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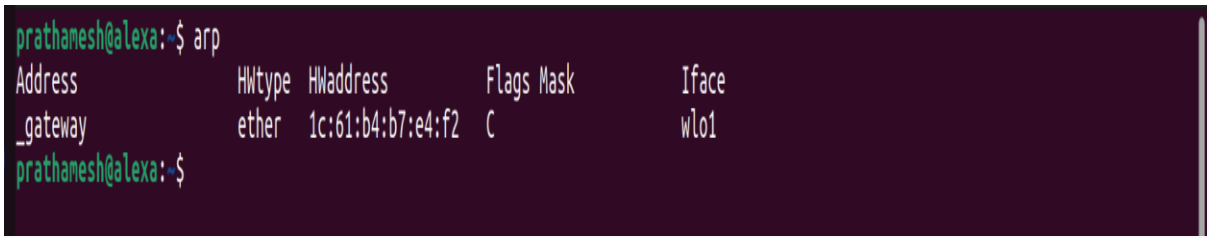
Batch: COMP - DIV2 – T4

MIS: 142203001

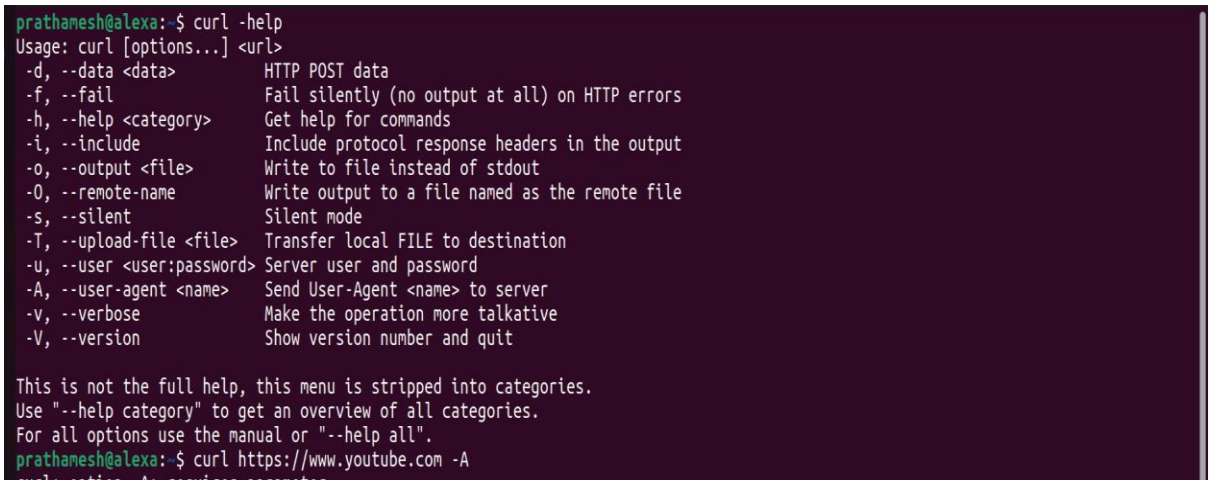
CN LAB Assignment – 2

Task: Type the following commands on the terminal and take a snapshot of the output, paste it into a word file and write a short description of the command.

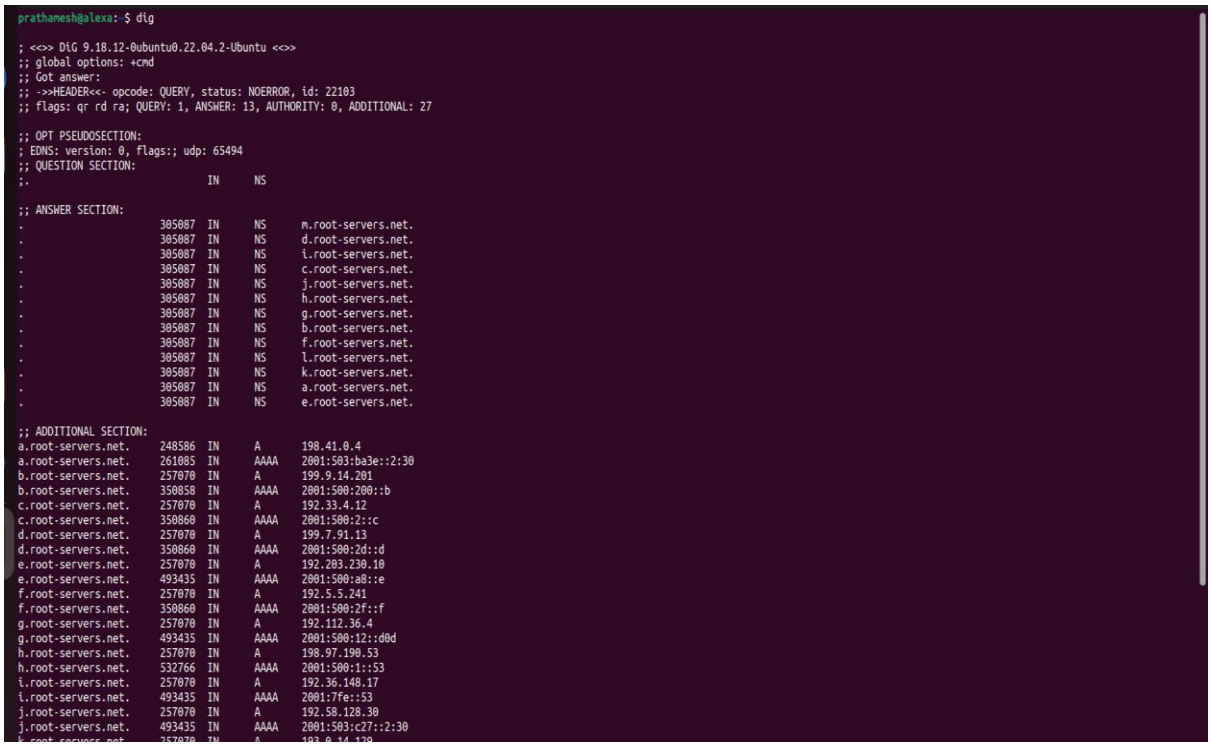
- **arp**: **arp** (Address Resolution Protocol) is a command used to display and manipulate the ARP cache, which maps IP addresses to physical MAC addresses on a local network. It helps in troubleshooting network connectivity and resolving IP-to-MAC address mappings.



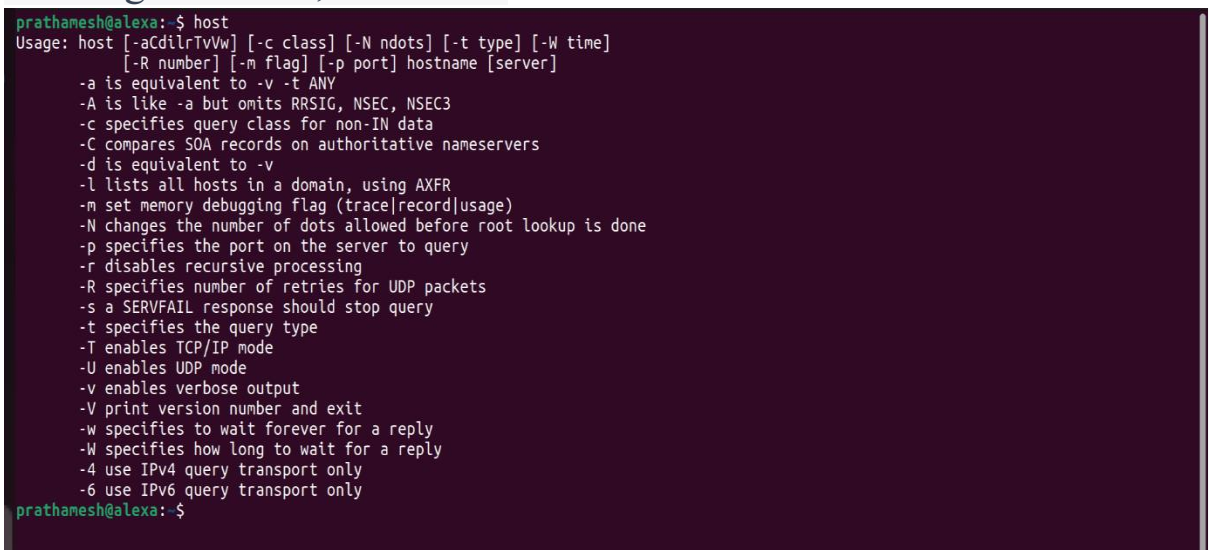
- **curl**: **curl** is a command-line tool for transferring data with URLs. It supports a wide range of network protocols and is often used for downloading files, making HTTP requests, and interacting with various web services and APIs.



- **dig**: Similar to **nslookup**, **dig** (domain information groper) is used to perform DNS queries and retrieve detailed information about DNS records, name servers, and domain configurations. It's a powerful tool for network administrators and developers.



- **host**: The **host** command is used for DNS lookups and resolving IP addresses from domain names. It can also display various DNS-related information, such as name server records, mail exchanger records, and more.



- **ifconfig**: The **ifconfig** command, short for "interface configuration," is a tool used in Unix-based operating systems to display and configure network interfaces on a system. It provides detailed information about network interfaces, including their IP addresses, MAC addresses, and other related network configuration settings. It is commonly used for troubleshooting and managing network connections.
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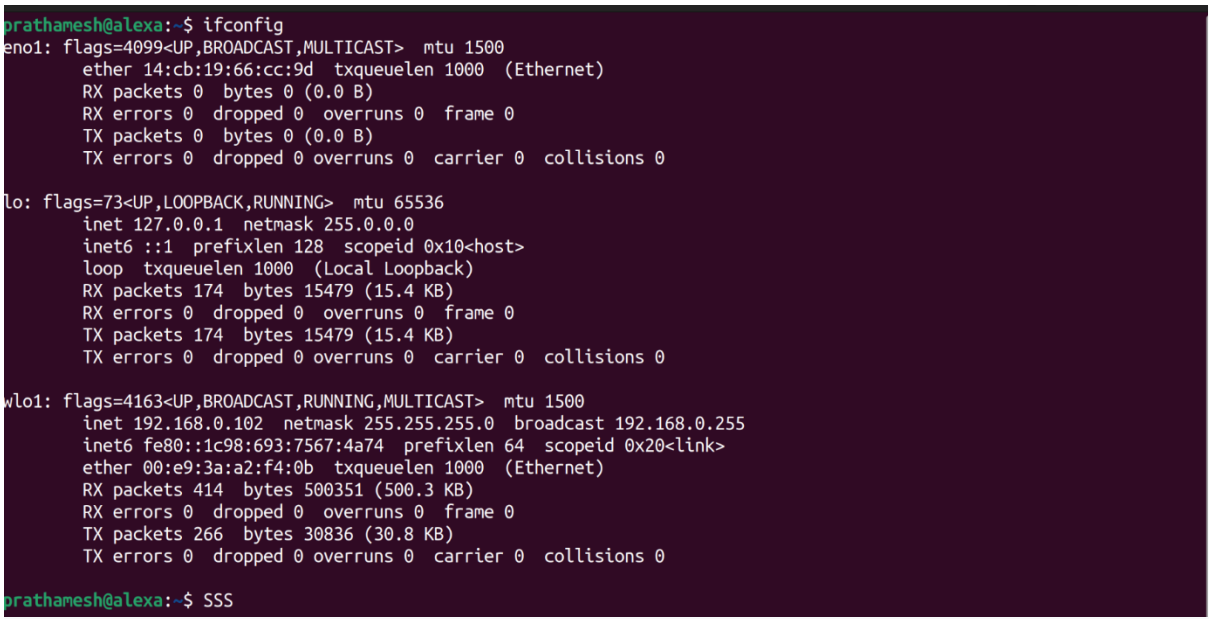
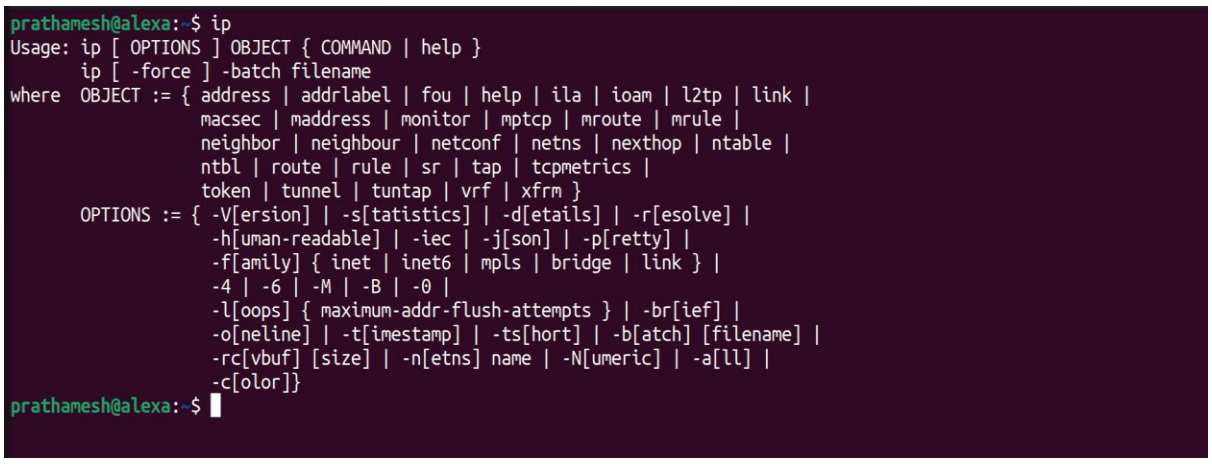


- **ifplugstatus**: **ifplugstatus** is a utility used to check the status of Ethernet interfaces to determine if they are plugged in or disconnected. This can be helpful in automating network configurations and managing network connectivity.

- **ip**: The **ip** command is a versatile networking utility used for managing and configuring various aspects of network interfaces in Unix-based systems. It can be used to display information about network interfaces, routes, and addresses, as well as to modify network settings. With **ip**, you can set up IP addresses, manage routing tables, and manipulate network devices.



- **iwconfig**: **iwconfig** is a command used to configure and display information about wireless network interfaces on Linux systems. It allows users to manage wireless settings, such as SSID, encryption, and signal strength.

- Mail: The "mail" command is a basic email utility in Unix-like operating systems used for sending and receiving emails from the command line. Users can compose and send emails by specifying the recipient's email address, subject, and content

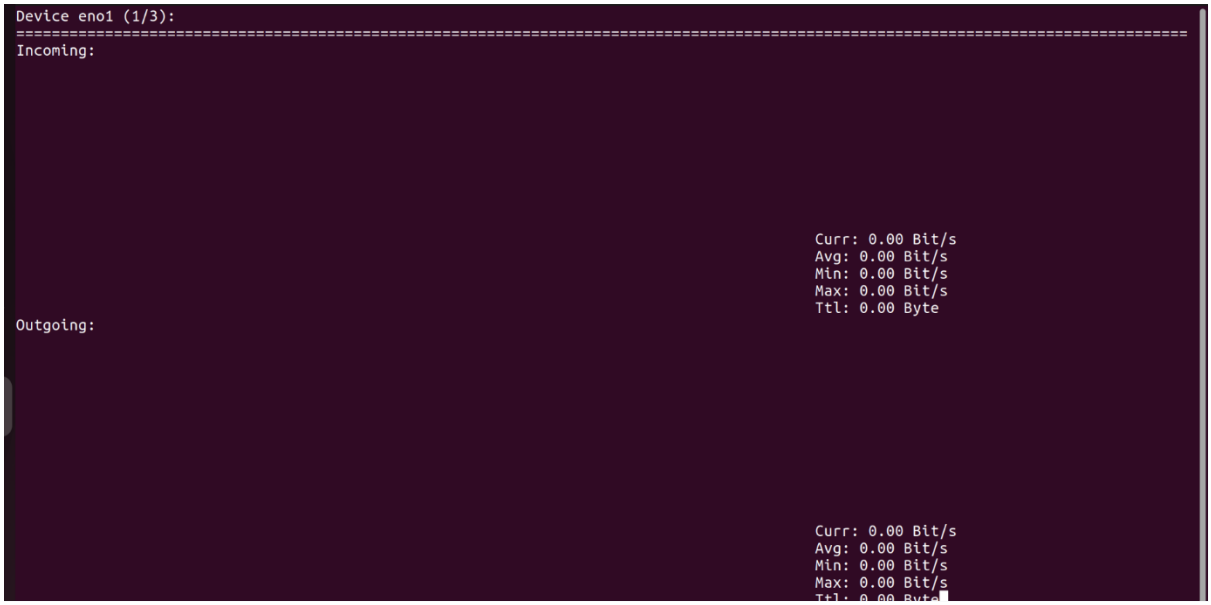
directly within the terminal. Additionally, it offers the ability to read, manage, and delete received emails, making it a simple but useful tool for basic email tasks. While "mail" provides essential email functionality, it lacks the advanced features and user-friendly interface found in dedicated email clients, making it suitable for quick email tasks in a terminal environment.

```
prathamesh@alexa:~$ mail
Cannot open mailbox /var/mail/prathamesh: No such file or directory
No mail for prathamesh
prathamesh@alexa:~$
```

- **netstat**: The **netstat** command provides information about network connections, routing tables, interface statistics, masquerade connections, and more. It's a valuable tool for monitoring network activities, identifying open ports, and diagnosing network-related issues.

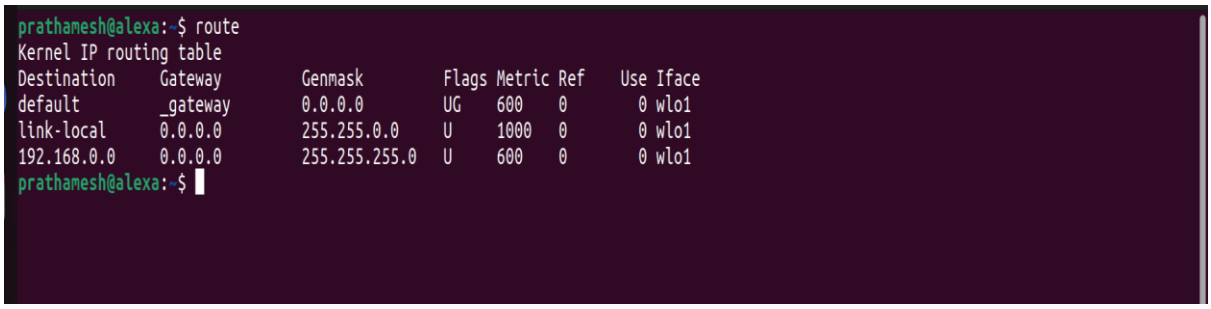
```
prathamesh@alexa:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 alexa:bootpc           _gateway:bootps         ESTABLISHED
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type       State         I-Node   Path
unix  3      [ ]         STREAM     CONNECTED     32597    /run/snapd-snap.socket
unix  3      [ ]         STREAM     CONNECTED     30617
unix  3      [ ]         STREAM     CONNECTED     22345
unix  3      [ ]         STREAM     CONNECTED     36202
unix  3      [ ]         STREAM     CONNECTED     25450    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     32658    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     36365    /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     29619
unix  3      [ ]         STREAM     CONNECTED     32464    /run/dbus/system_bus_socket
unix  3      [ ]         STREAM     CONNECTED     31343
unix  3      [ ]         STREAM     CONNECTED     20431
unix  3      [ ]         STREAM     CONNECTED     33633    /run/user/1000/wayland-0
unix  3      [ ]         STREAM     CONNECTED     36168
unix  3      [ ]         STREAM     CONNECTED     36131
unix  3      [ ]         STREAM     CONNECTED     22517
unix  3      [ ]         STREAM     CONNECTED     31097
unix  3      [ ]         STREAM     CONNECTED     28232    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     27856
unix  3      [ ]         STREAM     CONNECTED     36496
unix  3      [ ]         STREAM     CONNECTED     37030
unix  3      [ ]         STREAM     CONNECTED     28361
unix  3      [ ]         STREAM     CONNECTED     31136    /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     31849
```

- **nload**: **nload** is a command-line utility that displays real-time network traffic and bandwidth usage on a specific network interface. It provides a visual representation of network activity, making it useful for monitoring network performance and resource usage.



- **nslookup**: **nslookup** is a command-line tool used to query DNS (Domain Name System) servers for information about domain names, IP addresses, and other DNS-related data. It helps in troubleshooting DNS issues and verifying domain name resolution.

- **route**: The **route** command is used for viewing and managing the IP routing table on Unix-based systems. It allows you to add, delete, or manipulate routing entries to control how network traffic is directed within a local network or across the internet.



- **tracepath**: Similar to **traceroute**, **tracepath** is used for path analysis and network troubleshooting. It offers a simpler output than **traceroute** and can be useful in situations where you need a quick overview of the network path taken by packets without the detailed information provided by **traceroute**.
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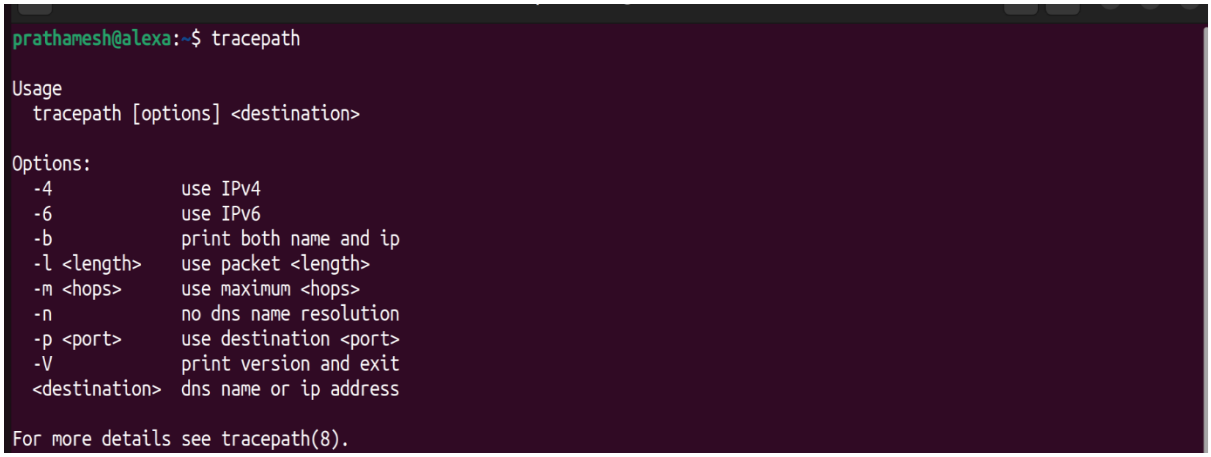
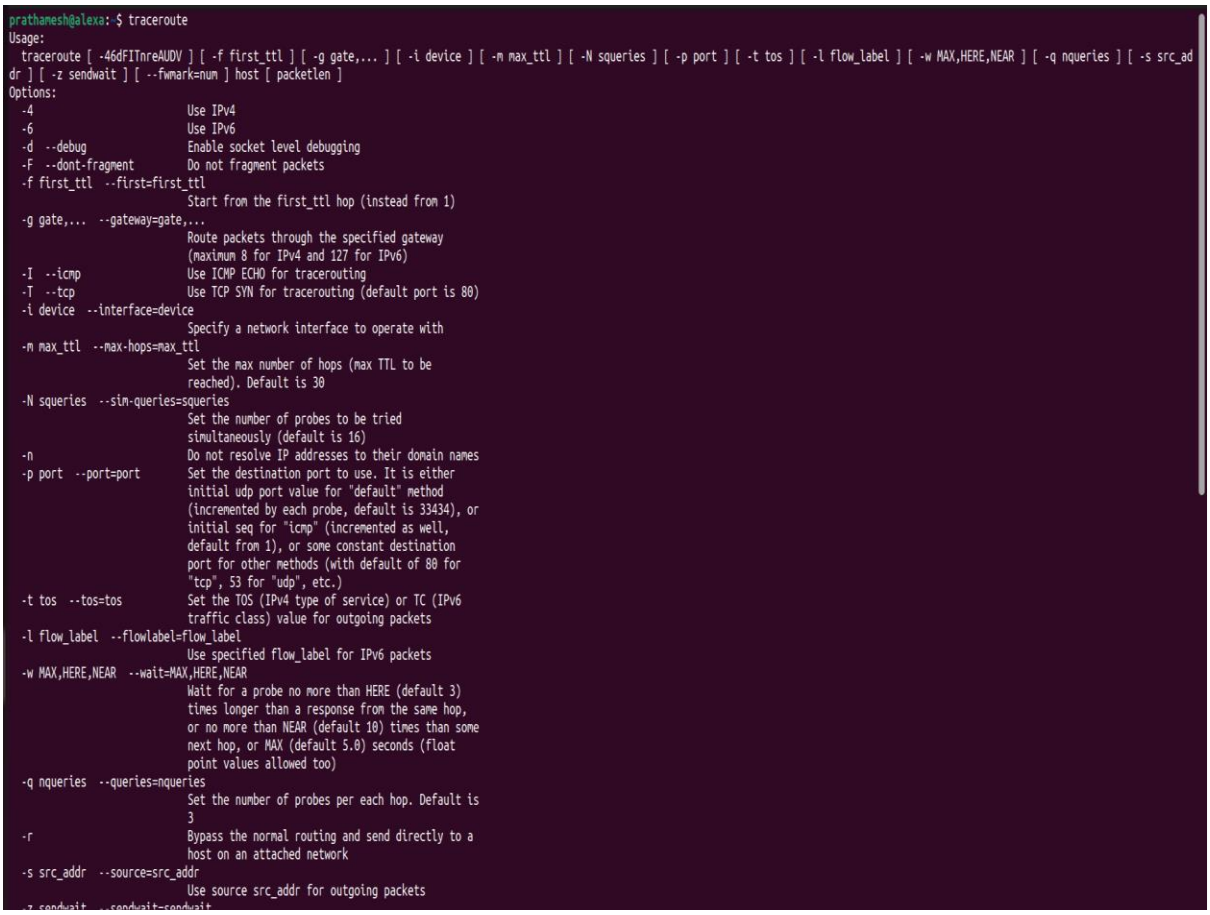
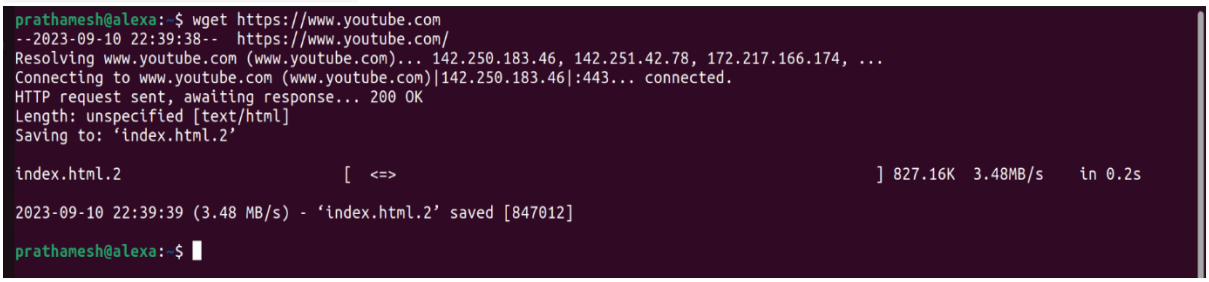


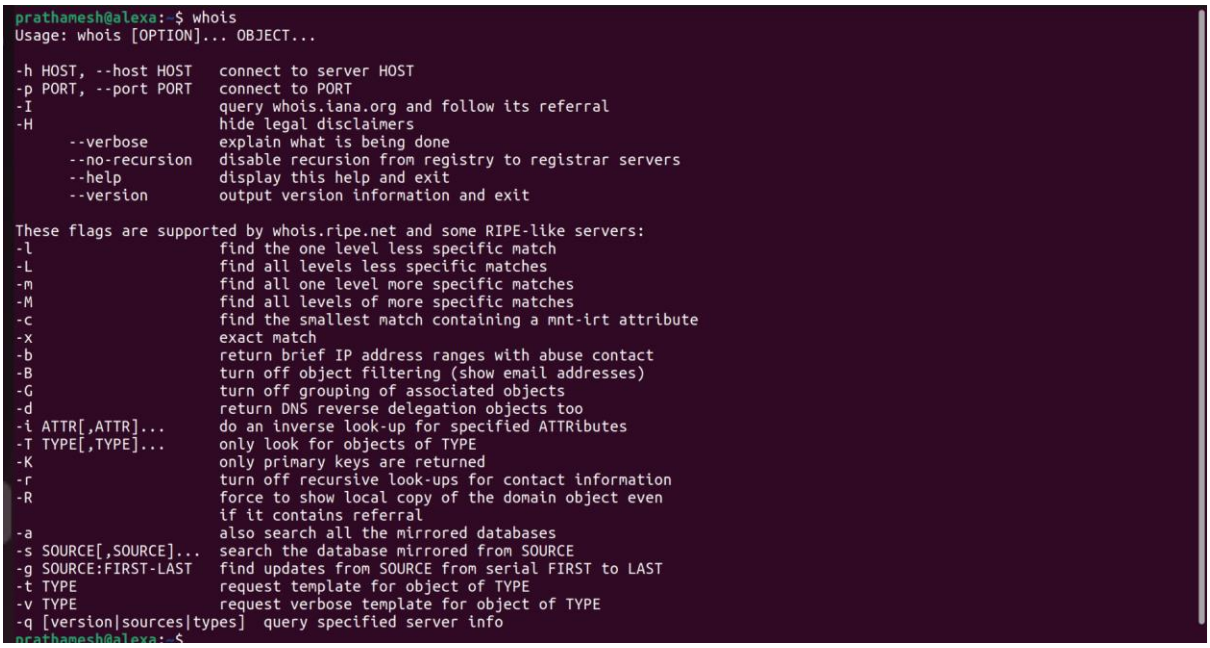
- **traceroute**: The **traceroute** command is used to trace the route that data packets take from the source to a destination host. It displays the path and latency of each hop (router or server) the packets encounter, helping diagnose network connectivity issues. This tool is essential for diagnosing network problems and optimizing network performance.



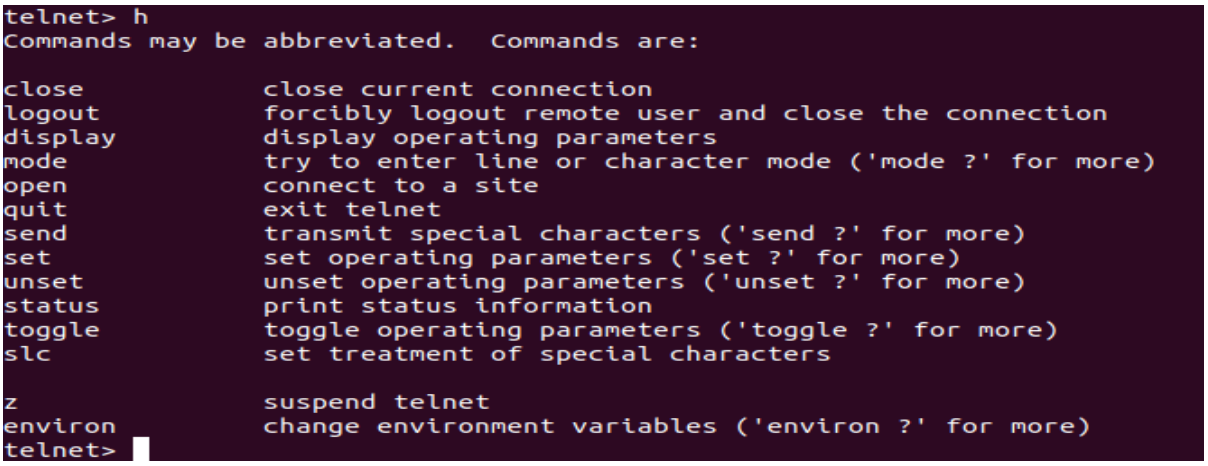
- **wget**: **wget** is another command-line utility for downloading files from the internet. It supports HTTP, HTTPS, and FTP protocols, making it useful for retrieving web content and files from remote servers.



- **whois**: The **whois** command provides information about domain registrations and ownership. It retrieves data from public WHOIS databases, revealing details about domain names, IP addresses, and the entities that own or operate them.



- **telnet**: **telnet** is a network protocol and command-line tool used for remote terminal access to network devices, servers, and systems. While it has been largely replaced by more secure alternatives like SSH, it is still occasionally used for specific tasks.



- **ping**: **ping** is a network utility used to test the reachability of a host on an IP network. It sends ICMP (Internet Control Message Protocol) echo requests to a target host and measures the response time, allowing you to check if a host is online and estimate network latency.