

STM32CubeMX installation

STM32CubeMX installation

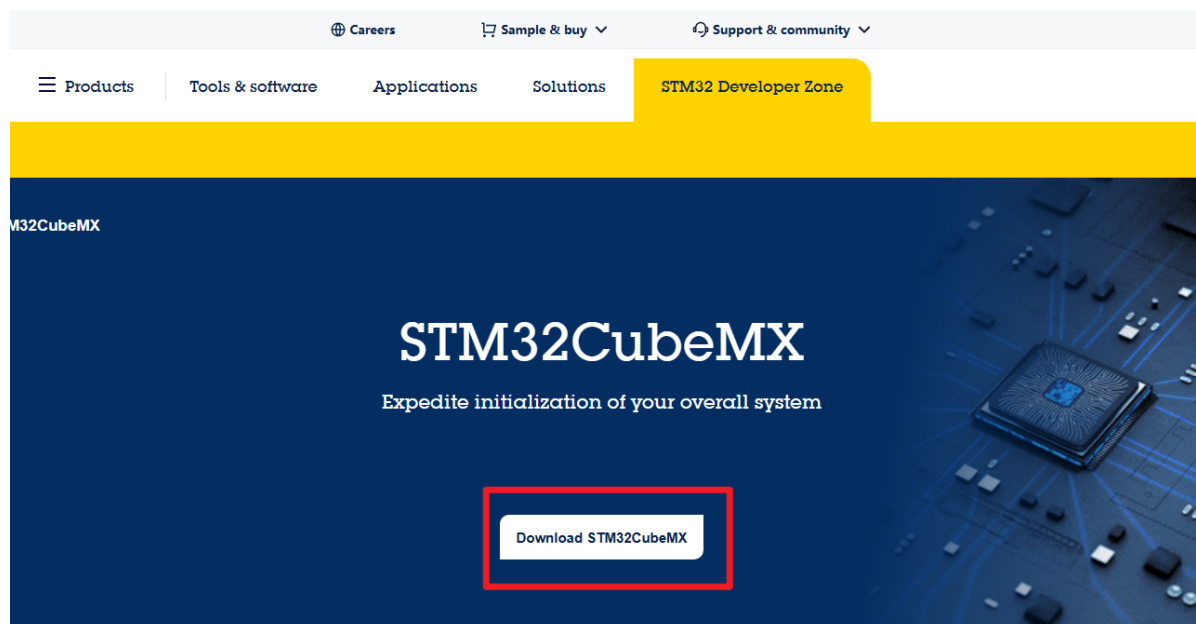
- 1、 Software download
 - 1.1、 Download URL
 - 1.2、 Choosing a platform
 - 1.3、 Filling in information
- 2、 Software Installation
 - 2.1、 Open the installer
 - 2.2、 Installation Process - Setup
- 3、 Software configuration
 - 3.1、 Open the application
 - 3.2、 Sign-up - Login to your account
 - 3.3、 Installing the firmware package
- 4、 Software Usage
 - 4.1、 Chip selection
 - 4.2、 Pin layout and configuration
 - 4.3、 Clock configuration
 - 4.4、 Project management
 - 4.5、 Generative engineering
- 5、 Project folder
 - 5.1、 Demo
 - 5.2、 Writing the code

1、 Software download

The development tool used for the tutorial is the **STM32CubeIDE** software, STM32CubeMX is integrated in the STM32CubeIDE software, so learning STM32CubeMX is beneficial to understand the STM32CubeIDE graphical configuration interface.

1.1、 Download URL

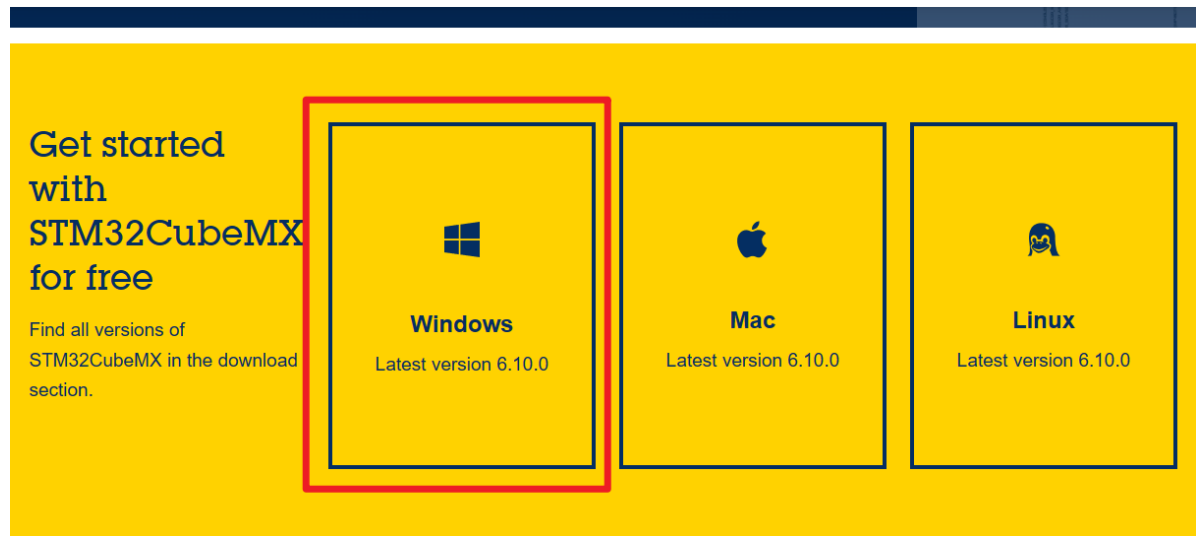
ST Official website: https://www.st.com/content/st_com/en/stm32cubemx.html



1.2、 Choosing a platform

- **platform:** Windows

[Overview](#) [Key benefits](#) [Key features](#) [Downloads](#) [Getting started video](#)




1.3、 Filling in information

- **Agree to the agreement**

TO THE FULLEST EXTENT PERMITTED BY LAW. IN NO EVENT SHALL STMICROELECTRONICS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE PACKAGE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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 [SAVE AS PDF](#)

 Additional License Terms for STM32CubeMX 6.10.0

DECLINE

Accept

- **Filling in information**



Get Software

If you have an account on my.st.com, login and download the software without any further validation steps.

Login/Register

If you don't want to login now, you can download the software by simply providing your name and e-mail address in the form below and validating it.

This allows us to stay in contact and inform you about updates of this software.

For subsequent downloads this step will not be required for most of our software.

First Name:

ML

Last Name:

W

E-mail address:

702@qq.com

Please enter a valid e-mail address.

Please review our [Privacy Statement](#) that describes how we process your profile information and how to assert your personal data protection rights



Please keep me informed about future updates for this software or new software in the same category

Download

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

- Complete submission



Your registration has been successfully submitted!

To validate your e-mail and start the download, please click on the link inside the e-mail that has been sent to you.

This link will be valid for **24 hours**.

Please check your spam filters in case you did not receive the e-mail.

ok

- Email to download the installer

Start your software download

Hi ML

Please click on this button to validate your email address and start the download of STM32CubeMX-Win

Download now

If you have any further issues, please send your request to our [online support](#) using the subject line: Software download issues.

Thank you,

STMicroelectronics
www.st.com

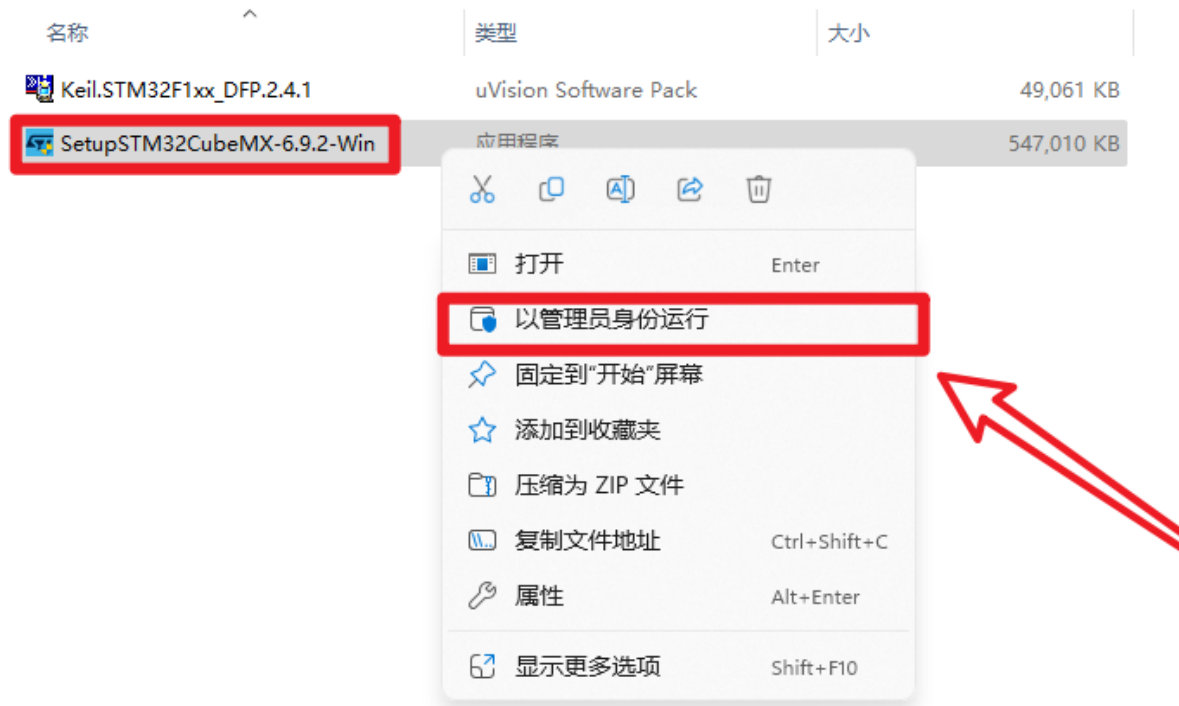
Click on the link to go to the official website, the website will automatically jump out of the software compressed package download window

2、 Software Installation

2.1、 Open the installer

- **Administrator**

Open the installation package as an administrator



534 MB

If you open the software installation package, then you see "NSIS ERROR: error launching installer" error:

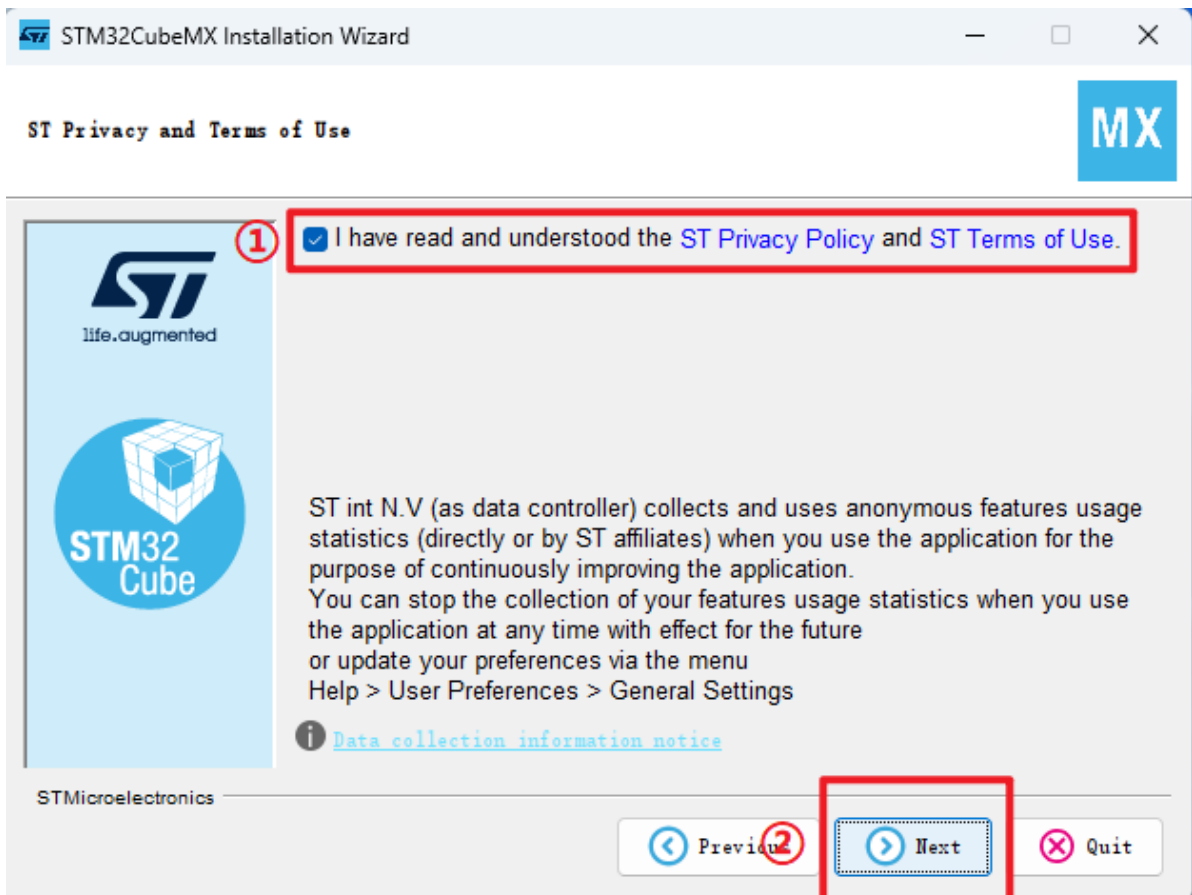
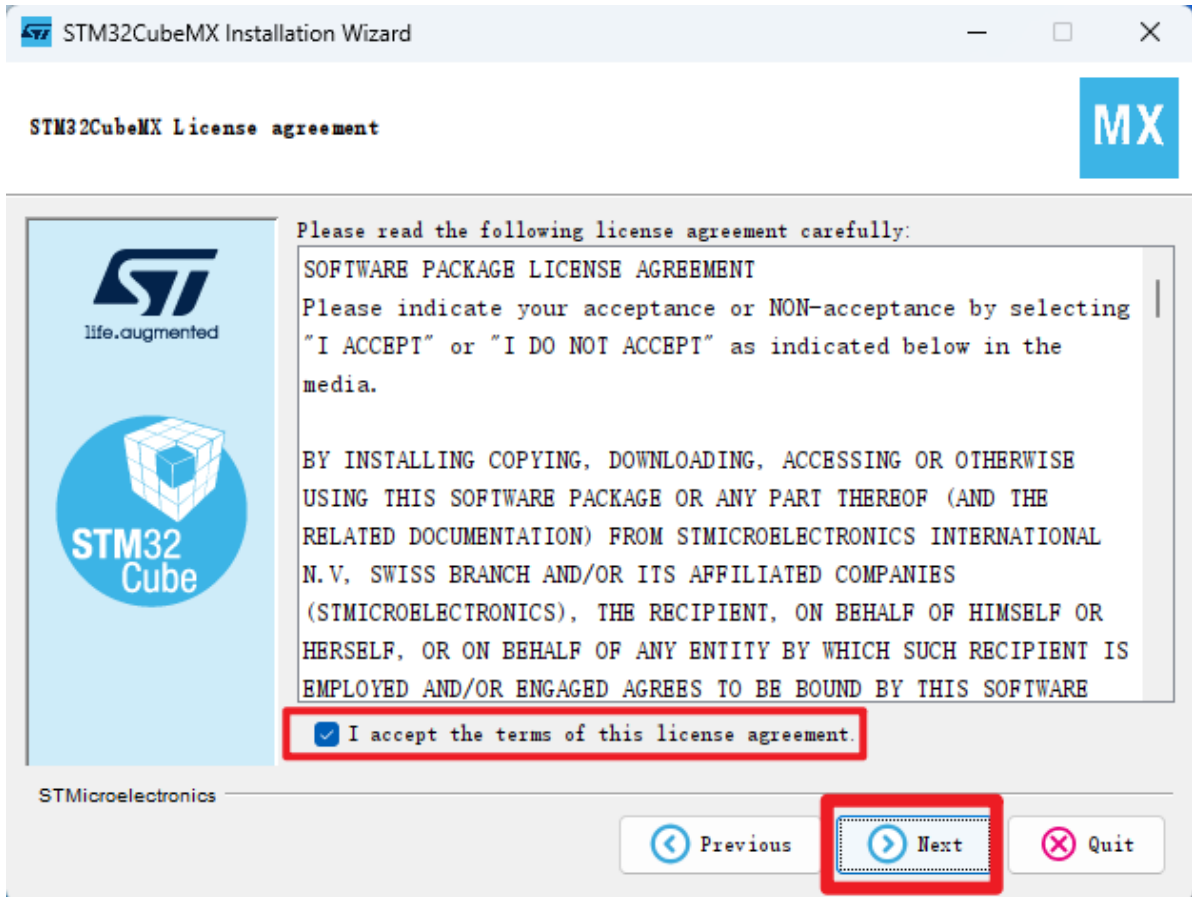
Please put the package in the path without Chinese characters

2.2、Installation Process - Setup

- Next

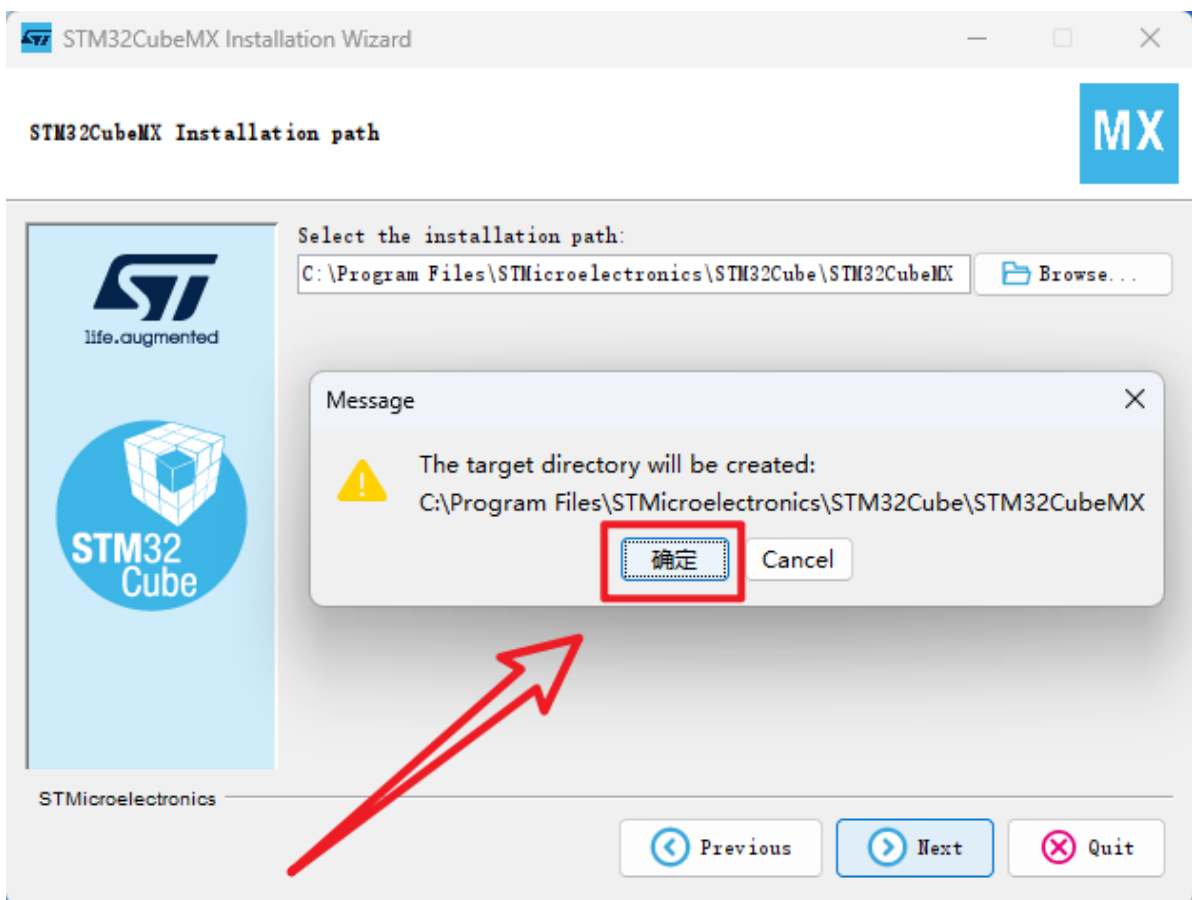
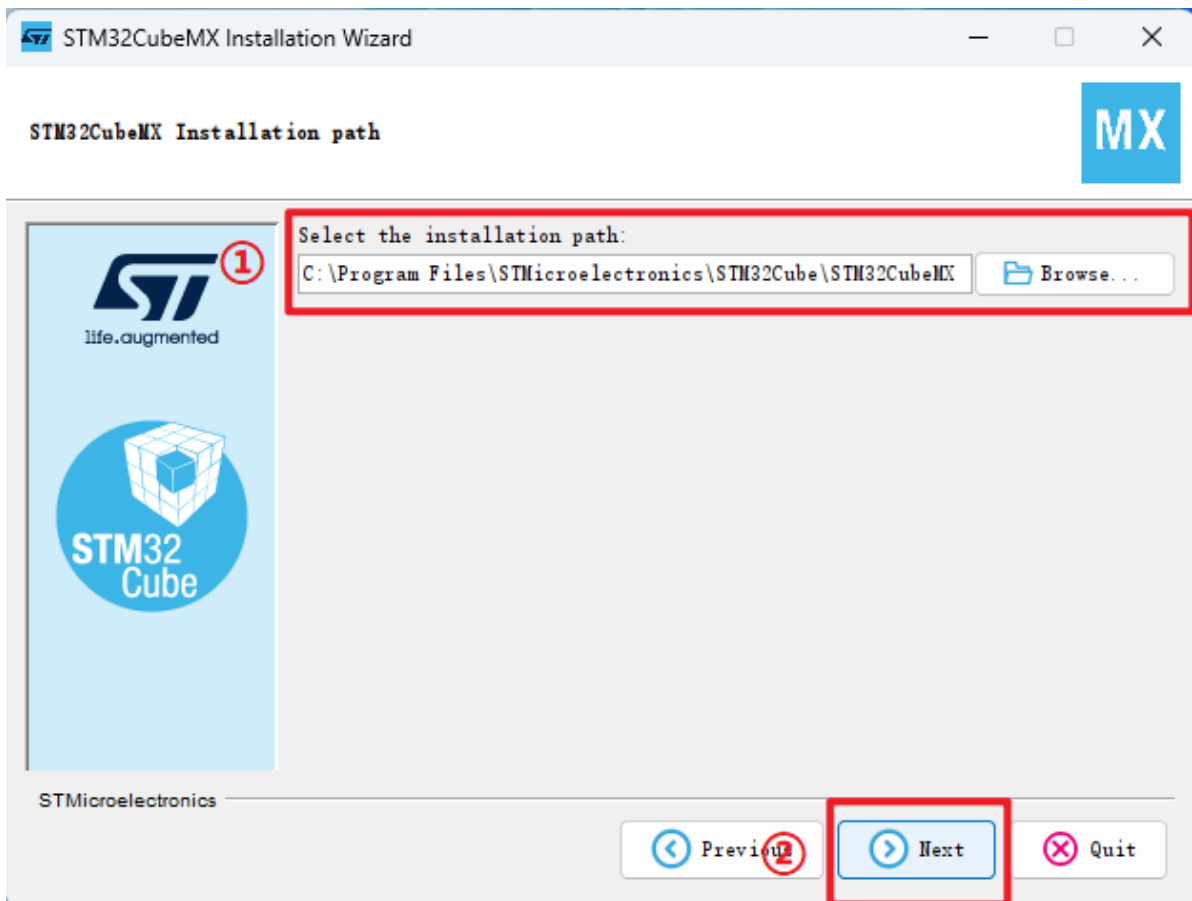


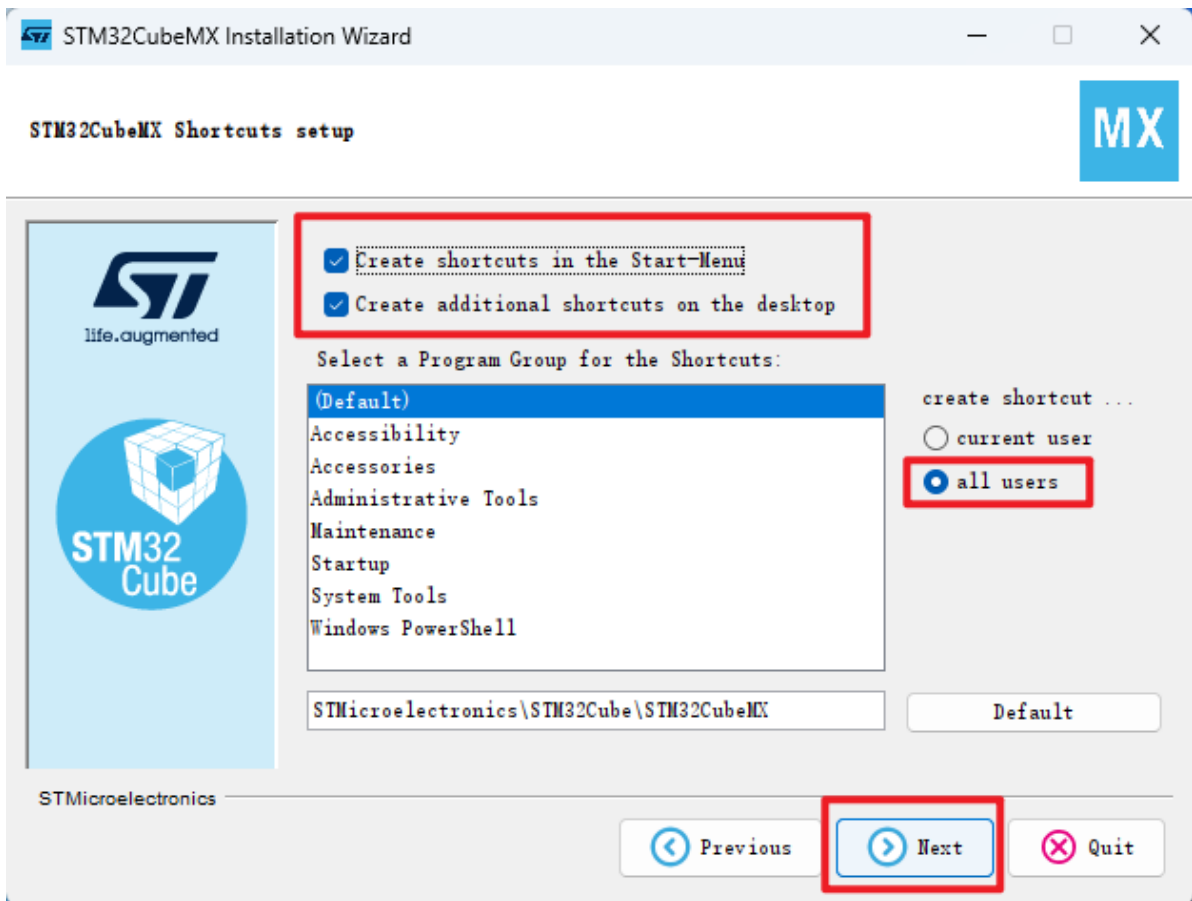
- Check the Agreement and Privacy Policy→ Next



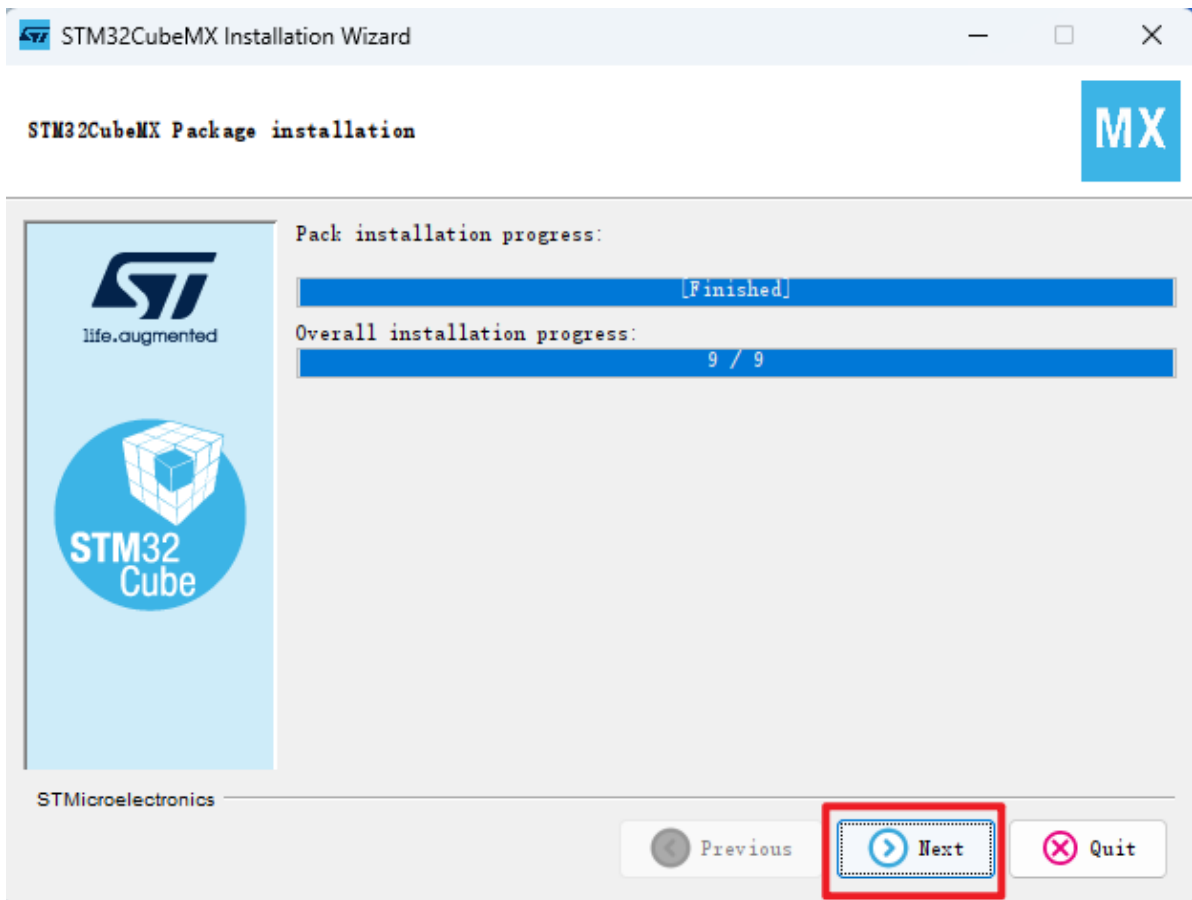
- Location of installation → Next

The following are recommended to use the default installation location of the software and the path does not contain Chinese characters

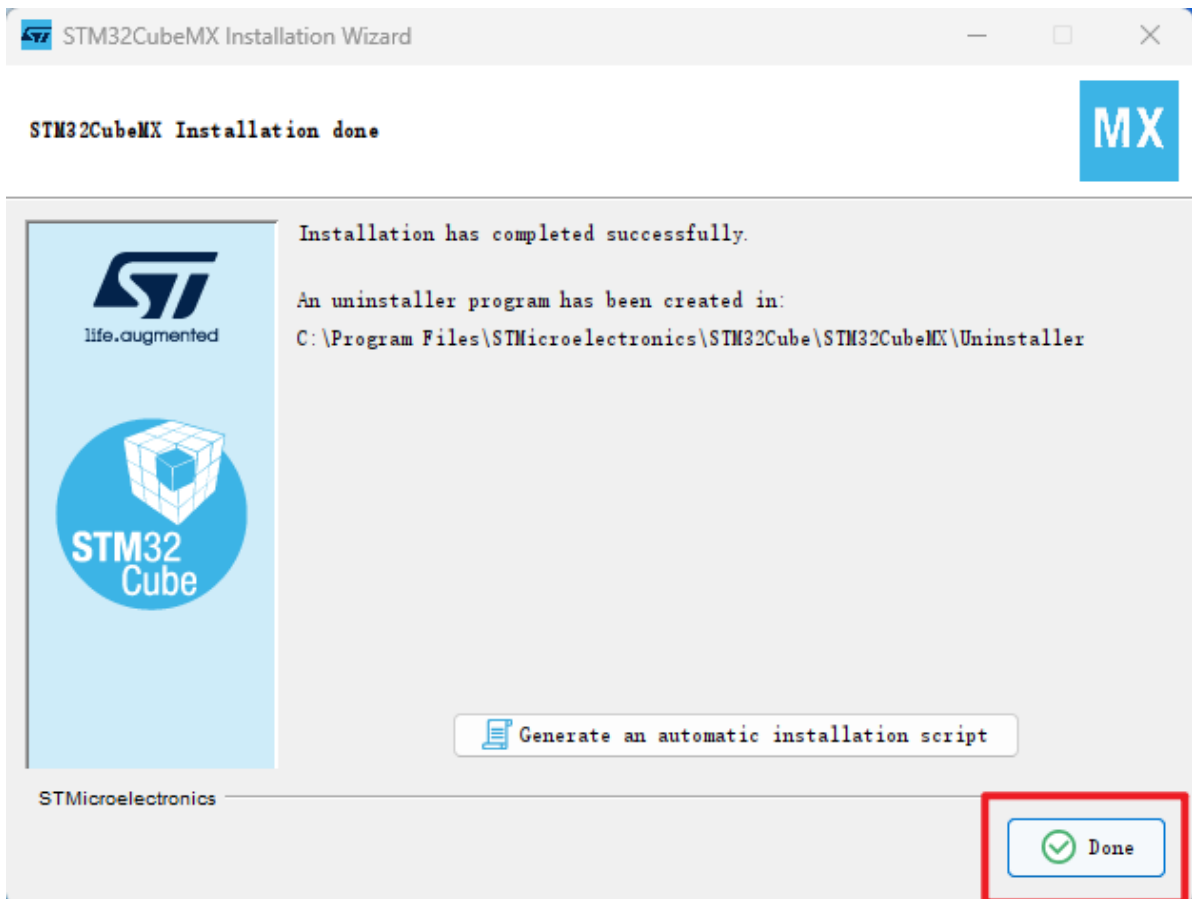




- Waiting for installation → Next



- Installation Completed



3、 Software configuration

Familiar with software options and functions.

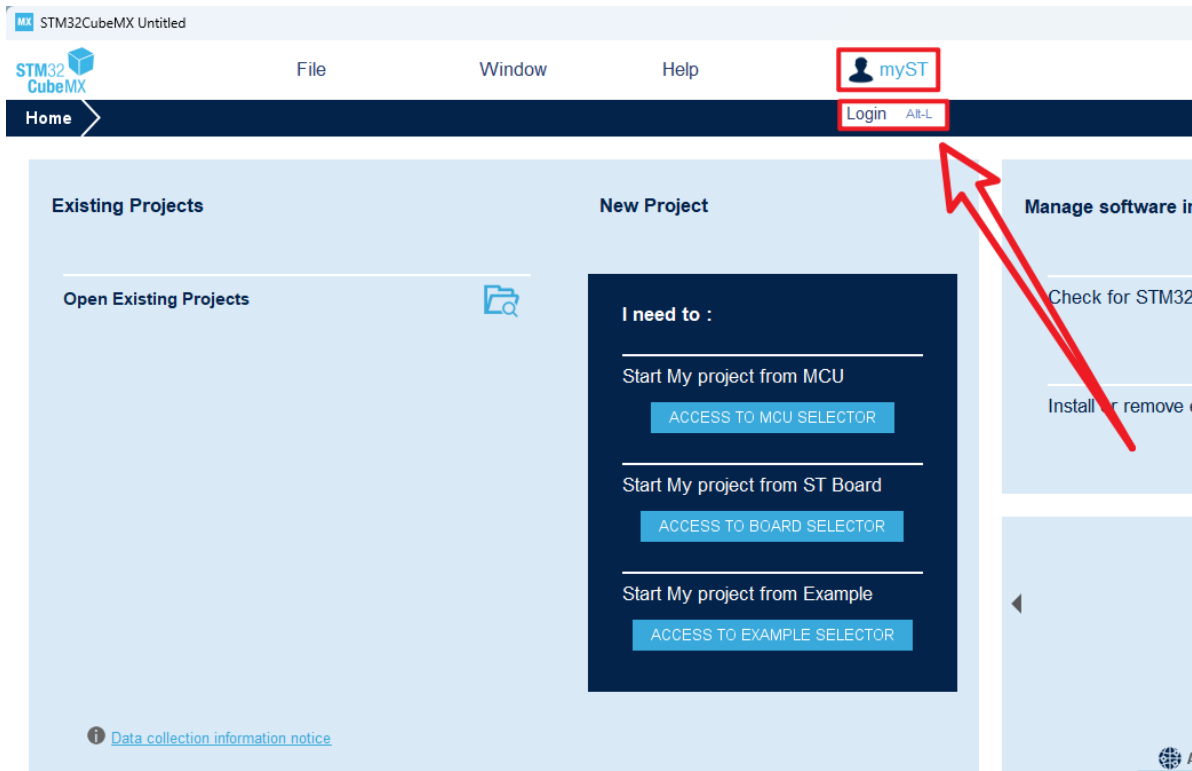
3.1、 Open the application

- **Click on Left mouse button:** Double click the desktop "STM32CubeMX" app

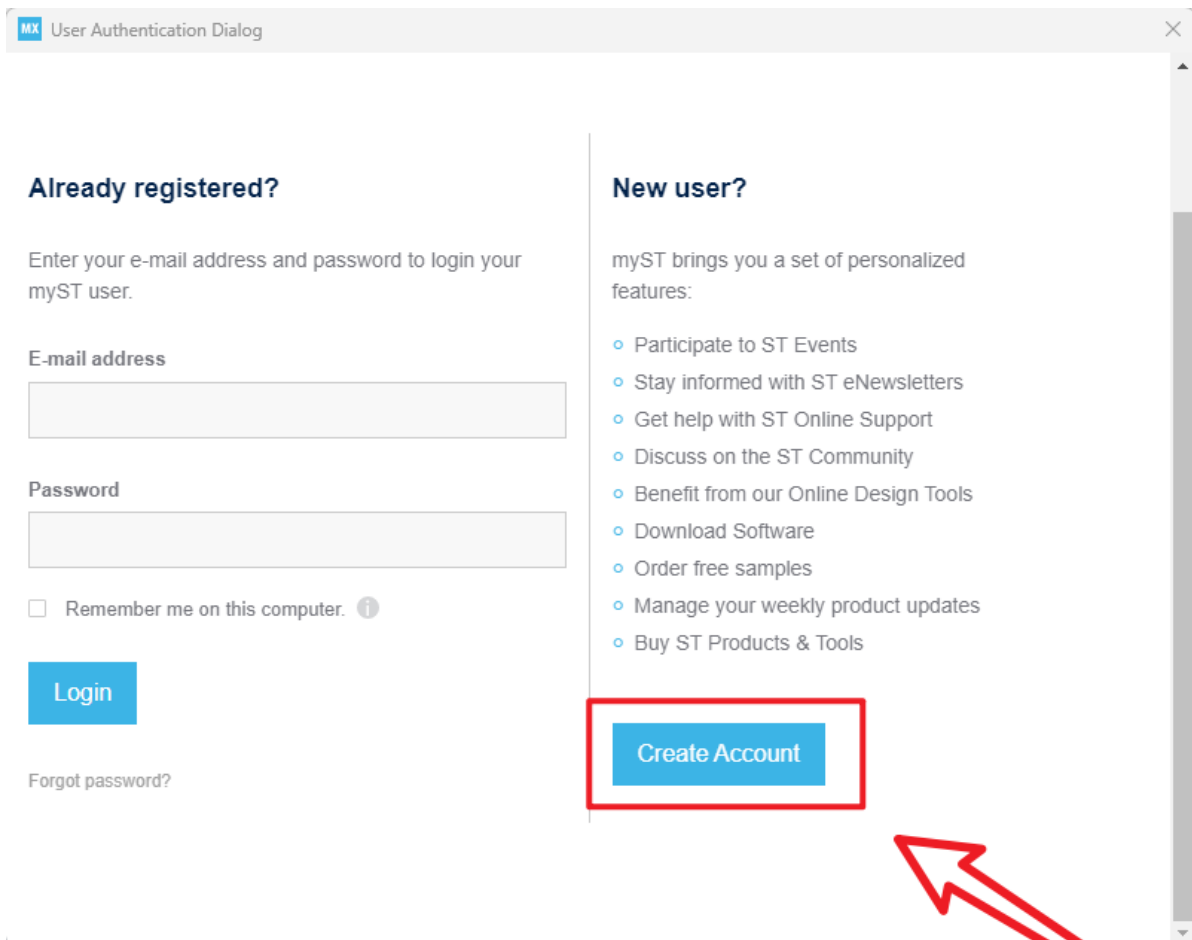


3.2、Sign-up - Login to your account

Unable to download firmware package without login account.



- Create an account



- Fill in the information and submit it

MX

User Authentication Dialog

×

Email Confirmation*:

@qq.com

Function*:

Education or Training

Company/University*:

Yahboom

Industry*:

Sensing

Country/Region*:

China

State/Province:

Guangdong

Zip/Postcode*:

511518

Phone Number:

11223344

Please review our [Privacy Statement](#) that describes how we process your profile information and how to assert your personal data protection rights

☒ I accept the [Terms of Use](#) *

Register

Feedback

Email information Fill in accurate information

Thank you

An email to set, or reset, your password has been sent to [REDACTED]25@QQ.COM.

Please note that it may take up to 15 minutes to receive it.

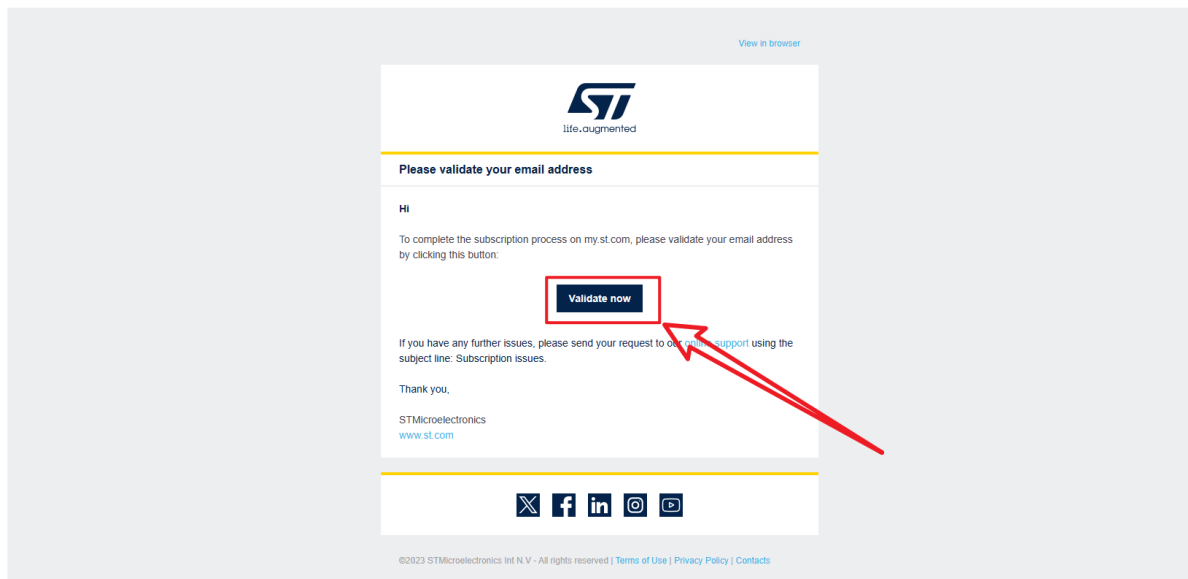
To activate your account and set the password, please follow the link inside the email.

In case you do not receive the email, please use the Feedback button on the right hand side of this page to send an inquiry.

Close

Feedback




- **Verify email**



- **Set a password and submit**

该网站提供您所使用的语言版本 简体中文 本地站点 日本語 中文 English

Careers Sample & Buy Support & Community

ST  Products Tools & Software Applications Solutions STM32 Developer Zone About Us  

Complete your registration

Password*:

Password confirmation*:

Please note that password cannot contain your email or full name (even parts of it).

Moreover, it must:

- ☒ Be at least 12 characters in length
- ☒ Not contain spaces

Contain characters from at least three out of the following four categories:

- ☒ English uppercase characters (A-Z)
- ☒ English lowercase characters (a-z)
- ☒ 0-9 digits
- ☒ Use only one or more of these allowed special characters -!@#\$%^&*~+~{}[]~"~'~<~>~/

On the right is the password format requirement. Sometimes if the submission is unsuccessful, wait a few minutes or re-enter this page.

• Login account

On the right is the password format requirements, sometimes if the submission is not successful, wait a few minutes or re-enter this page


MX User Authentication Dialog

Already registered?

Enter your e-mail address and password to login your myST user.

E-mail address

Password

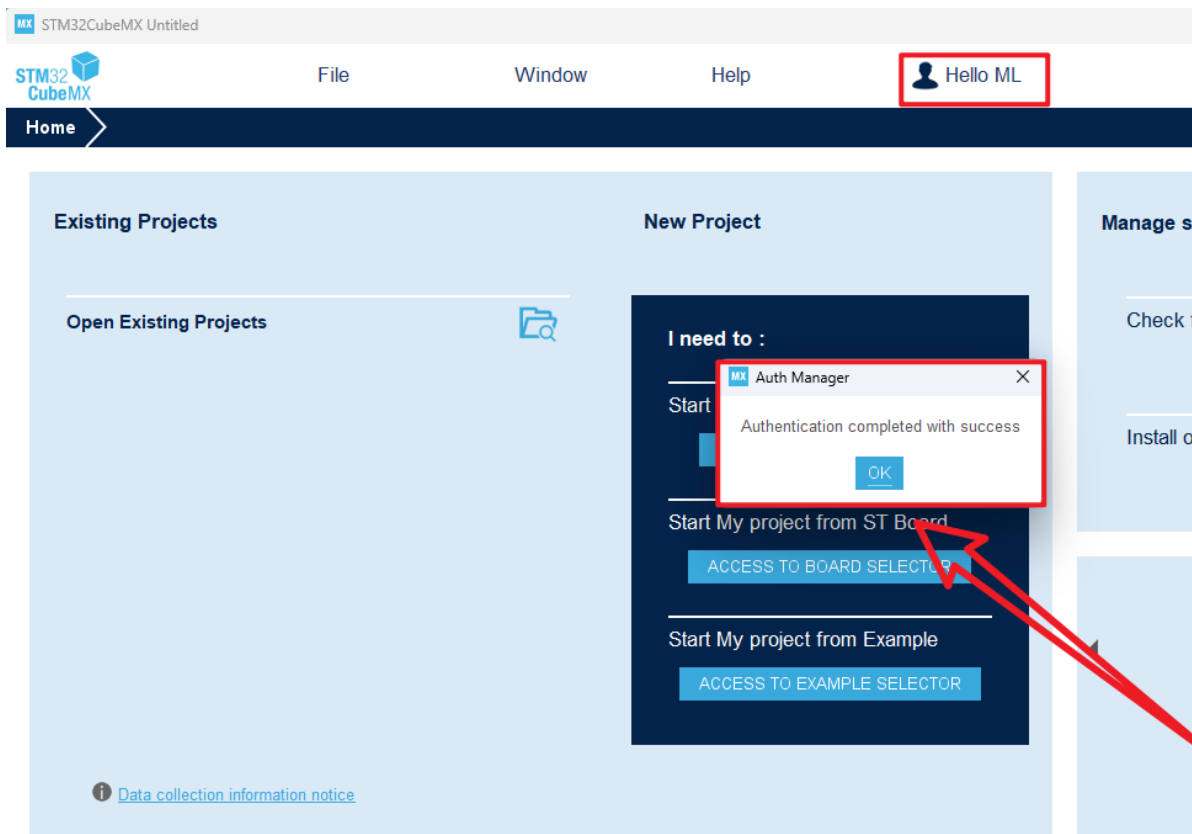
☒ Remember me on this computer. 

[Forgot password?](#)

New user?

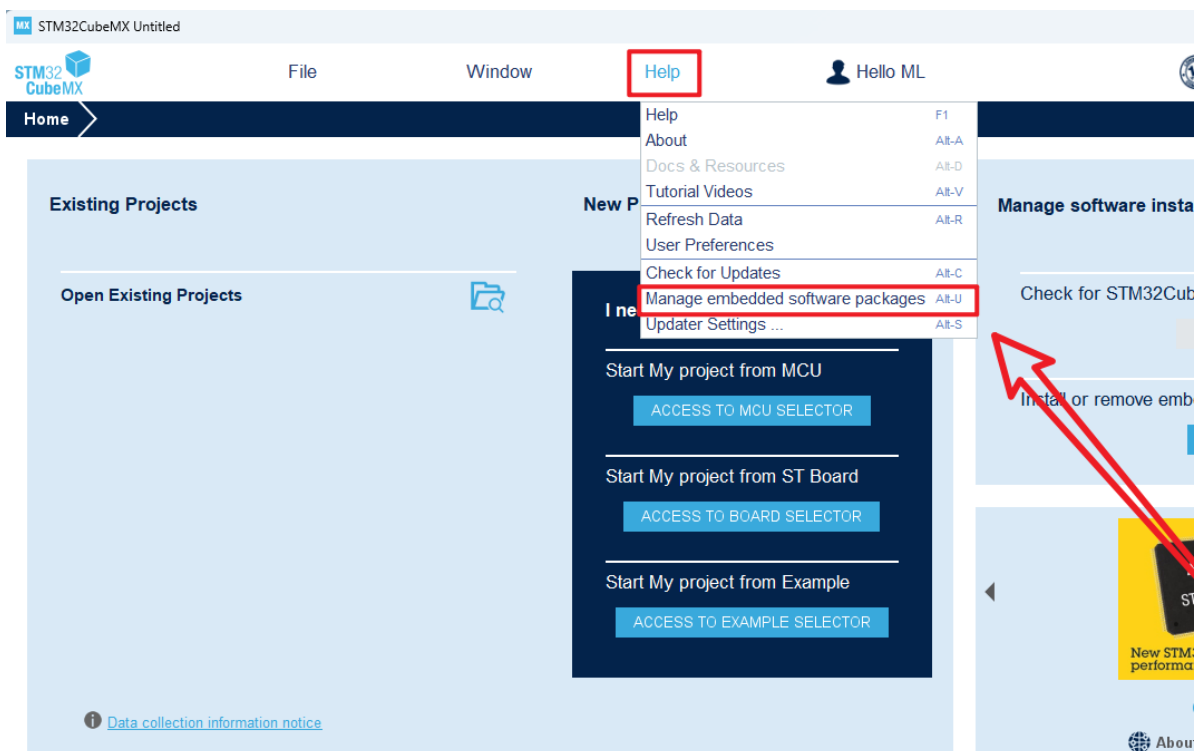
myST brings you a set of personalized features:

- Participate to ST Events
- Stay informed with ST eNewsletters
- Get help with ST Online Support
- Discuss on the ST Community
- Benefit from our Online Design Tools
- Download Software
- Order free samples
- Manage your weekly product updates
- Buy ST Products & Tools

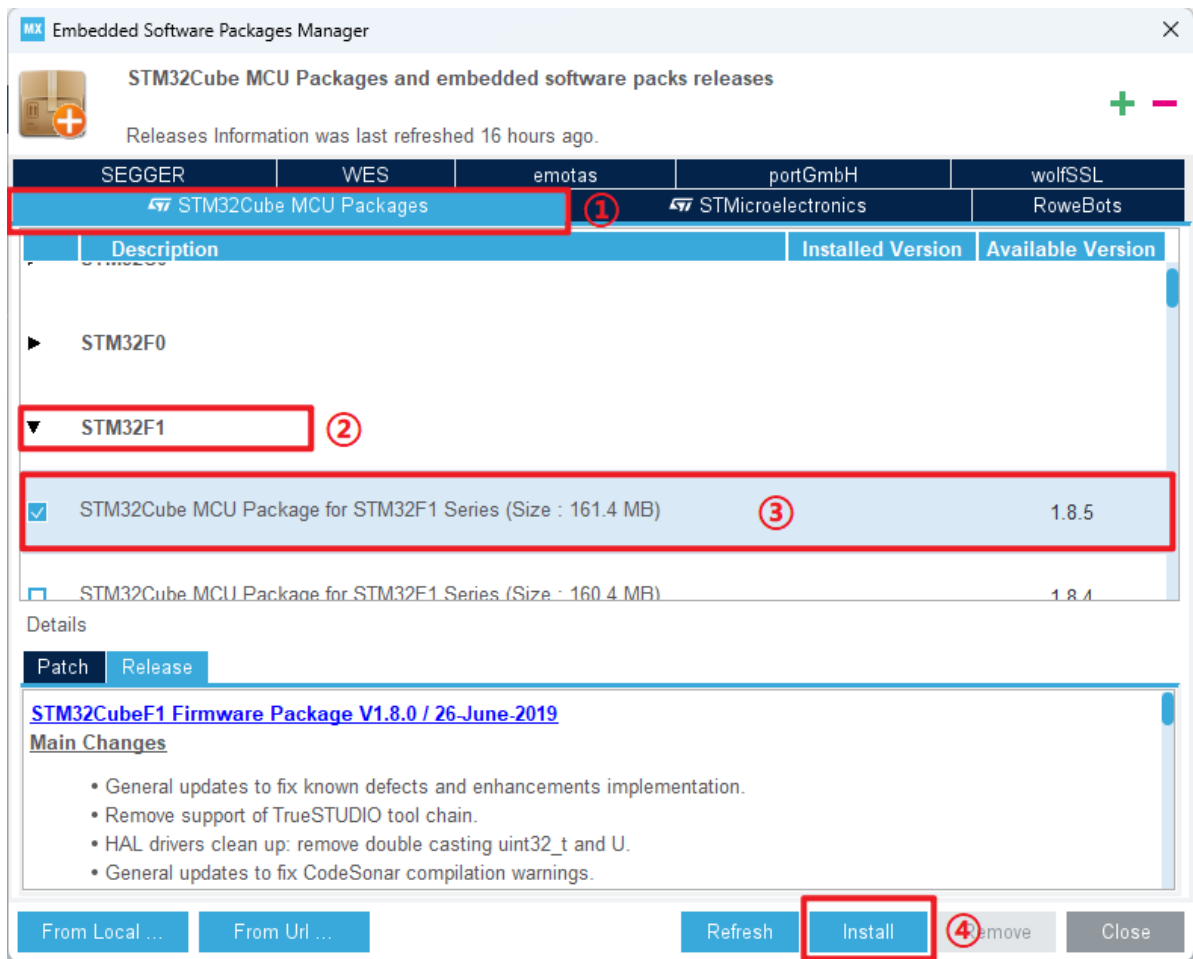


3.3、Installing the firmware package

- Help → Manage embedded software packages

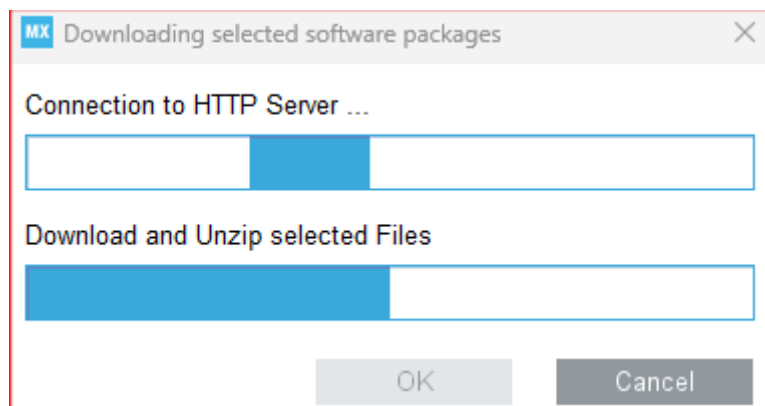


- Install the latest STM32F1 firmware package



Install or uninstall is to check the box in front of the chip firmware package, click this option will not have install and uninstall options

- **Waiting to download**




- **Close the screen**

MX

Embedded Software Packages Manager

✕



STM32Cube MCU Packages and embedded software packs releases

+

-

Releases Information was last refreshed 16 hours ago.

SEGGGERWESemotasportGmbHwolfSSL

STM32Cube MCU PackagesSTMMicroelectronicsRoweBots

	Description	Installed Version	Available Version
▶	STM32F0		
▼	STM32F1		
<input checked="" type="checkbox"/>	STM32Cube MCU Package for STM32F1 Series	1.8.5	1.8.5
<input type="checkbox"/>	STM32Cube MCU Package for STM32F1 Series (Size : 160.4 MB)		1.8.4

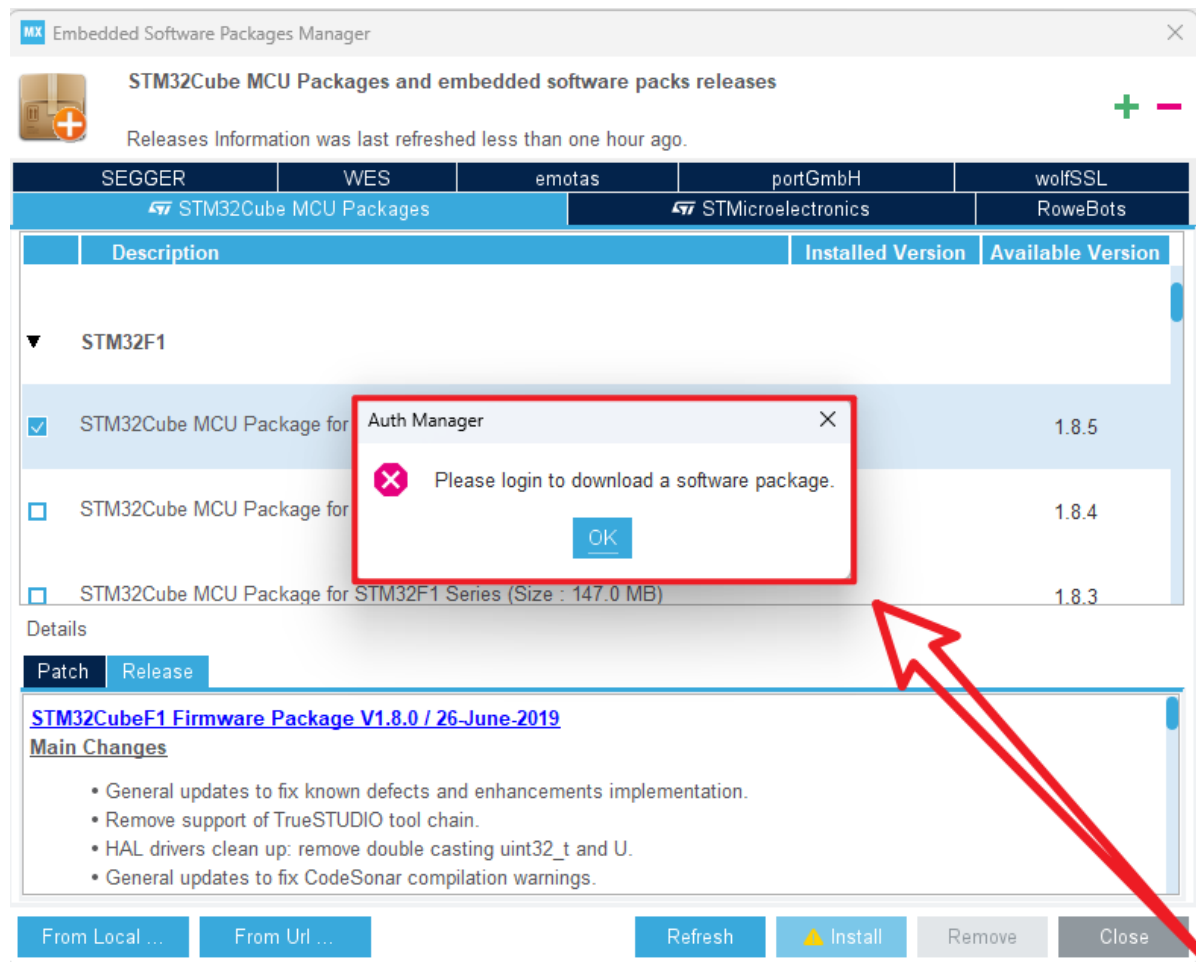
Details

From Local ...From Url ...

RefreshInstallRemoveClose

- **Not logged in account prompt**

Login to your account before downloading



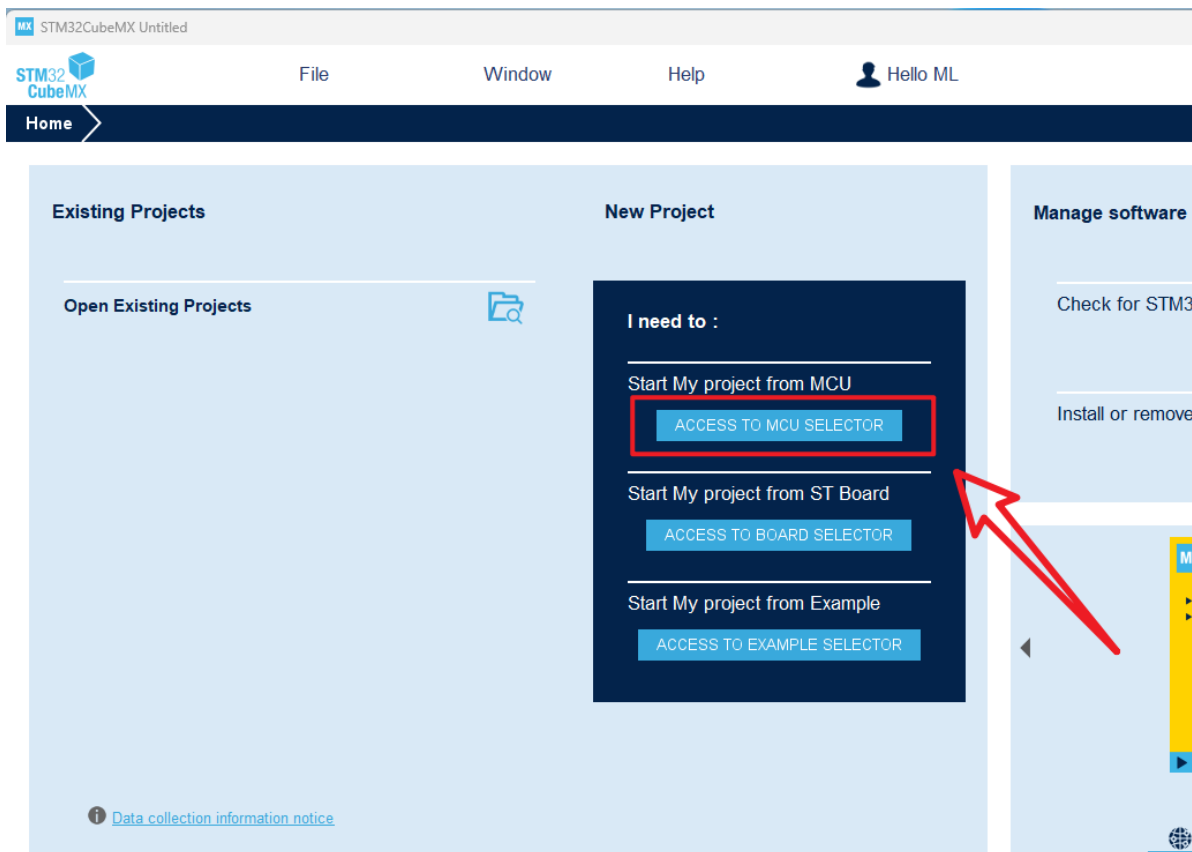
4、 Software Usage

Using STM32CubeMX is mainly used for STM32 configuration and initialization code generation.

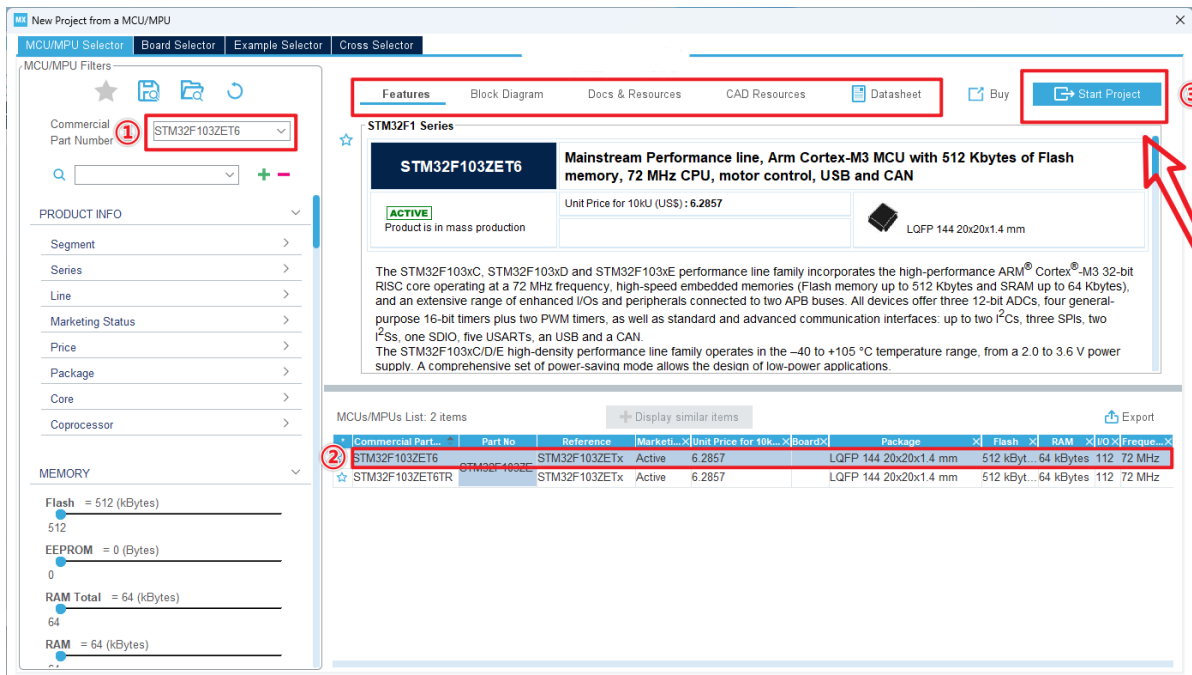
This article mainly introduces the common function options, and will not demonstrate the peripheral driver

4.1、 Chip selection

- Chip selection

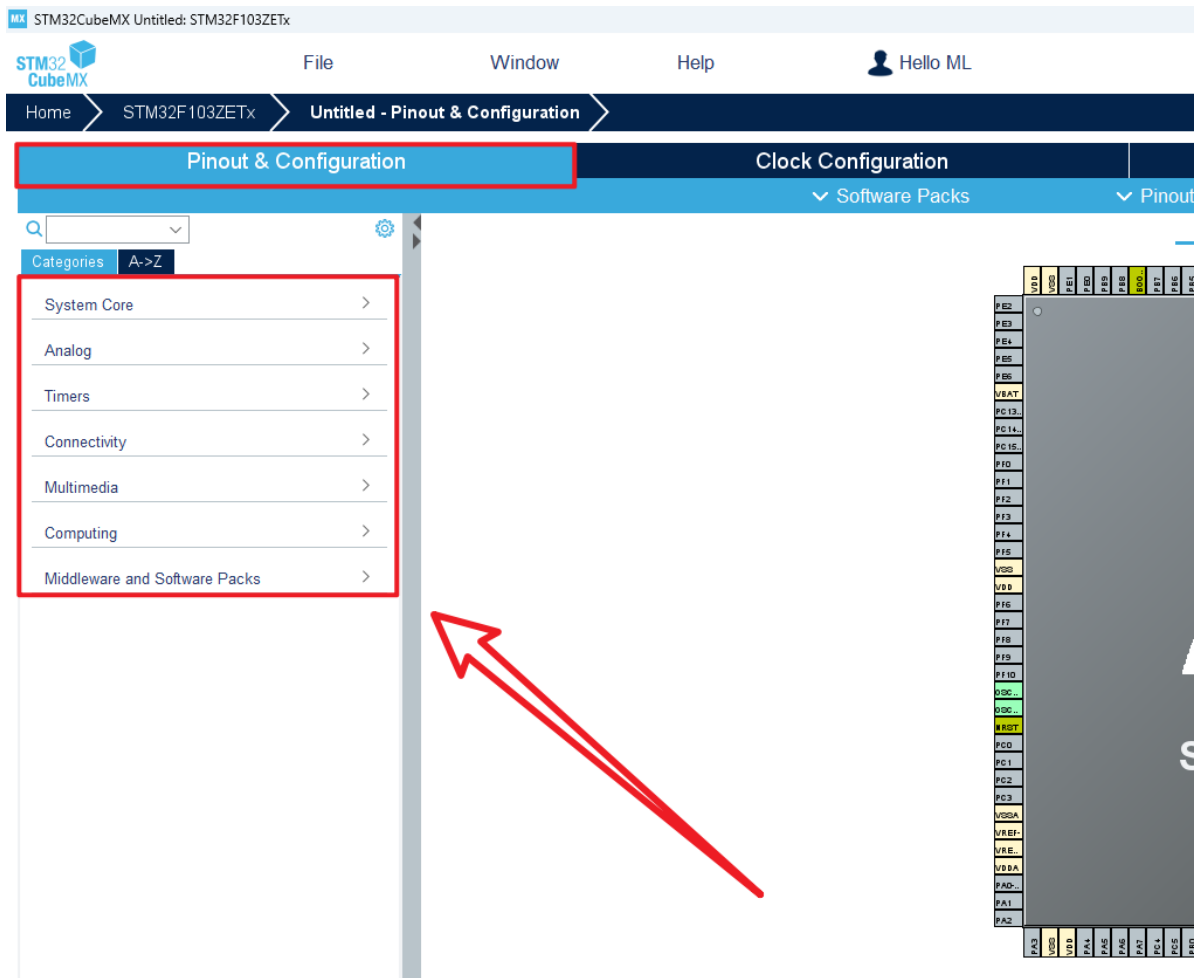


• Introduction



Double-click the left mouse button on the specific chip model to enter the engineering interface

4.2、Pin layout and configuration



System Core: Configure DMA (DMA controller), GPIO (General Input and Output), IWDG (Independent watchdog), NVIC (Nested Vector Interrupt controller), RCC (Clock controller), SYS (system debug), WWDG (window watchdog)

Analog: Configure ADC (analog to digital conversion), DAC (digital to analog conversion) peripherals

Timers: Configure RTC(real-time clock) and TIM (timer) peripherals

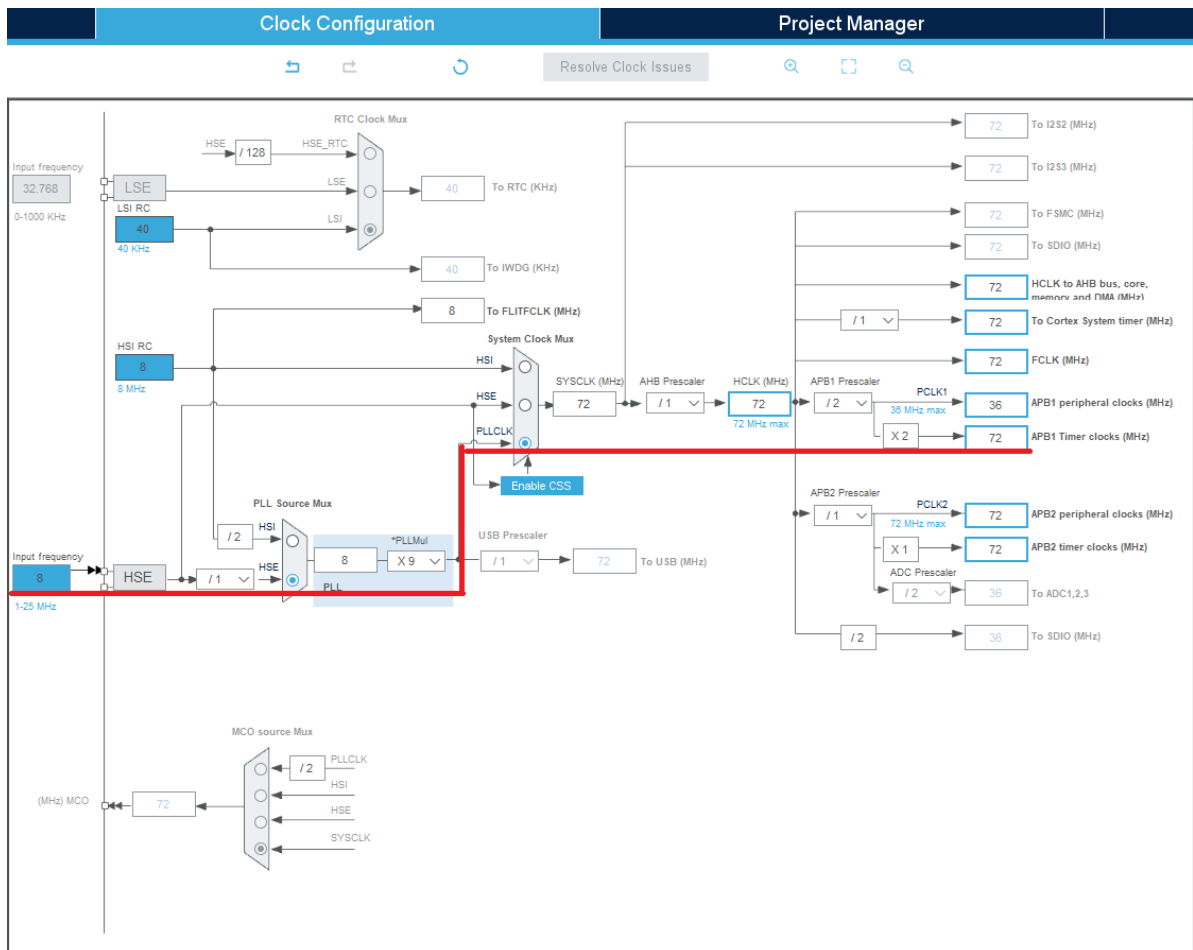
Connectivity: Configure CAN, I2C, SPI, USART, USB and other connection peripherals

Multimedia: Configure I2S and other audio data transmission peripherals

Computing: Configure the CRC check peripheral

Middleware and Software Packs: Configure middleware such as RTOS

4.3、Clock configuration



Refer to the options involved in the red line

4.4、Project management

- Project

STM32CubeMX Untitled*: STM32F103ZETx

File Window Help Hello ML

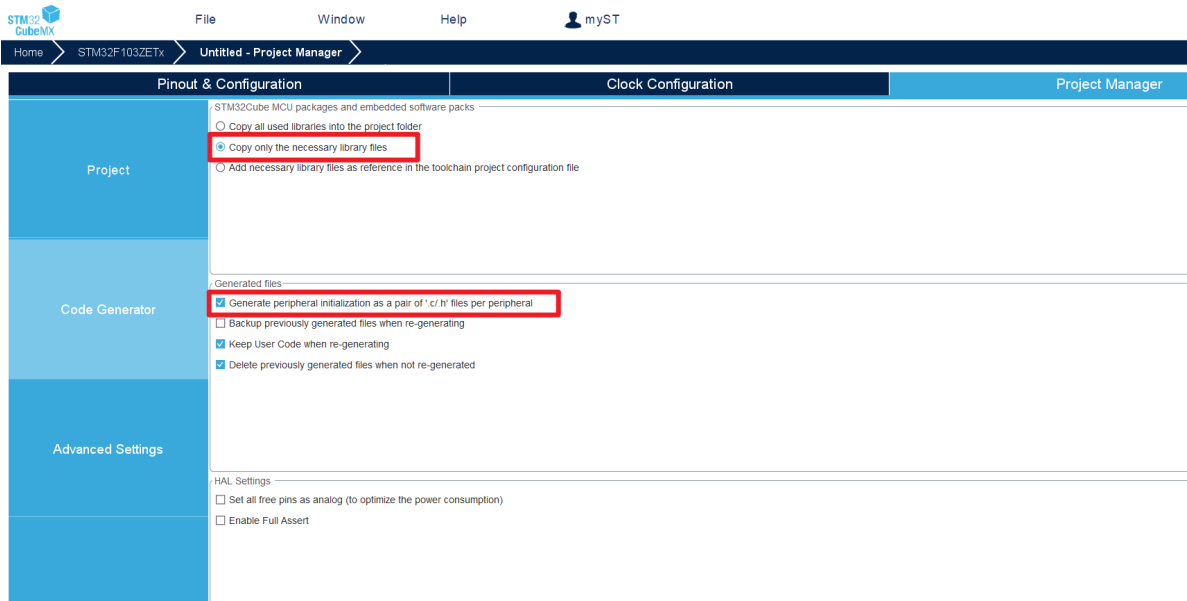
Home > STM32F103ZETx > Untitled - Project Manager

Pinout & Configuration	Clock Configuration	Project Manager
Project	Project Settings	
	Project Name	Demo
	Project Location	C:\Users\WML\Desktop\STM32
	Application Structure	Advanced <input type="checkbox"/> Do not generate the main()
Code Generator	Toolchain Folder Location	C:\Users\WML\Desktop\STM32\Demo\
	Toolchain / IDE	MDK-ARM EWARM MDK-ARM STM32CubeIDE Makefile
Advanced Settings	Linker Settings	
	Minimum Heap Size	0x200
	Minimum Stack Size	0x400
	Thread-safe Settings	
	Cortex-M3NS	
	<input type="checkbox"/> Enable multi-threaded support	
	Thread-safe Locking Strategy	Default - Mapping suitable strategy depending on RTOS selection.
	Mcu and Firmware Package	
	Mcu Reference	STM32F103ZETx

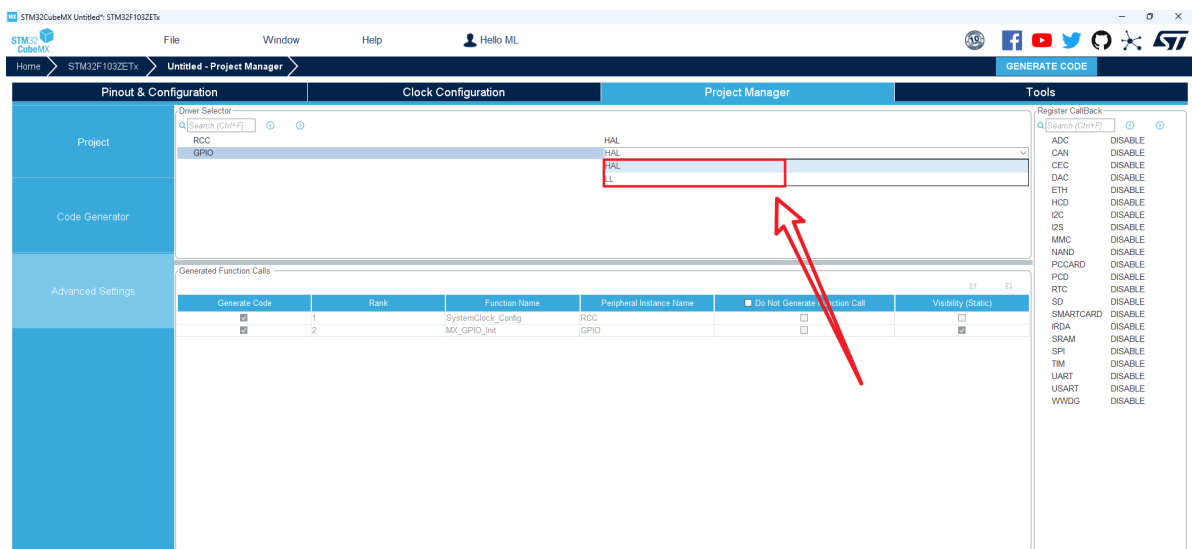
STM32CubeMX can generate MDK-ARM, STM32CubeIDE, EWARM and other project files

MDK-ARM project file is generated here

- **Code Generator**

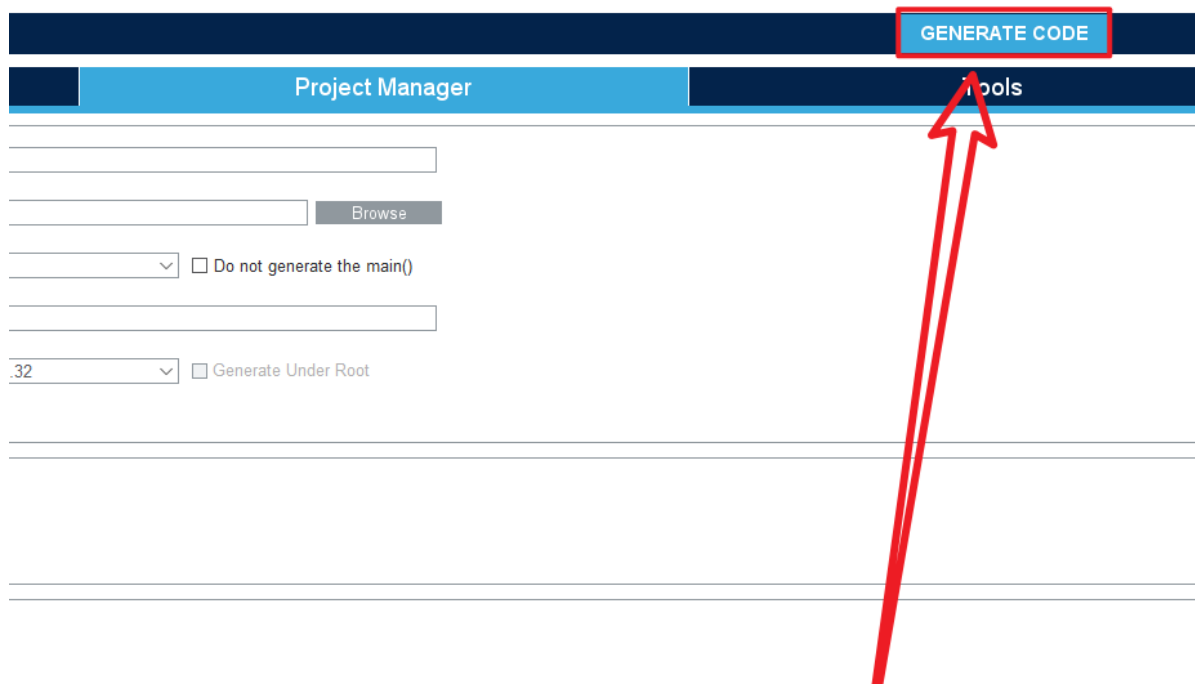


- **Advance Settings**

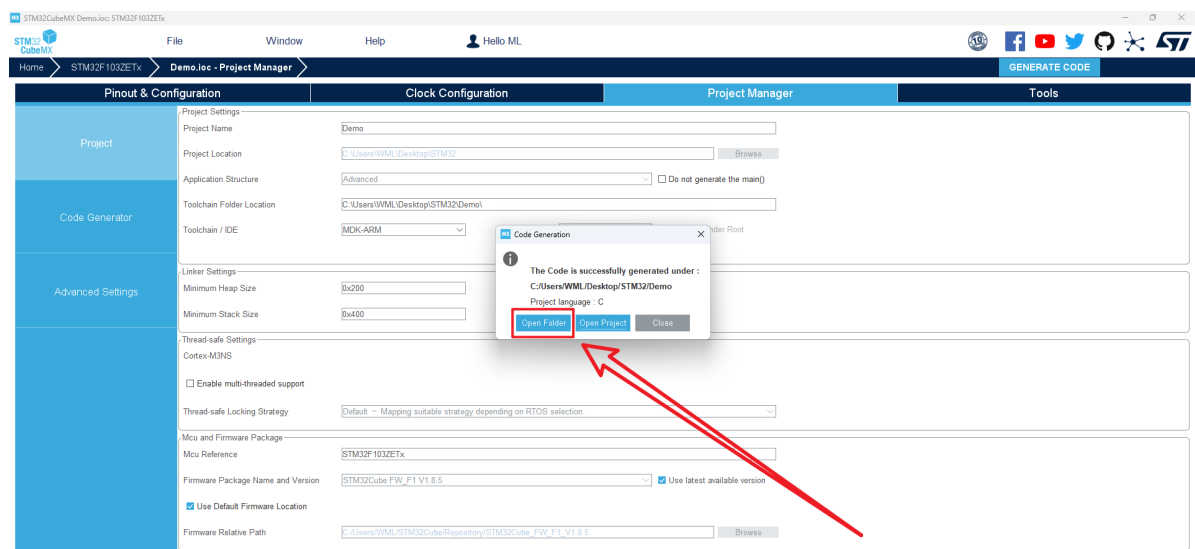


Choose the library to use for your initialization code: the HAL library is demonstrated here

4.5、Generative engineering



- Open the project folder



5、Project folder

5.1、Demo

- ①: Use the STM32CubeMX software to open the file and reconfigure the project
- ②: Corresponding MDK-ARM project file

名称	修改日期	类型	大小	
Core	2023/9/21 16:44	文件夹		
Drivers	2023/9/21 16:44	文件夹		
MDK-ARM	2023/9/21 16:49	文件夹		②
.mxproject	2023/9/21 16:45	MXPROJECT 文件	7 KB	
MX Demo	2023/9/21 16:44	STM32CubeMX	5 KB	①

5.2、 Writing the code

USER CODE must be somewhere between USER CODE BEGIN and User code END, otherwise the next project file generated with STM32CubeMX will remove code outside that location

