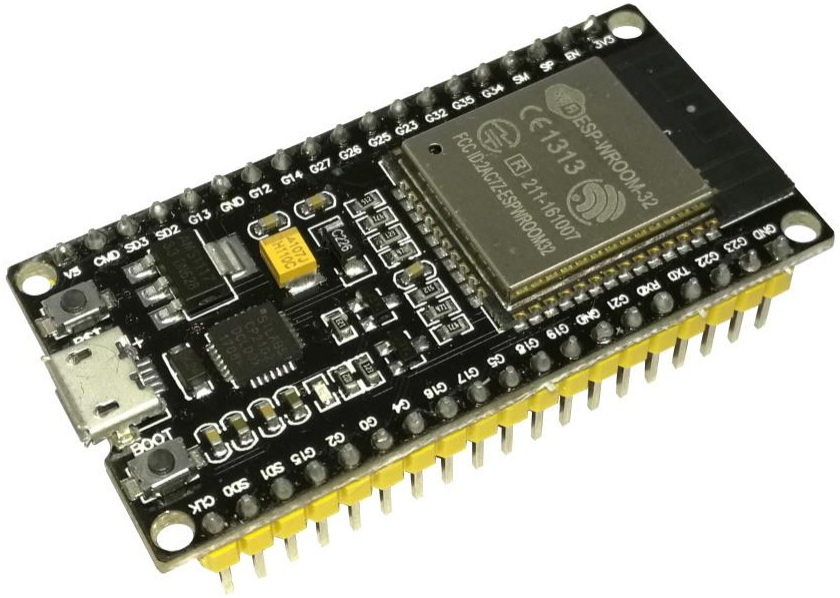
Micropython for D1 ESP8266/ESP32

Getting started Guide

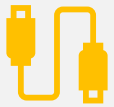


By Subrata Sarker <picklumithu@yahoo.com>

Setting up

1. Download and install Thony IDE for Micropython.

2. Download Mircopython firmware (*.bin file) for ESC32 generic.



3. Connect D1 ESP8266 or ESP32 to your PC via USB.

4. Open Micropython IDE **Thony**.

Setting up

5. Go to menu → Run → Select Interpreter: Set the interpreter as MicroPython (ESP8266) or MicroPython (ESP32) and Port or WebREPL as the port that your microcontroller is using.

6. From there click → Install or update firmware → A new window titled “ESP8266 firmware installer” or “ESP32 firmware installer” will pop up.

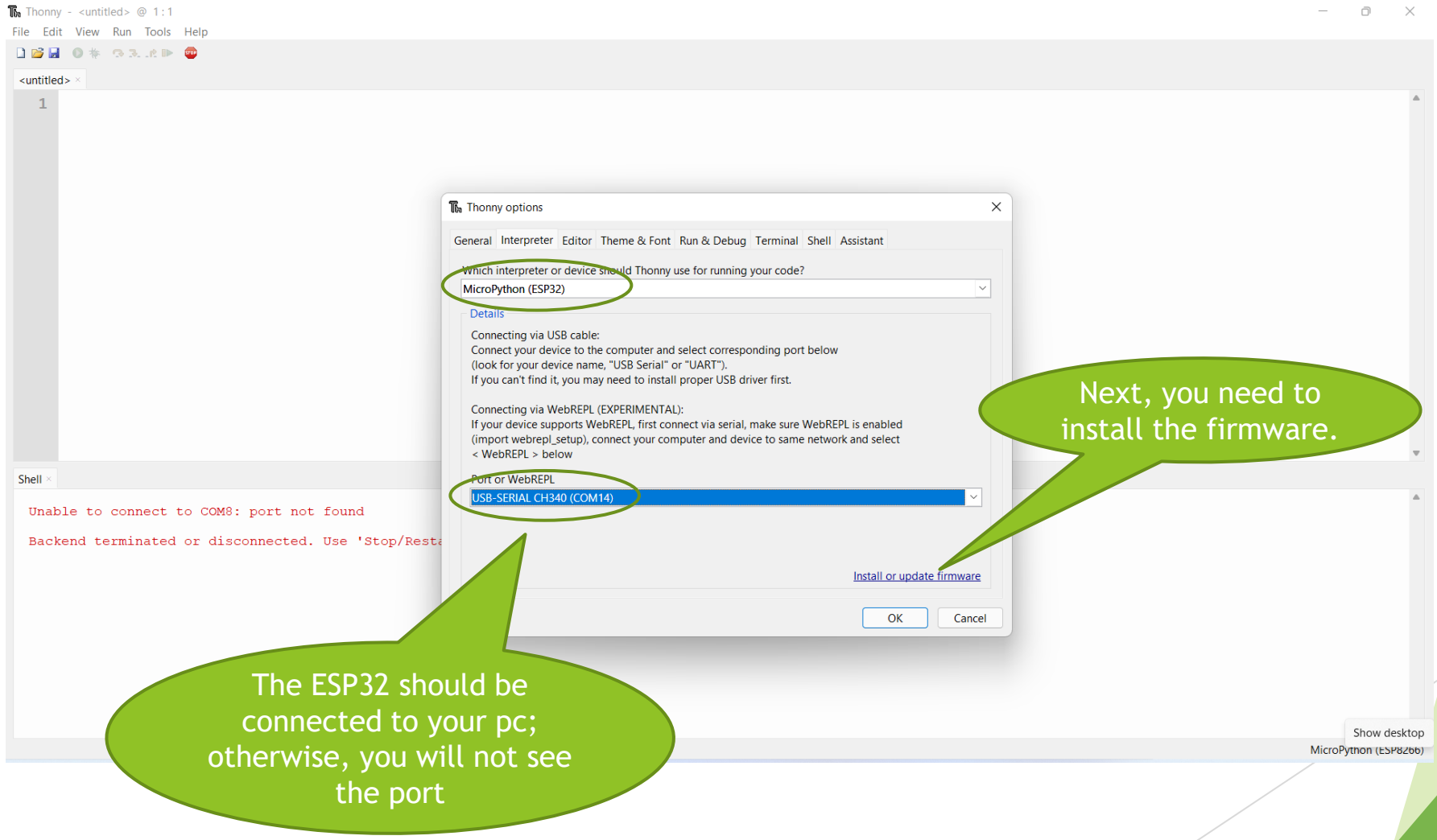
7. Set the port as before. Select the firmware file that you have already downloaded at step 2.

Setting up

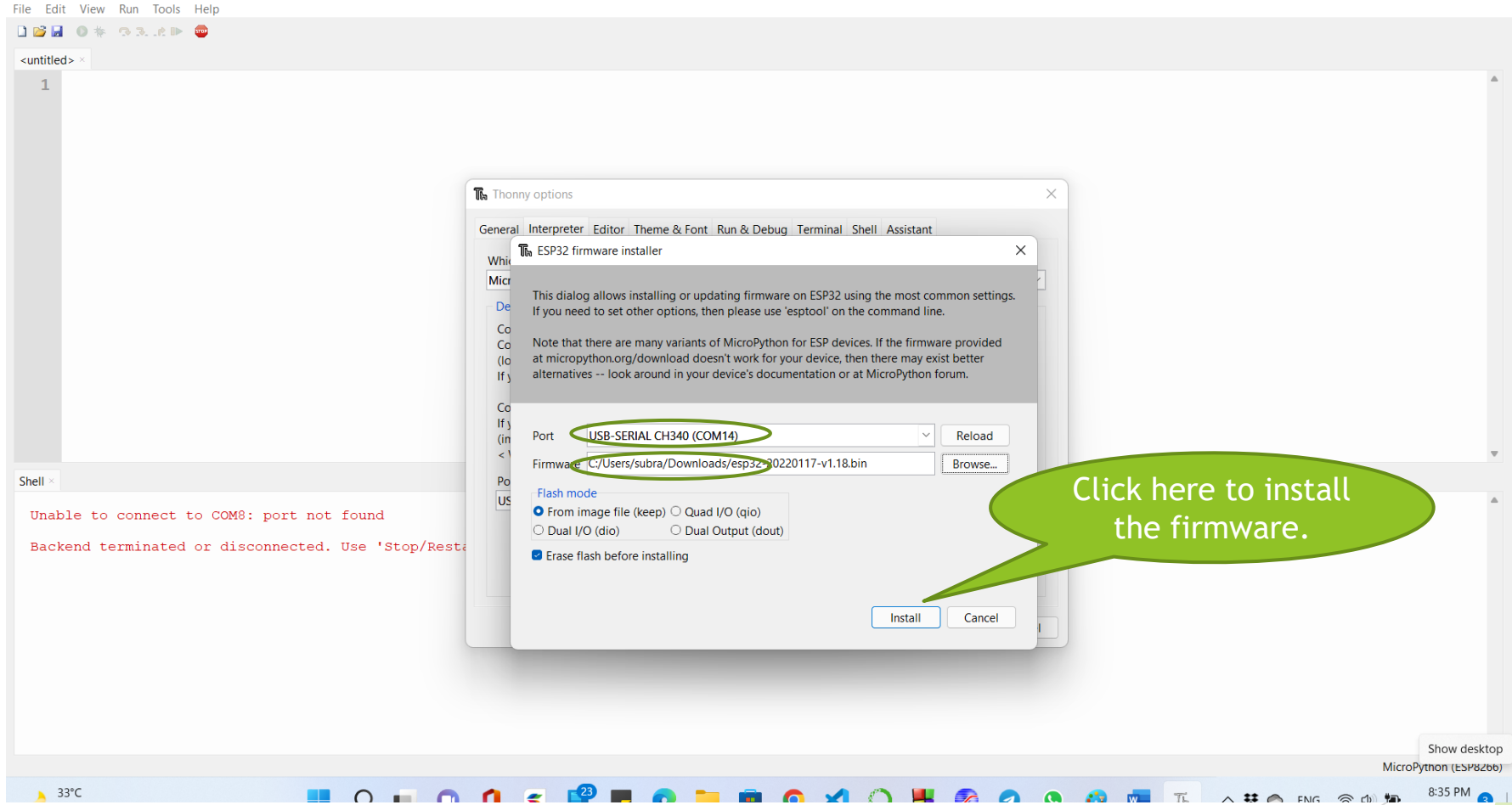
8. Click install; it may take a few minutes.
Close the window when done.

Now your microcontroller is ready to be programmed using Micropython.

Setting up


Thonny - <untitled> @ 1 : 1
File Edit View Run Tools Help
<untitled>
1
Shell
Unable to connect to COM8: port not found
Backend terminated or disconnected. Use 'Stop/Resta
Thonny options
General Interpreter Editor Theme & Font Run & Debug Terminal Shell Assistant
Which interpreter or device should Thonny use for running your code?
MicroPython (ESP32)
Details
Connecting via USB cable:
Connect your device to the computer and select corresponding port below
(look for your device name, "USB Serial" or "UART").
If you can't find it, you may need to install proper USB driver first.
Connecting via WebREPL (EXPERIMENTAL):
If your device supports WebREPL, first connect via serial, make sure WebREPL is enabled
(import webrepl_setup), connect your computer and device to same network and select
< WebREPL > below
Port or WebREPL
USB-SERIAL CH340 (COM14)
Install or update firmware
OK
Cancel
Next, you need to install the firmware.
The ESP32 should be connected to your pc; otherwise, you will not see the port
Show desktop
MicroPython (ESP8266)

Setting up


File Edit View Run Tools Help
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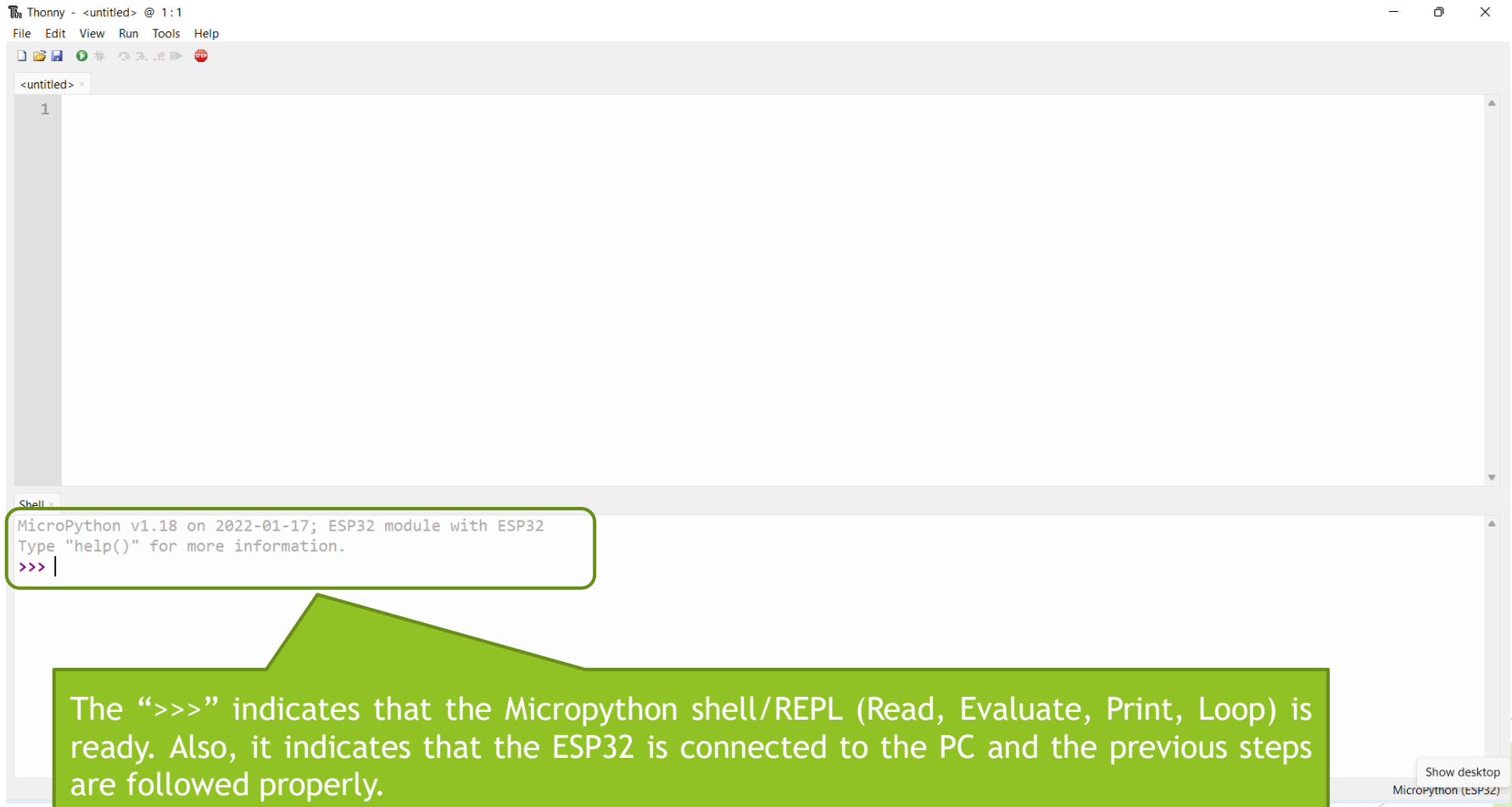
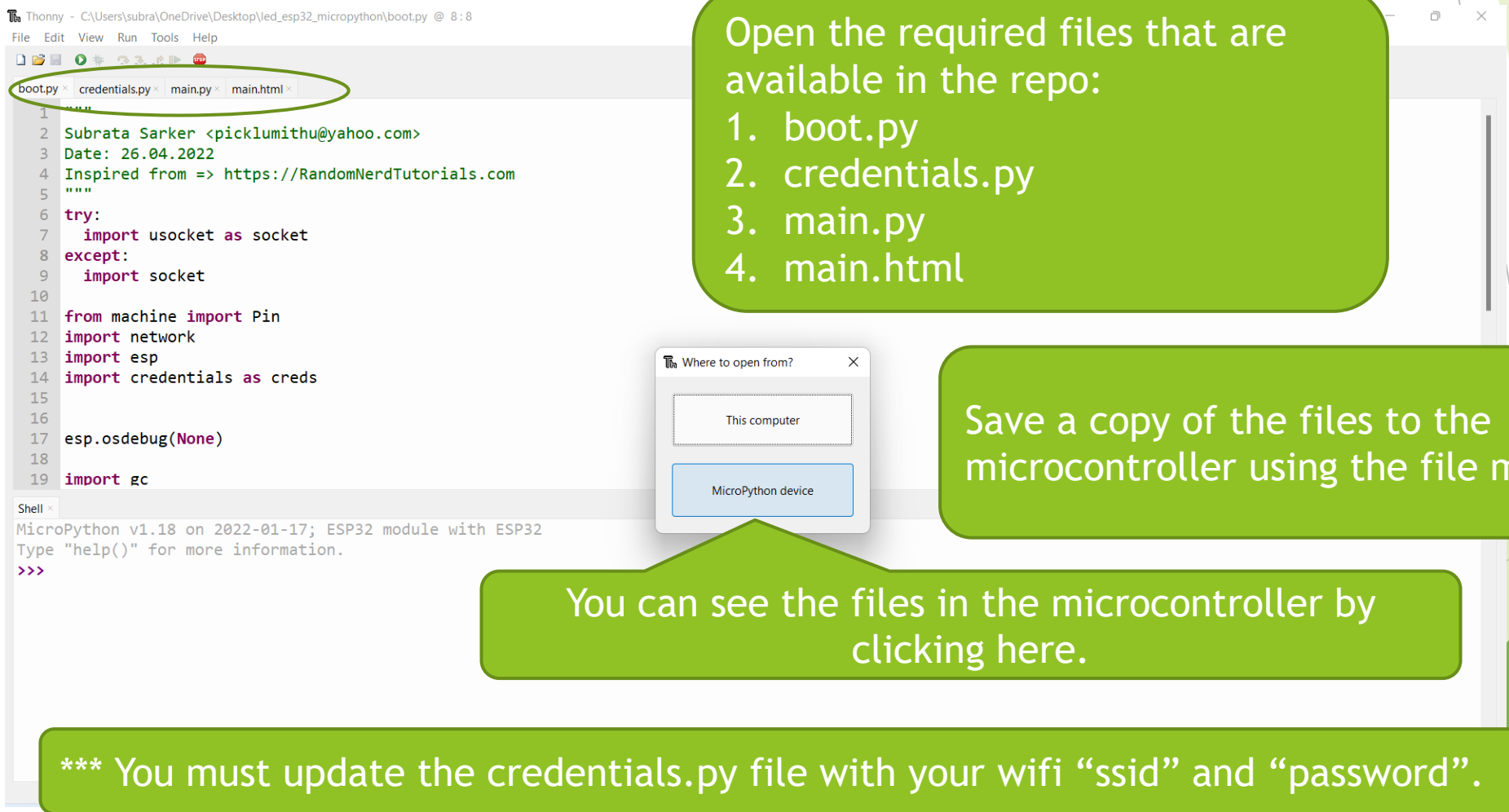
1
Shell
Unable to connect to COM8: port not found
Backend terminated or disconnected. Use 'Stop/Resta
Thonny options
General Interpreter Editor Theme & Font Run & Debug Terminal Shell Assistant
ESP32 firmware installer
This dialog allows installing or updating firmware on ESP32 using the most common 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
USB-SERIAL CH340 (COM14)
Reload
Firmware
C:/Users/subra/Downloads/esp32-20220117-v1.18.bin
Browse...
Flash mode
From image file (keep)
Quad I/O (qio)
Dual I/O (dio)
Dual Output (dout)
Erase flash before installing
Install
Cancel
Click here to install the firmware.
Show desktop
MicroPython (ESP8266)
33°C
8:35 PM

Setting up



The “>>>” indicates that the Micropython shell/REPL (Read, Evaluate, Print, Loop) is ready. Also, it indicates that the ESP32 is connected to the PC and the previous steps are followed properly.

Program your D1 ESP8266 or ESP32 to control a LED from web browser



Open the required files that are available in the repo:

1. boot.py
2. credentials.py
3. main.py
4. main.html

Save a copy of the files to the microcontroller using the file menu.

You can see the files in the microcontroller by clicking here.

*** You must update the credentials.py file with your wifi “ssid” and “password”.

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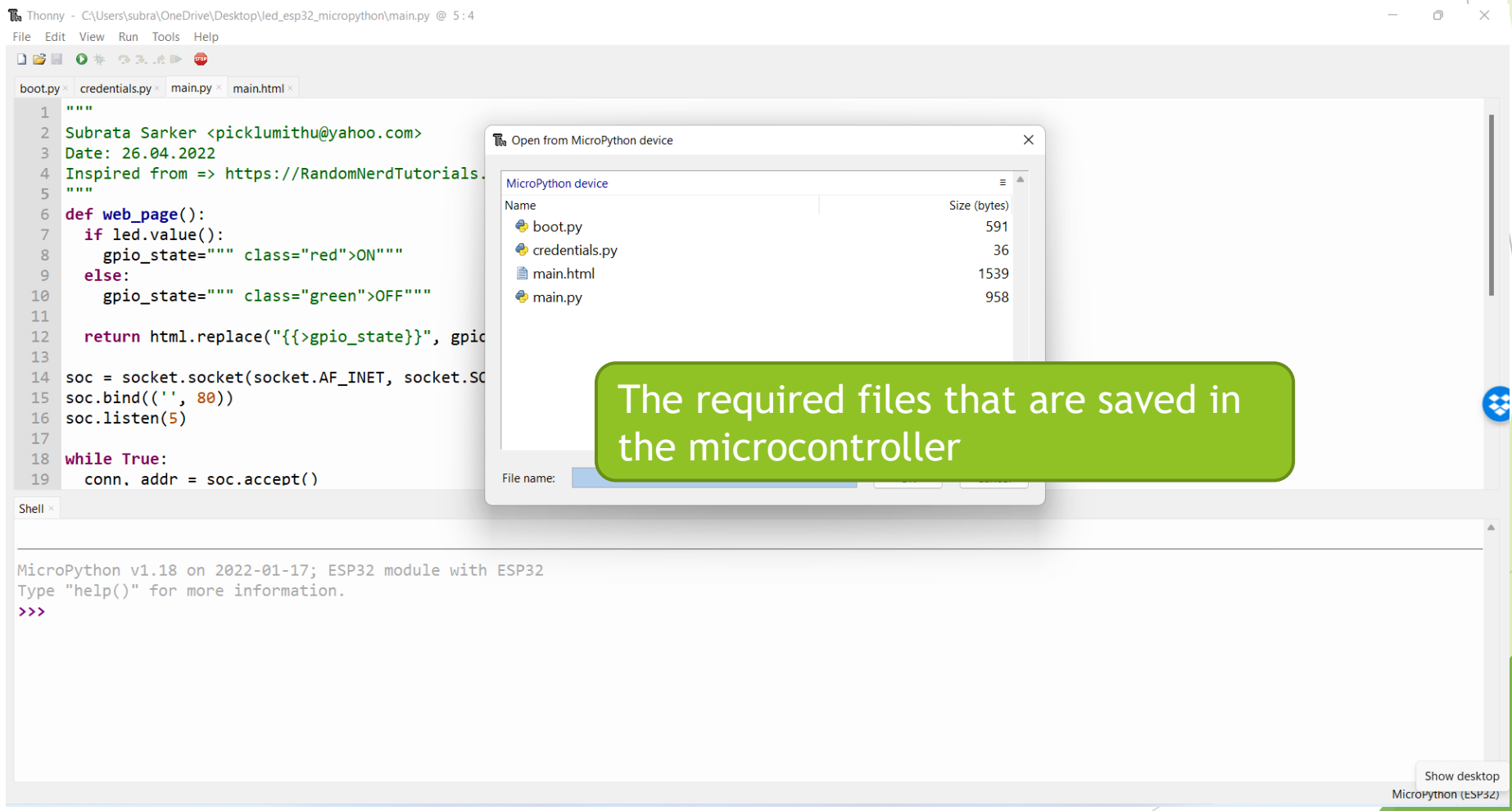

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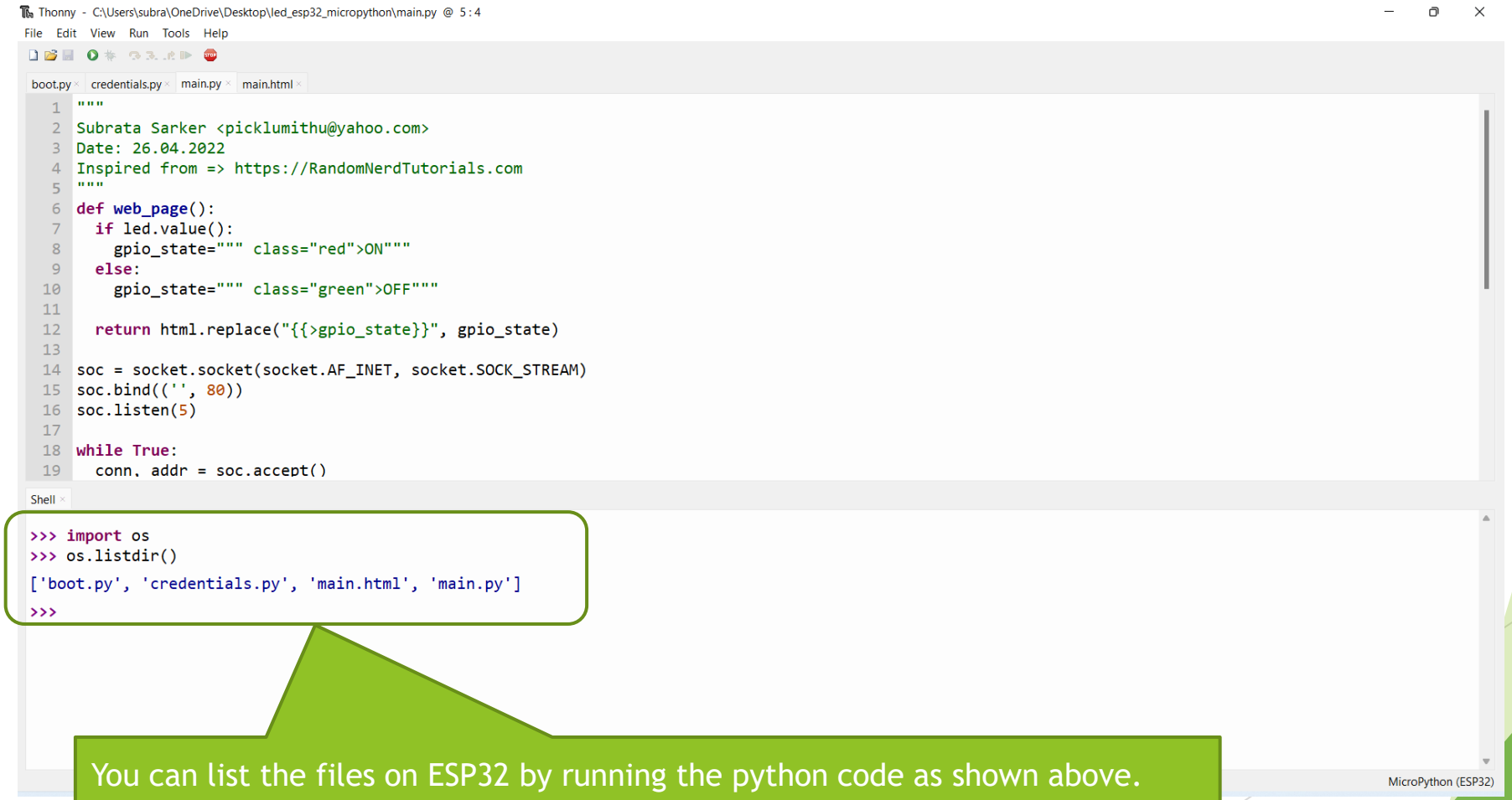

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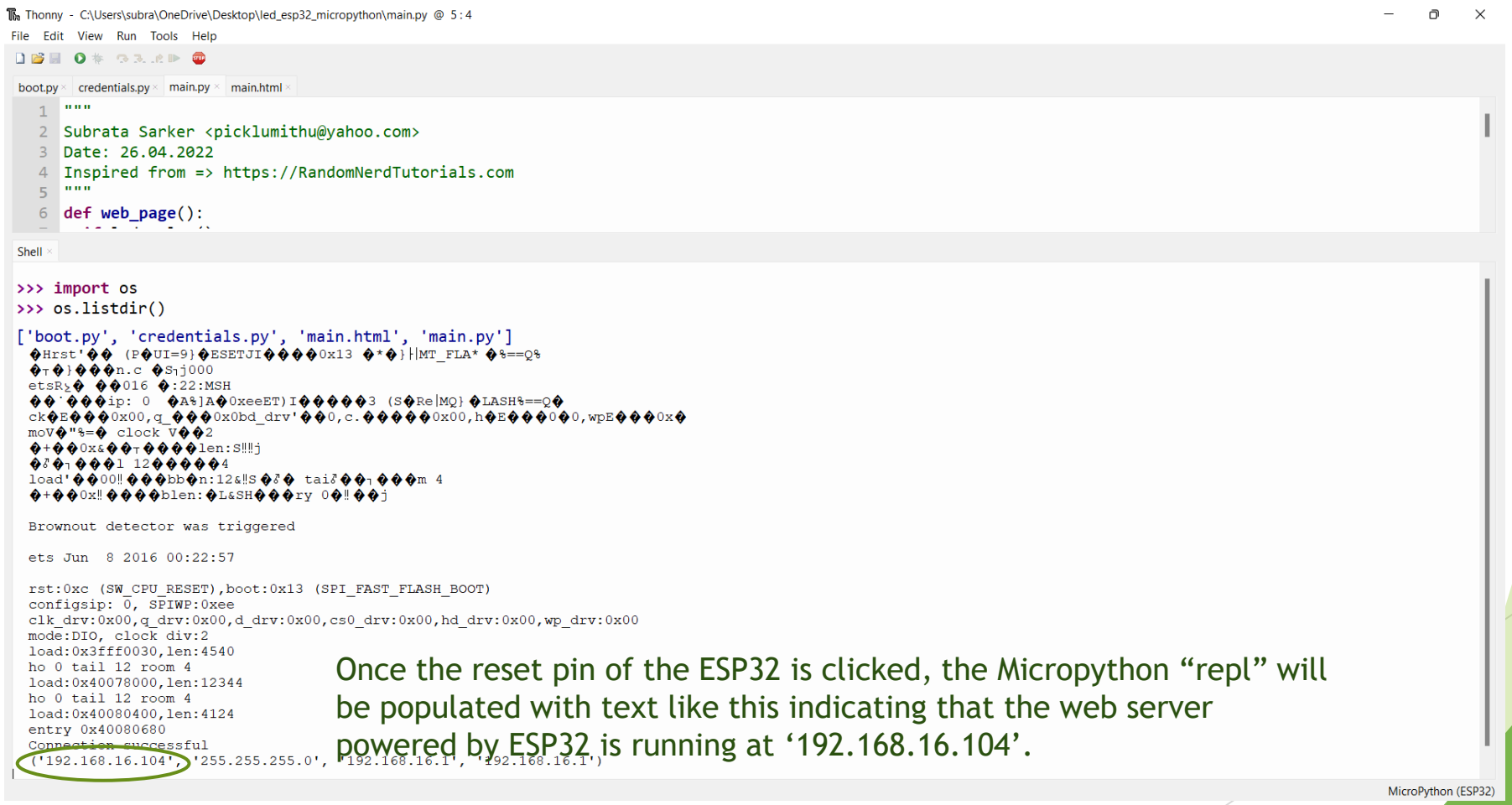
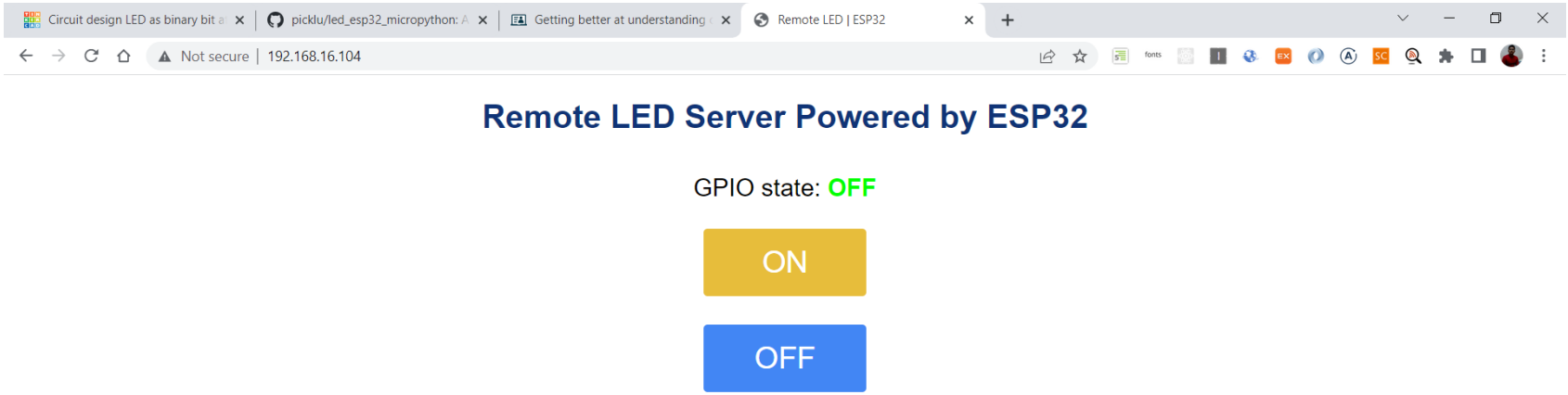


Once the reset pin of the ESP32 is clicked, the Micropython “repl” will be populated with text like this indicating that the web server powered by ESP32 is running at ‘192.168.16.104’.

Program your D1 ESP8266 or ESP32 to control a LED from web browser

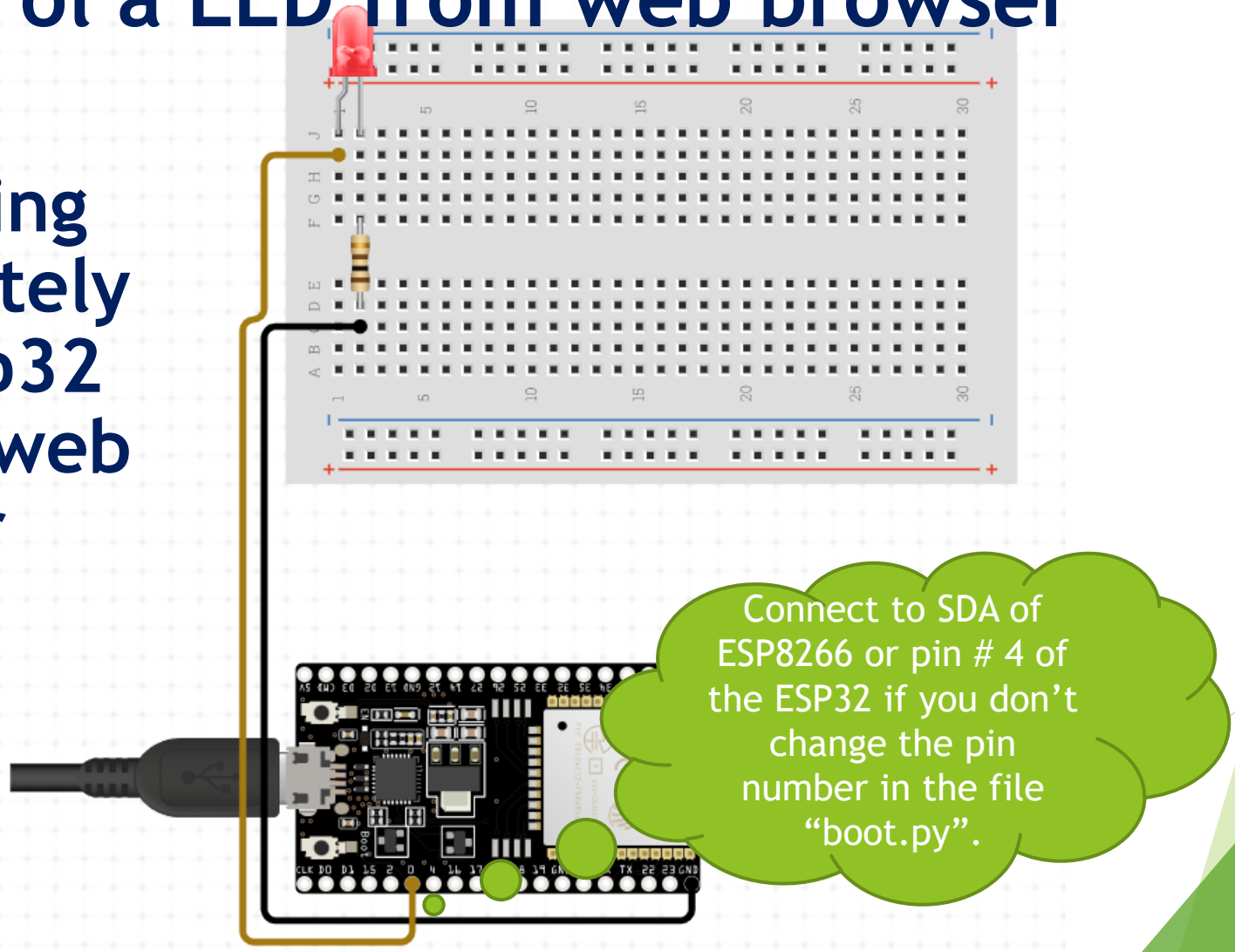


Open a browser and type the ip address that you found in the previous page; you will see a page like this. If you have followed along then you have created your first micro web server using Micropython on ESP32. Now play with button and see the action on the circuit as provided in the next page.

Cheers!

Program your D1 ESP8266 or ESP32 to control a LED from web browser

Controlling LED remotely using ESp32 powered web server



Useful Links

- https://micropython.org/
- https://micropython.org/download/esp8266/
- https://micropython.org/download/esp32/
- https://micropython.org/resources/firmware/esp8266-20220117-v1.18.bin
- https://micropython.org/resources/firmware/esp32-20220117-v1.18.bin
- https://docs.micropython.org/en/latest/
- https://docs.micropython.org/en/latest/esp32/quickref.html
- https://github.com/picklu/led_esp32_micropython
- https://github.com/jczic/MicroWebSrv2

Happy Coding!!!