How to flash firmware to Artillery Ruby board

Tools:

Firmware compilation: Visual Studio Code, PlatformIO

Firmware upload: Pronterface, STM32CubeProgrammer

Procedure:

Step 1

Follow the guide at https://marlinfw.org/docs/basics/install_platformio_vscode.html to install PlatformIO with VSCode.

Step 2

Download the latest firmware at https://github.com/artillery3d/

Step 3

Extract the source file and put it in the root folder of C or D drive (DO NOT put in folders with space in the path).

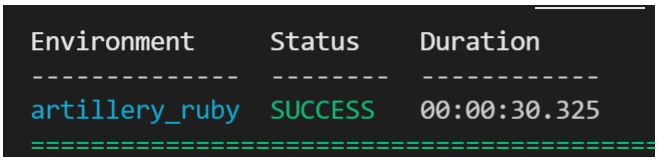
Step 4

In PlatformIO, click on Open project and browse to the source code folder.

Step 5

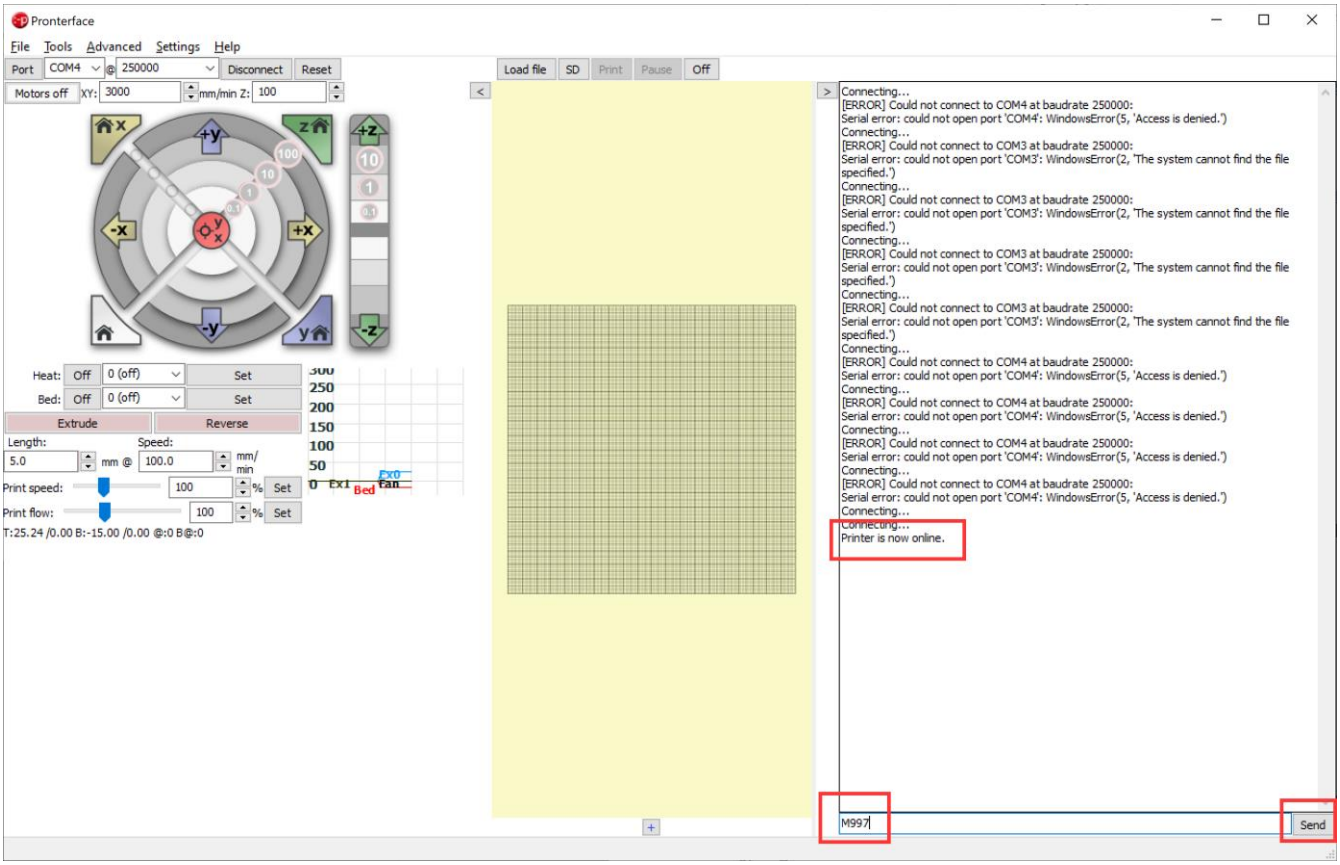
On bottom left of VSCode, click on PlatformIO:Build, PlatformIO will download the necessary files and compile the file. (It will take from a few minutes up to 30 minutes to download the necessary files for the first compilation, depends on the download speed of your internet connection, please be patience.)

You should see Success message when it compiled successfully.



Step 6

Use Pronterface to connect to the printer, and send command M997 to put printer into DFU mode, screen should turn black.



Step 7

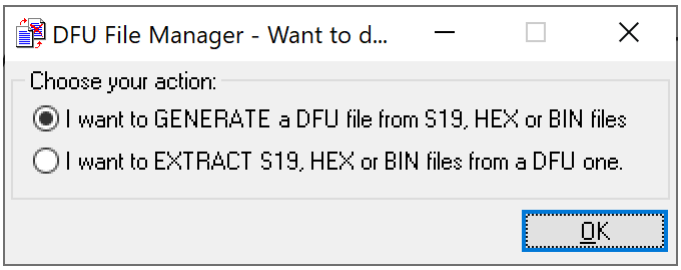
Opens up Device Manager, scroll down and expand Universal Serial Bus controllers, you should see a device named STM Device in DFU Mode or STM32 BOOTLOADER, proceed to Step 15 if you see STM32 BOOTLOADER.

Step 8

Download and install DfuSe Demo

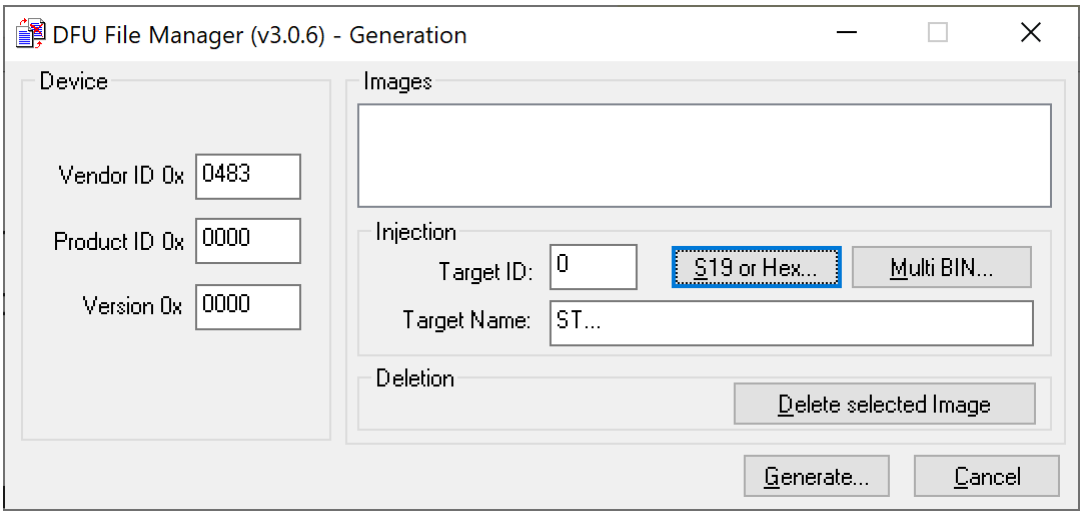
Step 9

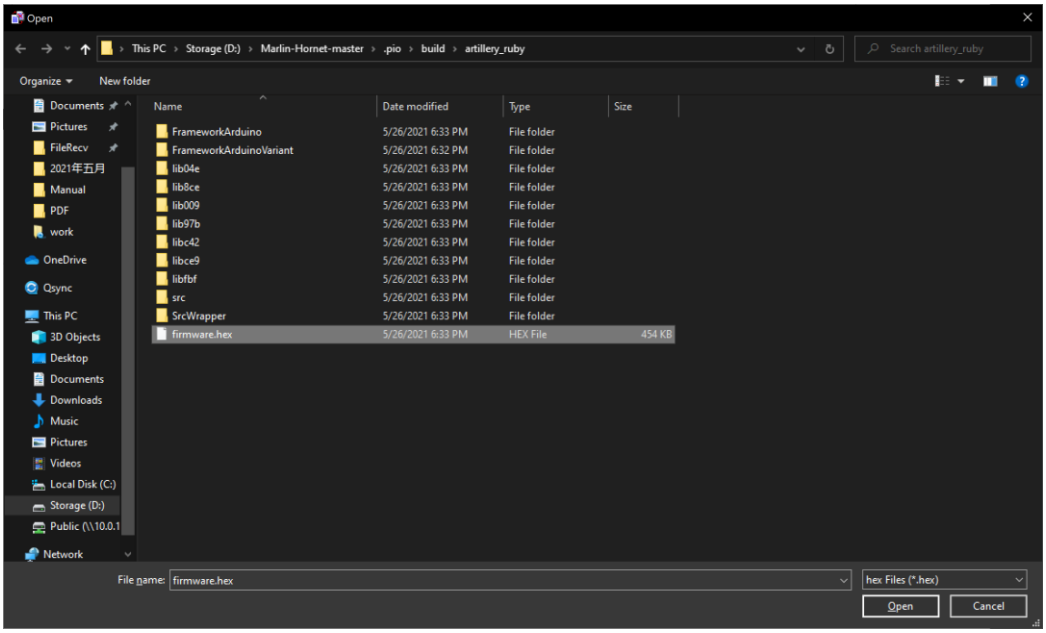
Open Dfu File Manager, choose I want to GENERATE a DFU file from S19, HEX or BIN files and click OK



Step 10

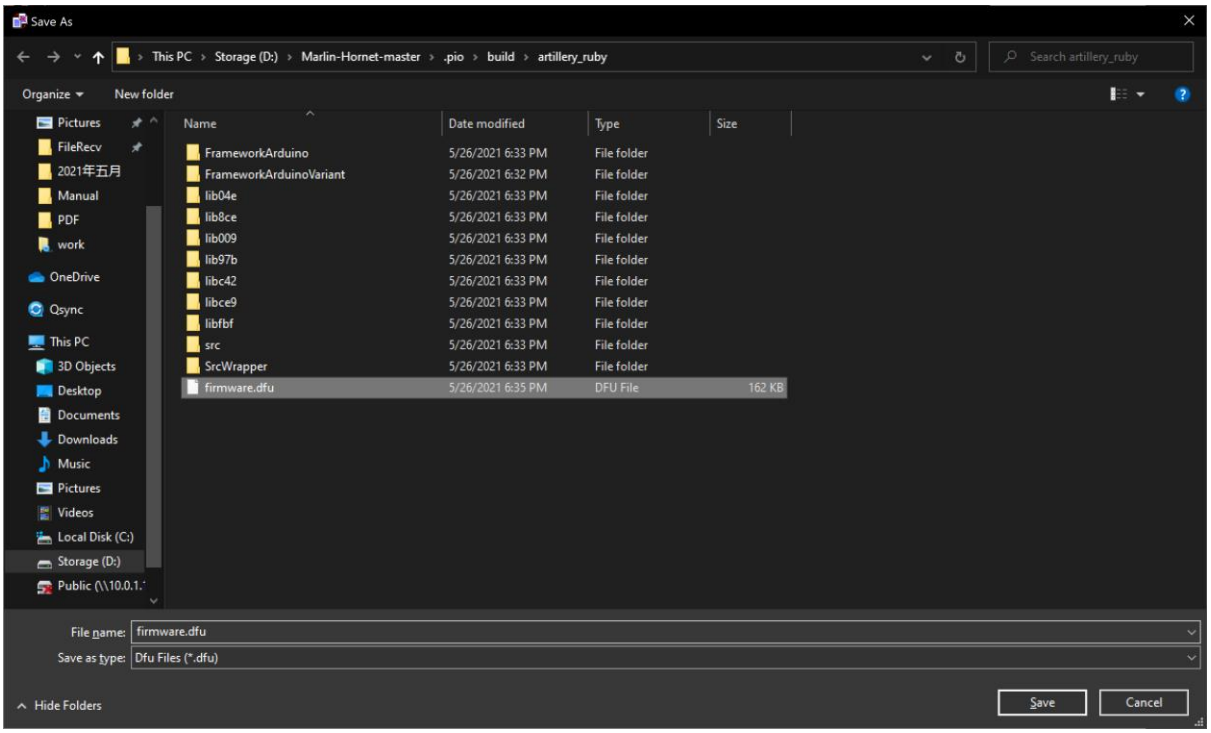
Click on S19 or Hex… then browse to [location of firmware source code]/.pio/build/artillery_ruby and choose firmware.hex





Step 11

Click on Generate… and choose where to save the generated file.

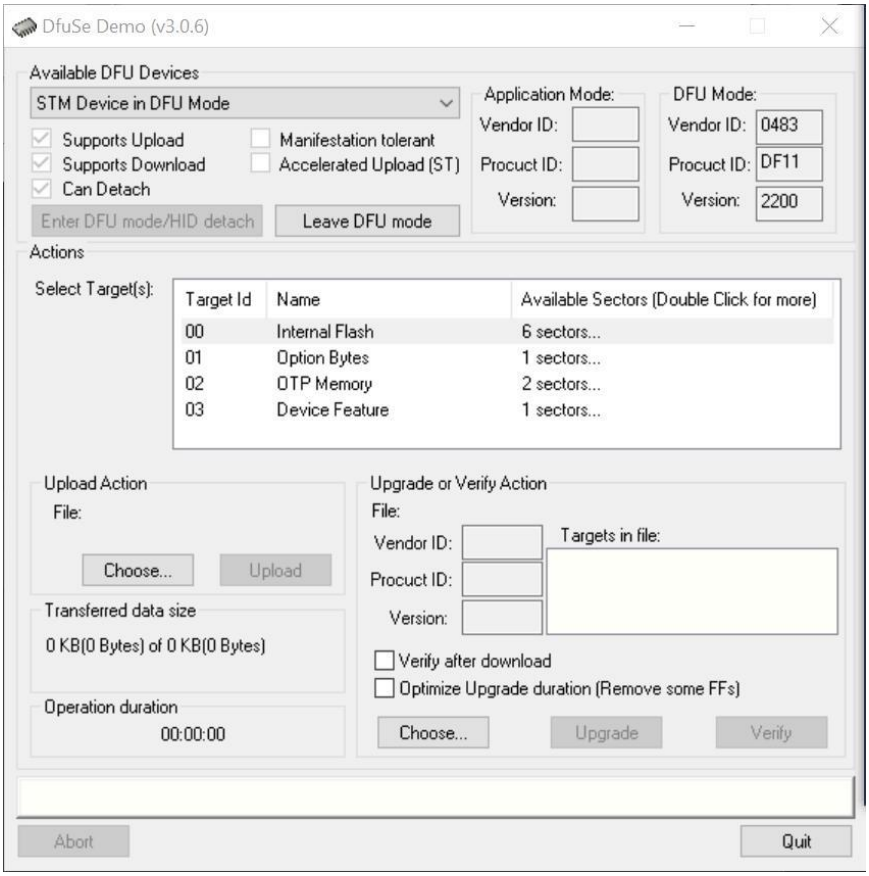


Step 12

Open DfuSe Demo

Step 13

Click on choose and browse to and select the generated DFU file, also, check the 2 boxes Verify after download and Optimize Upgrade duration



Step 14

Click on Upgrade and wait till it's done. And the firmware should be upgraded on the board.

Step 15

Download and install STM32CubeProgrammer from https://www.st.com/en/development-tools/stm32cubeprog.html

You don't need to register but need to fill in a correct email address to receive the actual download link for the program.

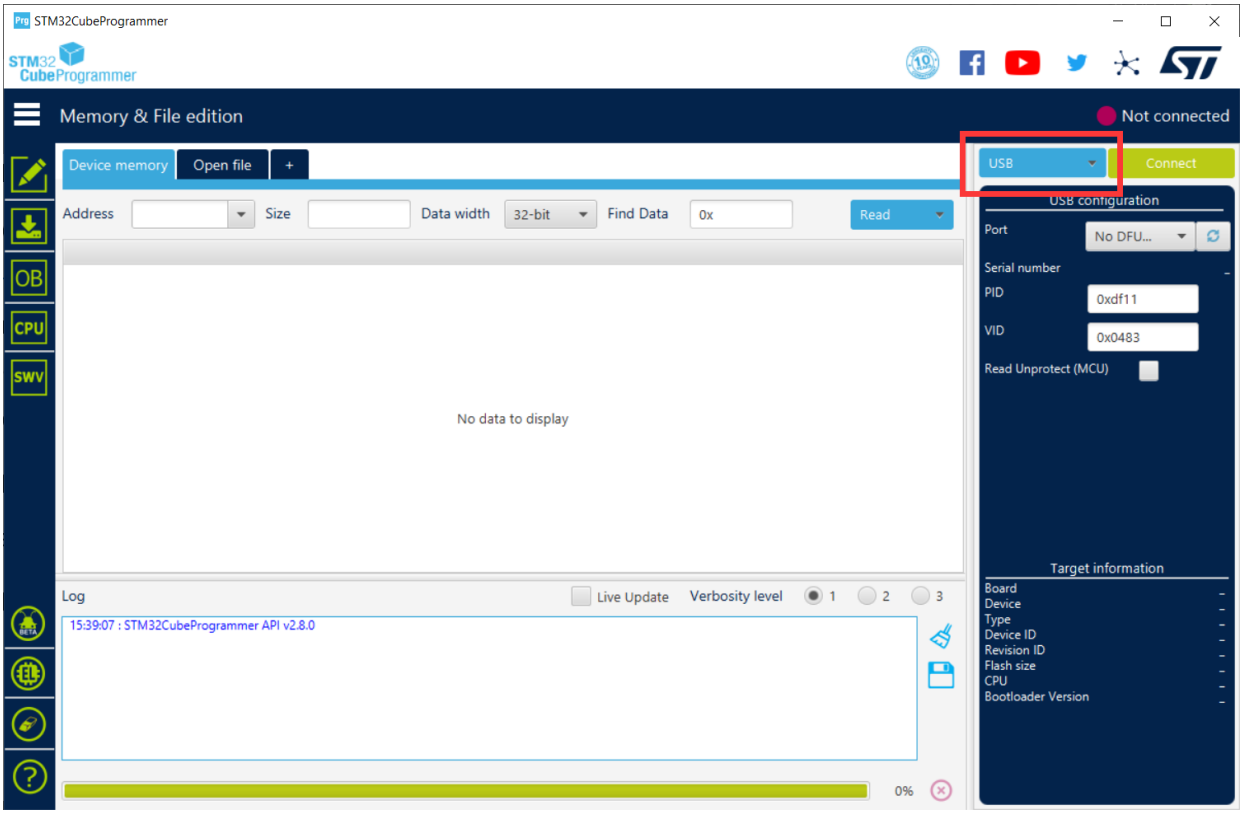
It will install the necessary driver during the installation process.

Step 16

Open STM32CubeProgrammer after sending M997 to mainboard.

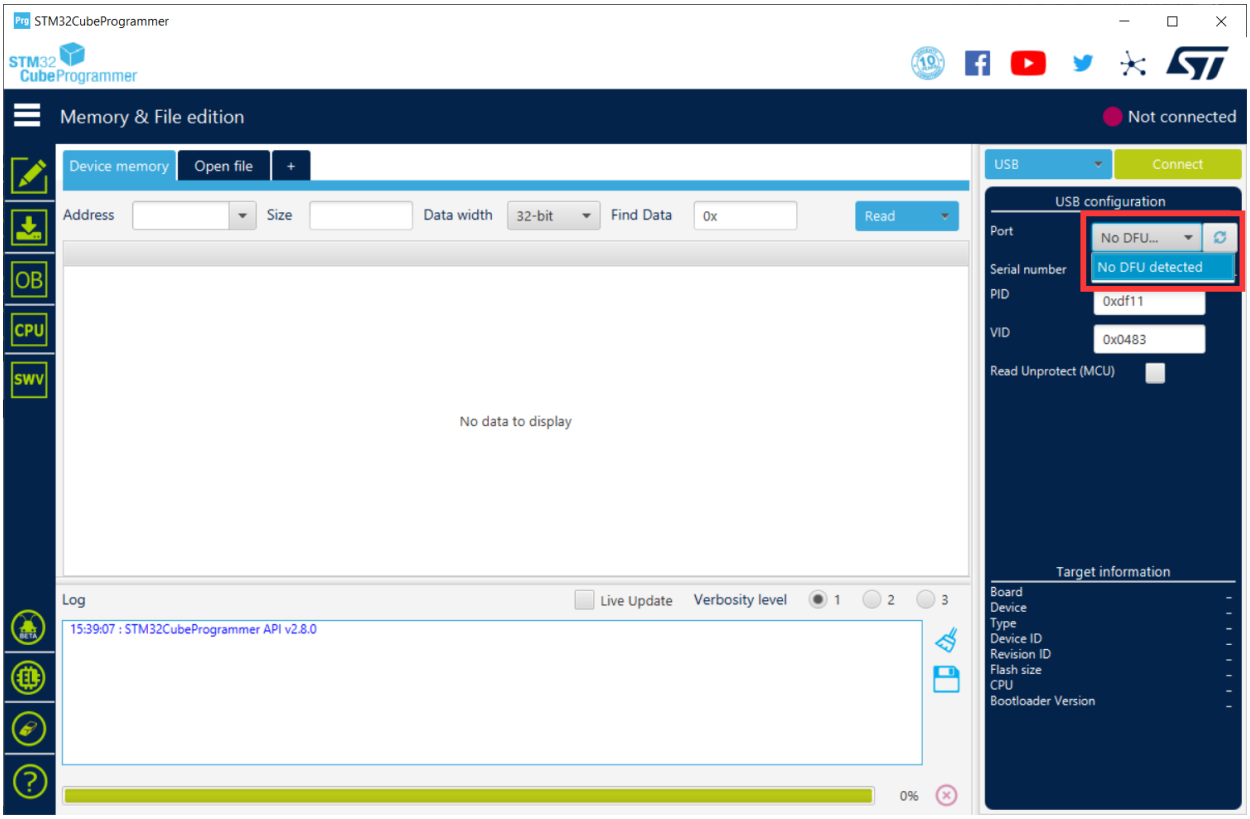
Step 17

Choose USB in the drop-down menu in the top right corner



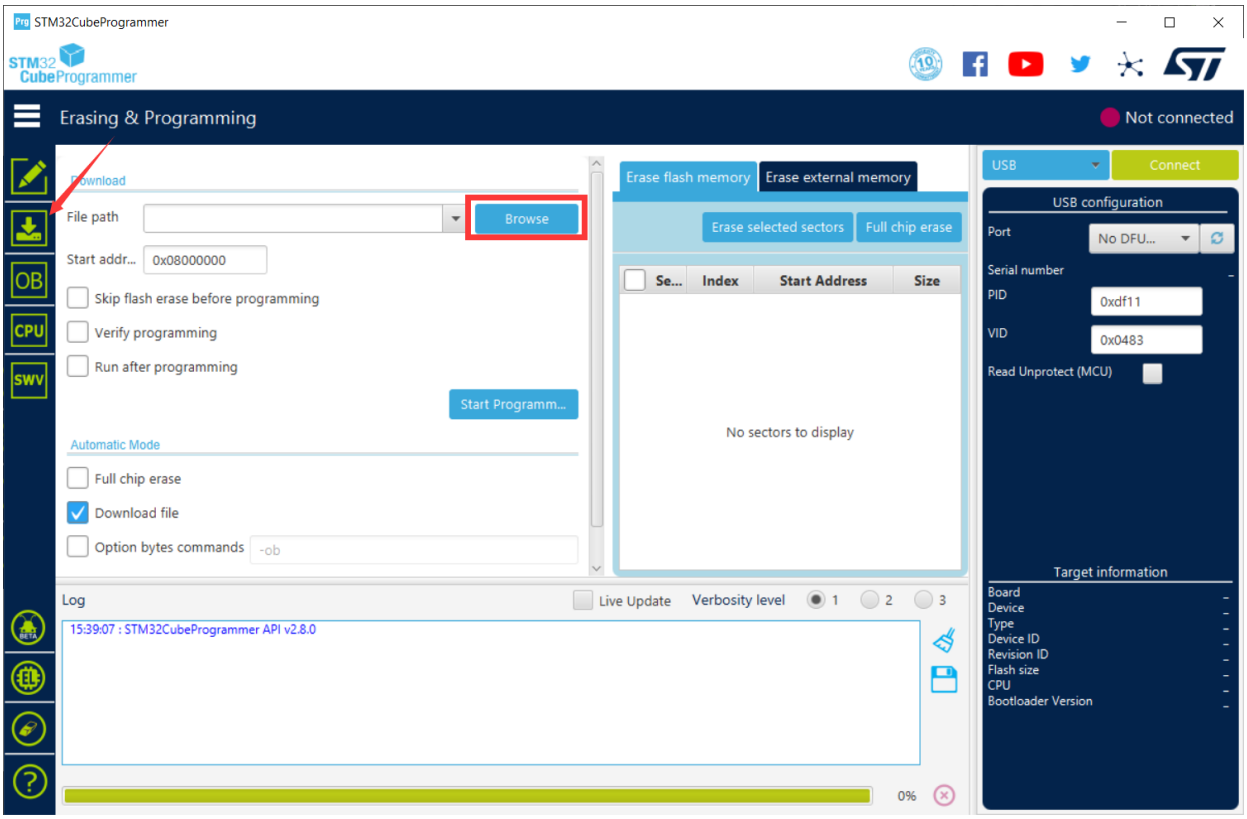
Step 18

Select USB 1 in Port drop-down menu, then click on Connect



Step 19

Click on second button on the left then click on browse to select the firmware.hex compiled in Step 5.



Step 20

Check Verify programming then click on Start Programming button