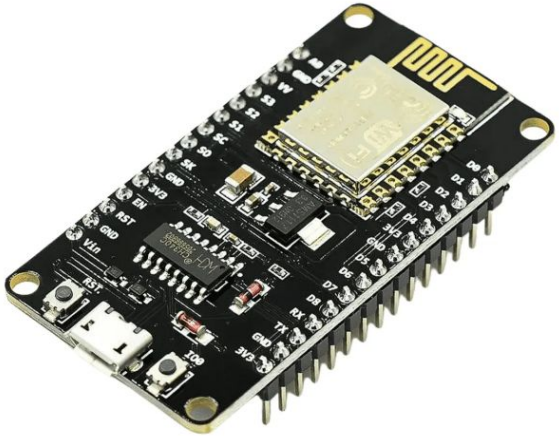
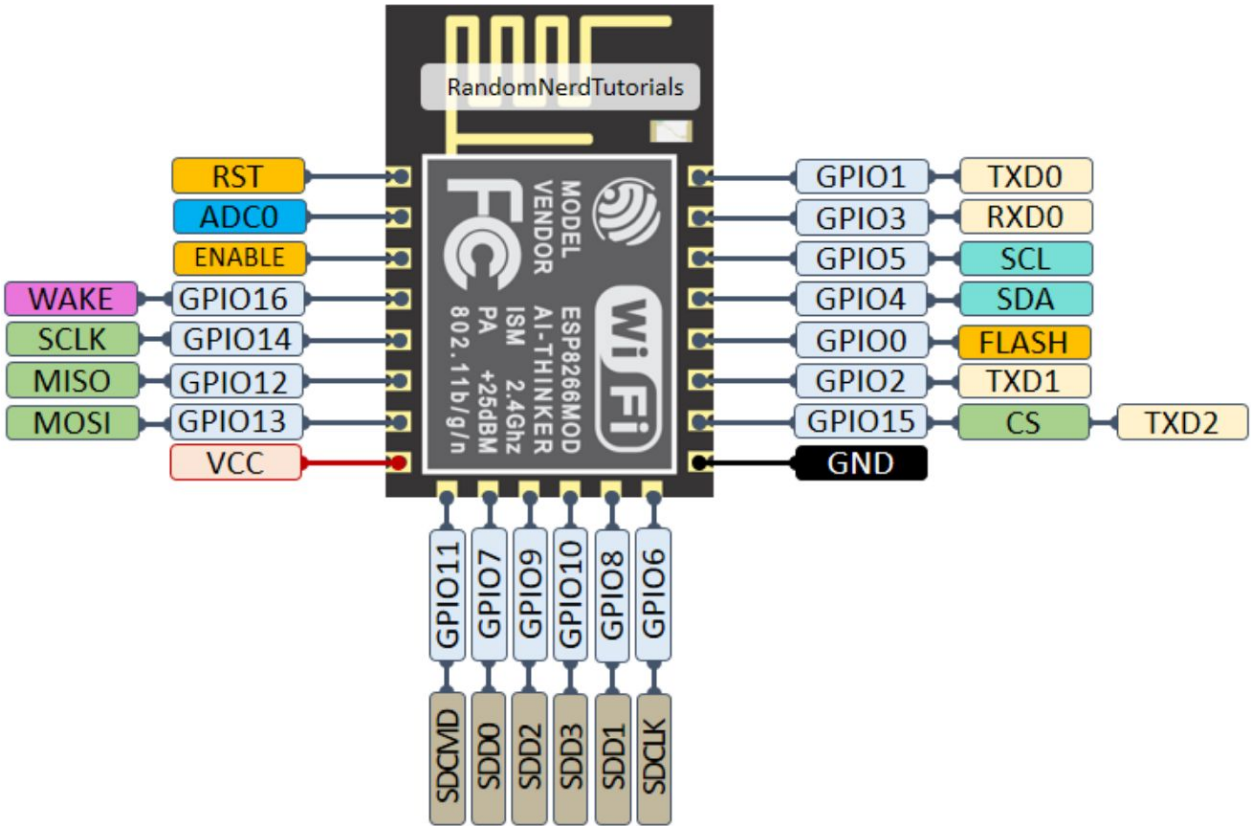
ESP8266

Universidade Federal do Pará
Instituto de Ciências Exatas e Naturais
Faculdade de Computação

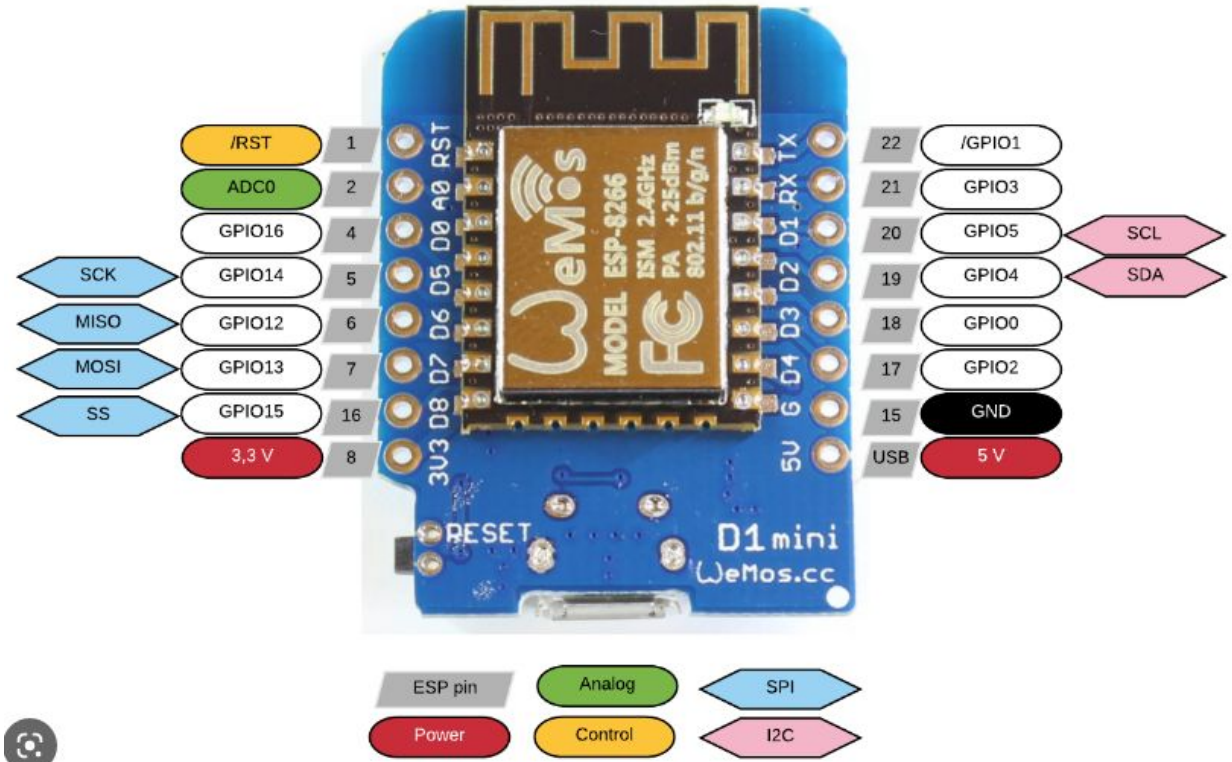
Módulos



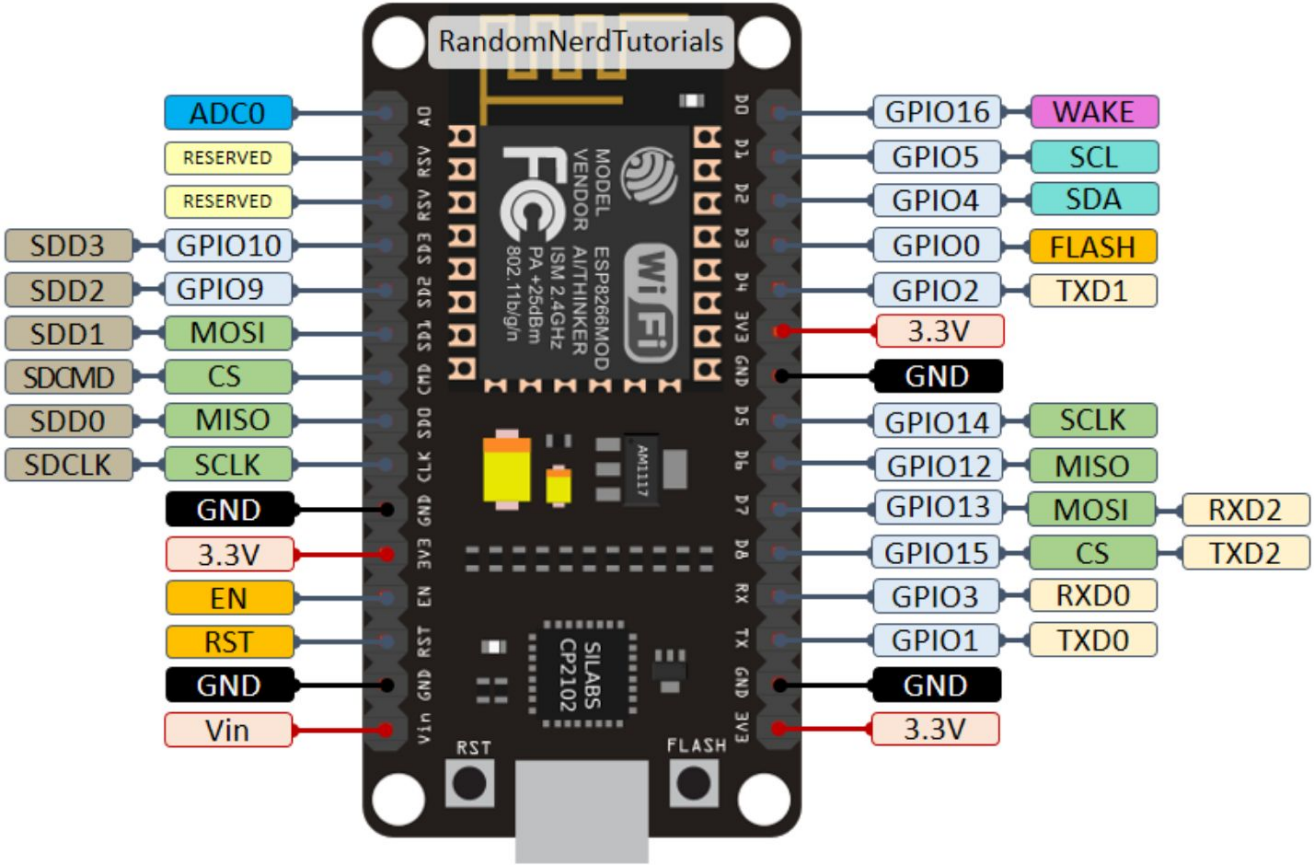
Pinout


RandomNerdTutorials
RST
ADC0
ENABLE
WAKE
GPIO16
SCLK
GPIO14
MISO
GPIO12
MOSI
GPIO13
VCC
GPIO1
TXD0
GPIO3
RXD0
GPIO5
SCL
GPIO4
SDA
GPIO0
FLASH
GPIO2
TXD1
GPIO15
CS
TXD2
GND
GPIO11
GPIO7
GPIO9
GPIO10
GPIO8
GPIO6
SDCMD
SDD0
SDD2
SDD3
SDD1
SDCLK
MODEL
VENDOR
ESP8266MOD
AI-THINKER
ISM 2.4Ghz
PA +25dBM
802.11b/g/n
Wi Fi

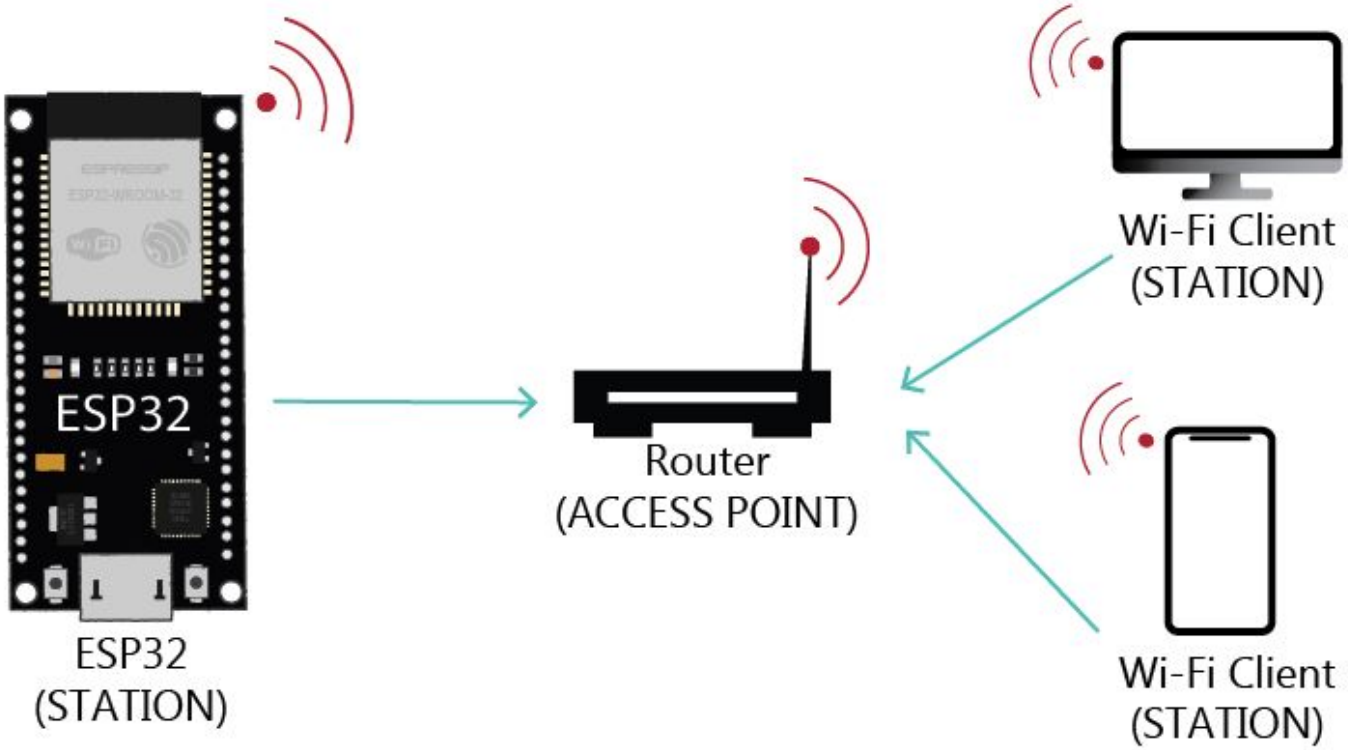
Pinout


/RST
1
ADC0
2
GPIO16
4
SCK
GPIO14
5
MISO
GPIO12
6
MOSI
GPIO13
7
SS
GPIO15
16
3,3 V
8
RST
A0
D0
D5
D6
D7
D8
3V3
22
/GPIO1
21
GPIO3
20
GPIO5
SCL
19
GPIO4
SDA
18
GPIO0
17
GPIO2
15
GND
USB
5 V
TX
RX
D1
D2
D3
D4
G
5V
MODEL ESP-8266
ISM 2.4GHz
PA +25dBm
802.11 b/g/n
RESET
D1 mini
WeMos.cc
ESP pin
Analog
SPI
Power
Control
I2C

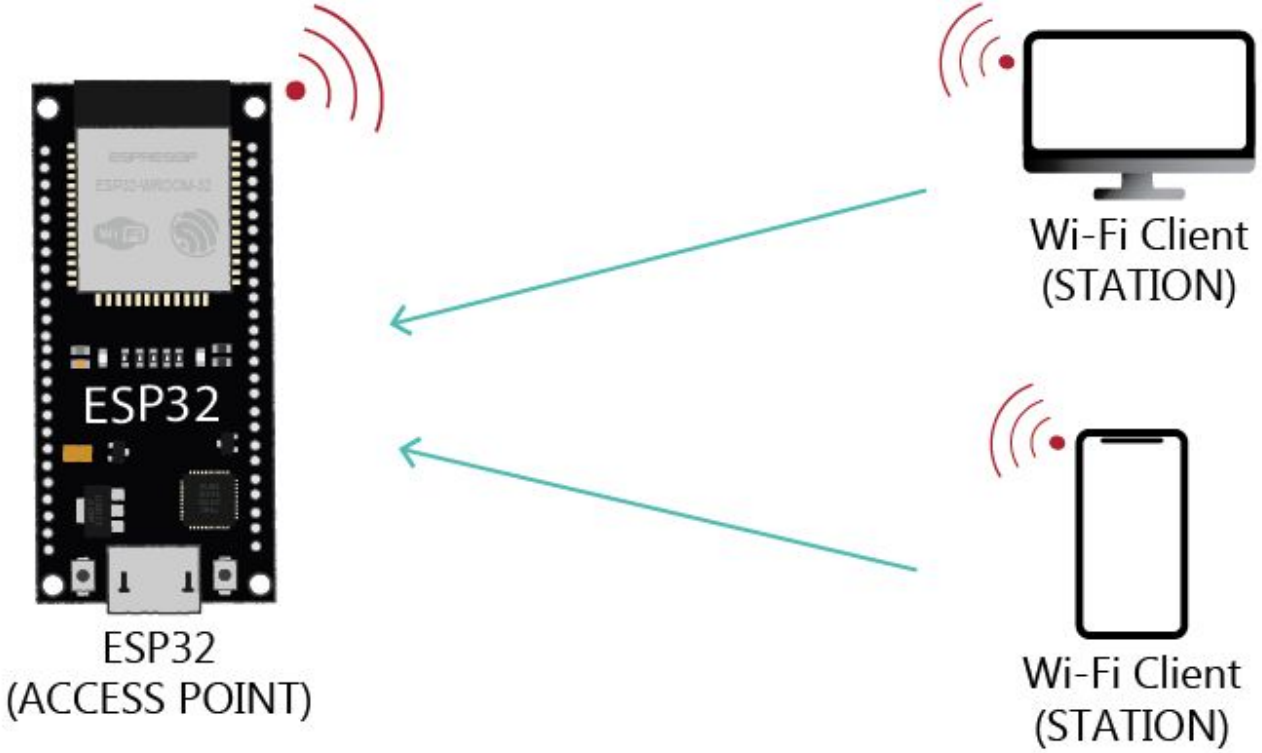
Pinout


RandomNerdTutorials
ADC0
RESERVED
RESERVED
SDD3
GPIO10
SDD2
GPIO9
SDD1
MOSI
SDCMD
CS
SDD0
MISO
SDCLK
SCLK
GND
3.3V
EN
RST
GND
Vin
GPIO16
WAKE
GPIO5
SCL
GPIO4
SDA
GPIO0
FLASH
GPIO2
TXD1
3.3V
GND
GPIO14
SCLK
GPIO12
MISO
GPIO13
MOSI
RXD2
GPIO15
CS
TXD2
GPIO3
RXD0
GPIO1
TXD0
GND
3.3V
RST
FLASH
SILABS CP2102
AM1117
ESP8266MOD
AI/THINKER
ISM 2.4GHz
PA +25dBm
802.11b/g/n
Wi Fi

Wi-Fi Station



Access Point



ESP8266 - Scan Wi-Fi

```
#include "ESP8266WiFi.h"


void setup() {
  Serial.begin(115200);
  WiFi.mode(WIFI_STA);
  WiFi.disconnect();
  delay(100);
  Serial.println("Setup done");
}
```

Biblioteca para ESP8266

Inicializa porta serial do ESP8266

Inicia o Wi-Fi do ESP8266 como STATION

Modo	Descrição
WiFi.mode(WIFI_STA)	**station mode**: the ESP32 connects to an access point
WiFi.mode(WIFI_AP)	**access point mode**: stations can connect to the ESP32
WiFi.mode(WIFI_AP_STA)	**access point and a station** connected to another access point

ESP8266 - Scan Wi-Fi

```
void loop() {
  Serial.println("scan start");

  int n = WiFi.scanNetworks();

  Serial.println("scan done");

  if (n == 0)
    Serial.println("no networks found");
  else  {
    Serial.print(n);
    Serial.println(" networks found");
    for (int i = 0; i < n; ++i) {
      Serial.print(i + 1);
      Serial.print(": ");
      Serial.print(WiFi.SSID(i));
      Serial.print(" (");
      Serial.print(WiFi.RSSI(i));
      Serial.print(")");
      Serial.println((WiFi.encryptionType(i) ==
ENC_TYPE_NONE)?" ":"*");

      delay(10);
    }
  }

  Serial.println("");
  delay(5000);
}
```

Dever de casa

Criar um servidor Web no ESP8266 que ligue e desligue o LED que está no módulo.

Referências

- https://randomnerdtutorials.com/esp8266-web-server/
- https://tttapa.github.io/ESP8266/Chap10%20-%20Simple%20Web%20Server.html
- https://www.crescerengenharia.com/post/tudo-sobre-esp8266-e-html
- https://lastminuteengineers.com/creating-esp8266-web-server-arduino-ide/