

50 Networking Commands in Linux: Questions, Explanations, and Commands

Follow – Krishan Bhatt 

Networking in Linux is crucial for troubleshooting, managing servers, and ensuring efficient communication between devices. Below are 50 commonly used Linux networking commands, their purposes, explanations, and questions for better understanding.

1. ifconfig

- **Question:** How do you view or configure network interfaces?
- **Explanation:** Displays network interface configuration and allows you to configure IP addresses, netmasks, etc.
- **Command:**

```
ifconfig
```

2. ip

- **Question:** How can you manage IP addresses and routes?
- **Explanation:** A modern replacement for ifconfig with extended functionalities.
- **Command:**

```
ip addr show
```

3. ping

- **Question:** How do you test connectivity to a host?
- **Explanation:** Sends ICMP echo requests to test reachability.
- **Command:**

```
ping -c 4 example.com
```

4. netstat

- **Question:** How do you list open ports and connections?
- **Explanation:** Displays network connections, routing tables, and more.
- **Command:**

```
netstat -tuln
```

5. ss

- **Question:** What is a modern alternative to netstat?
- **Explanation:** Provides faster and more detailed network statistics.
- **Command:**

```
ss -tuln
```

6. traceroute

- **Question:** How do you trace the route packets take to a host?
- **Explanation:** Shows the path packets follow to reach a destination.
- **Command:**

```
traceroute example.com
```

7. dig

- **Question:** How do you query DNS records?
- **Explanation:** Retrieves DNS information for a domain.
- **Command:**

```
dig example.com
```

8. nslookup

- **Question:** How can you perform DNS lookups?
- **Explanation:** Resolves domain names to IP addresses.
- **Command:**

```
nslookup example.com
```

9. arp

- **Question:** How do you view the ARP table?
- **Explanation:** Displays and modifies the ARP cache.
- **Command:**

```
arp -a
```

10. route

- **Question:** How do you manage routing tables?
- **Explanation:** Displays or modifies the system's IP routing table.
- **Command:**

```
route -n
```

11. curl

- **Question:** How can you interact with HTTP/HTTPS services?
- **Explanation:** Transfers data from or to a server using protocols like HTTP, FTP.
- **Command:**

```
curl http://example.com
```

12. wget

- **Question:** How do you download files from the web?
- **Explanation:** Retrieves files from a network.
- **Command:**

```
wget http://example.com/file.txt
```

13. nmap

- **Question:** How do you perform network scanning?
- **Explanation:** A network mapper for discovering hosts and services.
- **Command:**

```
nmap -sS example.com
```

14. tcpdump

- **Question:** How can you capture network packets?
- **Explanation:** Captures and analyzes network traffic.
- **Command:**

```
tcpdump -i eth0
```

15. iptables

- **Question:** How do you configure the firewall?
- **Explanation:** Manages packet filtering and NAT rules.
- **Command:**

```
iptables -L
```

16. ufw

- **Question:** What is a user-friendly alternative to iptables?
- **Explanation:** Simplifies firewall management.
- **Command:**

```
ufw status
```

17. ethtool

- **Question:** How do you manage network interfaces?
- **Explanation:** Configures Ethernet devices.
- **Command:**

```
ethtool eth0
```

18. nmcli

- **Question:** How do you manage NetworkManager?
- **Explanation:** A command-line tool for controlling NetworkManager.
- **Command:**

```
nmcli device status
```

19. iwconfig

- **Question:** How do you configure wireless interfaces?
- **Explanation:** Manages wireless network interfaces.
- **Command:**

```
iwconfig
```

20. host

- **Question:** How do you perform simple DNS lookups?
- **Explanation:** Resolves domain names to IP addresses.
- **Command:**

```
host example.com
```

21. scp

- **Question:** How do you securely copy files over SSH?
- **Explanation:** Transfers files between hosts.
- **Command:**

```
scp file.txt user@remote:/path
```

22. rsync

- **Question:** How can you synchronize files between systems?
- **Explanation:** Syncs files and directories efficiently.
- **Command:**

```
rsync -av file.txt user@remote:/path
```

23. ssh

- **Question:** How do you access a remote machine securely?
- **Explanation:** Establishes a secure shell session.
- **Command:**

```
ssh user@remote
```

24. ftp

- **Question:** How do you transfer files using FTP?
- **Explanation:** Manages file transfers over FTP.
- **Command:**

```
ftp remote_server
```

25. telnet

- **Question:** How do you test basic connectivity to a port?

- **Explanation:** Tests TCP connectivity.
- **Command:**

```
telnet example.com 80
```

26. nc (Netcat)

- **Question:** How do you test network connections or create a simple server?
- **Explanation:** A versatile networking tool to debug and test network services.
- **Command:**

```
nc -zv example.com 80
```

27. ip neigh

- **Question:** How can you view and manage the ARP cache?
- **Explanation:** Shows neighbor objects like ARP entries in the network.
- **Command:**

```
ip neigh show
```

28. mtr

- **Question:** How can you perform a combination of ping and traceroute?
- **Explanation:** Provides a continuous traceroute and latency monitoring.
- **Command:**

```
mtr example.com
```

29. iftop

- **Question:** How do you monitor real-time bandwidth usage?
- **Explanation:** Displays bandwidth usage per network connection.
- **Command:**

```
iftop
```

30. vnstat

- **Question:** How do you monitor network traffic over time?

- **Explanation:** Tracks and summarizes network traffic usage.
- **Command:**

```
vnstat
```

31. tcpflow

- **Question:** How do you capture and analyze TCP traffic data?
- **Explanation:** Captures and displays the actual content of network flows.
- **Command:**

```
tcpflow -c -i eth0
```

32. whois

- **Question:** How do you find domain registration details?
- **Explanation:** Fetches domain information like ownership and registrar.
- **Command:**

```
whois example.com
```

33. sshd

- **Question:** How do you manage the SSH server?
- **Explanation:** Starts or configures the SSH service.
- **Command:**

```
systemctl restart sshd
```

34. tshark

- **Question:** How can you capture network packets in the terminal?
- **Explanation:** A terminal-based version of Wireshark for packet analysis.
- **Command:**

```
tshark -i eth0
```

35. ip route

- **Question:** How can you view or configure routing tables?
- **Explanation:** Displays or modifies routing information.

- **Command:**

```
ip route show
```

36. iw

- **Question:** How do you manage wireless interfaces and devices?
- **Explanation:** A modern alternative to iwconfig.
- **Command:**

```
iw dev
```

37. dhclient

- **Question:** How do you configure a network interface to use DHCP?
- **Explanation:** Requests an IP address via DHCP for a network interface.
- **Command:**

```
dhclient eth0
```

38. systemctl

- **Question:** How do you manage networking services?
- **Explanation:** Starts, stops, or checks the status of networking services.
- **Command:**

```
systemctl restart networking
```

39. firewalld

- **Question:** How can you manage firewalls with zones?
- **Explanation:** A dynamic firewall manager.
- **Command:**

```
firewall-cmd --list-all
```

40. brctl

- **Question:** How do you manage bridge interfaces?
- **Explanation:** Creates and manages network bridges.
- **Command:**


```
brctl show
```

41. bridge

- **Question:** How do you manage network bridging using iproute2?
- **Explanation:** Replaces brctl for managing bridges.
- **Command:**

```
bridge link show
```

42. pktstat

- **Question:** How do you view real-time packet statistics?
- **Explanation:** Displays real-time network packet information.
- **Command:**

```
pktstat -i eth0
```

43. ipset

- **Question:** How do you manage IP sets for firewall rules?
- **Explanation:** Allows you to create, manage, and match large sets of IP addresses in iptables for efficient filtering.
- **Command:**

```
ipset create blacklist hash:ip
```

44. conntrack

- **Question:** How do you monitor and manage connections in the connection tracking table?
- **Explanation:** Displays or manipulates the connection tracking entries of netfilter.
- **Command:**

```
conntrack -L
```

45. arping

- **Question:** How do you send ARP requests to test network connectivity?

- **Explanation:** Sends ARP packets to test if a host is reachable in the local network.
- **Command:**

```
arping -c 4 192.168.1.1
```

46. iwlist

- **Question:** How can you scan for wireless networks?
- **Explanation:** Displays detailed wireless network information.
- **Command:**

```
iwlist wlan0 scan
```

47. hostnamectl

- **Question:** How do you view or change the system hostname?
- **Explanation:** Manages the hostname and related settings.
- **Command:**

```
hostnamectl set-hostname newhostname
```

48. dmesg

- **Question:** How do you check kernel messages related to networking?
- **Explanation:** Displays kernel messages, including those related to network devices and drivers.
- **Command:**

```
dmesg | grep -i eth
```

49. ncd (Network Disk Usage)

- **Question:** How do you analyze network disk usage?
- **Explanation:** A disk usage analyzer, especially useful for identifying large logs generated by network operations.
- **Command:**

```
ncdu /var/log
```

50. ip link

- **Question:** How do you enable or disable a network interface?
- **Explanation:** Allows you to configure and manage network interfaces.
- **Command:**

```
ip link set eth0 up # To enable  
ip link set eth0 down # To disable
```