AMILIARIZATION OF LINUX NETWORKING COMMANDS

AIM

To familiarize network diagnostic commands

DESCRIPTION

Network diagnostic commands can be utilized to verify network connection as well as to verify our network settings. Commonly used network diagnostic commands are :-

1. **ping**

Ping allows a user to ping another network IP address. This determines whether the user is able to communicate with the network. Ping uses the ICMP protocols mandatory ECHO-REQUEST datagram to elicit an ICMP ECHO-RESPONSE from a gateway or host.

SYNTAX

ping ipaddress

OPTIONS

- host
  Specifies the network host.
- packetsize
  Specifies the size of packet. Default is 64.
- count
  Specifies the amount of time to send the ping request.
- n
  Show network addresses as numbers. ping normally displays addresses as host names.

2. **traceroute**

traceroute command shoes the route over the network between two systems, listing all the intermediate routers a connection must pass through to get its destination. It helps to figure out the networking issues. This command trace the network path of the internet routes that packet takes, as they are forwarded from your computer to destination address.

SYNTAX

traceroute [*options*] host

OPTIONS

- m

  Set the maximum time to live for the trace, measured as the no:of hosts the program will trace before ending. Default is 30.

- q

  Set the no: of UDP packets to send for each setting. Default is 3.

- w

  Set the amount of records to wait for an answer from each host before giving up. Default is 5.

3. **finger**

The finger command available in Unix / Linux variants allows a user to find sometimes personal information about a user. This information can include the last time the user logged in, when they read their e-mail, etc...

SYNTAX

finger username

OPTIONS

- b

  Suppress printing the users home directory and shell in a long format printout

- f

  Suppress printing the header that is normally printed in a non-long format printout.

- s

  Display user's login name, real name, terminal name and write status

- l

  Multiline format displaying.

4. **whois**

This command provides internet user name directory services.

SYNTAX

whois [-h host] identifier

OPTIONS

- h

  host which holds the identifier information.

  Identifier is the name or host you wish to identify

5. **ifconfig**

This command helps to configure network interfaces. ifconfig command allows the operating system to setup network interfaces and allow the user to view information about the configured network interface. It is used at the boot time to set the interfaces.

SYNTAX

ifconfig [-v] [-a] [-s] [interface]

OPTIONS

- a

  Display all interfaces which are currently available, even if down.

- s

  Display a short list

- v

  Verbose for some error conditions.

6. **arp**

Display or manipulate the ARP information on a network device or computer. Short for Address Resolution Protocol, ARP is a protocol used with the IP protocol for mapping a 32-bit Internet Protocol address to a MAC address that is recognized in the local network specified in RFC 826.

SYNTAX

arp [-a] [hostname]

OPTIONS

- a

  Displays current arp entries by interrogating the current protocol data. If the inet-address is specified, the IP and the physical address for the computer is displayed. inet-address specifies the internet address.

- d

  Deletes the host specified by inet-address

7. **iwconfig**

This command is used to configure wireless network interface. It is used to set the parameters of the network interface which are specific to the wireless operation. It is also used to display the wireless statistics.

SYNTAX

iwconfig [interface]

OPTIONS

- essid

  Set the ESSID. ESSID is used to identify cells which are part of the same virtual networks.

- nwid

  Set the network id

- mode

  Set the operating mode device.

8. **nslookup**

nslookup is a program to query internet domain name servers. nslookup has 2 modes, interactive and non interactive. Interactive mode allows the user to query name server for information about various hosts and domains, or to print a list of hosts in a domain. Non interactive mode is used to print just the name and requested information for a host or domain.

SYNTAX

nslookup [name] [server]

OPTIONS

in

The internet class

all

List the current setting

debug

Set debug mode on

9. **telnet**

telnet is a software that allows users to remotely access another computer such as a server, network device, or other computer. With telnet, user can connect to a device or a computer, manage a network device, setup a device, transfer files etc..

OPTIONS

- a

  Automatic login

- d

  Set initial value of debug toggle to true

- s

  Set the TOS option for telnet connection.

10. **host**

Performs a simple lookup of an internet address. It is used for DNS lookup utility. Normally used to convert names to IP address and vice versa

SYNTAX

host ipaddress

OPTIONS

- c

  Specifies the class of IP address

- w

  wait

- R

  Number

- t

  Specifies the type

11. **netstat**

This command prints network connections, routing tables, interface statistics, masquerade connections, multicast memberships.

SYNTAX

netstat [address family options]

OPTIONS

- w

  Do not truncate IP address by using output as wide as needed.

- n

  Numerical address instead of trying to determine symbolic host port or user names.