location → Next → Install**

```
It is recommended to use the default installation location of the software and the path should not contain Chinese characters
```

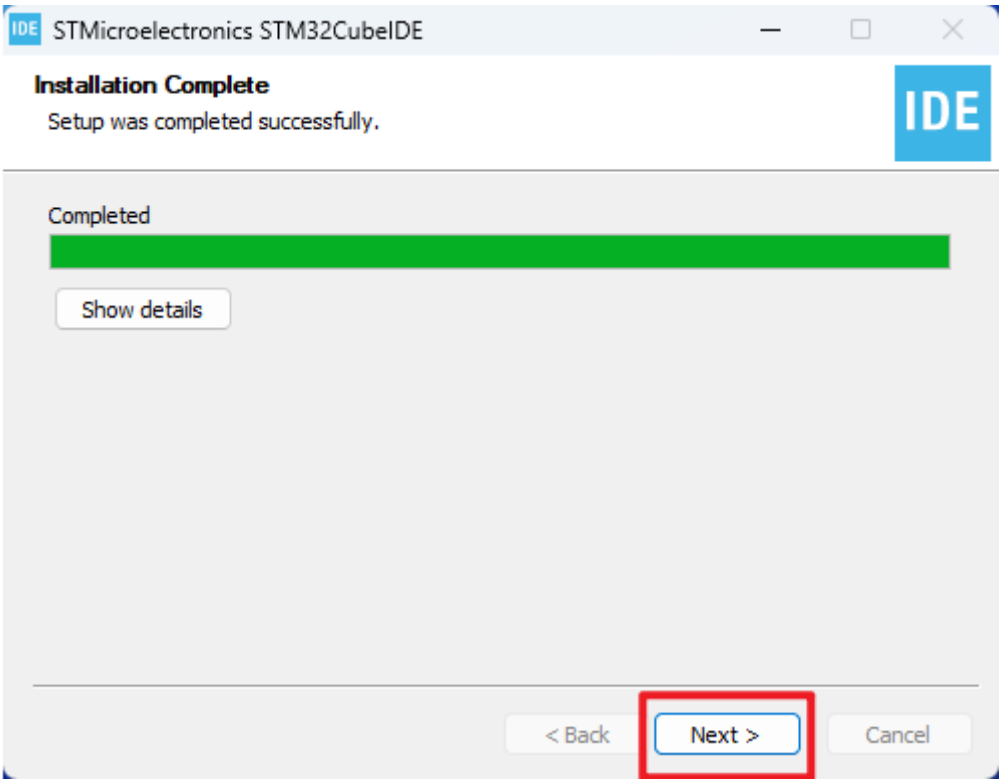




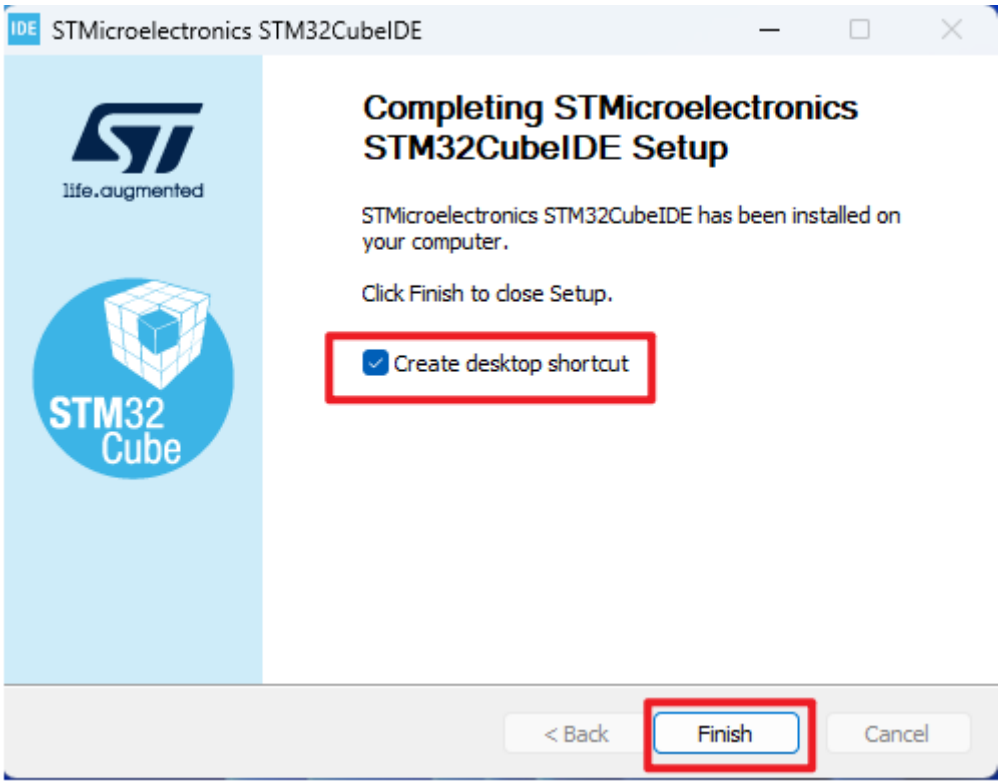

```
Check the option to install ST-Link and J-Link drivers
```

- **Install driver**

- **Installation waiting → Next**



- **Finish**

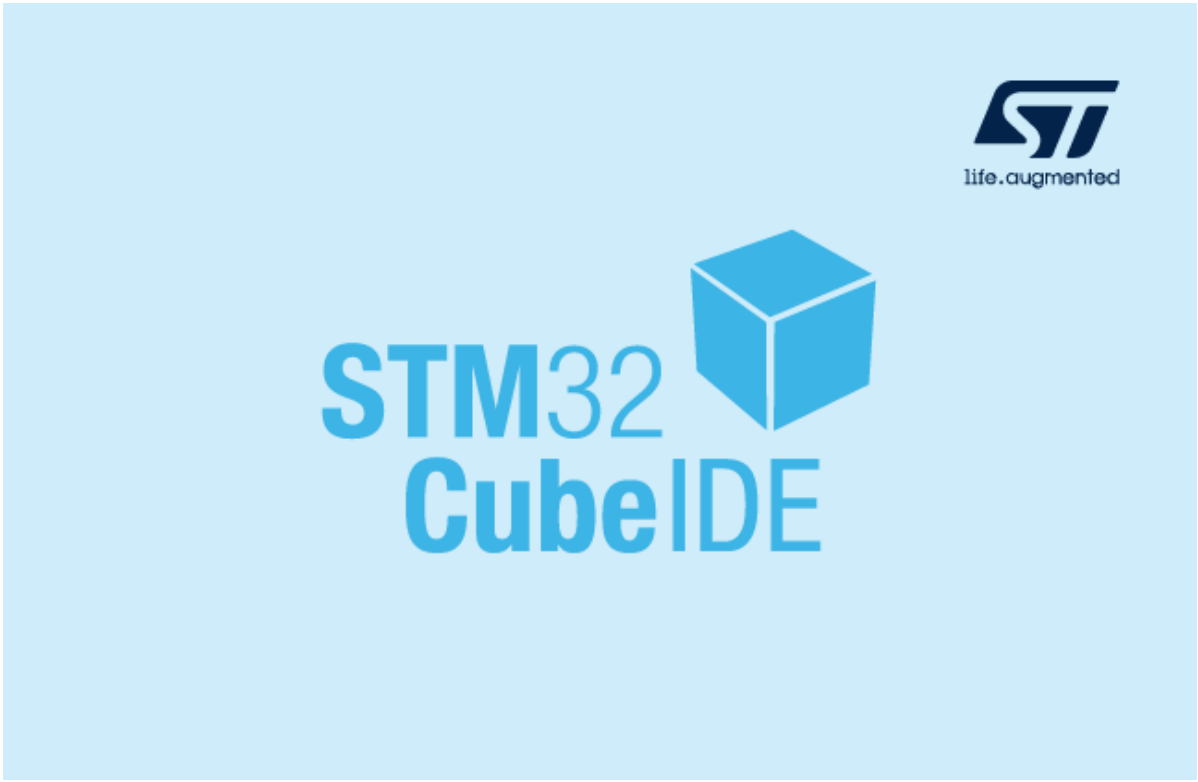


3. Software Configuration

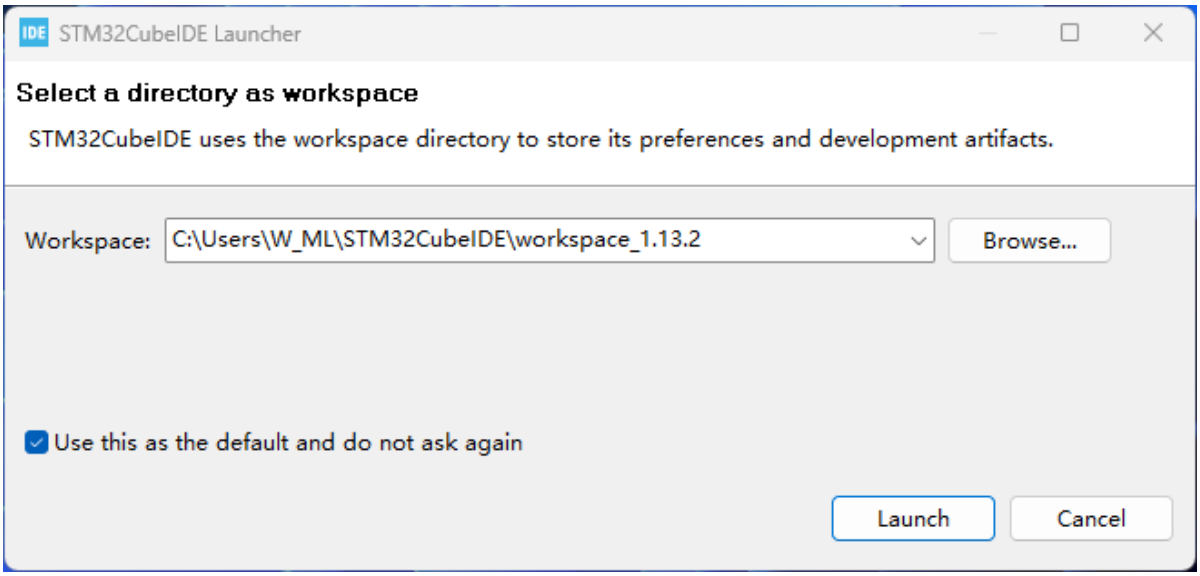
Be familiar with the software-related options and functions.

1. Open the application

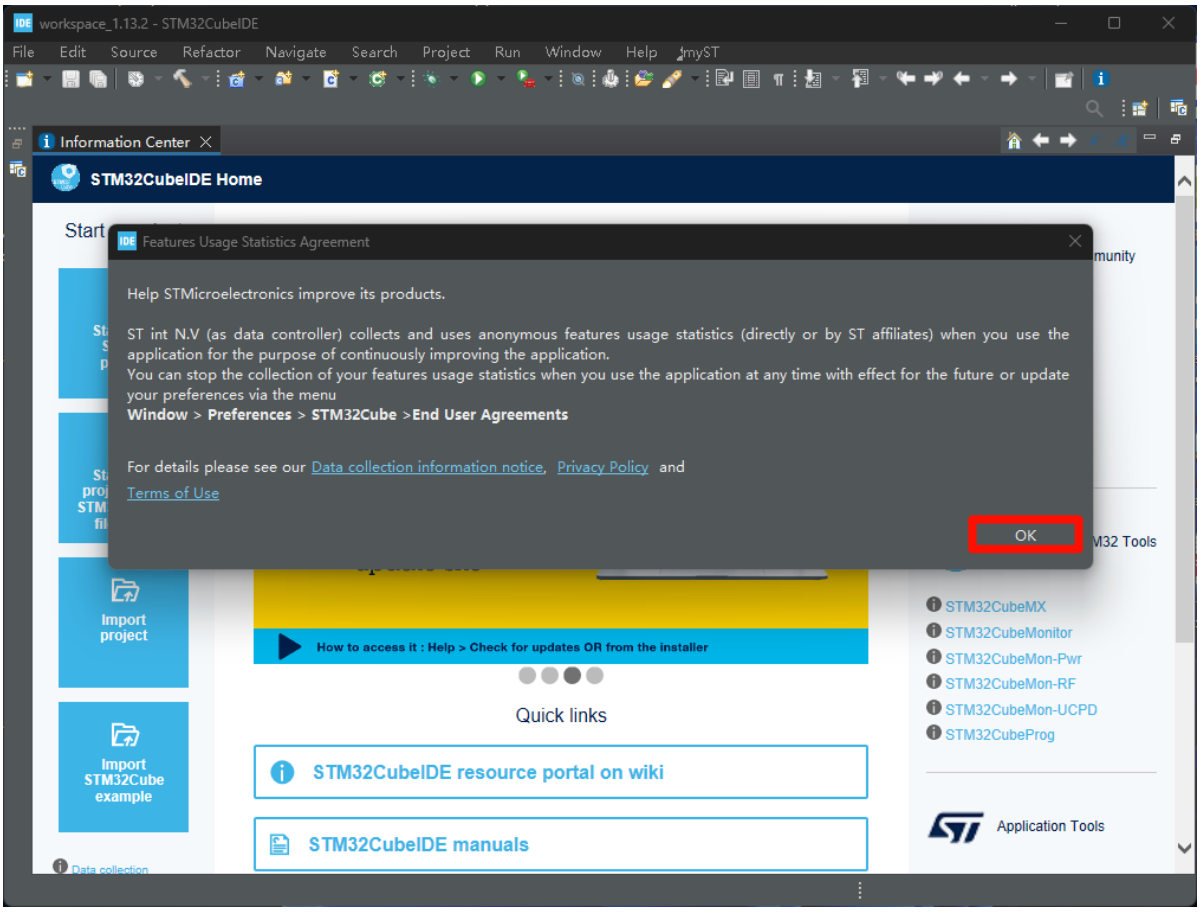
- **Left mouse button**: Double-click the desktop application



- **Select workspace**

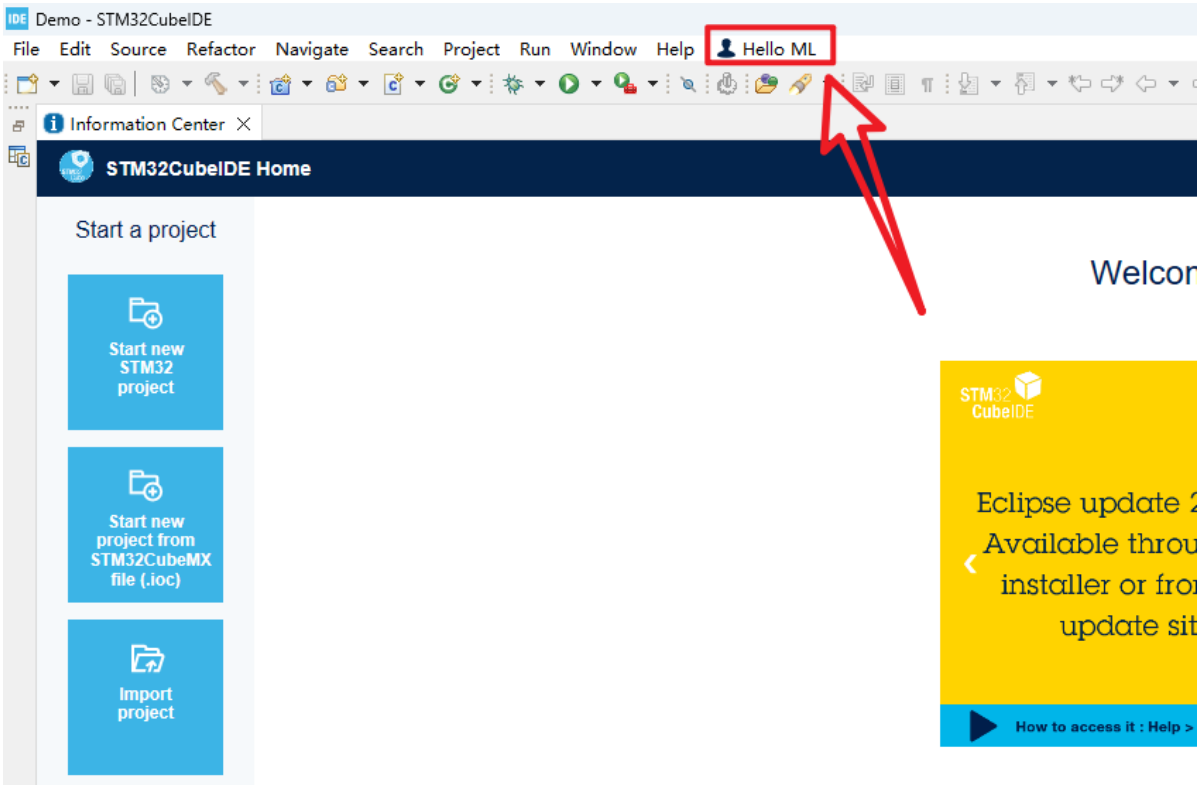


You can create a new folder yourself, and the folder path cannot contain Chinese characters



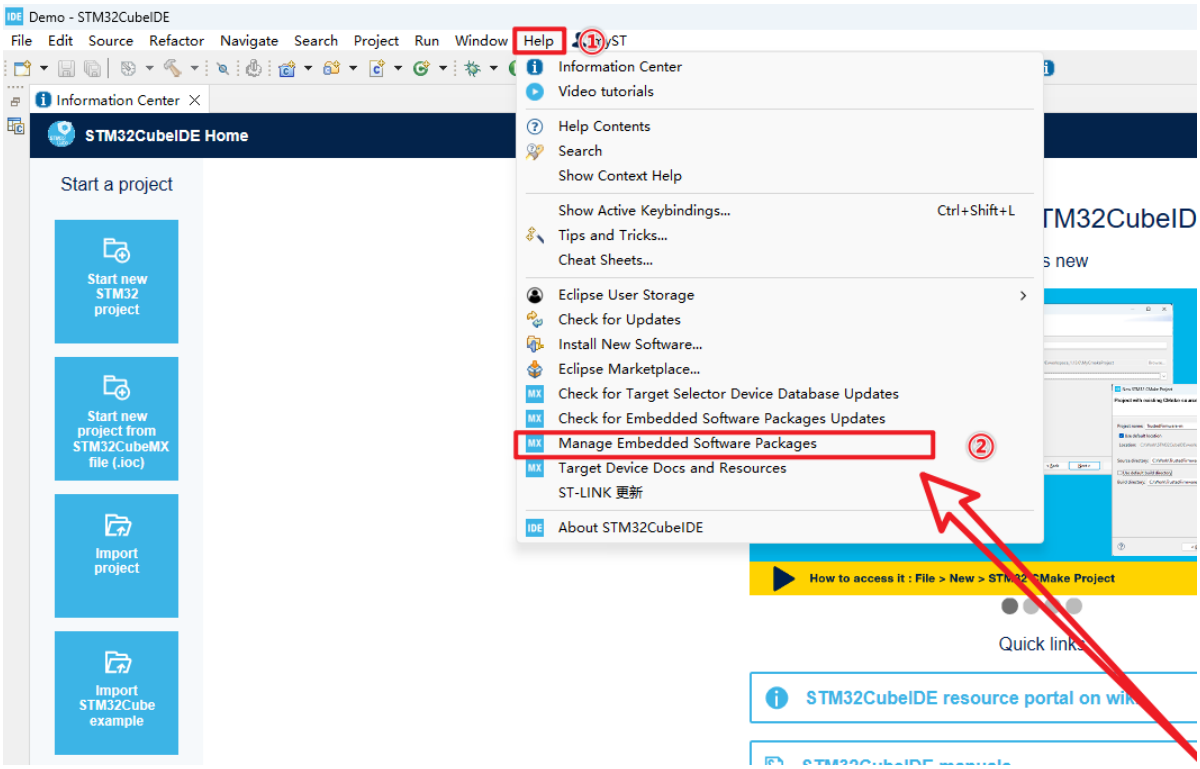
2. Register-Login account

The new version of STM32CubeIDE requires a registered account to log in before downloading the firmware package and using the software normally:

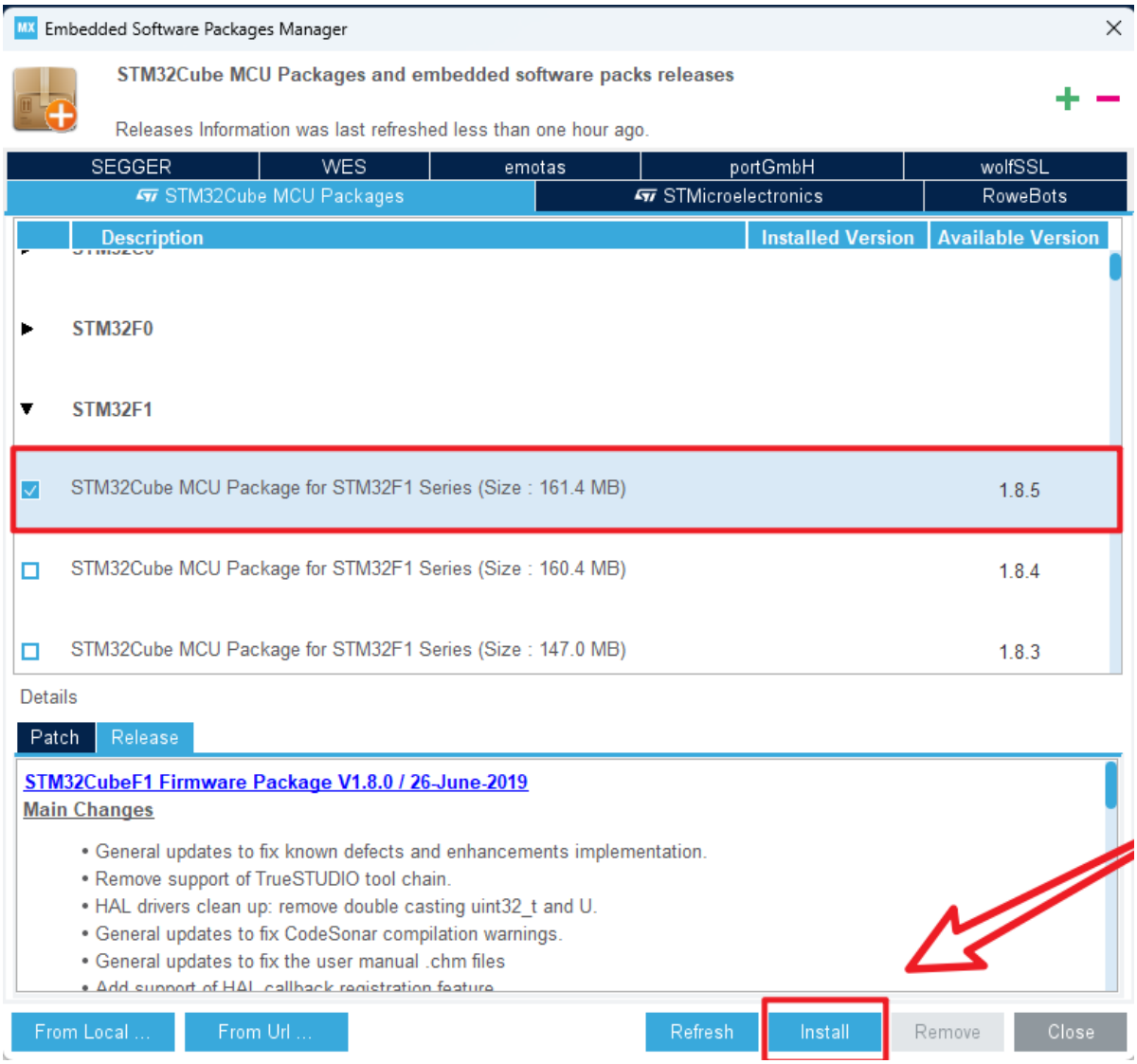


3. Install the firmware package

- **Help → Manage embedded software packages**

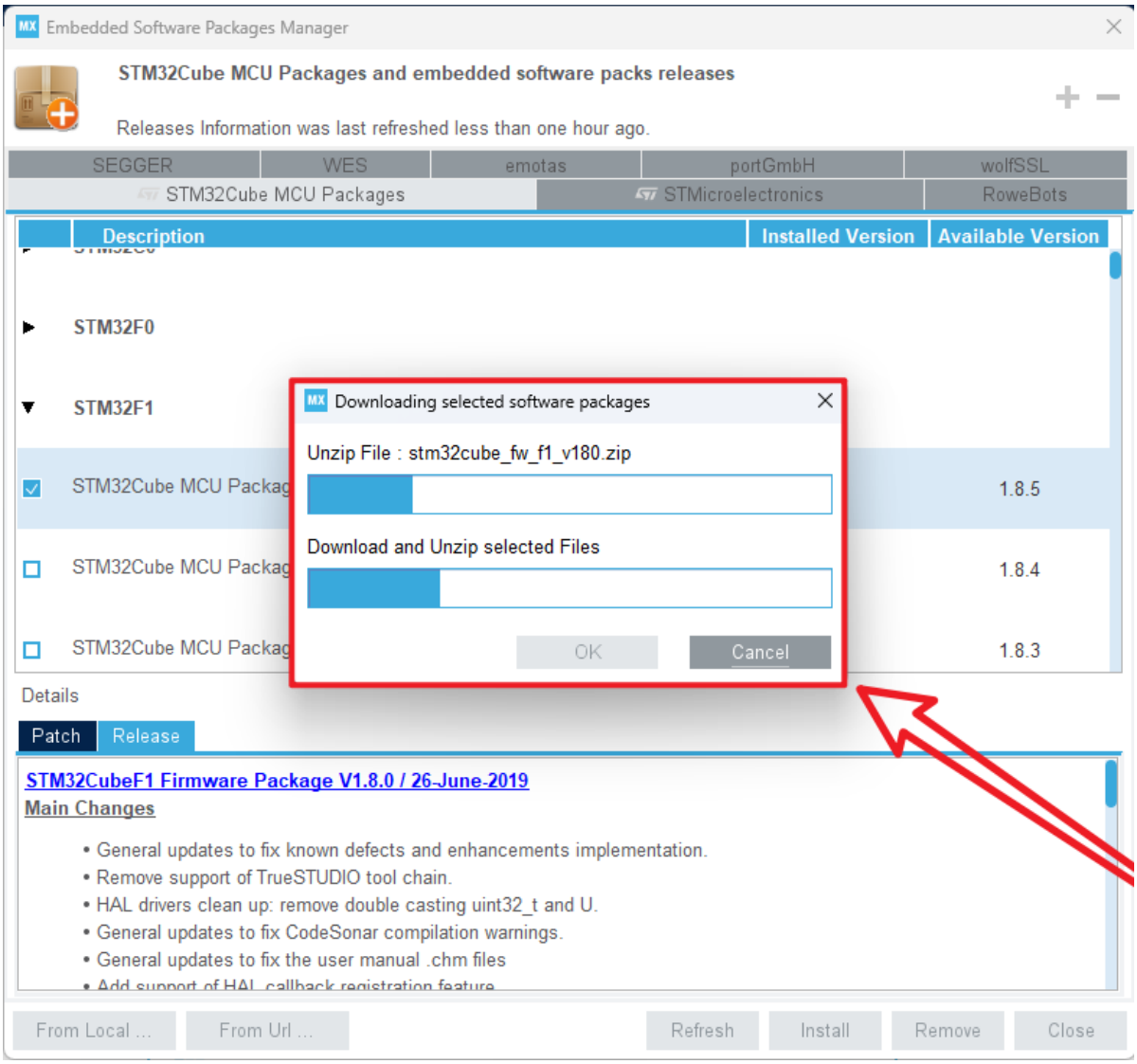


- **Install the latest firmware package of the STM32F1 series**

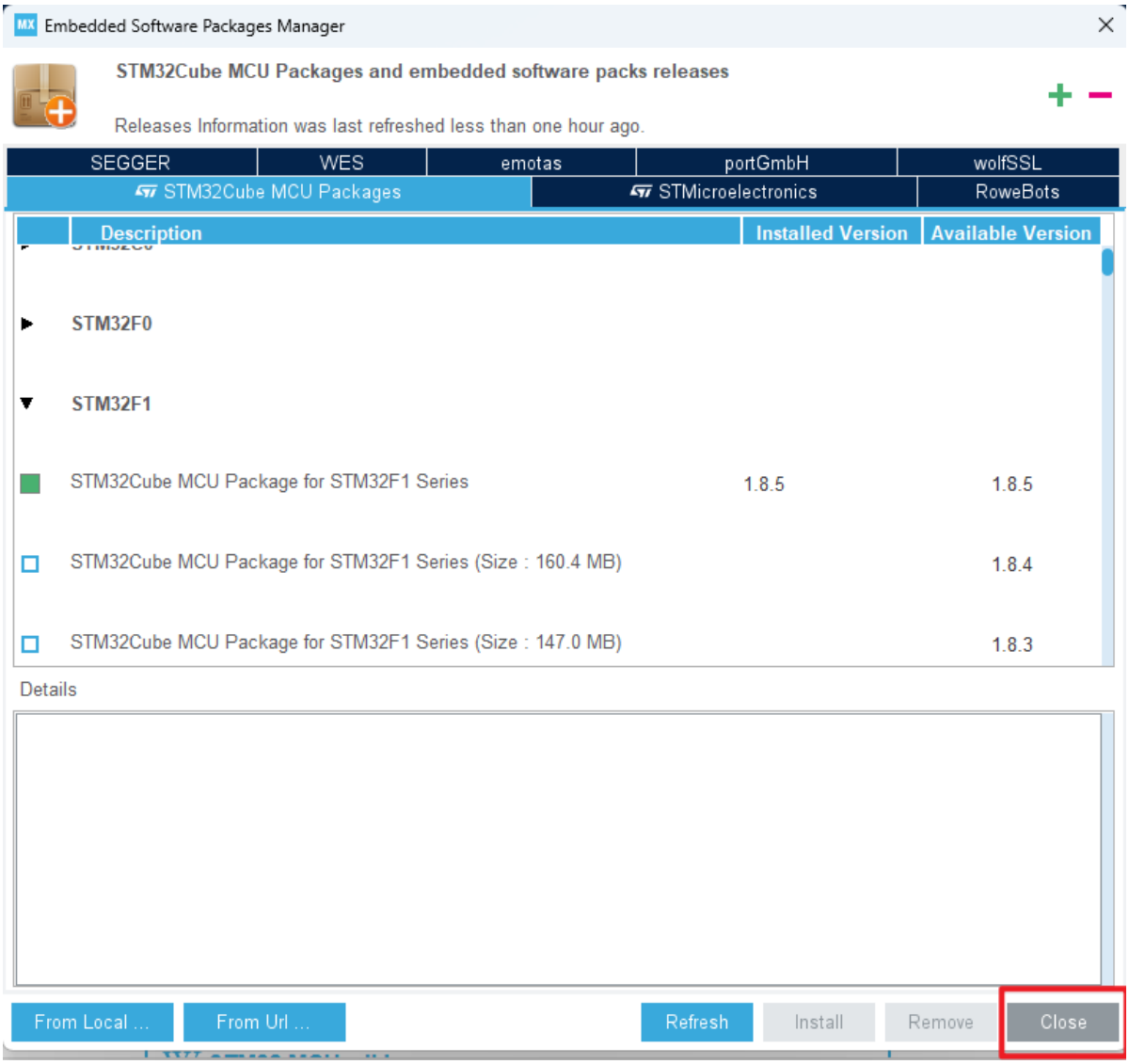



```
1. The chip firmware package cannot be installed without logging in
2. To install or uninstall, select the box in front of the chip firmware package.
Clicking this option will not have installation and uninstall options
```

- **Waiting for download**



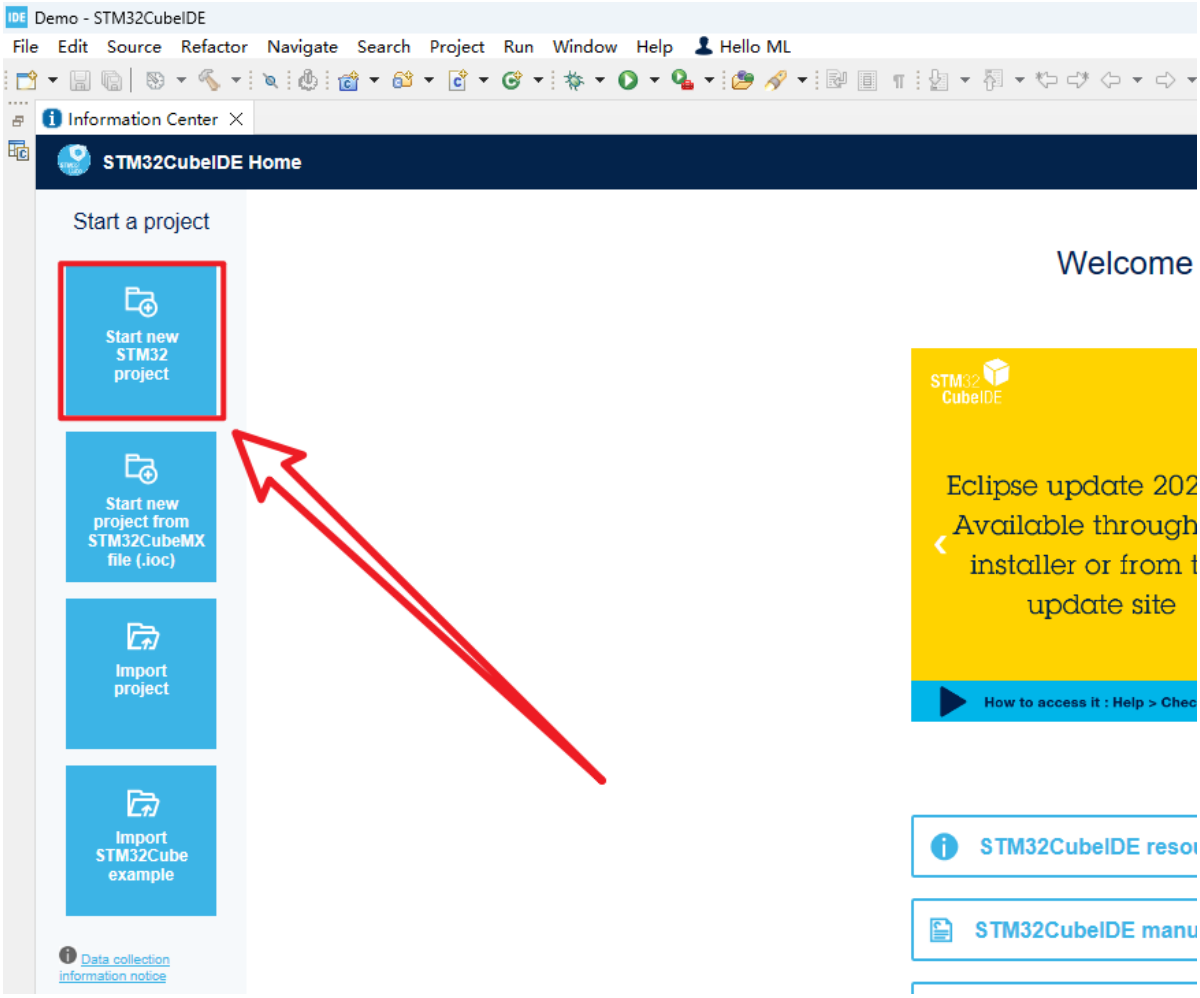
- **Close the interface**



4. Software Usage

STM32CubeIDE integrates the STM32CubeMX function, which can be used for pin configuration, as well as direct code writing and debugging.

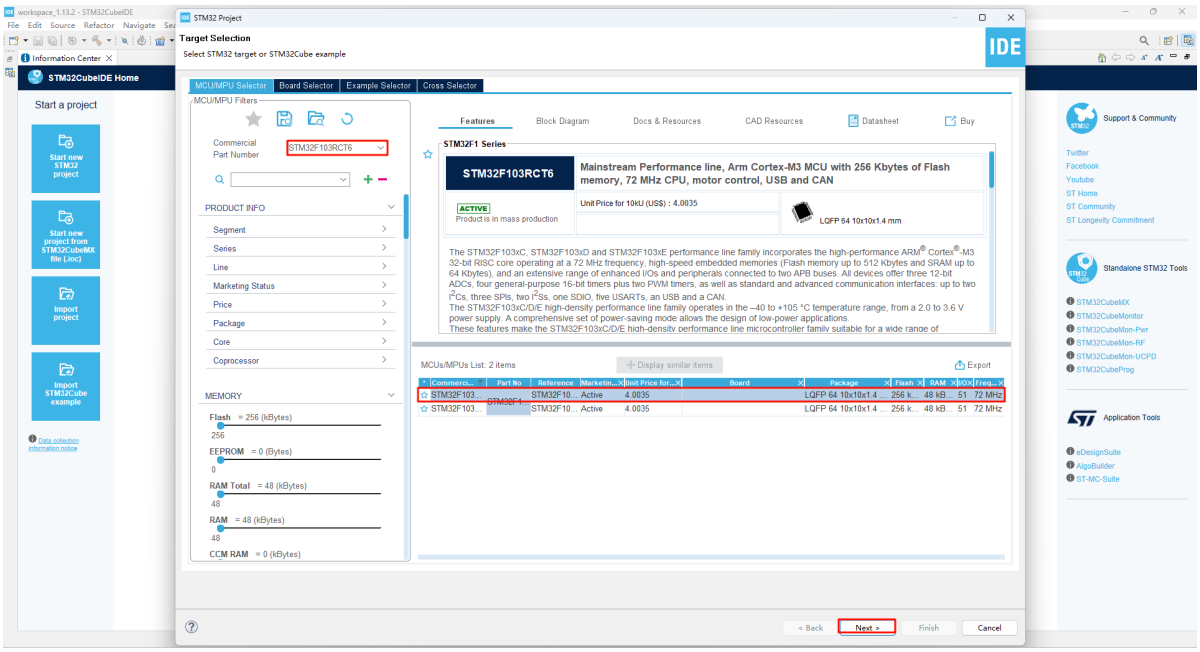
1. Create a new project



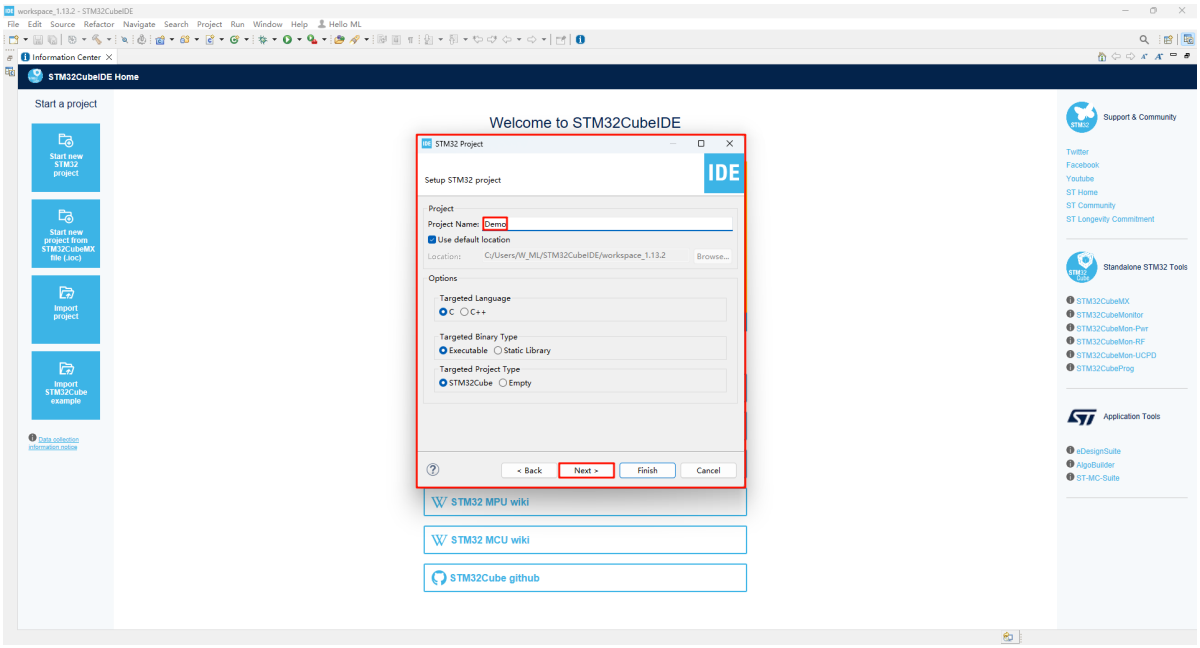
2. Chip selection

- **Chip selection and interface**

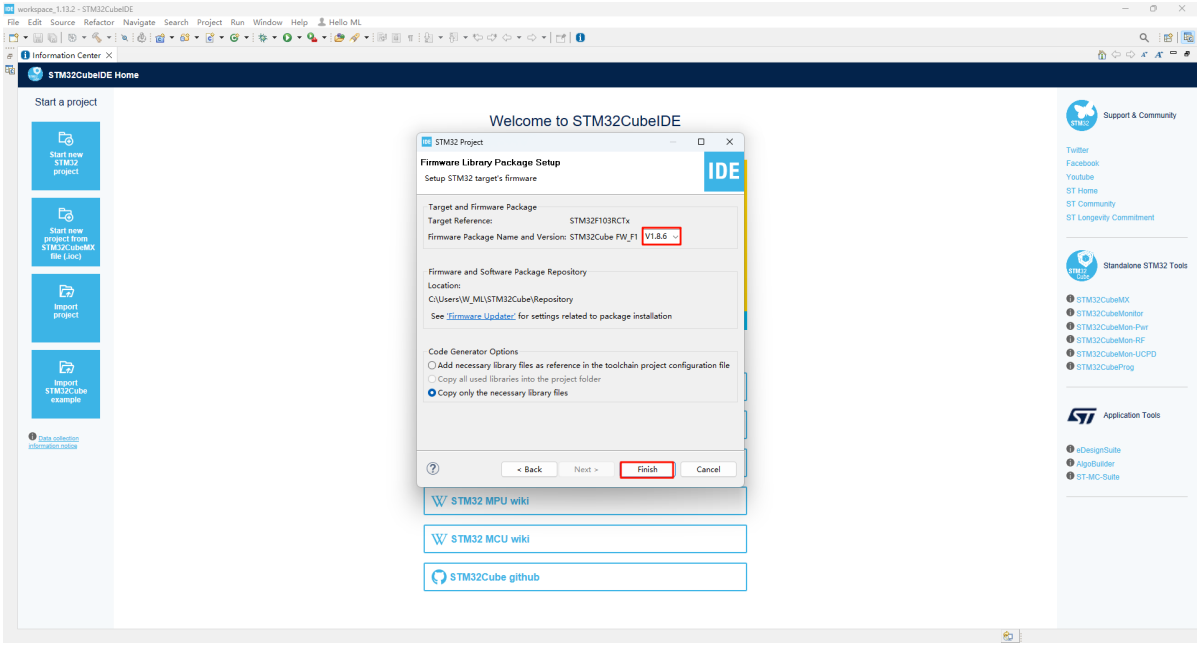
Search for `STM32F103RCT6`

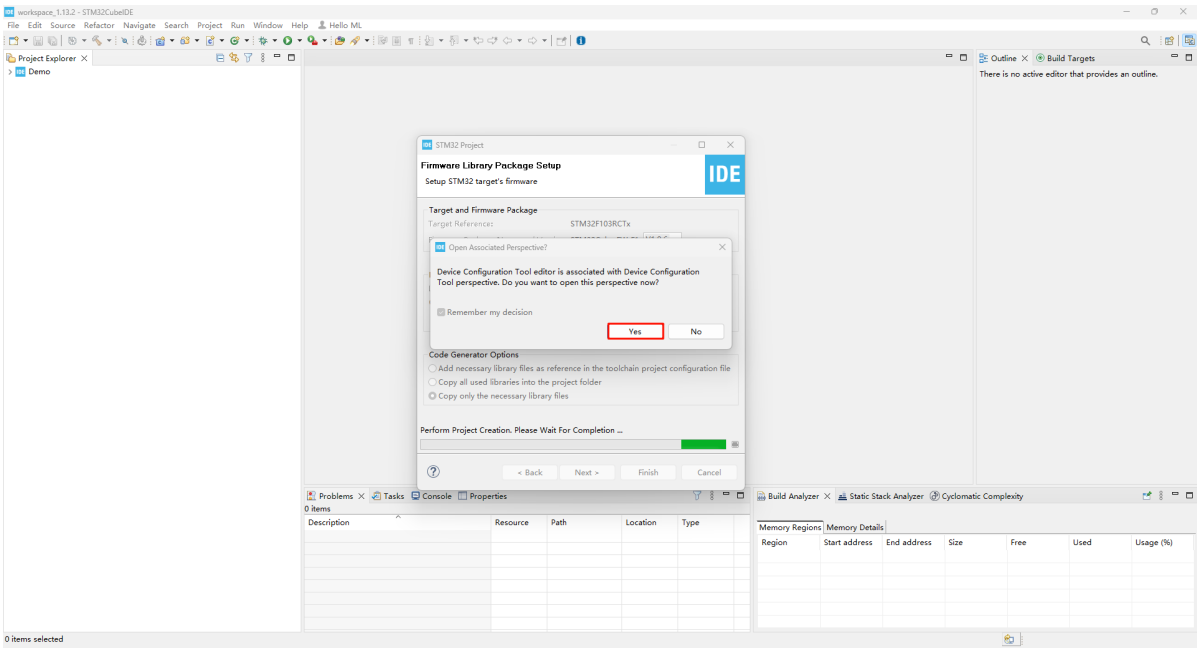


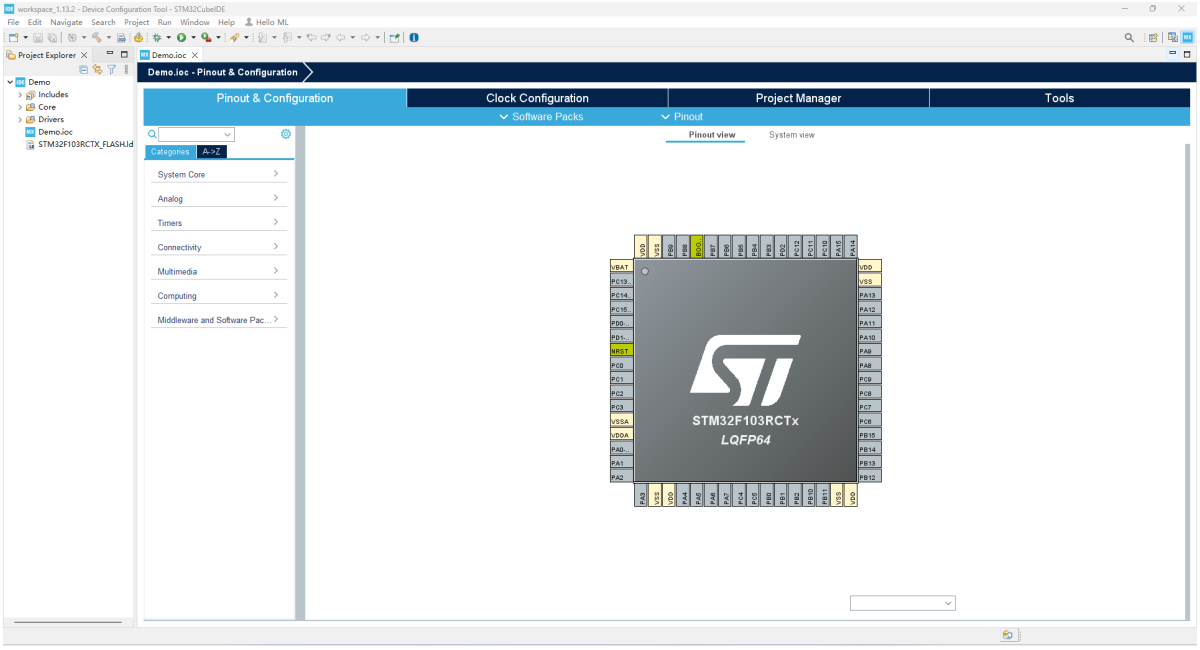
3. Project settings



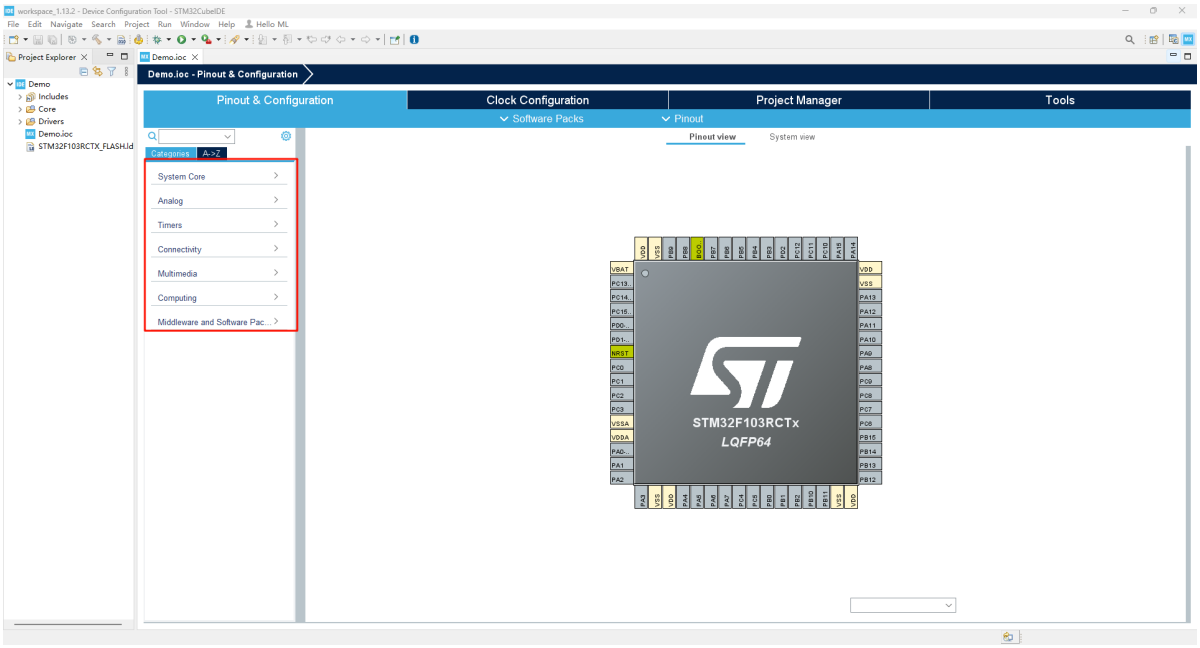
Default configuration is sufficient, and the project file name can be customized



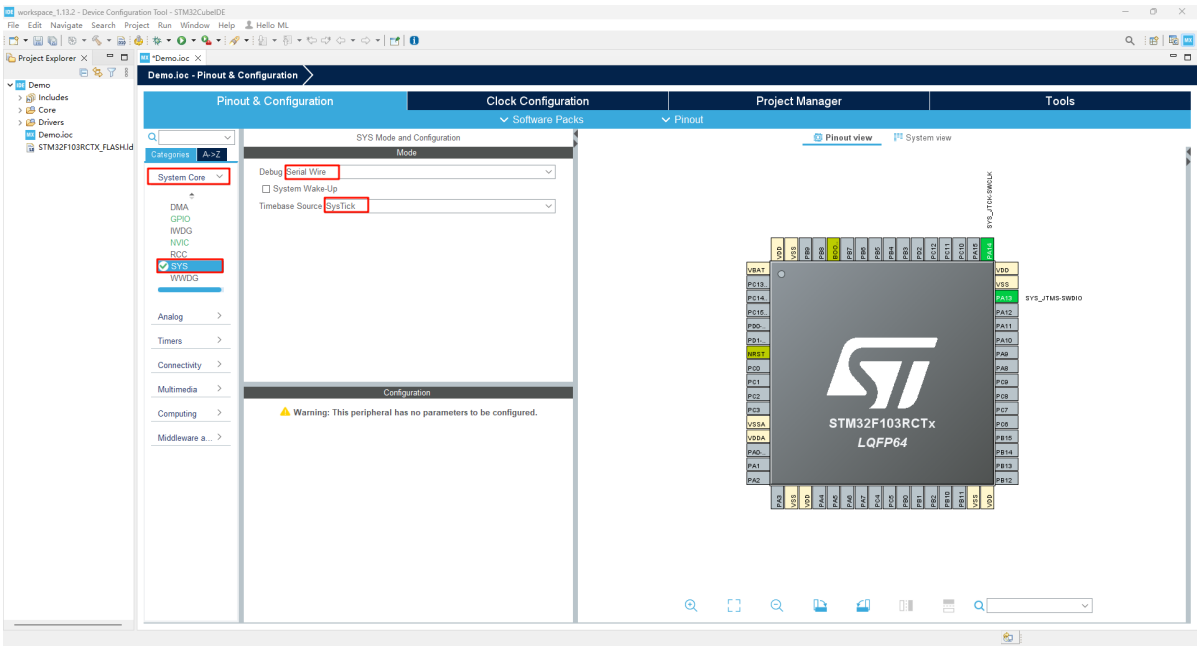

workspace_1.13.2 - STM32CubeIDE
File Edit Source Refactor Navigate Search Project Run Window Help Hello ML
Project Explorer
Demo
Outline
Build Targets
There is no active editor that provides an outline.
STM32 Project
Firmware Library Package Setup
Setup STM32 target's firmware
IDE
Target and Firmware Package
Target References:
STM32F103RCTx
Open Associated Perspective?
Device Configuration Tool editor is associated with Device Configuration Tool perspective. Do you want to open this perspective now?
Remember my decision
Yes
No
Code Generator Options
Add necessary library files as reference in the toolchain project configuration file
Copy all used libraries into the project folder
Copy only the necessary library files
Perform Project Creation. Please Wait For Completion ...
< Back
Next >
Finish
Cancel
Problems
Tasks
Console
Properties
0 items
Description
Resource
Path
Location
Type
Build Analyzer
Static Stack Analyzer
Cyclomatic Complexity
Memory Regions
Memory Details
Region
Start address
End address
Size
Free
Used
Usage (%)
0 items selected


workspace_1.13.2 - Device Configuration Tool - STM32CubeIDE
File Edit Navigate Search Project Run Window Help Hello ML
Project Explorer
Demo
Includes
Core
Drivers
Demo.ioc
STM32F103RCTX_FLASH.ld
Demo.ioc
Demo.ioc - Pinout & Configuration
Pinout & Configuration
Clock Configuration
Project Manager
Tools
Software Packs
Pinout
Pinout view
System view
Categories
A->Z
System Core
Analog
Timers
Connectivity
Multimedia
Computing
Middleware and Software Pac...
STM32F103RCTx
LQFP64

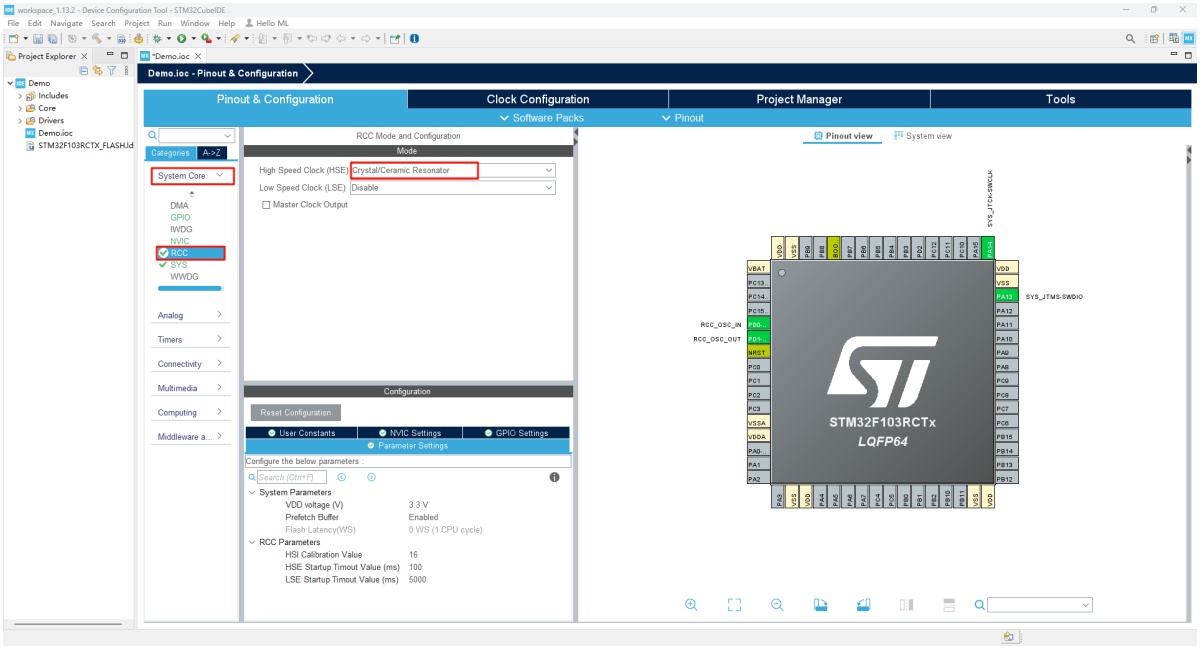
4. Pin layout and configuration



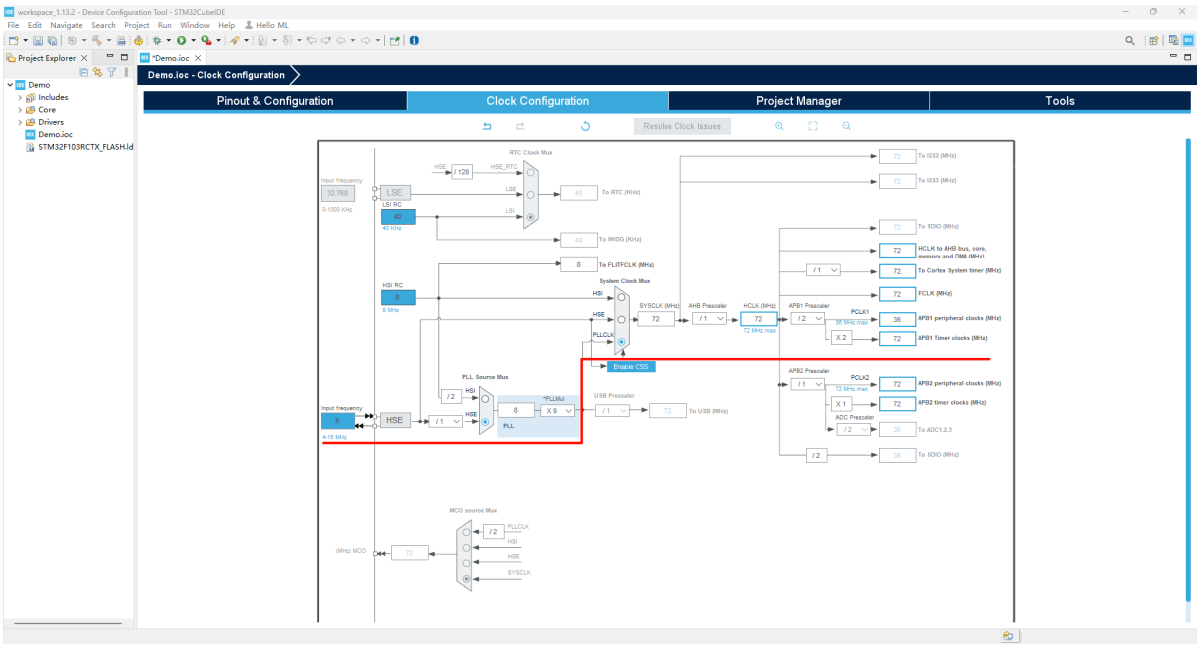
SYS



- RCC



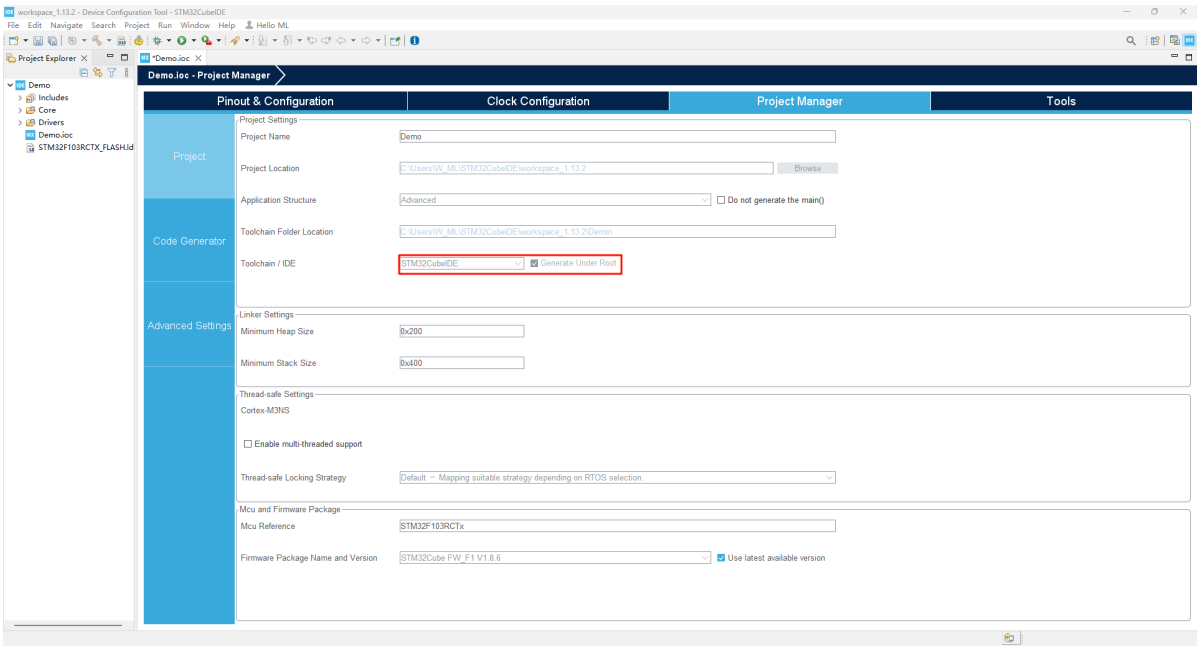
5. Clock configuration




```
Refer to the options involved in the red line
```

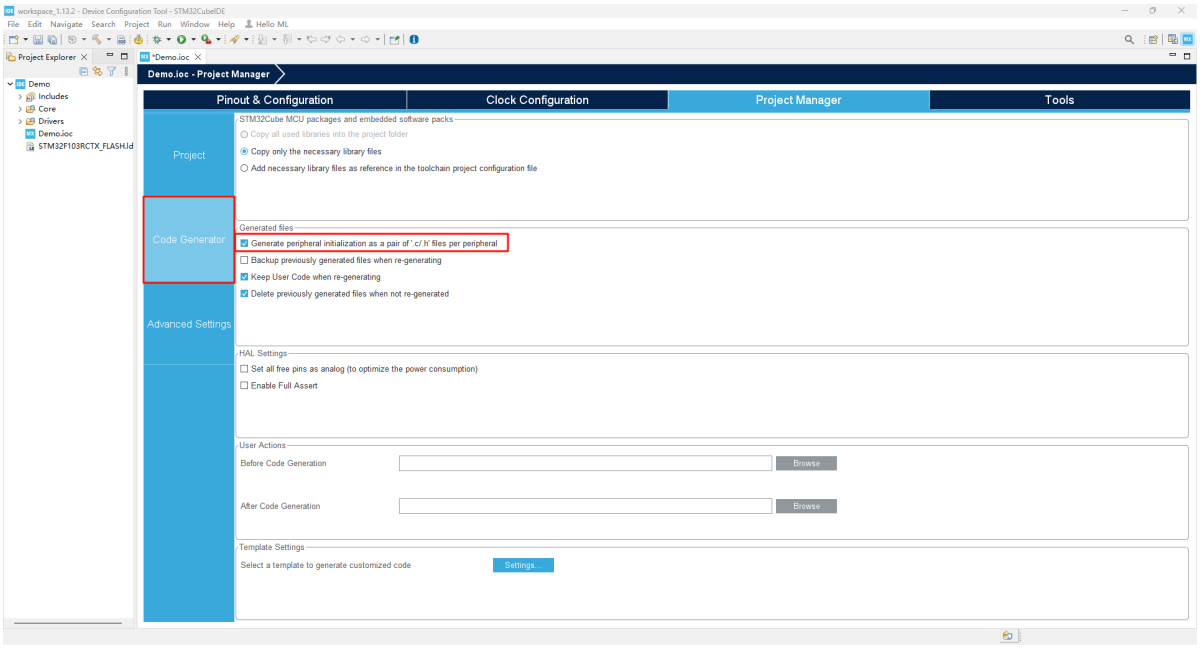
6. Project management

- **Project**: Project

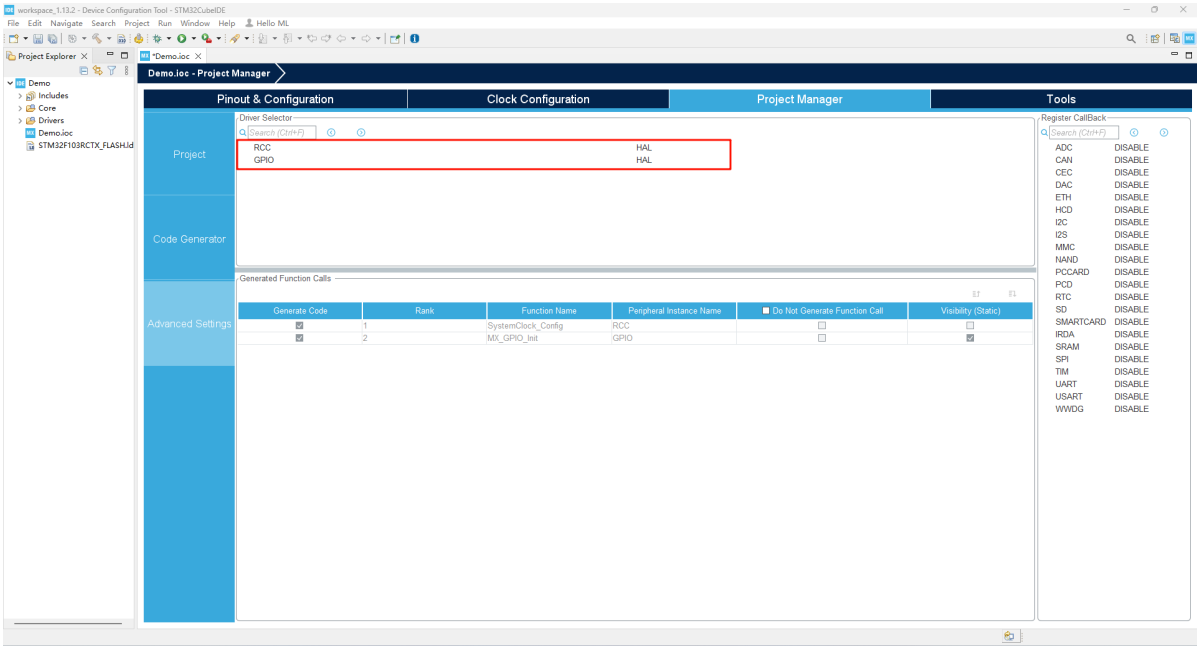



```
Using STM32CubeIDE, IDE projects cannot be exported (such as exporting MDK-ARM project files). If you need to export other IDE projects, switch to STM32CubeMX operation!
```

- **Code Generator**: Code Generation



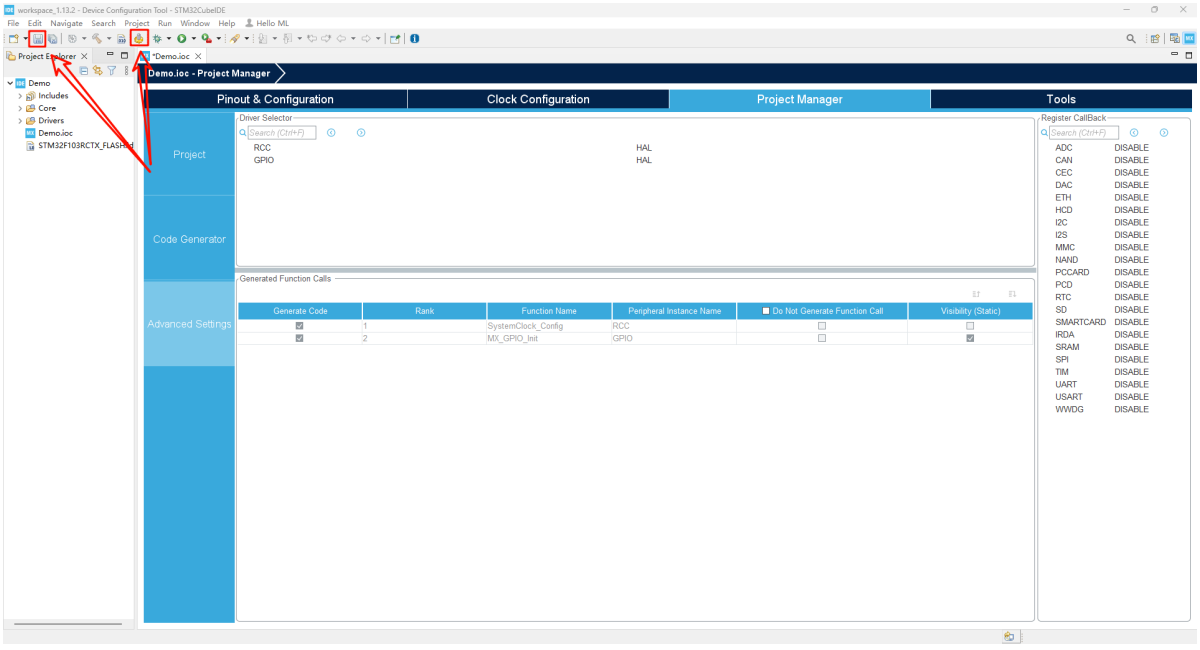
- **Advance Settings**: Advanced Settings



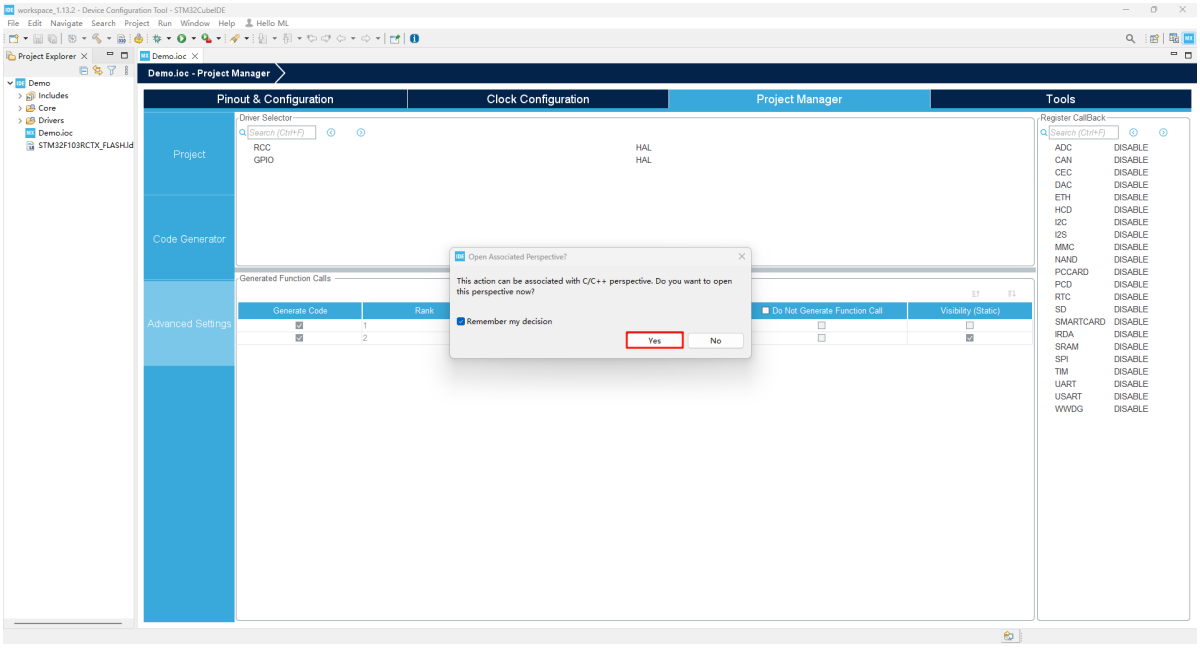
Select the library used for the initialization code: HAL library is demonstrated here

7. Generate initialization code

Click the code generation or save button to generate initialization code



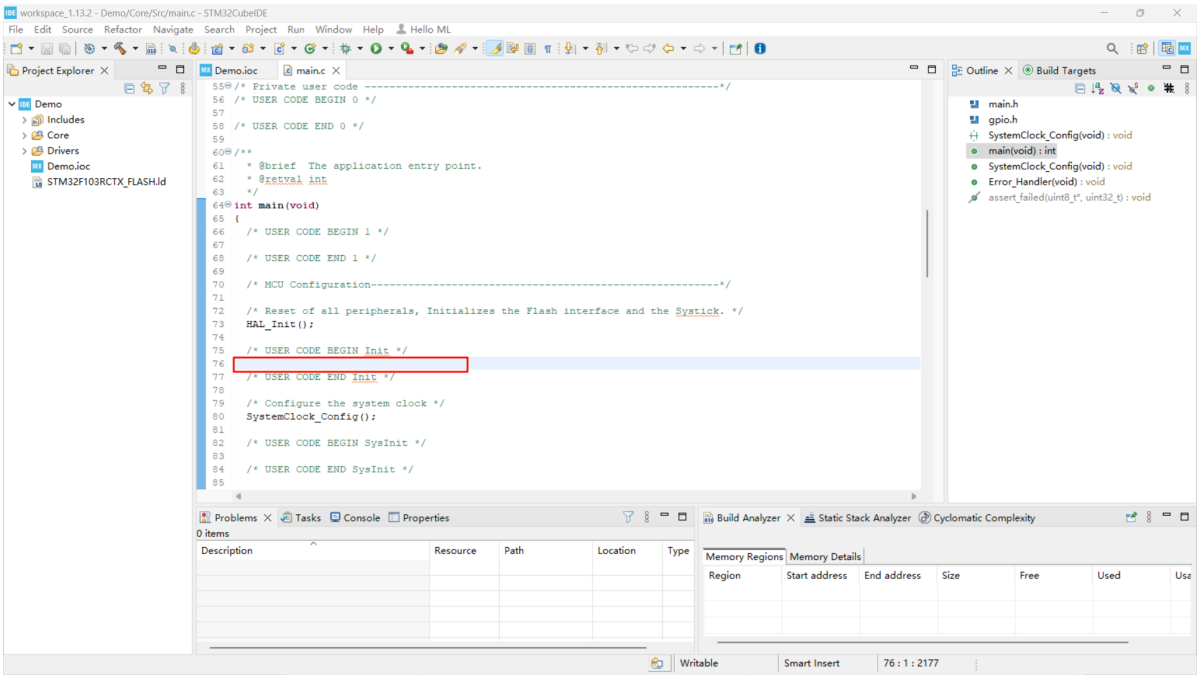
Using the Ctrl+S shortcut key to save will also generate initialization code



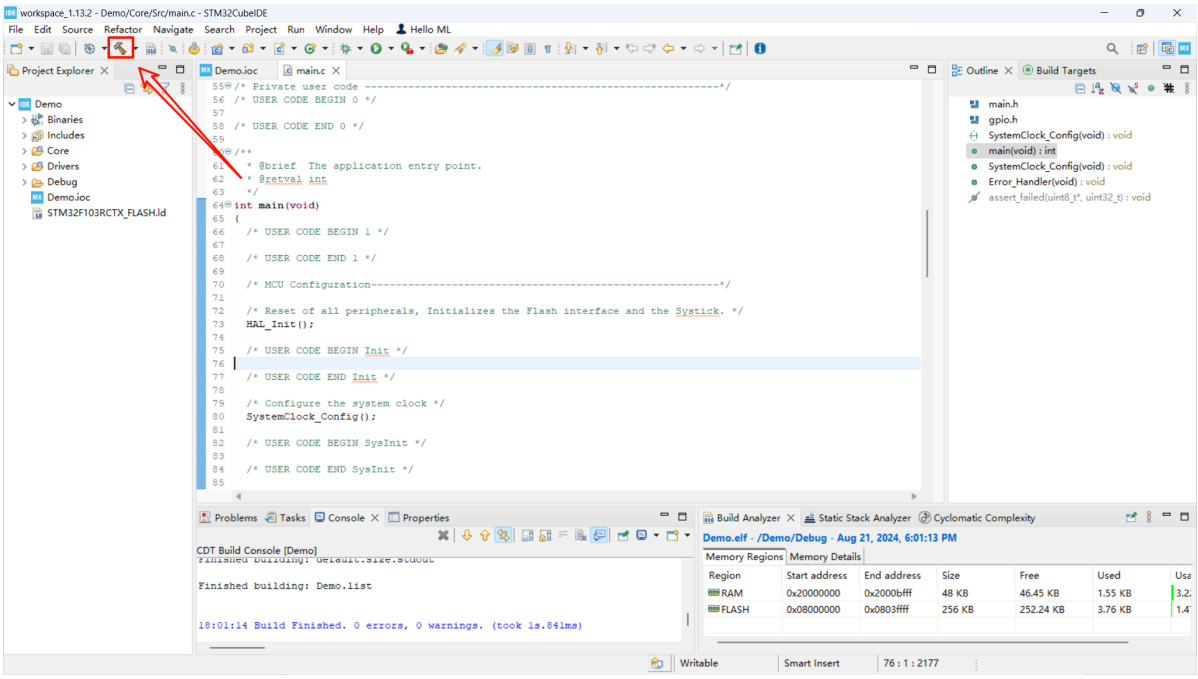
8. Write code

User code must be located between USER CODE BEGIN and USER CODE END, otherwise the next time you use the STM32CubeMX peripheral configuration function, the code outside this position will be deleted.

```
Other positions also need to be written in the area between *** BEGIN and *** END!
```

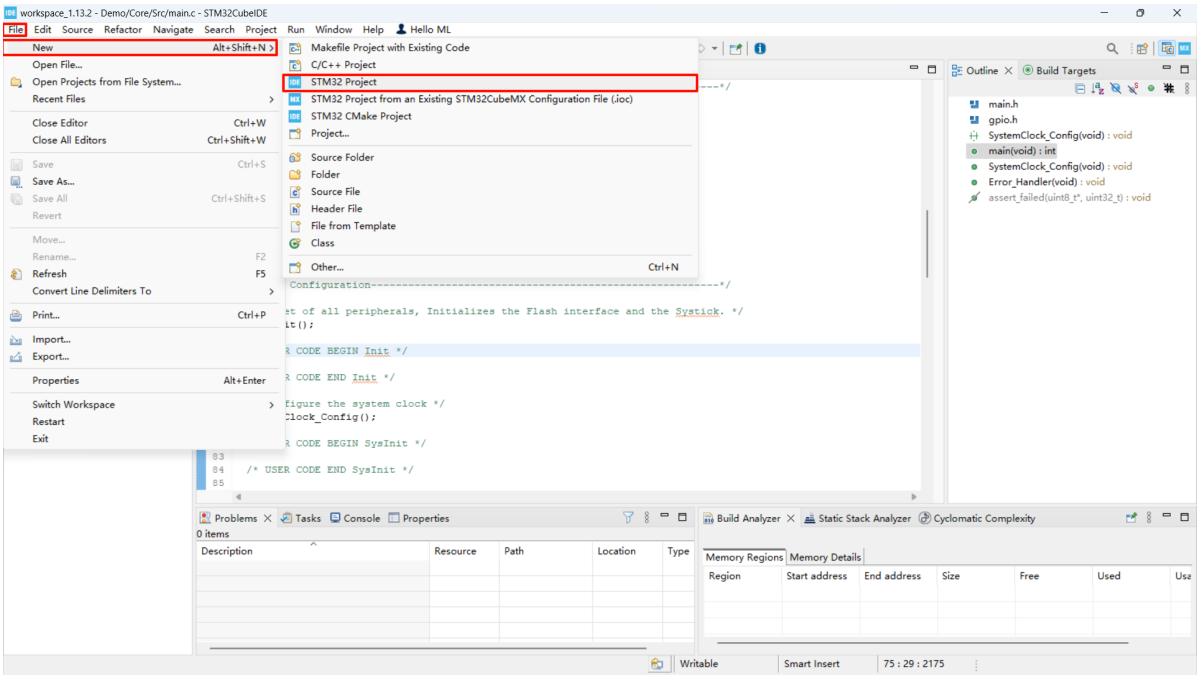


9. Compile code



10. Create a new project again

Demonstrates how to create a new project in a project file. This method is often used in actual development to create a new project

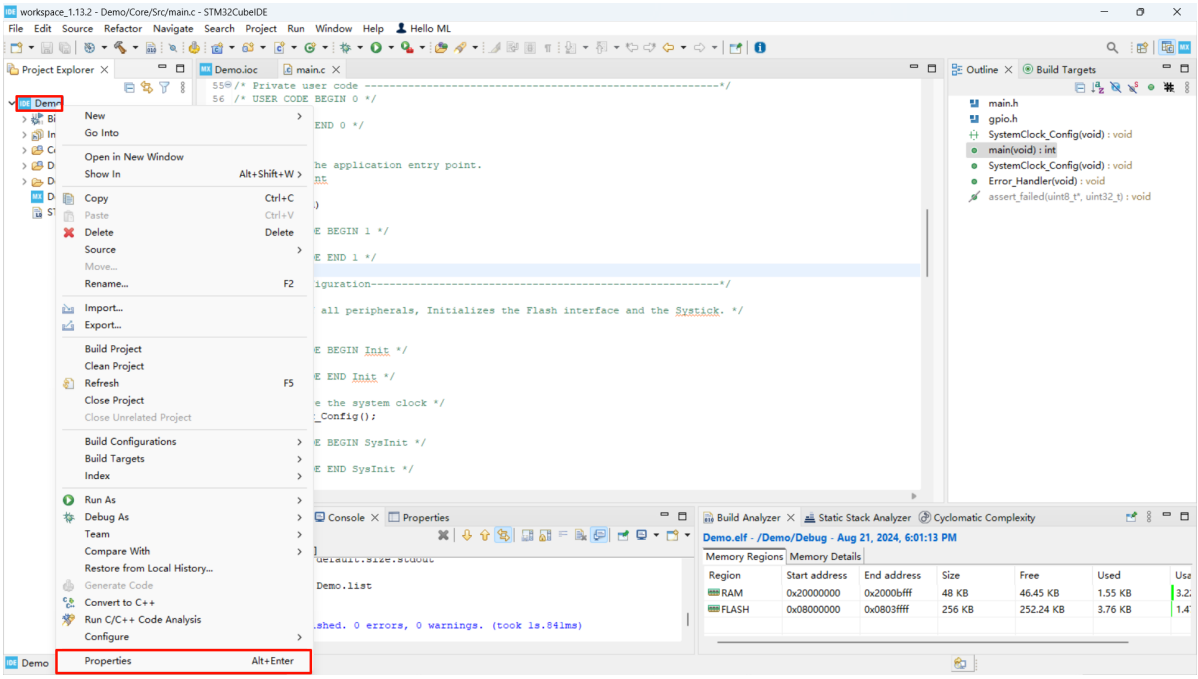
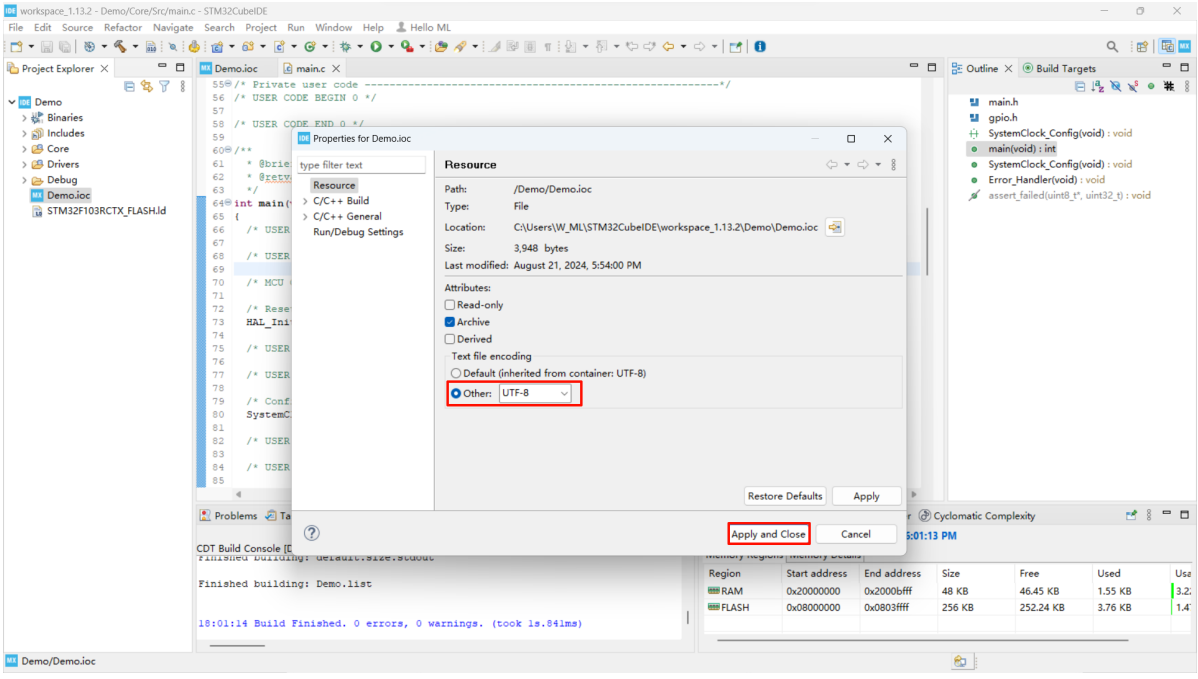


For the following operations, please refer to the previous steps.

```
The newly added project will be displayed in the workspace on the left
```

5. Common Problems

Encoding format problem

Tip: Project '***' has no explicit encoding set

Solution: Right-click the project name → Modify file encoding format → UTF-8