Setting up Wireless Access Point using Raspberry Pi

Installation Manual

- **Hardware Requirements**
  - A Raspberry Pi Model A/B/B+
  - Ethernet Cable
  - Power Supply for the Pi
  - WiFi USB dongle (Optional)

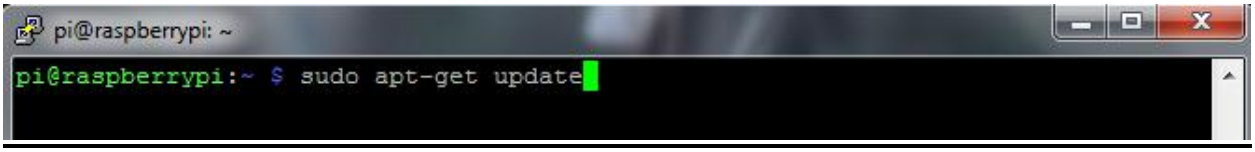
As Raspberry Pi 3 or Raspberry Pi Zero W both have Wi-Fi on board. So in that case no need of any external Wi-Fi module.

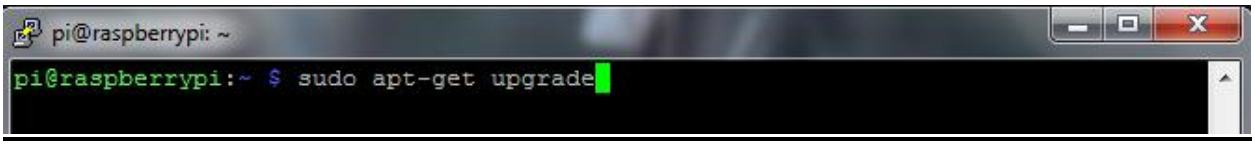
- **Software Requirements**
  - Latest Raspbian Stretch OS
  - Putty
  - Advanced IP Scanner Software or
  - Fing App to check IP address of Raspberry Pi

1. **Set up the Raspberry Pi with the Raspbian Stretch OS**
   Prepare SD Card with bootable OS, insert it into Raspberry Pi.

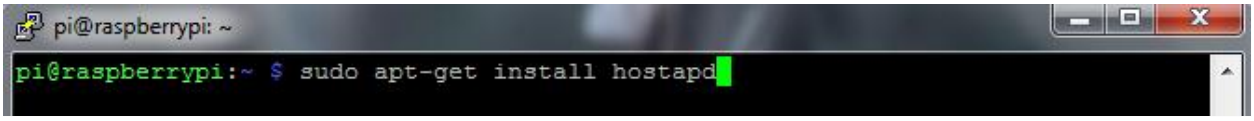
- Connect LAN Cable coming out from your Network Provider into Raspberry Pi.
- Make sure your Laptop/PC is also connected with the same network.
- Connect Power Supply to Raspberry Pi.
- Check IP address of Raspberry Pi using IP Scanner Software or Fing App
- Then connect your Laptop/PC to Raspberry Pi using a terminal software like Putty.

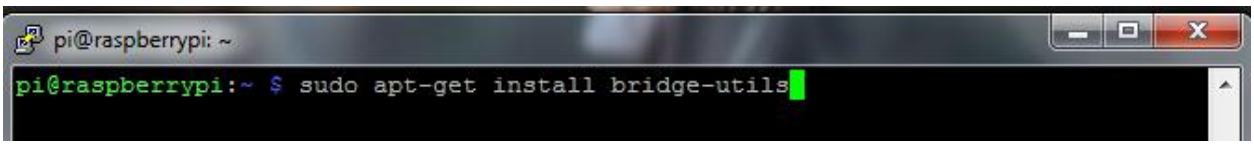
- Update the Raspberry Pi to ensure we have the latest version of everything. This is done by using following commands:



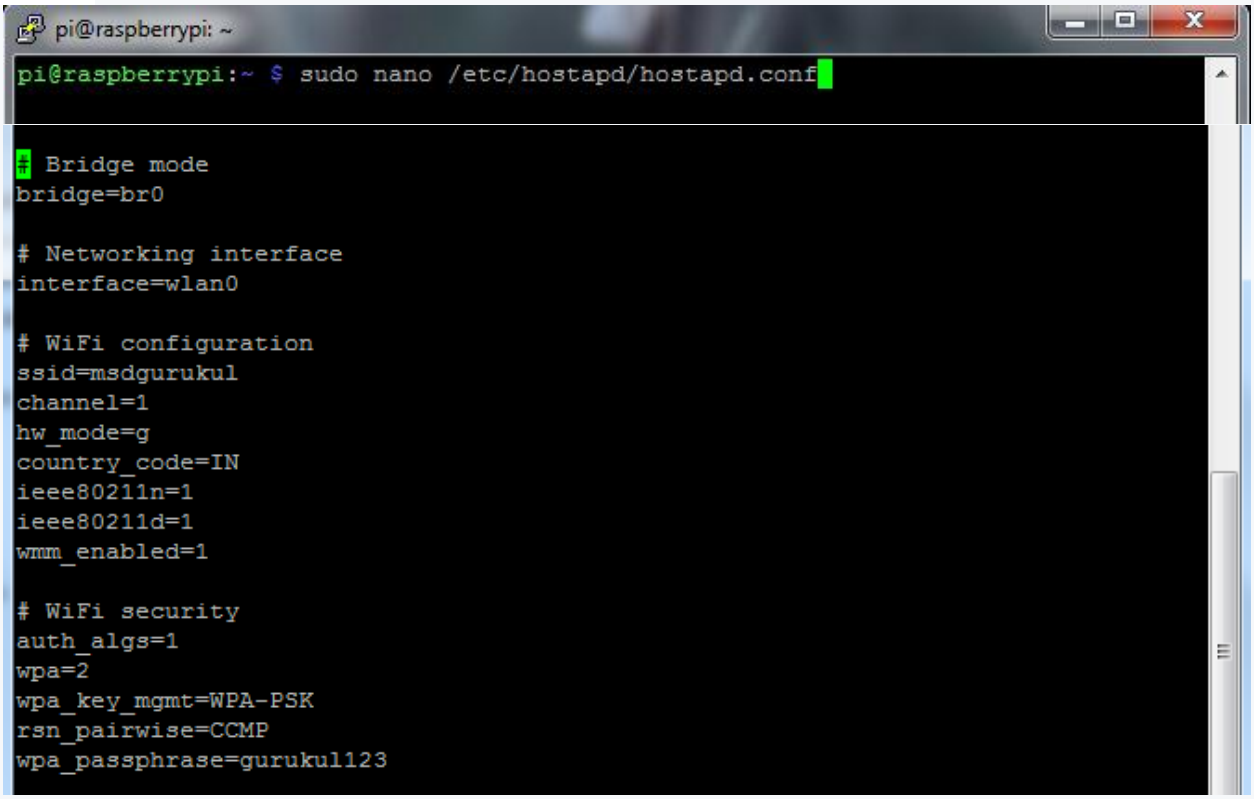


2. **Install hostapd and bridge-utils**

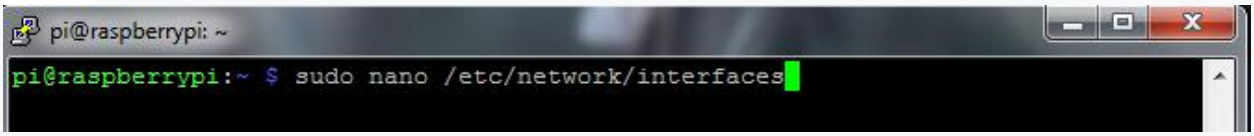


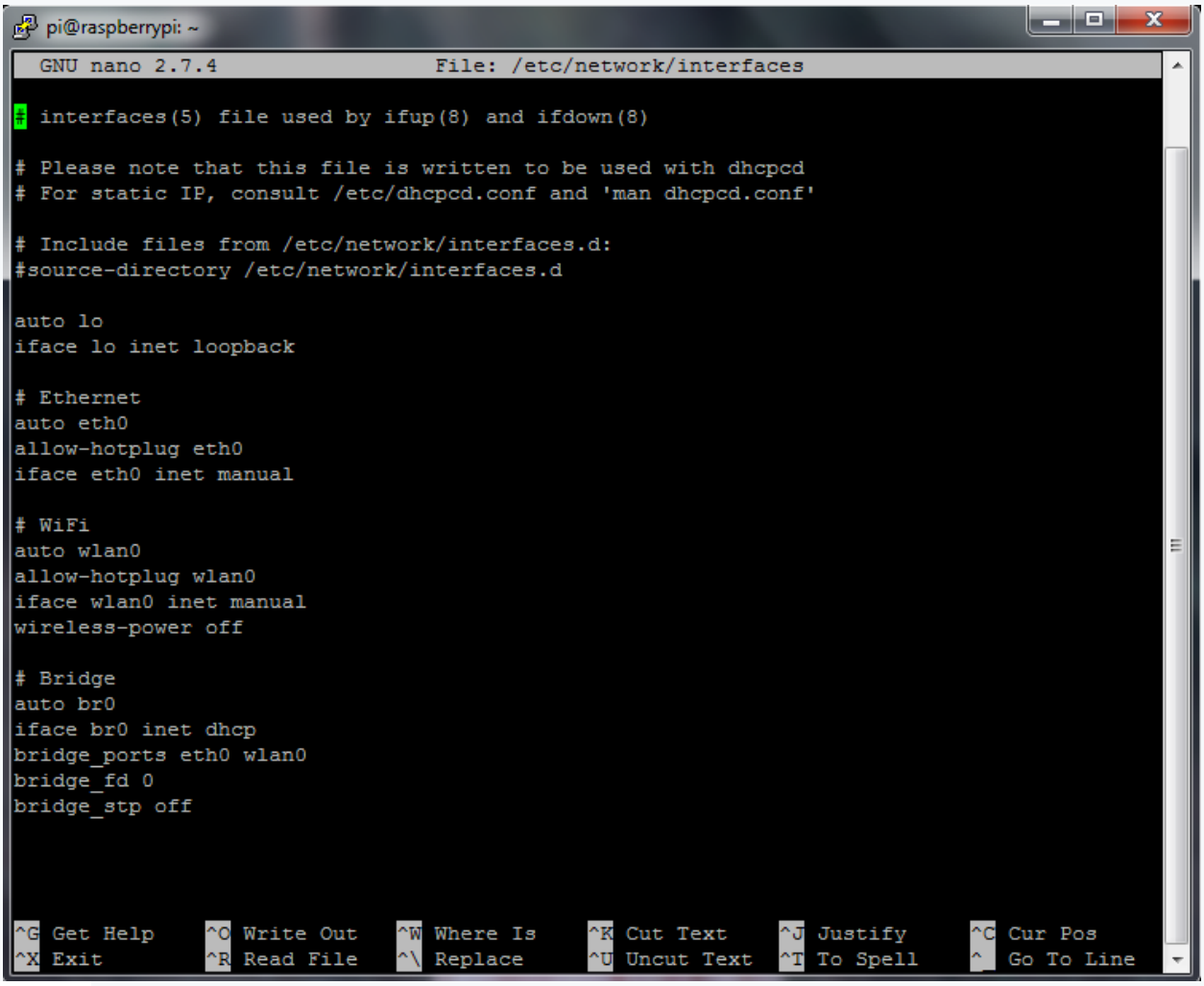


3. **Edit file /etc/hostapd/hostapd.conf and add following lines to it**



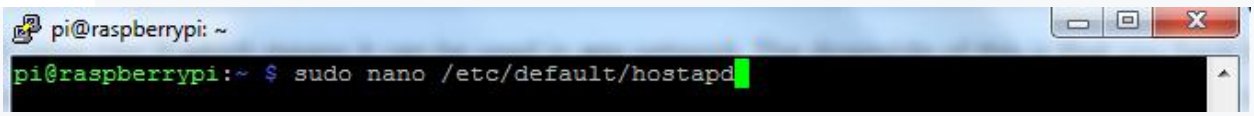
4. **Edit file /etc/network/interfaces and add following lines to it**

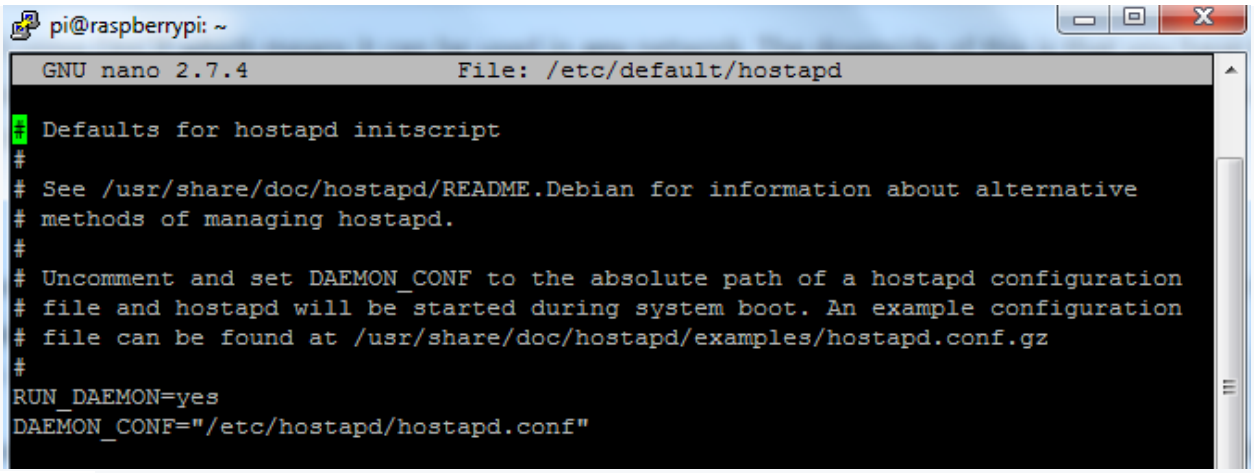




This will result in the Pi using DHCP which means it can be used in any **network.**

5. **Finally ,edit last file to enable hostapd to run upon boot**





6. **To effect the changes made to the Raspberry Pi,** reboot **the system.**

Note : From now on hostapd will start whenever your Pi boots up.

There should now be a functioning bridge between the wireless LAN and the Ethernet connection on the Raspberry Pi, and any device associated with the Raspberry Pi access point will act as if it is connected to the access point's wired Ethernet.

It is possible to use a static IP address for the bridge if required, but generally, if the Raspberry Pi access point is connected to a ADSL router, the DHCP address will be fine.

Testing Raspberry Pi Wireless Access Point:

To test above instructions, use a mobile phone or any other device capable of connecting to a WiFi hotspot network, you should see the name pop up. You can then connect to it by entering password we specified in hostapd.conf file.