

DHCP Server setup:

<space> means a real space

1. Updating app packages:

CODE: `sudo apt update`

2. Installing isc-dhcp-server package

CODE: `sudo apt install isc-dhcp-server`

3. Checking isc-dhcp-server installed correctly or not

a. Check the version of the isc-dhcp-server

CODE : `dhcpcd --version`

OUTPUT : `isc-dhcpd-4.4.1` (or any version)

b. Check the status of DHCP server

CODE : `sudo systemctl status isc-dhcp-server`

⇒ If the ACTIVE: failed is showed, then you need to configure the config file

4. Configuring the DHCP server:

a.) Enter the config file of dhcpcd:

CODE : `sudo nano<space>/etc/dhcp/dhcpd.conf`

b.) Enter the following code:

```
subnet 192.168.10.0 netmask 255.255.255.0 {  
    range 192.168.10.0<space>192.168.10.150;  
    option routers 192.168.10.1;  
    option subnet-mask 255.255.255.0;  
    option domain-name-servers 192.168.10.1;  
}
```

Save File : CTRL + O

c.) Test the config file:

CODE: `sudo dhcpd -t -cf /etc/dhcp/dhcpd.conf`

d.) Open default file:

CODE: `sudo nano /etc/default/isc-dhcp-server`

ENTER:

`INTERFACESv4="enp2s0"` (Replace empty "" with enp2s0)

5. Start the service

CODE: `sudo systemctl start isc-dhcp-server`

6. Check status again code at point 3 b.)

If the DHCP port is disabled, enable it with the following command:

CODE : `sudo systemctl enable isc-dhcp-server`

If, still the dhcp status shows error, enter the following code:

CODE: `sudo journalctl -u isc-dhcp-server`

The above code will give details for the cause of error

7. Check again the IP

CODE : `ip a`

If the ip for enp2s0 is absent, then reassign the ip

RECOMMENDED IP: **192.168.10.<system No.>**

8. Reassign IP

CODE: `sudo ip addr add 192.168.10.29/24 dev enp2s0`

9. Restart the DHCP service

CODE: `sudo systemctl restart isc-dhcp-server`

10. Check the status again

11. ACTIVE: failed? Check whether the system was used as a DHCP client, then undo the process you did for DHCP client.

DHCP CLIENT

1. Enter the file '/etc/network/interfaces'

CODE: `sudo nano /etc/network/interfaces`

2. Content to add in conf file

CODE :

`auto enp2s0`

`iface enp2s0 inet dhcp`

3. Restart Network manager and systemd-networkd

CODE: `sudo systemctl restart NetworkManager`

CODE: `sudo systemctl restart systemd-networkd`

4. Check status of both of above:

CODE : `sudo systemctl status NetworkManager`

CODE : `sudo systemctl status systemd-networkd`

5. Manually obtain IP Address

For flushing out the already assigned or engaged port or IP

CODE : `sudo dhclient -r`

CODE : `sudo dhclient enp2s0`

6. Verify the address obtained from DHCP server

CODE : `ip addr show`

7. To check the network interface status

It's working depends on the network connectivity

CODE : `ip link show`

RESOURCE LINK: github.com/ManishPraa24/Computer-Networks/tree/main

