Internet Of Things

ESP8266 & Blynk IoT Platform

A simple way to taste the Internet of Things

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ESP8266's Big Family


ESP-01


ESP-02


ESP-03


ESP-04


ESP-05

ESP-06

ESP-07

ESP-08


ESP-09


ESP-10


ESP-11

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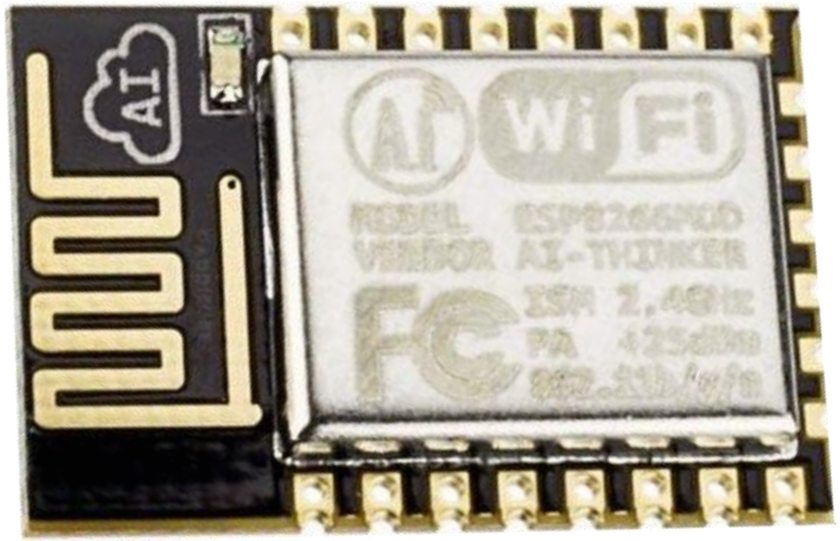
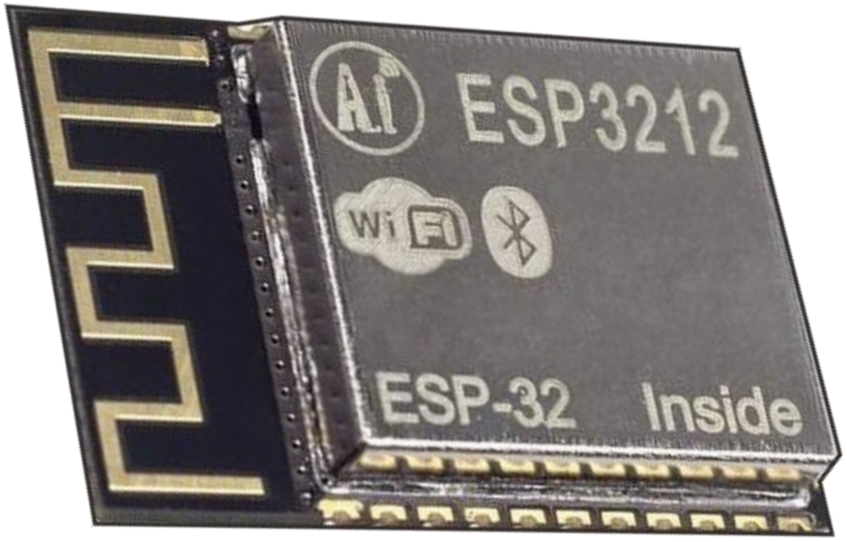
Latest version



ESP12



ESP32

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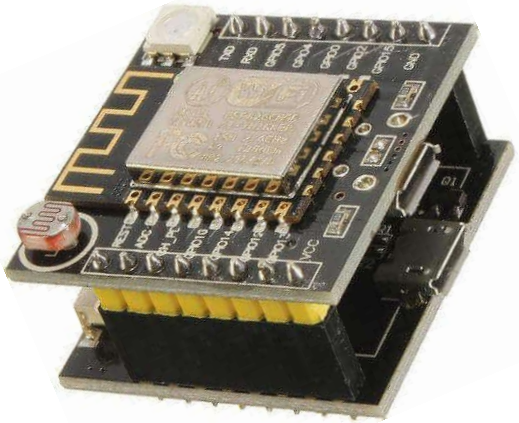
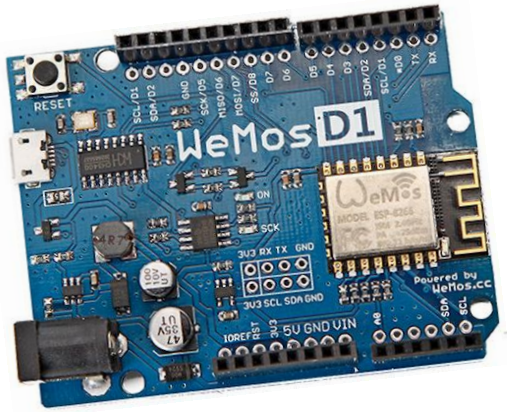
ESP8266 Boards

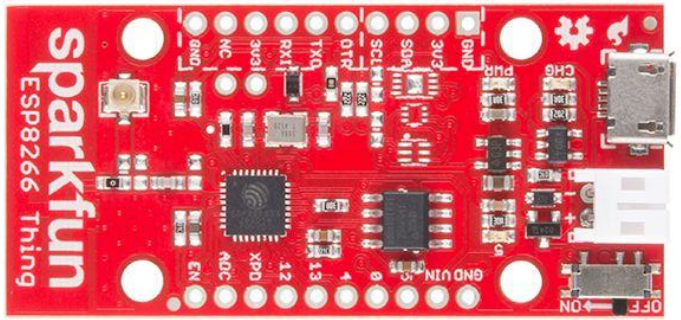
Witty



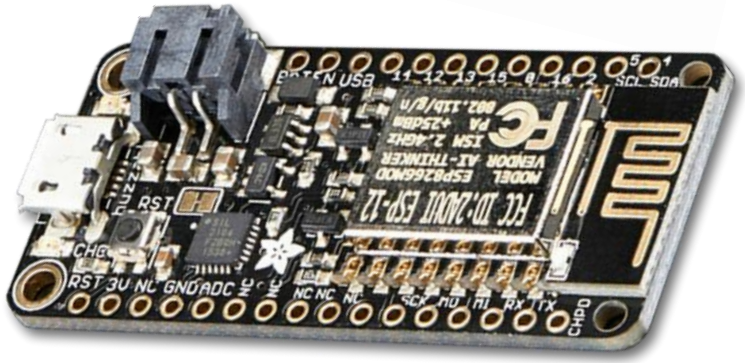


Wemos D1

Wemos Mini



Sparkfun Thing



Adafruit Huzzah

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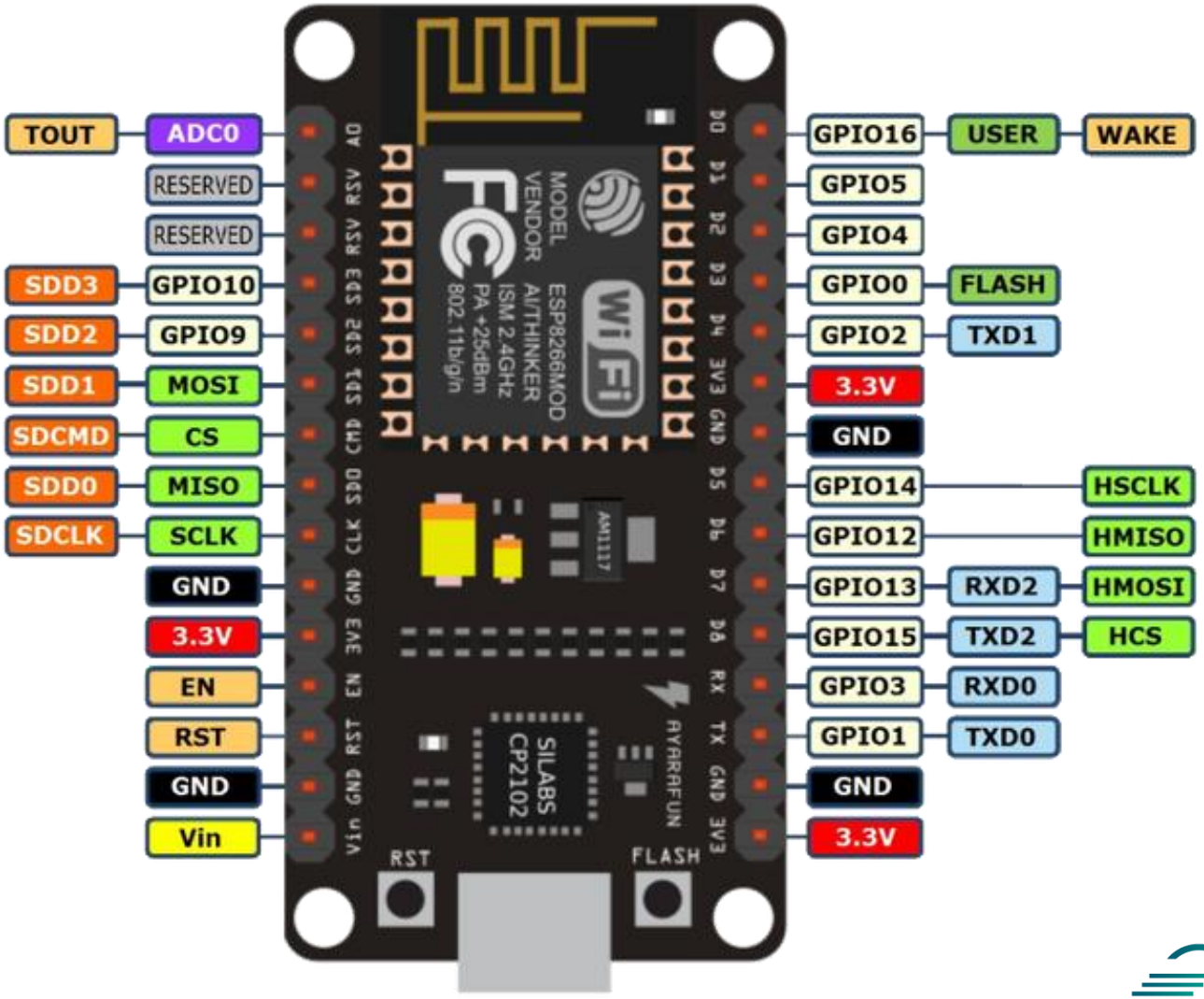
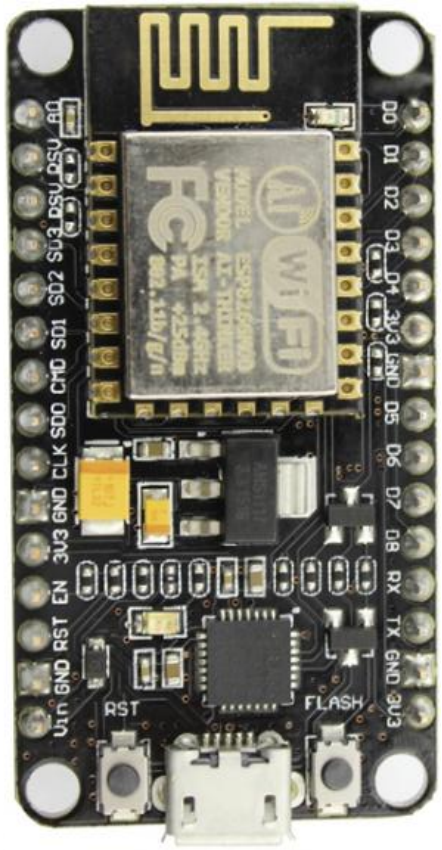
ESP8266 NodeMCU





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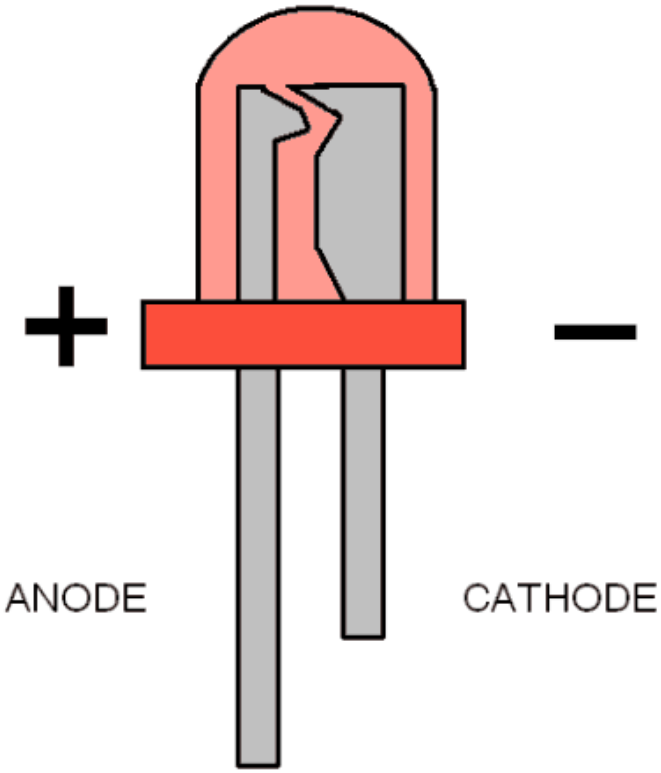
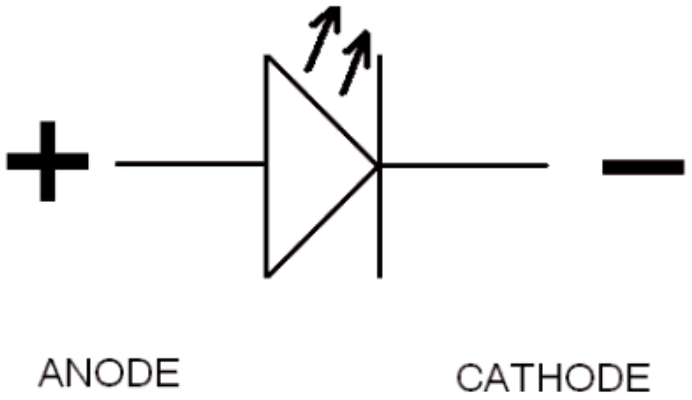
Getting Started NodeMCU With Arduino IDE

1. Install USB Driver (CH340/CP2102)
2. Install board+library on Arduino IDE
3. Happy NodeMCU-ing!

http://arduino.esp8266.com/stable/package_esp8266com_index.json

LED (Light Emitting Diode)





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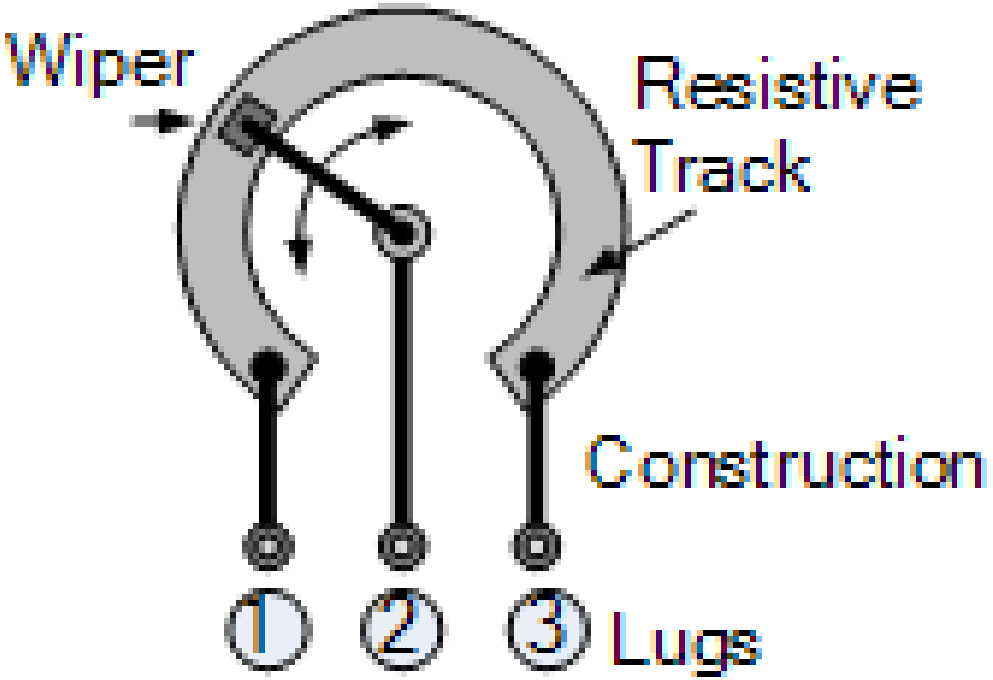
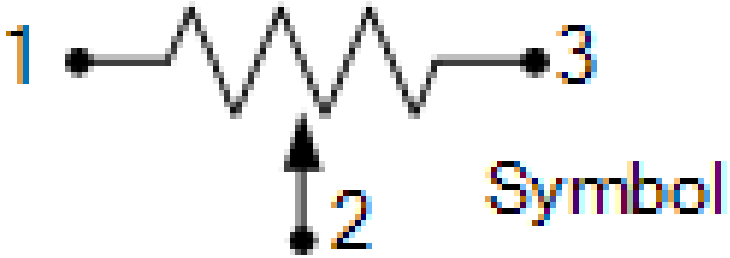
Potentiometer





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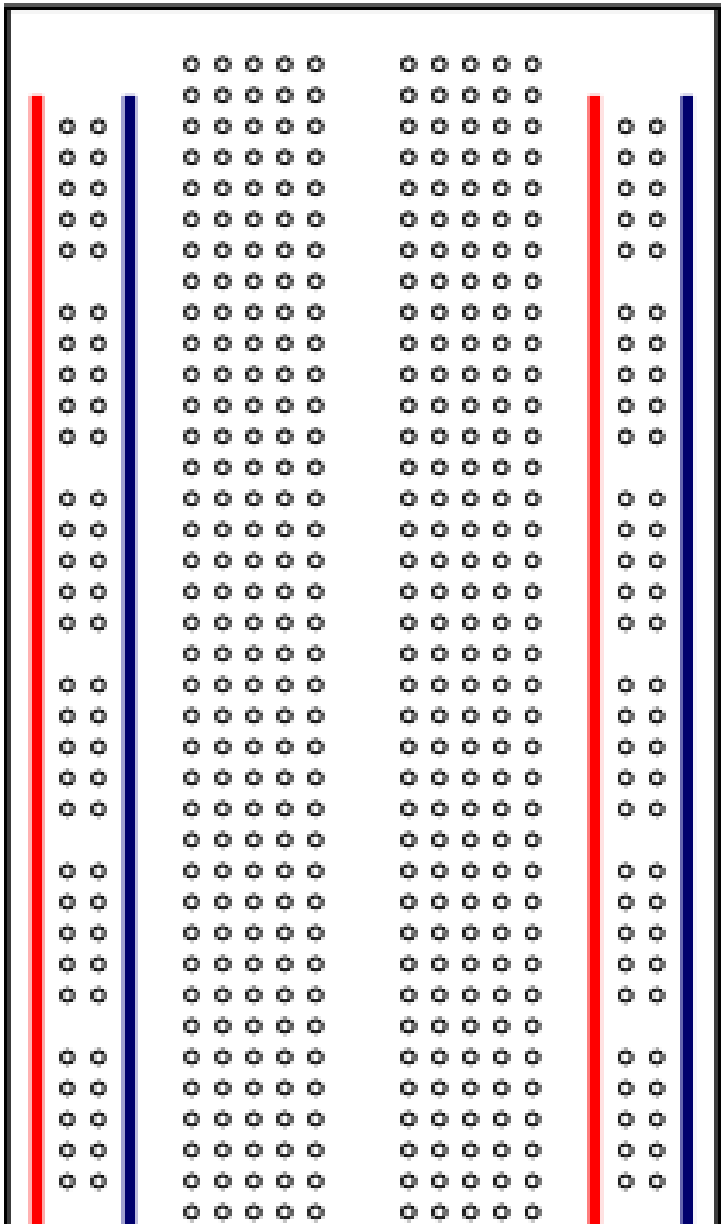
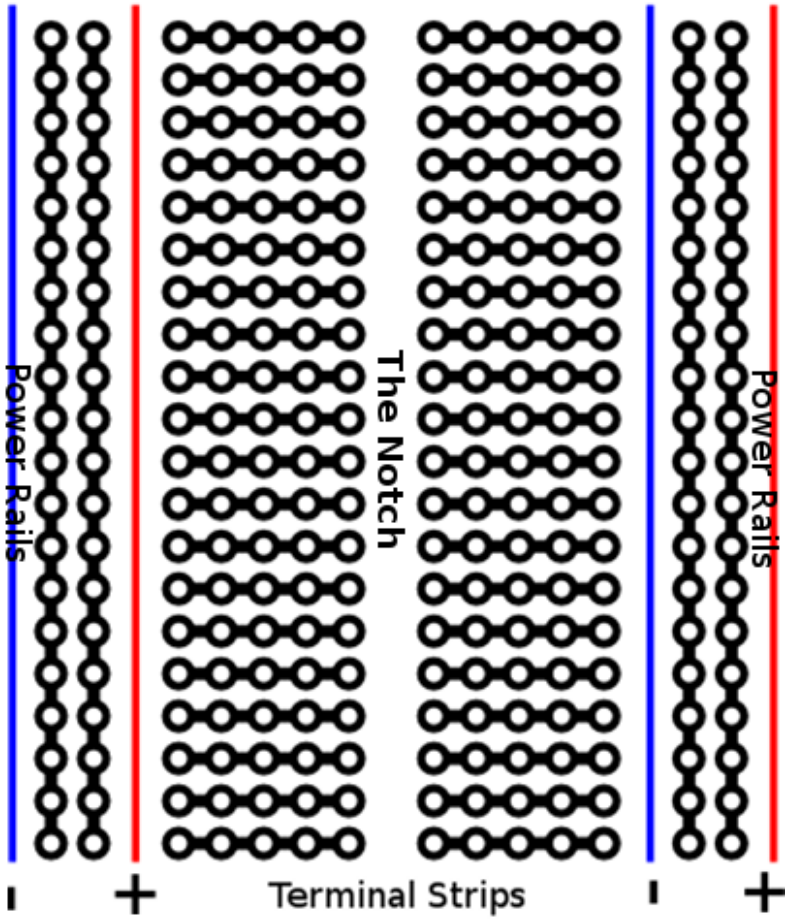
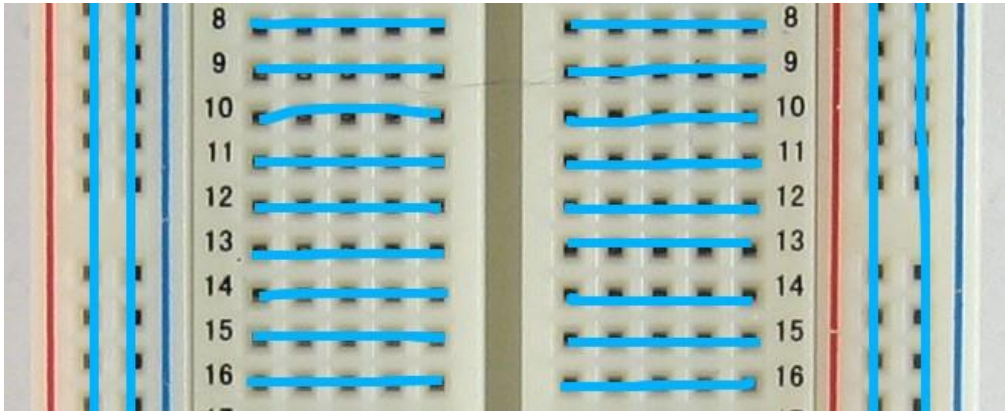
Breadboard




Power Rails
The Notch
Power Rails
-
+
Terminal Strips
-
+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Digital Control

```
void setup(){
  pinMode(D2, OUTPUT);
}

void loop(){
  digitalWrite(D2, HIGH);
  delay(1000);
  digitalWrite(D2, LOW);
  delay(1000);
}
```

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Analog Control

```
void setup(){
  pinMode(D2, OUTPUT);
}

void loop(){
 analogWrite(D2, 0); delay(300);
 analogWrite(D2, 65); delay(300);
 analogWrite(D2, 130); delay(300);
 analogWrite(D2, 195); delay(300);
 analogWrite(D2, 255); delay(300);
 analogWrite(D2, 195); delay(300);
 analogWrite(D2, 130); delay(300);
 analogWrite(D2, 65); delay(300);
}
```

Analog Monitor

```
void setup(){
  Serial.begin(115200);
}

void loop(){
  Serial.println(analogRead(A0));
  delay(100);
}
```

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Analog Input & Digital Output

```
void setup(){
  pinMode(D2,OUTPUT);
}

void loop(){
  int pot = analogRead(A0);
  int lam = map(pot,0,1023,0,255);
  analogWrite(D2,lam);
  delay(100);
}
```

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Blynk is a Platform with iOS & Android apps to control devices over the Internet. It's a digital dashboard where you can build a graphic interface for your project by simply dragging & dropping widgets. Blynk will get you online & ready for Internet Of Things.

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Getting Started With IoT Blynk

1. Install Blynk App on smartphone
2. Install Blynk library on Arduino IDE
3. Happy Blynk-ing!

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NodeMCU + Blynk

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NodeMCU & Blynk

```
#define BLYNK_PRINT Serial
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

char auth[] = “auth";
char ssid[] = “ssidwifi";
char pass[] = “passwifi";

void setup(){
  Serial.begin(9600);
  Blynk.begin(auth, ssid, pass);
}

void loop(){
  Blynk.run();
}
```

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NodeMCU & Blynk Virtual Pin

```
#define BLYNK_PRINT Serial
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>
#include <SimpleTimer.h>
SimpleTimer timer;
char auth[] = “auth";
char ssid[] = “ssidwifi";
char pass[] = “passwifi";
void sendSensor(){
  int air = analogRead(A0);
  Blynk.virtualWrite(V1, air);
}
void setup(){
  Serial.begin(9600);
  Blynk.begin(auth, ssid, pass);
  timer.setInterval(1000L, sendSensor);
}
void loop(){
  Blynk.run();
  timer.run();
}
```

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