Chapter 1
Getting Started

Component List

Links are only for reference.

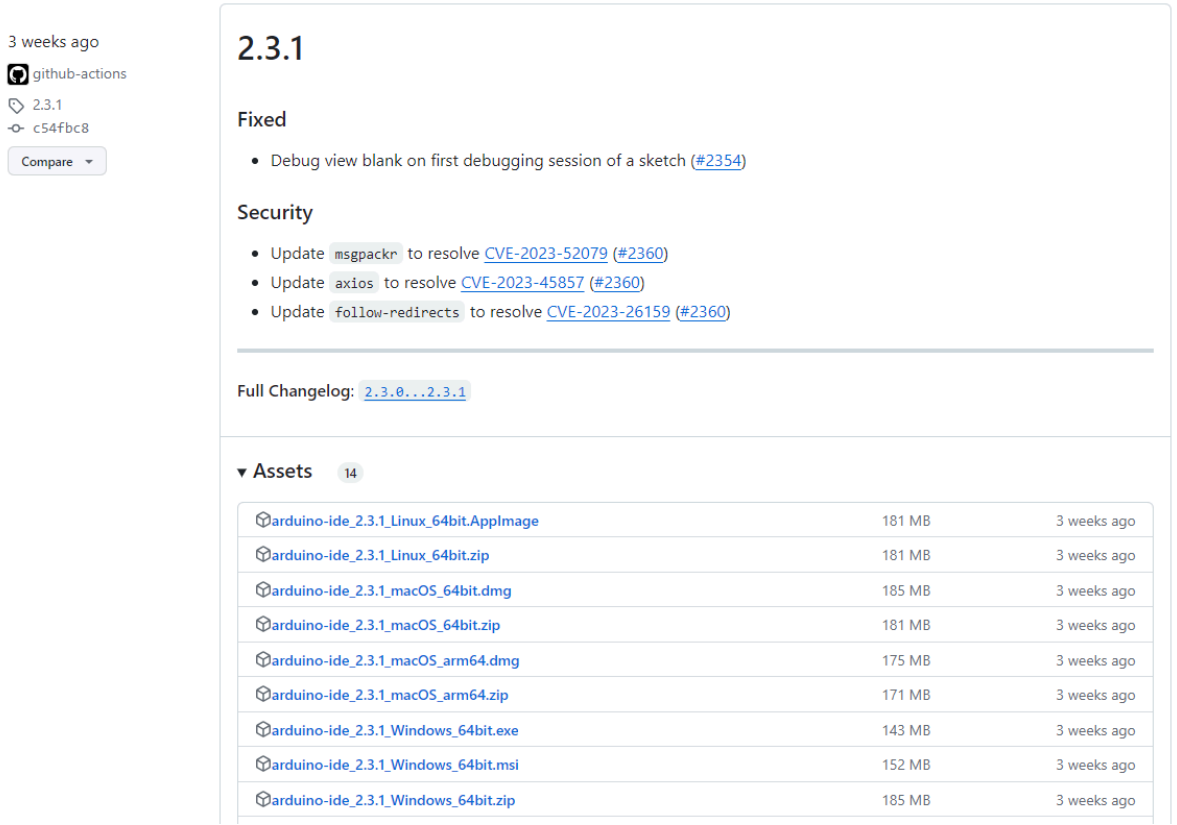
1. STM32 Blue Pill (STM32F103C8T6) (1 pcs) [***Important: Make sure to solder its pins from buyer] [Link]
2. ST Link V2 Programmer for STM32 (1 pcs) [Make sure it has 4 female to female wires] [Link]
3. 10K Resistor (10 pcs)
4. 220Ω resistors (10 pcs)
5. Bread Board (1 pcs) [Transparent breadboard is preferable.] [Link]
6. Jumper Wire (Male to Male) (20 pcs)
7. Multimeter (1 pcs) [Optional]
8. 2 pin Pushbutton (5 pcs)
9. LED (5 pcs RED + 5 pcs GREEN + 5 pcs YELLOW)
10. 3 pin RGB LED (5 pcs)
11. 10kΩ potentiometer (3 pcs)
12. Photoresistor (2 pcs)
13. TMP36 Temperature Sensor (1 pc)

Software to be Installed

1. Arduino IDE (2.3.1) [I personally prefer 1.8.18]
2. Keil uVision IDE (5.39.0.0)
3. STM32 CubeIDE (1.15.0)

Arduino IDE Install

Version: 2.3.1 (Download only 2.3.1 version, not latest version)
Download Link: https://github.com/arduino/arduino-ide/releases



3 weeks ago
github-actions
2.3.1
c54fbc8
Compare

2.3.1

Fixed

- Debug view blank on first debugging session of a sketch (#2354)

Security

- Update `msgpackr` to resolve CVE-2023-52079 (#2360)
- Update `axios` to resolve CVE-2023-45857 (#2360)
- Update `follow-redirects` to resolve CVE-2023-26159 (#2360)

Full Changelog: `2.3.0...2.3.1`

▾ Assets 14

arduino-ide_2.3.1_Linux_64bit.AppImage	181 MB	3 weeks ago
arduino-ide_2.3.1_Linux_64bit.zip	181 MB	3 weeks ago
arduino-ide_2.3.1_macOS_64bit.dmg	185 MB	3 weeks ago
arduino-ide_2.3.1_macOS_64bit.zip	181 MB	3 weeks ago
arduino-ide_2.3.1_macOS_arm64.dmg	175 MB	3 weeks ago
arduino-ide_2.3.1_macOS_arm64.zip	171 MB	3 weeks ago
arduino-ide_2.3.1_Windows_64bit.exe	143 MB	3 weeks ago
arduino-ide_2.3.1_Windows_64bit.msi	152 MB	3 weeks ago
arduino-ide_2.3.1_Windows_64bit.zip	185 MB	3 weeks ago

Keil IDE Install

Version: 5.39.0.0 (Fill up following form to get the Download Link)
Download Link: https://www.keil.com/demo/eval/arm.htm
Video Link: https://www.youtube.com/watch?v=buQtJjgw2pE

ST-Link driver Install

Download Link:
https://www.st.com/en/development-tools/stsw-link009.html

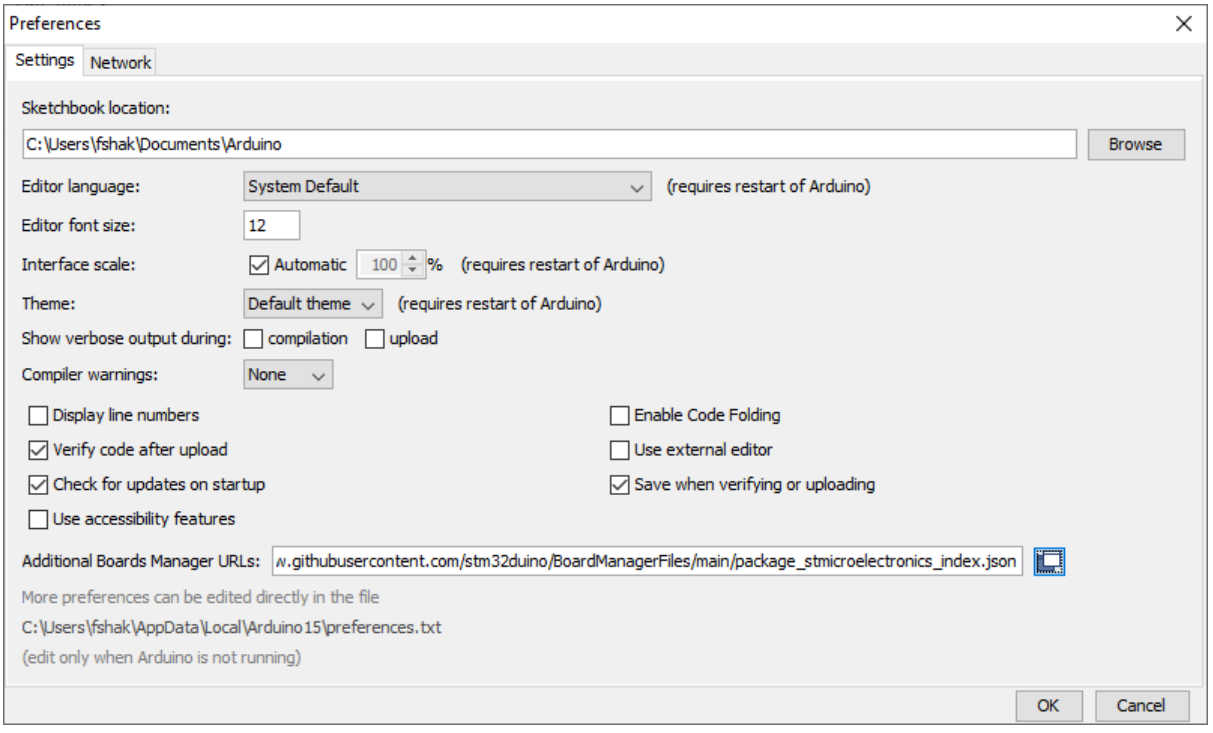
STM32 Cube Programmer Install

Download Link:
https://www.st.com/en/development-tools/stm32cubeprog.html

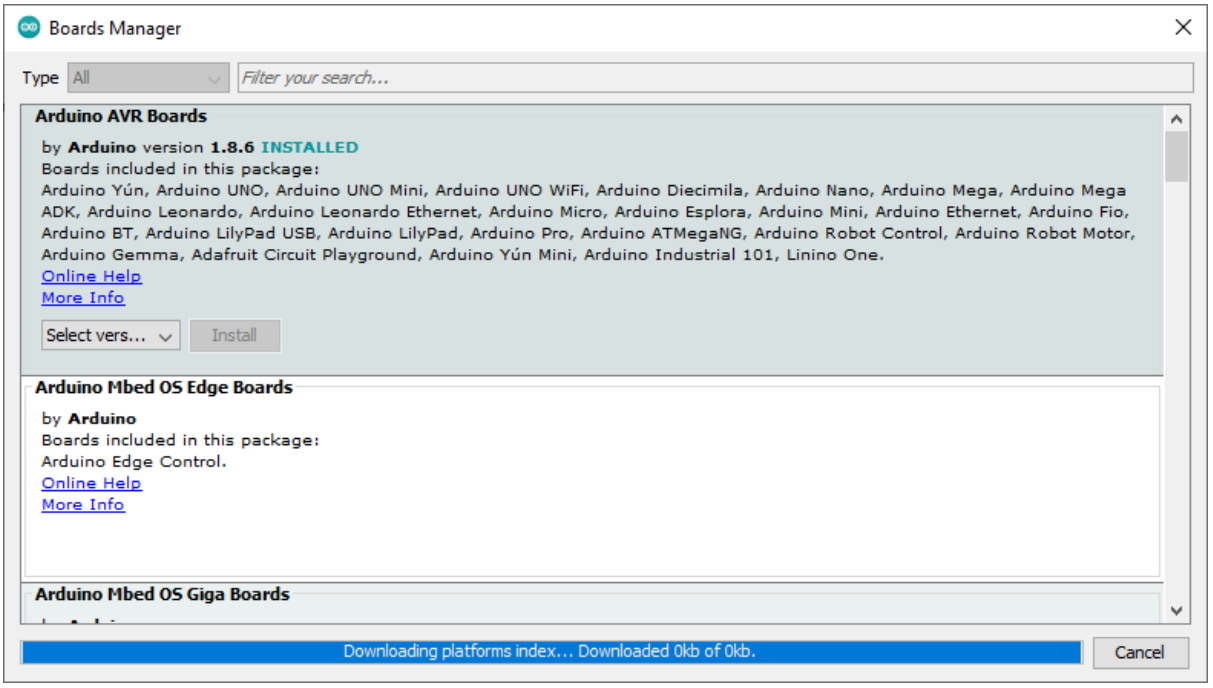
Setup Environment

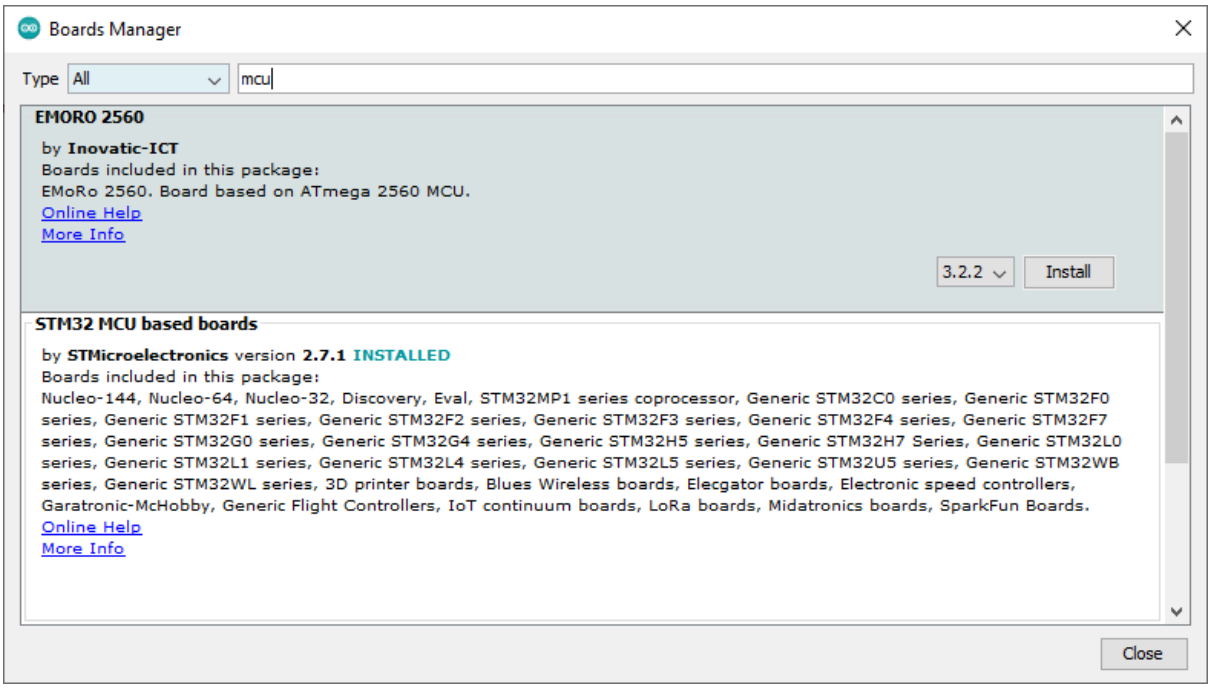
Select checkboxes and allow all the permissions while installing.

1. Make sure Arduino IDE is installed.
2. Make sure the ST-Link driver is installed.
3. Make sure the STM32 Cube Programmer is installed.
4. Run Arduino IDE.
5. Open `File > Preferences`. Add https://raw.githubusercontent.com/stm32duino/BoardManagerFiles/main/package_stmicroelectronics_index.json to `Additional Board Manager URLs`. Select `Ok`.

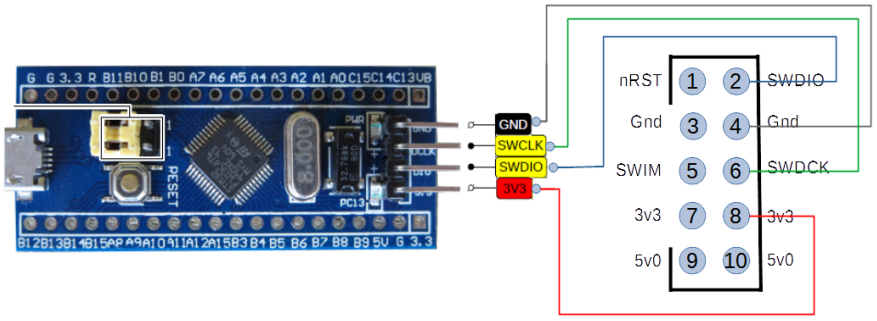


6. Open `Tools > Board > Boards Manager`. Install `Arduino AVR Boards` and STM32 MCU Based Boards.



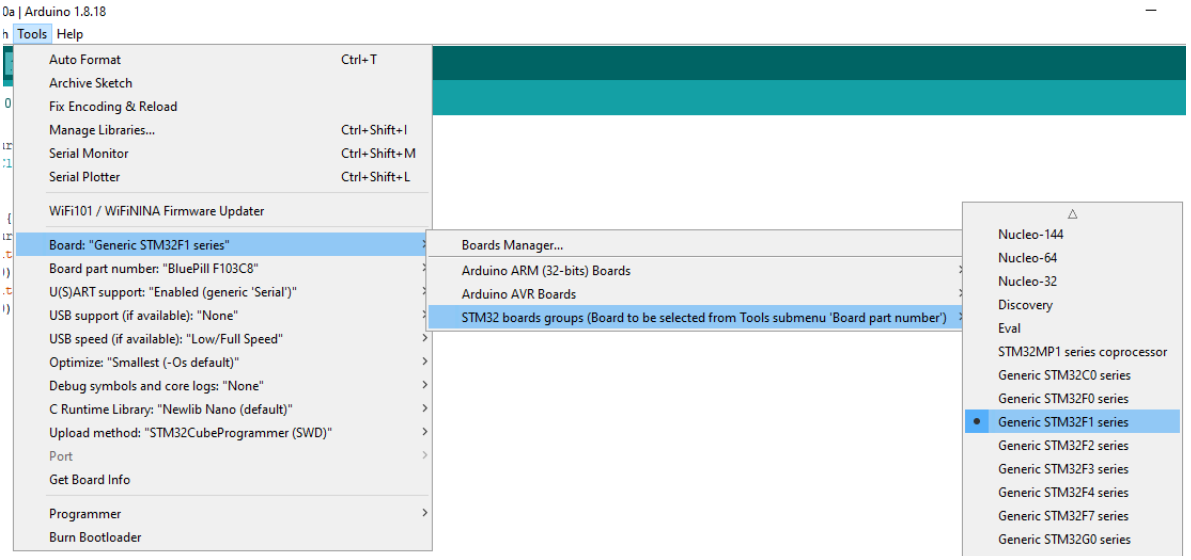


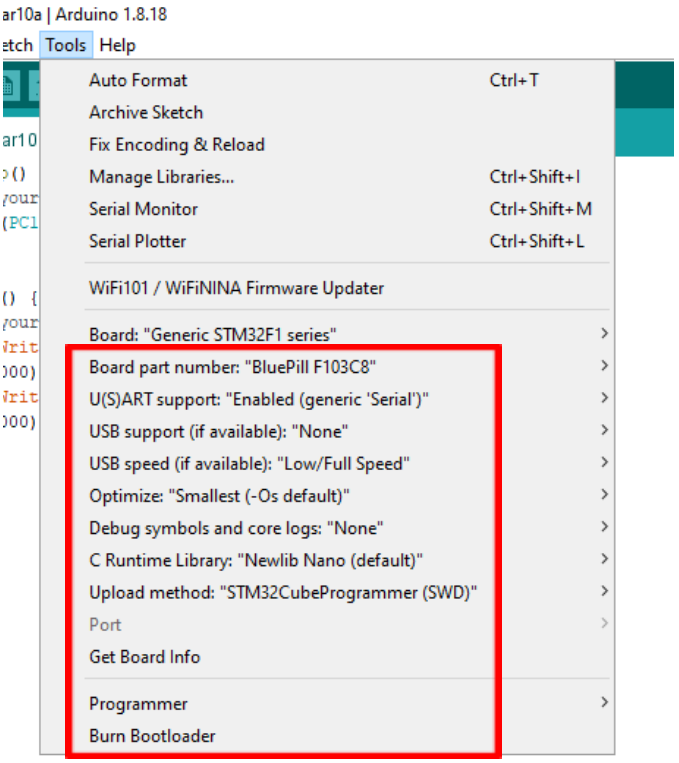
7. Connect ST-Link V2 and Blue Pill using the connector and insert ST-Link to USB. ST-LINK V2 pinout positions may vary from tutorials. Make sure to check pinouts of your device before connecting.
   GND -> GND
   3V3 -> 3V3
   SWCLK -> SWCLK
   SWIO -> SWDIO



[Link]

8. Select board and configure according to given screenshots.





9. Write your first program

10. Build and Upload.

11. You should be able to see in board LED blinking.

Course Plan & Teachers

Nahin Ul Sadad, *Assistant Professor, CSE, RUET*

Md. Farhan Shakib, *Lecturer, CSE, RUET*

Md. Nasif Osman Khansur, *Lecturer, CSE, RUET*