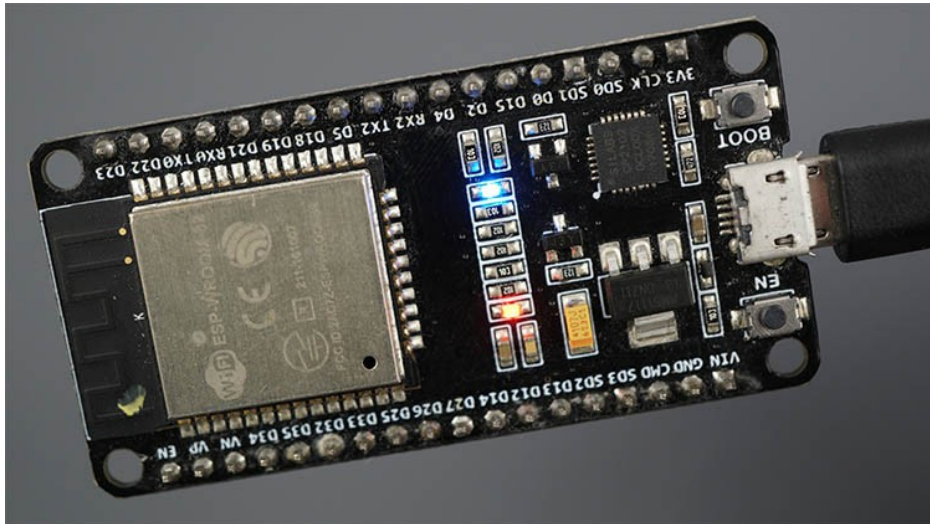


EXTRACT ON LOADING MICROPYTHON INTO AN ESP32 MICROCONTROLLER

<https://randomnerdtutorials.com/getting-started-thonny-micropython-python-ide-esp32-esp8266/>



Downloading MicroPython Firmware

Go to the MicroPython Downloads page: <https://micropython.org/download/>. Select the type of board you're using. Here are the quick links for "regular" ESP32 and ESP8266 boards:

- [ESP32 MicroPython firmware](#)
- [ESP8266 MicroPython firmware](#)

You should see a similar web page (see figure below) with links to download `.bin` files. Download the latest release.

Firmware

Releases

v1.17 (2021-09-02) .bin [elf] [map] [Release notes] (latest)

v1.16 (2021-06-23) .bin [elf] [map] [Release notes]

v1.15 (2021-04-18) .bin [elf] [map] [Release notes]

v1.14 (2021-02-02) .bin [elf] [map] [Release notes]

v1.13 (2020-09-02) .bin [elf] [map] [Release notes]

v1.12 (2019-12-20) .bin [elf] [map] [Release notes]

Nightly builds

v1.17-333-gcf258c898 (2022-01-15) .bin [elf] [map]

v1.17-330-g895738625 (2022-01-14) .bin [elf] [map]

v1.17-325-gf2ccf87e0 (2022-01-13) .bin [elf] [map]

v1.17-322-gb47b245c2 (2022-01-12) .bin [elf] [map]

Firmware (Compiled with IDF 3.x)

Releases

v1.14 (2021-02-02) .bin [elf] [map] [Release notes] (latest)

v1.13 (2020-09-02) .bin [elf] [map] [Release notes]

v1.12 (2019-12-20) .bin [elf] [map] [Release notes]

v1.11 (2019-05-29) .bin [elf] [map] [Release notes]

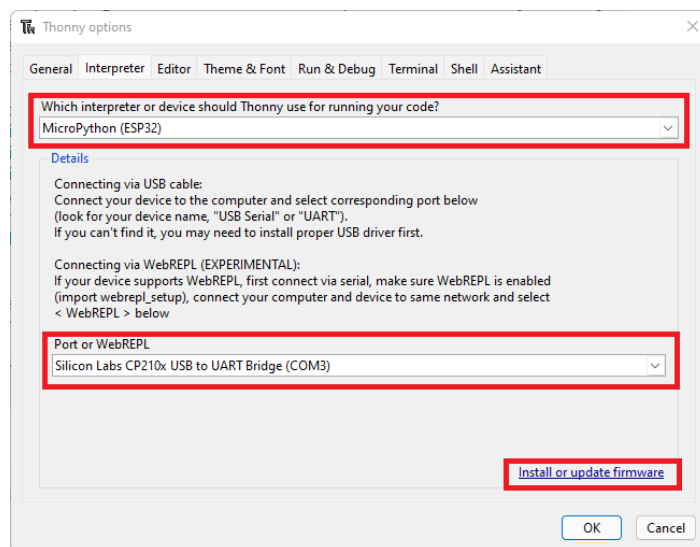
v1.10 (2019-01-25) .bin [elf] [map] [Release notes]

v1.9.4 (2018-05-11) .bin [elf] [map] [Release notes]

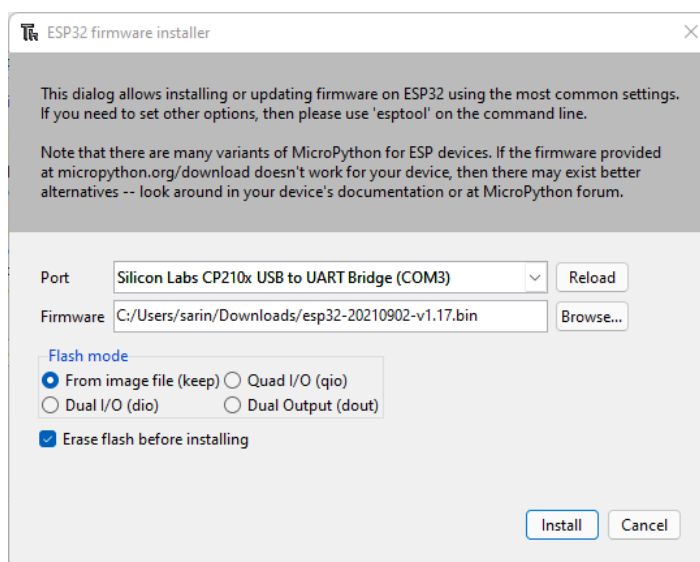
Flashing MicroPython Firmware using Thonny IDE

In this section, you'll learn how to flash MicroPython firmware on your boards using Thonny IDE. Follow the next steps:

- 1) Connect your ESP32 or ESP8266 board to your computer.
- 2) Open Thonny IDE. Go to **Tools > Options > Interpreter**.
- 3) Select the interpreter you want to use accordingly to the board you're using and select the COM port your board is connected to. Finally, click on the link **Install or update firmware**.



- 4) Select the port once again, and then click on the **Browse** button to open the **.bin** file with the firmware you've downloaded on the previous step. Select the options as shown in the picture below and finally click on **Install**.

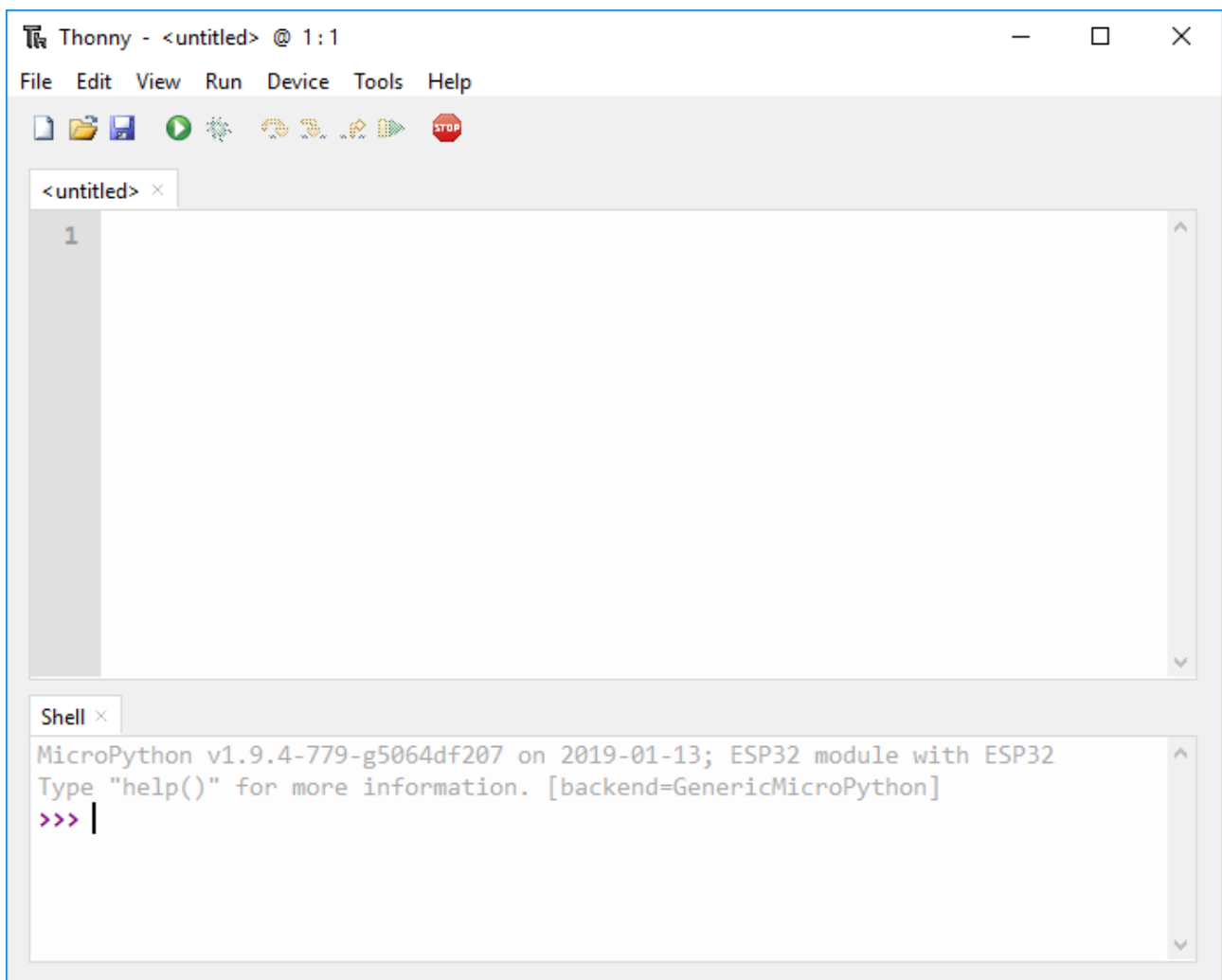


Testing the Installation

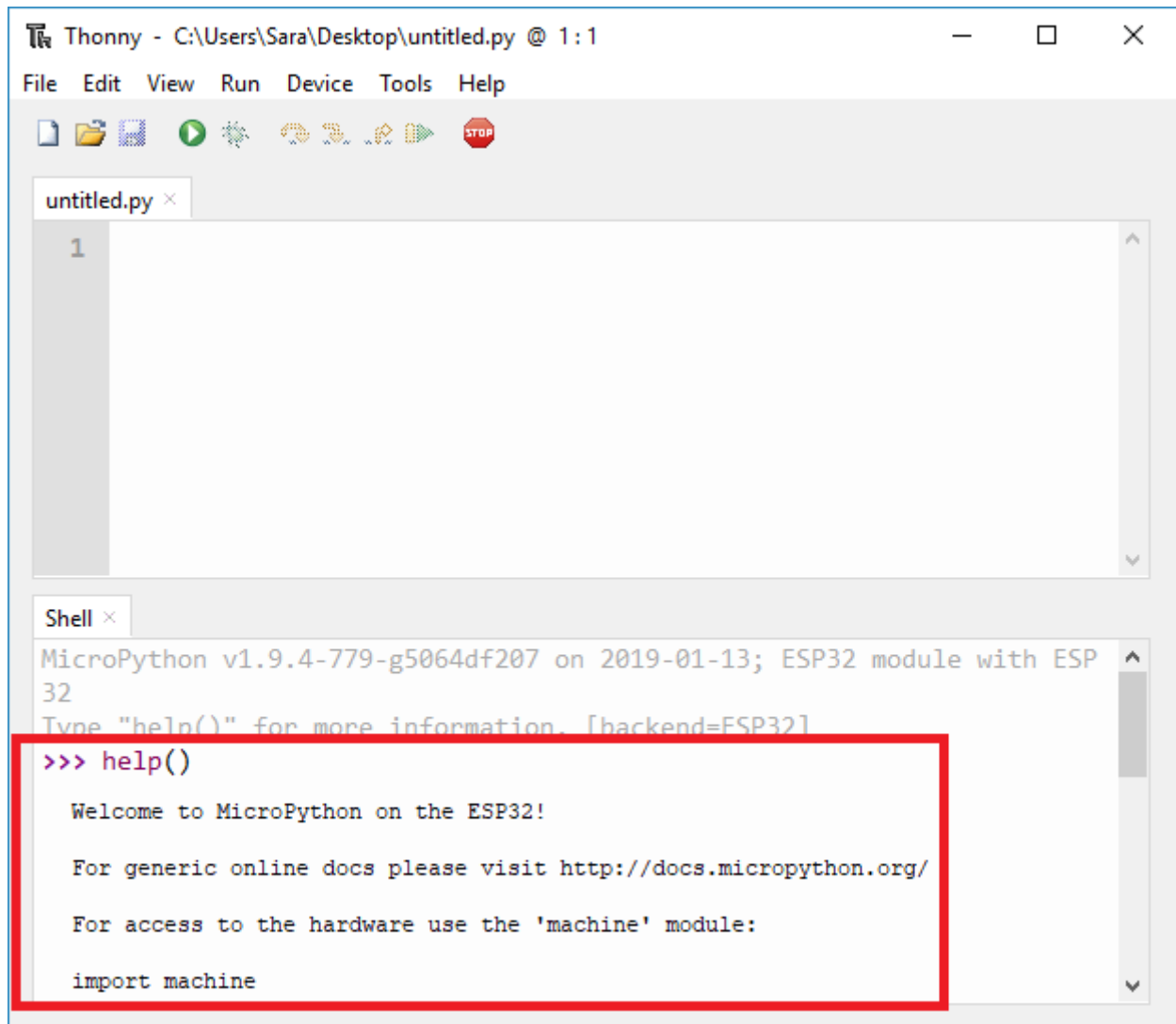
Connect the board to your computer using a USB cable. To test the installation, you need to tell Thonny that you want to run MicroPython Interpreter and select the board you are using.

1. Go to **Tools > Options** and select the **Interpreter** tab. Make sure you've selected the right interpreter for your board as well as the COM port. You can also select the "**Try to detect automatically**" option, but *only* if you just have one board connected to your computer at a time. Otherwise, select the specific port for the board you're using.

2. Thonny IDE should now be connected to your board and you should see the prompt on the Shell.



3. Type the command **help()** in the Shell and see if it responds back.



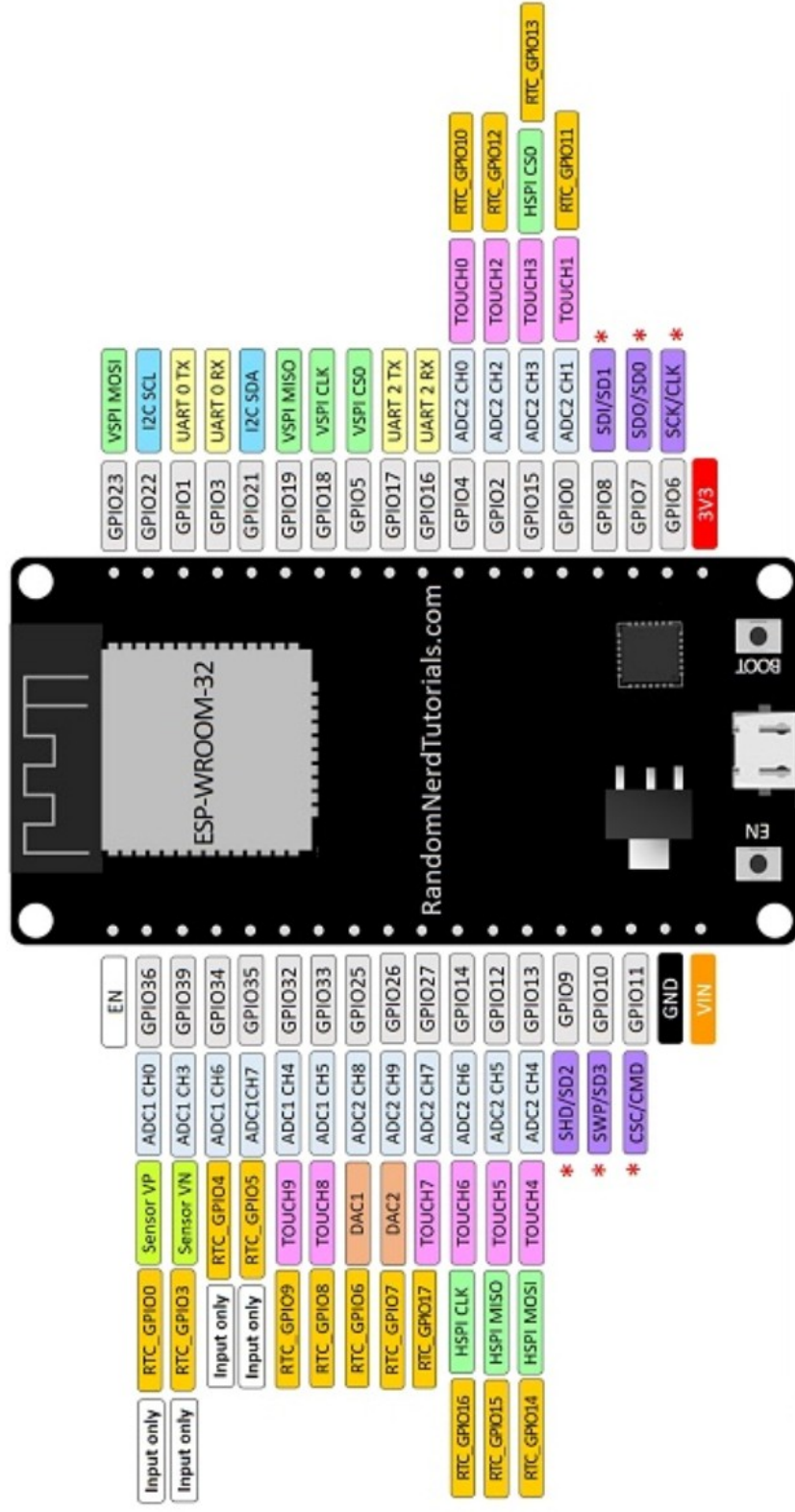
The screenshot shows the Thonny IDE window titled "Thonny - C:\Users\Sara\Desktop\untitled.py @ 1:1". The menu bar includes File, Edit, View, Run, Device, Tools, and Help. The toolbar contains icons for file operations and execution. The editor window shows a single line of code on line 1. The Shell window displays the following text:

```
MicroPython v1.9.4-779-g5064df207 on 2019-01-13; ESP32 module with ESP32
Type "help()" for more information. [backend=ESP32]
>>> help()
Welcome to MicroPython on the ESP32!
For generic online docs please visit http://docs.micropython.org/
For access to the hardware use the 'machine' module:
import machine
```

PINOTS

ESP32 DEVKIT V1 – DOIT

version with 36 GPIOs



* Pins SCK/CLK, SDO/SD0, SDI/SD1, SHD/SD2, SWP/SD3 and SCS/CMD, namely, GPIO6 to GPIO11 are connected to the integrated SPI flash integrated on ESP-WROOM-32 and are not recommended for other uses.