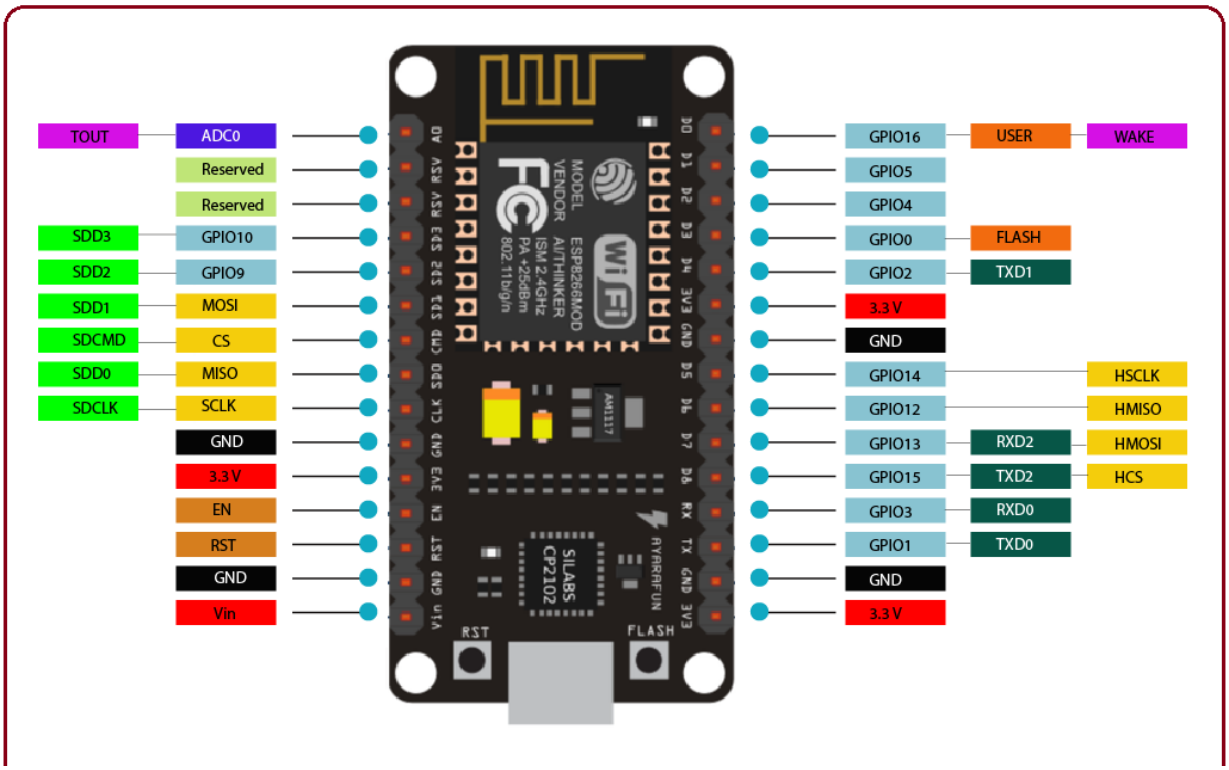
ESP8266 – Tutorial Demonstration

You will need:

- ESP8266
- 2 LEDs
- 2 Resistors (220 or 330 ohms should work just fine)
- Some jumper wires (Female to Female) 4 to 5 probably
- A small breadboard would be extremely good. We can do the work without it as well.
- Good microUSB **Data** cable (not charging cable)
- Laptop

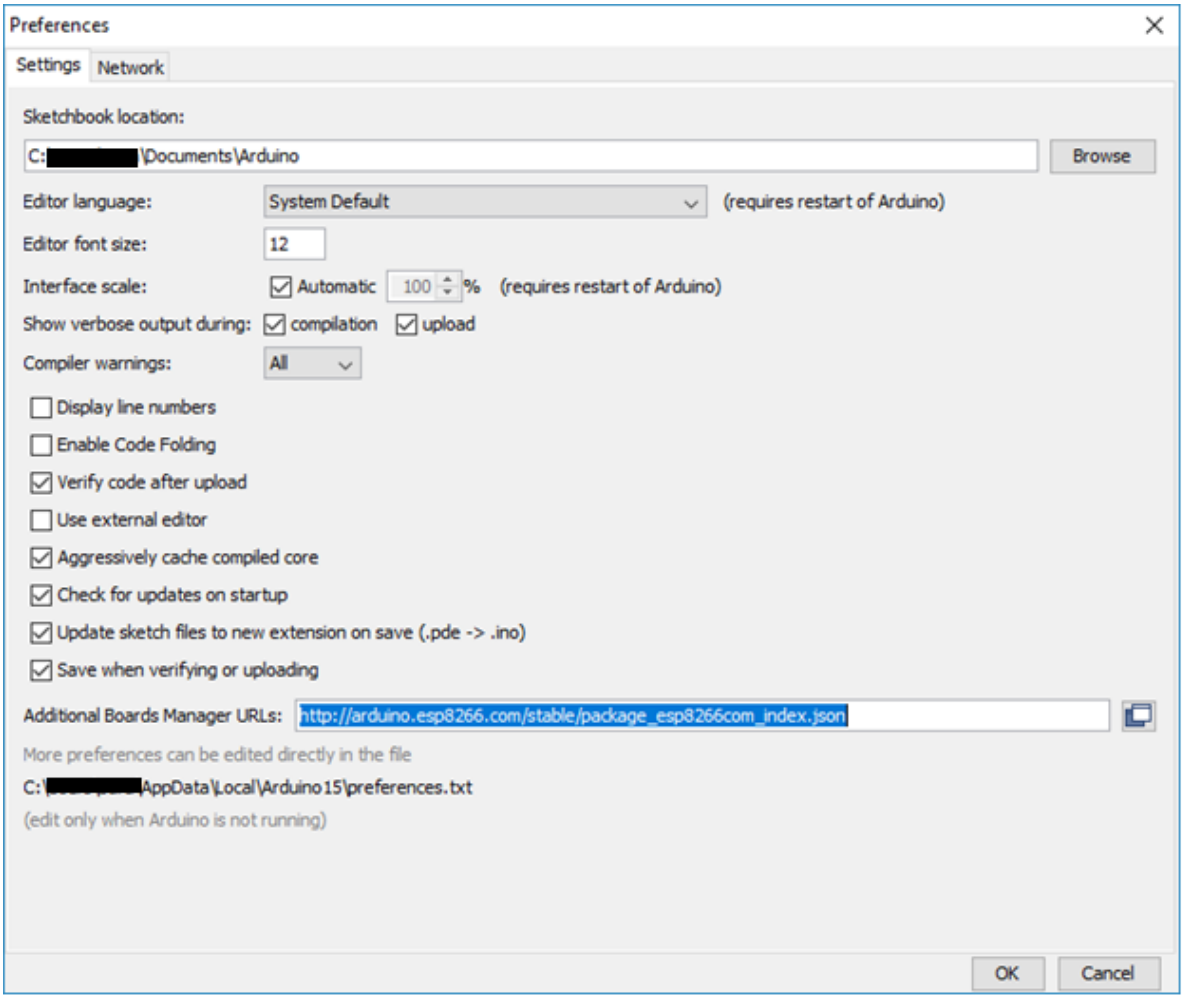


Prepare the Arduino IDE

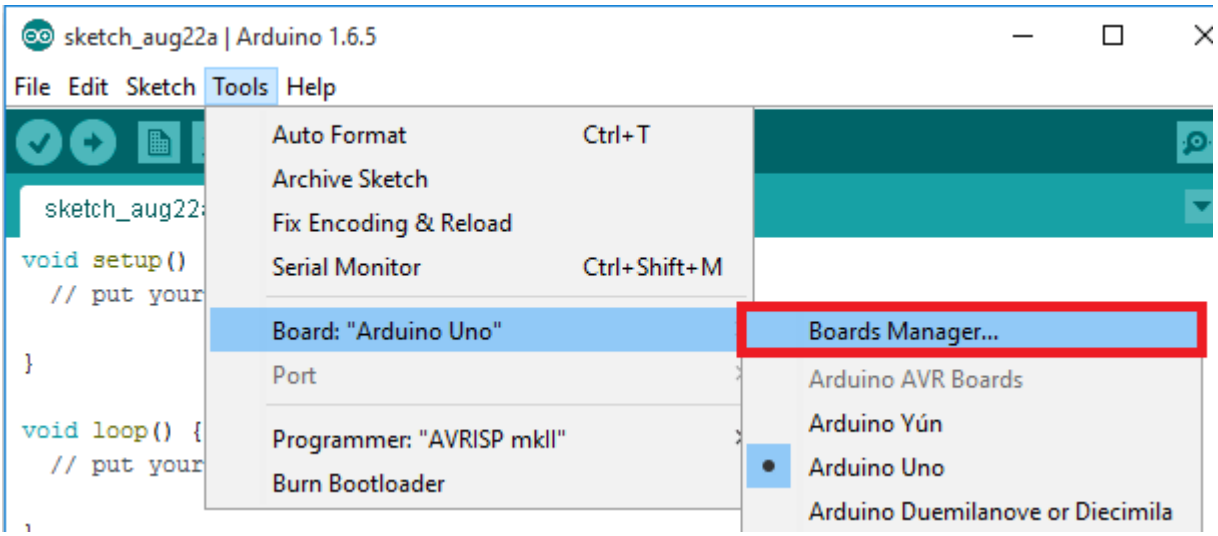
1. Download and install the Arduino IDE on your operating system (some older versions won't work).

2. Then, you need to install the ESP8266 add-on for the Arduino IDE. For that, go to **File** > **Preferences**.

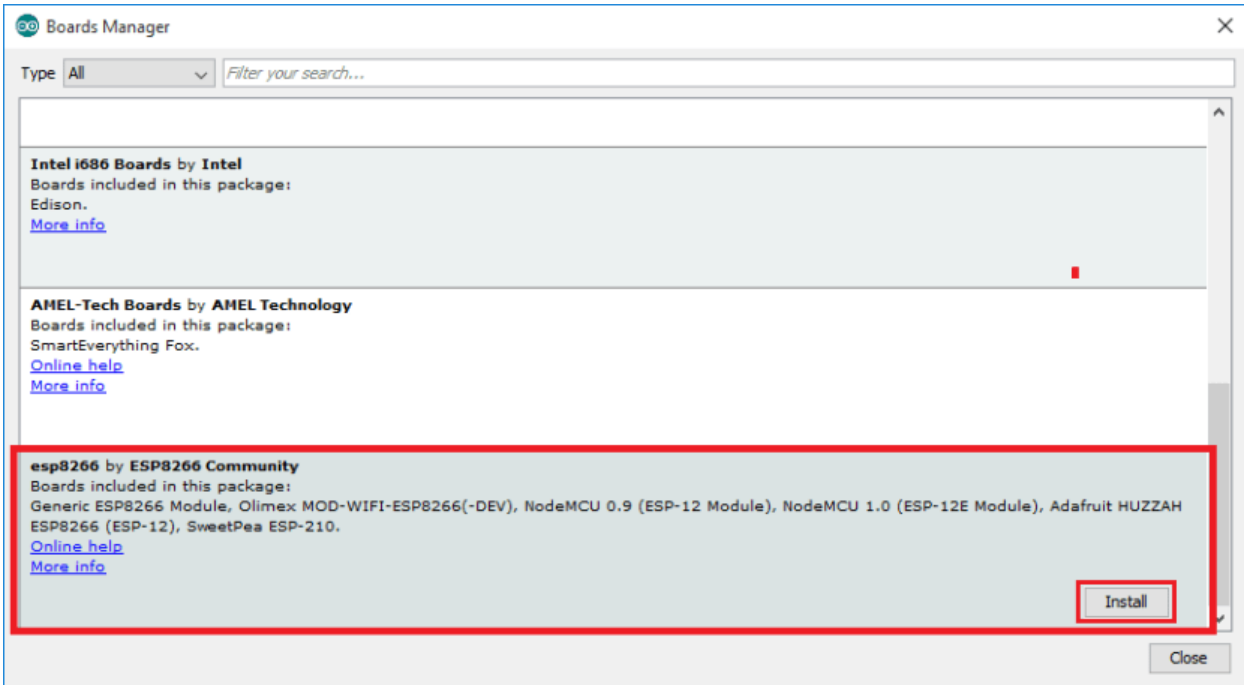
3. Enter `http://arduino.esp8266.com/stable/package_esp8266com_index.json` into the "**Additional Board Manager URLs**" field as shown in the figure below. Then, click the "**OK**" button.



4. Go to **Tools** > **Board** > **Boards Manager**…



5. Scroll down, select the ESP8266 board menu and install "e**sp8266 by ESP8266 Community**", as shown in the figure below.



6. Go to **Tools** > **Board** and choose your ESP8266 board. Then, re-open your Arduino IDE.

Code

Write your code.
Code is given in the video tutorial provided with this document.

Uploading the Sketch

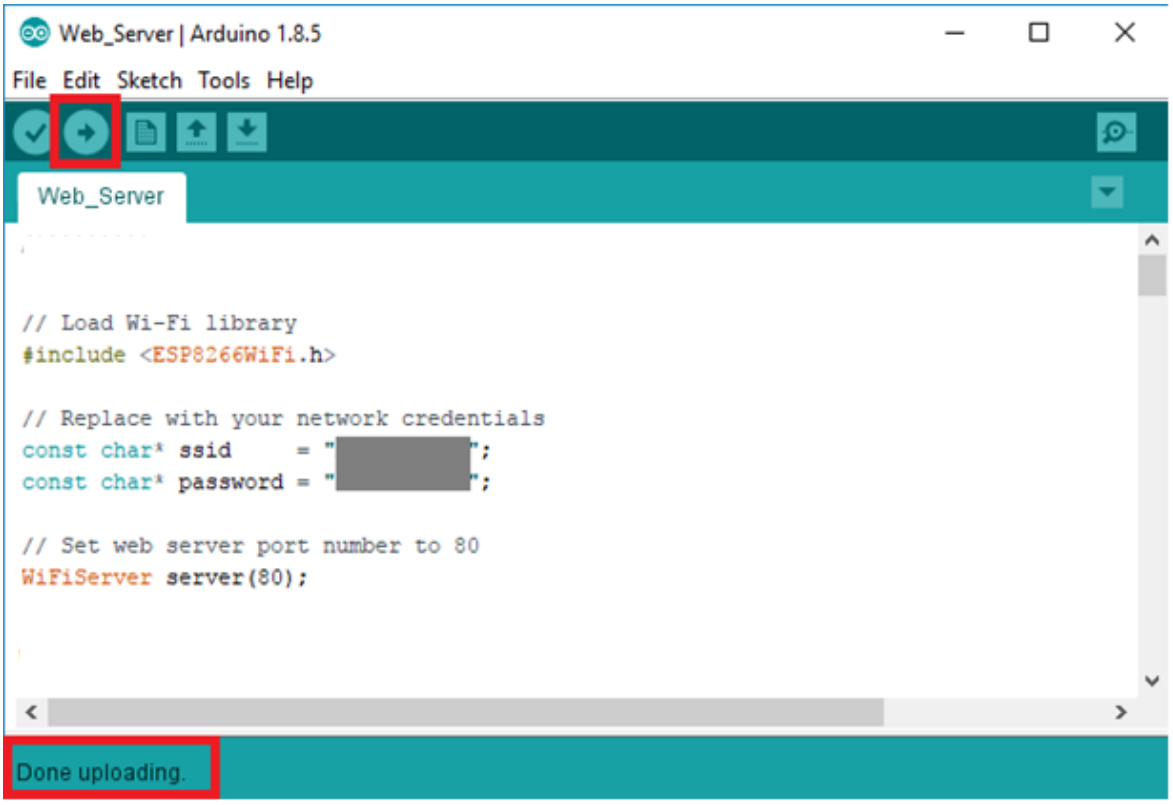
Installing driver
If you have a brand new device, and you are using it for the first time, you'll probably need to install the drivers on your Windows PC. If the COM port is grayed out in your Arduino IDE, it is probably because you don't have the drivers installed.

You just need to connect your ESP device to your computer and install the drivers.

There are many drivers on the internet. The correct and tested drivers are provided in the class.

Uploading the Sketch to the ESP-12E
If you're using an ESP-12E NodeMCU Kit, uploading the sketch is very simple, since it has built-in programmer. Plug your board to your computer. Make sure you have the right board and COM port selected.

Then, click the Upload button in the Arduino IDE and wait a few seconds until you see the message "Done uploading." in the bottom left corner.



Schematics

Connect two LEDs to your ESP8266 as shown in the following schematic diagram – with one LED connected to GPIO 4 (D2), and another to GPIO 5 (D1).