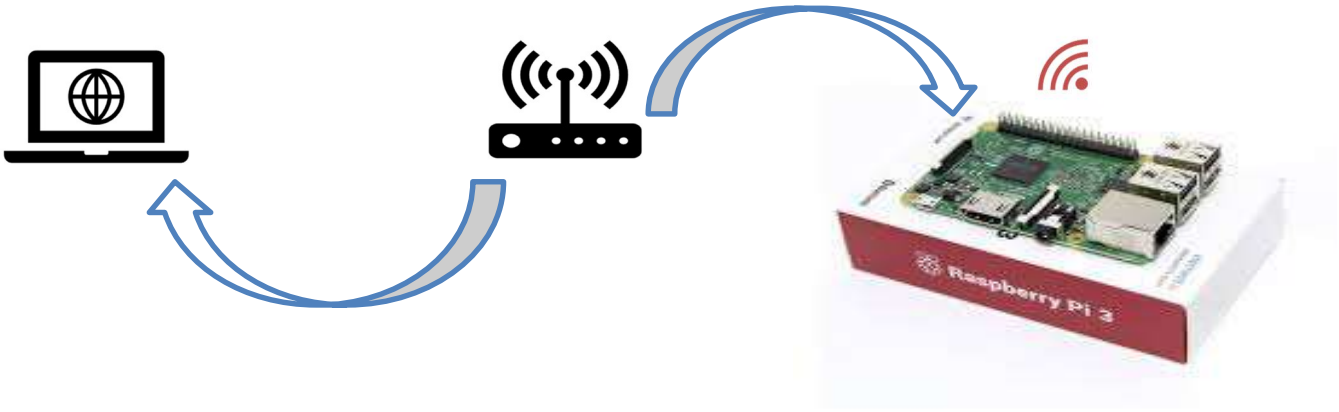
RASPBERRY PI 3 WIRELESS SETUP



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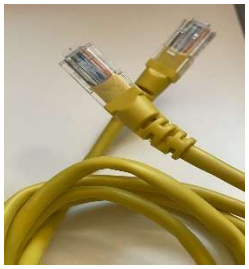
1.0 Introduction

The Raspberry Pi 3 Model B is a 64-bit quad core processor running at 1.4GHz, dual-band 2.4GHz and 5GHz wireless LAN, Bluetooth 4.2/BLE, faster Ethernet. The Raspberry Pi 3 Model B+ which is latest product in Rpi range 3 maintains the same mechanical footprint as both the Raspberry Pi 2 Model B and the Raspberry Pi 3 Model B.

1.1 Objective

The objective of this assessment is to setup the pi and establish a wireless connection of raspberry pi board and laptop.

1.2 Requirements



⇦ Straight Ethernet Cable

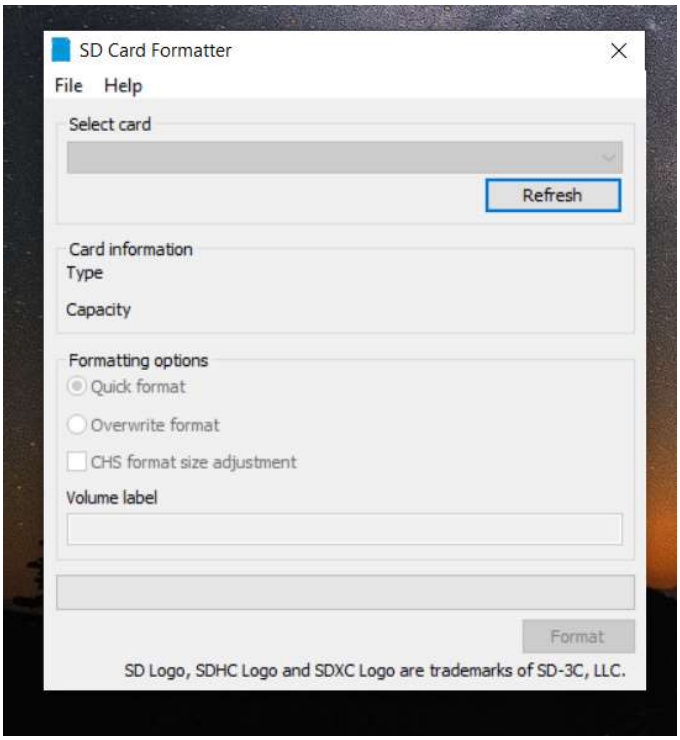
Power Supply ⇨

SD card and Adaptor

⇩

1.3 Formatting SD card

- Insert the SD card into card adapter and plug it in to laptop.



- Install “SD card formatter” software and select the SD card drive for formatting.

2.0 Installing Raspberry Pi OS

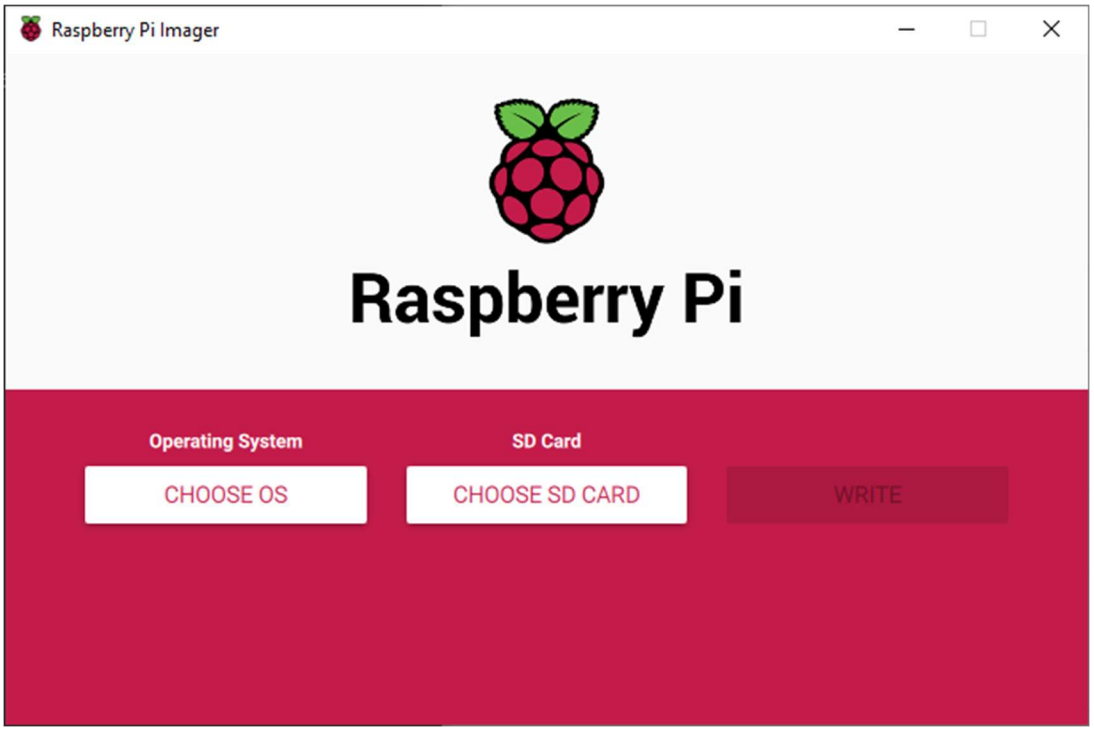
Insatallation of RPI OS can be done in two methods :

1. Downloading ZIP
2. Raspberry Imager

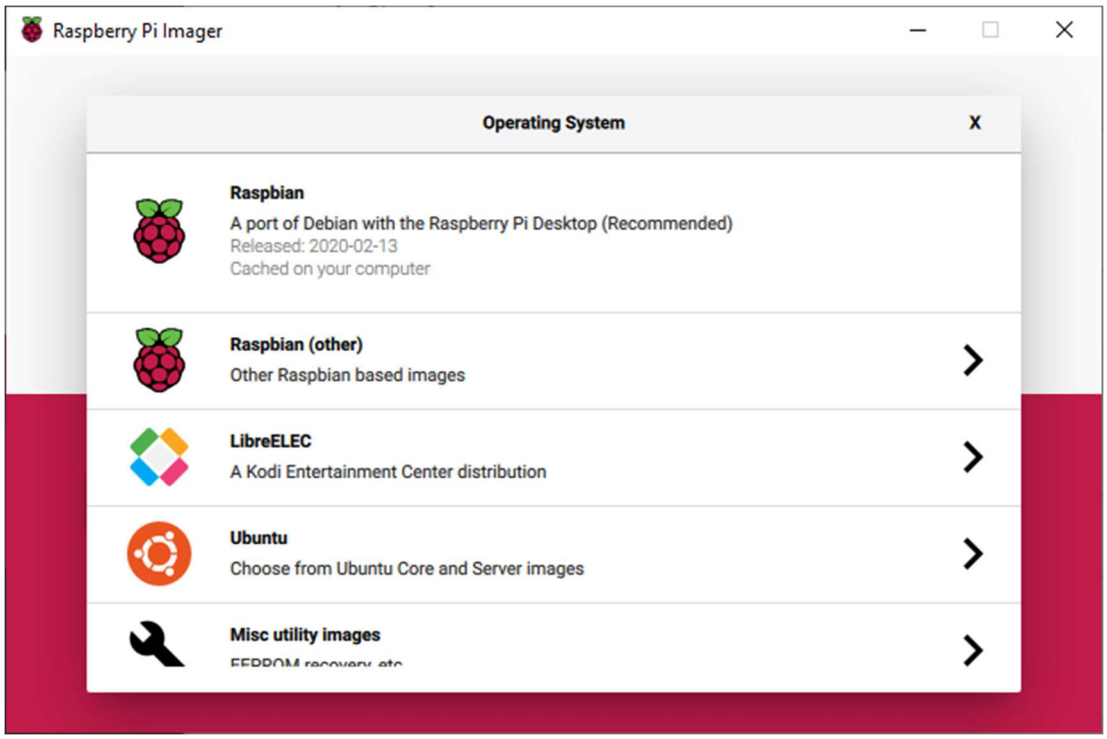
- Go to https://www.raspberrypi.org/%20downloads/ and download the appropriate OS.
- Download zip file for windows or download the raspberry pi Imager .

2.1 Raspberry Pi Imager

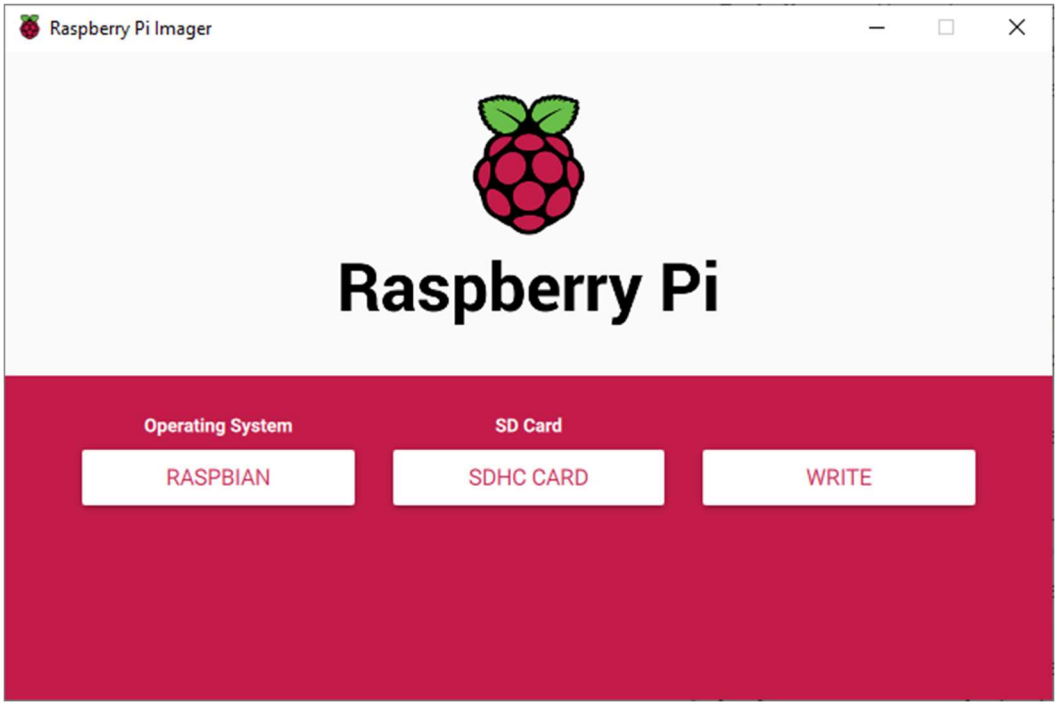
- Once imager is installed the run the executable file.



- Select OS and drive (SD card) .



- Select write.



3.0 Creating Setup files

For the RPI to connect and identify the wireless network , two files are to be created and added to SD card boot-

1. WPA config file
2. SSh file

3.1 Wi-Fi Protected Access (WPA)

Follow following steps for creating wpa file onto SD card and enable file extension from view in toolbar.

- Create text file with name wpa_supplicant.confi and the import the code from raspberry pi documentation for wireless connectivity.Enter the country code (US for United States) and wifi credentials accordingly.

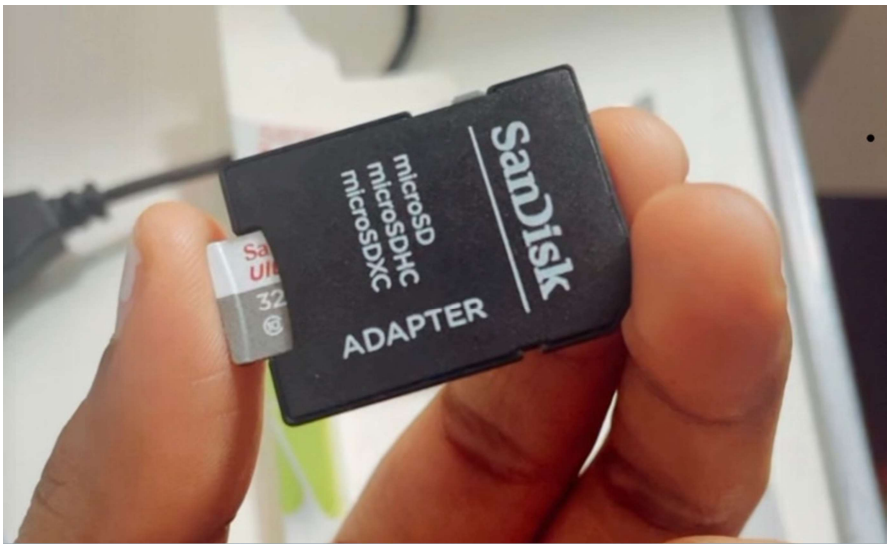
```
ctrl_interface=DIR=/var/run/wpa_supplicant
GROUP=netdev

update_config=1
country=<YOUR-COUNTRY>

network={
    ssid="<YOUR-WIFI-NETWORK-SSID>"
    psk="<YOUR-WIFI-PASSWORD>"
}
```

3.2 Secure Shell(SSh)

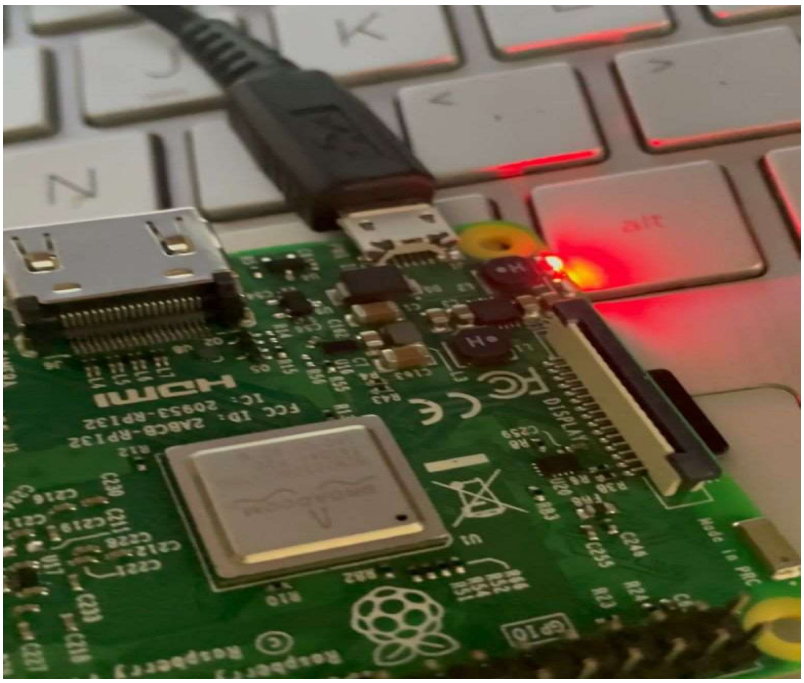
- Create empty text file with name SSH and save it to SD card.
- Ensure that the file **doesnot** have .txt extention.
- Eject the SD card safely.

4.0 Connecting RPI to laptop

1. Insert the Micro SD card into the SD card slot on the Raspberry Pi.



2. Connect your Raspberry Pi to a power source.



3. Connect Ethernet Cable.

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5.0 Download software terminal emulator

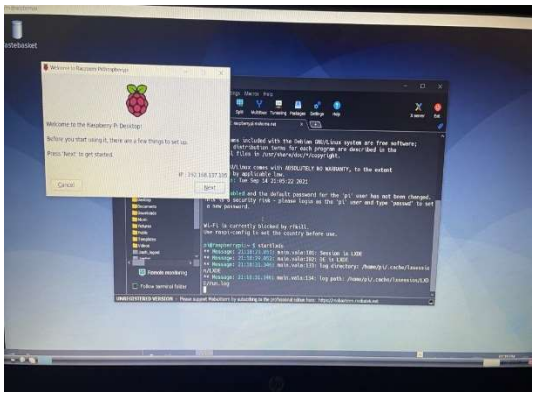
Download software namely “Putty “ or VNC and install the setup . Extract and run the .exe file.

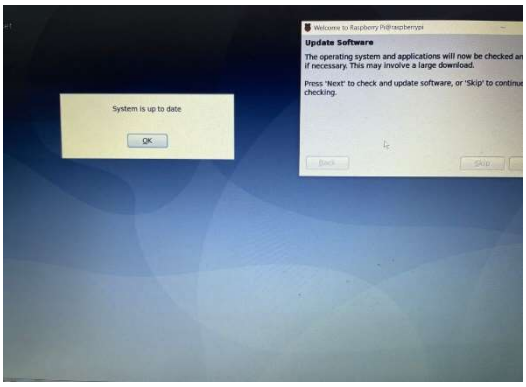
5.1 IP address Validation

- Find out the IP address of raspberrypi by *ifconfig\all* and for the host name enter command *hostname.*
- After running the putty.exe file enter hostname and the raspberry pi window will be opened then enter the credentials and start setup.

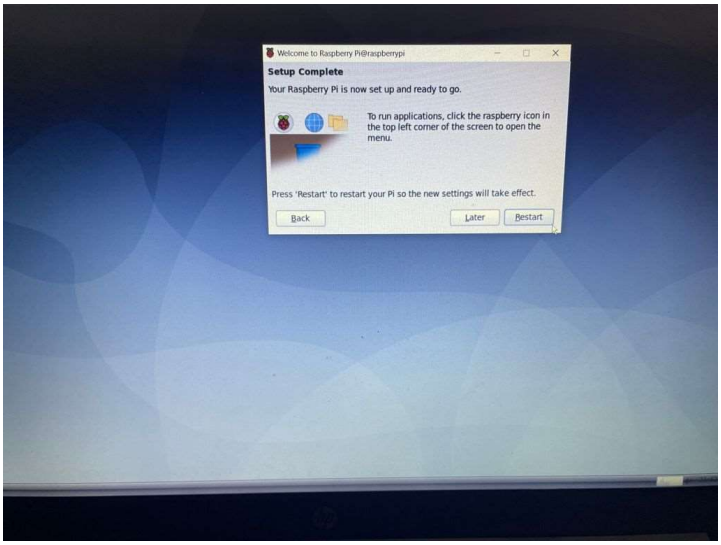
6.0 System Update

- Raspberry Pi desktop will be launched and will ask for system update and password reset.

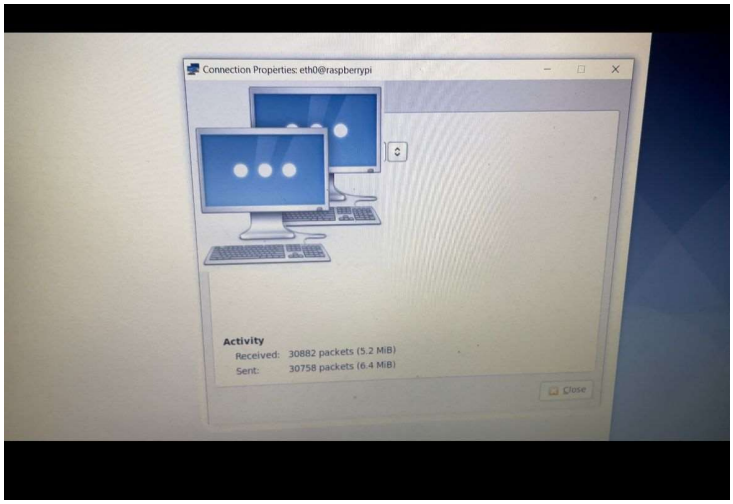




- Follow the instructions and complete the setup.



- Once Setup is complete make necessary changes for desktop search for network enter wi-fi username and password and check connectivity .



- You are All Set for using Raspberry Pi !