A web server can be simply defined as a computer that runs software and stores files such as HTML documents, images, videos, and other necessary files to run a website. A web server is always connected to the internet because websites are accessible to the public at any time. If a web server shuts down, the website associated with that server also shuts down.

sudo apt-get update

sudo apt-get upgrade

Then install Apache2 package by entering the following command

sudo apt install apache2 -y

To confirm whether this web server is running or not, enter the following command.

sudo service apache2 status

The html pages in

cd /var/www/html

To edit this file, you need to change its ownership to your own username. Here we will choose the default username of the Raspberry Pi which is “pi”.

sudo chown pi: index.html

Load the browser and type the RPi IP it will load index.html

**Configuring the Raspberry Pi for initial boot**

When you buy a Raspberry Pi, there is no operating system installed on it out of the box. So, you need to burn an operating system into a micro-SD card and then boot the Raspberry Pi from that card.

**Step 1**

First, we must download a Linux-based operating system. Raspberry Pi supports various Linux distributions such as Ubuntu, but in this guide, we will use the official OS from the Raspberry Pi Foundation, which is the Raspberry Pi OS. Download it [here](https://www.raspberrypi.org/downloads/raspberry-pi-os/) by selecting “with desktop and recommended software” version.

[Graphical user interface, text, application, email

Description automatically generated](https://www.raspberrypi.org/downloads/raspberry-pi-os/)

**Step 2**

Then you need to download a software called “balenaEtcher” which is used to burn the downloaded image above and make the Raspberry Pi boot from the Micro-SD card. Click [here](https://www.balena.io/etcher/)to download the latest version of this software.

[Graphical user interface, website

Description automatically generated](https://www.balena.io/etcher/)

**Step 3**

Then connect a micro-SD card into the micro-SD card slot of a PC by using a micro-SD to SD card adapter. You can also use a USB Micro-SD card reader.

**Step 4**

After that open the “balenaEtcher” software. Then point to the location of the downloaded image, select the connected micro-SD card, and press “flash”. It will take a few minutes to complete this process.

Graphical user interface, application

Description automatically generated

**Step 5**

Now we will set up Raspberry Pi to automatically connect to the wireless network so that we can communicate with it.

However, if you have an HDMI display, a keyboard and a mouse, you can skip this step, connect those into the Raspberry Pi and move onto **“** **Installing Apache Web Server** **”**

Also if you have a Seeeduino XIAO, you can follow the guide here to setup the communication between Raspberry Pi and PC and move onto **“Installing Apache Web Server”**

**Step 6**

Navigate to Raspberry Pi root folder from your PC and create a file called “wpa\_supplicant.conf”. Then copy the following codes into this file and add your home Wi-Fi username and password into the fields “WiFi-name” and “WiFi-password”

country=US

ctrl\_interface=DIR=/var/run/wpa\_supplicant GROUP=netdev

update\_config=1

network={

ssid="WiFi-name"

psk="WiFi-password"

key\_mgmt=WPA-PSK

priority=1

}

**Note:**  
The Wi-Fi name and password should be the same as your local Wi-Fi which your PC is connected to (make sure your PC and Raspberry Pi are in the same LAN).

**Step 7**

Create a blank file called “ssh” in this directory