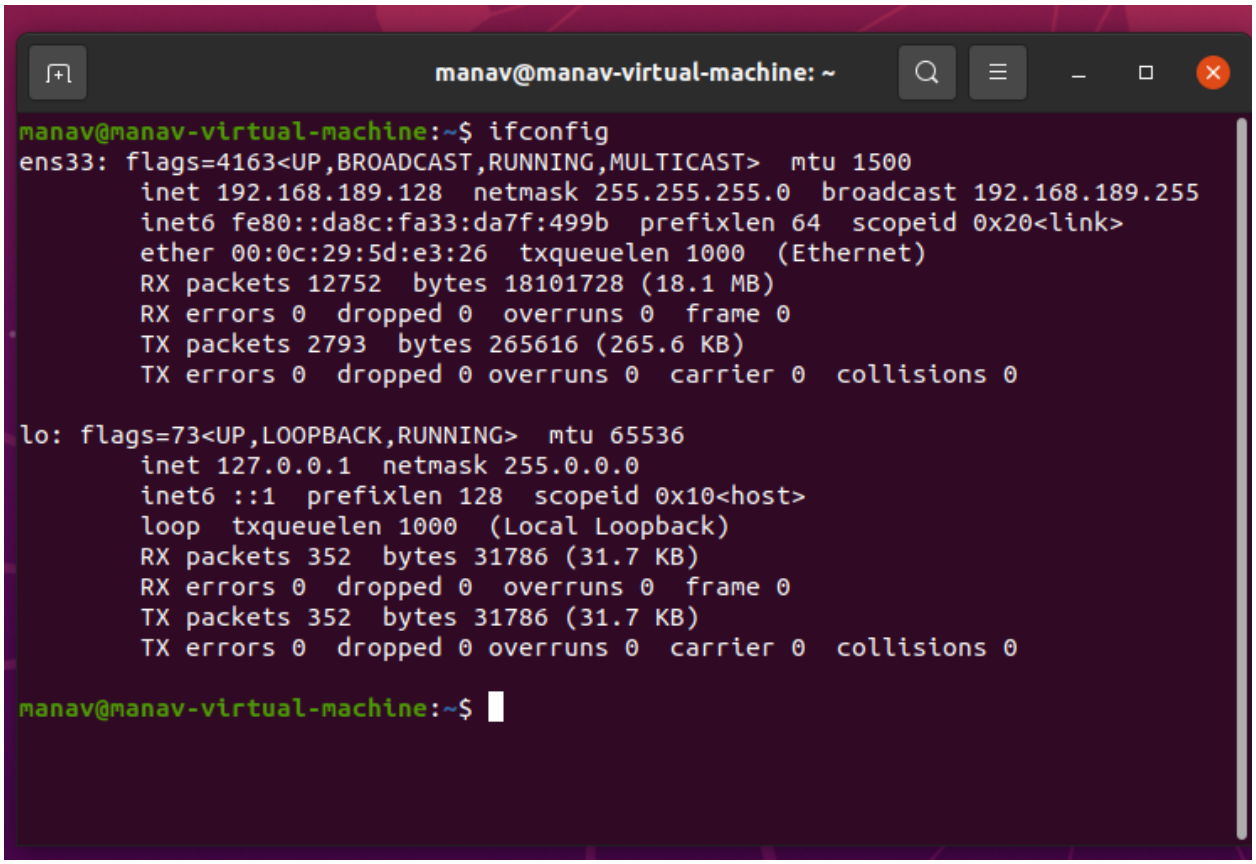
Aim: To execute Network Commands

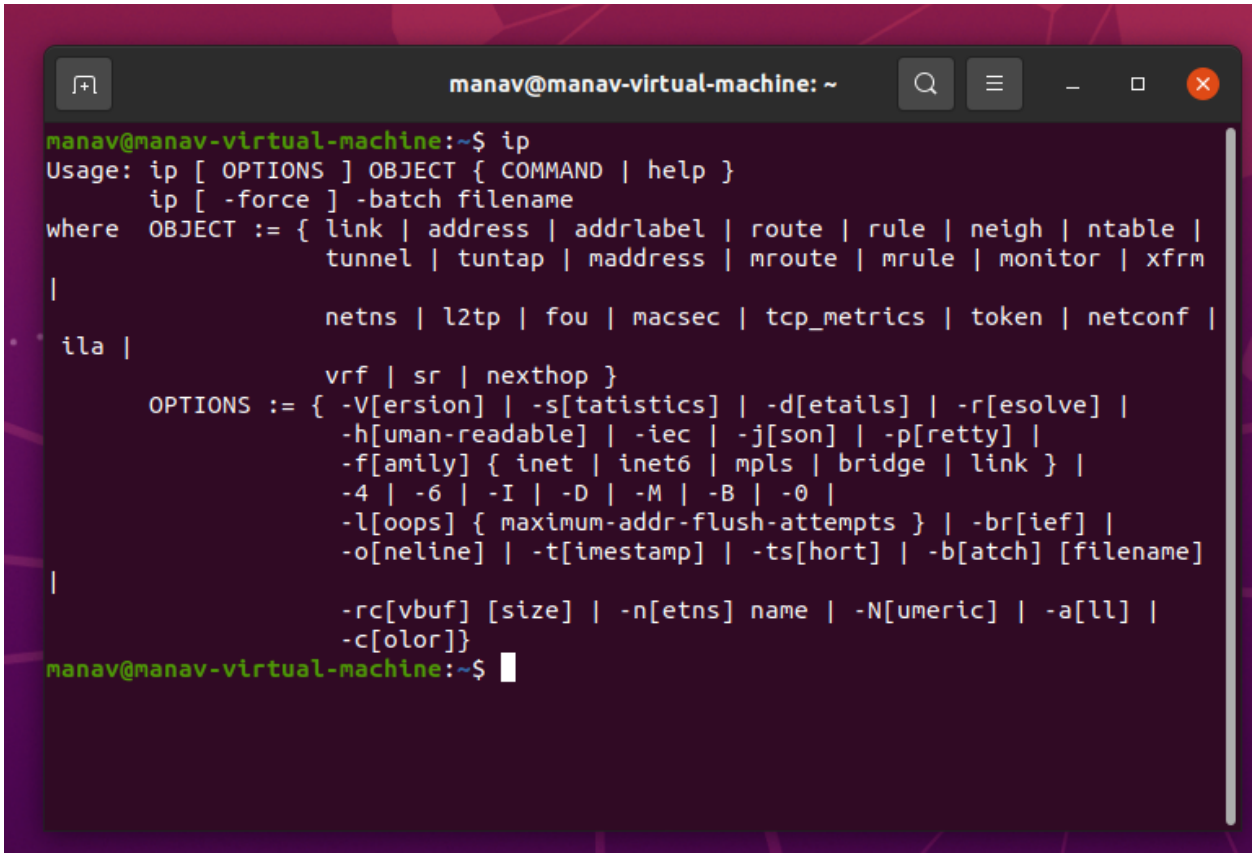
Introduction:
Networking commands are used at the command prompt to get network information like the IP address of the system, MAC address, network route traversed by a packet and the IP address of the server in which a website or URL is hosted.

Theory:

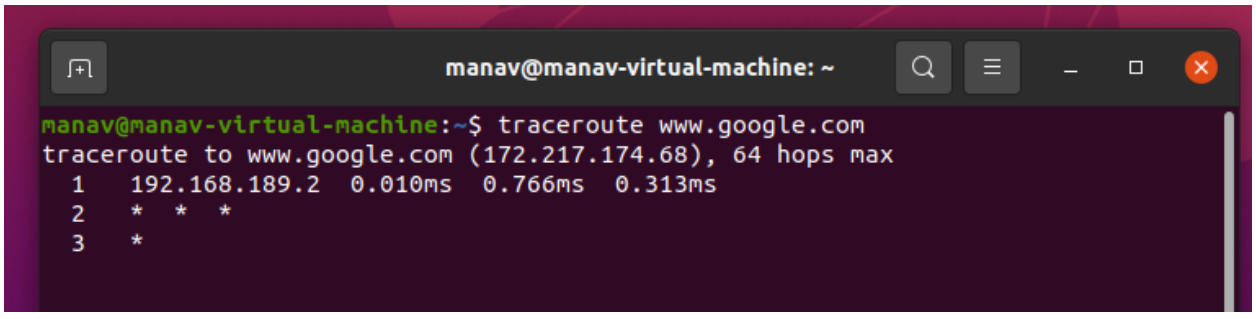
1. ifconfig - ifconfig (interface configuration) is a network management tool. It is used to configure and view the status of the network interfaces in Ubuntu operating systems. With ifconfig, you can assign IP addresses, enable or disable interfaces, manage ARP cache, routes, and more.



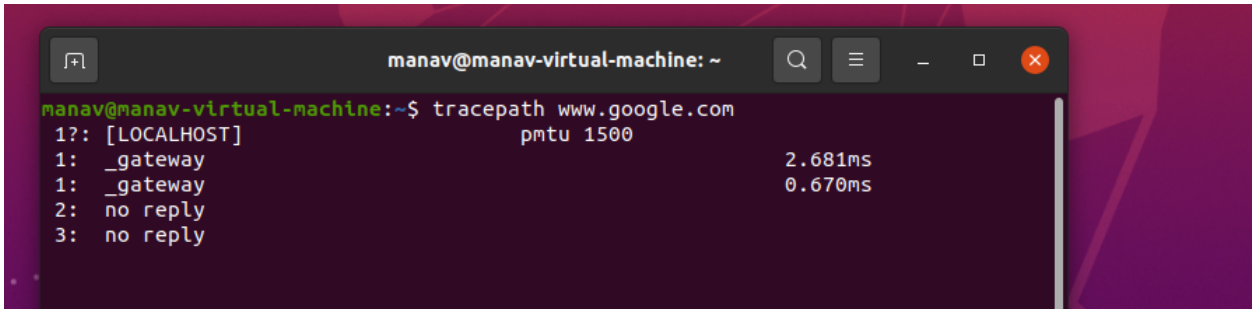
2. ip - ip stands for Internet Protocol and as the name suggests, the tool is used for configuring network interfaces.



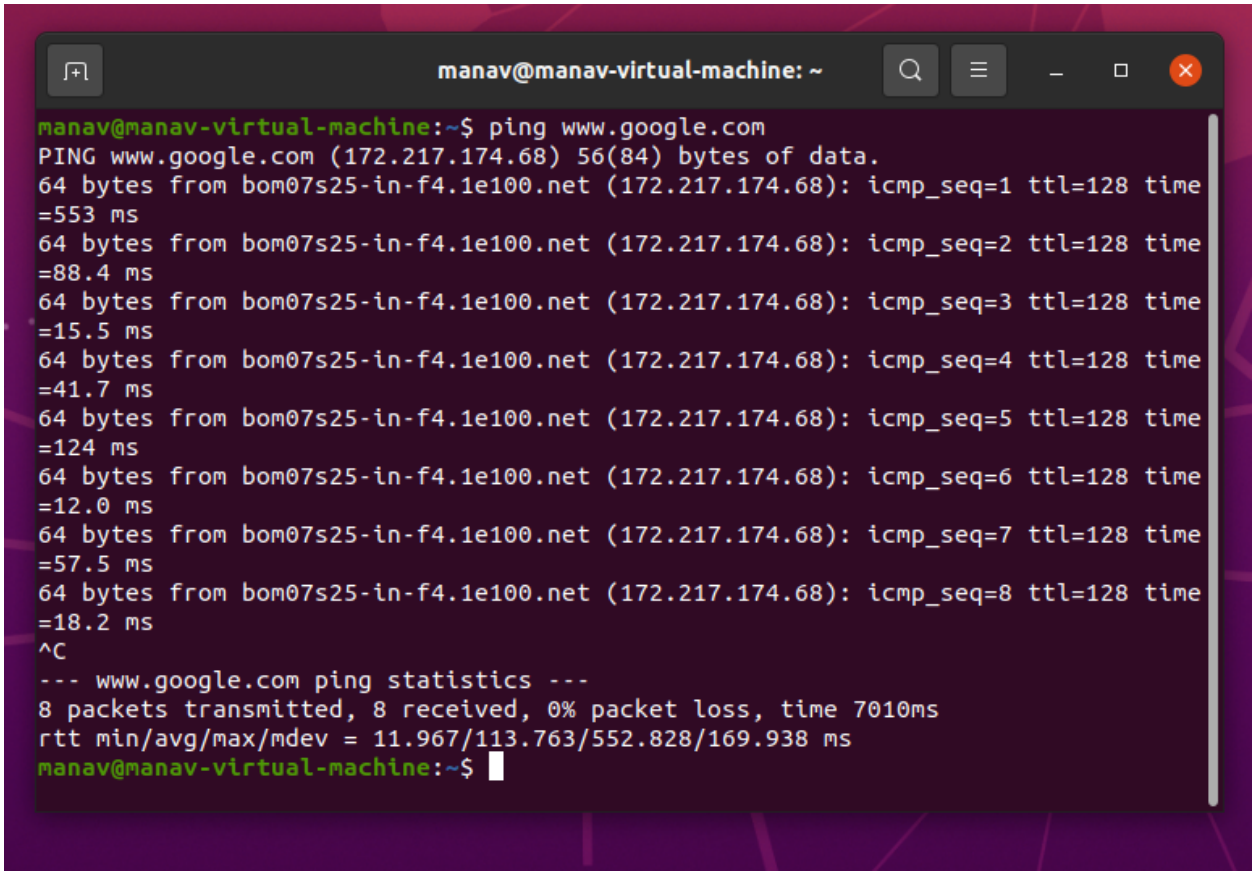
3. traceroute - traceroute command in Ubuntu prints the route that a packet takes to reach the host. This command is useful when you want to know about the route and about all the hops that a packet takes.



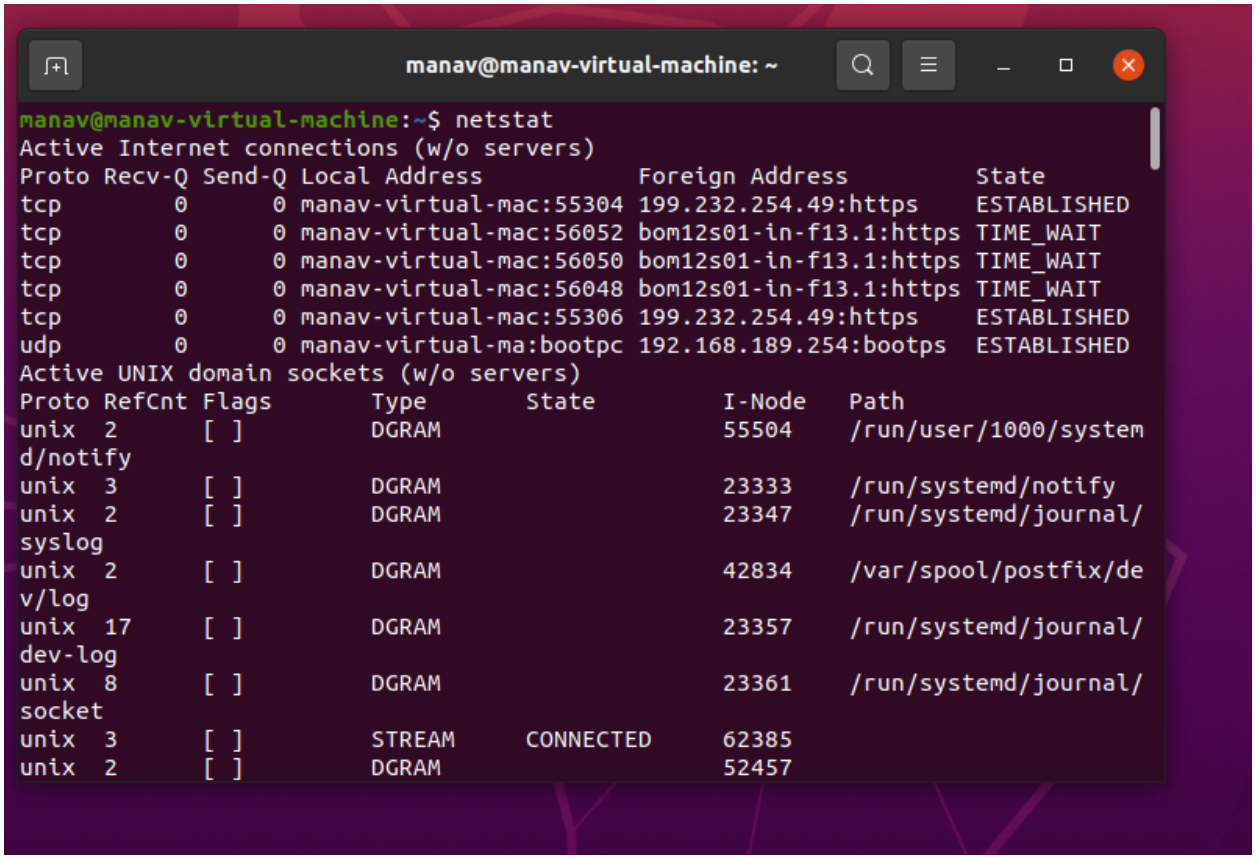
4. tracepath - The tracepath command in Ubuntu allows to trace the path to the destination path determining MTU. tracepath and traceroute are similar to each other.



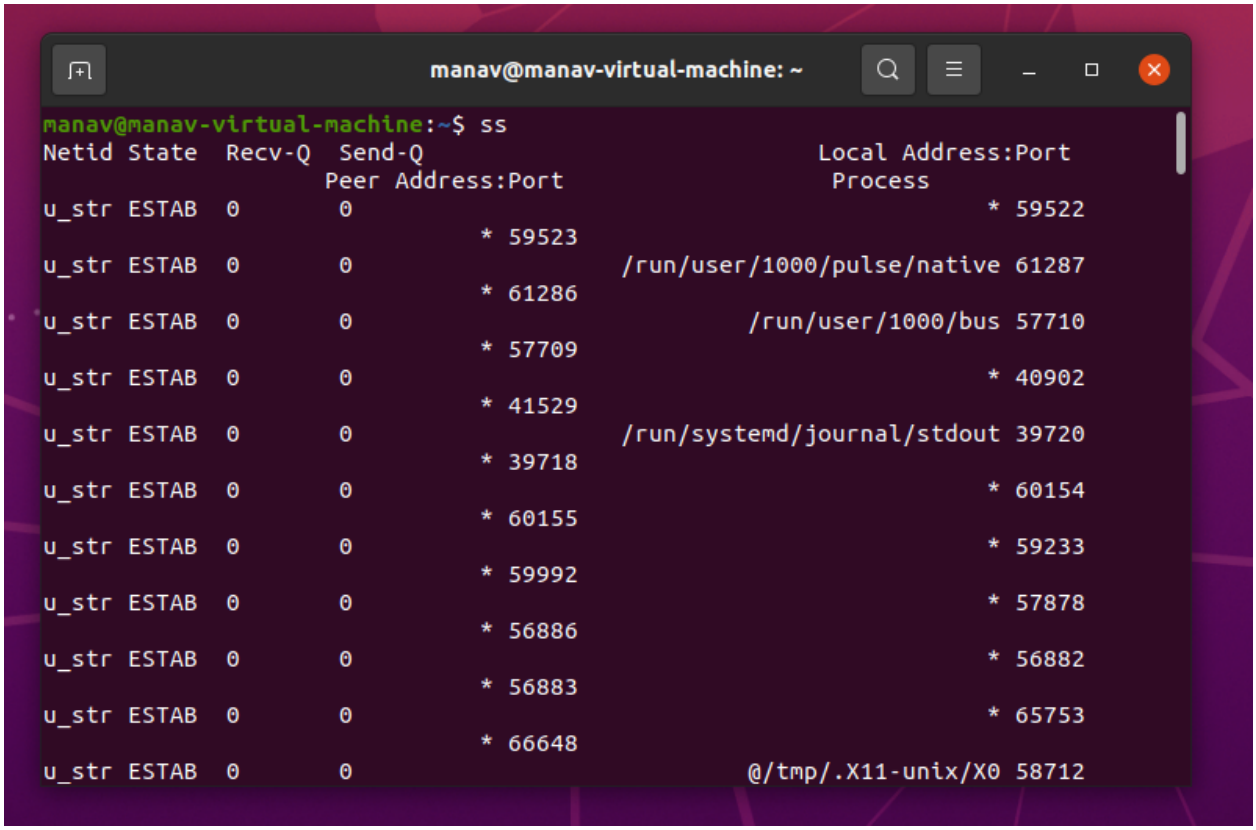
5. ping - PING (Packet Internet Groper) command is used to check the network connectivity between host and server/host. To stop pinging we should use ctrl+c otherwise it will keep on sending packets.



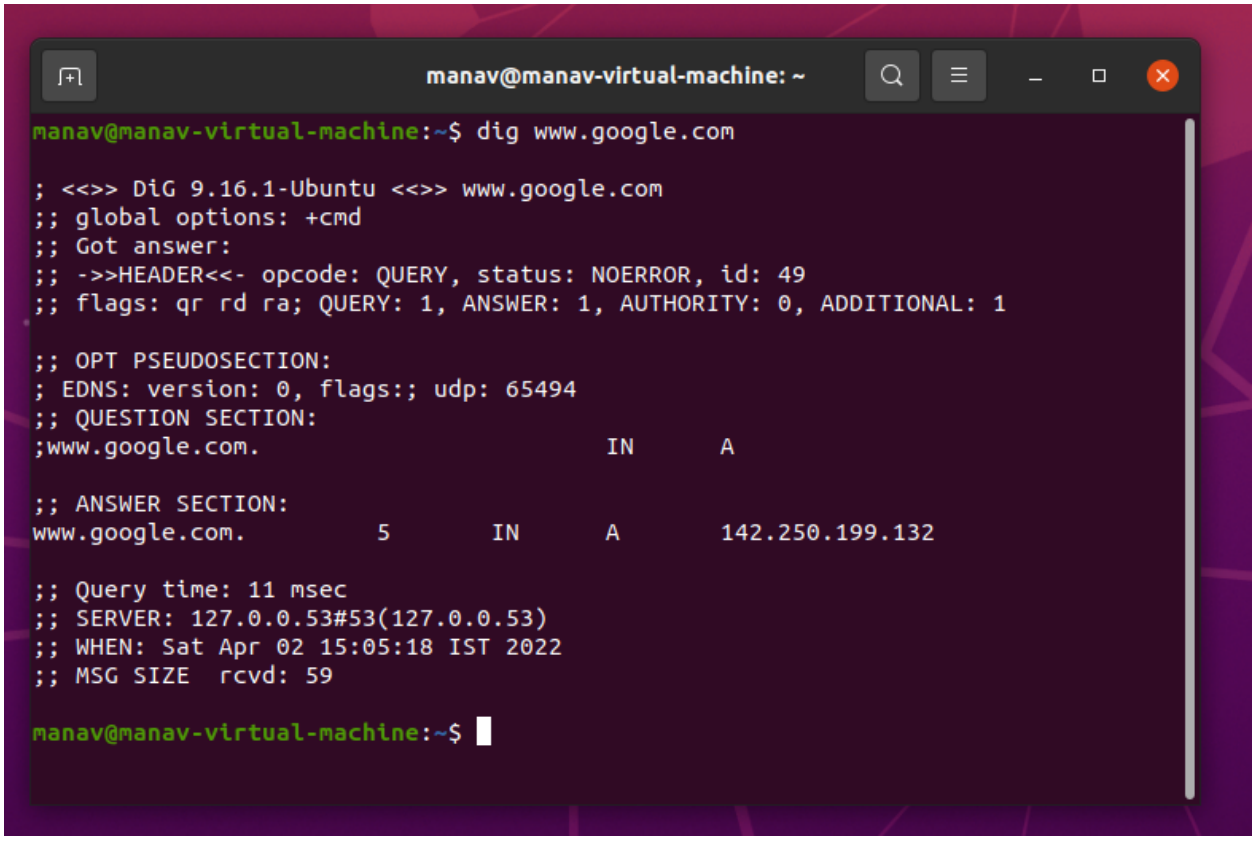
6. netstat - Netstat command displays various network related information such as network connections, routing tables, interface statistics, masquerade connections, multicast memberships etc.



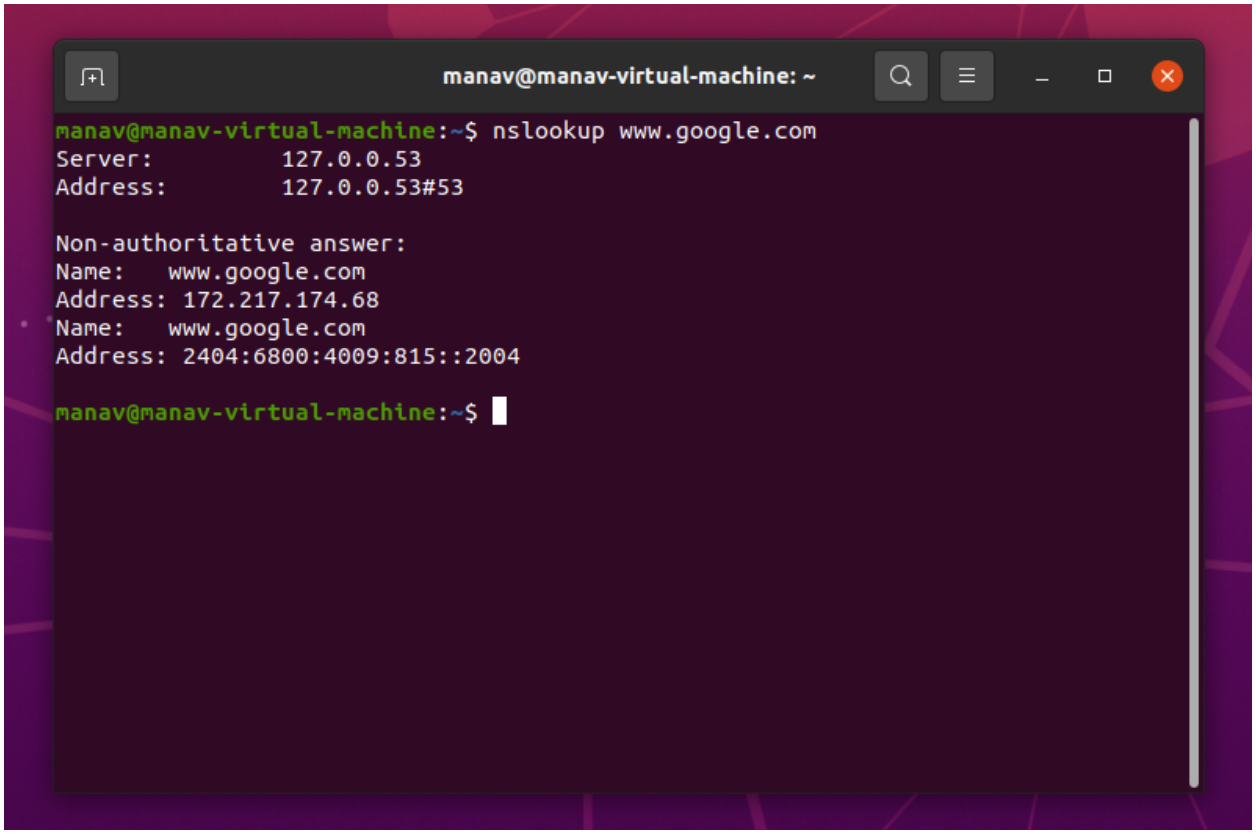
7. ss – ss stands for (Socket Statistics). With ss, you get very detailed information about how your Ubuntu machine is communicating with other machines, networks, and services; details about network connections, networking protocol statistics, and Ubuntu socket connections.



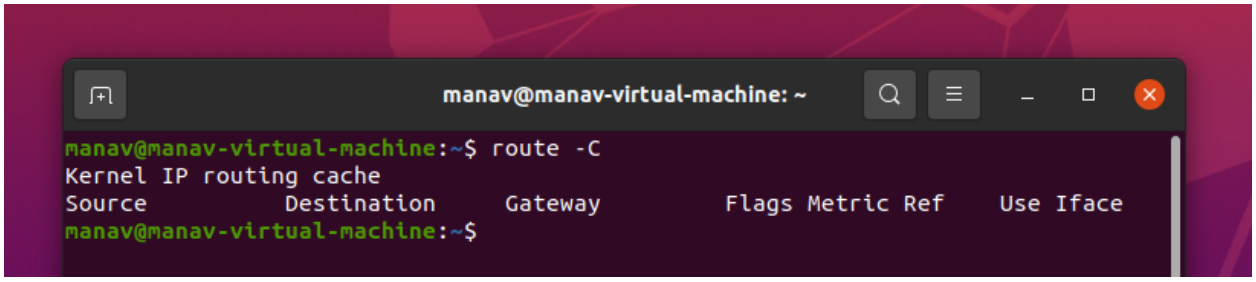
8. dig - The dig command in Ubuntu is used to gather DNS information. It stands for Domain Information Groper, and it collects data about Domain Name Servers. The dig command is helpful for troubleshooting DNS problems, but is also used to display DNS information.



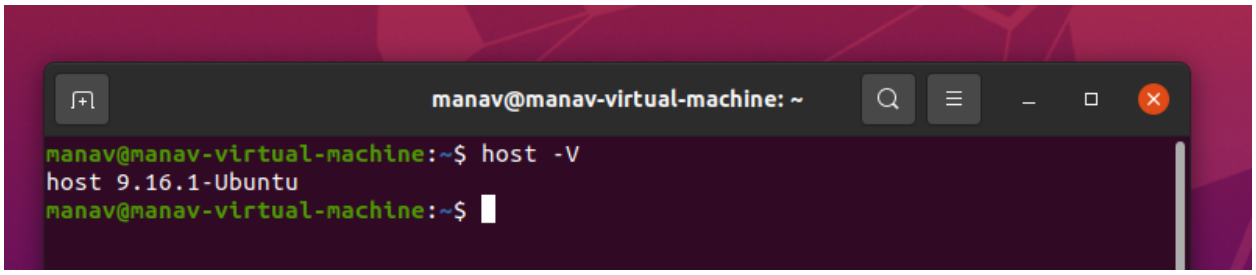
9. nslookup - nslookup (stands for “Name Server Lookup”) is a useful command for getting information from the DNS server. It is a network administration tool for querying the Domain Name System (DNS) to obtain domain name or IP address mapping or any other specific DNS record. It is also used to troubleshoot DNS-related problems.



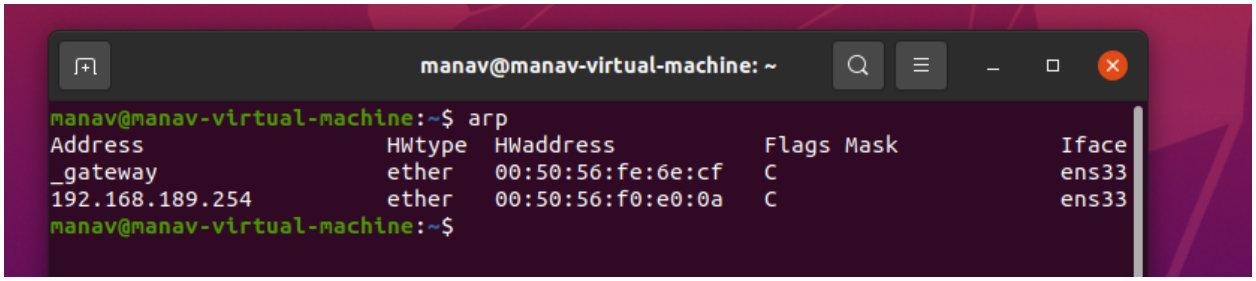
10. route - route command in Ubuntu is used when you want to work with the IP/kernel routing table. It is mainly used to set up static routes to specific hosts or networks via an interface. It is used for showing or updating the IP/kernel routing table.



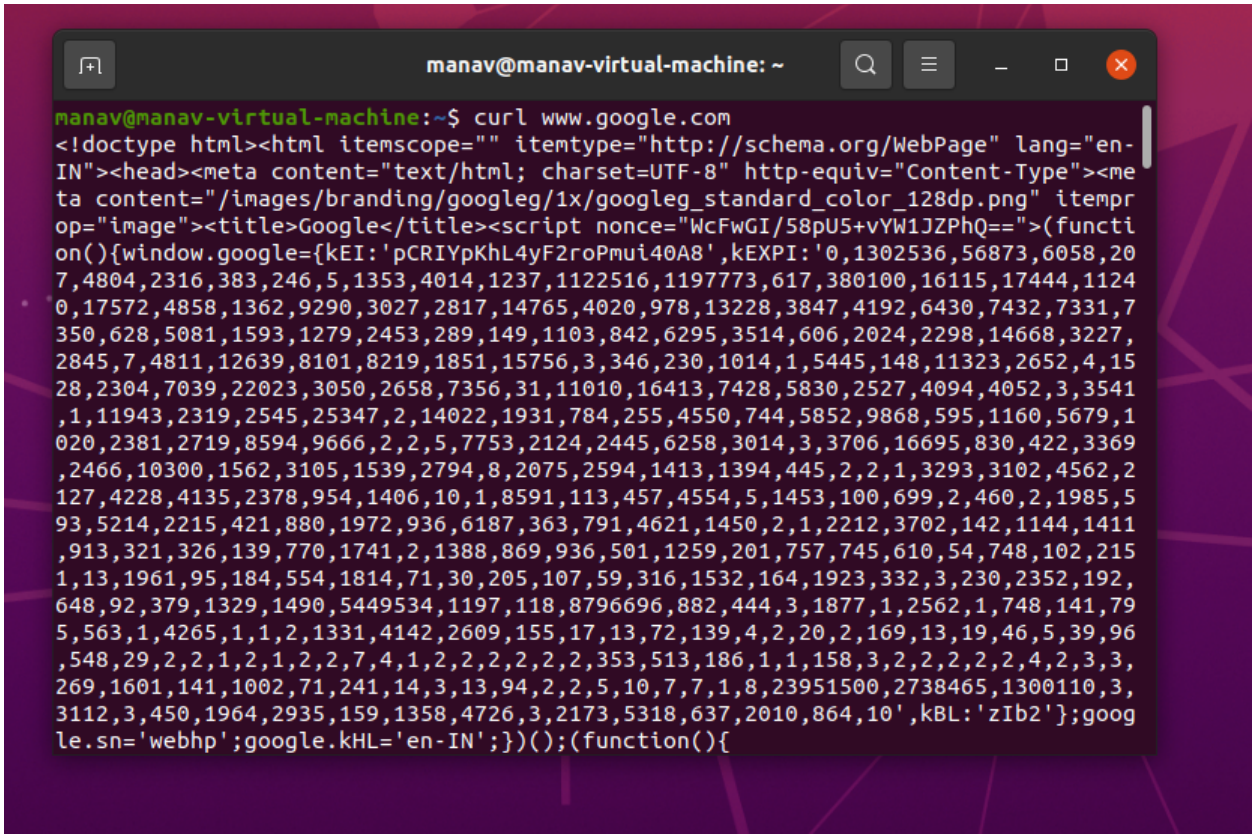
11. host - host command in Ubuntu systems is used for DNS (Domain Name System) lookup operations. In simple words, this command is used to find the IP address of a particular domain name or if you want to find out the domain name of a particular IP address the host command becomes handy.



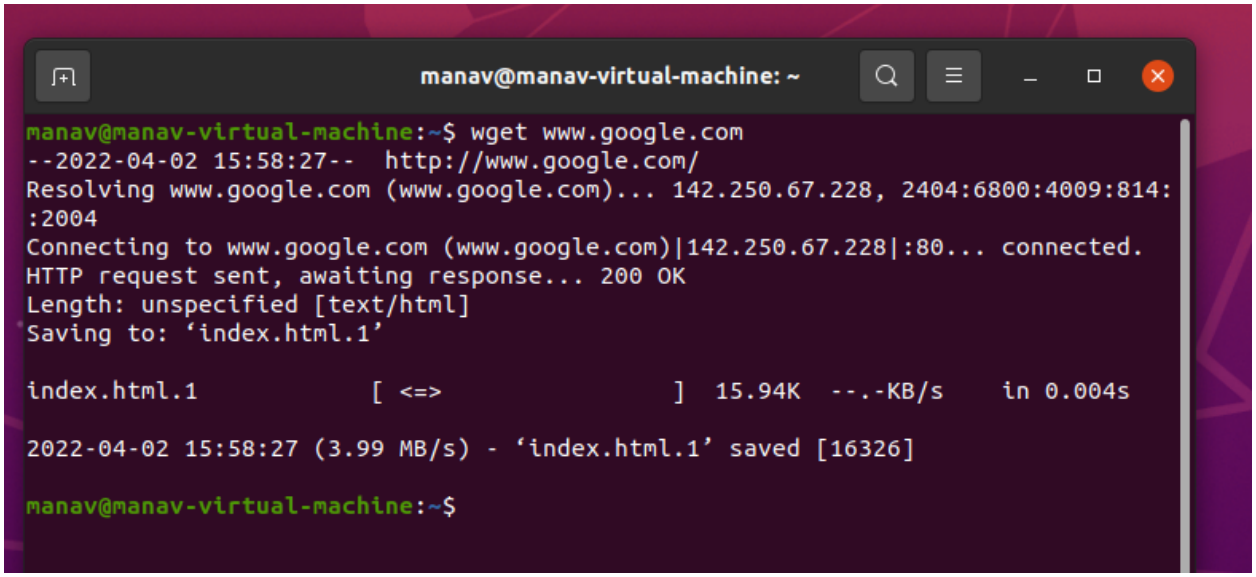
12. arp - ARP stands for “Address Resolution Protocol”. ARP is a program used by a computer system to find another computer’s MAC address based on its IP address.



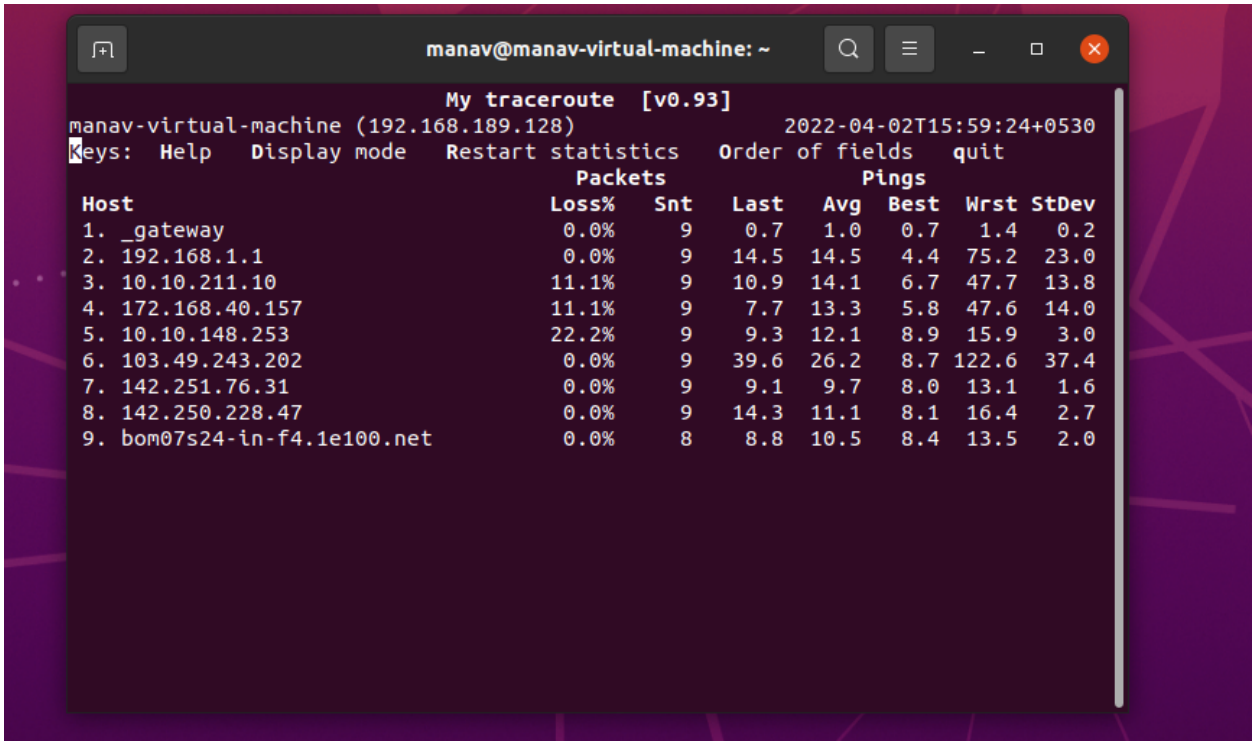
13. curl - curl (short for "Client URL") is a command line tool that enables data transfer over various network protocols. It communicates with a web or application server by specifying a relevant URL and the data that need to be sent or received.



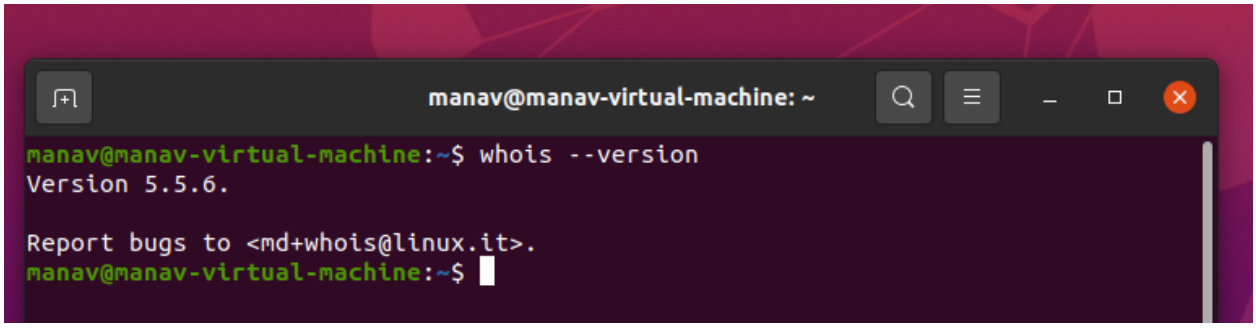
14. wget - Wget is a utility command in Ubuntu that is used to download files from the web. We can use it to download files from HTTP, HTTPS, or FTP servers.



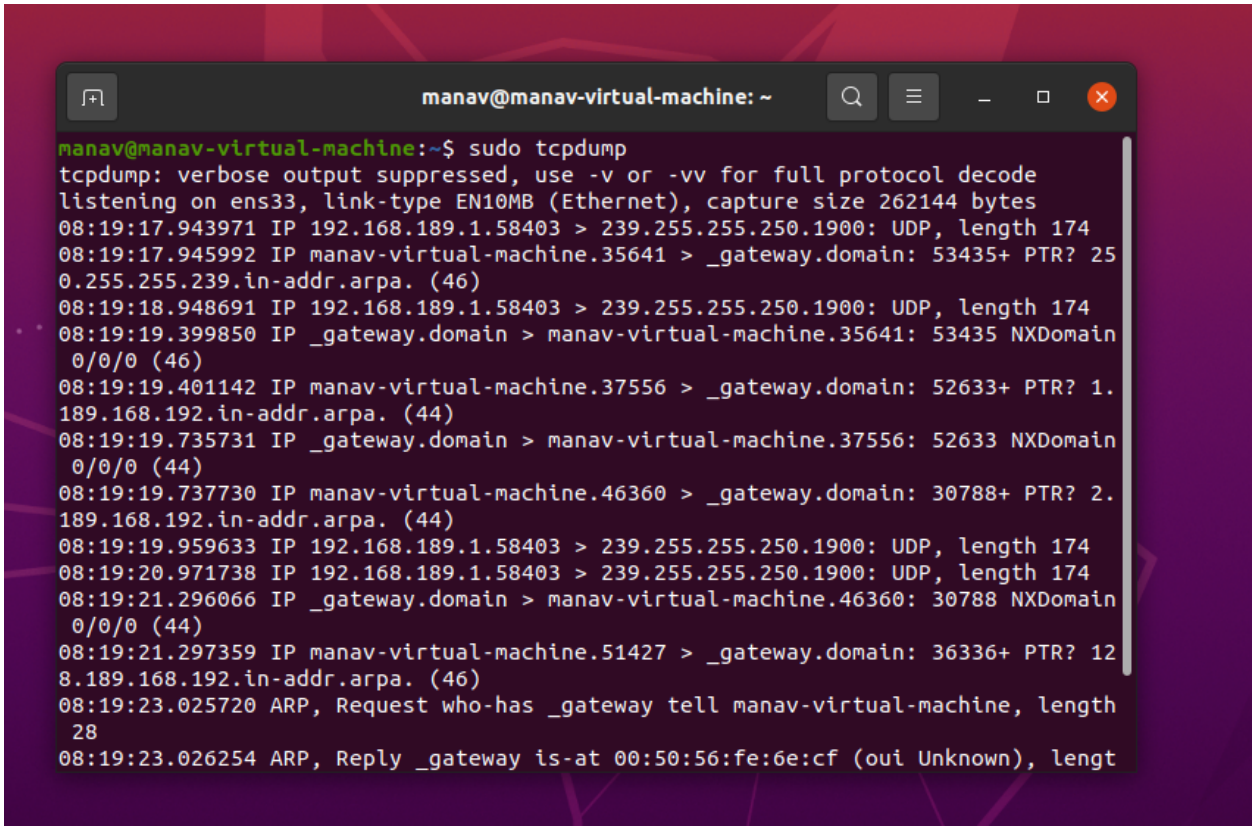
15. mtr - MTR is a simple, cross-platform command-line network diagnostic tool that combines the functionality of commonly used traceroute and ping programs into a single tool, that prints information about the entire route that the network packets take, right from the host system to the specified destination system.



16. whois - A whois search gives you a lot of information about who owns an internet domain.



17. tcpdump - The tcpdump command can be used to capture network traffic on a Ubuntu system. It's a versatile command line utility that network administrators often rely on for troubleshooting.



Conclusion:

We have executed the network commands of Ubuntu.