



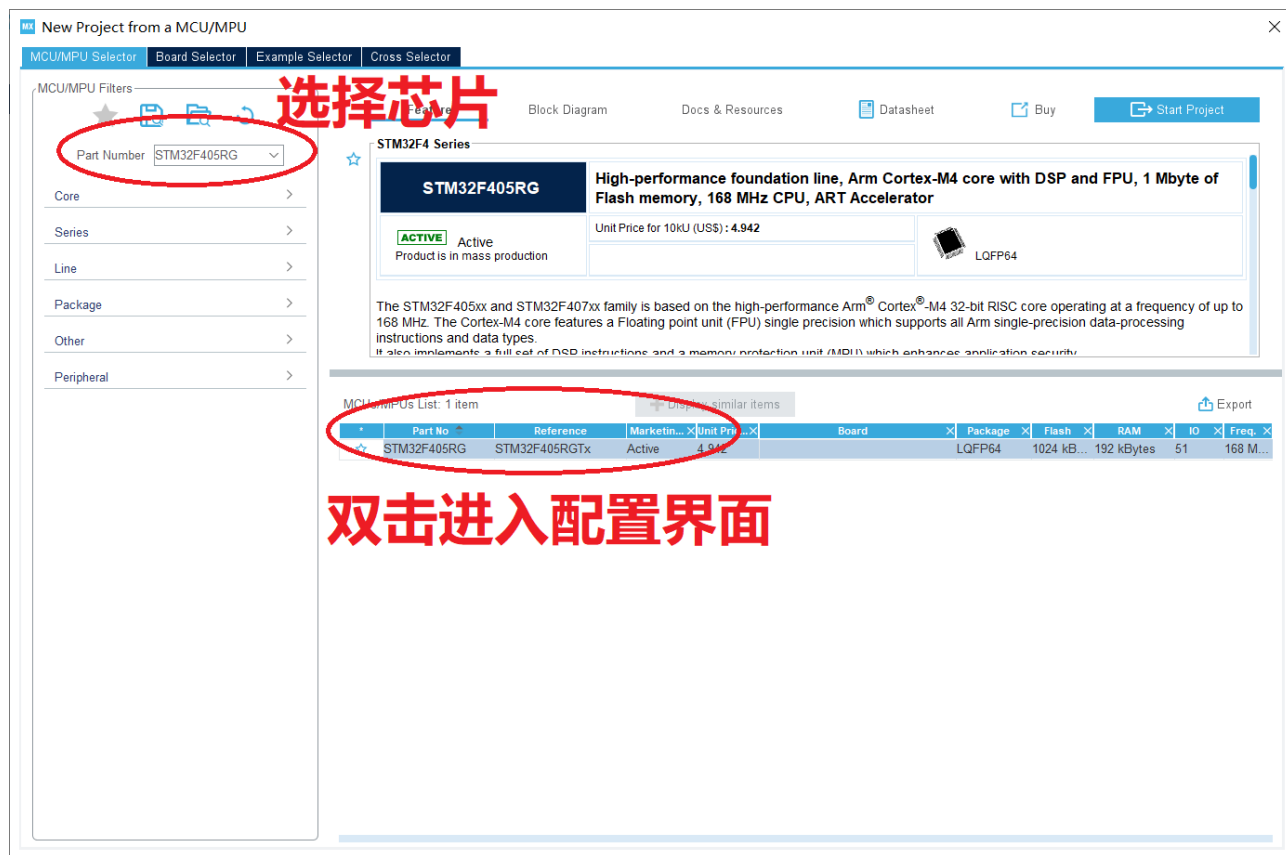
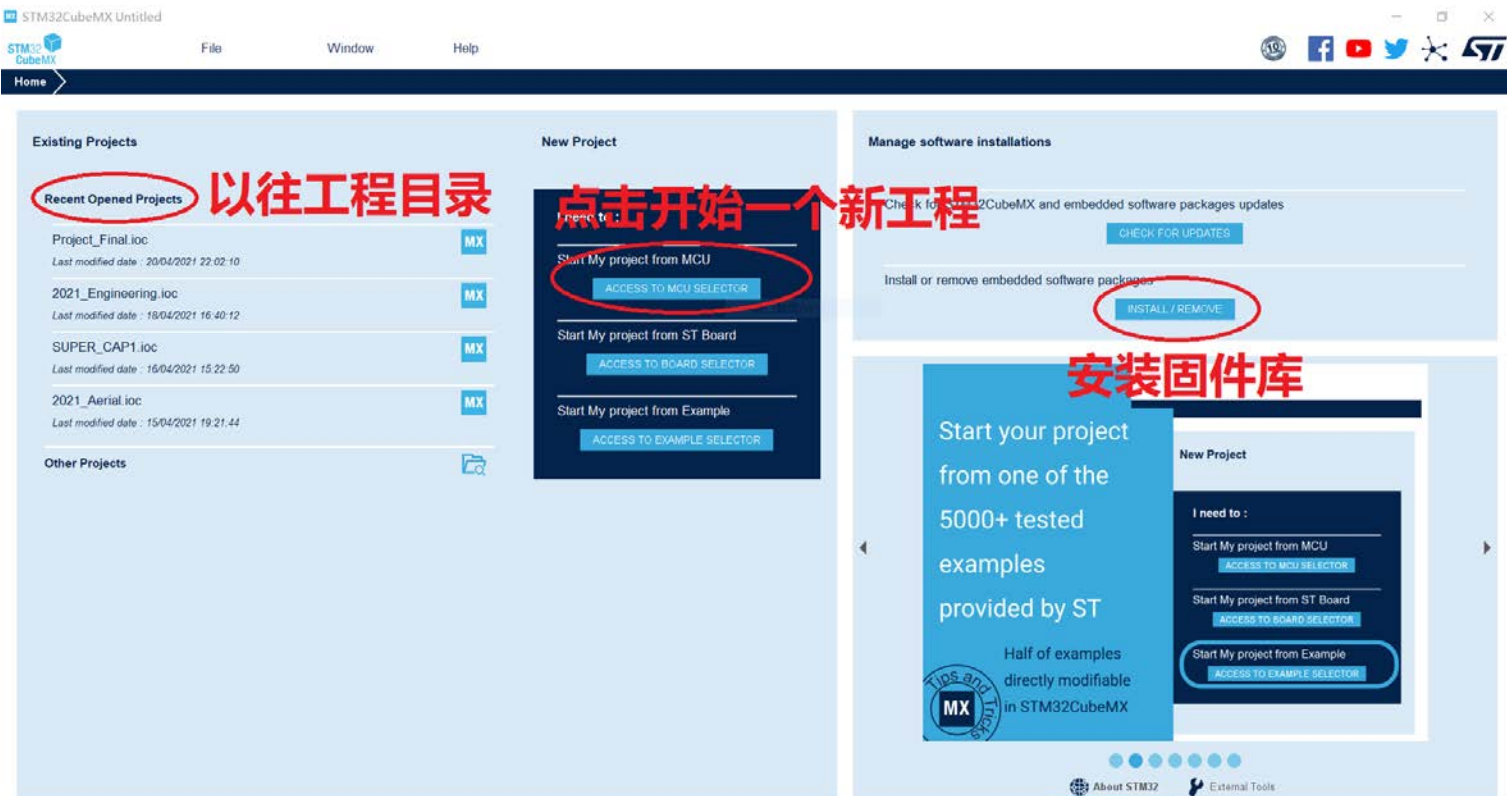
基础配置、时钟系统、文件生成

目录

STM32CubeMX 软件使用	2
注意事项.....	5



STM32CubeMX 软件使用





STM32CubeMX Untitled*: STM32F405RGTx

File Window Help

Home STM32F405RGTx Untitled - Pinout & Configuration GENERATE CODE

Pinout & Configuration Clock Configuration Project Manager Tools

Categories A-Z

- System Core
- DMA
- GPIO
- IWDG
- NVIC
- RCC**
- SWD
- WWDG
- Analog
- Timers
- Connectivity
- Multimedia
- Security
- Computing
- Middleware

RCC Mode and Configuration

High Speed Clock (HSE) Crystal/Ceramic Resonator

Low Speed Clock (LSE) Disable

Master Clock Output 1

Master Clock Output 2

Audio Clock Input (I2S_CKIN)

Configuration

Configure the below parameters:

Search (Ctrl+F)

System Parameters

VDD voltage (V) 3.3 V

Instruction Cache Enabled

Prefetch Buffer Enabled

Data Cache Enabled

Flash Latency (WS) 0 WS (1 CPU cycle)

RCC Parameters

HSI Calibration Value 16

HSE Startup Timeout Value (ms) 100

Pinout view System view

STM32F405RGTx LQFP64

MCUs Selection Output

Series	Lines	Mcu	Package	Required Peripherals
STM32F4	STM32F405/415	STM32F405RGTx	LQFP64	None

系统内核System Core

时钟选项RCC

使能外部高速石英、晶体振荡器HSE

STM32CubeMX Untitled*: STM32F405RGTx

File Window Help

Home STM32F405RGTx Untitled - Pinout & Configuration GENERATE CODE

Pinout & Configuration Clock Configuration Project Manager Tools

Categories A-Z

- System Core
- DMA
- GPIO
- IWDG
- NVIC
- SYS**
- SWD
- WWDG
- Analog
- Timers
- Connectivity
- Multimedia
- Security
- Computing
- Middleware

SYS Mode and Configuration

Mode

Serial Wire

System Wake-Up

Timebase Source TIM14

Configuration

Configure the below parameters:

Serial Wire

System Wake-Up

Timebase Source

Pinout view System view

STM32F405RGTx LQFP64

MCUs Selection Output

Series	Lines	Mcu	Package	Required Peripherals
STM32F4	STM32F405/415	STM32F405RGTx	LQFP64	None

系统内核System Core

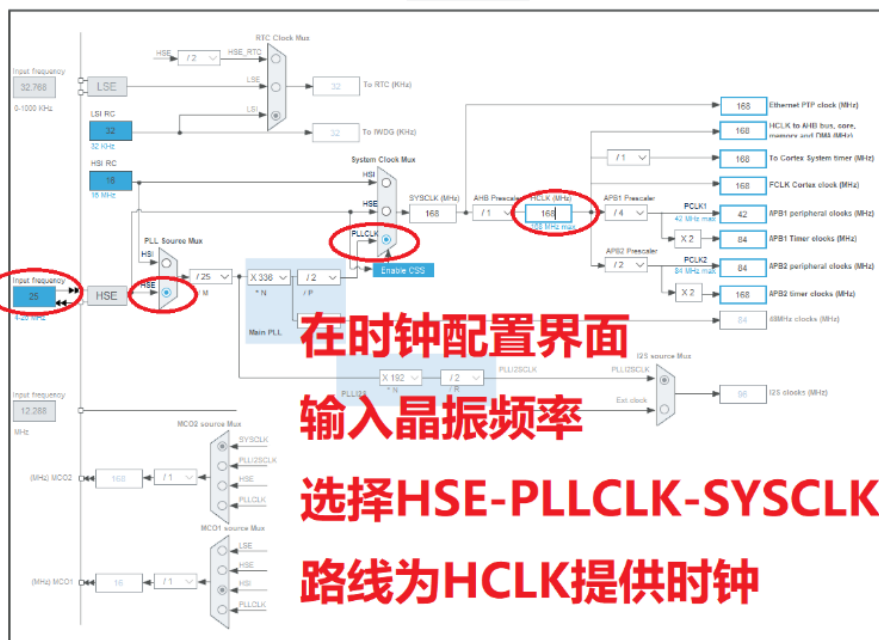
系统SYS

选择调试接口为Serial Wire

选择系统时钟源由TIM14生成



STM32CubeMX Untitled*: STM32F405RGTx



在时钟配置界面
输入晶振频率
选择HSE-PLLCLK-SYSCLK
路线为HCLK提供时钟



STM32CubeMX Untitled*: STM32F405RGTx



Pinout & Configuration	Clock Configuration	Project Manager	Tools										
<p>Project</p> <p>Project Name: <input type="text" value="Project_Test"/></p> <p>Project Location: <input type="text" value="E:\2021RM\"/></p> <p>Application Structure: <input type="text" value="Basic"/> <input type="checkbox"/> Do not generate the main()</p> <p>Toolchain Folder Location: <input type="text" value="E:\2021RM\Project_Test\"/></p> <p>Toolchain / IDE: <input type="text" value="MDK-ARM"/> Min Version: <input type="text" value="V5.27"/> <input type="checkbox"/> Generate Under Root</p> <p>Advanced Settings</p> <p>Linker Settings</p> <p>Minimum Heap Size: <input type="text" value="0x200"/></p> <p>Minimum Stack Size: <input type="text" value="0x400"/></p> <p>Mcu and Firmware Package</p> <p>Mcu Reference: <input type="text" value="STM32F405RGTx"/></p> <p>Firmware Package Name and Version: <input type="text" value="STM32Cube_FW_F4_V1.26.1"/> <input checked="" type="checkbox"/> Use latest available version</p> <p><input checked="" type="checkbox"/> Use Default Firmware Location</p> <p>Firmware Location: <input type="text" value="E:\Repository\STM32Cube_FW_F4_V1.26.1"/> <input type="button" value="Browse"/></p>													
<p>MCUs Selection</p> <table border="1"><thead><tr><th>Series</th><th>Lines</th><th>Mcu</th><th>Package</th><th>Required Peripherals</th></tr></thead><tbody><tr><td>STM32F4</td><td>STM32F405/415</td><td>STM32F405RGTx</td><td>LQFP64</td><td>None</td></tr></tbody></table>				Series	Lines	Mcu	Package	Required Peripherals	STM32F4	STM32F405/415	STM32F405RGTx	LQFP64	None
Series	Lines	Mcu	Package	Required Peripherals									
STM32F4	STM32F405/415	STM32F405RGTx	LQFP64	None									

在工程配置界面
输入工程名
选择工程文件夹
选择编译器
不能有中文字符!





STM32CubeMX Untitled*: STM32F405RGTx



File

Window

Help

最后点击右上方生成代码



GENERATE CODE

Pinout & Configuration	Clock Configuration	Project Manager	Tools
Project STM32Cube MCU packages and embedded software packs <input type="radio"/> Copy all used libraries into the project folder <input checked="" type="radio"/> Copy only the necessary library files <input type="radio"/> Add necessary library files as reference in the toolchain project configuration file			
Code Generator Generated files <input checked="" type="checkbox"/> Generate peripheral initialization as a pair of ".c"/".h" files per peripheral <input type="checkbox"/> Backup previously generated files when re-generating <input checked="" type="checkbox"/> Keep User Code when re-generating <input checked="" type="checkbox"/> Delete previously generated files when not re-generated			
Advanced Settings HAL Settings <input type="checkbox"/> Set all free pins as analog (to optimize the power consumption) <input type="checkbox"/> Enable Full Asset Template Settings Select a template to generate customized code Settings...			

MCUs Selection	Output			
Series	Lines	Mcu	Package	Required Peripherals
STM32F4	STM32F405/415	STM32F405RGTx	LQFP64	None

在代码配置界面
选择只复制需要的库文件
选择生成外设单独的源、
头文件
增加编译速度！



注意事项

在生成代码后，工程中可见如下字样：

```
1. /* Private includes -----  
   --*/  
2. /* USER CODE BEGIN Includes */  
3.  
4.  
5. //代码只能写在这里  
6.  
7.  
8. /* USER CODE END Includes */
```

其中，所有用户代码只能写在 USER CODE BEGIN 与 USER CODE END 之间
否则，在下次生成代码时，会造成用户代码丢失

25-FEB-2021

厦大嘉庚 TCR 嵌入式