



Mawlana Bhashani Science and Technology University

Lab-Report

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Experiment no : 02

Experiment Name : Basic Command Of Linux Operating System.

Theory:

Linux is an operating system, that manages all of the hardware resources associated with your desktop or laptop. Linux is a Unix-Like operating system. All the Linux/Unix commands are run in the terminal provided by the Linux system. This terminal is just like the command prompt of Windows OS. Linux/Unix commands are *case-sensitive*. The terminal can be used to accomplish all Administrative tasks. This includes package installation, file manipulation, and user management. Linux terminal is user-interactive. The terminal outputs the results of commands which are specified by the user itself.

15 commands in Linux Operating System:

1. apt –Package manager for linux and derivatives.
2. pwd–Print working directory used to display the location that the terminal is open in.
3. ps – Process States displays info about all the running processes.
4. Uname–The uname command reports basic information about a computer's software and hardware.
5. kill – Terminates all running process.
6. ls– list information about the content of a directory.
7. cd – change directory and use to browse the file system.
8. mkdir – make directory used to create a new folder.
9. rmdir –remove directory used to delete folders.
10. man – Displays manuals for various commands.
11. history – Displays commands run in a chronological order.
12. passwd – Changes user password.
13. clear – Clears the terminal of all the output.
14. exit –exit command in linux is used to exit the shell where it is currently running
15. shutdown –Turns of the computer various option allow so scheduling the shutdown.

Implementation :

- Step-1: First input the processes with their burst time and priority.
- Step-2: Sort the processes, burst time and priority according to the priority.
- Step-3: Now simply apply FCFS algorithm.

Working Process :

```
jui@DESKTOP-1T35KU2:~$ sudo apt update
[sudo] password for jui:
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [107 kB]
Hit:2 http://archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [111 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal-backports InRelease [98.3 kB]
Fetched 317 kB in 3s (97.5 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
48 packages can be upgraded. Run 'apt list --upgradable' to see them.
jui@DESKTOP-1T35KU2:~$
```

```
jui@DESKTOP-1T35KU2:~$ pwd
/home/jui
jui@DESKTOP-1T35KU2:~$ ps -aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.0   8328    160 ?        Ss   05:50   0:00 /init
root        41  0.0  0.0   8328    156 tty2    Ss   05:59   0:00 /init
jui        42  0.4  0.0  18084   3600 tty2    S    05:59   0:00 -bash
jui        65  0.0  0.0  18880   2040 tty2    R    05:59   0:00 ps -aux
jui@DESKTOP-1T35KU2:~$ uname -a
Linux DESKTOP-1T35KU2 4.4.0-17763-Microsoft #1217-Microsoft Mon May 05 16:09:00 PS
jui@DESKTOP-1T35KU2:~$ shutdown now
```

```

jui@DESKTOP-1T35KU2:~$ killall
Usage: killall [ -Z CONTEXT ] [ -u USER ] [ -y TIME ] [ -o TIME ] [ -eIgiqrwv ]
        [ -s SIGNAL | -SIGNAL ] NAME...
        killall -l, --list
        killall -V, --version

-e,--exact          require exact match for very long names
-I,--ignore-case    case insensitive process name match
-g,--process-group  kill process group instead of process
-y,--younger-than   kill processes younger than TIME
-o,--older-than     kill processes older than TIME
-i,--interactive    ask for confirmation before killing
-l,--list           list all known signal names
-q,--quiet          don't print complaints
-r,--regex          interpret NAME as an extended regular expression
-s,--signal SIGNAL  send this signal instead of SIGTERM
-u,--user USER      kill only process(es) running as USER
-v,--verbose        report if the signal was successfully sent
-V,--version        display version information
-w,--wait           wait for processes to die
-n,--ns PID         match processes that belong to the same namespaces
                    as PID
-Z,--context REGEXP kill only process(es) having context
                    (must precede other arguments)

jui@DESKTOP-1T35KU2:~$ exit

```

```

jui@DESKTOP-1T35KU2:~$ ls -la
total 12
drwxr-xr-x 1 jui jui 4096 Sep 12 05:06 .
drwxr-xr-x 1 root root 4096 Sep 11 20:15 ..
-rw----- 1 jui jui 832 Sep 12 05:50 .bash_history
-rw-r--r-- 1 jui jui 220 Sep 11 20:15 .bash_logout
-rw-r--r-- 1 jui jui 3771 Sep 11 20:15 .bashrc
drwx----- 1 jui jui 4096 Sep 12 05:06 .config
drwxr-xr-x 1 jui jui 4096 Sep 11 20:15 .landscape
-rw-rw-rw- 1 jui jui 0 Sep 12 04:24 .motd_shown
-rw-r--r-- 1 jui jui 807 Sep 11 20:15 .profile
-rw-r--r-- 1 jui jui 0 Sep 12 04:38 .sudo_as_admin_successful
jui@DESKTOP-1T35KU2:~$ ls /mnt/
c d e f g
jui@DESKTOP-1T35KU2:~$ cd /mnt/f
jui@DESKTOP-1T35KU2:/mnt/f$ ls -la
ls: 'System Volume Information': Permission denied
total 211132
drwxrwxrwx 1 jui jui 4096 Dec 9 2018 '$RECYCLE.BIN'
drwxrwxrwx 1 jui jui 4096 Sep 12 05:01 '.'
drwxr-xr-x 1 root root 4096 Sep 11 20:14 '..'
-rwxrwxrwx 1 jui jui 365149 Mar 18 12:58 '90180711_134731708087943_304911'
drwxrwxrwx 1 jui jui 4096 Mar 8 2020 'Install Software'
drwxrwxrwx 1 jui jui 4096 Mar 6 2020 'New folder project'
-rwxrwxrwx 1 jui jui 1114172 Jun 15 13:32 'Nusrat Jahan Jui_IT-18039_CT_01'
d--x--x--x 1 jui jui 4096 Feb 18 2018 'System Volume Information'

```

```
jui@DESKTOP-1T35KU2:/mnt/f$ mkdir linuxfolder
jui@DESKTOP-1T35KU2:/mnt/f$ rmdir linuxfolder
jui@DESKTOP-1T35KU2:/mnt/f$ man cp
jui@DESKTOP-1T35KU2:/mnt/f$ clear
```

```
CP(1) User Commands

NAME
    cp - copy files and directories

SYNOPSIS
    cp [OPTION]... [-I] SOURCE DEST
    cp [OPTION]... SOURCE... DIRECTORY
    cp [OPTION]... -t DIRECTORY SOURCE...

DESCRIPTION
    Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.

    Mandatory arguments to long options are mandatory for short options too.

    -a, --archive
        same as -dR --preserve=all

    --attributes-only
        don't copy the file data, just the attributes

    --backup[=CONTROL]
        make a backup of each existing destination file

    -b
        like --backup but does not accept an argument

    --copy-contents
        copy contents of special files when recursive

Manual page cp(1) line 1 (press h for help or q to quit)
```

```
82 killall
83 clear
84 ls -la
85 ls /mnt/
86 cd /mnt/f
87 ls -la
88 mkdir linuxfolder
89 rmdir linuxfolder
90 man cp
91 clear
92 history
jui@DESKTOP-1T35KU2:/mnt/f$ history -c
jui@DESKTOP-1T35KU2:/mnt/f$ history
1 history
jui@DESKTOP-1T35KU2:/mnt/f$ passwd
Changing password for jui.
Current password:
New password:
```

Discussion :

Linux is open source software, the source code is available for review. Linux is Mainly used in server. About 90% of the internet is powered by Linux servers. This is because Linux is fast, secure, and free! The main problem of using Windows servers are their cost. This is solved by using Linux servers. The OS that runs in about 80% of the smartphones in the world, Android, is also made from the Linux kernel. Most of the viruses in the world run on Windows, but not on Linux.