@[toc]

一、准备工作

1、CLion简介

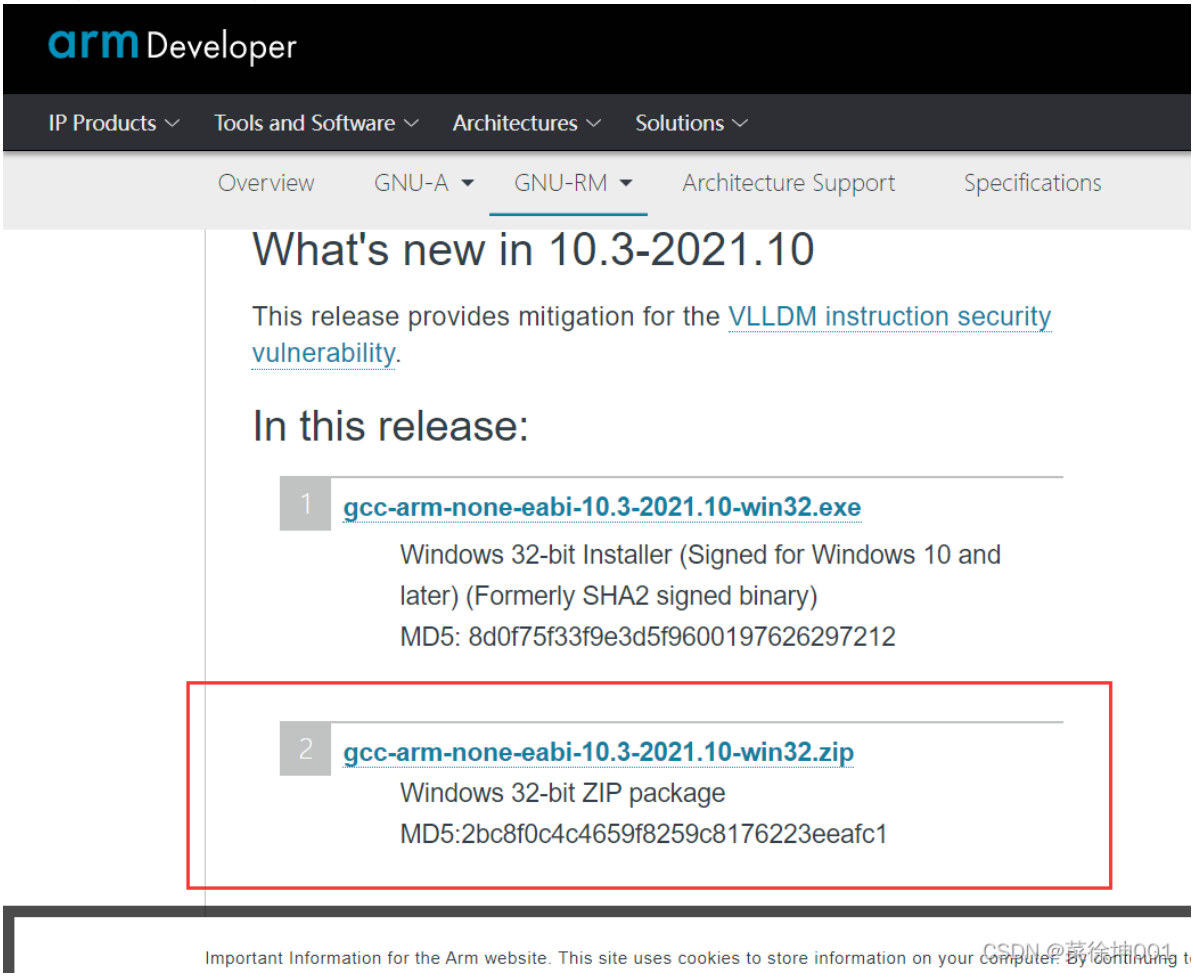
Clion是一款专门开发C以及C++所设计的跨平台的IDE。它是以IntelliJ为基础设计的，包含了许多智能功能来提高开发人员的生产力。这种强大的IDE帮助开发人员在Linux、OS X和Windows上来开发C/C++,同时它还能使用智能编辑器来提高代码质量、自动代码重构并且深度整合Cmake编译系统，从而提高开发人员的工作效率。

2、CLion安装

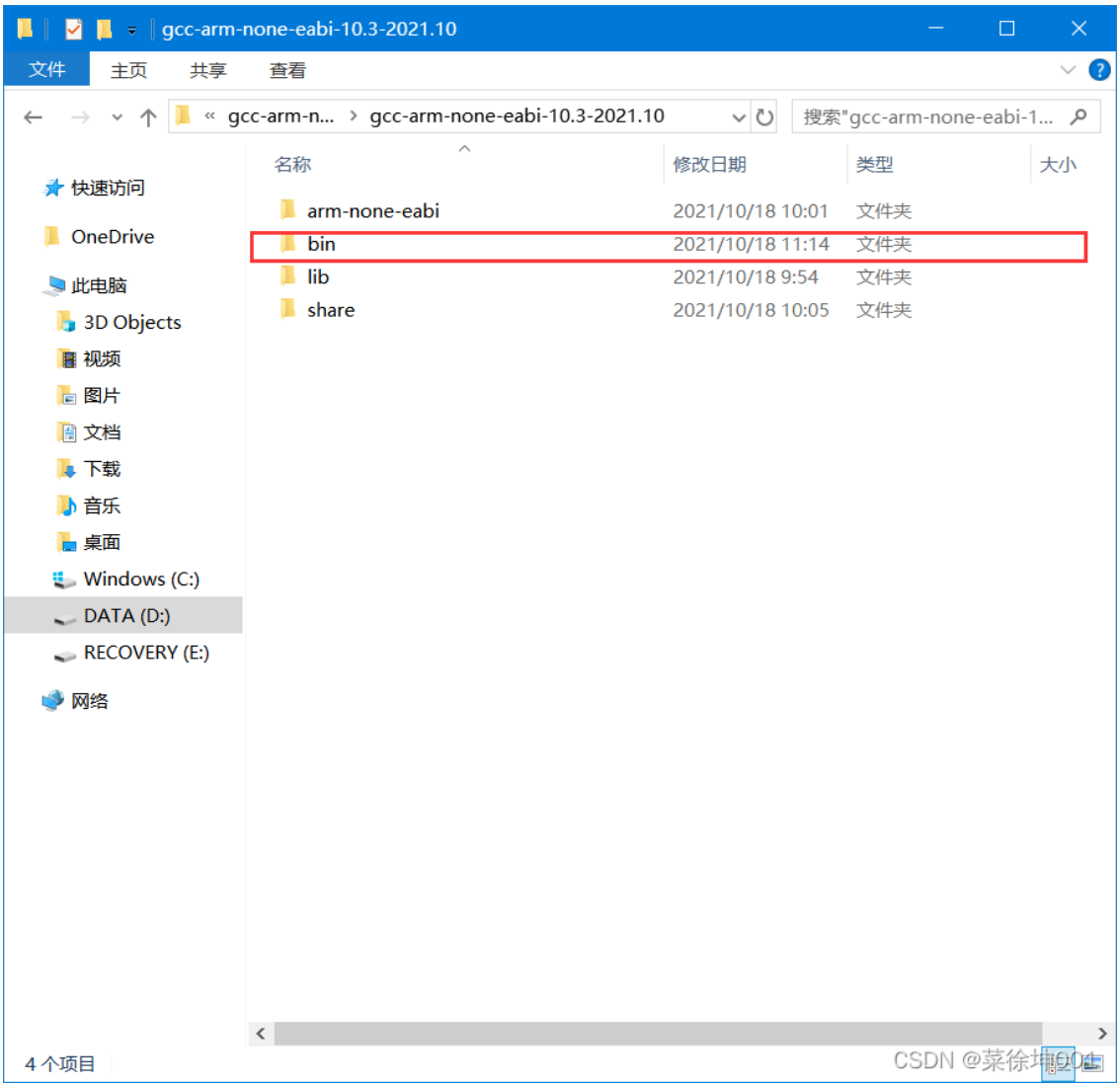
参考：Windows上CLion配置和使用教程

3、安装GCC

官方下载地址：https://developer.arm.com/tools-and-software/open-source-software/developer-tools/gnu-toolchain/gnu-rm/downloads



- 将bin路径添加到环境变量中



- 右键**此电脑**选择属性


Google Chrome
火绒安全软件
英雄联盟 WeGame版
src=http__...
控制面板
英雄联盟
Epic Games Launcher
回收站
Steam
ATK
打开(O)
固定到快速访问
管理(G)
从"开始"屏幕取消固定(P)
映射网络驱动器(N)...
断开网络驱动器的连接(C)...
创建快捷方式(S)
删除(D)
重命名(M)
属性(R)
工商管理在网络经济中的...
Counter-S... Global Off...
nn
WPS Office
Origin
CSDN @菜徐坤001

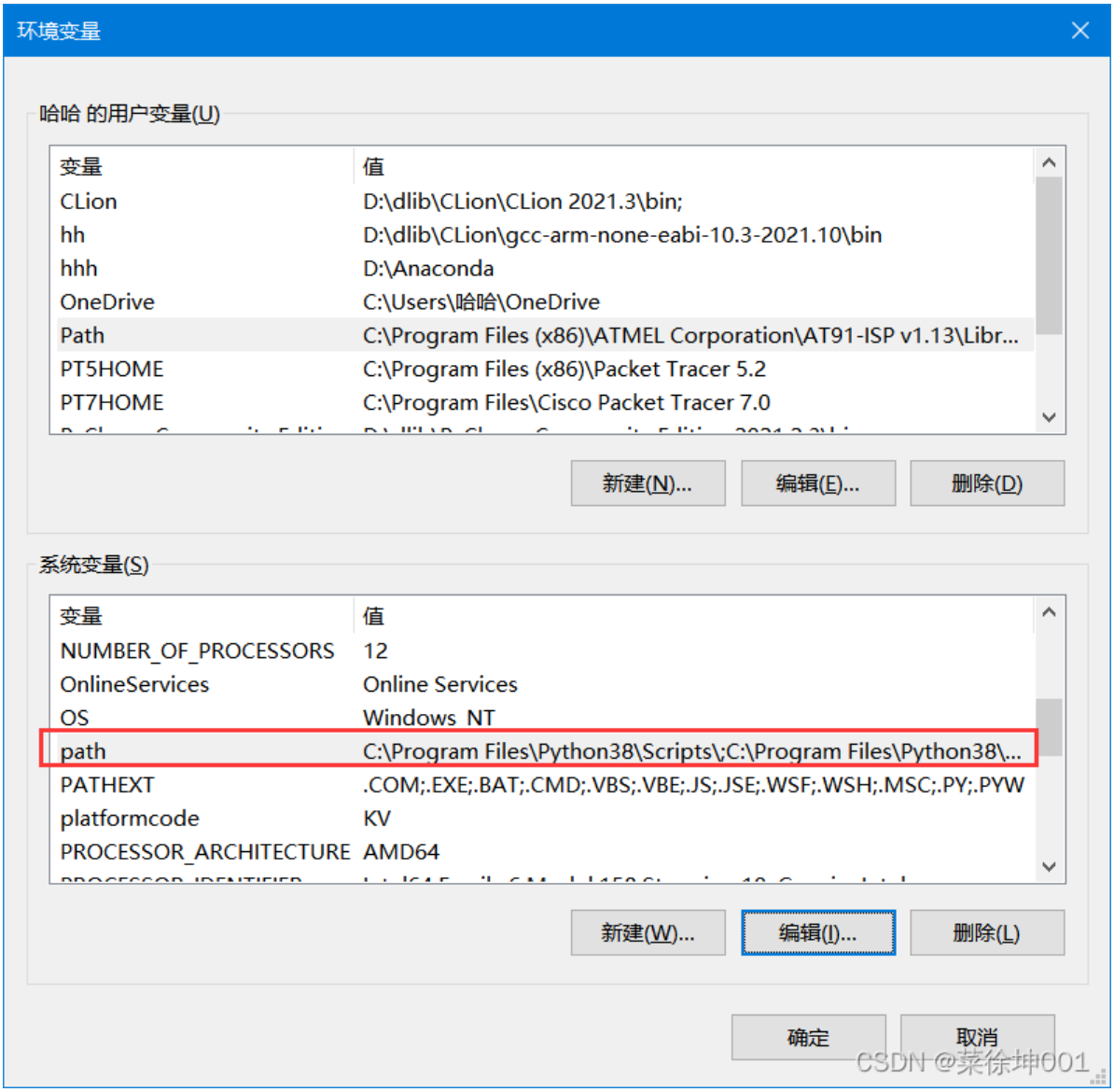
- 选择高级系统设置


系统
控制面板 › 所有控制面板项 › 系统
文件(F) 编辑(E) 查看(V) 工具(T)
控制面板主页
设备管理器
远程设置
系统保护
高级系统设置
查看有关计算机的基本
Windows 版本
Windows 10 家庭中文版
© 2018 Microsoft Corp
系统
处理器:
已安装的内存(RAM):
系统类型:
笔和触控:
CSDN @菜徐坤001

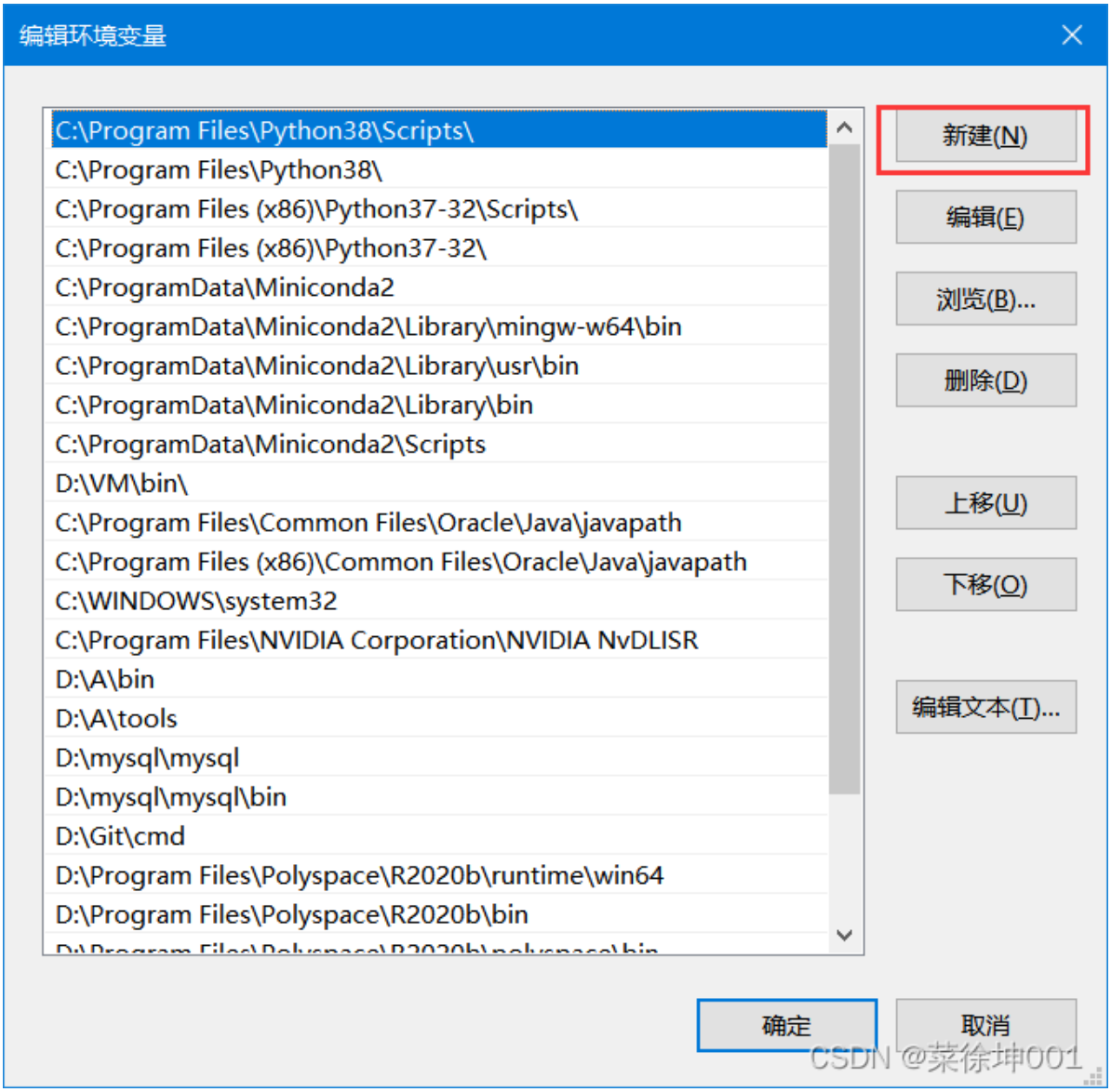
- 选择环境变量


系统属性
计算机名
硬件
高级
系统保护
远程
要进行大多数更改，你必须作为管理员登录。
性能
视觉效果，处理器计划，内存使用，以及虚拟内存
设置(S)...
用户配置文件
与登录帐户相关的桌面设置
设置(E)...
启动和故障恢复
系统启动、系统故障和调试信息
设置(T)...
环境变量(N)...
确定
取消
应用(A)
CSDN @菜徐坤001

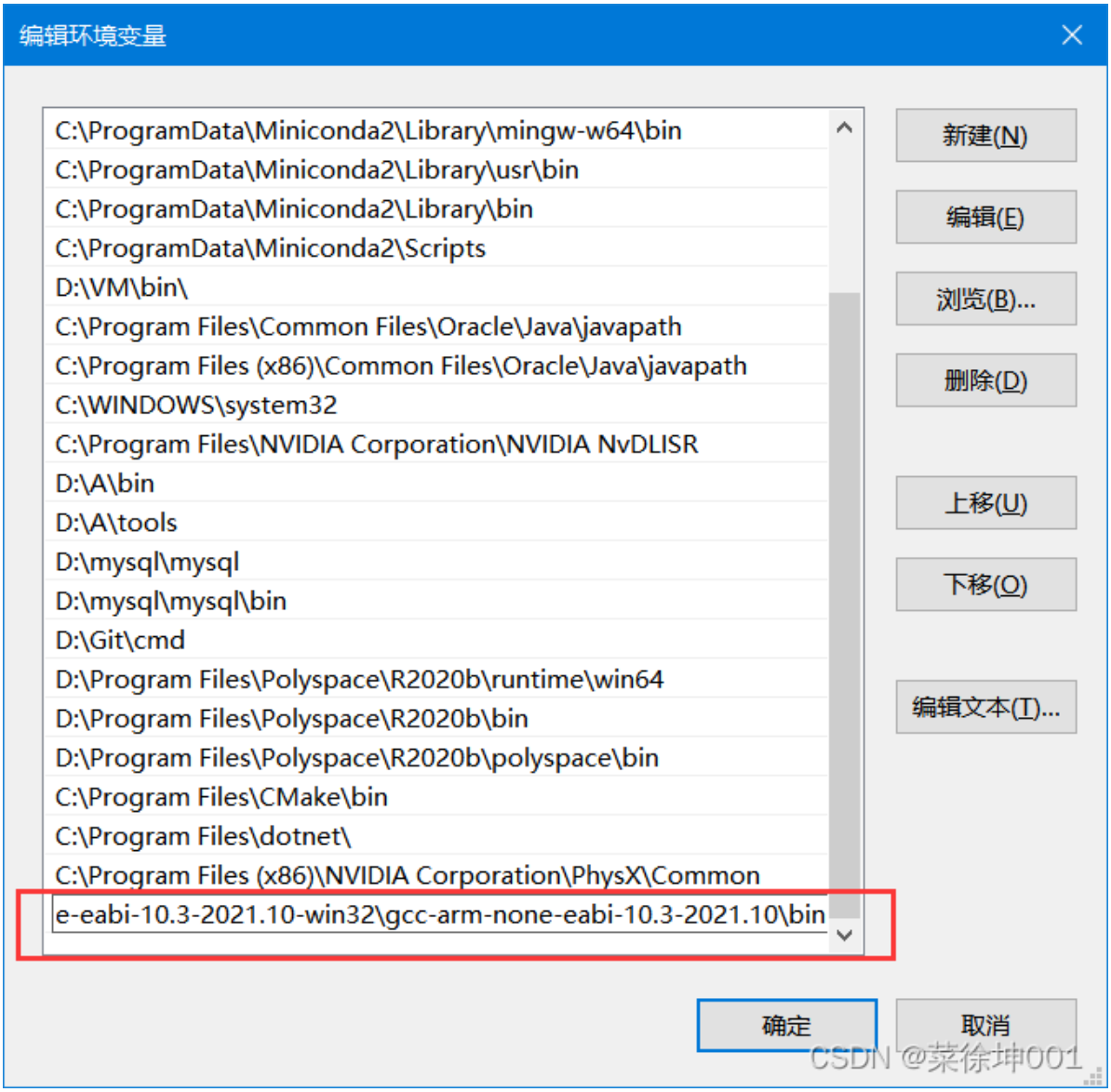
- 双击path


环境变量
哈哈 的用户变量(U)
变量
值
CLion
D:\dlib\CLion\CLion 2021.3\bin;
hh
D:\dlib\CLion\gcc-arm-none-eabi-10.3-2021.10\bin
hhh
D:\Anaconda
OneDrive
C:\Users\哈哈\OneDrive
Path
C:\Program Files (x86)\ATMEL Corporation\AT91-ISP v1.13\Libr...
PT5HOME
C:\Program Files (x86)\Packet Tracer 5.2
PT7HOME
C:\Program Files\Cisco Packet Tracer 7.0
新建(N)...
编辑(E)...
删除(D)
系统变量(S)
变量
值
NUMBER_OF_PROCESSORS
12
OnlineServices
Online Services
OS
Windows_NT
path
C:\Program Files\Python38\Scripts\;C:\Program Files\Python38\...
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW
platformcode
KV
PROCESSOR_ARCHITECTURE
AMD64
新建(W)...
编辑(I)...
删除(L)
确定
取消
CSDN @菜徐坤001

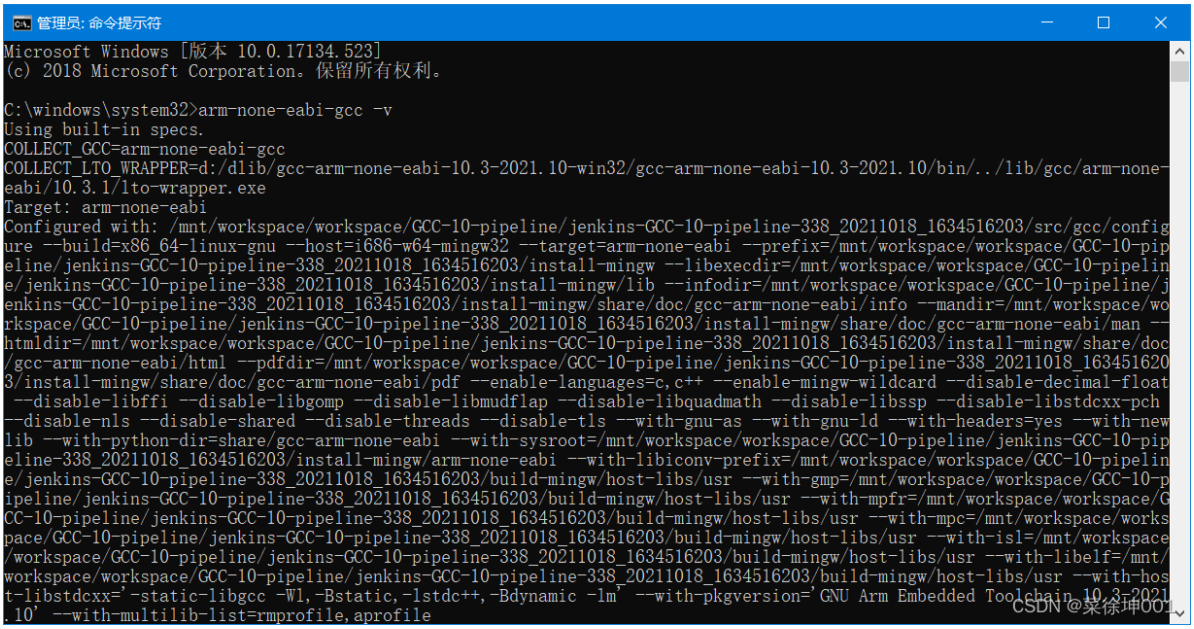
- 选择新建



- 将bin目录地址粘贴进去



打开命令提示符，输入`arm-none-eabi-gcc -v`



如出现以上内容，则gcc配置完毕。

4.安装OpenOCD

官网下载地址：https://gnutoolchains.com/arm-eabi/openocd/

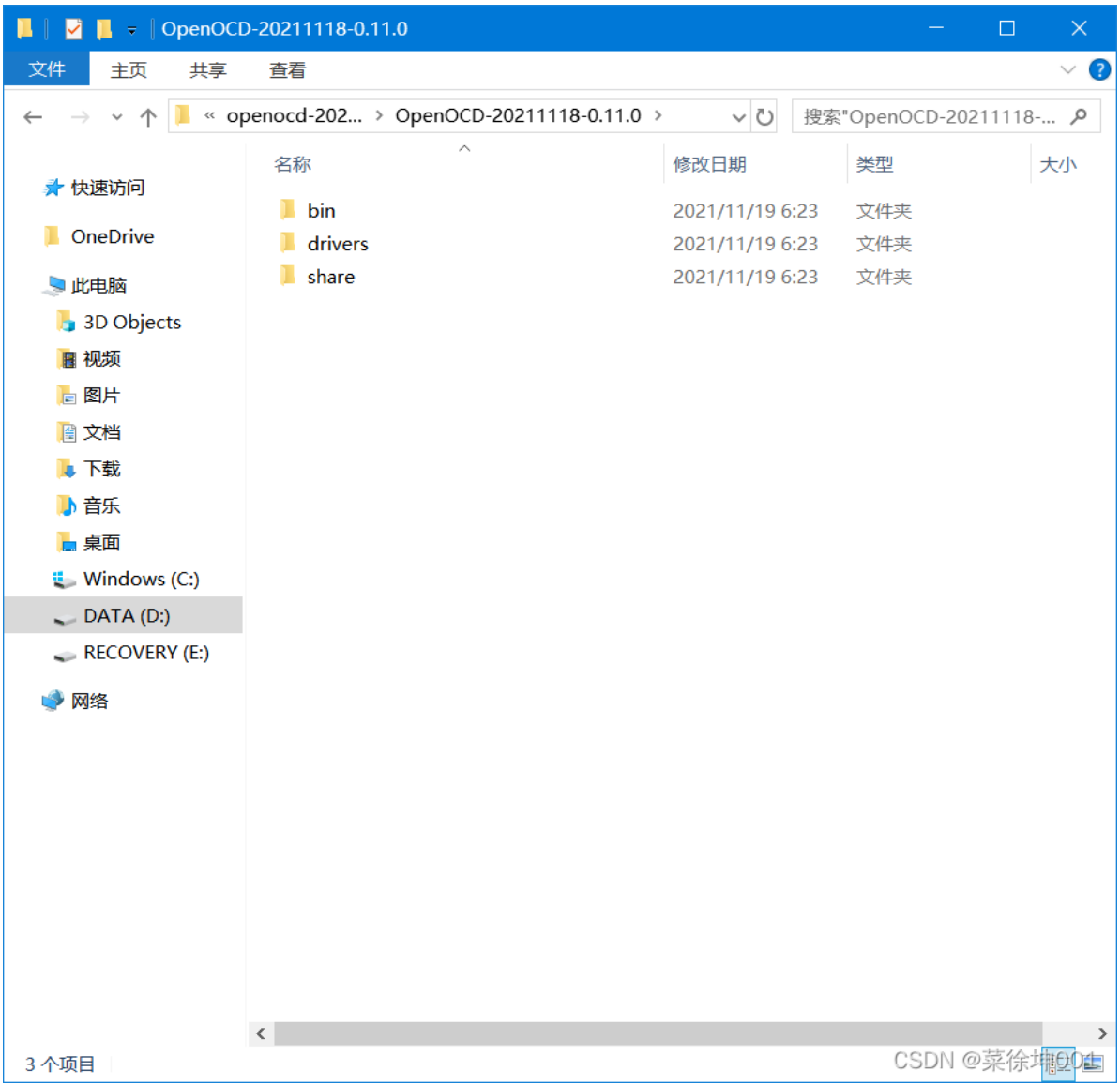
Download pre-built OpenOCD for Windows

OpenOCD is an open-source tool that allows debugging various ARM devices with GDB using a wide variety of JTAG programmers. You can download the pre-built OpenOCD for windows from this page:

Version	Download link
20211118	openocd-20211118.7z
20211116	openocd-20211116.7z
20210729	openocd-20210729.7z
20210625	openocd-20210625.7z
20210519	openocd-20210519.7z
20210503	openocd-20210503.7z
20210407	openocd-20210407.7z

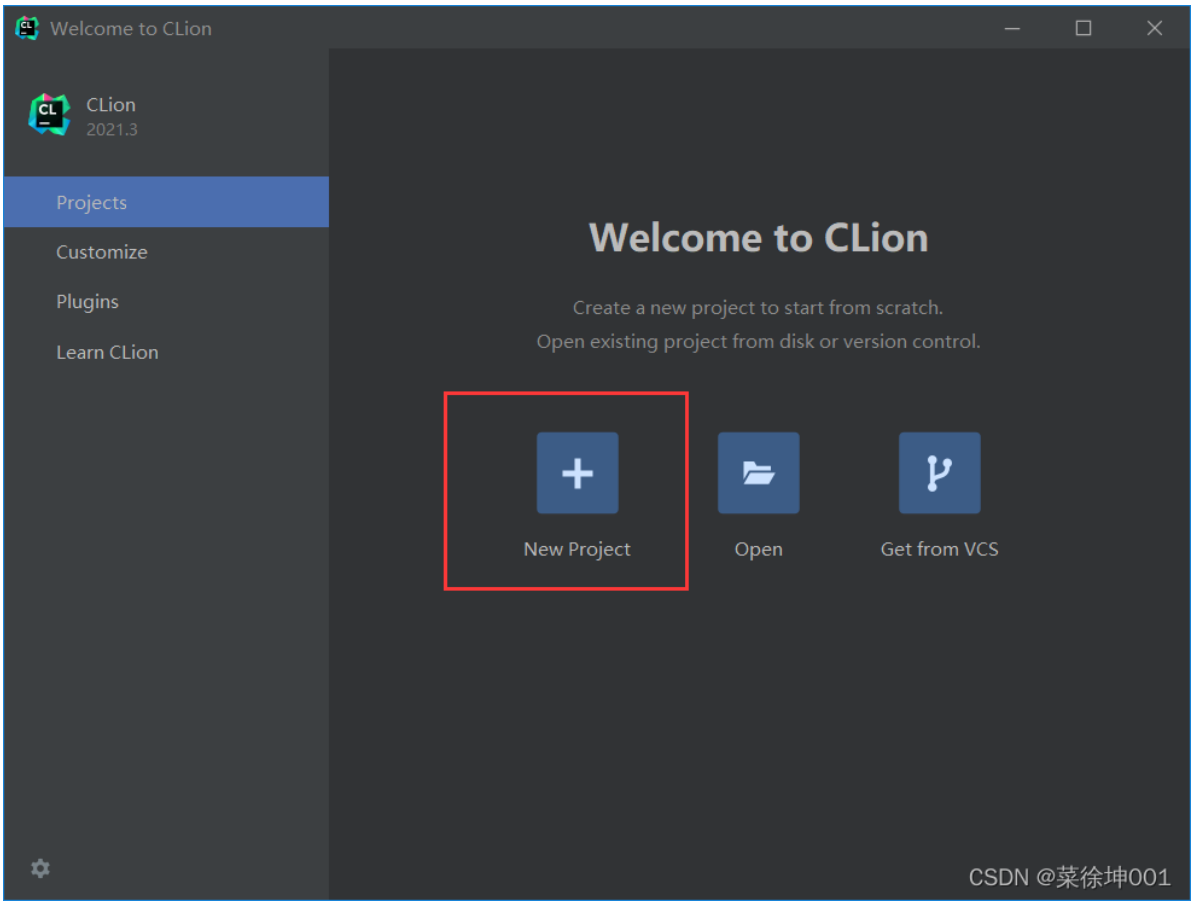
Each build above includes the necessary binaries and scripts to begin debugging your device right away.

- 解压

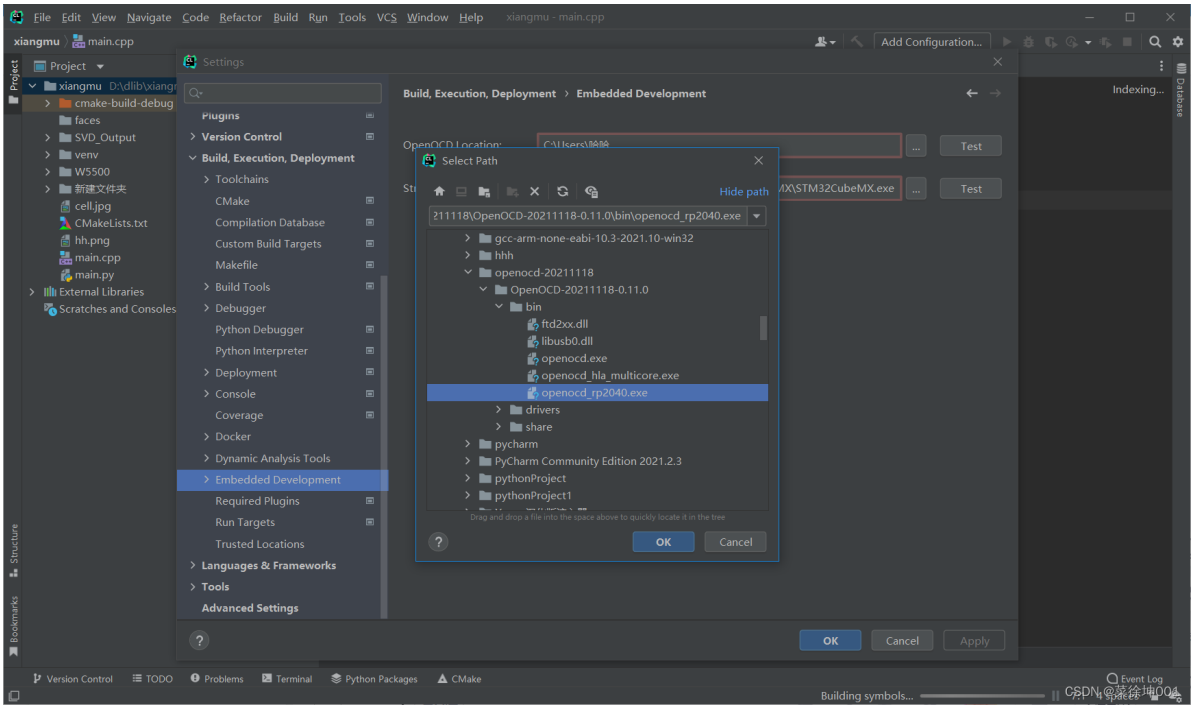


5.配置CLion

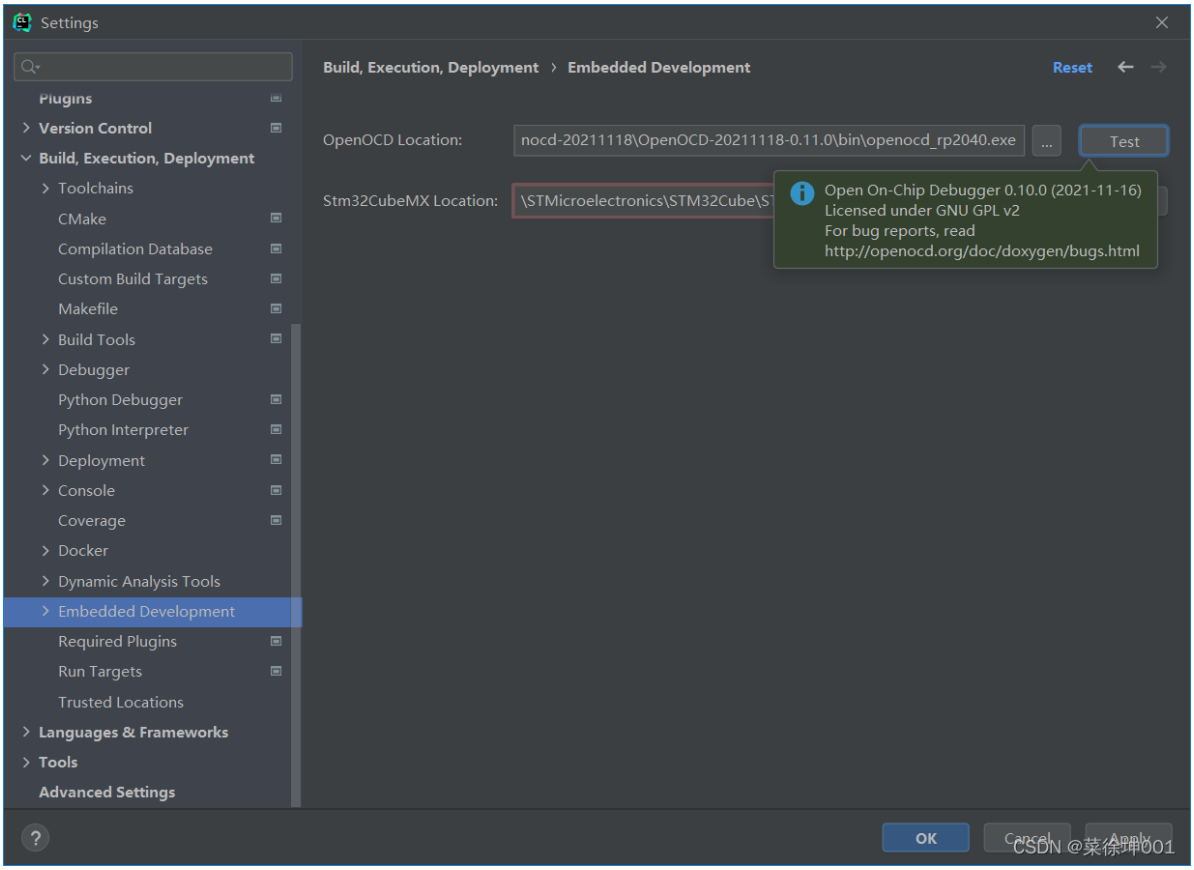
1、进入 CLion，新建一个工程



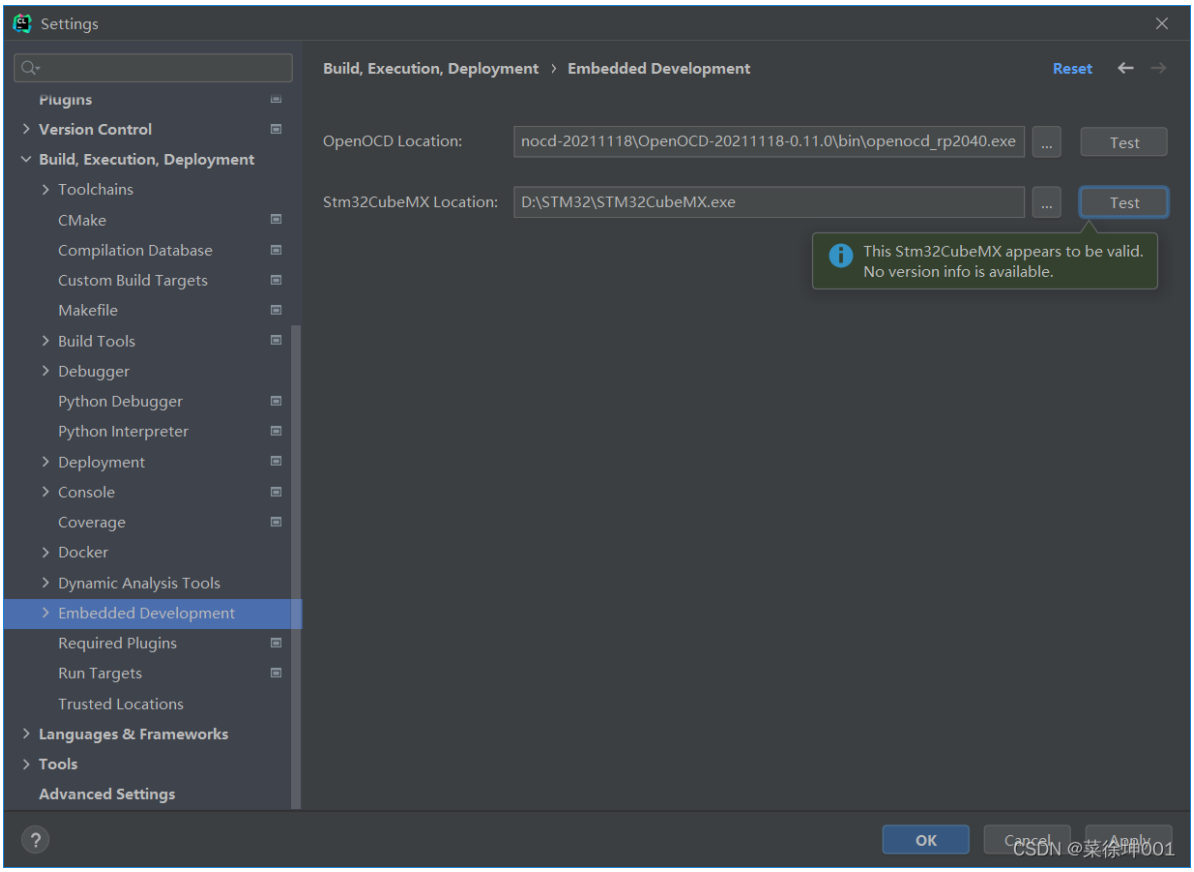
2、选择File-Settings-Build-Embedded Development，将右侧的 OpenOCD 文件目录转换到自己下载的位置，最后点击 Test 发现提示颜色为墨绿色，即代表配置成功 。



- 点击test，出现下面提示则代表成功。

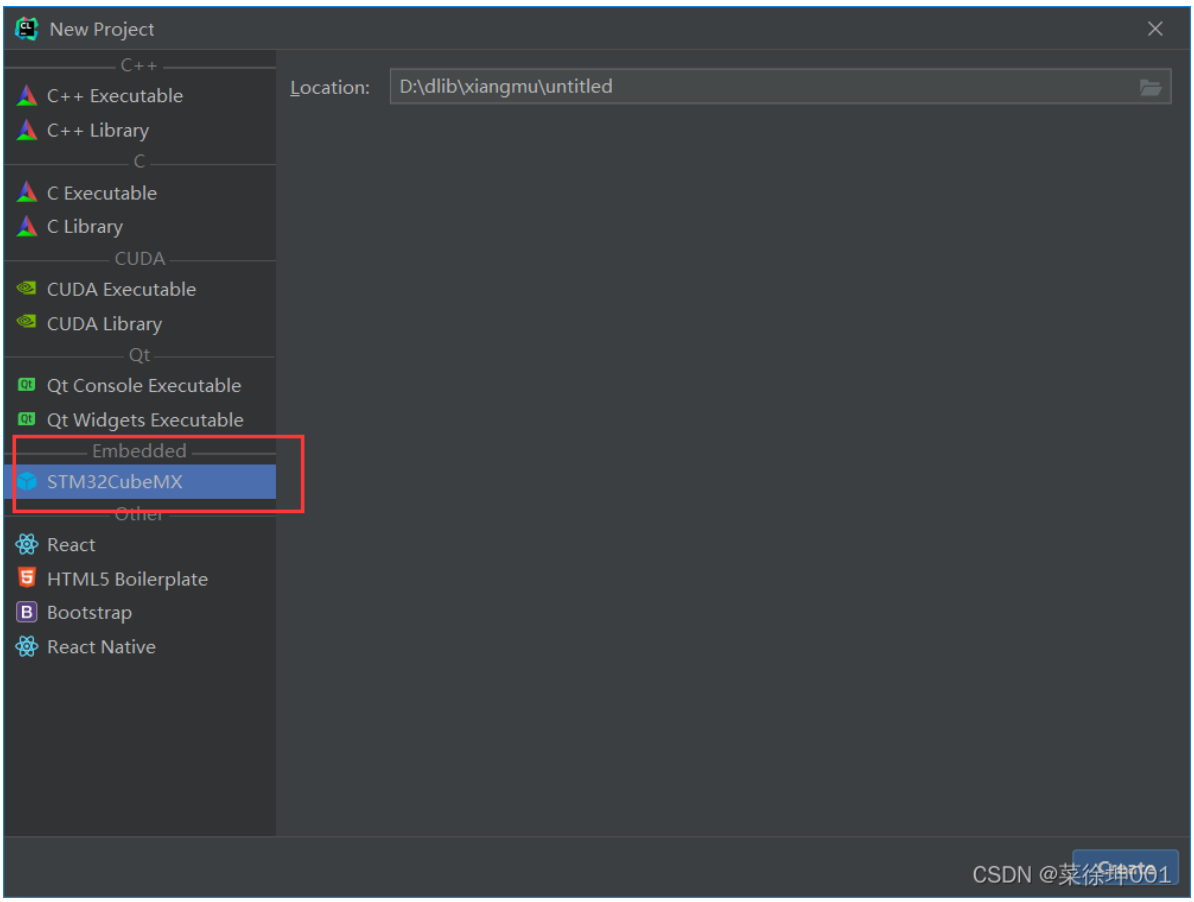


- 顺便也更改一下cubeMX。

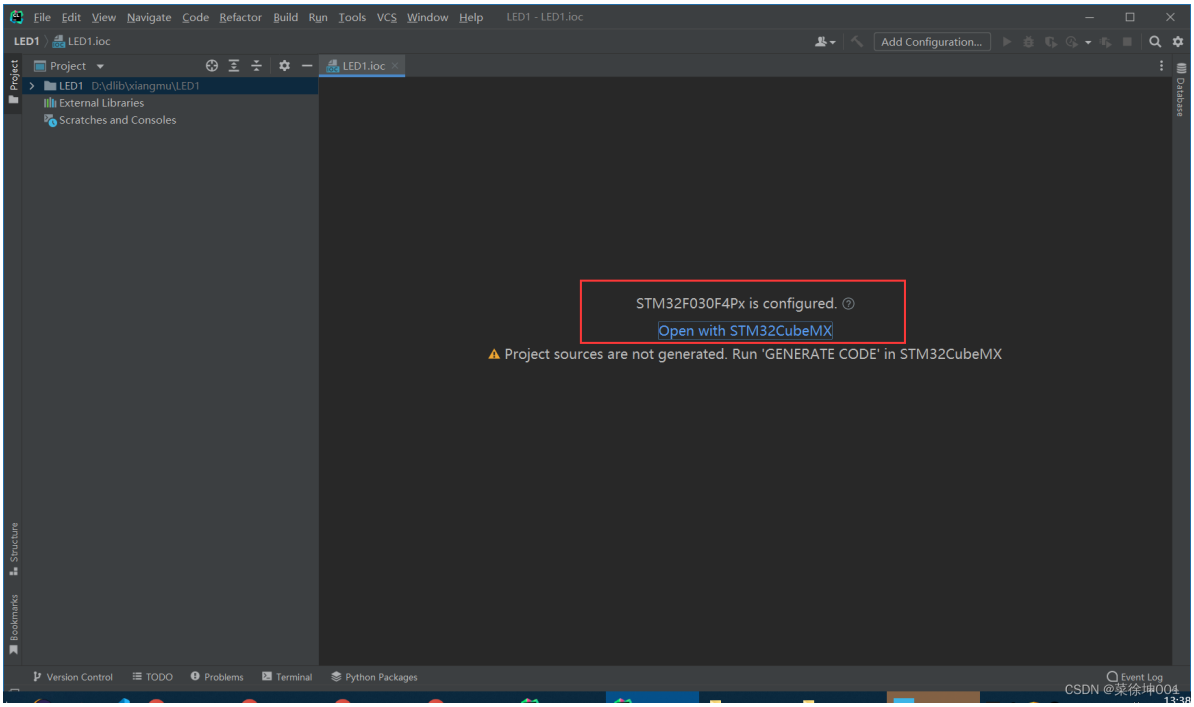


二、在CLion中使用CubeMX

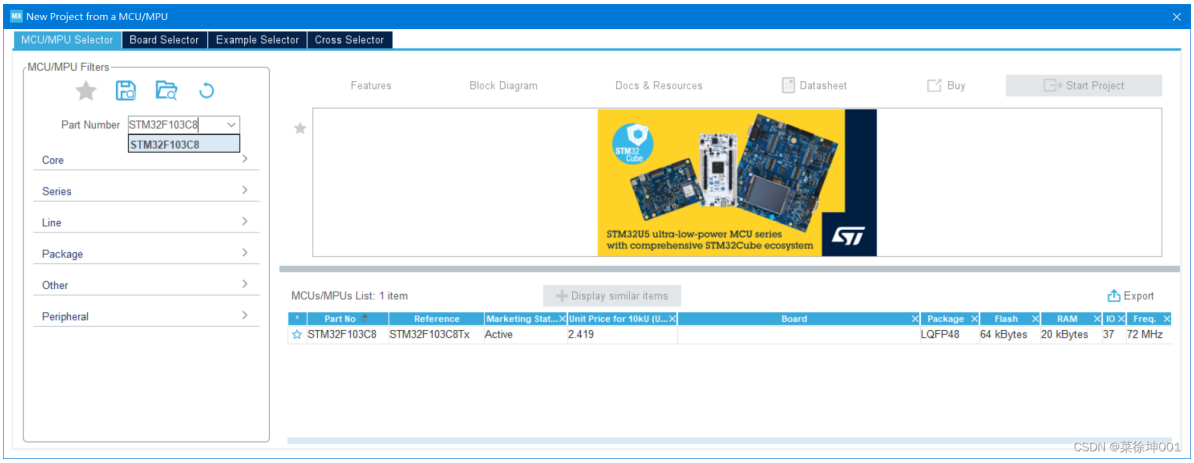
- 新建一个STM32CubeMX工程



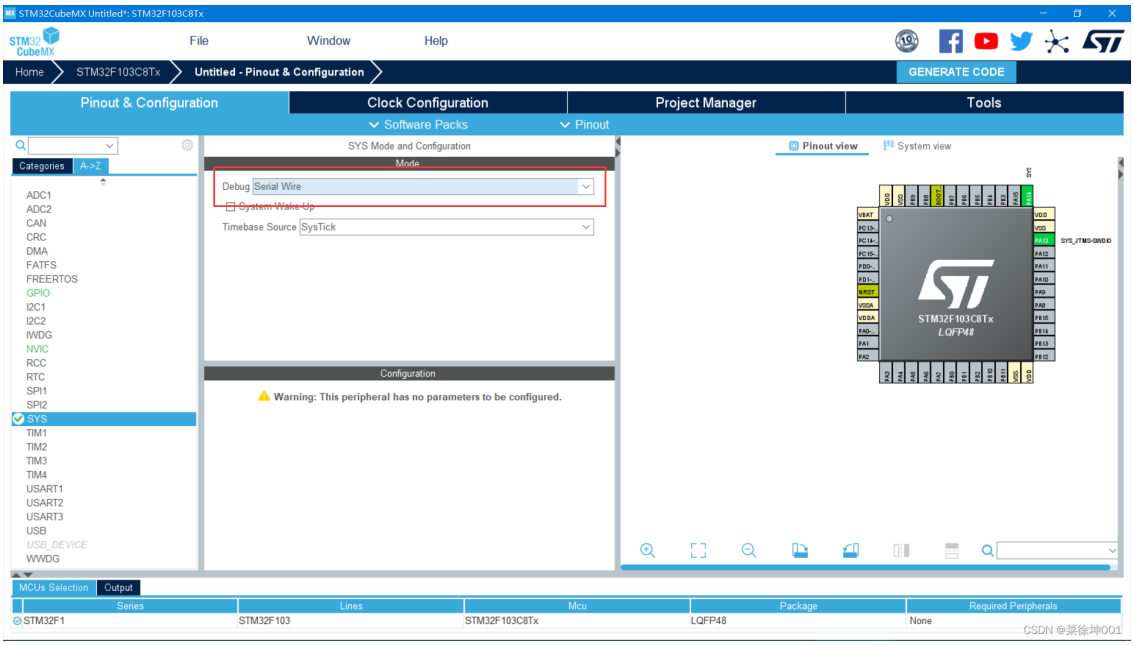
- 点击`Open with STM32CubeMX`



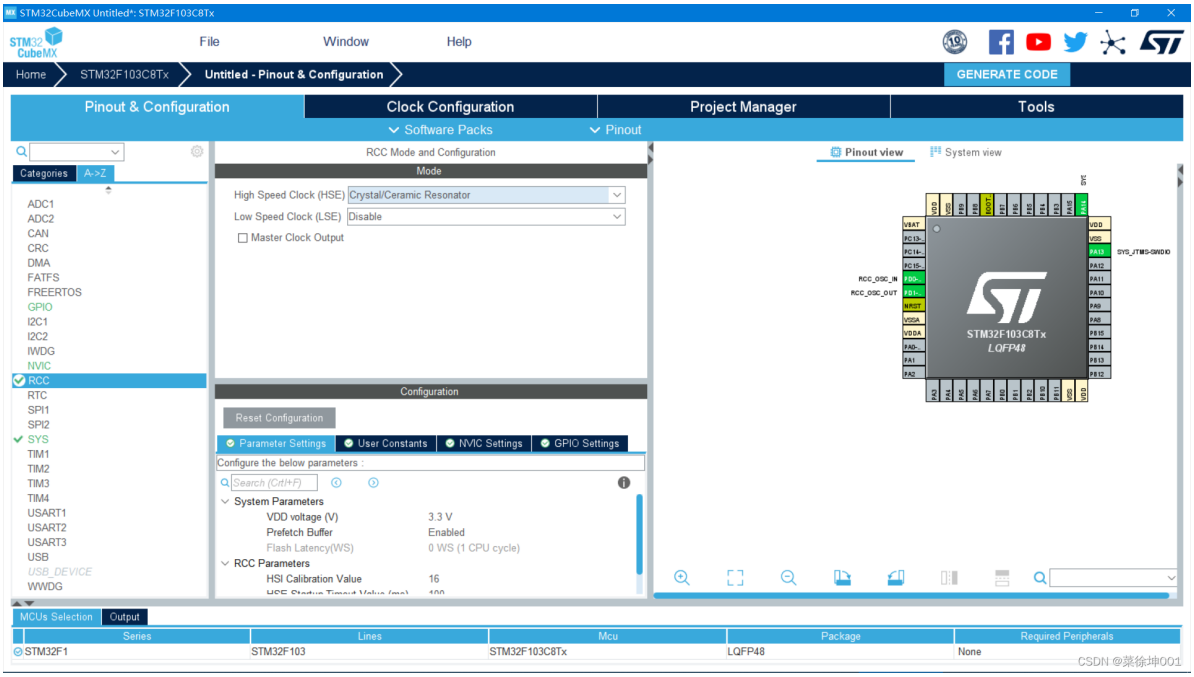
- 更换芯片为`STM32F103C8`


New Project from a MCU/MPU
MCU/MPU Selector
Board Selector
Example Selector
Cross Selector
MCU/MPU Filters
Part Number
STM32F103C8
Core
Series
Line
Package
Other
Peripheral
Features
Block Diagram
Docs & Resources
Datasheet
Buy
Start Project
STM32U5 ultra-low-power MCU series
with comprehensive STM32Cube ecosystem
MCUs/MPUs List: 1 item
Display similar items
Export
Part No
Reference
Marketing Stat...
Unit Price for 10kU (U...
Board
Package
Flash
RAM
IO
Freq.
STM32F103C8
STM32F103C8Tx
Active
2.419
LQFP48
64 kBytes
20 kBytes
37
72 MHz
CSDN @菜徐坤001

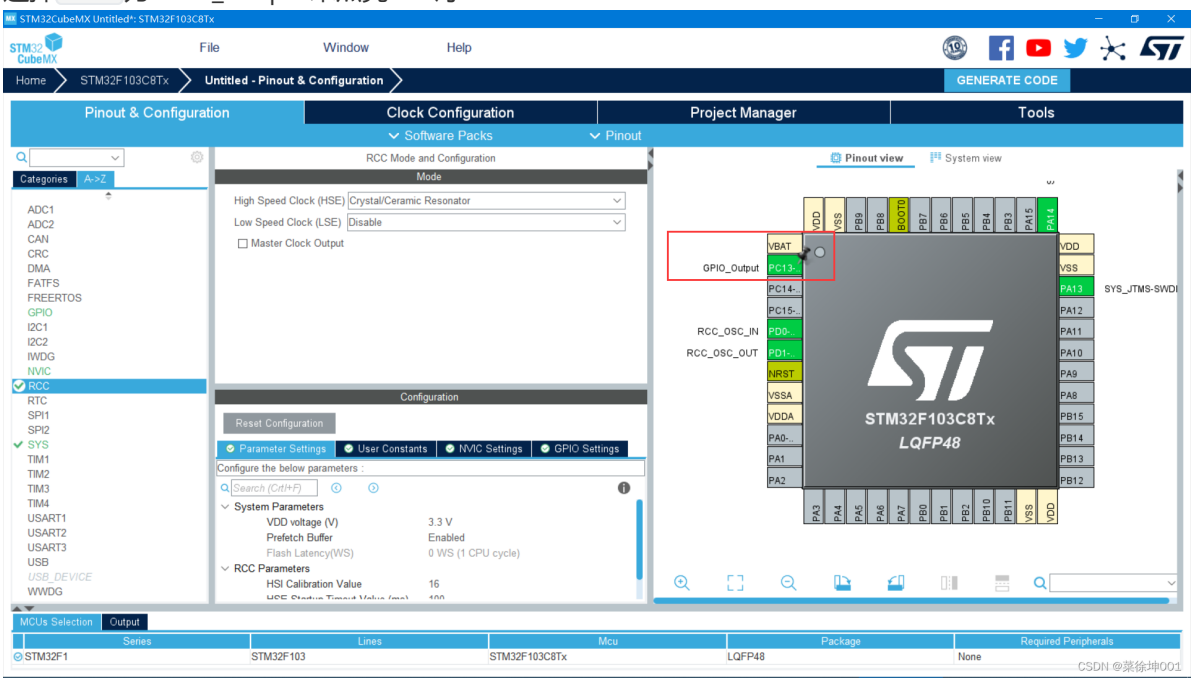
- 配置 SYS


STM32CubeMX Untitled*: STM32F103C8Tx
File
Window
Help
Home
STM32F103C8Tx
Untitled - Pinout & Configuration
GENERATE CODE
Pinout & Configuration
Clock Configuration
Project Manager
Tools
Software Packs
Pinout
Categories
A->Z
ADC1
ADC2
CAN
CRC
DMA
FATFS
FREERTOS
GPIO
I2C1
I2C2
IWDG
NVIC
RCC
RTC
SPI1
SPI2
SYS
TIM1
TIM2
TIM3
TIM4
USART1
USART2
USART3
USB
USB_DEVICE
WWDG
SYS Mode and Configuration
Mode
Debug
Serial Wire
System Wake-Up
Timebase Source
SysTick
Configuration
Warning: This peripheral has no parameters to be configured.
Pinout view
System view
STM32F103C8Tx
LQFP48
MCUs Selection
Output
Series
Lines
Mcu
Package
Required Peripherals
STM32F1
STM32F103
STM32F103C8Tx
LQFP48
None
CSDN @菜徐坤001

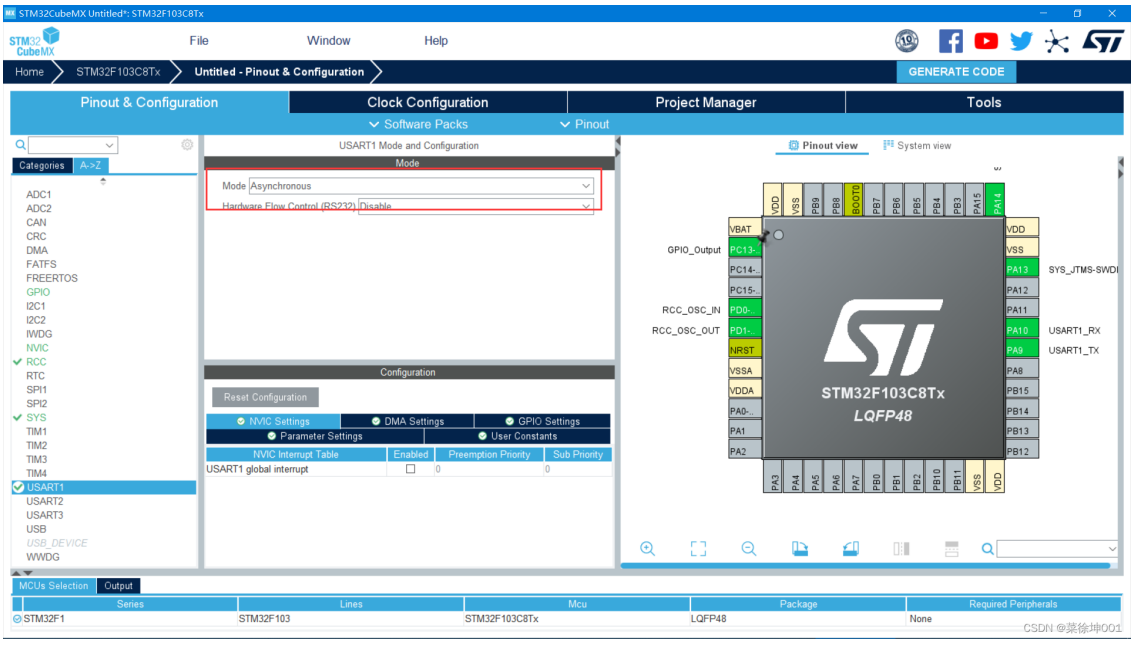
- 配置 RCC



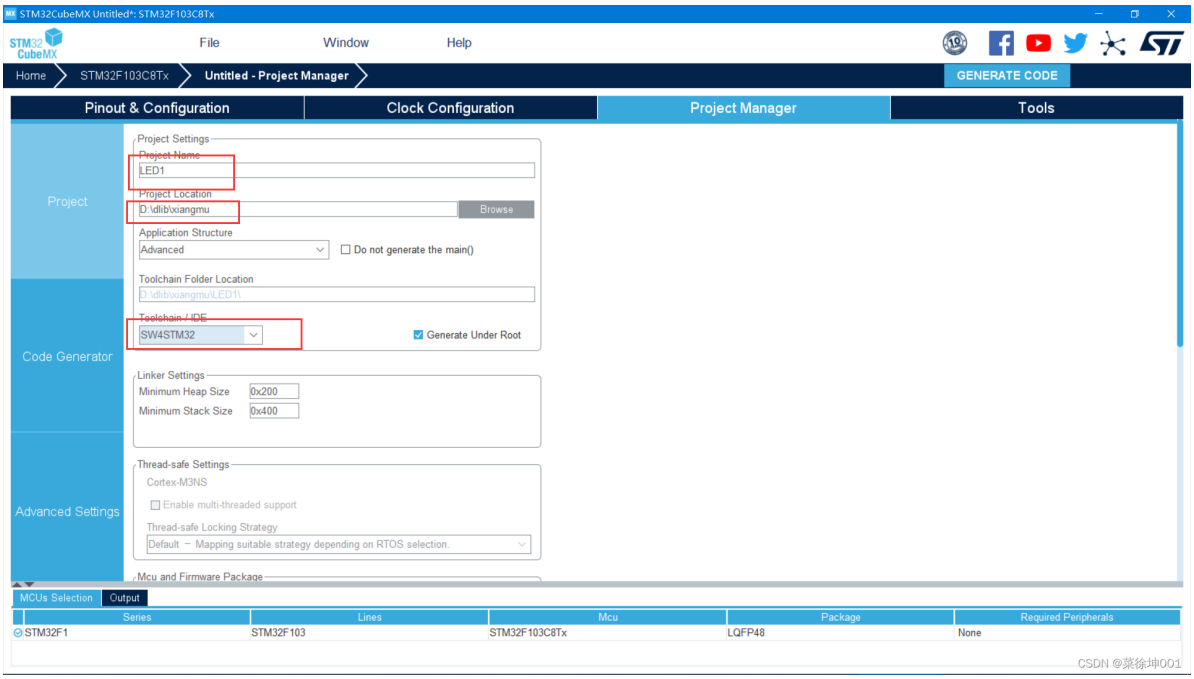
选择 PC13 为GPIO_Output来点亮LED灯



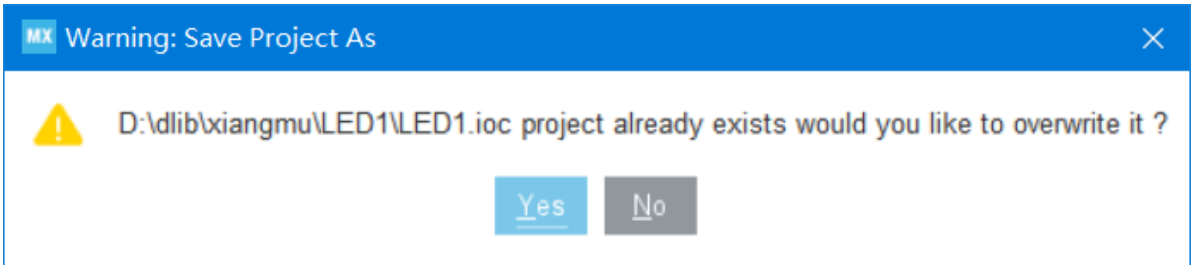
- 配置串口 USTART1



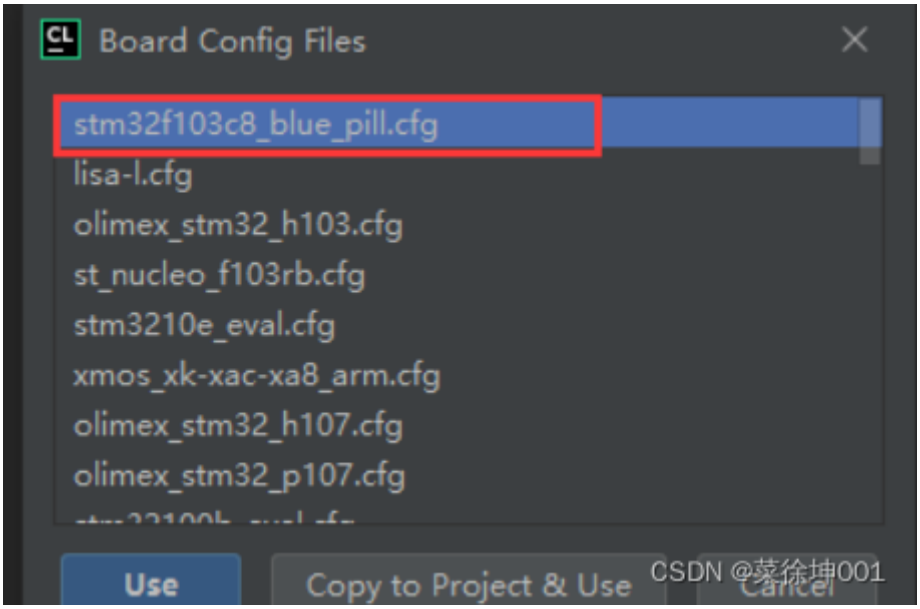
- 将工程文件名和路径设置成与CLion工程相同，以覆盖原有文件，" Toolchain/IDE "选择SW4STM32。



- 覆盖成功

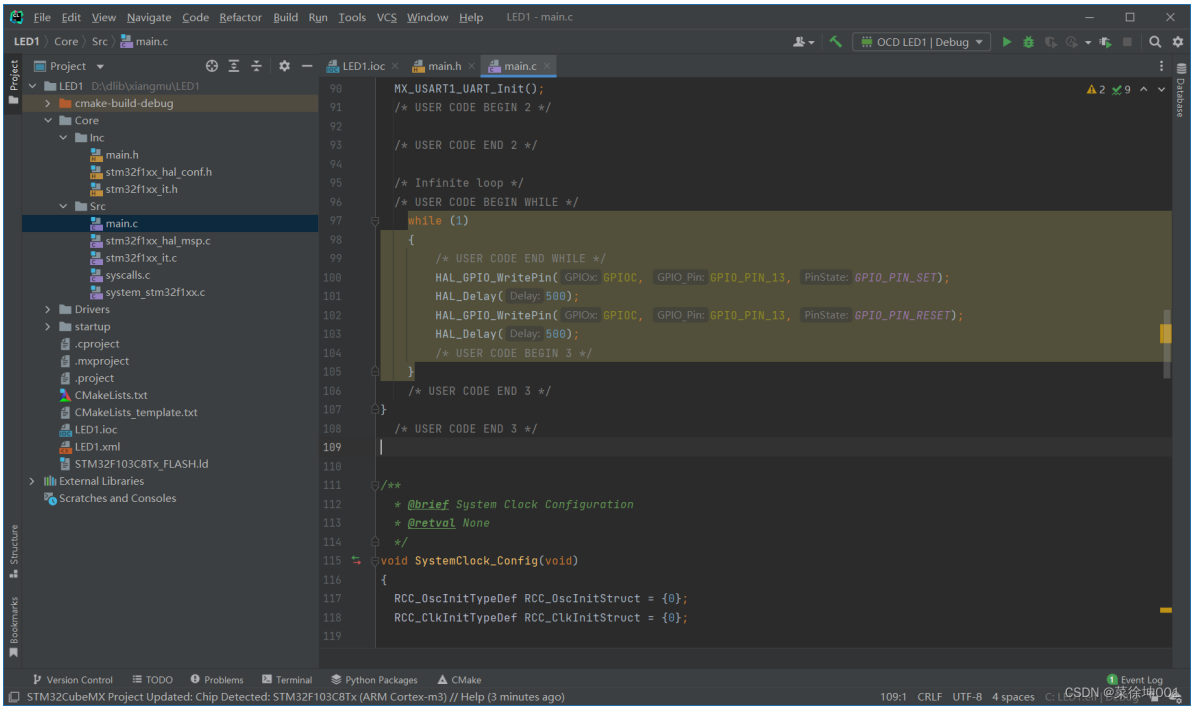


- 回到clion会弹出一个页面，选择`stm32f103c8_blue_pill.cfg`

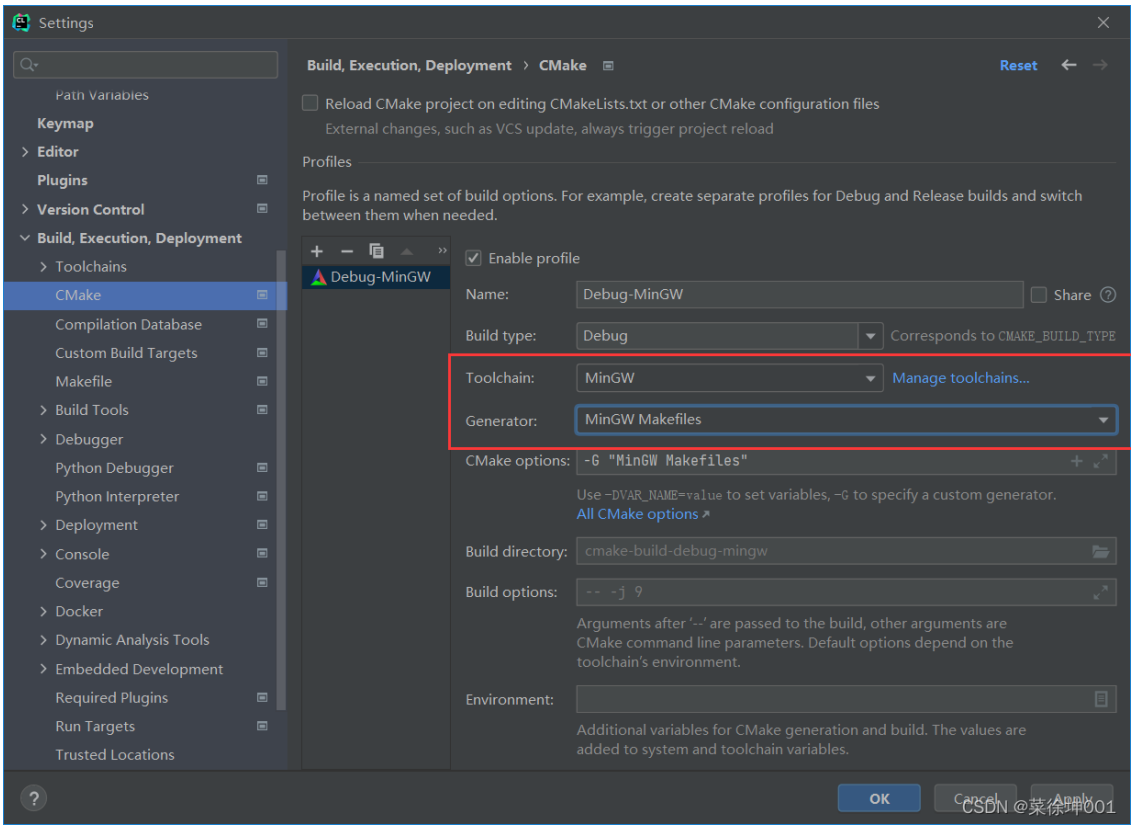


- 在`main.c`中添加以下代码：

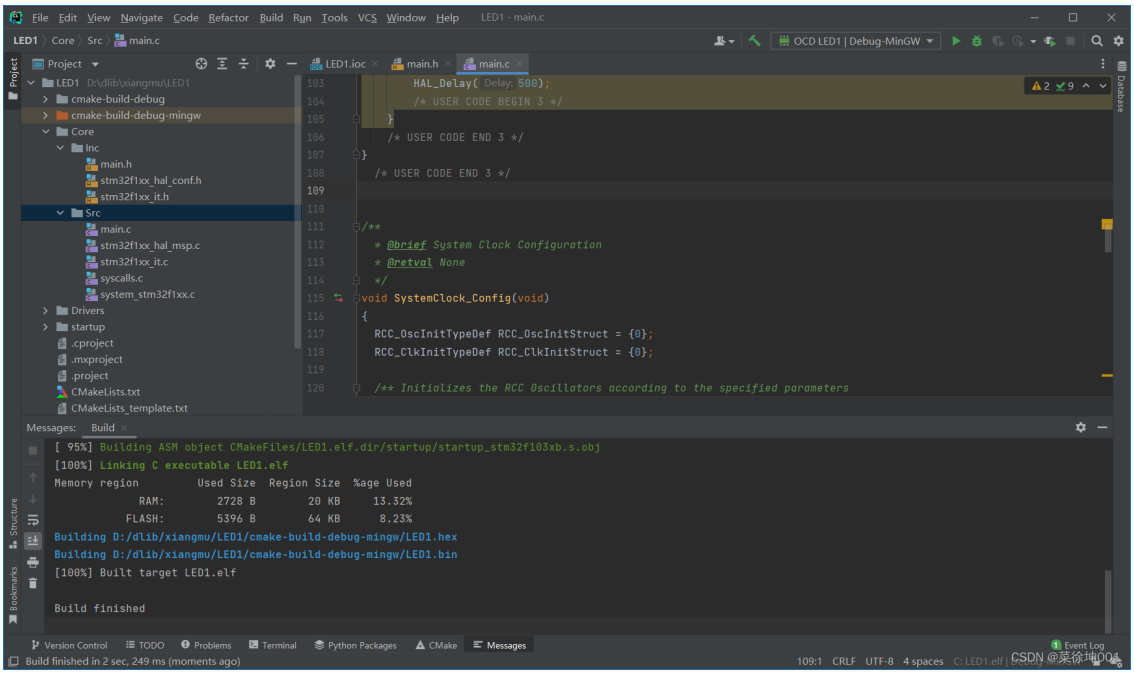
```
while (1)
  {
    /* USER CODE END WHILE */
      HAL_GPIO_WritePin(GPIOC, GPIO_PIN_13, GPIO_PIN_SET);
      HAL_Delay(500);
      HAL_GPIO_WritePin(GPIOC, GPIO_PIN_13, GPIO_PIN_RESET);
      HAL_Delay(500);
    /* USER CODE BEGIN 3 */
  }
  /* USER CODE END 3 */
}
```



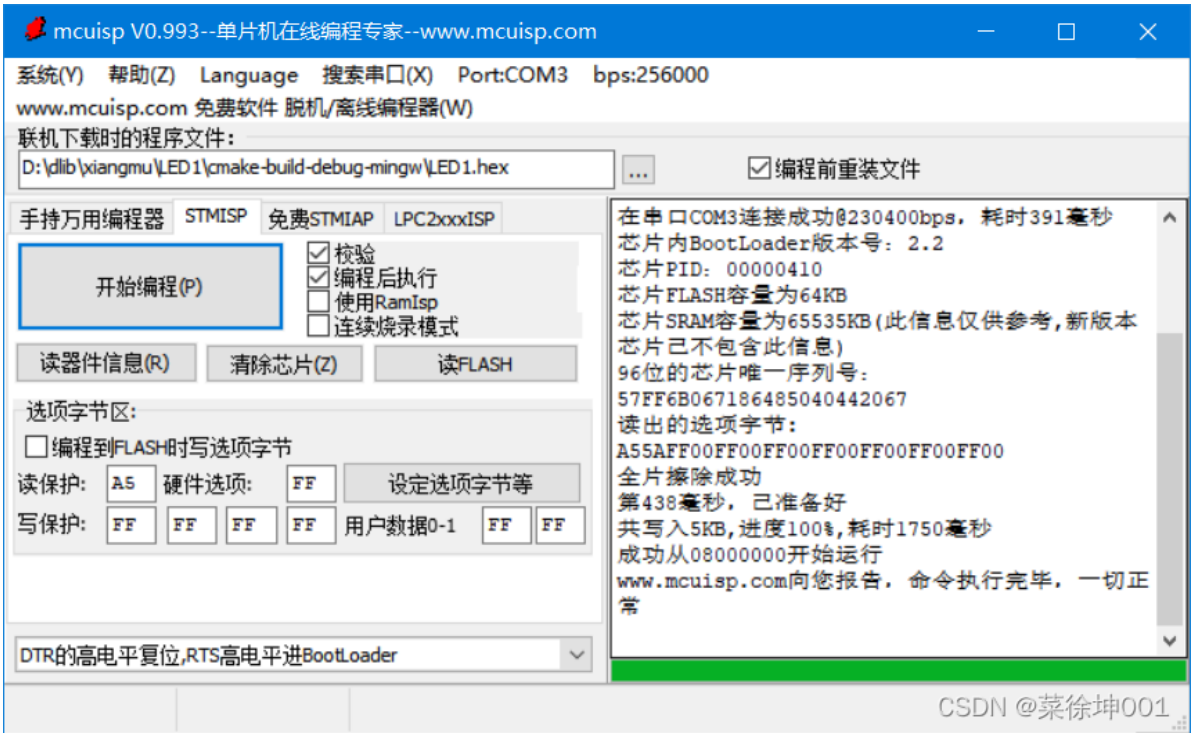
- 然后`File-Settings-Build-CMake`，如下图修改，点击OK



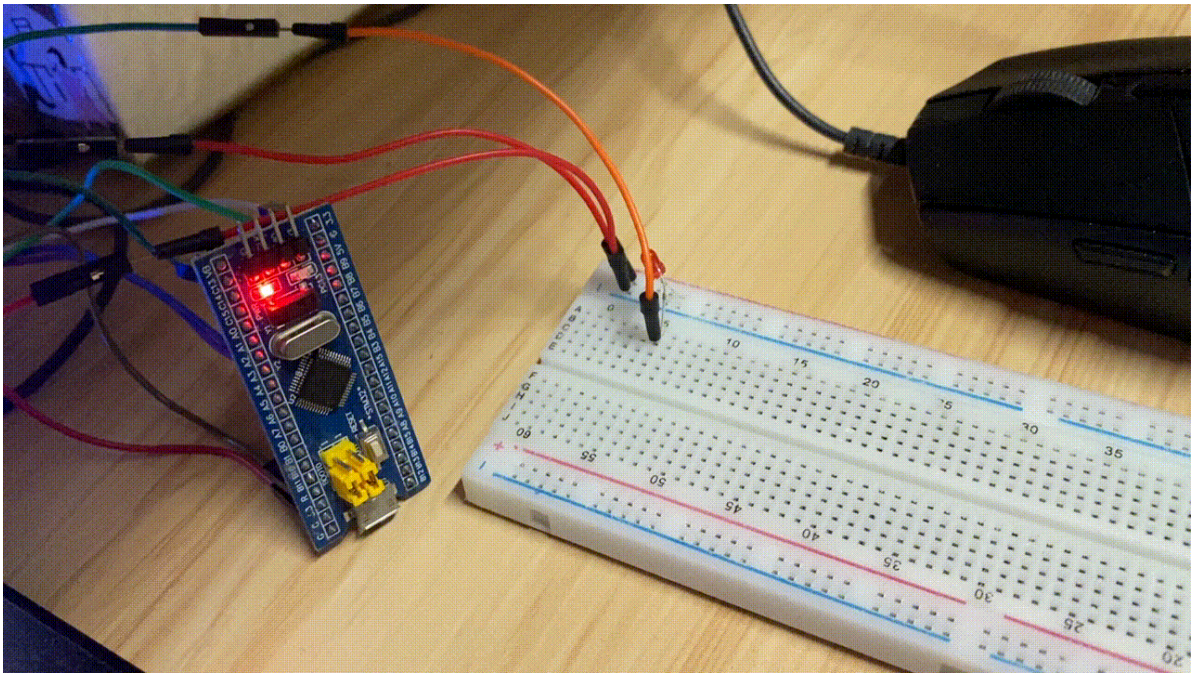
点击绿色小锤子编译，编译成功。



- 烧录



运行结果



三、总结

CLion相对于keil方便了很多，减少了很多工作量。

四、参考资料

https://blog.csdn.net/m0_58892312/article/details/121866325
https://blog.csdn.net/qq_60678931/article/details/121866156