System: Raspberry Pi 4

Hotspot WIFI(wireless access point) on raspberry pi 4

1. Set Static IP Address

Configure static ip using Dhcpcd method.

```
sudo nano /etc/dhcpcd.conf
```

At the bottom, paste this:

```
interface wlan0
static ip_address=192.168.4.1/24
nohook wpa_supplicant
```

Save and exit

2. Install Hostapd

```
sudo apt-get install hostapd
```

Stop the hostapd service

```
sudo service hostapd stop
```

Open Hostapd configuration file

```
sudo nano /etc/hostapd/hostapd.conf
```

Paste this configuration:

```
interface=wlan0
```

```
ssid=YOUR-NAME-HOTSPOT
wpa_passphrase=your_password
hw_mode=g
ieee80211n=1
channel=6
wmm_enabled=1
ignore_broadcast_ssid=0
auth_algs=1
wpa=2
wpa_key_mgmt=WPA-PSK
rsn_pairwise=CCMP
```

Save and exit

To apply the configuration we made:

```
sudo nano /etc/default/hostapd
```

Find #DAEMON_CONF, below this line, paste this:

```
DAEMON_CONF="/etc/hostapd/hostapd.conf"
```

Enable the wireless access point

```
sudo systemctl unmask hostapd
sudo systemctl enable hostapd
```

Activate IPv4 forwarding

```
sudo nano /etc/sysctl.conf
```

Un-comment #net.ipv4.ip_foward=1

net.ipv4.ip_forward=1

Save and exit

Run this code:

```
sudo sh -c "echo 1 > /proc/sys/net/ipv4/ip_forward"
```

3. Install Dnsmasq

We will install DHCP server

```
sudo apt install dnsmasq
```

Stop Dnsmasq service

```
systemctl stop dnsmasq
```

Backup the default configuration

```
sudo mv /etc/dnsmasq.conf /etc/dnsmasq.conf.orig
```

Create your own configuration:

```
sudo nano /etc/dnsmasq.conf
```

Paste this:

```
interface=wlan0
dhcp-range=192.168.4.2,192.168.4.50,255.255.255.0,24h
```

domain=wlan

address=/gw.wlan/192.168.4.1

Exit and save.

4. Setting up the Firewall

Change the firewall rules

```
sudo iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE
sudo iptables -A FORWARD -i eth0 -o wlan0 -m state --state RELATED,ESTABLISHED -j ACCEPT
sudo iptables -A FORWARD -i wlan0 -o eth0 -j ACCEPT
```

Check the iptables to see the changes made

```
sudo iptables -L -n -v
```

Save the rules

```
sudo sh -c "iptables-save > /etc/iptables.ipv4.nat"
```

Making this rule to load automatically every system reboot.

```
sudo nano /etc/rc.local
```

Paste this code before “exit 0”

```
iptables-restore < /etc/iptables.ipv4.nat
```

Enable the service and start

```
systemctl enable dnsmasq
systemctl start dnsmasq
systemctl status dnsmasq
```

Optional:

```
sudo reboot
```

You can now see a Hotspot. Please connect a device to the hostpot.

Source:

https://www.diyhobi.com/setup-a-wireless-access-point-on-raspberry-pi-4-os-lite/