

# Getting Started with ESP8266(LiLon NodeMCU V3) Complete Guide For IoT Startup with example(as server)

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#### Table of Contents

Getting Started with ESP8266(LiLon NodeMCU V3) Complete Guide For IoT Startup with example(as server)	1
Intro: Getting Started with ESP8266(LiLon NodeMCU V3) Complete Guide For IoT Startup with example(as server)	2
Step 1: Installing the Firmware	2
Step 2: Preparing The Arduino IDE	3
Step 3: Code	5
Related Instructables	6
Advertisements	6
Comments	6



### Intro: Getting Started with ESP8266(LiLon NodeMCU V3) Complete Guide For IoT Startup with example(as server) Things You Need:

- NodeMCU Flasher Master (Flasher)
- NodeMCU Firmware (Firmware)
- Latest Arduino IDE ( Arduino)
- NodeMCU V3
- Micro USB Cable
- LED

#### Features

- Open-source, Interactive, Programmable, Low cost, Simple, Smart, WI-FI enabled
- Arduino-like hardware IO
- Lowest cost WI-FI



#### Step 1: Installing the Firmware

In NodeMCU Boards the first thing you need is to install the Firmware to the board

the following method works for all NodeMCU Boards

- 1. Open the NodeMCU flasher master folder than open the win32/win64 folder as your computer. now open the folder Release than double click ESP8266Flasher.
- 2. Select the COM Port.
- 3. Goto config tab
- 4. click on the small gear and open up the firmware which you have downloaded
- 5. go to the advenced tab and select the desired Baudrate
- 6. Goto the Operation tab and click on Flash Button.





#### Step 2: Preparing The Arduino IDE

After Installing the firmware you are ready to do the programming with the ESP8266

- 1. Install the Arduino IDE
- 2. open the Arduino IDE from the desktop icon
- 3. Click on File tab and than open preferences
- 4. In the additional Boards Manager URLs add the following link (http://arduino.esp8266.com/stable/package\_esp8266com\_index.json) and click OK
- 5. Goto Tools>Borads>Boards Manager
- 6. In the search field type esp8266 click the esp8266 by ESP8266 Community option and click Install

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### Step 3: Code...

Now you can do whatever you want with your NodeMCU board Following is an example for led blinking with NodeMCU board via webserver

- In arduino IDE goto tools>Boards>select NODEMCU 1.0 (ESP 12E Module)
- again goto tools and select port.
- Change the Wifi name and password from the following code.
- Now click on Upload button to upload the following code.
- Connect the led's positive leg on D9 pin of board and negative to the ground of the code.
- Power up the board and open the serial monitor from arduino IDE
- after connecting to the wifi it will show you the IP address.
- type that IP address on the web browser(Edge, Chrome, Firefox etc..)
- A webpage will open you can change the status of LED by turning it ON or OFF.

```
#include<ESP8266WiFi>
```

```
const char* ssid = "Tenda"; //your WiFi Name
const char* password = "12345678"; //Your Wifi Password
int ledPin = 03;
WiFiServer server(80);
void setup() {
 Serial.begin(115200);
 delay(10);
 pinMode(ledPin, OUTPUT);
 digitalWrite(ledPin, LOW);
 Serial.println();
 Serial.println();
 Serial.print("Connecting to ");
 Serial.println(ssid);
 WiFi.begin(ssid, password);
 while (WiFi.status() != WL_CONNECTED) {
  delav(500);
  Serial.print(".");
 Serial.println("");
 Serial.println("WiFi connected");
 server.begin();
 Serial.println("Server started");
Serial.print("Use this URL to connect: ");
 Serial.print("http://");
 Serial.print(WiFi.localIP());
 Serial.println("/");
}
void loop() {
 WiFiClient client = server.available();
 if (!client) {
   return;
 Serial.println("new client");
 while(!client.available()){
  delay(1);
 String request = client.readStringUntil('\r');
 Serial.println(request);
 client.flush();
 int value = LOW;
 if (request.indexOf("/LED=ON") != -1) {
  digitalWrite(ledPin, HIGH);
  value = HIGH;
 if (request.indexOf("/LED=OFF") != -1) {
  digitalWrite(ledPin, LOW);
   value = LOW;
 client.println("HTTP/1.1 200 OK");
 client.println("Content-Type: text/html");
 client.println("");
 client.println("");
 client.println("");
 client.print("Led is : ");
 if(value == HIGH) {
  client.print("On");
 } else {
  client.print("Off");
   client.println("");
client.println(" On ");
 client.println(" Off ");
 client.println(" ");
   delav(1);
  Serial.println("Client disonnected");
 Serial.println("");
//code copied from link
```

If you encounter any problem comment it down





Led pin is now: Off



## **Related Instructables**



Programming ESP8266 ESP-12E NodeMCU Using Arduino IDE - a Tutorial by TheElectromania

ESP8266 WiFi Module for Dummies by TonesB IOT BASED SMART WEATHER STATION by nikil14

IoT ESP8266 Series: 1-Connect to WIFI Router by ROBOSAN Solutions

ESP8266 Maker's IoT Kit: PCB breakout by shinteo Get Started with ESP8266 Using AT Commands, NodeMCU, or Arduino (ESP-12E) by acrobotic

Comments