



Experiment No 2.

Title: Use basic networking commands in Linux/Windows.

Aim: To study following networking commands.

Theory:

Command:

1. Ping

- The ping command is used to test connectivity between two hosts.
- It sends ICMP echo request messages to the destination.
- The destination host replies with ICMP reply message.
- If the ping command gets a reply from the destination host, it displays the reply along with round-trip times.

• Syntax

ping destination host IP or name.

- The following command tests connectivity between the host computer and Google's server.

e.g.

ping google.com.

2. Ipconfig

- This command displays all current TCP/IP network configuration values and refreshes Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) settings.
- This command is mainly used to view the IP addresses on the computers that are configured to obtain their

IP address automatically.

- Syntax.

ipconfig // command on command prompt.

3. Tracert

- This command is used to diagnose path related problem.
- On an IP network, routers exchange IP packets between the source and the destination.
- They take IP packet from the source host and forward them in a sequence until they reach the destination host.
- The sequence of routers between the source and destination is known as the path.
- The tracert command prints the path.
- Syntax.

tracert Destination Name or IP address.

- Example.

tracert www.google.co.in.

4. Netstat.

- Netstat is a networking utility that can be used to display all active network connections and their status. It can be used to identify which applications are used which ports and can be helpful in troubleshooting networking issues.
- Most Windows, Linux, UNIX and other operating systems include Netstat as a common TCP-IP networking command-line method.
- Syntax : Netstat - description
- Example : Netstat -a.

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5. Nslookup

- Nslookup is a command line networking tool used for querying Domain Name System (DNS) to obtain domain name or IP address mapping or other DNS records.
- Nslookup has two modes: interactive or non-interactive.
- The windows version of Nslookup is available as part of the Microsoft networking tools.
- Syntax.

nslookup description name or IP address

- Example

nslookup www.example.com.

6. Route.

- The route networking command is one of the most essential networking commands for windows administrators. This command can be used to view and modify the network routing table. The route command can also be used to add or remove static routes from the routing table.
- Routing tables are used to direct from one subnet to another. By using the route command, administrators can change the way network traffic is routed. This can be useful for troubleshooting network issue or for implementing security measures.
- To view the current routing table, use the following syntax

route print



7. ARP

- The address resolution protocol or ARP, is a networking utility used for mapping network address to physical address.
- ARP is essential for networking communications, as it allows devices on a network to communicate with each other by translating IP addresses into physical addresses.
- Although IP addresses are commonly used in network communications, packet delivery is ultimately determined by media access control (MAC).
- The mechanism for address resolution kicks in at this point.
- Syntax
arp description.
- Example
arp -a.

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 and troubleshooting DNS problems and to perform DNS lookups. Dig command replaces older tools such as nslookup and the host.
- Syntax.
dig [server] [name] [type]
- Example
dig geeksforgeeks.org.

9. Rarp.

- Rarp manipulates the kernel's RARP table in various ways. The primary options are clearing an address mapping entry and manually setting up one.
- For debugging purposes, the rarp program also allows a complete dump of the RARP table.
- The rarp stand for Reverse Address Resolution Protocol.
- A protocol used to map a physical (MAC) address to ip address.
- Syntax.

rarp -description

- Example

rarp -a.

10. Ifconfig

- The ifconfig command removes the specified network interface from the list of interface.
- It also removes the interface and any associated TAP network device from the Object Data Manager (ODM), device dev_name.
- Specifies the device name that is interface is associated with
- Syntax.

ifconfig

- Example

ifconfig.