ESP 32

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Contents

***Abstract*—This manual shows how to program an ESP32 board and Raspberry Pi. The procedure is the same for any Linux machine.**

1 Components

The necessary components for this manual are listed in Table I.

Component	**Quantity**
ESP32	1
Raspberry Pi 4	1
LED	2
Breadboard	1
Male to Male Jumper Wires	3

TABLE I

2 Software Setup

Download the 32-bit arm version from the below link

https://www.arduino.cc/en/main/software

2.1 Installing Arduino

Open a terminal and execute the following commands

```
cp ~/Downloads/arduino-x.x.x-tar.gz ~/
tar xf arduino-x.x.x-tar.gz
cd arduino-x.x.x
sudo ./install.sh
```

2.2 Installation ESP32 instructions using Arduino IDE Boards Manager

Start Arduino and open Preferences window. Enter the below link into Additional Board Manager URLs field

```
https://raw.githubusercontent.com/espressif/
    arduino-esp32/gh-pages/
    package_esp32_index.json
```

```
#Open Boards Manager from Tools
#Install ESP32 platform
#Select ESP32 Dev kit from tools
```

3 Hardware Setup

3.1 LED Blinking Using Bluetooth

Connect the ESP32 and Raspberry Pi with USB cable. The hardware connections between ESP32 and leds are available in table II. See Fig 1 for pin configurations.

ESP32	**led**
GND	cathode
GPIO 32	anode

TABLE II: ESP32-Led connections

```
#Execute the following code
#Code for LED Blinking
svn co https://github.com/sridhar-07/ESP32/
    trunk/codes/Bluetooth
```

3.2 LED Blinking with wifi

1) Make the connections according to the TABLE III Execute the following code.

```
svn co https://github.com/sridhar-07/
    ESP32/trunk/codes/Wi-Fi
```

2) Before executing, make two cathodes as common

ESP32	**Pins**
GPIO 26	Led1 +ve
GPIO 27	Led2 +ve
GND	Cathode

TABLE III

3) In the directory ESP32/codes/Wi-Fi/wifi-AP contains the code to set the ESP-32 as an access point.

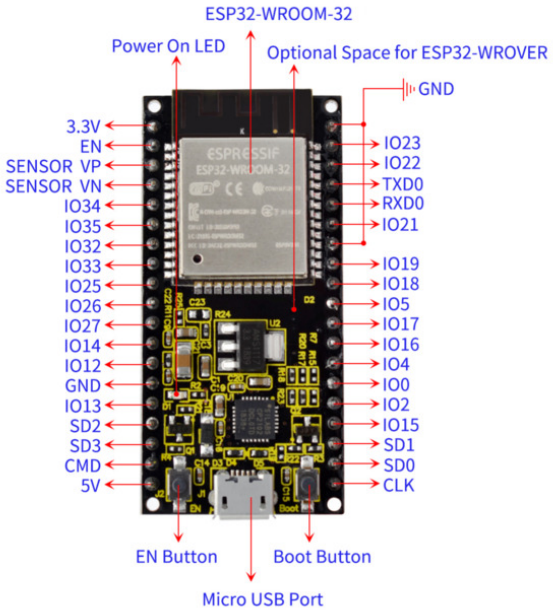

Fig. 1: ESP32 Pin Configuration