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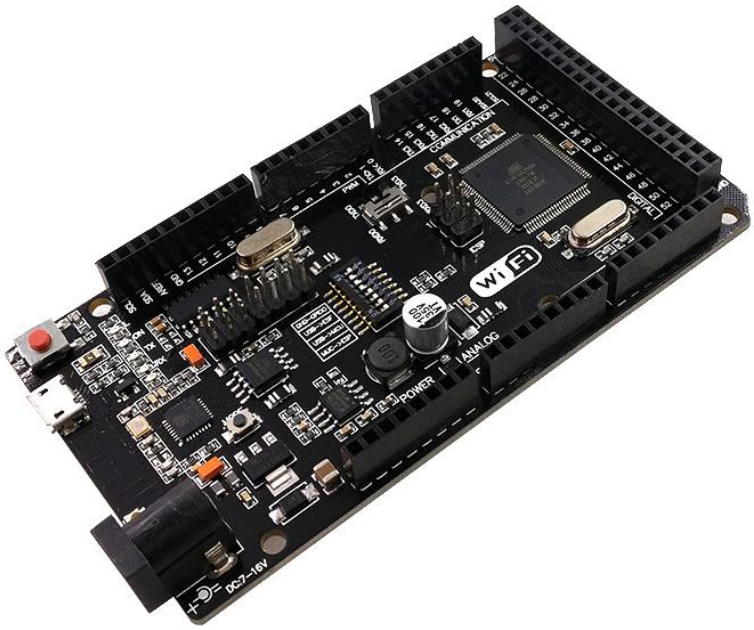
WEMOS MEGA2560 WIFI R3

(ATMEGA 2560 + ESP8266)



INTRODUCTION

It is a customized version of the classic ARDUINO MEGA R3 board. Full integration of microcontroller Atmel ATmega2560 and IC Wi-Fi ESP8266 with 32 MB flash memory, and USB-TTL converter CH340G on one board. All modules can work together or independently.

SPECIFICATION

Microcontroller	ATmega2560
Wi-Fi Controller	ESP8266
USB-TTL converter / Driver	CH340G
Power Out	5V (1.6A) & 3V (1A)
Power IN. USB	5V (500mA)
Power IN. VIN/DC Jack	7-16V
Power Consumption / Operating	5V 800mA
Logic Level	5V
Wi-Fi	Wi-Fi 802.11 b/g/n 2.4 GHz
Connector	Micro USB
Clock Frequency	16MHz
Digital & Analog I/O	54 / 16
Memory Size	256kb
Data RAM & ROM size	8kb / 4kb
Interface Type	Serial / OTA
Operating temperature	−40C°/+125C°
Length x Width	54 x 101.60mm
Antenna	Built-in + External Port

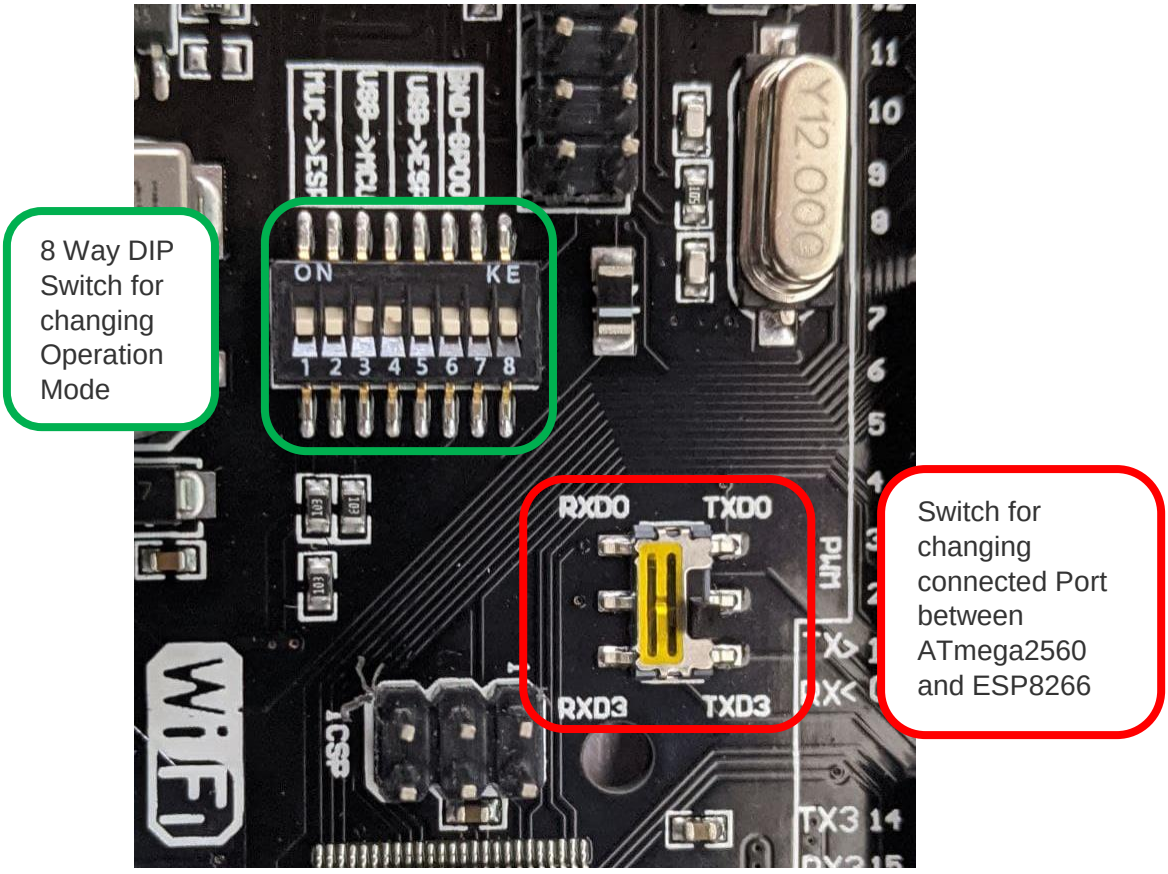
PREPARATION

1. Micro USB Cable
2. Arduino IDE
3. CH341 Driver

DIP Switch & Port Configuration

Operation Mode									
GRAY = OFF	**GREEN = ON**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CH340 to **ESP8266** (Upload Sketch)						**ON**	**ON**	**ON**	**NoUSE**
CH340 to **ESP8266** (Connect)						**ON**	**ON**		**NoUSE**
CH340 to **ATmega2560** (Upload Sketch)				**ON**	**ON**				**NoUSE**
CH340 to **Mega2560** to **ESP8266**		**ON**	**ON**	**ON**	**ON**				**NoUSE**
Mega2560 + **ESP8266**		**ON**	**ON**						**NoUSE**
All modules work independent									**NoUSE**

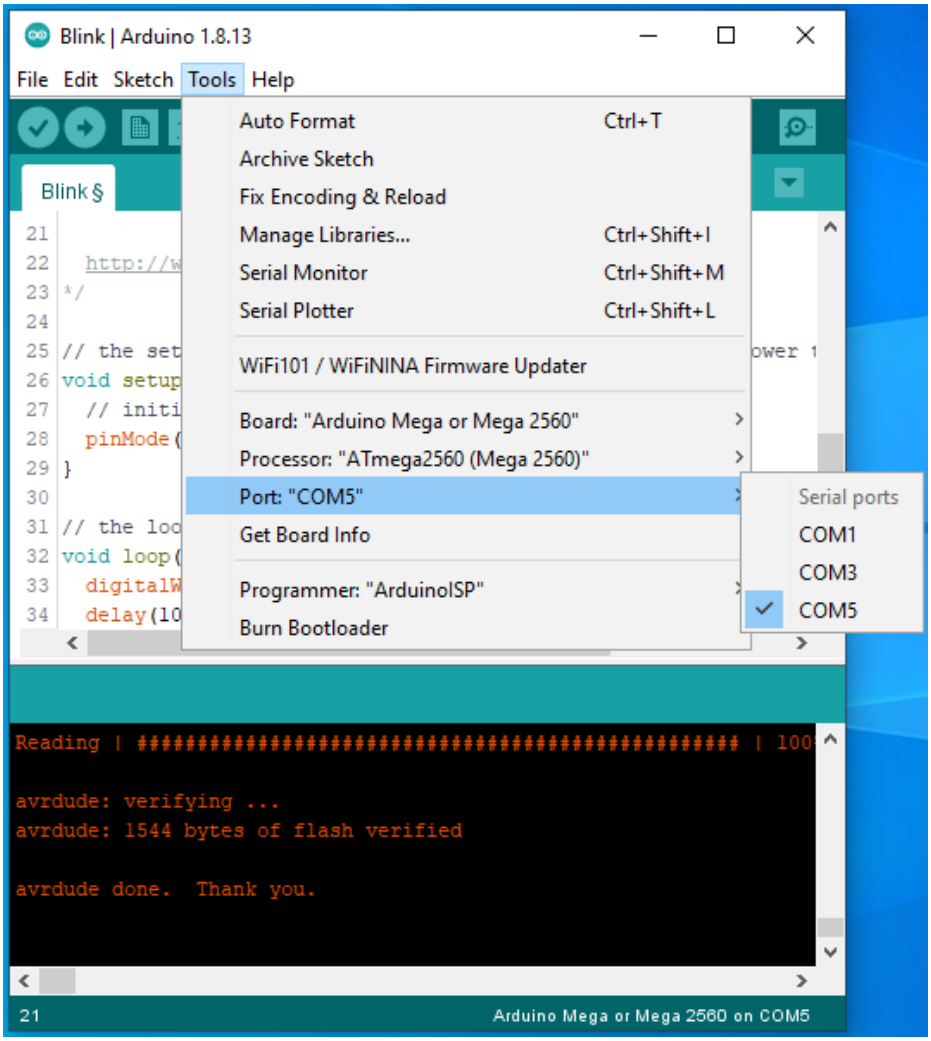
Operation Mode table



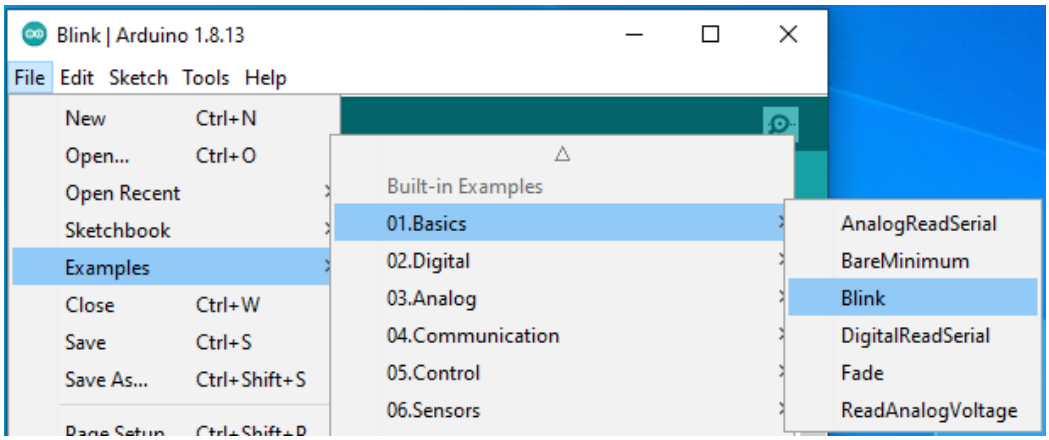
Example DIP Switch 3 & 4 turned on to upload Code to Arduino Mega

Uploading Program Code to Arduino Mega

1. Turn ON DIP Switch **3** & **4** (Refer Operation Mode table).
2. Open Arduino IDE select Board & "**COMxx**" (xx depend on your PC) as picture below:



3. **Upload** Blink code to test Arduino Mega functionality. LED will turn ON & OFF every 1s.



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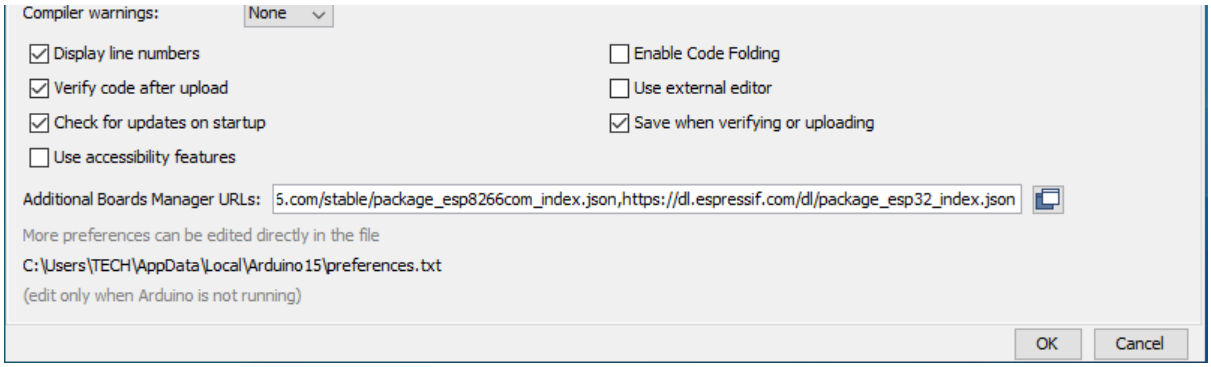
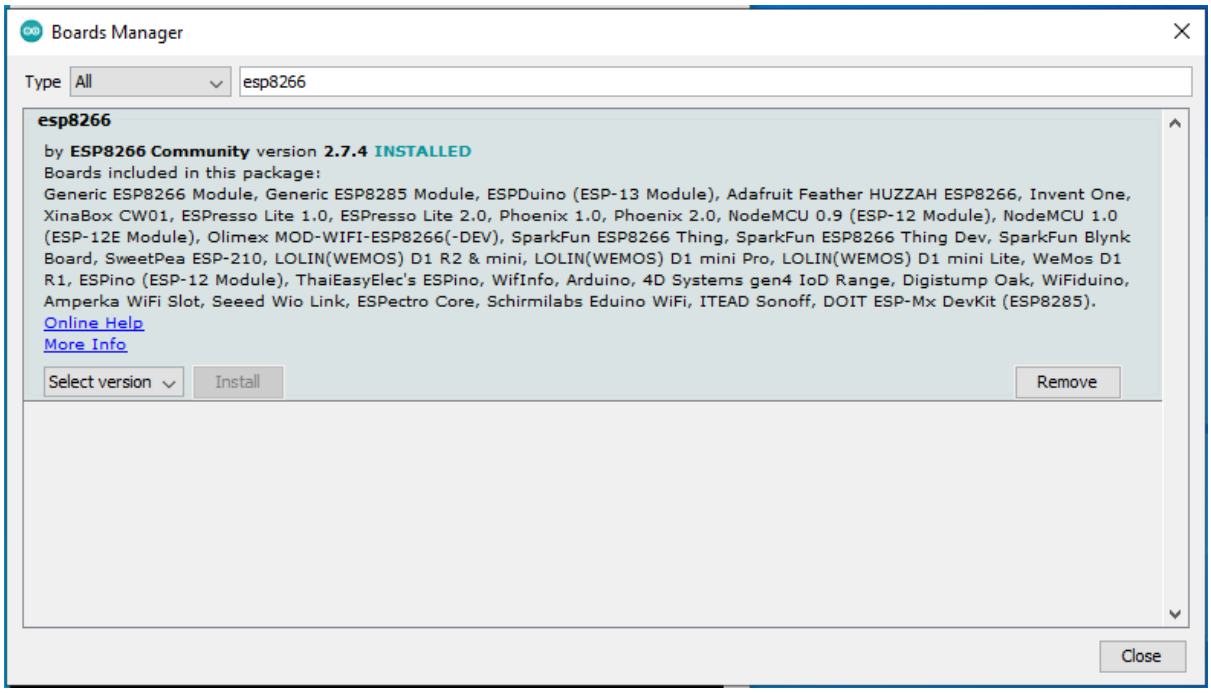
Installing ESP8266 into Arduino IDE

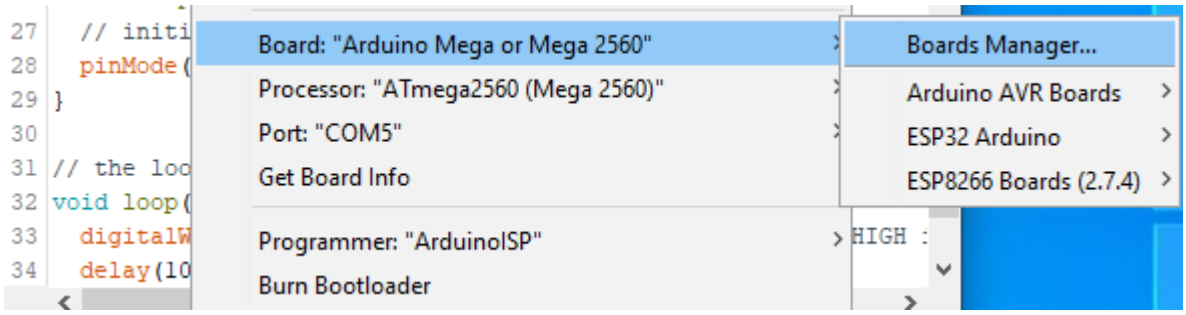
1. Open Arduino IDE navigate to ***File> Preferences,*** insert provided link below into **"Additional Board Manager URL:"** box & Click on **OK** (*https://arduino.esp8266.com/stable/package_esp8266com_index.json*).



2. Navigate to ***Tool> Board:> Boards Manager*** to download ESP8266 board.

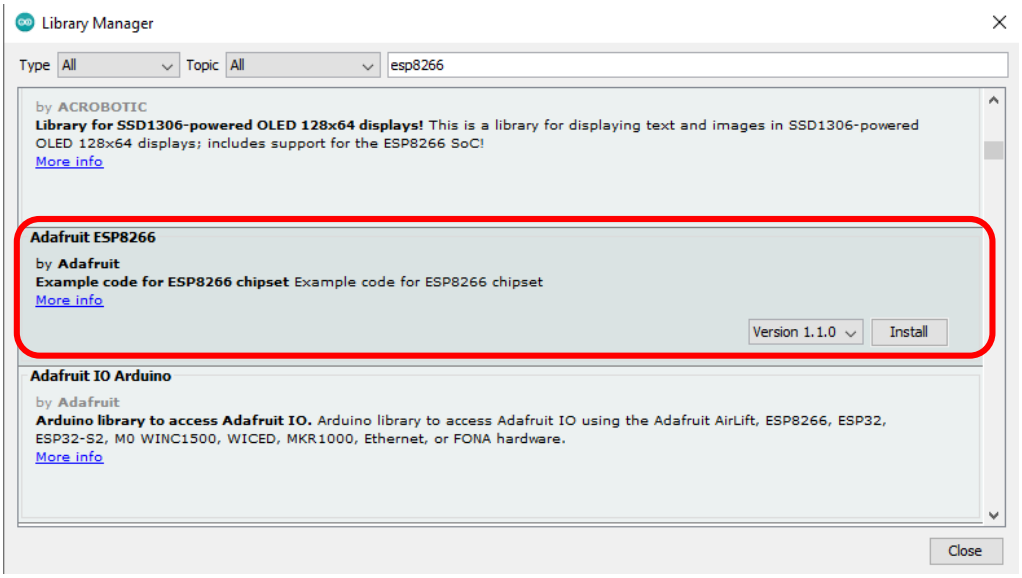


3. Once Installation complete, ESP8266 Boards should available on **'Board:xx'** section.

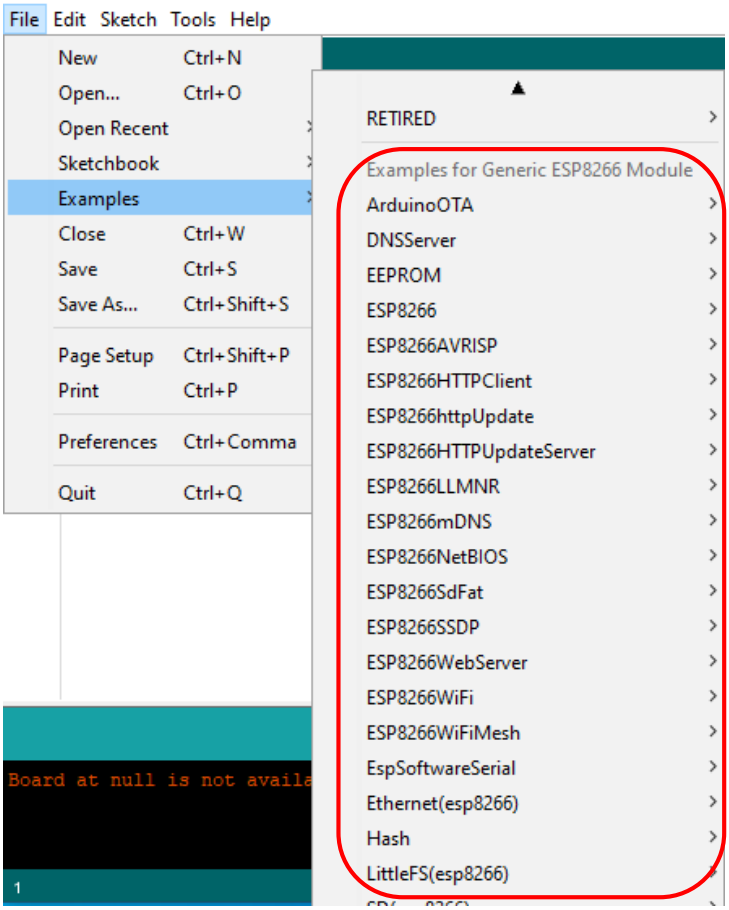


Installing Adafruit ESP8266 Library

1. Navigate to ***Tools> Manage Libraries…***. Search for **Adafruit ESP8266** and **Install** the latest version of Library.

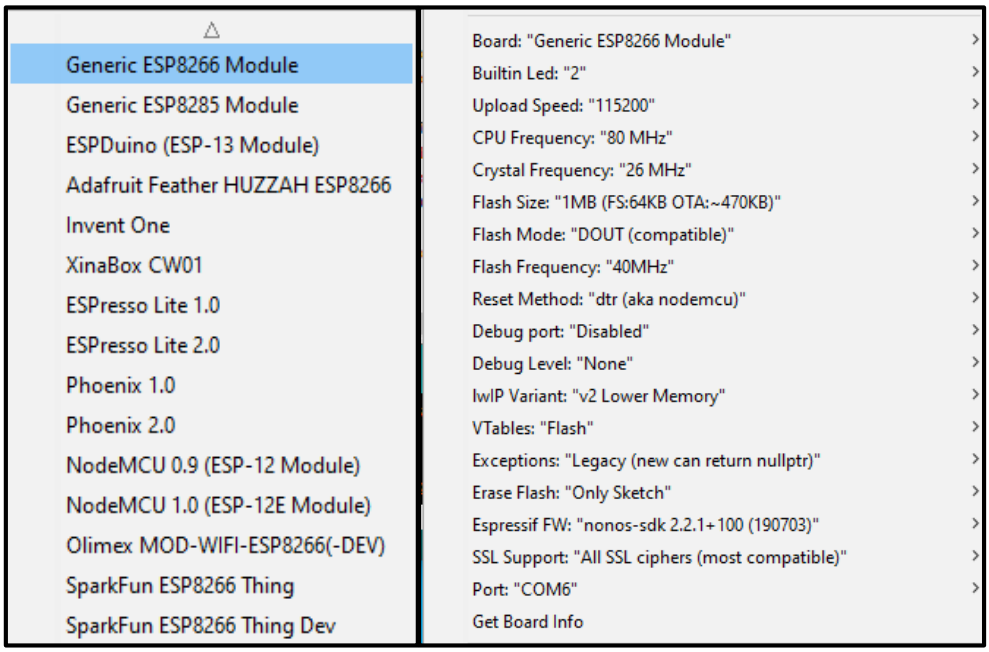


2. Once **Adafruit ESP8266** Library installed it will show up program examples as below:

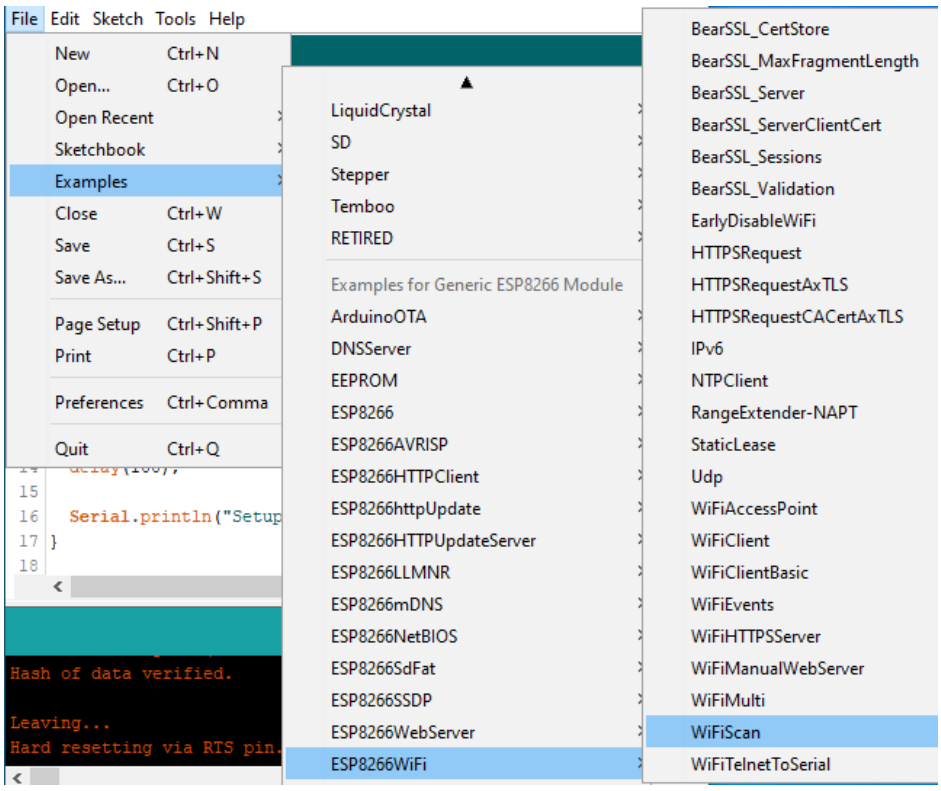


Uploading Program Code to ESP8266

1. Select installed ESP8266 Board from ***Tools> Board:> ESP8266 Boards> Generic ESP8266 Module.*** Make sure your board configuration same as below (COM port might be varying depend on PC).



2. Open sample code from ***File> Examples> ESP8266WiFi> WiFiScan*** & **Upload** the code.



3. Open **Serial Monitor** to check the result. This code will scan all available WiFi AP around. Example: -