

# ST17H36B 开发

LENZE YQ

# 培训内容

- 开发环境搭建
- 编译项目
- 调试烧录
- SDK介绍
- 新建工程编译

# 一、开发环境搭建

- 集成开发环境-[NucleiStudio](#)（推荐最新）



- [Python](#) (3.8以上版本)
- [Vs-code](#)

# Python 模块安装

- 安装完python后，在终端输入 **python --version** 检验是否安装成功；
- 终端输入 **pip install pyyaml** 等待安装完成；
- 终端输入 **pip install GitPython** 等待安装完成；

```
C:\Users\LENZE_YQ>pip install pyyaml
Defaulting to user installation because normal site-packages is not writeable
Collecting pyyaml
  Downloading PyYAML-6.0.1-cp38-cp38-win_amd64.whl (157 kB)
    |#####| 157 kB 7.0 kB/s
Installing collected packages: pyyaml
Successfully installed pyyaml-6.0.1
WARNING: You are using pip version 21.1.1; however, version 24.1.2 is available.
You should consider upgrading via the 'c:\program files\python38\python.exe -m pip install --up
```

```
C:\Users\LENZE_YQ>pip install GitPython
Defaulting to user installation because normal site-packages is not writeable
Collecting GitPython
  Downloading GitPython-3.1.43-py3-none-any.whl (207 kB)
    |#####| 207 kB 8.2 kB/s
Collecting gitdb<5,>=4.0.1
  Downloading gitdb-4.0.11-py3-none-any.whl (62 kB)
    |#####| 62 kB 7.3 kB/s
Collecting smmap<6,>=3.0.1
  Downloading smmap-5.0.1-py3-none-any.whl (24 kB)
Installing collected packages: smmap, gitdb, GitPython
Successfully installed GitPython-3.1.43 gitdb-4.0.11 smmap-5.0.1
WARNING: You are using pip version 21.1.1; however, version 24.1.2 is available.
You should consider upgrading via the 'c:\program files\python38\python.exe -m pip install --upgrade pip' command.
```

# 编译工具

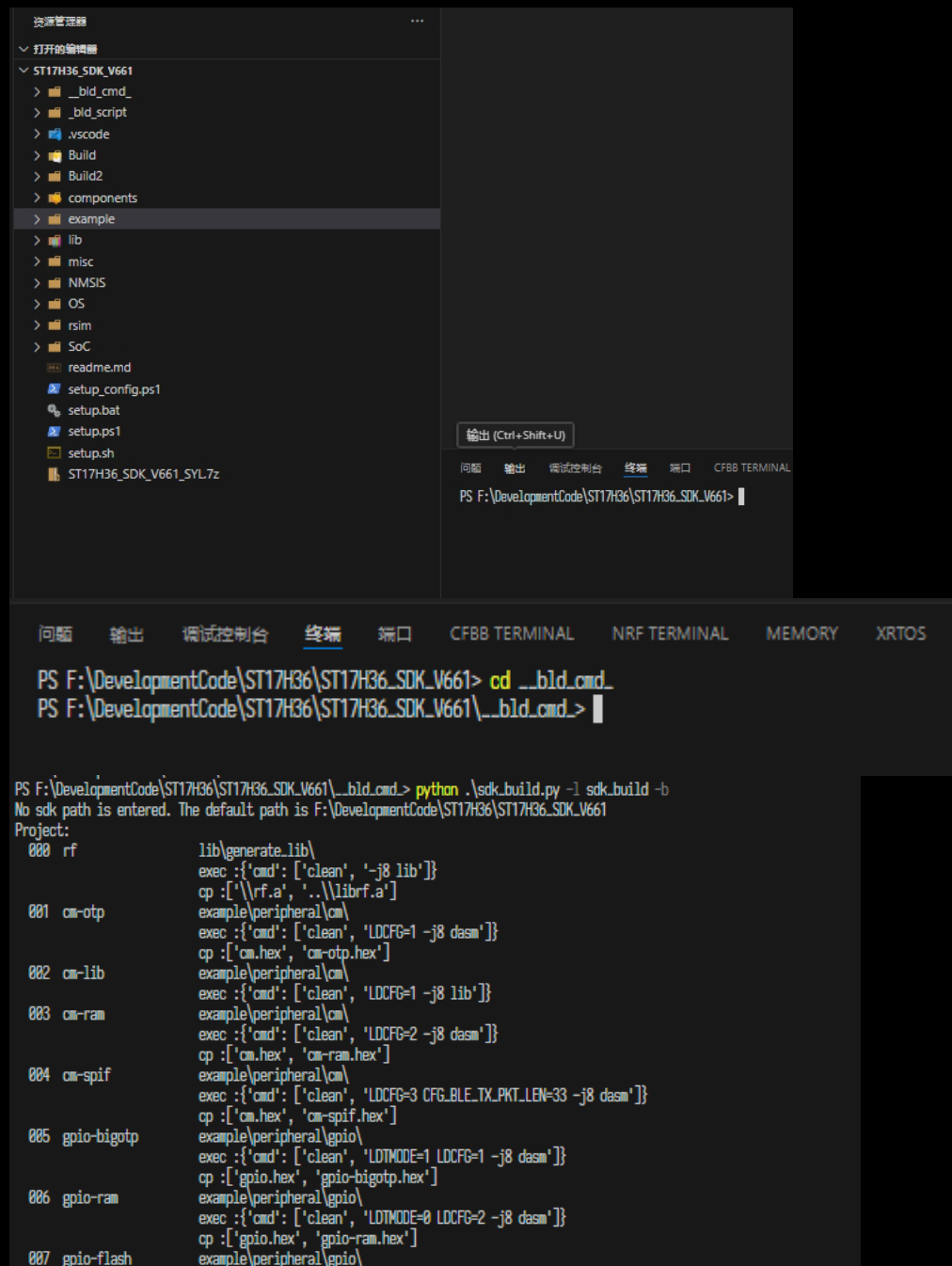
- 将下载的NucleiStudio\_IDE压缩包解压，路径不要包含中文及空格；
- **\_bld\_script**文件夹下 **riscv\_make.yml** 为编译toolchain路径，根据实际路径修改；

```
- D:\software\tool\nuclei300010\toolchain  
  
tPath4:  
- F:\software\NucleiStudio_IDE_202212-win64\NucleiStudio\toolchain  
  
tPath5:  
- F:\software\NucleiStudio_IDE_202406-win64\NucleiStudio\toolchain
```



## 二、工程编译

- 在vscode中打开SDK文件，按 **Ctrl+~** 键打开终端窗口；
- 在终端中输入 **cd \_\_bld\_cmd\_** ,切换目录
- 在终端中输入 **python .\sdk\_build.py -l sdk\_build -b** 回车后，出现各个工程的序号、工程名称及预编译设置
- 在 **input id:** 处输入工程序号回车即可编译对应工程，例如：输入017，编译 **sbp** 工程，编译成功后，输出文件在工程文件夹， **工程名称.hex**



```
资源管理器
  打开的编辑器
  ST17H36_SDK_V661
    > __bld_cmd_
    > __bld_script_
    > .vscode
    > Build
    > Build2
    > components
    > example
    > lib
    > misc
    > NMSIS
    > OS
    > rsim
    > SoC
    > readme.md
    > setup_config.ps1
    > setup.bat
    > setup.ps1
    > setup.sh
    > ST17H36_SDK_V661_SYL7z

输出 (Ctrl+Shift+U)
问题 输出 调试控制台 终端 端口 CFBB TERMINAL
PS F:\DevelopmentCode\ST17H36\ST17H36_SDK_V661>

问题 输出 调试控制台 终端 端口 CFBB TERMINAL NRF TERMINAL MEMORY XRTOS
PS F:\DevelopmentCode\ST17H36\ST17H36_SDK_V661> cd __bld_cmd_
PS F:\DevelopmentCode\ST17H36\ST17H36_SDK_V661\__bld_cmd_>

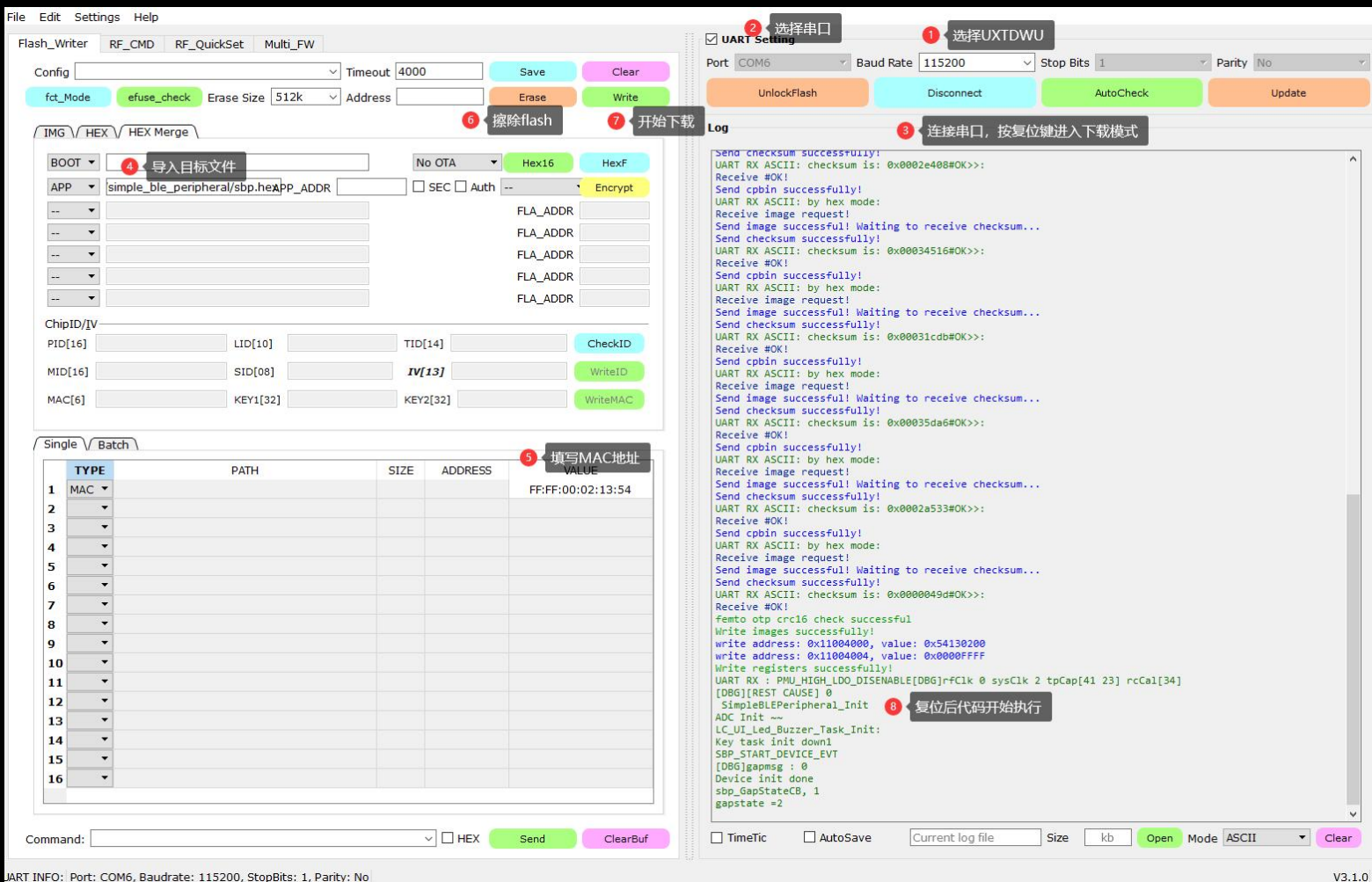
PS F:\DevelopmentCode\ST17H36\ST17H36_SDK_V661\__bld_cmd_> python .\sdk_build.py -l sdk_build -b
No sdk path is entered. The default path is F:\DevelopmentCode\ST17H36\ST17H36_SDK_V661
Project:
000 rf lib\generate_lib\
    exec :{'cmd': ['clean', '-j8 lib']}
    cp :['\\rf.a', '..\librf.a']
001 cm-otp example\peripheral\cm\
    exec :{'cmd': ['clean', 'LOCFG=1 -j8 dasm']}
    cp :['cm.hex', 'cm-otp.hex']
002 cm-lib example\peripheral\cm\
    exec :{'cmd': ['clean', 'LOCFG=1 -j8 lib']}
003 cm-ram example\peripheral\cm\
    exec :{'cmd': ['clean', 'LOCFG=2 -j8 dasm']}
    cp :['cm.hex', 'cm-ram.hex']
004 cm-spif example\peripheral\cm\
    exec :{'cmd': ['clean', 'LOCFG=3 CFG_BLE_TX_PKT_LEN=33 -j8 dasm']}
    cp :['cm.hex', 'cm-spif.hex']
005 gpio-bigotp example\peripheral\gpio\
    exec :{'cmd': ['clean', 'LOTMODE=1 LOCFG=1 -j8 dasm']}
    cp :['gpio.hex', 'gpio-bigotp.hex']
006 gpio-ram example\peripheral\gpio\
    exec :{'cmd': ['clean', 'LOTMODE=0 LOCFG=2 -j8 dasm']}
    cp :['gpio.hex', 'gpio-ram.hex']
007 gpio-flash example\peripheral\gpio\
```



## 三、调试烧录

### FLASH烧录

- 与H66烧录方式一样
- 接VCC、P6、P7、GND到下载工具VCC、P9、P10、GND
- 选择UXTDWU模式，连接串口，按下载工具复位按键，进入下载模式，点击Erase擦除数据，点击Write开始下载，完成后按复位即可。



## 四、SDK介绍

- 以simple\_ble\_peripheral工程为例，工程编译依赖为当前文件夹**Makefile**文件，包含依赖宏定义及所需源文件及头文件路径
- 文件夹包含的**.ld文件**为编译链接文件，分别为flash、OTP、uartrun三种编译条件，根据不同需求在Makefile中选择
- 编译过程中的**Error**和**Warning**在\_**ld.txt**文件中，可以根据提示定位





## 五、新建工程

- 如需在现有工程基础上新建工程，在 `bld script/sdk bulid.yml` 文件中添加新建的工程名称，路径和编译命令。
- 以 `simple ble peripheral` 工程为例，在此基础上新建一个名称为 `sbp2` 的工程编译

```
79
80 sbp:
81 - example\ble_peripheral\simple_ble_peripheral\
82 - {'cmd': ['clean', 'YML_DEF_EXT_ADVSCAN_MODE=0 -j8 dasm map']}
83
84 sbp2:
85 - example\ble_peripheral\simple_ble_peripheral\
86 - {'cmd': ['clean', 'YML_DEF_EXT_ADVSCAN_MODE=0 -j8 dasm map']}
87
88 sbp_lightbar:
89 - example\ble_peripheral\simple_ble_lightbar\
90
```

问题 输出 调试控制台 终端 端口 CFB8 TERMINAL NRF TERMINAL MEMORY XRTOS

```
017 sbp exec :{'cmd': ['clean', '-j8 dasm map']}
example\ble_peripheral\simple_ble_peripheral\
018 sbp2 exec :{'cmd': ['clean', 'YML_DEF_EXT_ADVSCAN_MODE=0 -j8 dasm map']}
example\ble_peripheral\simple_ble_peripheral\
exec :{'cmd': ['clean', 'YML_DEF_EXT_ADVSCAN_MODE=0 -j8 dasm map']}
019 sbp_lightbar exec :{'cmd': ['clean', 'YML_DEF_EXT_ADVSCAN_MODE=0 -j8 dasm map']}
example\ble_peripheral\simple_ble_lightbar\
exec :{'cmd': ['clean', 'YML_DEF_EXT_ADVSCAN_MODE=0 -j8 dasm map']}
```

谢谢观看

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