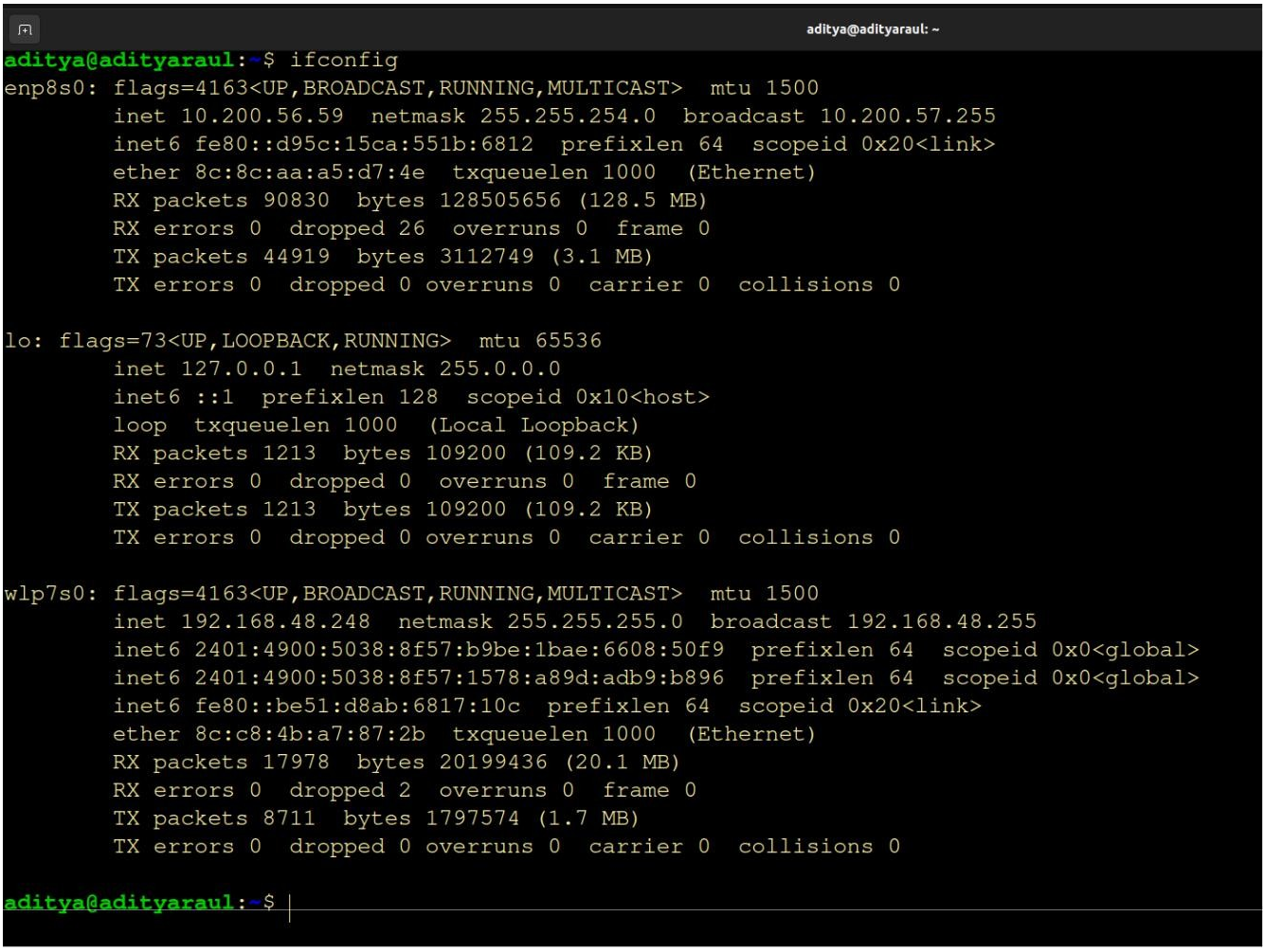
Name : Sanchit Nilkanth Rajmane
MIS : 112103113
Branch : Computer DIV 2
Batch : T2

Assignment 2
linux commands

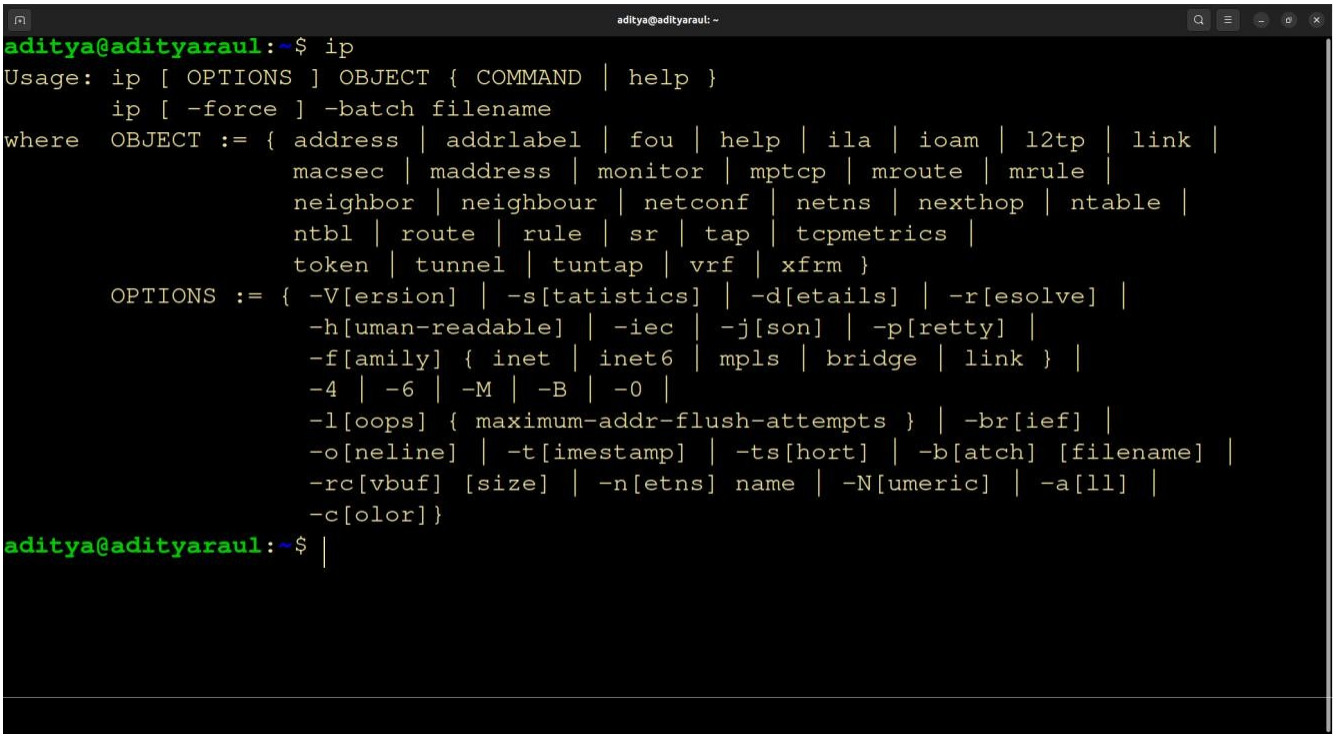
1. ifconfig



The command **ifconfig** stands for **interface configurator.** This command enables us to initialize an interface, assign IP address, enable or disable an interface. It display route and network interface. We can view I**P address, MAC address** and **MTU** (Maximum

Transmission Unit) with ifconfig command. The names of the active network interfaces. This system includes *wlo1* and *lo* (the loopback interface).

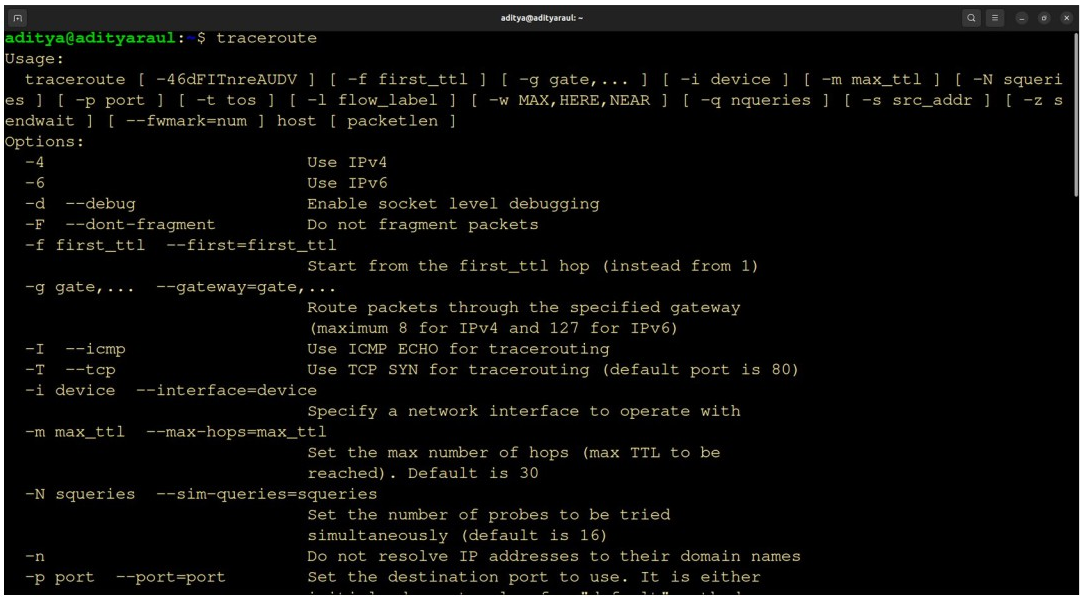
2. ip

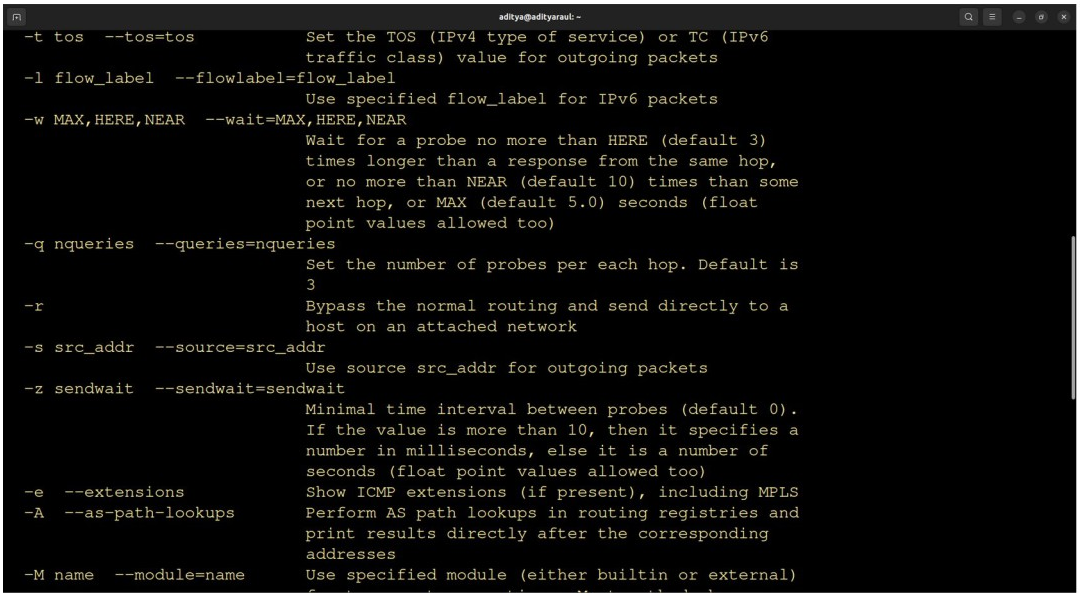


The `ip` **command** is a Linux net-tool for system and network administrators. IP stands for Internet Protocol and as the name suggests, the tool is used for configuring network interfaces. This command is **used to show or manipulate routing, devices, and tunnels .**

1. **link** (**l**) – used to display and modify network interfaces.
2. **address** (**addr/a**) – used to display and modify protocol addresses (IP, IPv6).
3. **route** (**r**) – used to display and alter the routing table.

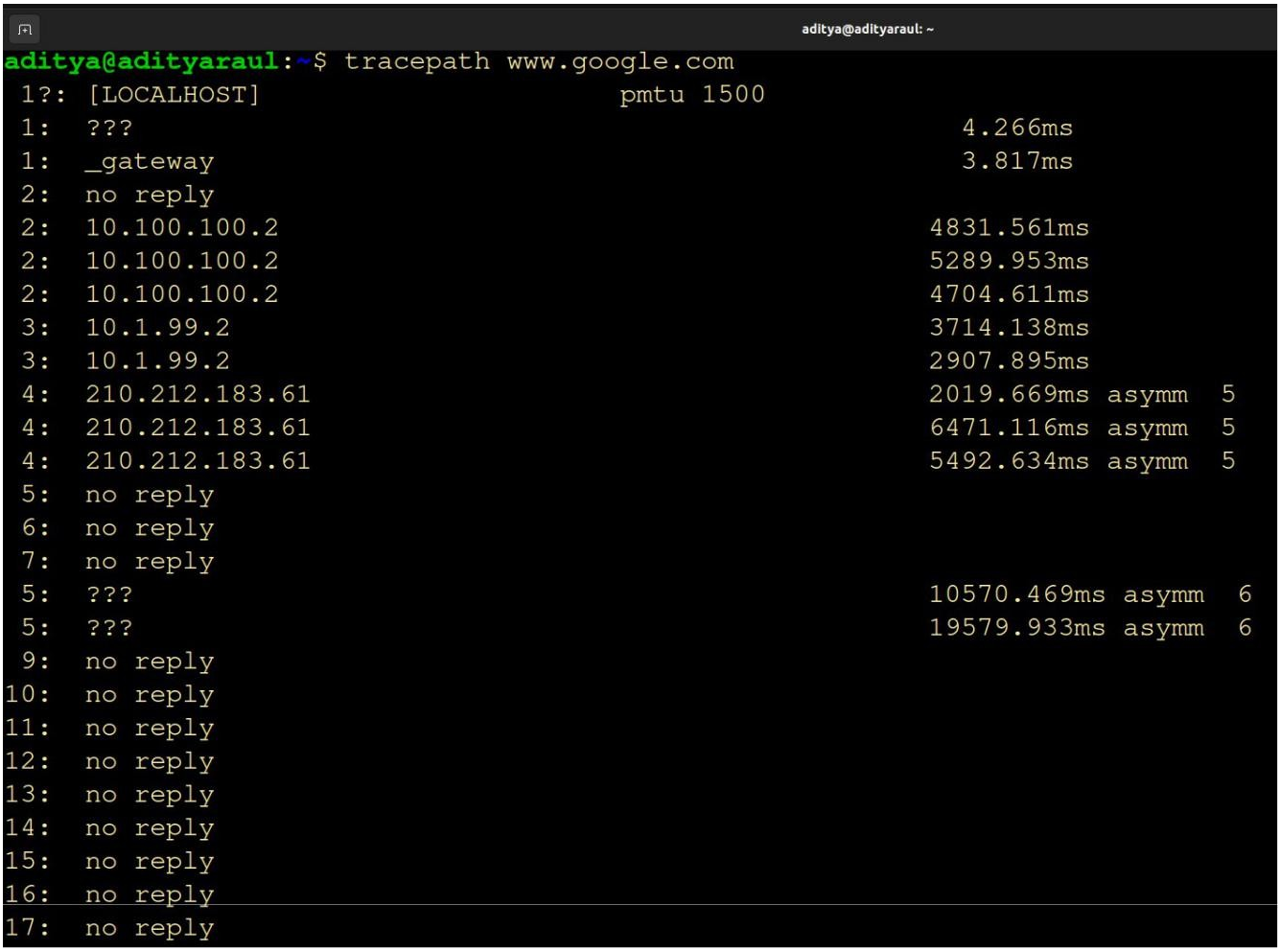
3. traceroute





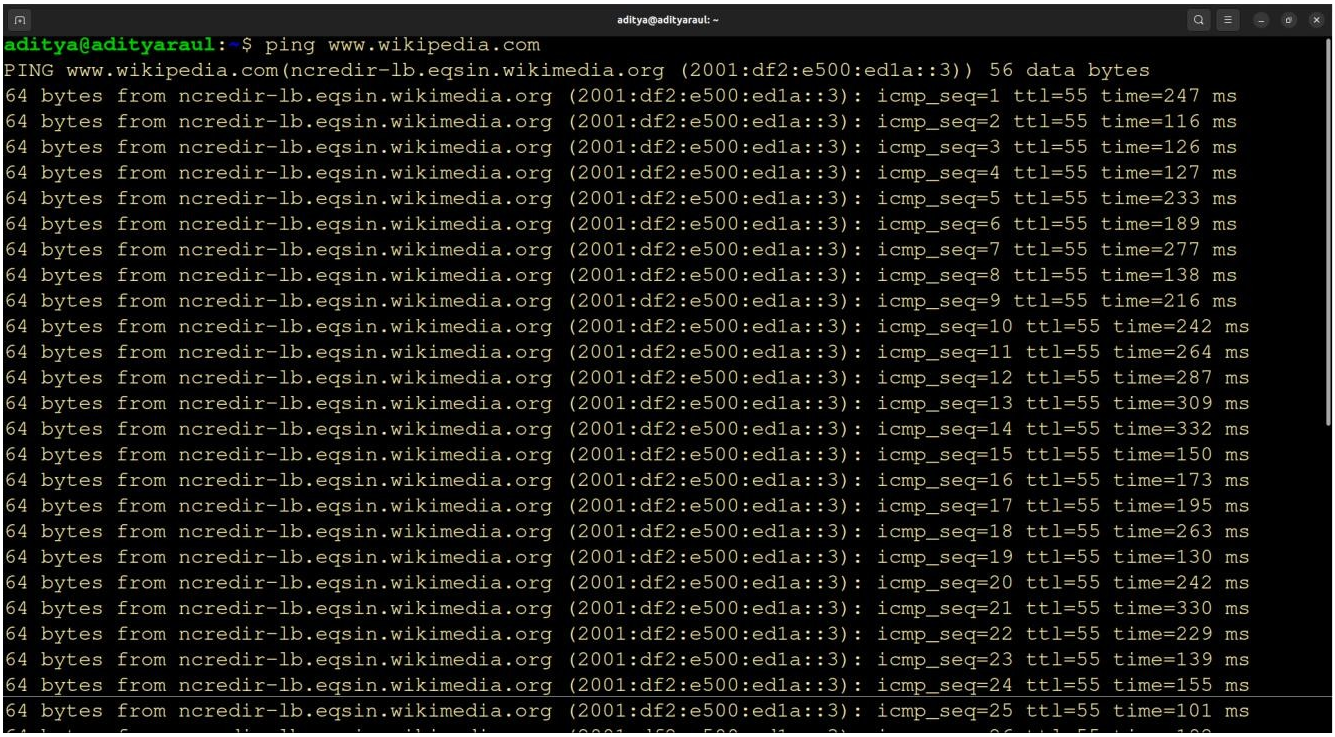
The **traceroute** command in Linux prints the route that a packet takes to reach the host. This command is useful when you want to know about the route and about all the hops that a packet takes. The above image shows how the traceroute command is used to reach the Google(172.217.26.206) host from the local machine and it also prints detail about all the hops that it visits in between.

4. tracepath



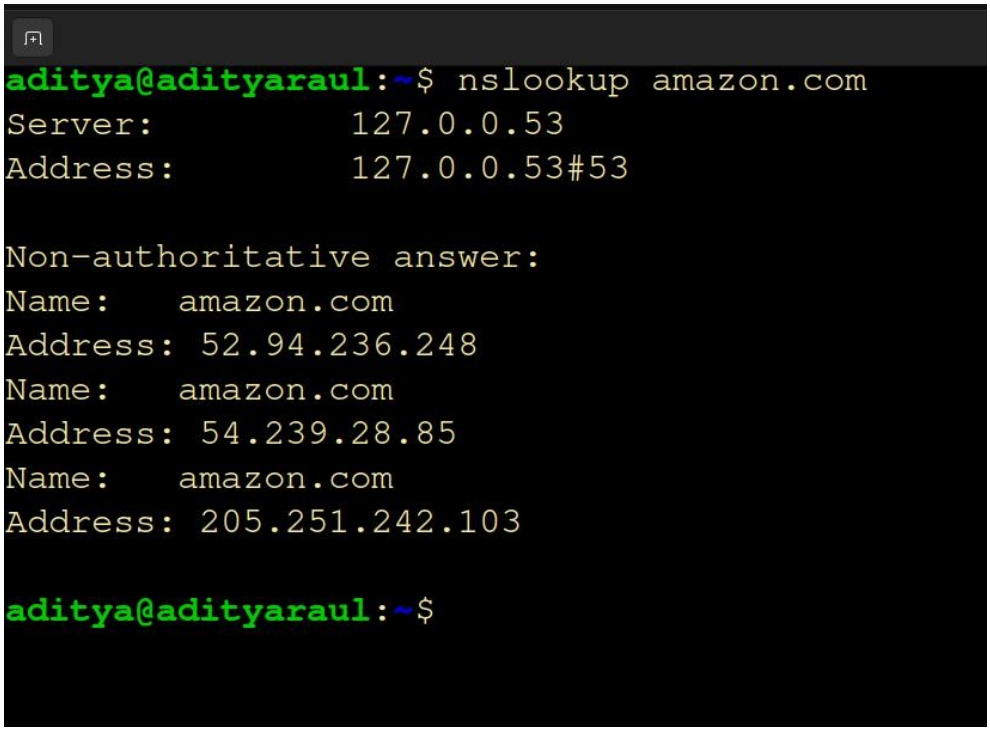
The **tracepath** command in Linux is used to traces path to destination discovering MTU along this path. It uses UDP port or some random port. It is similar to **traceroute**, but it does not require superuser privileges and has no fancy options. The situation with IPv4 is worse because commercial IP routers do not return enough information in ICMP error messages. Probably, it will change, when they will be updated.

5.**ping**



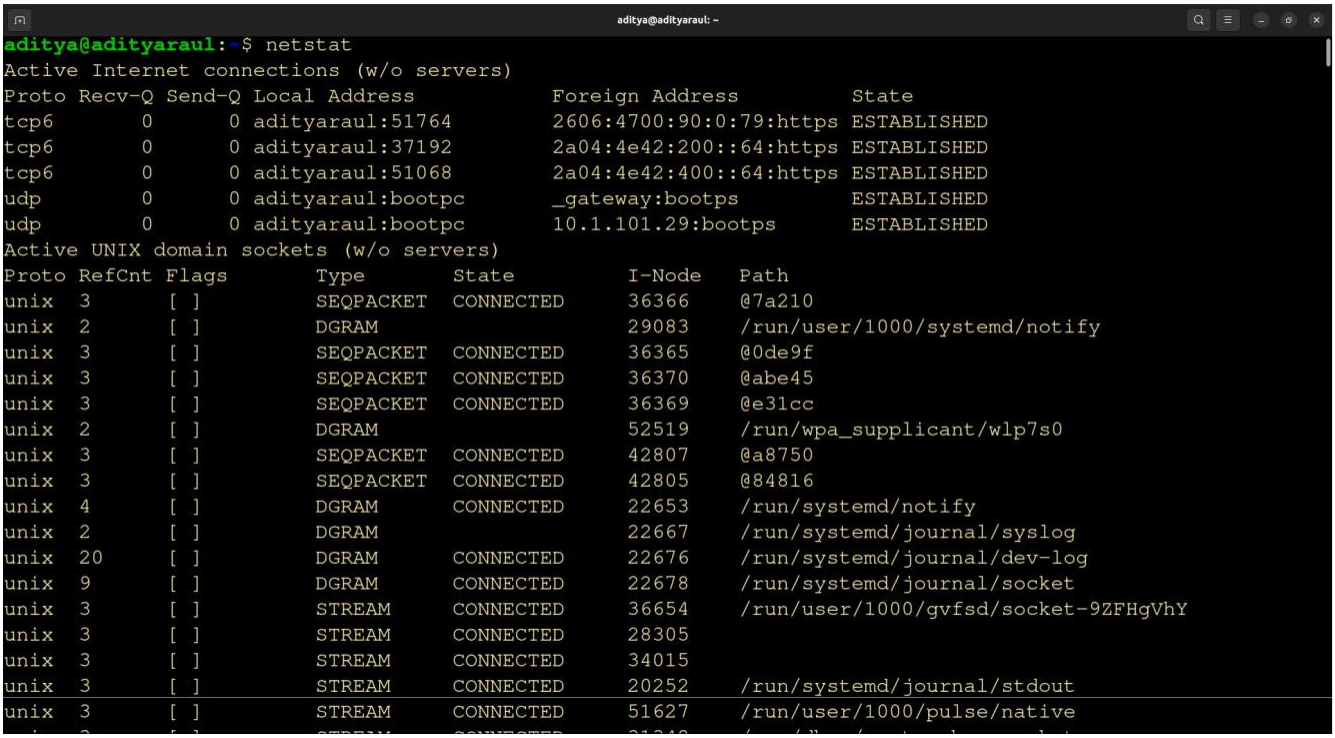
Ping is short for **Packet Internet Groper**. This command is mainly used for checking the network connectivity among host/server and host. The ping command takes the URL or IP address as input and transfers the data packet to a specified address along with a "PING" message. Then, it will get a reply from the host/server. This time is known as "latency**".**
The **ping** command is a general utility which is used for checking whether any network is present and if a host is attainable. We can test if the server is up and executing using this command.

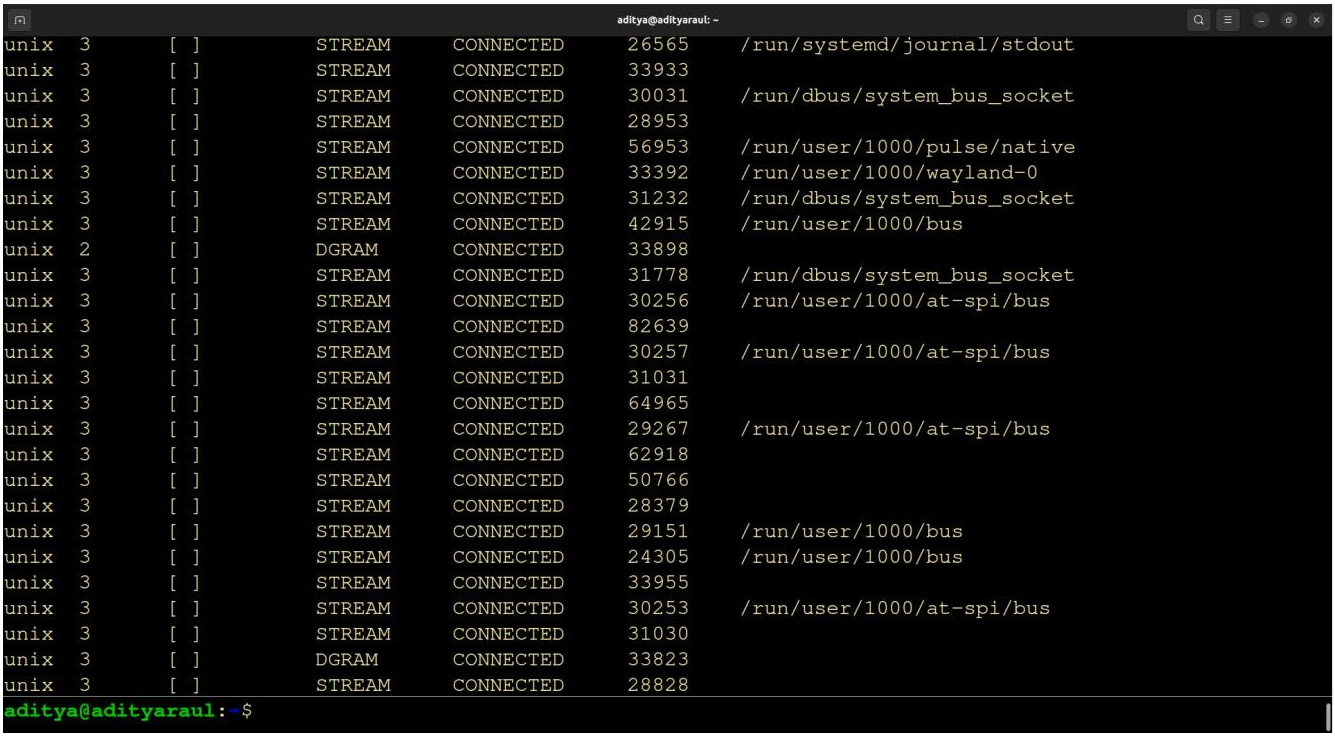
6. nslookup



nslookup, which stands for "name server lookup", finds information about a named domain.By default, **nslookup** translates a domain name to an IP address (or vice versa).The nslookup command is a tool used to query Domain Name System (DNS) servers and retrieve information about a specific domain or IP address.

7. netstat


aditya@adityaraul: ~
aditya@adityaraul:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
tcp6 0 0 adityaraul:51764 2606:4700:90:0:79:https ESTABLISHED
tcp6 0 0 adityaraul:37192 2a04:4e42:200::64:https ESTABLISHED
tcp6 0 0 adityaraul:51068 2a04:4e42:400::64:https ESTABLISHED
udp 0 0 adityaraul:bootpc _gateway:bootps ESTABLISHED
udp 0 0 adityaraul:bootpc 10.1.101.29:bootps ESTABLISHED
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags Type State I-Node Path
unix 3 [ ] SEQPACKET CONNECTED 36366 @7a210
unix 2 [ ] DGRAM 29083 /run/user/1000/systemd/notify
unix 3 [ ] SEQPACKET CONNECTED 36365 @0de9f
unix 3 [ ] SEQPACKET CONNECTED 36370 @abe45
unix 3 [ ] SEQPACKET CONNECTED 36369 @e31cc
unix 2 [ ] DGRAM 52519 /run/wpa_supplicant/wlp7s0
unix 3 [ ] SEQPACKET CONNECTED 42807 @a8750
unix 3 [ ] SEQPACKET CONNECTED 42805 @84816
unix 4 [ ] DGRAM CONNECTED 22653 /run/systemd/notify
unix 2 [ ] DGRAM 22667 /run/systemd/journal/syslog
unix 20 [ ] DGRAM CONNECTED 22676 /run/systemd/journal/dev-log
unix 9 [ ] DGRAM CONNECTED 22678 /run/systemd/journal/socket
unix 3 [ ] STREAM CONNECTED 36654 /run/user/1000/gvfsd/socket-9ZFHgVhY
unix 3 [ ] STREAM CONNECTED 28305
unix 3 [ ] STREAM CONNECTED 34015
unix 3 [ ] STREAM CONNECTED 20252 /run/systemd/journal/stdout
unix 3 [ ] STREAM CONNECTED 51627 /run/user/1000/pulse/native

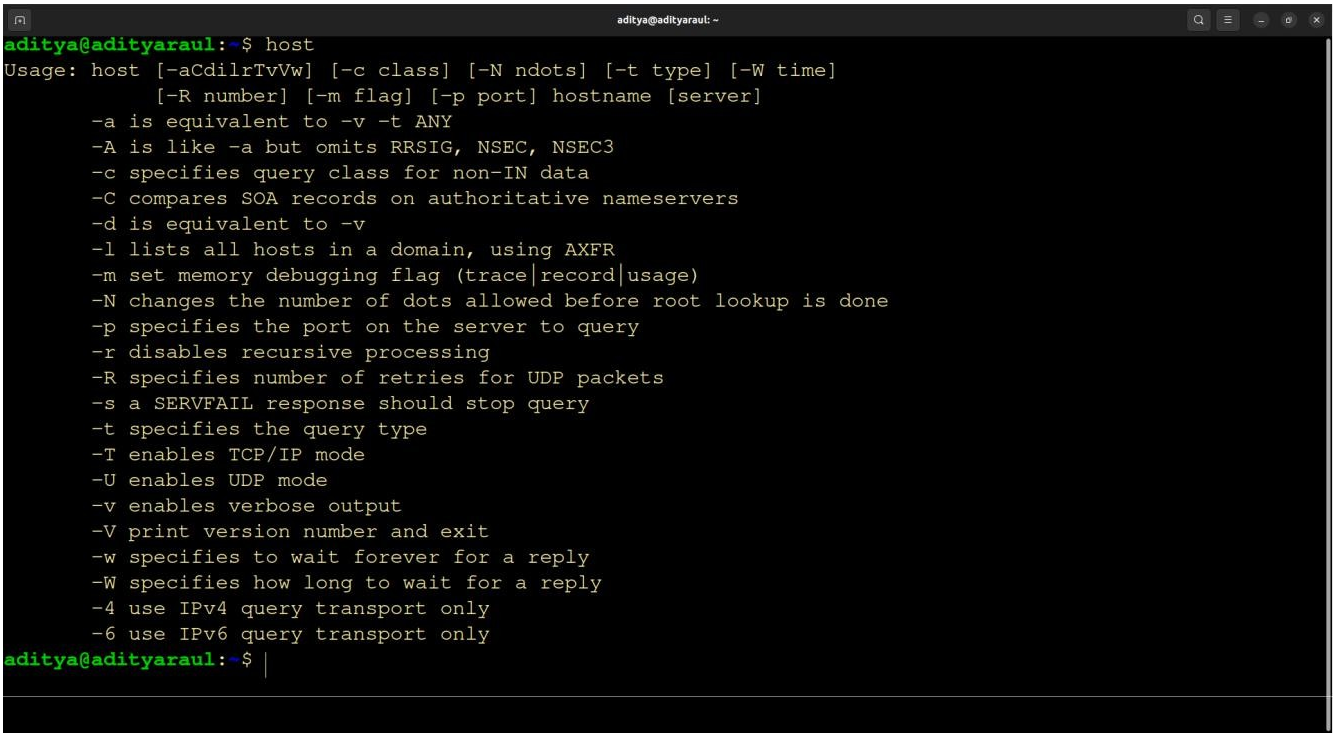


netstat command without any argument displays information about the Linux networking subsystem. By default, netstat displays a list of open sockets. Netstat is a command line utility to display all the network connections on a system. It displays all the tcp, udp and unix socket connections. Apart from connected sockets it also displays listening sockets that are waiting for incoming connections.

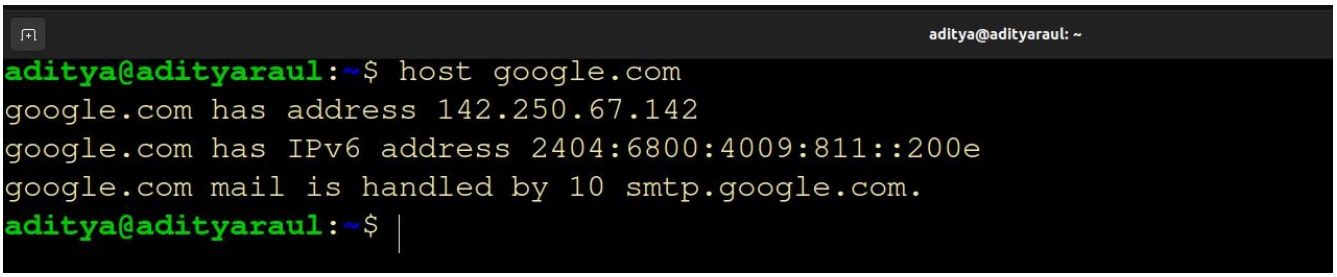
8.dig

dig command stands for **Domain Information Groper**. It is used for retrieving information about DNS name servers. It is basically used by network administrators. It is used for verifying & troubleshooting DNS problems and to perform DNS lookups and returns the queried answers from the name server.

9. host

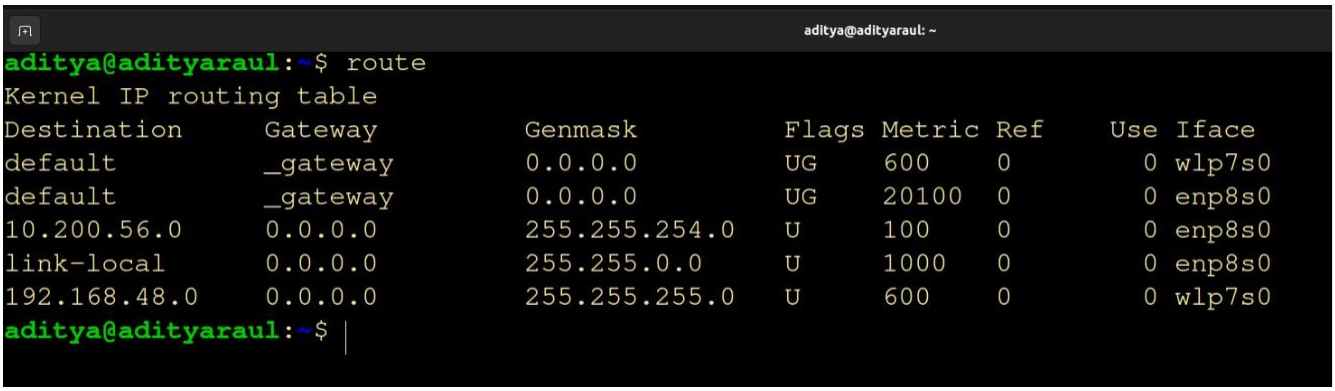


To display the Domain's IP address, execute the host command followed by the domain name, as follows:



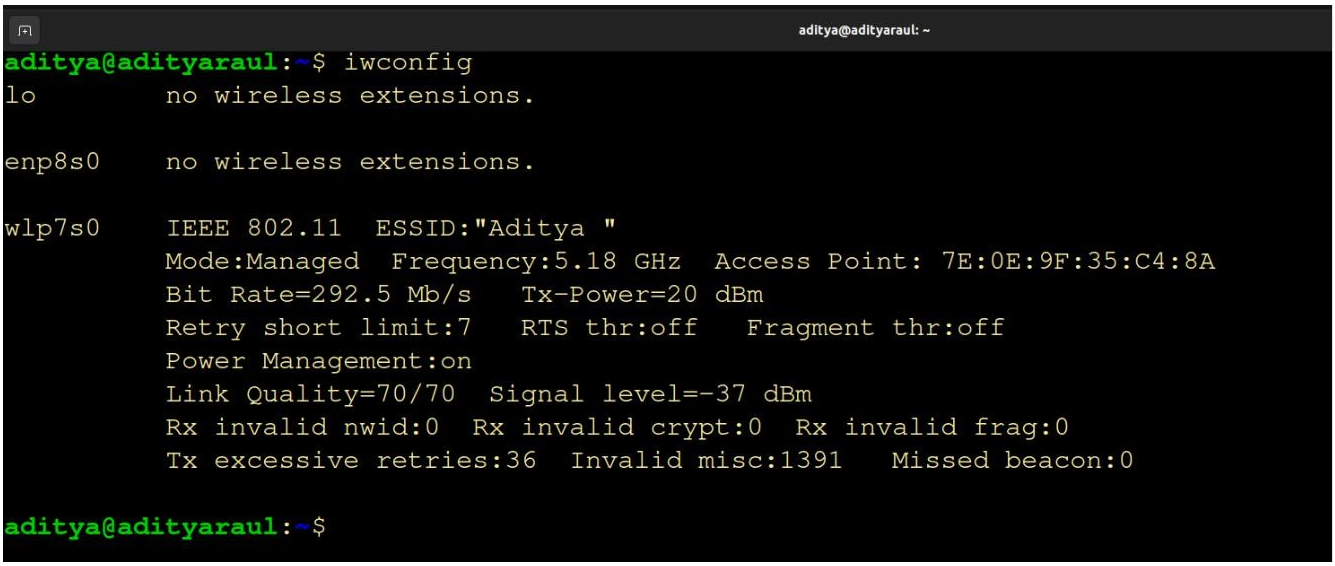
Linux **host** command displays domain name for given IP address or vice-versa. It also performs DNS lookups related to the DNS query. The host command's default behavior displays a summary of its command-line arguments and supported options.

10. route



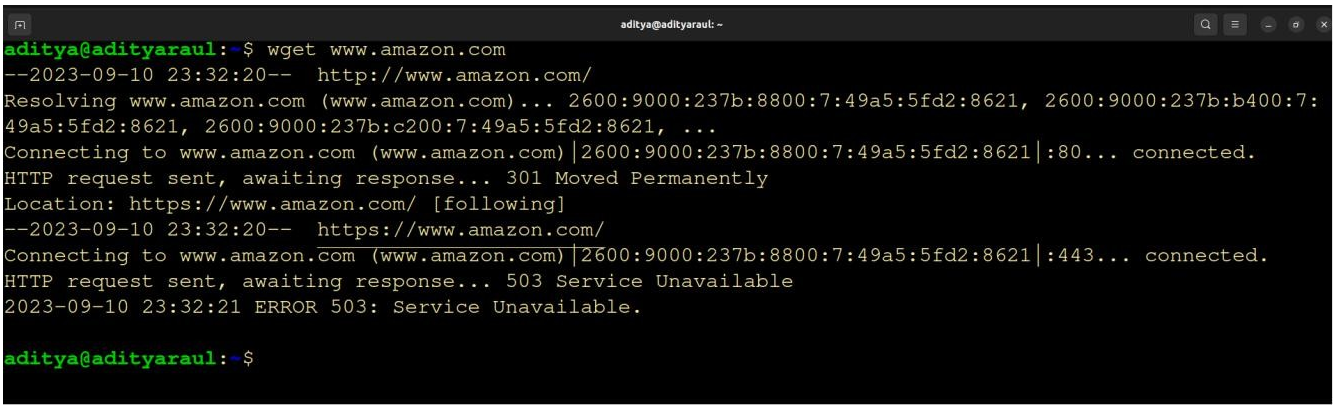
The **route** command displays and manipulate IP routing table for your system. A router is a device which is basically used to determine the best way to route packets to a destination. It displays all existing routing table entries on our system. It shows that if the destination is within the network range of 10.100.96.0 to 255.255.240.255, then the gateway is *, which is 0.0.0.0. This is a special address which represents an invalid or non-existent destination.

11. iwconfig



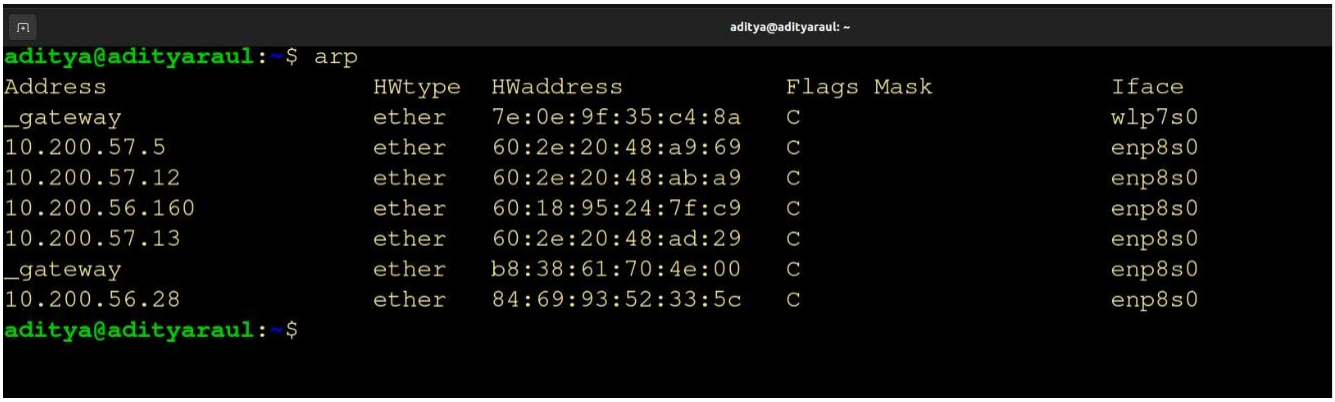
The command **iwconfig** configures a wireless network interface. You can view and set basic wi-fi details like SSID and encryption.

12. wget



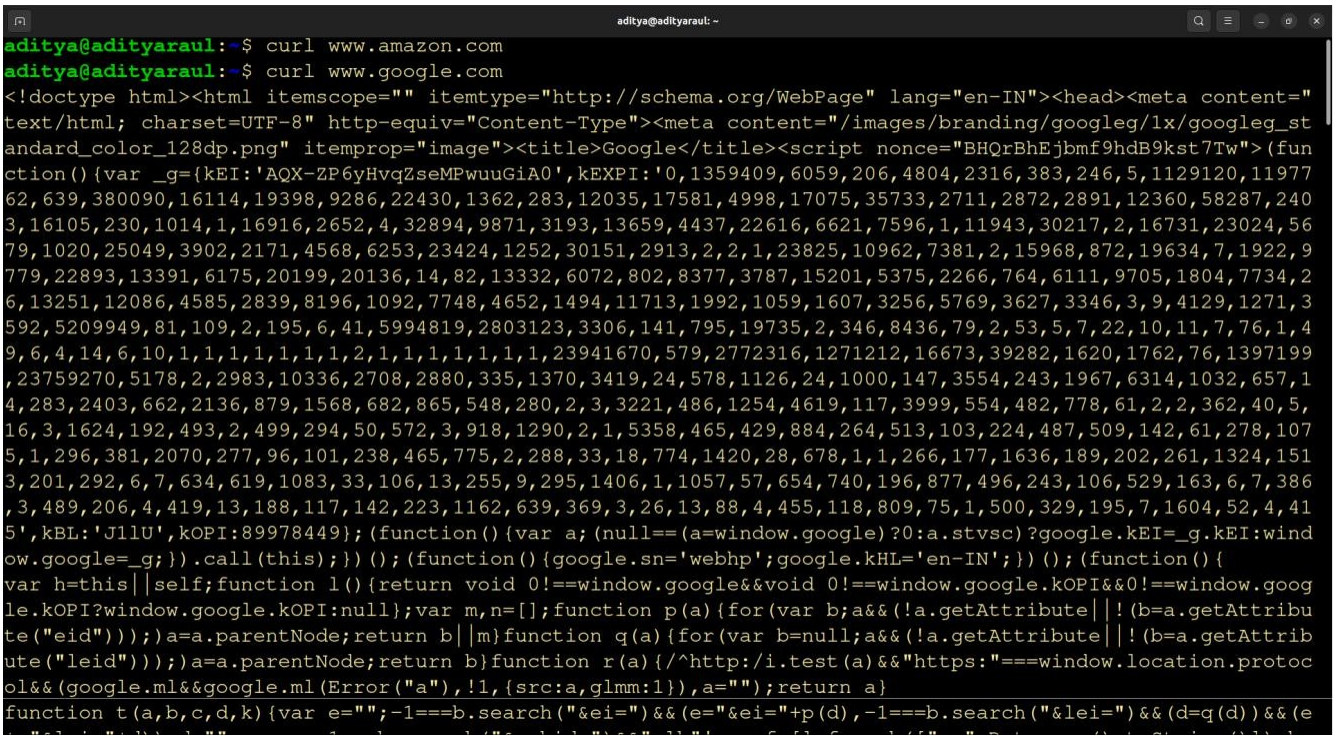
Command **wget** stands for **web get**. The above output clearly shows that the wget command connects to the www.google.com server. Wget is the non-interactive network downloader which is used to download files from the server even when the user has not logged on to the system and it can work in the background without hindering the current process.

13. arp



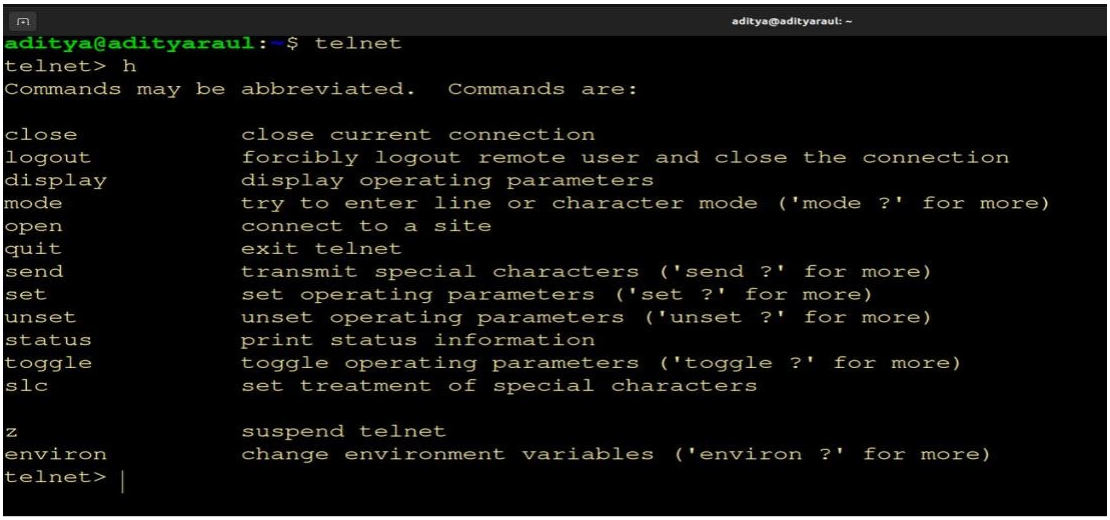
The **arp** command displays and modifies the Internet-to-adapter address translation tables used by the Address in Networks and communication management. The **arp** command displays the current ARP entry for the host specified by the HostName variable.

14. curl



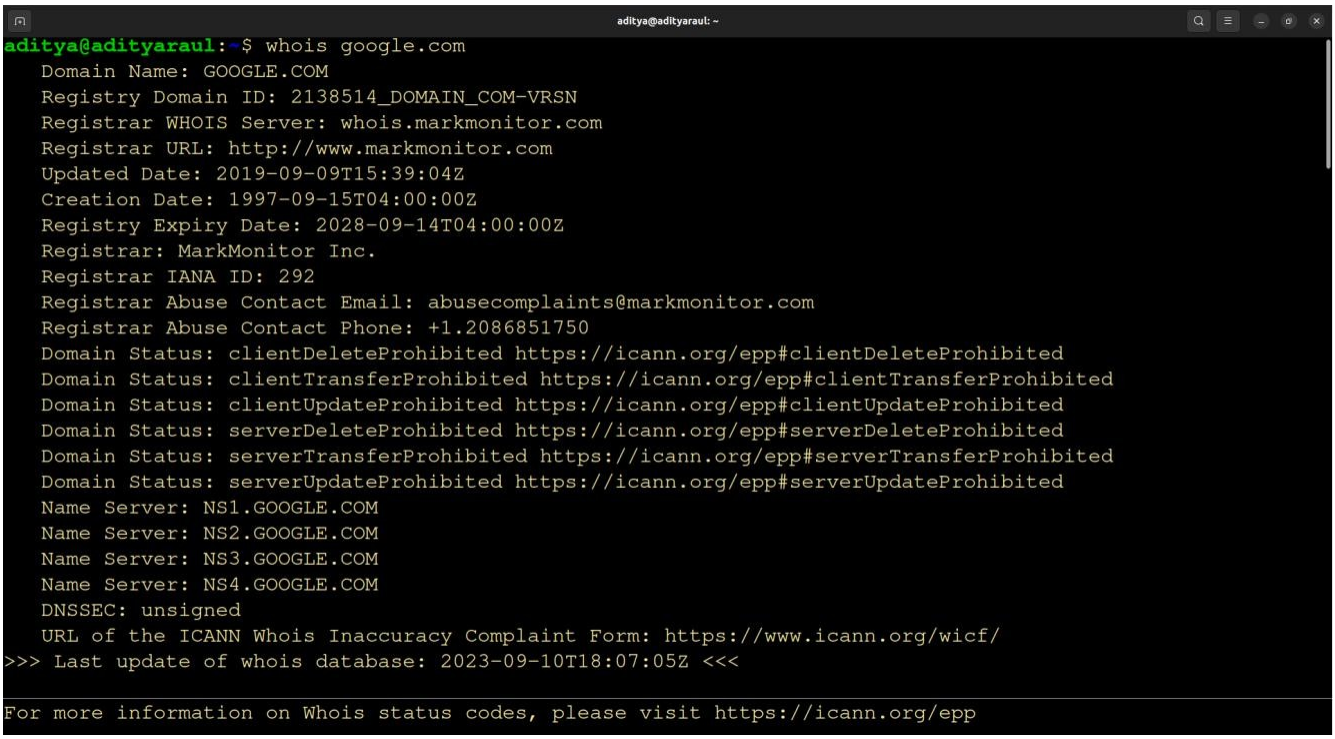
Linux **curl** command is used to download or upload data to a server via supported protocols such as HTTP, FTP, IMAP, SFTP, TFTP, IMAP, POP3, SCP, etc. It is a remote utility, so it works without user interaction. To fetch the content of any specific URL, execute the curl command, followed by url.

15. telnet



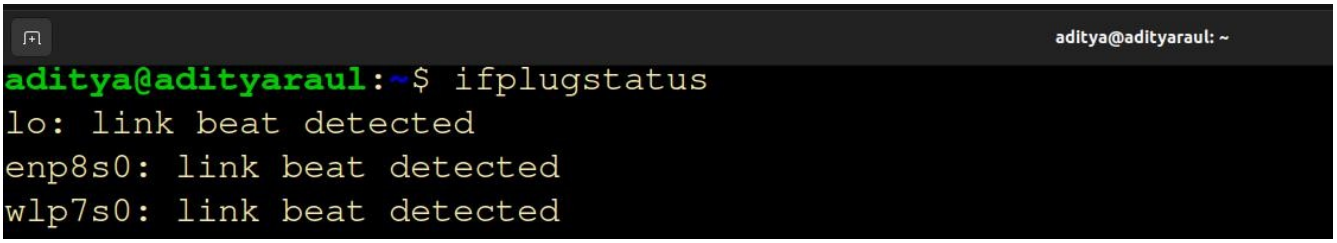
The **telnet** command in Linux stands for a '*terminal over network*'. It helps you connect to a telnet server. Using the telnet command, you can set up a client-server connection with a remote server using the TCP protocol through a remote port.

16.whois



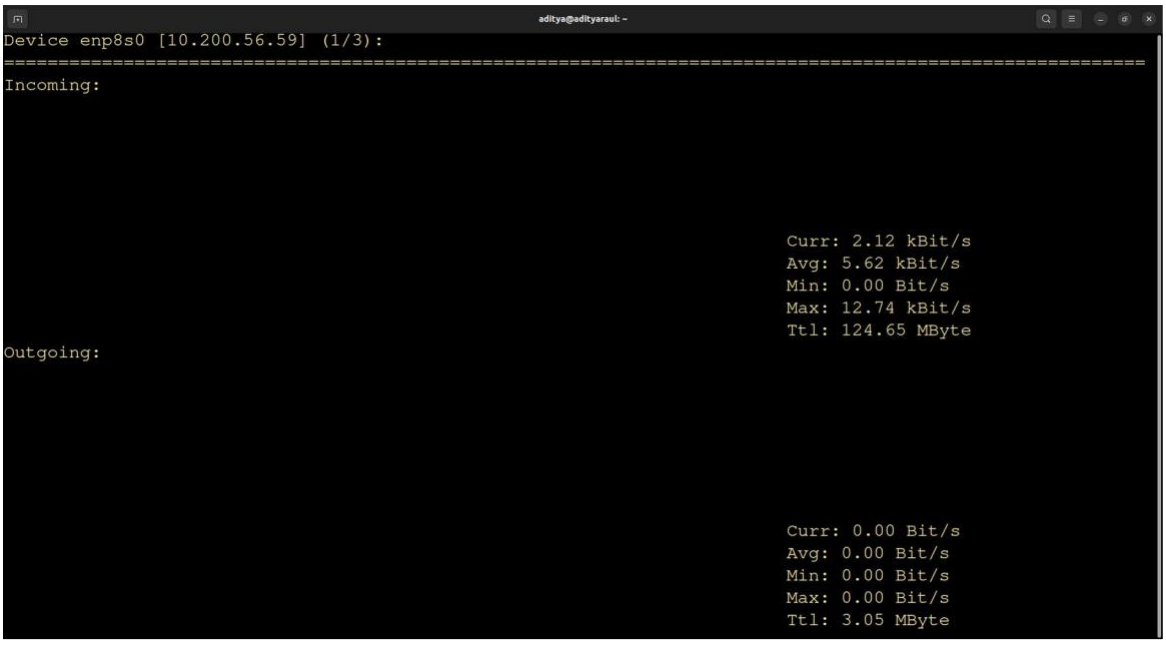
whois command searches a user name directory and displays information about the user ID or nickname specified in the Name parameter. The whois command tries to reach ARPANET host internic.net where it examines a user-name database to obtain information.

17. ifpulgst



ifpulgst command tells us whether a cable is plugged into our network interface or not. It is commonly used to identify the connectivity status of a network cable and determine if a network link is active or inactive.

18. nload



nload is a command-line tool used for monitoring network traffic and bandwidth usage in real-time. It will display the incoming and outgoing traffic using two graphs. This console-based application also displays info like the total amount of transferred data and min/max network.

19. mail

```
aditya@adityaraul:~$ mail -s "Hello CN Assignment" rauladitya22@gmail.com <<< 'How Are you'
aditya@adityaraul:~$ mail
"/var/mail/aditya": 1 message 1 new
>N   1 Mail Delivery Syst Sun Sep 10 23:48  75/242
?
```

Mail is the quickest way of communicating messages. There are different email client servers that allow users to send emails, besides this, Linux by default provides the feature of sending an email using the **“mail”** command through its terminal. We can write the subject, message along with the email address of the recipient and send it by just executing a single command.