Title:

Study and implement various networking commands on terminal.

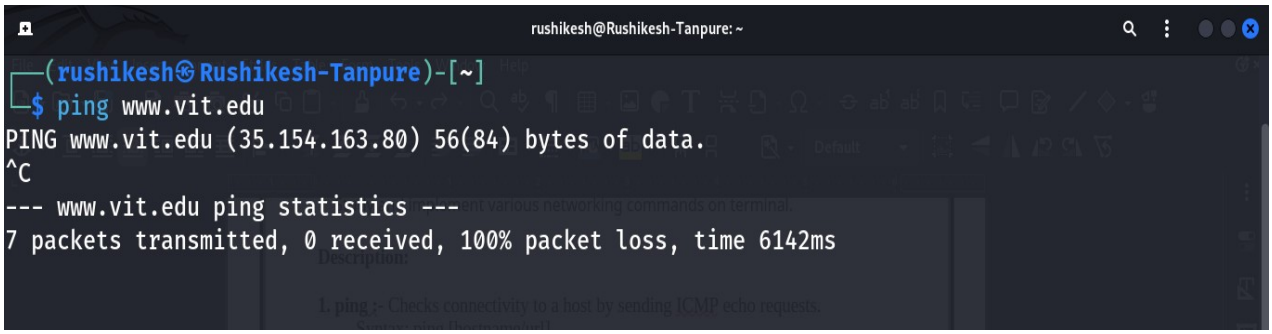
Description:

1. **ping** :- The `ping` command is a network utility tool used to test the reachability of a host on an Internet Protocol (IP) network. It also measures the round-trip time for messages sent from the originating host to a destination computer.

   Options:

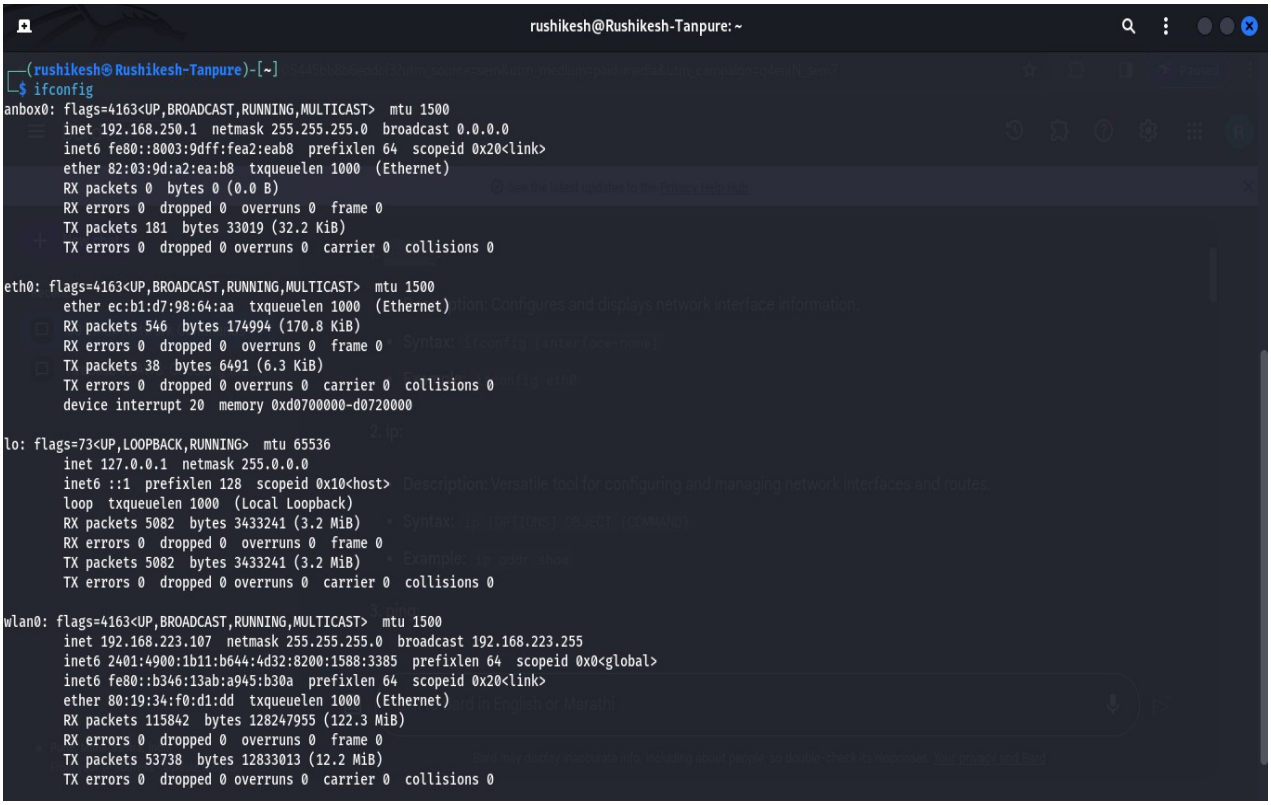
- `-c count`: Specifies the number of packets to send. For example, `ping -c 4 google.com` will send 4 packets to Google's servers.
- `-t timeout`: Sets the time, in seconds, to wait for a response. If the target doesn't respond within this time, the ping will time out.
- `-i interval`: Specifies the interval between sending each packet in seconds.
- `-s packetsize`: Sets the size of the data portion of the packet in bytes.

   Syntax: ping [hostname/url]
   Example: ping www.vit.edu



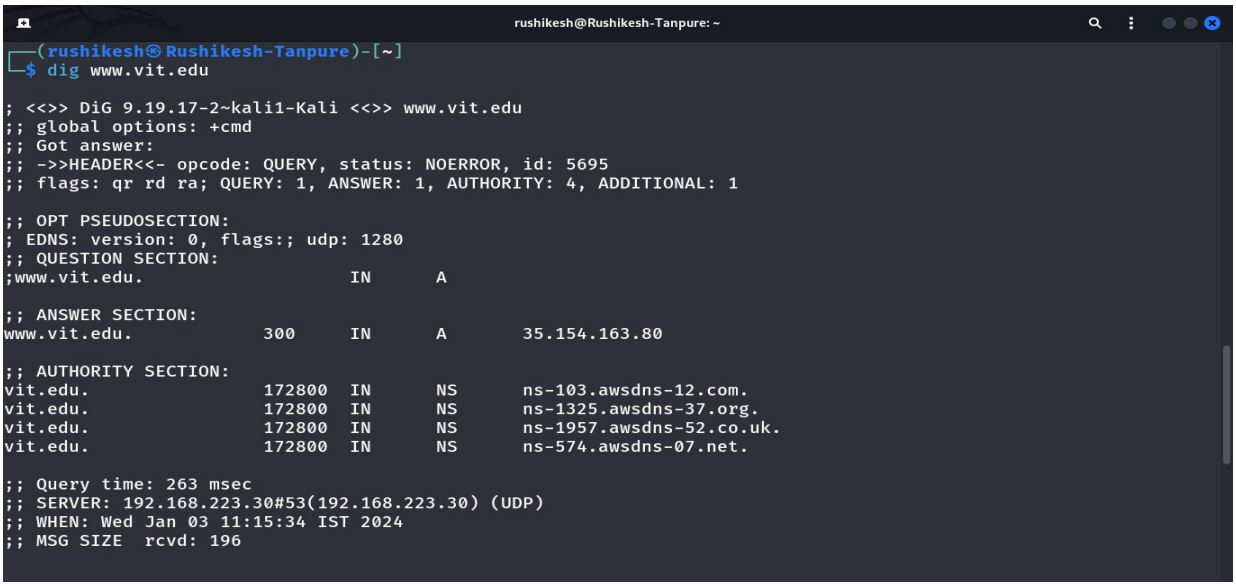
2. **ifconfig** :- Configures and displays network interface information. The `ifconfig` command is commonly used to configure and display information about network interfaces on Unix-like operating systems.

   Syntax: ifconfig [interface_name]
   Example: ifconfig



3. **dig**: Flexible tool for performing DNS lookups. It allows users to query DNS servers to obtain information about domain names and their associated records. `dig` is a valuable command-line tool for network administrators, developers, and users who need to gather information about domain names and their DNS records.

   Syntax: dig [options] [hostname/ip]
   Example: dig www.vit.edu

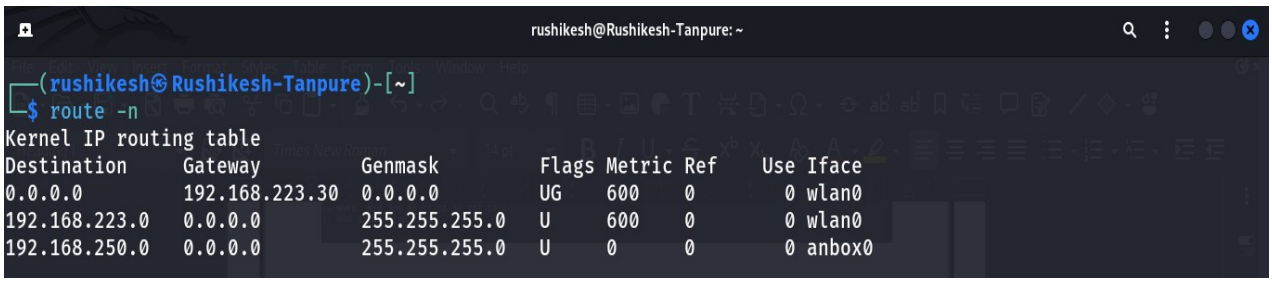


4. **route** :- Displays and manipulates the IP routing table. The routing table is a set of rules that determine how network traffic is directed, defining paths for packets to reach their destination.

   Options

- `-n`: Displays numeric addresses instead of resolving hostnames.
- `-v`: Provides more detailed output, including the actual routes being added or deleted.
- `add`: Adds a new route to the routing table.
- `del` or `delete`: Removes a route from the routing table.

Syntax: route [options]
Example: route -n

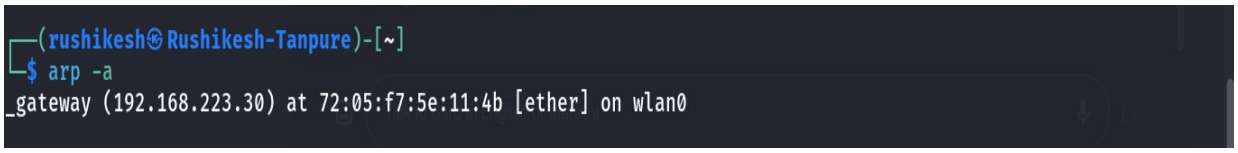


5. **arp** :- Manipulates the ARP cache for IPv4 addresses. Display and manipulate the Address Resolution Protocol (ARP) cache. ARP is a protocol used to map an IP address to a physical (MAC) address on a local network.

   Options

- `-a`: Displays the current ARP cache.
- `-d`: Deletes an entry from the ARP cache.
- `-s`: Adds a static entry to the ARP cache.

   Syntax: arp [options]
   Example: arp -a

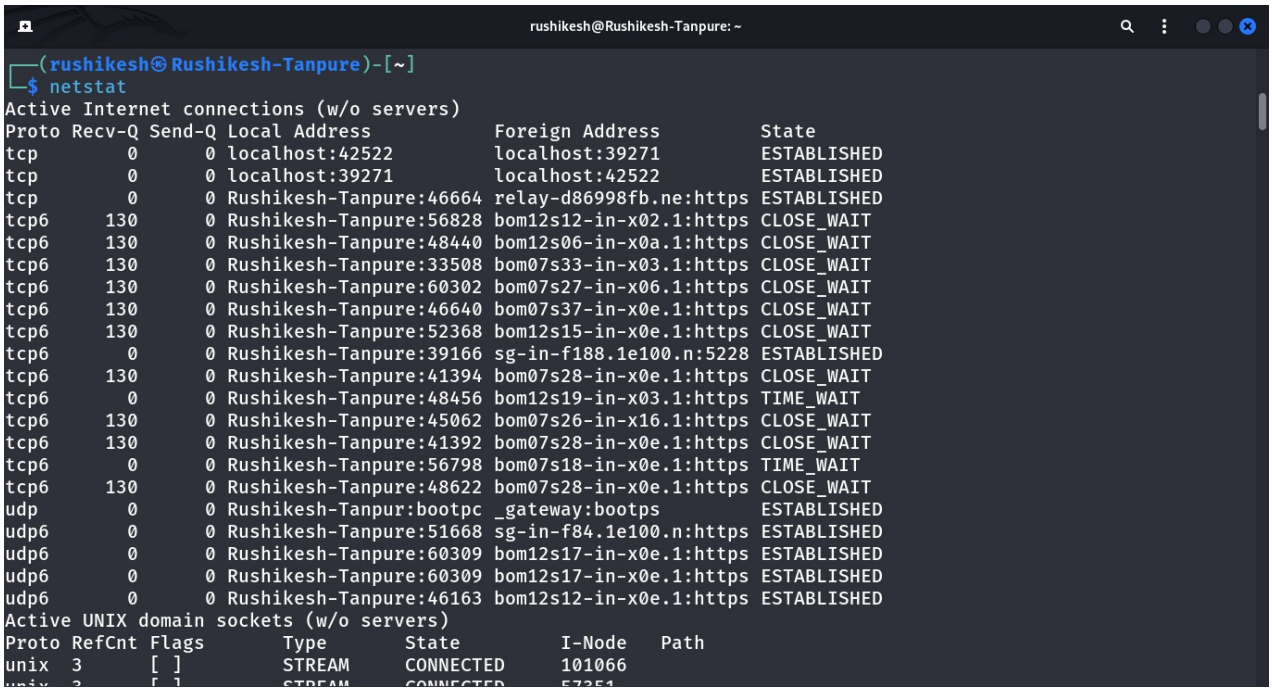


6. **netstat** :- Displays various network information like connections, routing tables, interface statistics, and multicast memberships. It provides information about network connections, routing tables, interface statistics, masquerade connections, and other network-related information.

   Options:

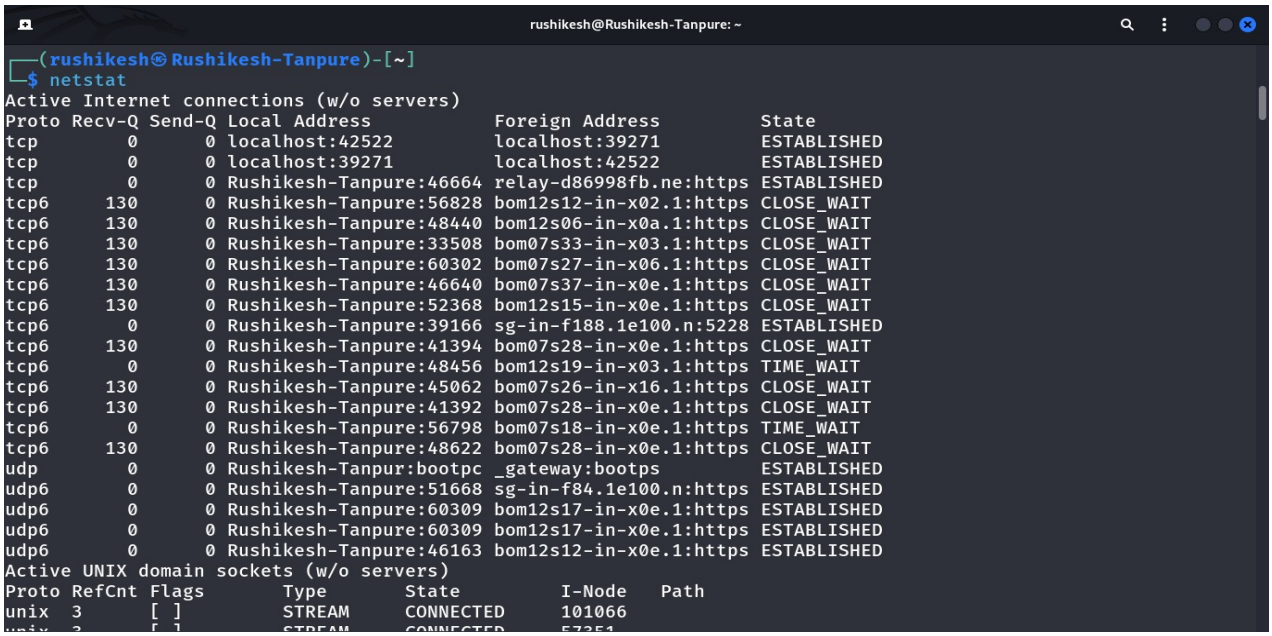
- `-a` or `--all`: Display all sockets (both listening and non-listening).
- `-t` or `--tcp`: Display only TCP connections.
  `-u` or `--udp`: Display only UDP connections.
- `-n` or `--numeric`: Show numerical addresses and port numbers instead of resolving them.
- `-p` or `--program`: Display the process ID and program name for each socket.

   Syntax: netstat [OPTIONS]
   Example: netstat



7. **host** :- The *host* command is mainly used to get the IP address of a specific domain. It allows you to query DNS servers to obtain information about domain names and their associated IP addresses or other DNS records.

   Syntax: netstat [OPTIONS]
   Example: netstat

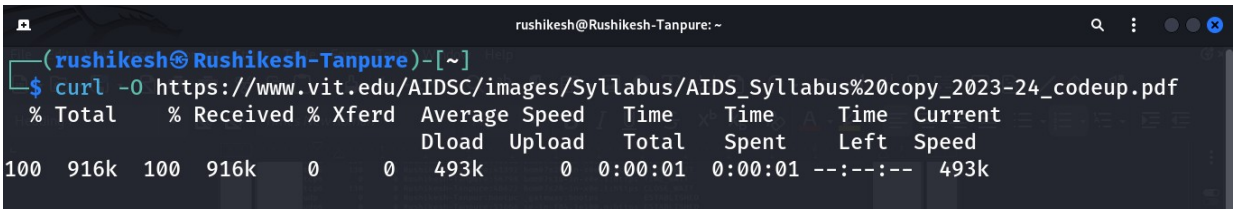


8. **curl** :- Transfers data to/from servers, supports various protocols. Used for making HTTP requests to servers. `curl` supports various protocols, including HTTP, HTTPS, FTP, FTPS, SCP, SFTP, LDAP, and more.

   Options:

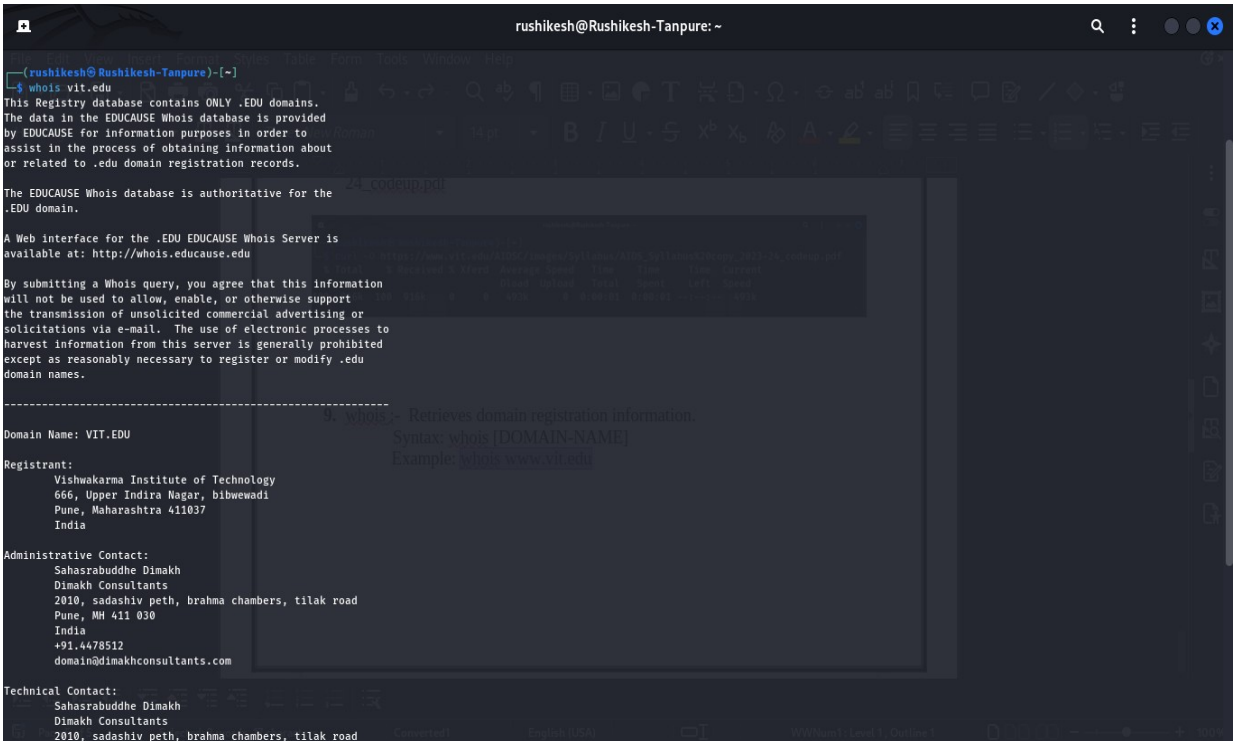
- `-X, --request`: Specifies the HTTP method (GET, POST, PUT, DELETE, etc.).
- `-H, --header`: Adds custom headers to the request.
- `-d, --data`: Sends data in the request body (used with POST or PUT requests).
- `-i, --include`: Includes the HTTP headers in the output.
- `-o, --output`: Specifies the output file for the downloaded content.
- `-L, --location`: Follows redirects.

   Syntax: curl [OPTIONS] [URL]
   Example: curl -O https://www.vit.edu/AIDSC/images/Syllabus/AIDS_Syllabus%20copy_2023-24_codeup.pdf



9. **whois** :- Retrieves domain registration information. It provides details about the ownership, registration, and contact information associated with a domain name or an IP address. The information provided by `whois` can include details such as the domain's creation date, expiration date, nameservers, registrant information, and more.

   Syntax: whois [DOMAIN-NAME]
   Example: whois vit.edu



10. traceroute :- Traces the path packets take to a destination host. Used to track the route that packets take from your local device to a destination host or IP address. It helps identify the network path and measure the time taken for packets to reach each intermediate hop (router) along the way.

Syntax: traceroute [HOSTNAME-OR-IP]
Example: traceroute 8.8.8.8