

Internet Of Things

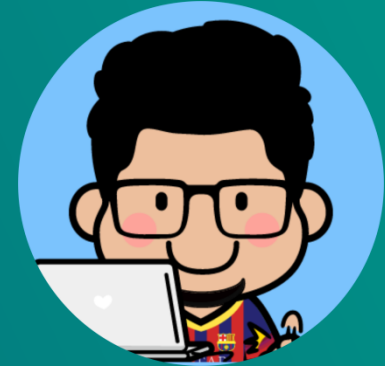


ESP32 & Blynk IoT Platform

A simple way to taste the Internet of Things

Internet Of Things

Lintang Wisesa



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simpLINnovation.id

ESP8266's Big Family



ESP-01



ESP-02



ESP-03



ESP-04



ESP-05



ESP-06



ESP-07



ESP-08



ESP-09

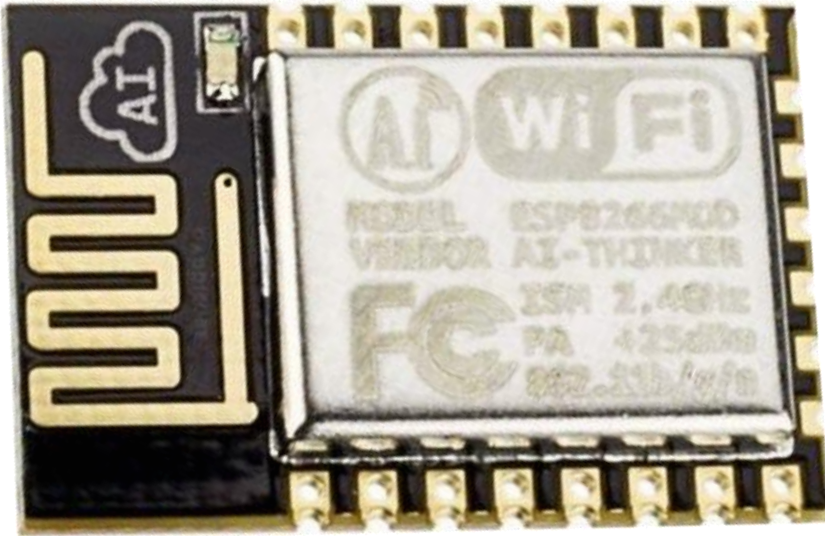


ESP-10

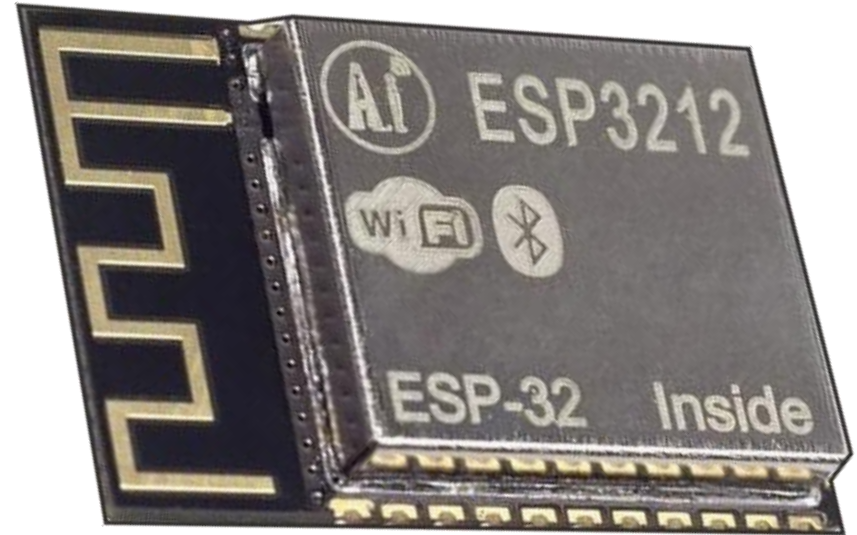


ESP-11

Latest version



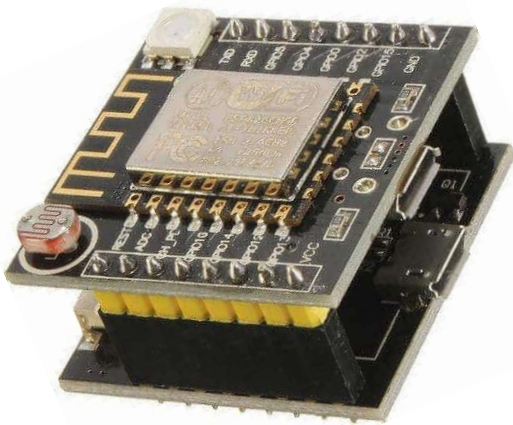
ESP12



ESP32

ESP8266 Boards

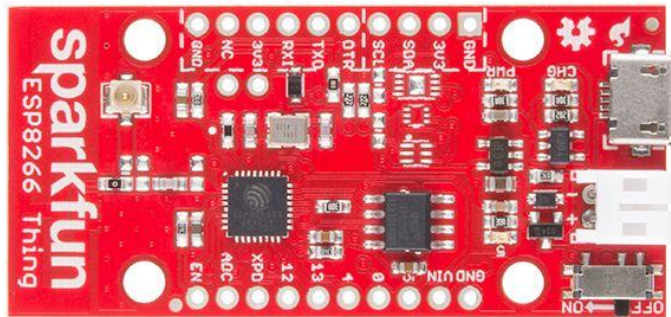
Witty



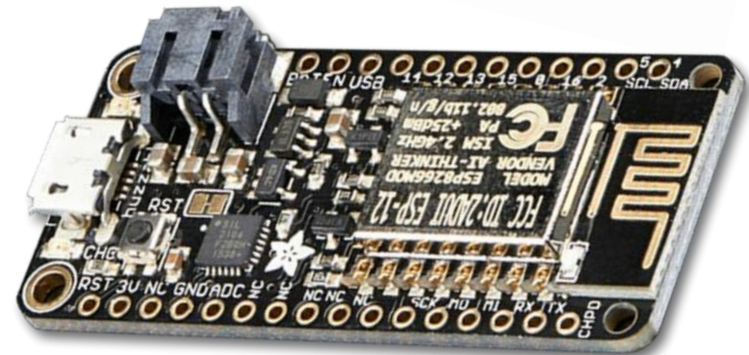
Wemos Mini



Wemos D1

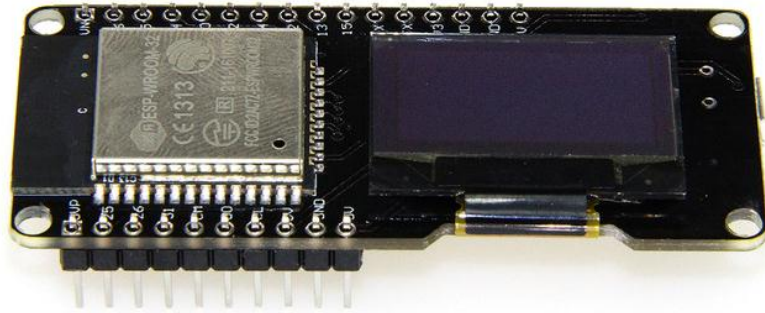


Sparkfun Thing

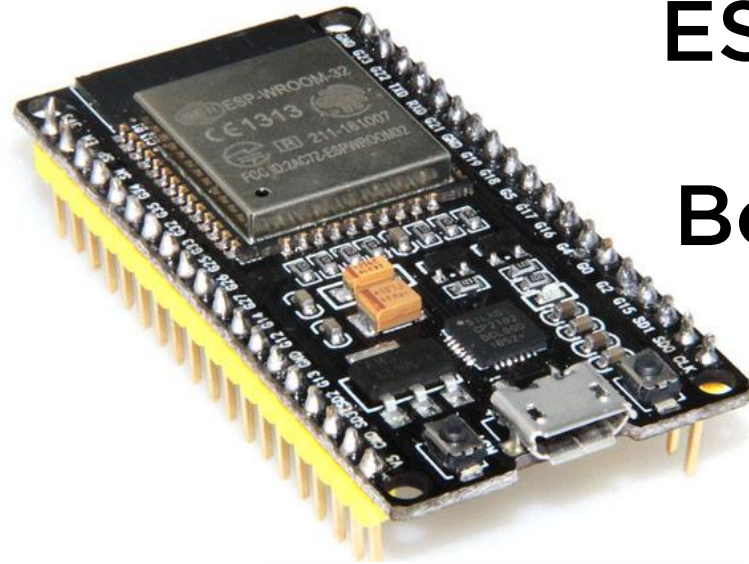


Adafruit Huzzah

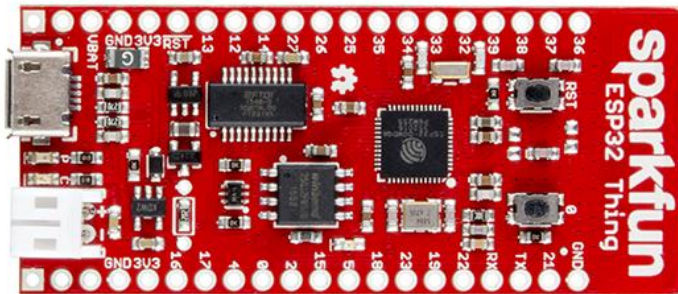
ESP32 Boards



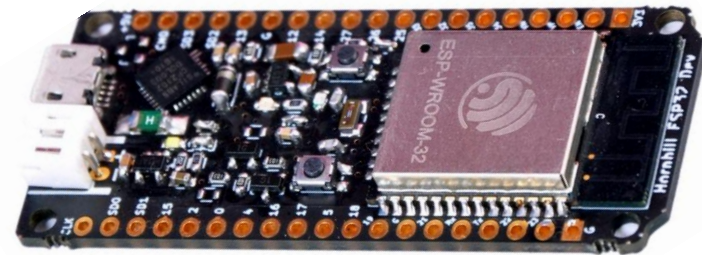
**Wemos ESP32
OLED**



**ESP32
Dev
Board**

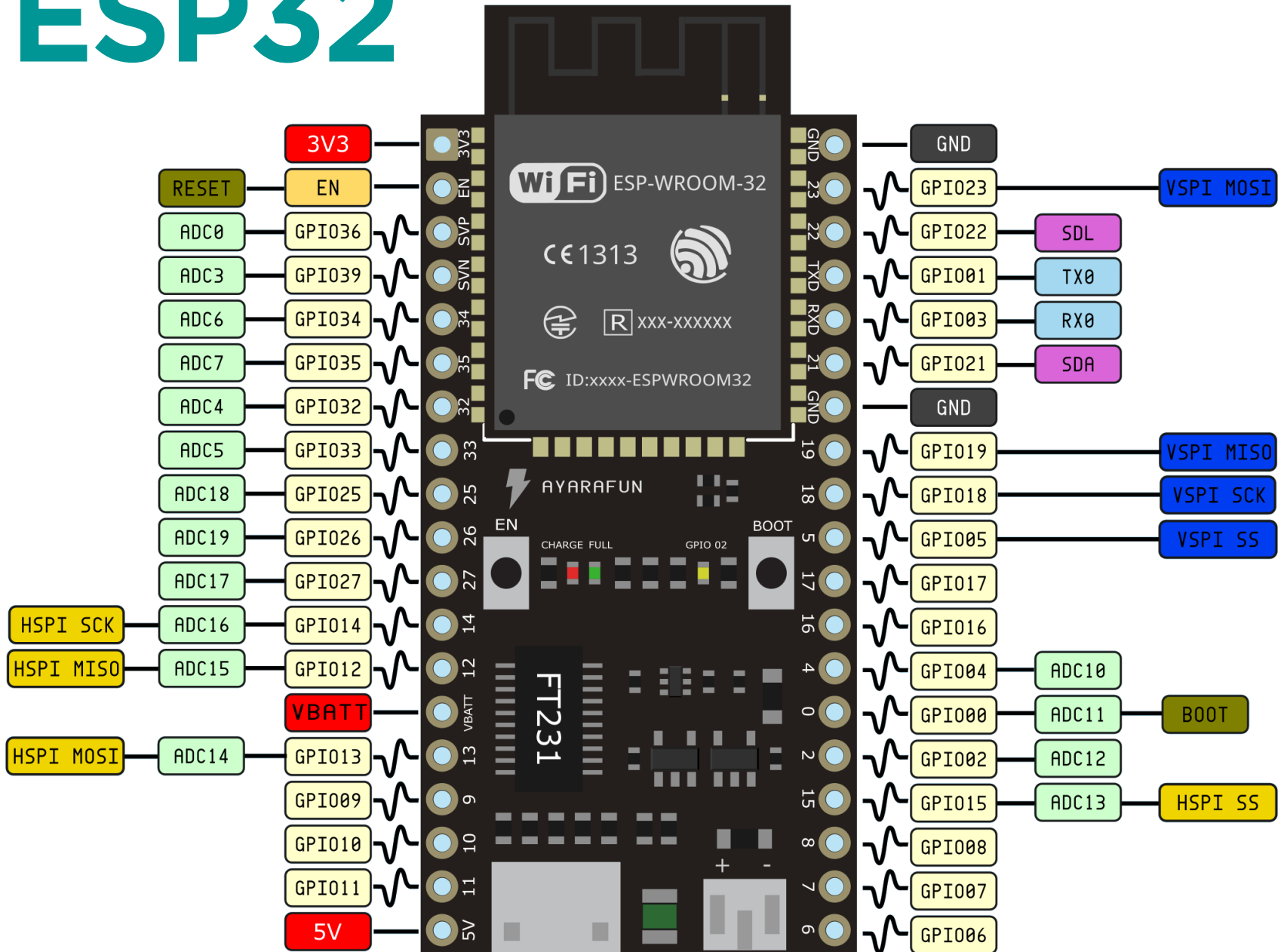


**Sparkfun
ESP32 Thing**



Adafruit Hornbill

ESP32





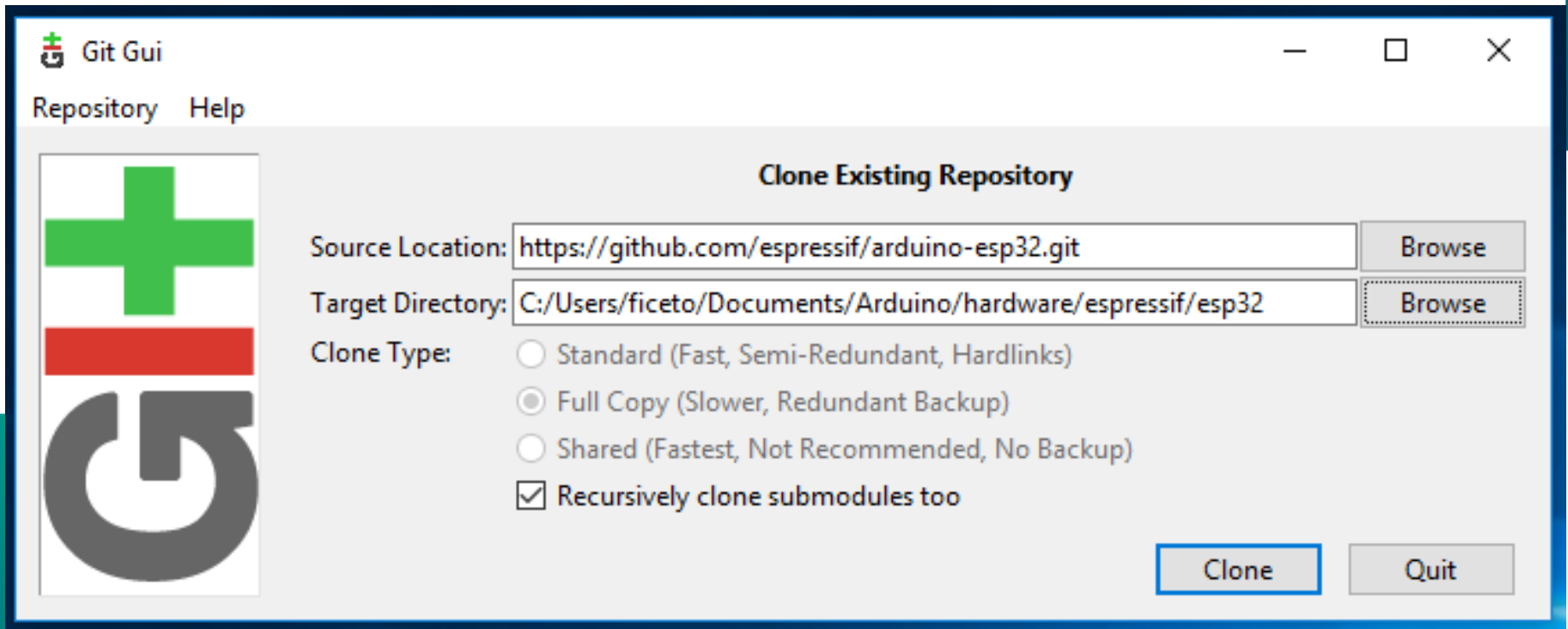
Getting Started ESP32 With Arduino IDE

1. Install USB Driver CP2102 SiLabs
2. Install board & library on Arduino IDE
3. Let's play with ESP32!



Windows

Download and install Git from git-scm.com



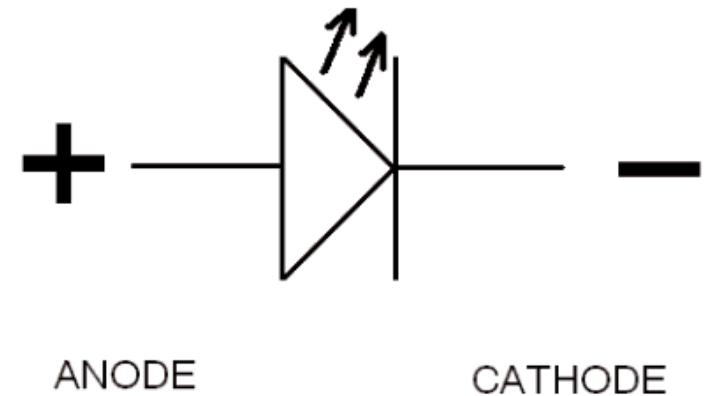
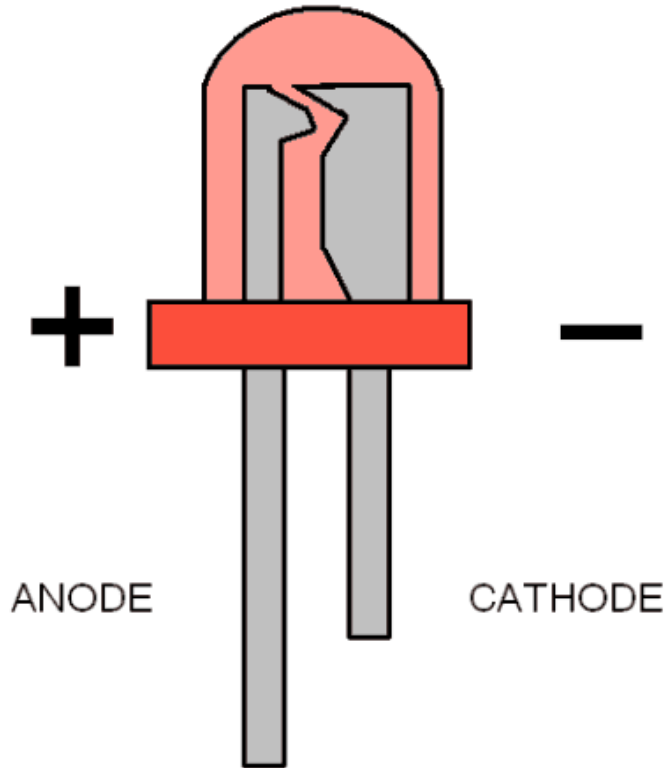
Open `C:/Users/[YOUR_USER_NAME]/Documents/Arduino/hardware/espressif/esp32/tools` and double-click `get.exe`



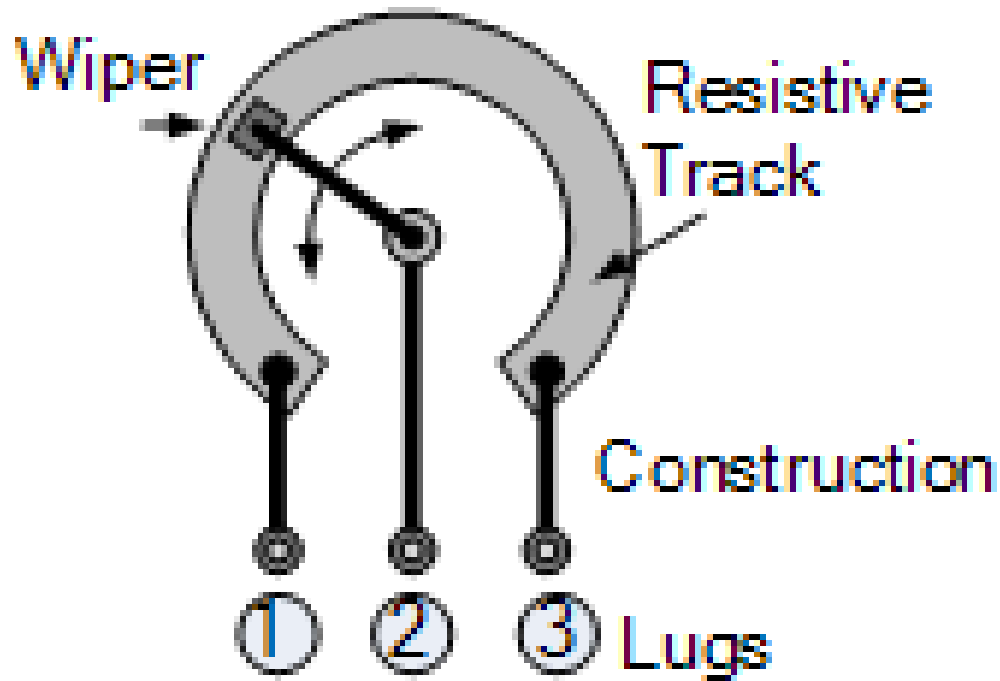
Open Terminal and execute command below:

- **mkdir -p
~/Documents/Arduino/hardware/espessif**
- **cd ~/Documents/Arduino/hardware/espessif**
- **git clone
<https://github.com/espessif/arduino-esp32.git> esp32**
- **cd esp32/tools/**
- **python get.py**

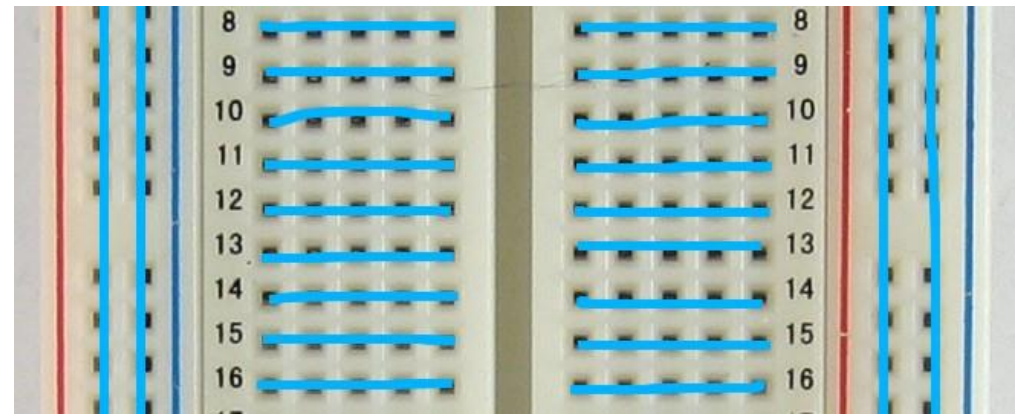
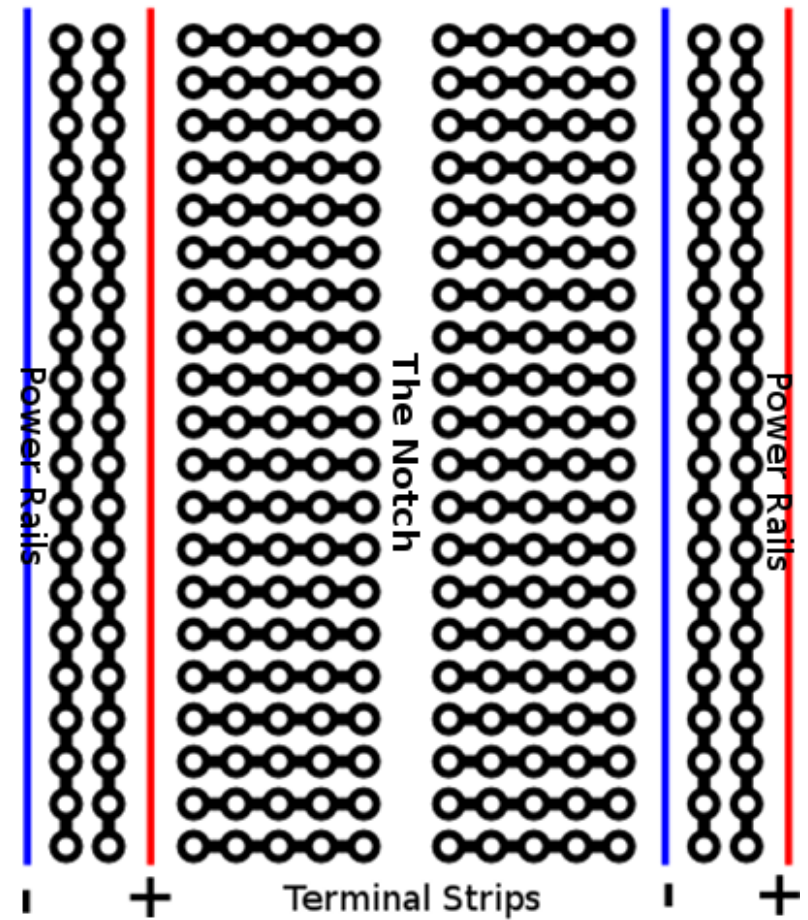
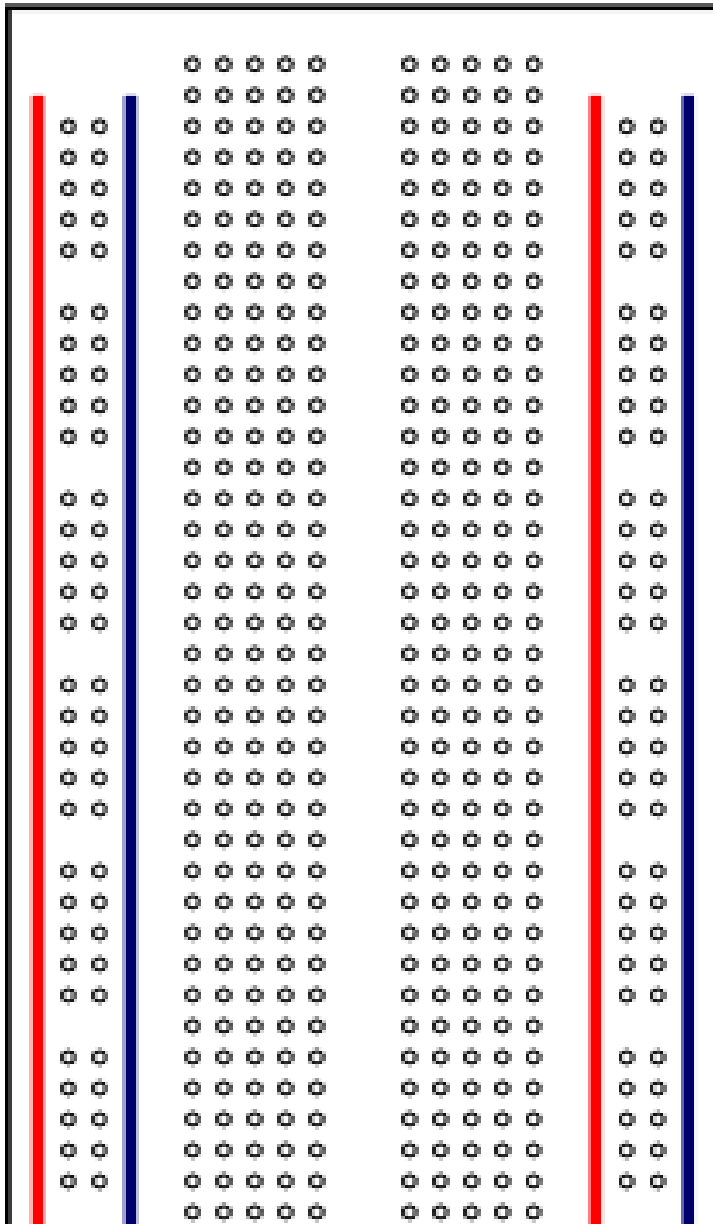
LED (Light Emitting Diode)



Potentiometer



Breadboard



Control an LED

```
void setup() {  
    pinMode(19, OUTPUT);  
}  
  
void loop() {  
    digitalWrite(19, HIGH);  
    delay(1000);  
    digitalWrite(19, LOW);  
    delay(1000);  
}
```

Monitor a Potentiometer

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

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

//A0 ada di pin36 SPV



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.



Getting Started With IoT Blynk

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



ESP32 + Blynk



ESP32 & Blynk

```
#define BLYNK_PRINT Serial
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>

char auth[] = "xxxxxx";
char ssid[] = "yyyyyy";
char pass[] = "zzzzz";

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

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

ESP32 & Blynk Virtual Pin

```
#define BLYNK_PRINT Serial
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include <SimpleTimer.h>
SimpleTimer timer;

char auth[] = "xxxxxx";
char ssid[] = "yyyyyy";
char pass[] = "zzzzzz";

void sendSensor() {
    int air = map(analogRead(A0), 0, 4095, 0, 100);
    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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