**ASSIGNMENT 1**

**Aim:** Study of Important Linux Commands

**Objective:** ​To study the frequently used Linux commands

**Commands:**

**1)man:** man - an interface to the on-line reference manuals

Description:

man is the system’s manual pager. Each page argument given to man is normally the `

name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed.

Example:

man ls: - Display the manual page for the item (program) ls. man cat: - Display the manual page for the item (program) cat.

man touch: - Display the manual page for the item (program) touch. man grep: Display the manual page for the item (program) grep. man mkdir: - Display the manual page for the item (program) mkdir.

man cd: Display the manual page for the item (program) cd.

**2)ls:**

ls - list directory contents

SYNOPSIS

ls [OPTION]... [FILE]...

DESCRIPTION

List information about the FILEs (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

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

-a, --all do not ignore entries starting with.

-A, --almost-all do not list implied. And....

etc……

Exit status:

if OK,

if minor problems (e.g., cannot access subdirectory),

if serious trouble (e.g., cannot access command-line argument).

Examples:

ls:-ls​ with no option list files and directories in bare format where we won’t be able to

view details like file types, size, modified date and time, permission and links etc.

ls -l

Here, ​ls -l​ (​-l​ is character not one) shows file or directory, size, modified date and time, file or folder name and owner of file and its permission.

ls -a

List all files including hidden file starting with ‘.​​‘. it will lsit hidden files.

ls -lh

With combination of ​-lh​ option, shows sizes in human readable format.

ls -F

Using ​-F​ option with ​ls​ command, will add the ​‘/’​ Character at the end each directory.

ls -ltr

With combination of -​ltr​ will shows latest modification file or directory date as last.

ls -i

With ​-i​ options list file ​/​ directory with inode number.

ls -n

To display ​UID​ and ​GID​ of files and directories. use option ​-n​ with ls command.

**3)pwd:**

pwd stands for ​ P​rint​W​ orking​ D​irectory. It prints the path of the​

working directory, starting from the root.

pwd is shell built-in command(pwd) or an actual binary(/bin/pwd).

$PWD is an ​[environment variable](https://www.geeksforgeeks.org/environment-variables-in-linux-unix/)​which stores the path of the current directory.

This command has two flags:

(a)pwd -L:Shows symbolic path

(b)pwd-P:Shows actual path

**4)mkdir dir:**

mkdir command in Linux allows the user to create directories .This​

command can create multiple directories at once as well as set the permissions for the directories. It is important to note that the user executing this command must have enough permissions to create a directory in the parent directory, or he/she may recieve a ‘permission denied’ error.

Ex:

(a)mkdir - -version:--​version​: It displays the version number, some information regarding the license and exits.

(b)mkdir - -help:​--help​: It displays the help related information and exits

(c)mkdir -v [directories] : It displays a message for every directory created

(d)mkdir -p [directories] :A flag which enables the command to create parent directories as necessary. If the directories exist, no error is specified.

**5)more :**

more command is used to view the text files in the command prompt, displaying

one screen at a time in case the file is large (For example log files). The more command also allows the user do scroll up and down through the page.

(a) more -d:Use this command in order to help the user to navigate. It displays “[Press space to continue, ‘q’ to quit.]” and displays “[Press ‘h’ for instructions.]” when wrong key is pressed.

(b)more -f: This option does not wrap the long lines and displays them as such.

(c)more -p: This option clears the screen and then displays the tex

(d)more -c:This command is used to display the pages on the same area by overlapping the previously displayed text.

**6​)head:**

It is the complementary of ​[Tail](https://www.geeksforgeeks.org/tail-command-linux-examples/)​command. The head command, as the name implies, print the top N number of data of the given input. By default, it prints the first 10 lines of the specified files. If more than one file name is provided then data from each file is preceded by its file name. Syntax:

head [OPTION]… [FILE] …

**7)touch:**

The ​touch​ command is a standard command used in UNIX/Linux operating system which is used to create, change and modify timestamps of a file.

Syntax:

touch file\_name

(a)​touch -a fileName​ : This command is used to change access time only. To change or update the last access or modification times of a file touch -a command is used.

(b)​touch -c ​: This command is used to check whether a file is created or not. If not created then don’t create it. This command avoids creating files.

(c)​touch -c-d​ : This is used to update access and modification time.

(d)​touch -m​ : This is used to change the modification time only. It only updates last modification time.

**8)rm:**

rm stands for ​remove​ here. rm command is used to remove objects such as files,

directories, symbolic links and so on from the file system like UNIX.

Syntax:

rm [OPTION]... FILE…

rm -f:​m​ prompts for confirmation removal if a file is ​write protected​. The ​-f​ option overrides this minor protection and removes the file forcefully.

rm -r:​-r (Recursive Deletion):​ With ​-r(or -R)​ option rm command performs a tree-walk and will delete all the files and sub-directories recursively of the parent directory. At each stage it deletes everything it finds. Normally, ​rm​ wouldn’t delete the directories but when used with this option, it will delete.

(c)rm —version : –version:​ This option is used to display the version of ​ rm​ which is​ currently running on your system.

**9)cp:**

cp stands for ​ copy​ . This command is used to copy files or group of files or​ directory. It creates an exact image of a file on a disk with different file name. cp ​​command require at least two filenames in its arguments.

Syntax:

cp [OPTION] Source Destination

(a)cp -i :​i​ stands for Interactive copying. With this option system first warns the user before overwriting the destination file. ​cp​ prompts for a response, if you press ​y​ then it overwrites the file and with any other option leave it uncopied.

(b)cp -b : With this option cp​command creates the backup of the destination file in the same folder with the different name and in different format.

(c) cp -f : f the system is unable to open destination file for writing operation because the user doesn’t have writing permission for this file then by using ​-f​ option with ​cp​ command, destination file is deleted first and then copying of content is done from source to destination file.

**10)mv:**

mv stands for move. mv is used to move one or more files or directories

from one place to another in file system like UNIX.

Syntax:

[Option] source destination

(a)mv -i : Like in ​[cp](https://www.geeksforgeeks.org/cp-command-linux-examples/)​[,](https://www.geeksforgeeks.org/cp-command-linux-examples/) the -i option makes the command ask the user for confirmation before moving a file that would overwrite an existing file, you have to press ​y​ for confirm moving, any other key leaves the file as it is. This option doesn’t work if the file doesn’t exist, it simply rename it or move it to new location.

(b)mv -f :​mv ​prompts for confirmation overwriting the destination file if a file is ​write protected​. The ​-f​ option overrides this minor protection and overwrite the destination file forcefully and delete the source file.

(c)mv -n :​-​n (no-clobber):​ With ​-n​ option, ​mv​ prevent an existing file from being overwritten.

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**11)ps:**

is used to display the current running processes​

syntax: ps [options]

**12)top:**

​top​ command is used to show the Linux processes. It provides a dynamic

real-time view of the running system.

​(a)Batch Mode :​Send output from top to file or any other programs. (top -b)

(b)​Command Line :​ The below command starts top with last closed state. (top -c)

(c)​Delay time :​ It tells delay time between screen updates. (top -d)

**13)kill:**

kill​ command in Linux (located in /bin/kill), is a built-in command which

is used to terminate processes manually. kill​​ command sends a signal to a process which terminates the process.​

(a)1​. kill -l :To display all the available signals​

(b)kill -s :​ To show how to send signal to processes.​

**14)bg**: bg command in linux is used to place foreground jobs in background. Syntax: bg [job\_spec …]

(a)​bg –help​ : This command displays help information.​

**15)fg:** fg command in linux used to put a background job in foreground. Syntax: fg [job\_spec]

(a)​fg –help​ : It displays help information.

**16)chmod:**

In Unix-like operating systems, the chmod command is used to change the access mode of a file.

The name is an abbreviation of change mode.

Syntax :​

chmod [reference] [operator] [mode] file…

**17)grep**: The grep filter searches a file for a particular pattern of characters, and displays all lines that contain that pattern. The pattern that is searched in the file is referred to as the regular expression (grep stands for globally search for regular expression and print out). Syntax:

grep [options] pattern [files]

Options Description

-c​ : This prints only a count of the lines that match a pattern

:​ Display the matched lines, but do not display the filenames.

:​ Ignores, case for matching

-l :​ Displays list of a filenames only.

-n :​ Display the matched lines and their line numbers.

-v :​ This prints out all the lines that do not matches the pattern

exp : Specifies expression with this option. Can use multiple times.​

file :​ Takes patterns from file, one per line.

-E :​ Treats pattern as an extended regular expression (ERE)

-w :​ Match whole word

-o :​ Print only the matched parts of a matching line, with each such part on a separate output line.

**18​)locate:**

locate ​command in Linux is used to find the files by name. There is two most

widely used file searching utilities accessible to users are called find and ​locate​. The ​locate​ utility works better and faster than ​find ​command counterpart because instead of searching the file system when a file search is initiated, it would look through a database.

Syntax:

locate [OPTION]… PATTERN…

-b, –basename :​ Match only the base name against the specified patterns, which is the opposite of ​–wholename​.

-c, –count :​ Instead of writing file names on standard output, write the number of matching entries only.

**19​)pgrep:** searches for all the processes that matches the pattern and by default return their id

Syntax:

pgrep pattern

**20)​ping:**

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. Fast ping low latency means faster connection​.

**21)​find:**

The find command in UNIX is a command line utility for walking a file hierarchy. It can be used to find files and directories and perform subsequent operations on them.

Syntax: find [where to start searching from]

[expression determines what to find] [-options]​[what to find]

-exec CMD:​ The file being searched which meets the above criteria and returns 0 for as its exit status for successful command execution.

-ok CMD : It works same as -exec except the user is prompted first.​

-inumN :​ Search for files with inode number ‘N’.

-links N :​ Search for files with ‘N’ links.

-name demo : Search for files that are specified by ‘demo’.​

-newer file :​ Search for files that were modified/created after ‘file’.

-perm octal :​ Search for the file if permission is ‘octal’.

-print :​ Display the path name of the files found by using the rest of the

criteria.

-empty :​ Search for empty files and directories.

