Introduction to command line tools for networking IPv4 networking, network commands: ping route traceroute, nslookup, ip. Setting up static and dynamic IP addresses. Concept of Subnets, CIDR address schemes, Subnet masks, iptables, setting up a firewall for LAN, Application layer (L7) proxies.

Set up repository

1.Ping IP address

Eg: ping 8.8.8.8

2.nslookup

nslookup facebook.com

or

nslookup 157.240.23.35

3.To install traceroute

sudo apt install traceroute

4. To find how many hopes

traceroute 172.16.13.163

or

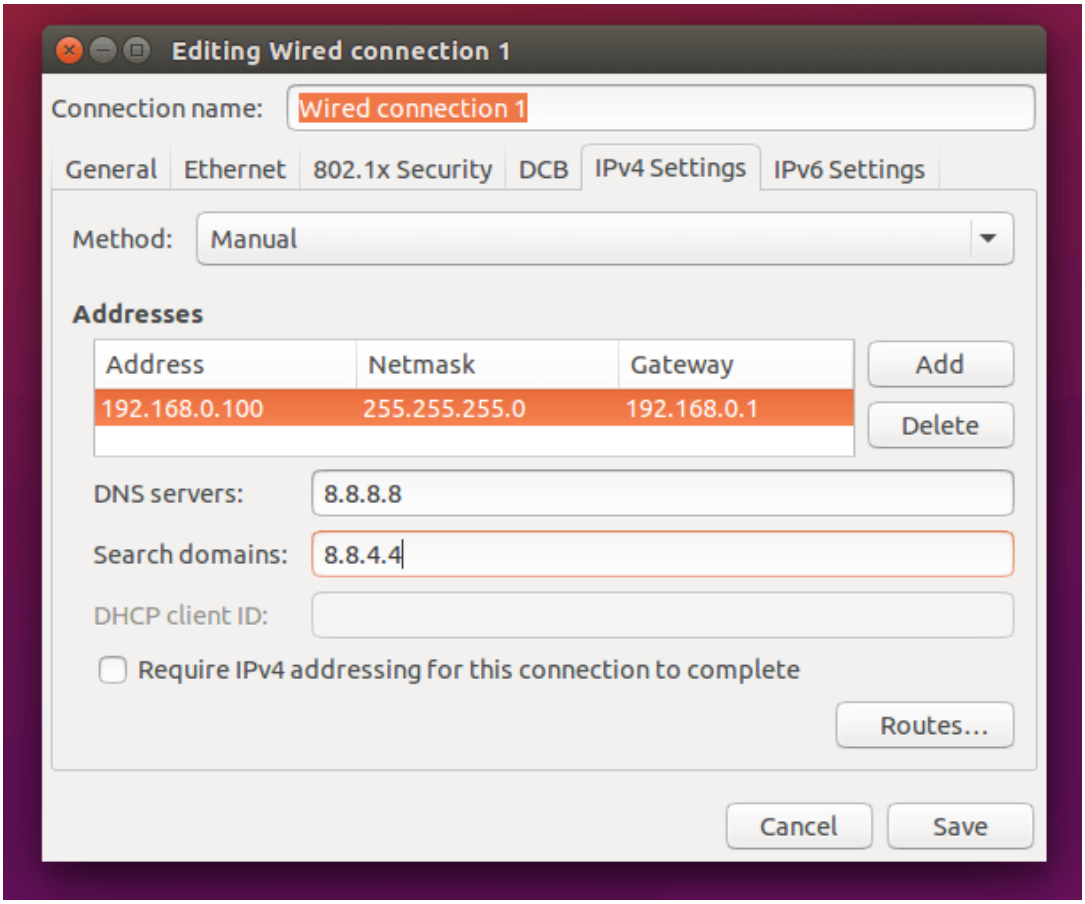
traceroute 8.8.8 -m 30

5.To identify ip version

ip -v

6. To get ip address

ip addr



IPv4 networking for Setting up static and dynamic IP addresses.

- **For setting up ip address as static:**

Step 1: Update the terminal

sapt-get udo update

Step 2: To show ip address

ip address

Step 3: To add new ip address

Go to settings-> network->add ip address manually->save

Open terminal and type,

ifconfig

Step 4: To see new ip address, refresh network connection and again give command:

ip address

- **For setting up ip address as dynamic:**

Step 1: To show device name

nmcli connection add con -name “dyn”

Step 2: To show ip address

ip address

Step 3: To connect

nmcli connection add con-name “dyn” ifname emp4s0 autoconnect yes type ethernet

Step 4: To show the connection

nmcli connection show

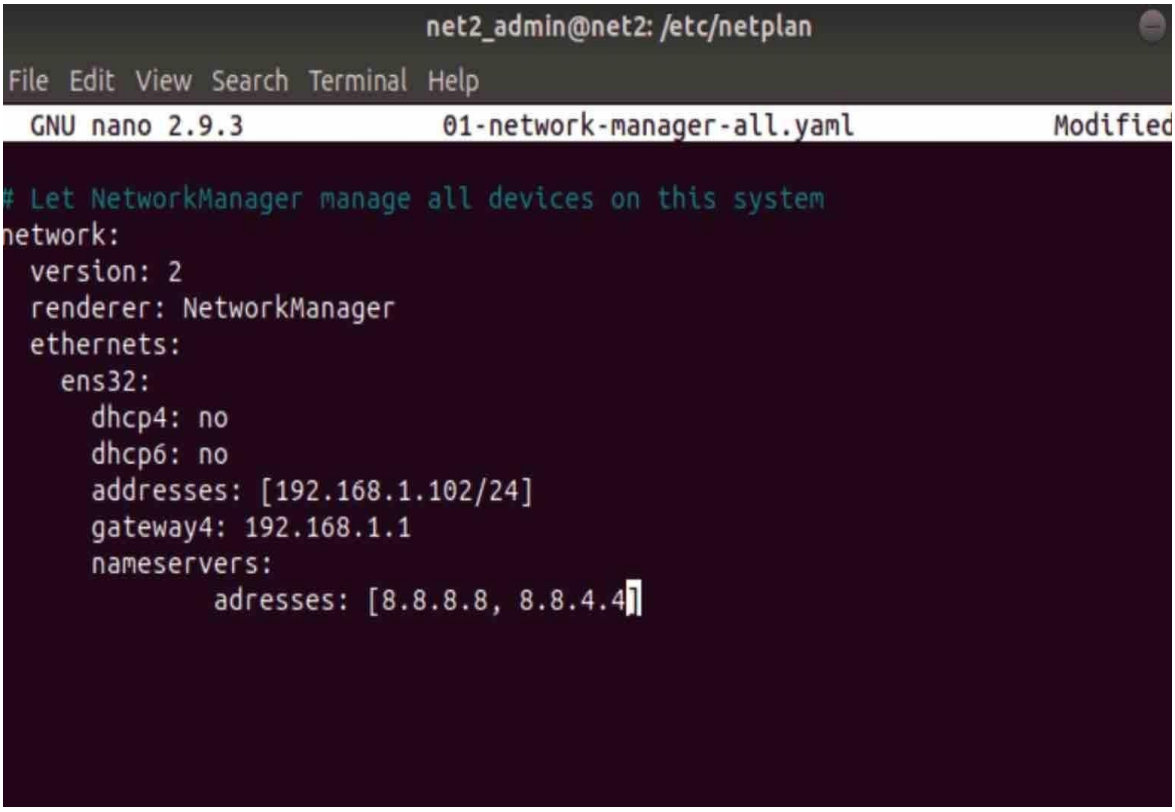
Step 5: To down the connection

nmcli connection down docker 0

Step 6: To establish the connection

nmcli connection up dyn

OUTPUT


net2_admin@net2: /etc/netplan
File Edit View Search Terminal Help
GNU nano 2.9.3 01-network-manager-all.yaml Modified
Let NetworkManager manage all devices on this system
network:
version: 2
renderer: NetworkManager
ethernets:
ens32:
dhcp4: no
dhcp6: no
addresses: [192.168.1.102/24]
gateway4: 192.168.1.1
nameservers:
adresses: [8.8.8.8, 8.8.4.4]