

Module 1iii.

Installing the ESP32

Add-on in Arduino

IDE, Testing &

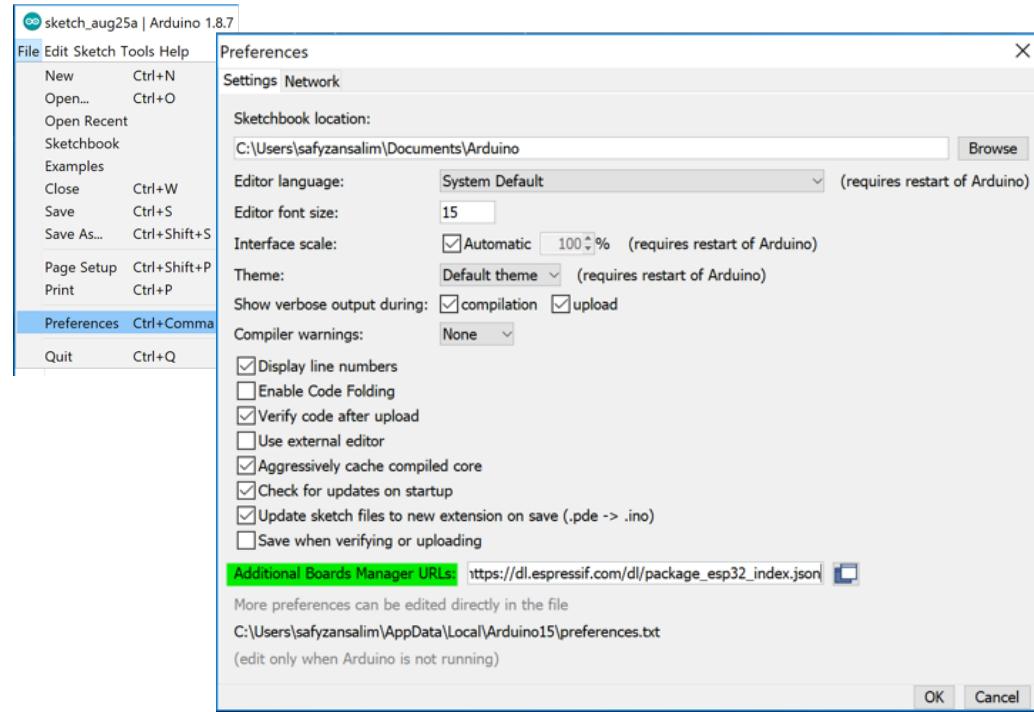
Troubleshooting

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019 622 0575

1iii. Installing the ESP32 Add-on in Arduino IDE, Testing & Troubleshooting

Additional Board Manager URLs at Preferences

- Installing New Board
- Testing the Installation : Connect ESP32 to Laptop
- Testing the Installation : Select Board
- Testing the Installation : Select Port
- Testing the Installation : Display Board Used & Port Number
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- **File > Preferences > Additional Boards Managers URLs:**
- Type https://dl.espressif.com/dl/package_esp32_index.json into the "Additional Board Manager URLs". Click OK

**** In case you have already added-on NodeMCU link, place a comma then paste the ESP32 add-on link as follows:**

http://arduino.esp8266.com/stable/package_esp8266com_index.json, https://dl.espressif.com/dl/package_esp32_index.json

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Additional Board Manager URLs at Preferences

Installing New Board

Testing the Installation : Connect ESP32 to Laptop

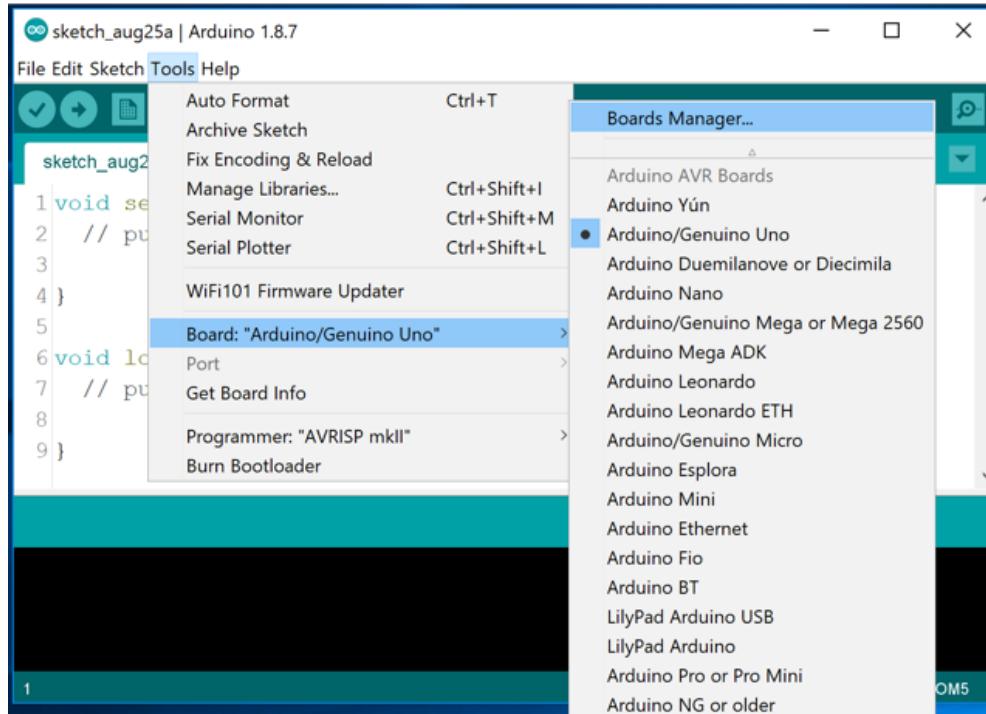
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- **Tools > Board: > Boards Manager...**
- **Note:** Internet connection is required to download the latest boards / libraries

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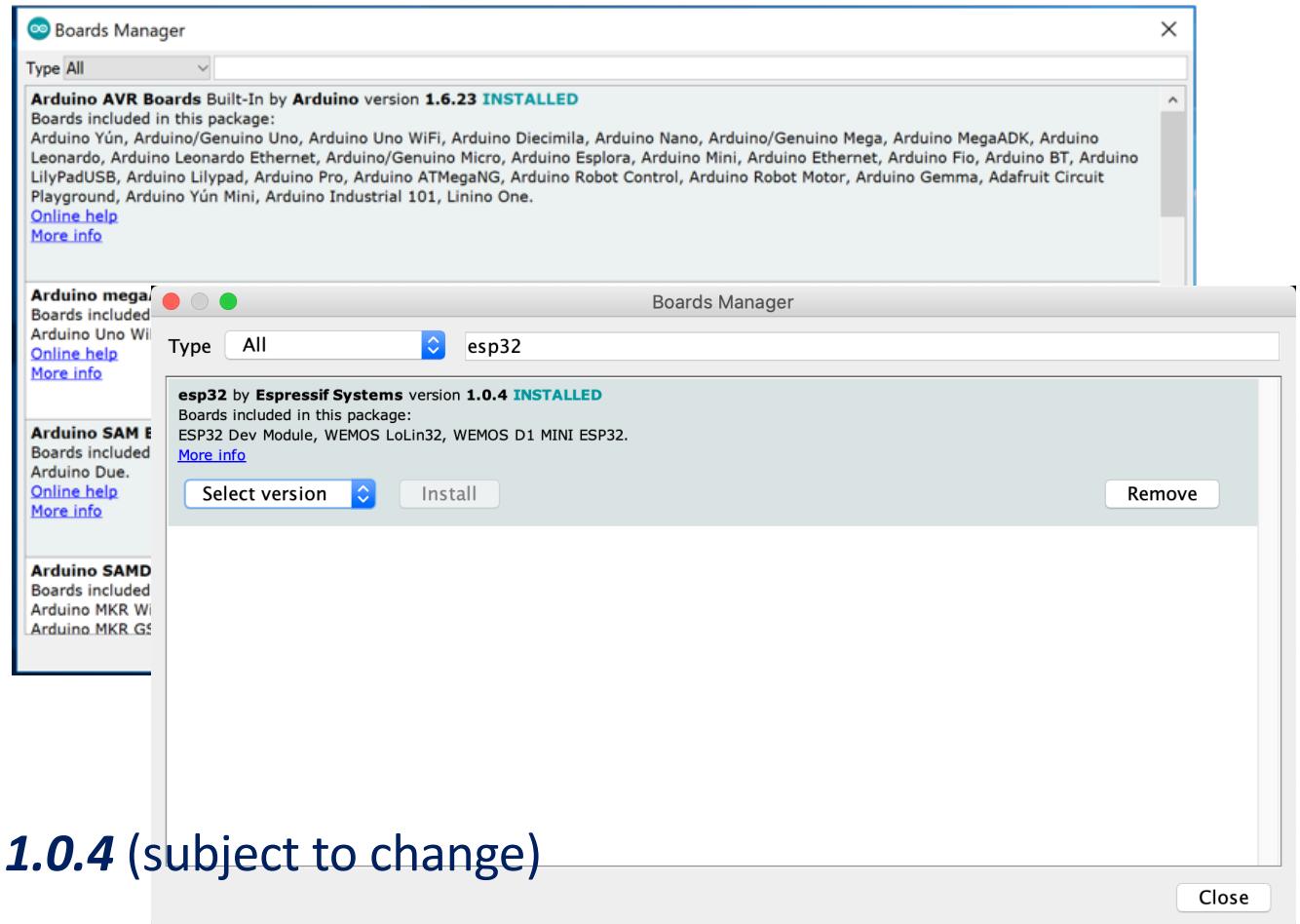
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- Type **nodemcu**
- Select latest version > **1.0.4** (subject to change)
- Click **Install**

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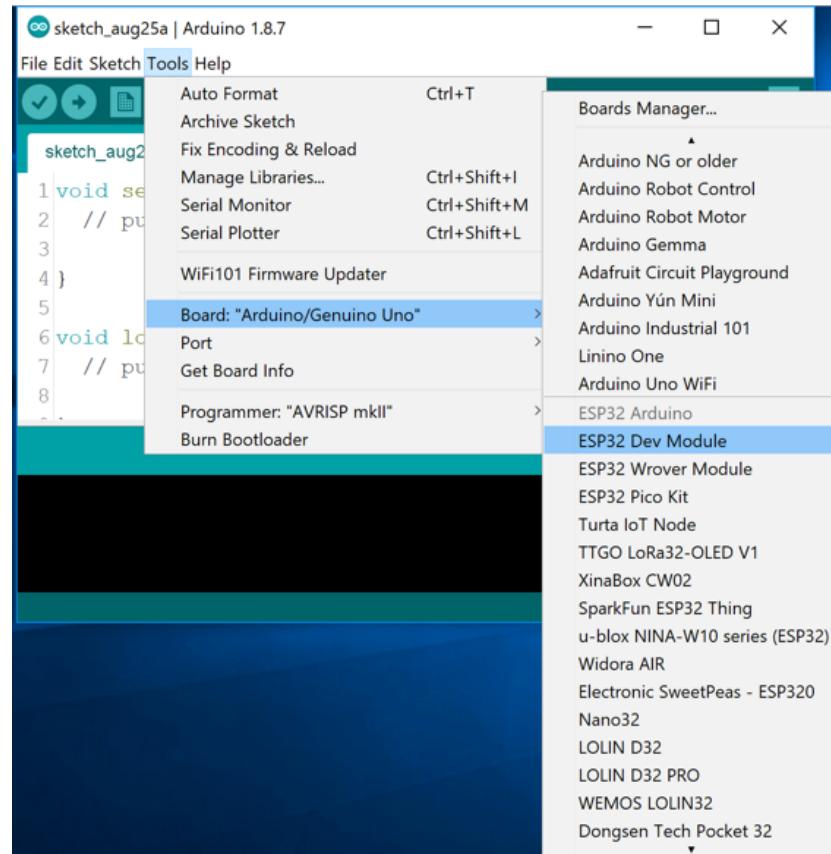
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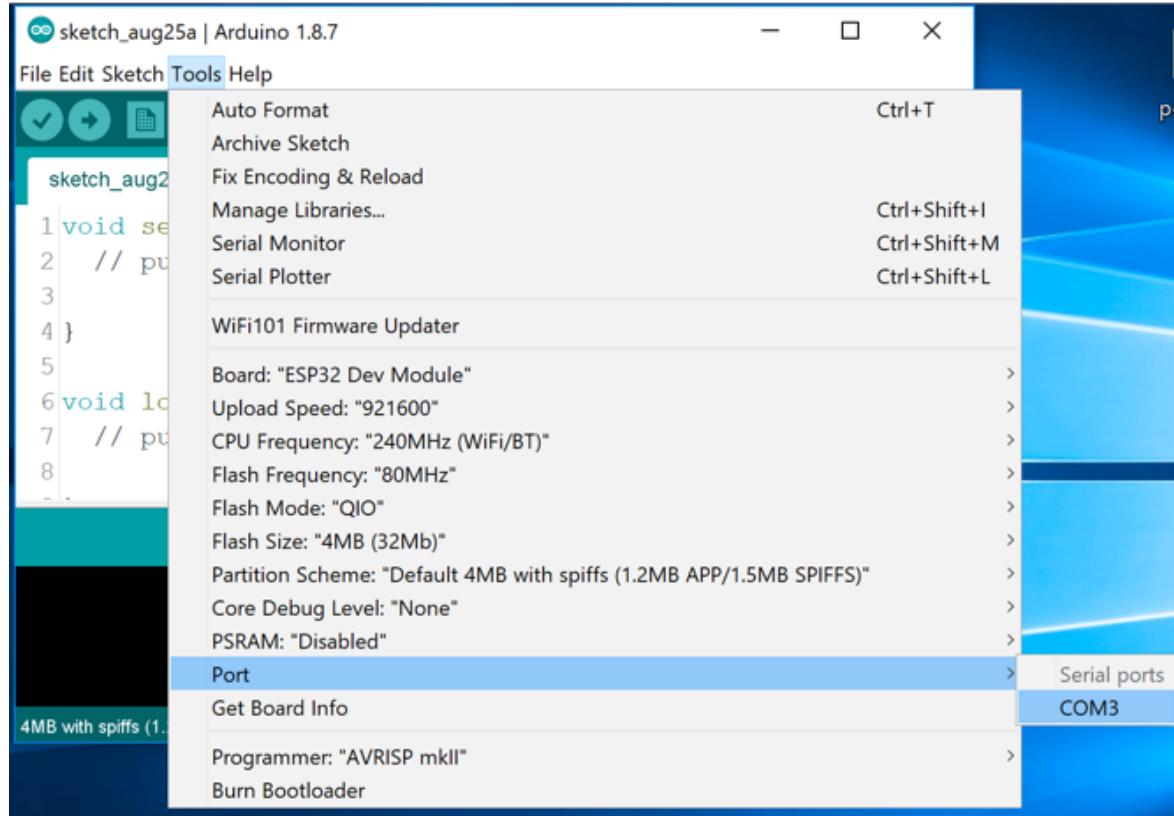
- ***Tools > Board: > ESP32 Dev Module***



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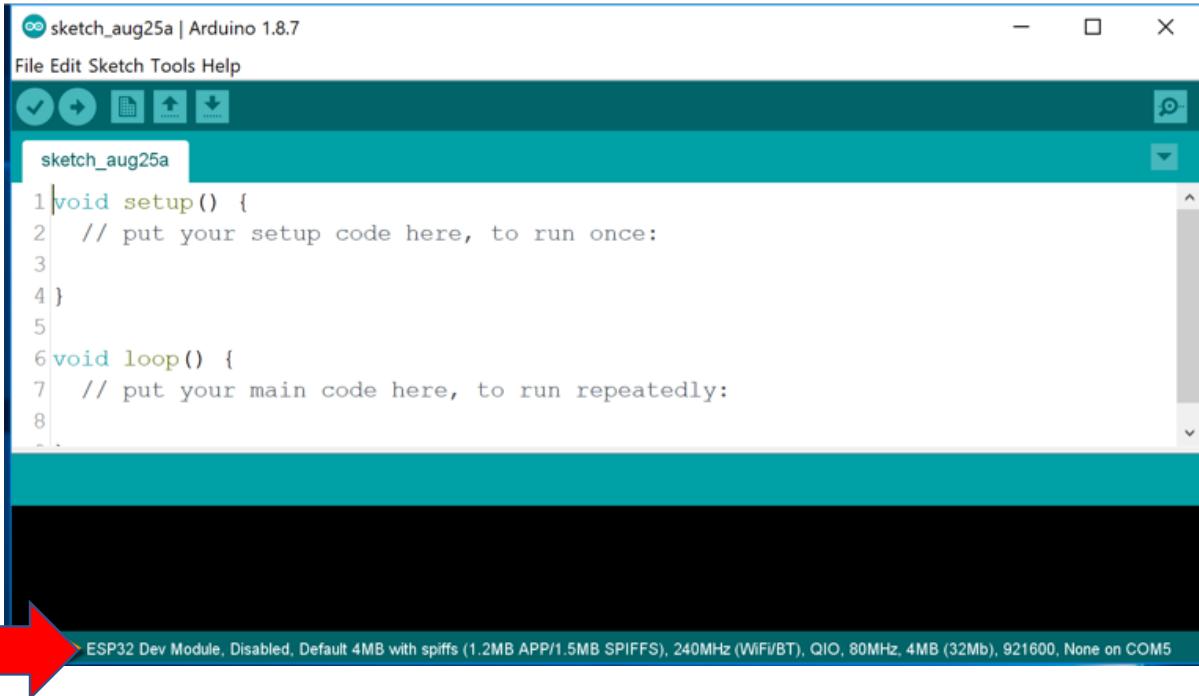
- **Tools > Port > COM3****



****The port number might be different from others.**

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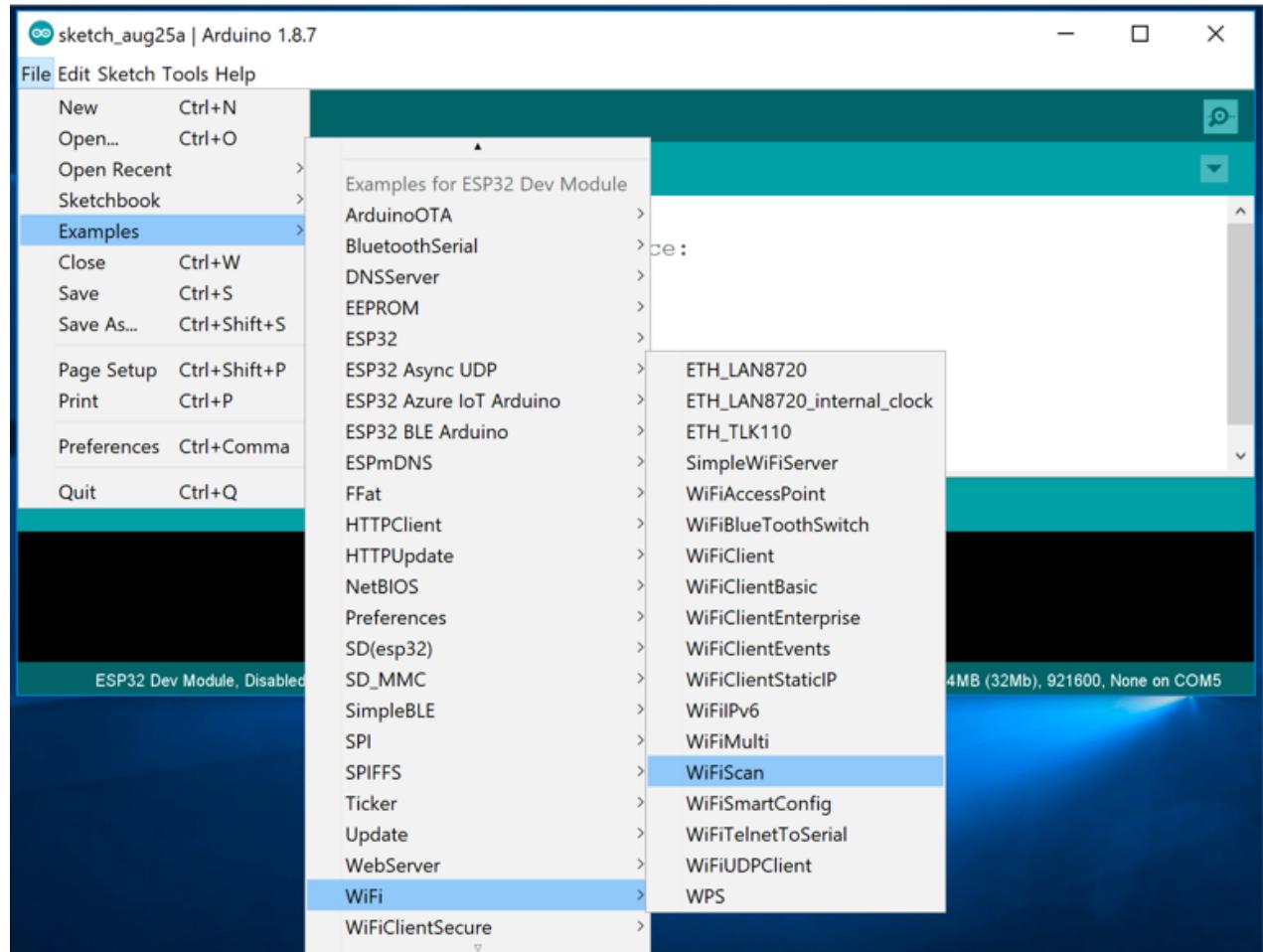


```
sketch_aug25a | Arduino 1.8.7
File Edit Sketch Tools Help
sketch_aug25a
1void setup() {
2 // put your setup code here, to run once:
3
4}
5
6void loop() {
7 // put your main code here, to run repeatedly:
8}
```

ESP32 Dev Module, Disabled, Default 4MB with spiffs (1.2MB APP/1.5MB SPIFFS), 240MHz (WiFi/BT), QIO, 80MHz, 4MB (32Mb), 921600, None on COM5

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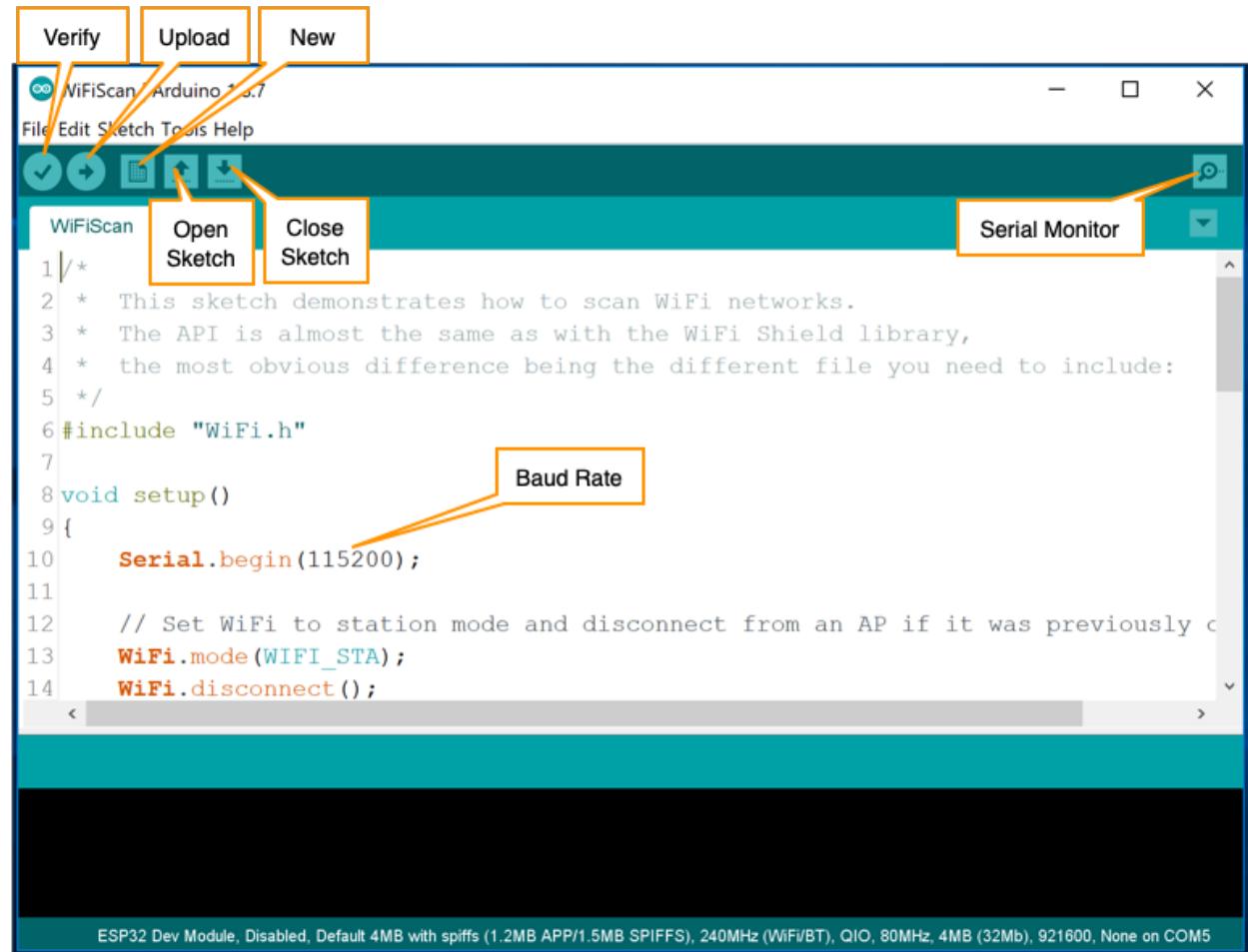
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- ***Files > Examples > WiFi > WiFiScan***

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- Press **Upload**, the sketch compiles and upload to the board

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The screenshot shows the Arduino IDE interface with the WiFiScan sketch open. The code is as follows:

```
1 /*
2 * This sketch demonstrates how to scan WiFi networks.
3 * The API is almost the same as with the WiFi Shield library,
4 * the most obvious difference being the different file you need to include:
5 */
6 #include "WiFi.h"
7
8 void setup()
9 {
10     Serial.begin(115200);
11
12     // Set WiFi to station mode and disconnect from an AP if it was previously c
13     WiFi.mode(WIFI_STA);
```

The status bar at the bottom of the IDE displays the following information:

ESP32 Dev Module, Disabled, Default 4MB with spiffs (1.2MB APP/1.5MB SPIFFS), 240MHz (WiFi/BT), QIO, 80MHz, 4MB (32Mb), 921600, None on COM3

- Press **Upload**  button, the sketch compiles and upload to the board

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The screenshot shows the Arduino IDE interface. On the left, the code for the **WiFiScan** sketch is visible:

```
10 Serial.begin(115200);
11
12 // Set WiFi to station mode and disconnect from an AP if it was previously connected
13 WiFi.mode(WIFI_STA);
14 WiFi.disconnect();
15 delay(100);
16
17 Serial.println("scan start");
18 }
```

A yellow callout box points to the `Serial.println` line with the text "Able to upload sketch to ESP32". Below the code, a message says "Done uploading." and the serial monitor shows the uploaded code output:

```
Writing at 0x00008000... (100 %)
Wrote 3072 bytes (144 compressed) at 0x00008000
Hash of data verified.

Leaving...
Hard resetting via RTS pin...
```

The serial monitor window on the right is titled "COM3" and displays the results of a WiFi scan:

```
scan start
scan done
2 networks found
1: AL-Mukmin@Guest (-82)*
2: vivo 1601 (-89)*

scan start
scan done
5 networks found
1: AL-Mukmin@Guest (-81)*
2: vivo 1601 (-87)*
3: jjangjjangcool (-92)*
4: PawPatrol-2.4@unifi (-93)*
5: Repeater (-94)*
```

At the bottom of the serial monitor, there are checkboxes for "Autoscroll" and "Show timestamp", and settings for "No line ending", "115200 baud", and "Clear output". A red arrow points from the top right towards the serial monitor window.

- Once uploaded, press **Serial Monitor**  button to view the activity of ESP32
- Make sure the baud rate (**115200**) is similar with Line 10

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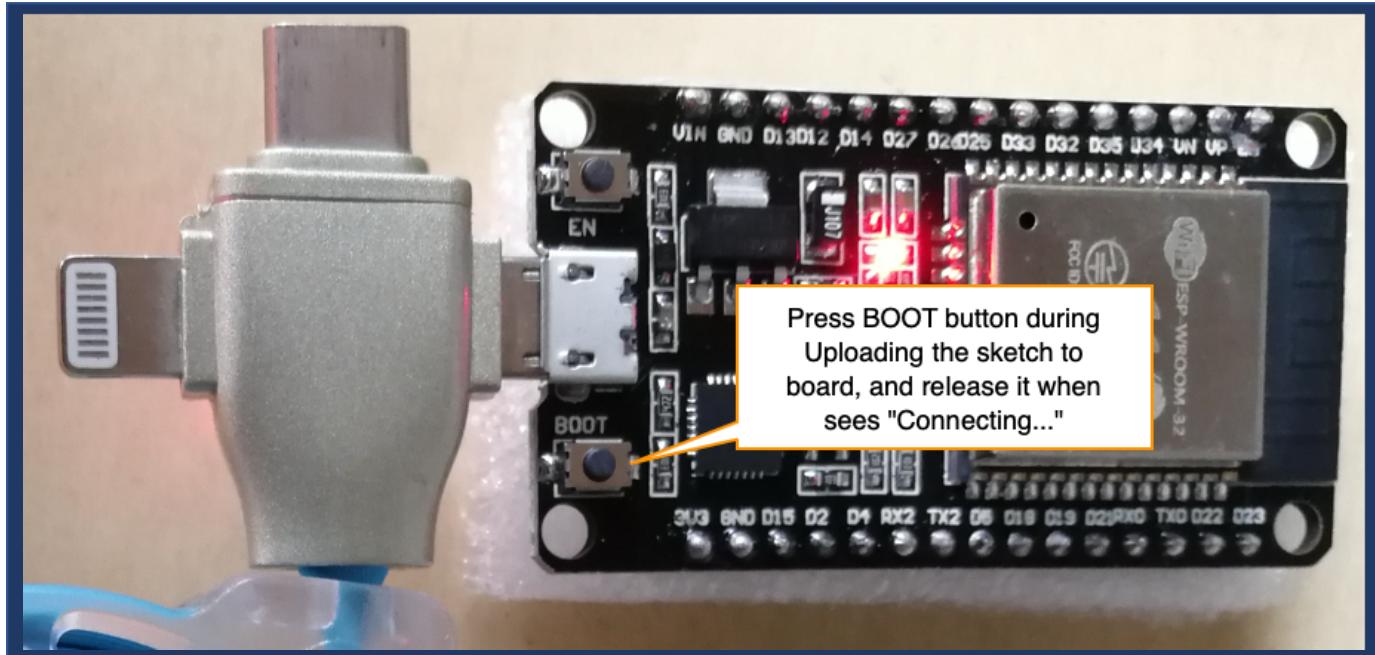
An orange error message box is overlaid on the status bar, containing the text "An error occurred while uploading the sketch". Two arrows point from this message box to two separate text boxes: one pointing to the word "upload" in the status bar text, labeled "Failed to Upload"; and another pointing to the word "connect" in the status bar text, labeled "Error Message".

The status bar at the bottom of the IDE displays the board configuration: "ESP32 Dev Module, Disabled, Default 4MB with spiffs (1.2MB APP/1.5MB SPIFFS), 240MHz (WiFi/BT), QIO, 80MHz, 4MB (32Mb), 921600, None on COM3".

- The error indicates that the sketch fails to upload to board

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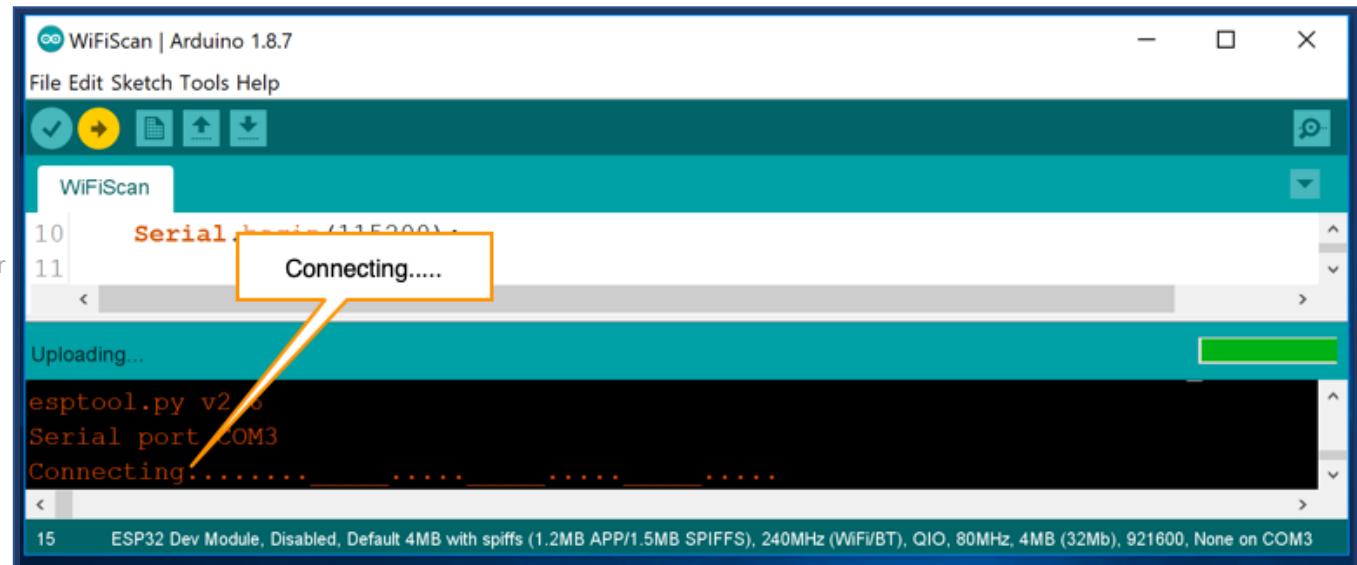
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- Having the right board name and COM port selected, **HOLD** down the **BOOT** button of ESP32, then click **Upload**  button

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- Release the **BOOT** button when you sees “**Connecting...**” at Arduino IDE

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Questions?