

# Networking and Systems Administration Lab

## ASSIGNMENT 3: BASIC LINUX COMMANDS

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Explain linux commands usermod, groupadd, groups, groupmod, groupdel, chmod, chown, id, ps, top with examples

### 1. usermod

- usermod command is used to change the properties of a user in Linux through the command line
- command-line utility that allows you to modify a user's login information
- #usermod --help
- #usermod -u akshay07

```
akshay07@akshay07-VirtualBox:~$ usermod -u 2000 akshay07
usermod: user akshay07 is currently used by process 1153
akshay07@akshay07-VirtualBox:~$
```

### 2. groupadd

- groupadd command creates a new group account using the values specified on the command line and the default values from the system.
- #groupadd akshay01

```
akshay07@akshay07-VirtualBox:~$ sudo groupadd student
[sudo] password for akshay07:
akshay07@akshay07-VirtualBox:~$ sudo groupadd akshay01
akshay07@akshay07-VirtualBox:~$ sudo groupadd akshay02
```

### 3. groups - print the groups a user is in

- #groups akshay

```
akshay07@akshay07-VirtualBox:~$ groups akshay07
akshay07 : akshay07 adm cdrom sudo dip plugdev lpadmin lxd sambashare
akshay07@akshay07-VirtualBox:~$
```

4. `groupdel` - `groupdel` command modifies the system account files, deleting all entries that refer to group. The named group must exist

- `#groupdel akshay01`

```
akshay07@akshay07-VirtualBox:~$ compgen -g akshay
akshay07
akshay01
akshay02
akshay07@akshay07-VirtualBox:~$ sudo groupdel akshay01
akshay07@akshay07-VirtualBox:~$ compgen -g akshay
akshay07
akshay02
```

5. `groupmod` - The `groupmod` command modifies the definition of the specified group by modifying the appropriate entry in the group database.

`# groupmod -n group1 group2`

```
akshay07@akshay07-VirtualBox:~$ compgen -g akshay
akshay07
akshay02
akshay07@akshay07-VirtualBox:~$ sudo groupmod -n new_group akshay07
akshay07@akshay07-VirtualBox:~$ compgen -g akshay07
akshay07@akshay07-VirtualBox:~$ compgen -g akshay
akshay02
akshay07@akshay07-VirtualBox:~$ compgen -g new_group
new_group
```

## 6. chmod - To change directory permissions of file/ Directory in Linux.

#chmod whowhatwhich file/directory

- chmod +rwx filename to add permissions.
- chmod -rwx directoryname to remove permissions.
- chmod +x filename to allow executable permissions.
- chmod -wx filename to take out write and executable permissions.

#chmod u+x test #chmod g-rwx test #chmod o-r test

```
akshay07@akshay07-VirtualBox:/mnt/f$ chmod +rwx akshay.txt
akshay07@akshay07-VirtualBox:/mnt/f$ chmod -w akshay.txt
chmod: akshay.txt: new permissions are r-xrwxrwx, not r-xr-xr-x
akshay07@akshay07-VirtualBox:/mnt/f$
```

## 7. chown - The chown command allows you to change the user and/or group ownership of a given file, directory.

#chown akshay akshay.txt

```
akshay07@akshay07-VirtualBox:/mnt/..$ ls -l akshay.txt
-rwxrwxrwx 1 akshay akshay 0 Aug 10 22:15 akshay.txt
akshay07@akshay07-VirtualBox:/mnt/f$
```

## 8. id - id command in Linux is used to find out user and group names and numeric ID's (UID or group ID) of the current user.

#id

```
akshay07@akshay07-VirtualBox:~$ id akshay07
uid=1000(akshay07) gid=1000(new_group) groups=1000(new_group),4(adm),24(cdrom),
27(sudo),30(dip),46(plugdev),121(lpadmin),132(lxd),133(sambashare)
```

9. ps - The ps command, short for Process Status, is a command line utility that is used to display or view information related to the processes running in a Linux system.

- PID – This is the unique process ID
- TTY – This is the type of terminal that the user is logged in to
- TIME – This is the time in minutes and seconds that the process has been running
- CMD – The command that launched the process #ps -a

```
akshay07@akshay07-VirtualBox:~$ ps -a
  PID TTY          TIME CMD
 1208 tty2        00:00:00 gnome-session-b
 2396 pts/1        00:00:00 ps
```

10. top - top command is used to show the Linux processes. It provides a dynamic real-time view of the running system

#top -u akshay07

```
top - 16:27:03 up 58 min, 1 user, load average: 0.01, 0.04, 0.00
Tasks: 175 total, 1 running, 174 sleeping, 0 stopped, 0 zombie
%Cpu(s): 5.1 us, 1.4 sy, 0.0 ni, 93.6 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 1978.7 total, 725.8 free, 631.2 used, 621.7 buff/cache
MiB Swap: 448.4 total, 448.4 free, 0.0 used, 1183.7 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
 1317 akshay07   20   0 4002156 333932 126008 S   5.0   16.5   0:48.12 gnome-+
 2129 akshay07   20   0 413128 51960  39896 S   1.0    2.6   0:06.63 gnome-+
 2397 akshay07   20   0 21436  4168   3504 R   0.3    0.2   0:00.13 top
    1 root       20   0  99008 10976   7912 S   0.0    0.5   0:01.52 systemd
    2 root       20   0      0      0      0 S   0.0    0.0   0:00.00 kthrea+
    3 root        0 -20      0      0      0 I   0.0    0.0   0:00.00 rcu_gp
    4 root        0 -20      0      0      0 I   0.0    0.0   0:00.00 rcu_pa+
    5 root       20   0      0      0      0 I   0.0    0.0   0:00.00 kthrea+
```