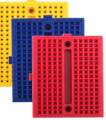


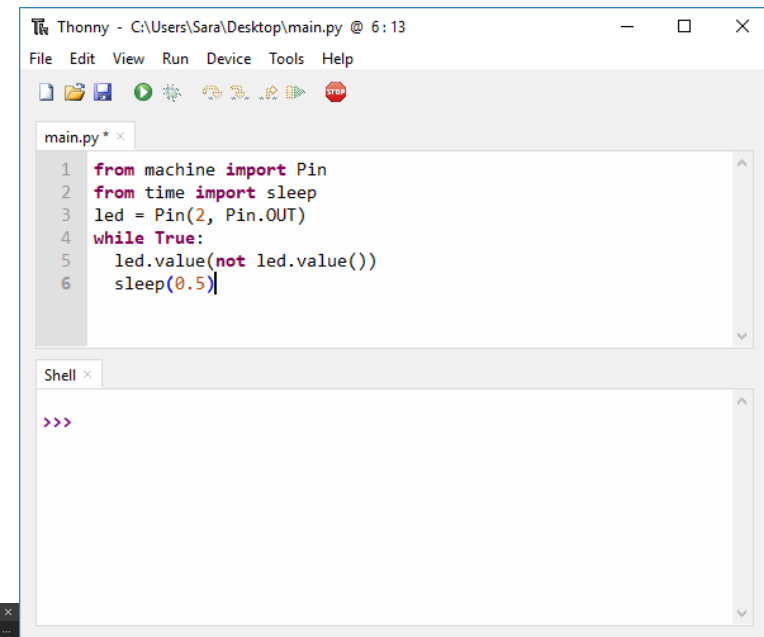
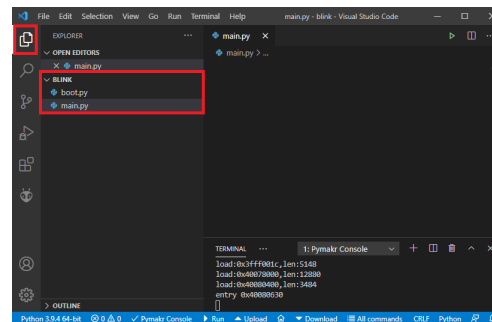
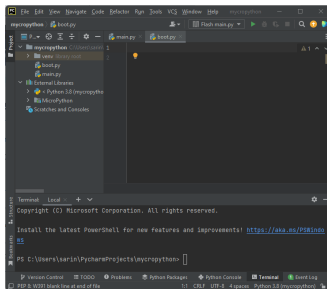
Module 1. MicroPython Basic

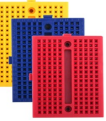
safyzan salim
019 622 0575



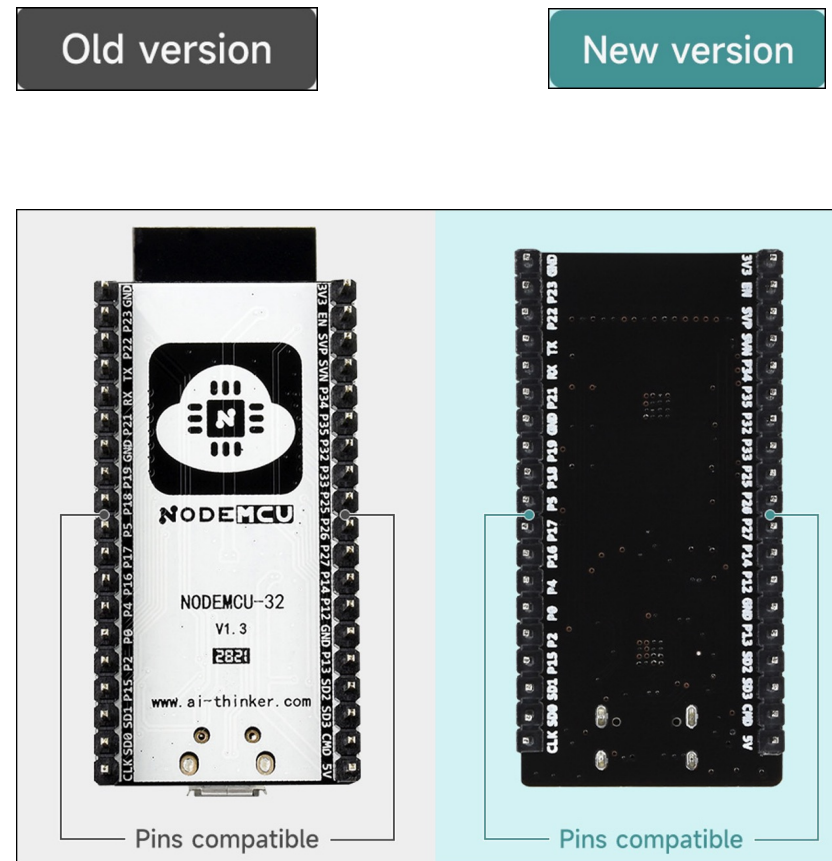
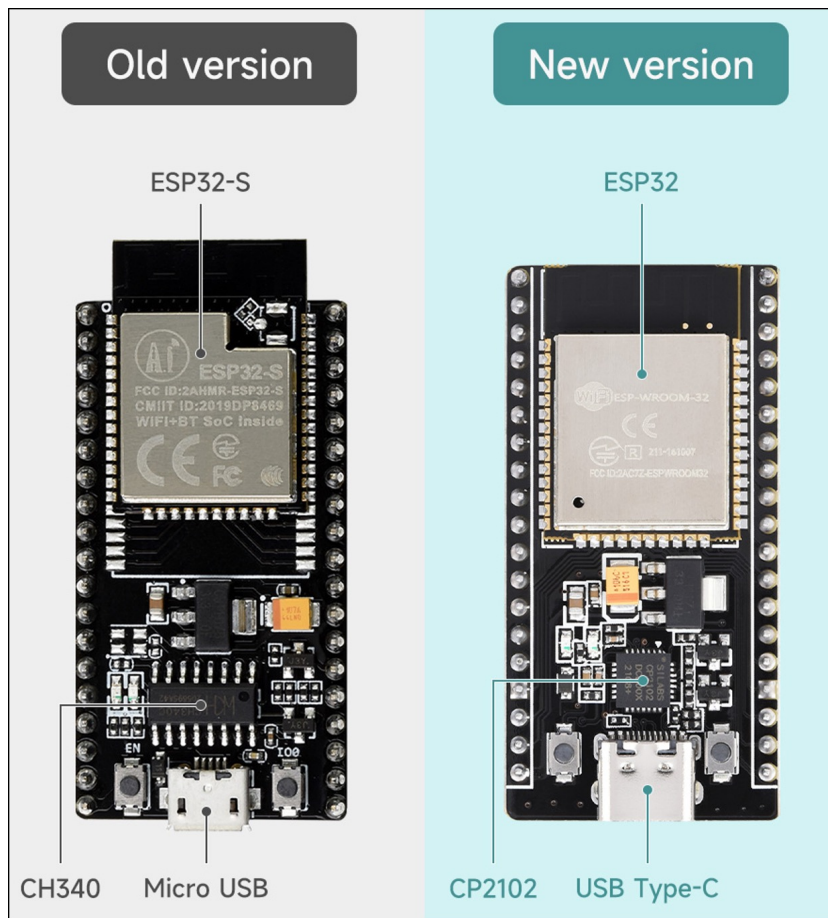
List of IDEs to program ESP32 and ESP8266 boards with MicroPython:

- Mu Editor
- uPyCraft IDE
- Thonny IDE
- Introduction VS Code + Pymakr extension
- Introduction PyCharm
- Introduction micro microIDE



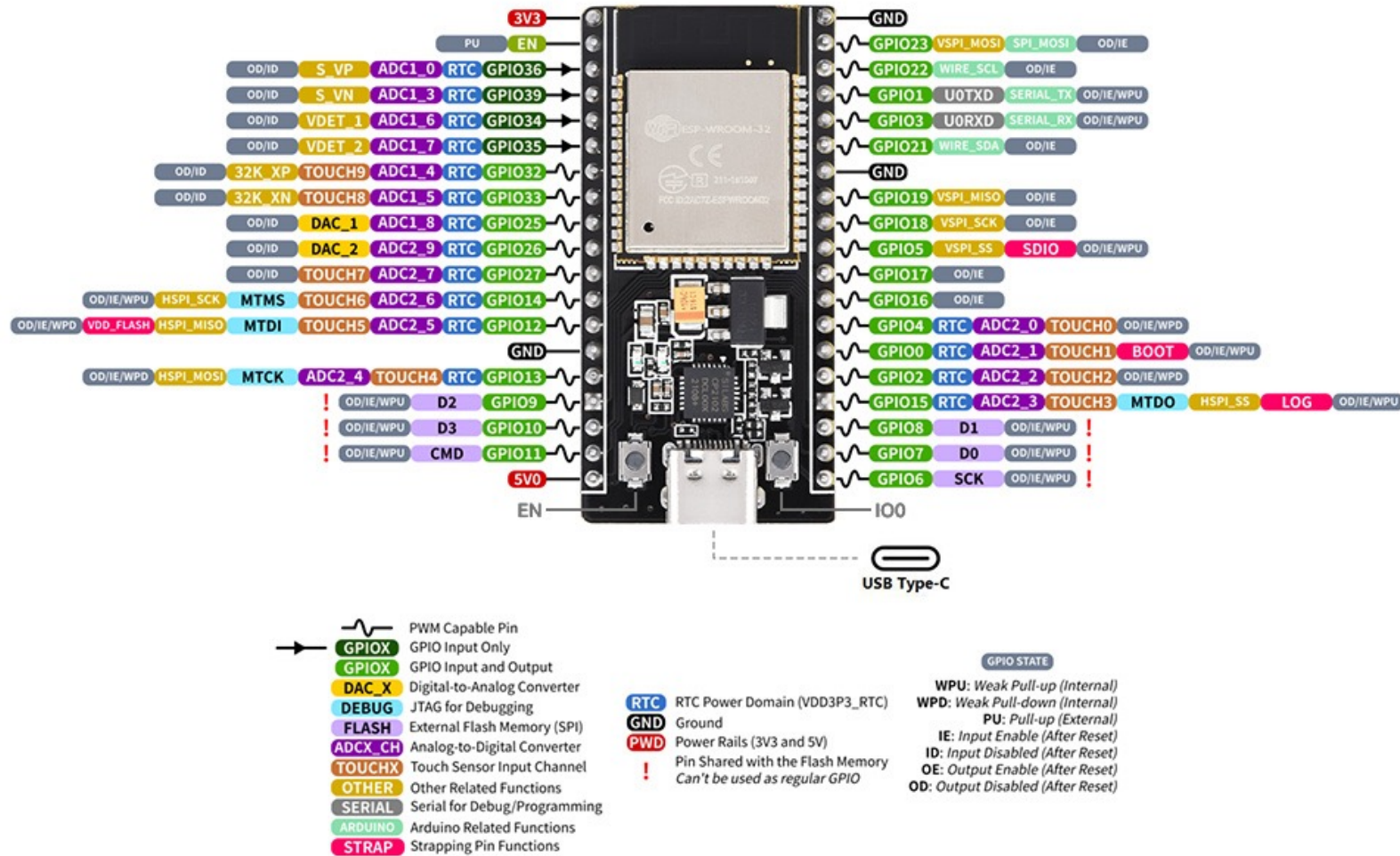


NodeMCU-ESP32S: Version Comparison

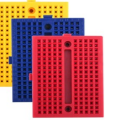


Resource: <https://www.waveshare.com/nodemcu-32s.htm>

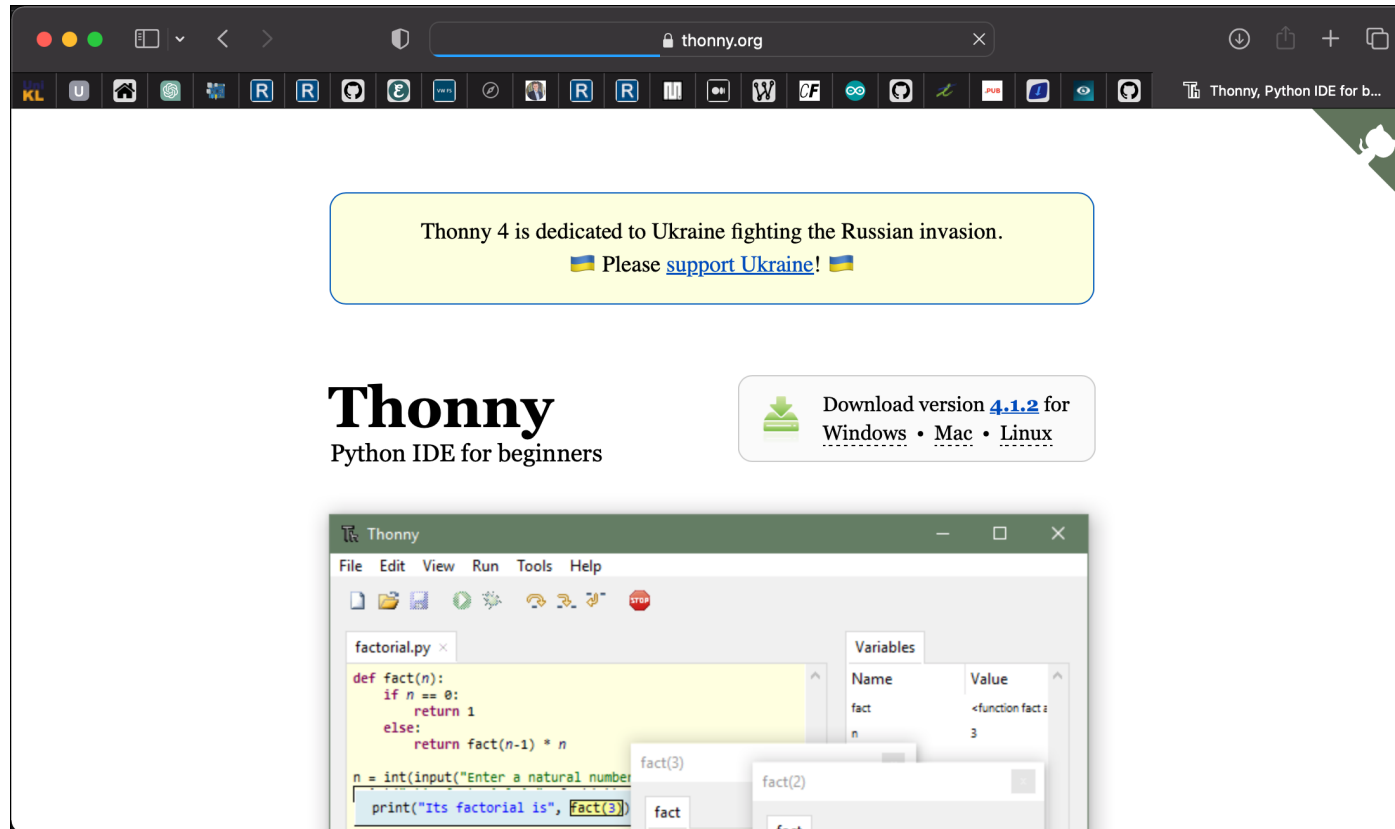
NodeMCU-ESP32S: Pin Assignments



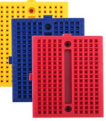
Resource: <https://www.waveshare.com/nodemcu-32s.htm>



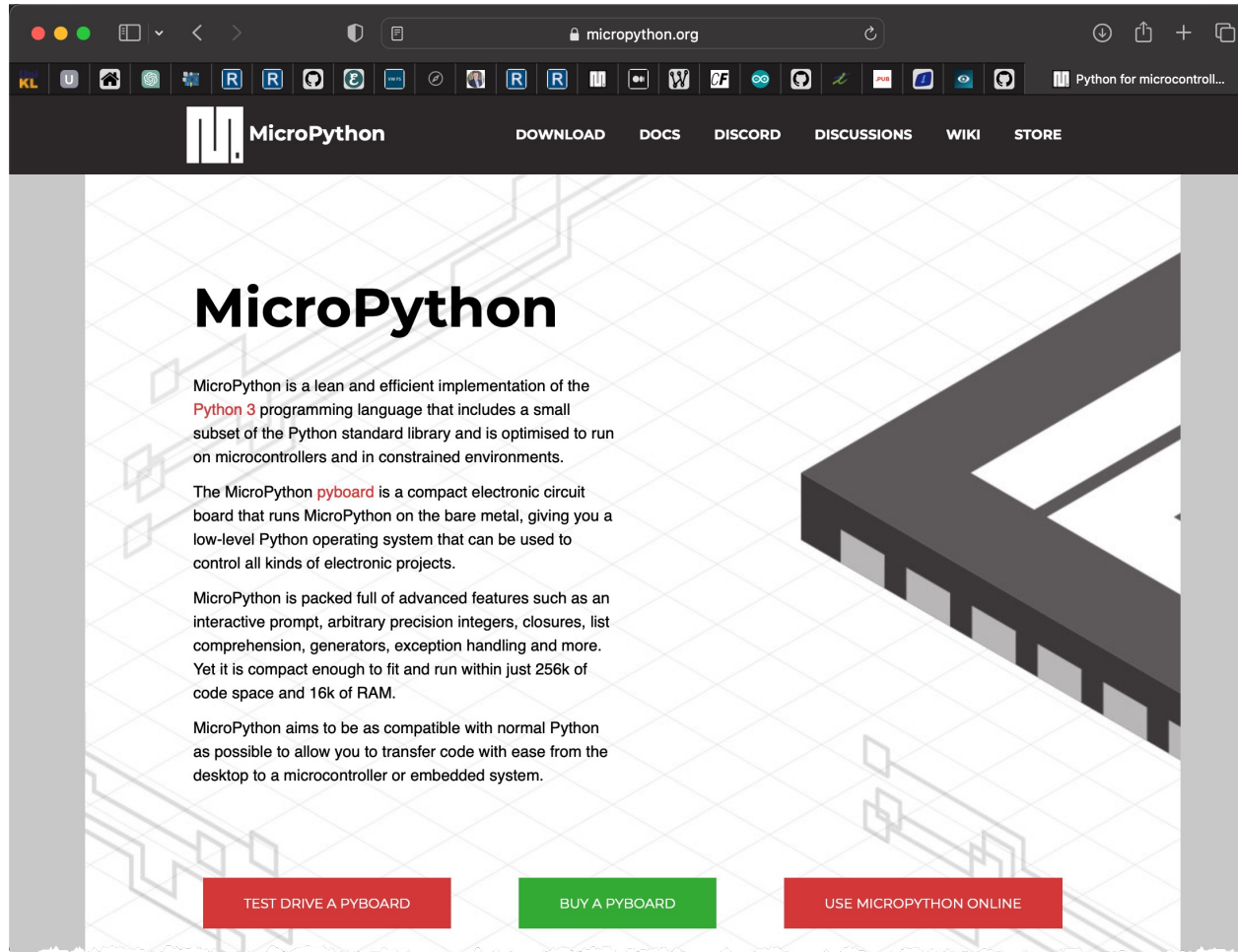
Download & Install: Python IDE

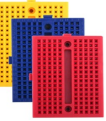


- Beginner friendly Python IDE.
- To erase & flush new firmware to ESP32S with the help of ESP tool.



Download & Install: MicroPython Firmware





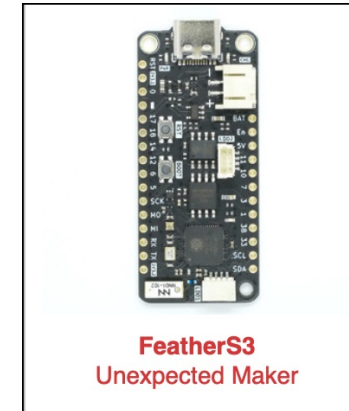
Download & Install: MicroPython Firmware



Firmware

Releases

v1.20.0 (2023-04-26) [.uf2](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#) [\[Release notes\]](#) (latest)
[v1.19.1 \(2022-06-18\)](#) [.uf2](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#) [\[Release notes\]](#)
[v1.18 \(2022-01-17\)](#) [.bin](#) [\[.elf\]](#) [\[.map\]](#) [\[Release notes\]](#)



Firmware

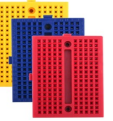
Releases

v1.20.0 (2023-04-26) [.uf2](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#) [\[Release notes\]](#) (latest)
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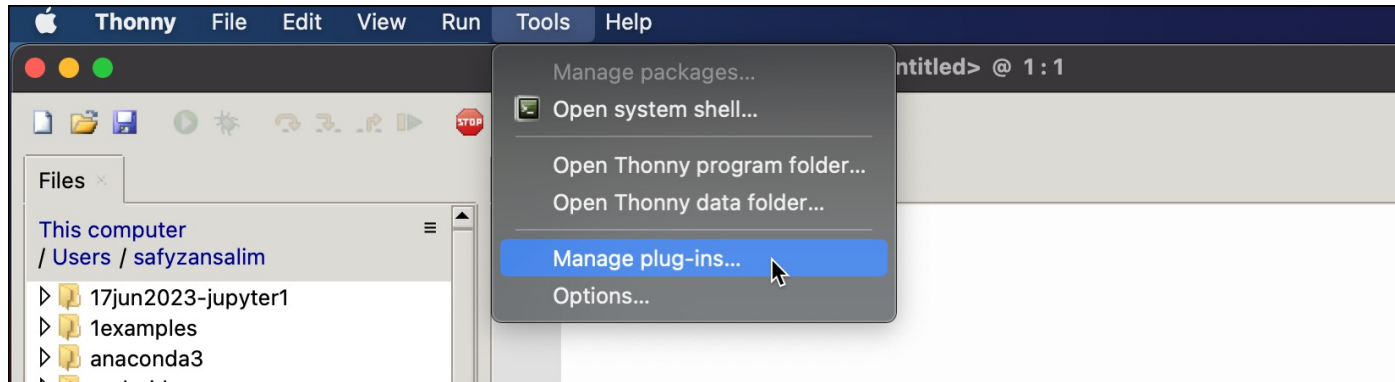


Nightly builds

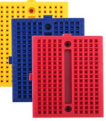
[v1.20.0-442-gd00105494 \(2023-09-04\)](#) [.uf2](#) [\[.app-bin\]](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#)
[v1.20.0-441-gbf35eefc6 \(2023-09-04\)](#) [.uf2](#) [\[.app-bin\]](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#)
[v1.20.0-439-g545b94a8f \(2023-09-04\)](#) [.uf2](#) [\[.app-bin\]](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#)
[v1.20.0-438-g65f0cb11a \(2023-09-03\)](#) [.uf2](#) [\[.app-bin\]](#) [\[.bin\]](#) [\[.elf\]](#) [\[.map\]](#)



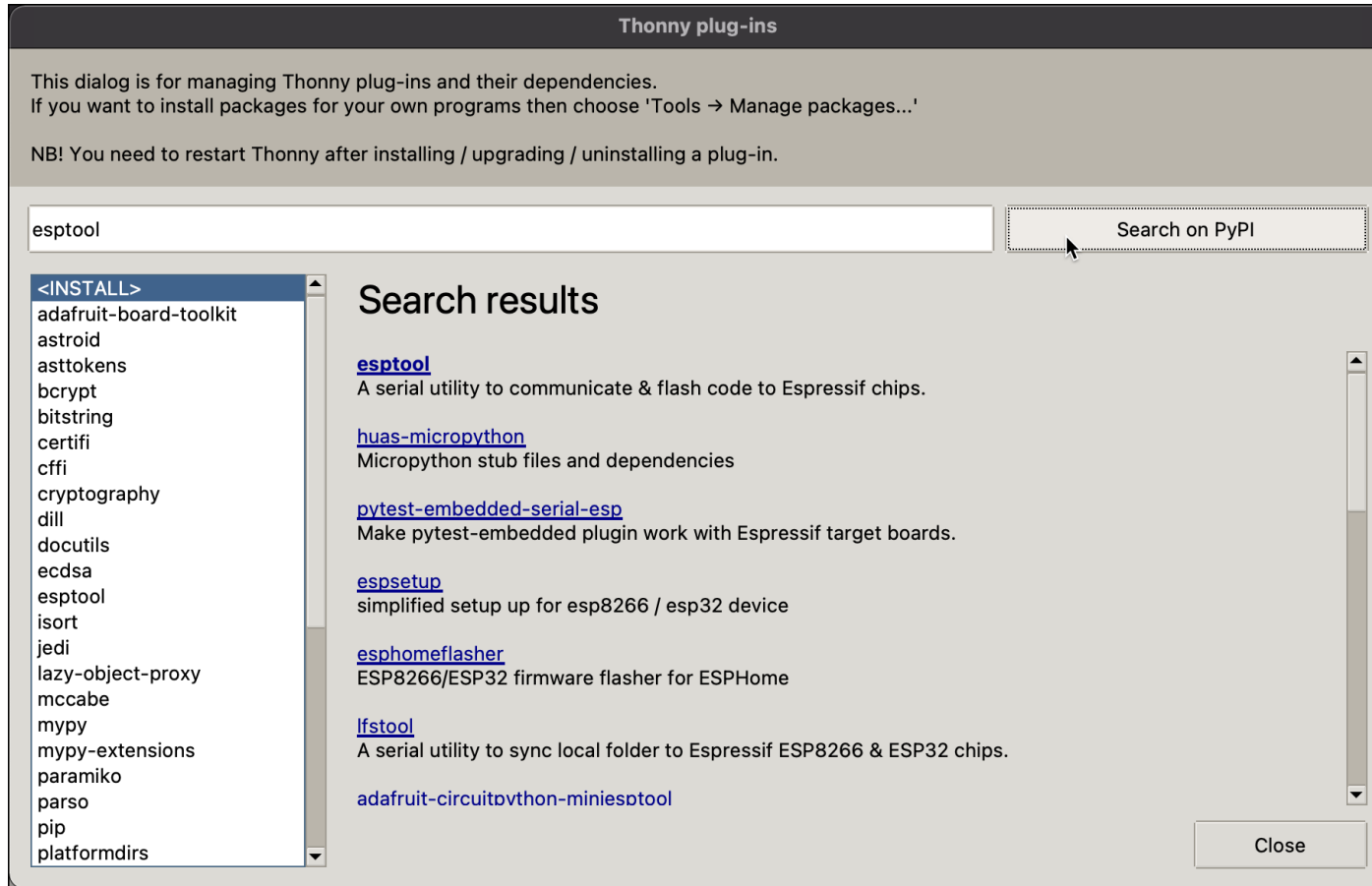
Flushing New ESP32S Firmware



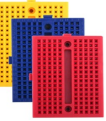
- Install plug-ins first.
- **Tools > Manage plug-ins**



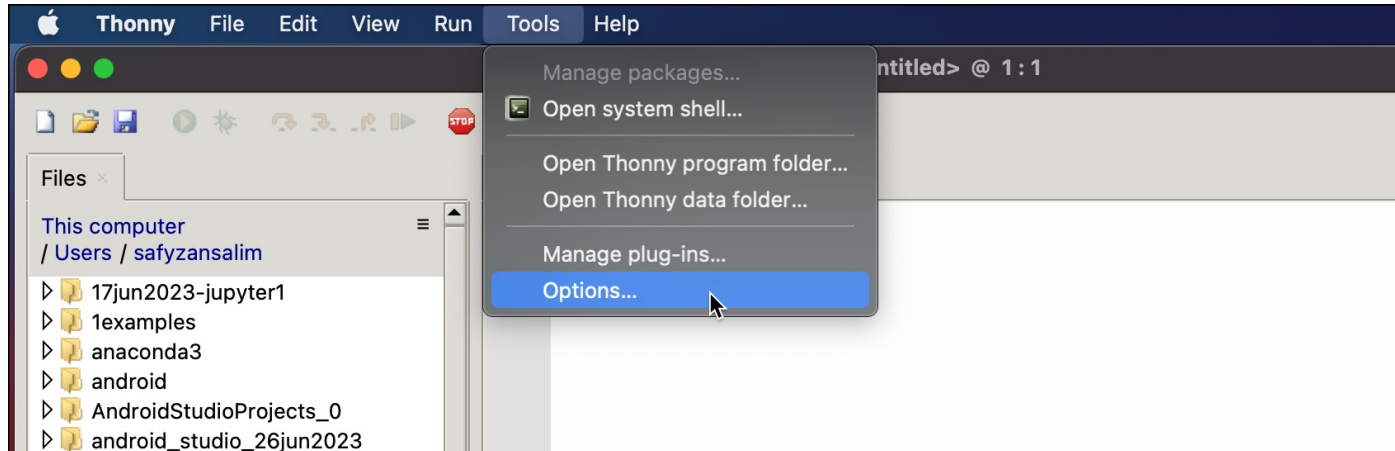
Flushing New ESP32S Firmware



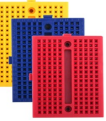
- Type **esptool** & click Search on PyPi button.
- Click **esptool** to install.



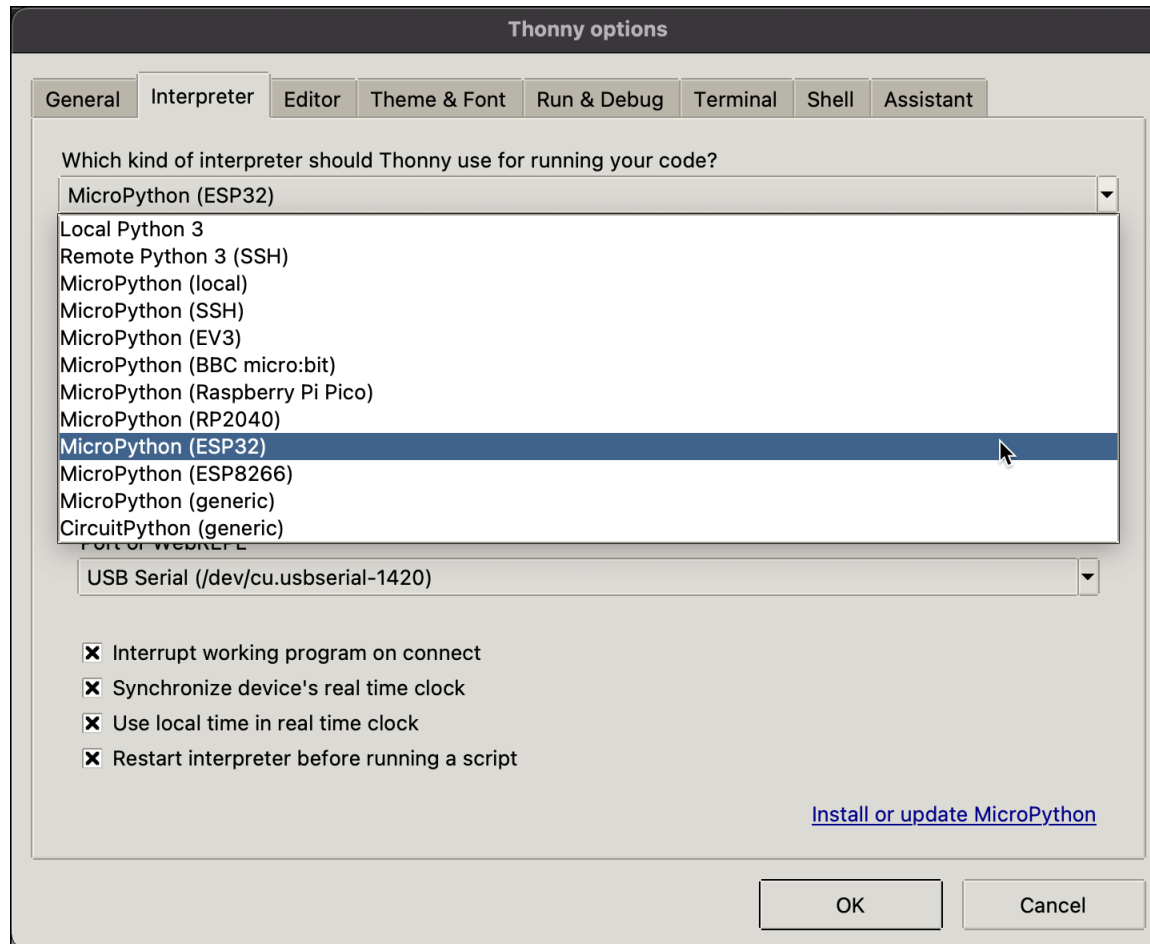
Flushing New ESP32S Firmware



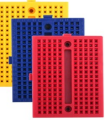
- To install Firmware.
- **Tools > Options**



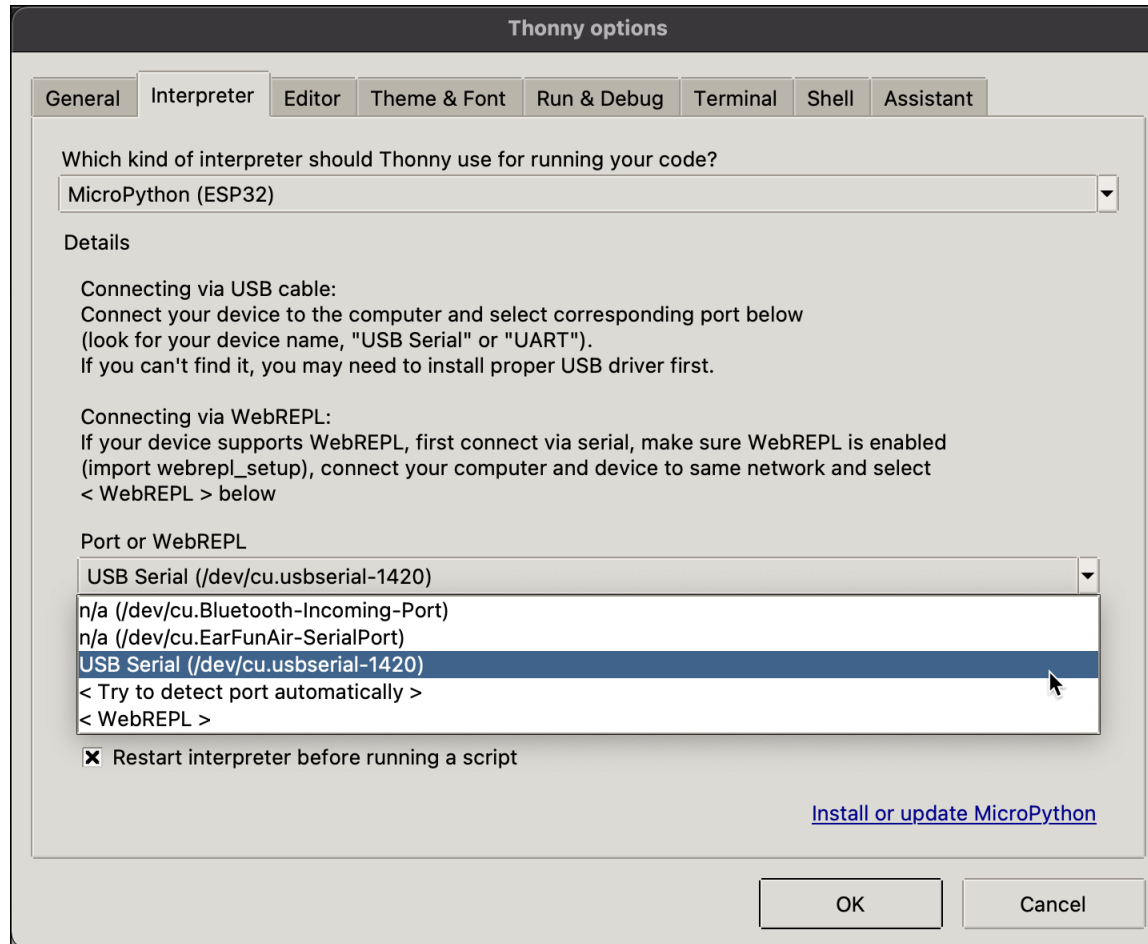
Flushing New ESP32S Firmware



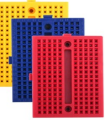
- Go to **Interpreter** tab.
- Select **MicroPython (ESP32)**.



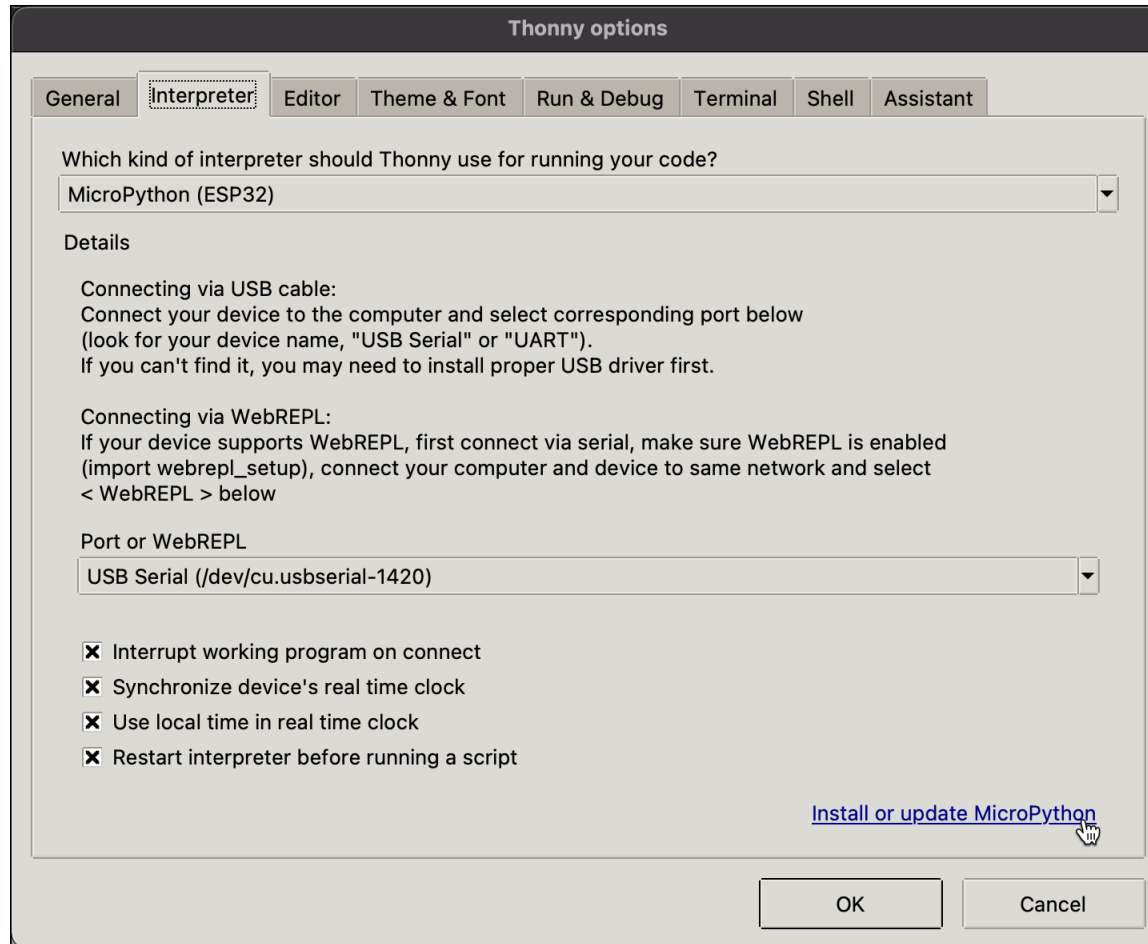
Flushing New ESP32S Firmware



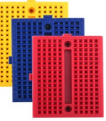
- **Port:** Choose the appropriate comm port of your ESP32S.



Flushing New ESP32S Firmware



- Click Install or Update Micropython link.



Flushing New ESP32S Firmware

ESP32 firmware installer

This dialog allows installing or updating firmware on ESP32 using the most common settings. If you need to set other options, then please use 'esptool' on the command line.

Note that there are many variants of MicroPython for ESP devices. If the firmware provided at micropython.org/download doesn't work for your device, then there may exist better alternatives -- look around in your device's documentation or at MicroPython forum.

Port:

Firmware:

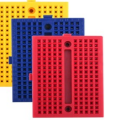
Flash mode

☒ From image file (keep) ☐ Quad I/O (qio)

☐ Dual I/O (dio) ☐ Dual Output (dout)

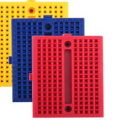
☒ Erase flash before installing

- **Port:** Which port the EPS32S is connected.
- **Firmware:** browse and find the downloaded dot bin file from micropython.org.
- **Ensure that the Erase flash before installing is checked.**
- Click **Install** button.



Try this:

- **>>> import machine**
- **>>> led = machine.Pin(2, machine.Pin.OUT)**
- **>>> led.on()**
- **>>> led.off()**
- **>>> led.value(1)**
- **>>> led.value(0)**
- **>>> led.value(True)**
- **>>> led.value(False)**



Try this:

- **>>> import machine**
- **>>> led = machine.Pin(2, machine.Pin.OUT)**
- **>>> import time**
- **>>> while True:**
 - **led.on()**
 - **time.sleep(0.5)**
 - **led.off()**
 - **time.sleep(0.5)**
 - **(press enter twice)**