MCA108: Computer Networks

Lab Experiment 1:
Basics of Network configurations files and Networking Commands

Aim :
Getting started with Basic File system Navigation and Networking Commands in Linux.

1. Learn about following basic navigation commands in UNIX
- sudo, ls, pwd, mkdir, rmdir, rm, cd, cp, wc, mv, cmp, passwd, who, uname

2. Learn about Network Commands

ifconfig
- ifconfig(interface configurator) command is use to initialize an interface, assign IP Address to interface and enable or disable interface on demand.
- With this command you can view IP Address and Hardware / MAC address assign to interface and also MTU(Maximum transmission unit) size.

ping
- PING(Packet INternet Groper) command is the best way to test con- nectivity between two nodes, whether it is Local Area Network(LAN) or Wide Area Network (WAN).
- Ping use ICMP (Internet Control Message Protocol) to communicate to other devices. You can ping host name of ip address using below command.
- In Linux ping command keep executing until you interrupt. Ping with -c option exit after N number of request.

traceroute
- traceroute is a network troubleshooting utility which shows number of hops taken to reach destination also determine packets traveling path.

netstat
- Netstat(Network Statistic) command displays connection info, routing table information etc.
- To display routing table information use option as -r.
- Explore more configurations of this with man

nslookup
- nslookup is a command-line administrative tool for testing and troubleshooting
- DNS servers (Domain Name Server).
- Most operating systems comes with built-in nslookup feature.

route

- route command shows and manipulates ip routing table.
- It can add and delete routes and default Gateway.

dig

- Dig (Domain Information Groper) query DNS related information like a record,
- CNAME, MX Record etc. This command mainly use to troubleshoot DNS related
- query.

arp

- ARP(Address Resolution Protocol) is useful to view or add the contents of the
- kernel’s ARP tables.

host

- Host command to find name to IP or IP to name in IPv4 or IPv6 and also query DNS records.

hostname

- hostname is to identify in a network. Execute hostname command to see the hostname of your box.

ethtool

- ethtool is a replacement of mii-tool. It is to view, setting speed and duplex of your
- Network Interface Card (NIC).