LINUX SHELL SCRIPT
UNIT 5

IP related Commands

ifconfig command

ifconfig(interface configuration) command is used to configure the kernel-resident network interfaces. It is used at the boot time to set up the interfaces as necessary. After that, it is usually used when needed during debugging or when you need system tuning. Also, this command is used to assign the IP address and netmask to an interface or to enable or disable a given interface.

Syntax:

ifconfig [...OPTIONS] [INTERFACE]

- -a : This option is used to display all the interfaces available, even if they are down.
  Syntax:

  ifconfig -a

- -s : Display a short list, instead of details.
  Syntax:

  ifconfig -s

hostname command

hostname command in Linux is used to obtain the DNS (Domain Name System) name and set the system's hostname or NIS (Network Information System) domain name. A hostname is a name given to a computer and attached to the network. Its main purpose is to uniquely identify over a network.

Syntax of the `hostname` command in Linux
hostname -[option] [file]

Example: We obtain the system hostname by just typing the hostname without any attributes.

hostname www.google.com

PING Command

PING (Packet Internet Groper) command is used to check the network connectivity between host and server/host. This command takes as input the IP address or the URL and sends a data packet to the specified address with the message "PING" and get a response from the server/host this time is recorded which is called latency.

Example:-

ping www.google.com

To stop pinging we should use ctrl+c otherwise it will keep on sending packets.

Controlling the number of pings:
Earlier we did not define the number of packets to send to the server/host by using -c option we can do so.

```
ping -c 5 www.google.com
```

dig Command

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 www.google.com
```

```
dig www.google.com +short
```

route command

By utilizing the route command, Linux administrators and users can establish static routes, enabling precise control over network connectivity and optimizing data transmission.

To display the IP/kernel routing table.

```
route
```

To display routing table in full numeric form.

```
route -n
```

Process Commands

Top

This utility tells the user about all the running processes on the Linux machine.

```
top
```

Press ‘q’ on the keyboard to move out of the process display.

PS

This command stands for ‘Process Status’. It is similar to the “Task Manager” that pop-ups in a Windows Machine when we use Cntrl+Alt+Del. This command is similar to ‘top’ command but the information displayed is different.

1. Simple process selection : Shows the processes for the current shell

```
ps
```

2. View Processes : View all the running processes use either of the following option with ps –

```
ps -As
OR
```

ps -e

3. View Processes not associated with a terminal : View all processes except both session leaders and processes not associated with a terminal.

ps -a

4.View all the running processes

ps -r

5. View all processes owned by you : Processes i.e same EUID as ps which means runner of the ps command, root in this case –

ps -x

6. Use -f to view full-format listing

ps -f

Kill

This command terminates running processes on a Linux machine.

To use these utilities you need to know the PID (process id) of the process you want to kill

Syntax –

kill PID

To find the PID of a process simply type

pidof Process name

Fg

You can use the command “fg” to continue a program which was stopped and bring it to the foreground.

The simple syntax for this utility is:

fg jobname
example -
fg %1

bg

To send a process to the background.

The simple syntax for this utility is:

bg filename
example -
bg %1

jobs Command

Jobs command is used to list the jobs that you are running in the background and in the foreground. If the prompt is returned with no information no jobs are present. All shells are not capable of running this command. This command is only available in the csh, bash, tcsh, and ksh shells.

Syntax :

jobs

Options

JOB Job name or number

-l Lists process IDs in addition to the normal information.
-n List only processes that have changed status since the last notification.
-p Lists process IDs only.
-r Restrict output to running jobs.
-s Restrict output to stopped jobs.

1. To display the status of jobs in the current shell:
jobs

2. Pass the -p option to jobs command to display PIDs only:
jobs -p

3. Pass the -r option to jobs command to display only running jobs only:
jobs -r

mount Command

The mount command allows users to mount, i.e., attach additional child file systems to a particular mount point on the currently accessible file system. The command passes the mount instructions to the kernel, which completes the operation.

Syntax:-
mount -t [type] [dev] [directory]

1. List Mounted File Systems-Run the mount command without any options to display all currently mounted file systems. The output also displays the mount points and mount options.
mount

2. For help of mount command:-
mount -h

3. Checking the Mount Version-The version of the mount can be obtained using the following command:
mount -V