

Commands

1. LS → used to list the file & directory in the present working directory.
2. LS -l → used to display the file in long format.
3. mkdir → used to create a directory.
4. Touch → used to create empty file.
5. CD → change directory.
6. cd.. → it used to come out of directory.
7. cat → Display the Content of file.
8. Vi → used to edit the file.
9. :wq! → To save & quit file in editor.
w → Save q → quit ! → Forcefully
10. change / Replace String name through file.
: % s/current name/new name/q
Replace string in particular line.
: ① <line no> s/current name/new name/q.
change in Add line by separating line no's by comma.
\$ s/c.n/n.n/q ⇒ For last line.
11. Set nu → To set line numbers
12. Set nonu → To remove the displayed line numbers.
13. CP → To copy the file
if a new name is given it creates new file with same content as of previous file
Eg:- CP file1 file2.

14. mv

mv is used to rename file

mv Old Name Newname

15. LS - lrt

list the files with recently modified file will be displayed in bottom.

16. LS - lt

list the files with recently modified file will be displayed at top.

17. mkdir - P

used to create a directory with specified path.

mkdir - P test1/test2/test3

| rm - i filename
| ↳ Ask for Confirmation

Note: even if directories are absent it will create new with specified path

| rmdir
| ↳ To remove all empty directories

18. Copy file to directory

Cp <filename> dir1/dir2/dir3

in above call file will be copied to dir3

19. Copy Directory to another Directory.

Cp -r test1 dir1

[R → Recursive]

20. Rename a directory.

Name or file renaming

R/P mv New dirname Old dirname

21. Cursor to particular line

ESC : linenum ↵

22. Delete particular line

move the cursor to that particular line.

ESC dd

23. word Count

We is used to count num of line, words & character

O/P 18 39 500
line↑ word↑ character↑

WC - l → Display line only

WC - c → Display character only

WC - w → Display only words

24. How to create Hidden file.

dot [.] at the start of file name make it hidden

touch .temp1

25. Display hidden file.

ls -a [a → all]

26. How to list opened file

lsof.

27. More :-

* More filename

* it used to display content of file page wise

* q is used to come out of it. * Can't scroll up ↪ del ↪

28. less :- less filename.

used to display content of file page wise.

Scroll up & down using arrow keys

Press Q to come out

29. Head:-

is used to display first portion of file

Default it will display first 10 lines.

Head -5 filename [First 5 lines]

Head -15 filename [First 15 lines]

30. Tail:-

is used to display last portion of file.

Tail filename [Default → displays 10 lines]

Tail -5 F.N [display - last 5 lines]

31. Redirect:- [>]

is used to write o/p of a command to file

ls -lrt > Newfilename

Redirect will overwrite the content of a file if file already exists.

ls -lrt > filename

32. Append [>>]

is used to attach the o/p of command to the end of file.

It won't overwrite existing content

ls -lrt >> filename

Eq:- tail -5 >> log [log → file name]

If we use log1 → Create New → copied.

To search for a string in vi mode

Press Esc & type /wordToSearch

33 Grep

Grep is used to search a pattern in a file.

If pattern is found \Rightarrow it will print the whole line.

Grep "pattern name" filename

Grep -i "pattern name" filename

-i \Rightarrow display/print the line without considering case sensitivity

34. e-grep

Search Multiple [2] pattern in a file

Grep -e "Pattern name 1" -e "Pattern Name 2" -e "PN3" File Name

How to list if pattern is present.

Grep "pattern name" * [$*$ \Rightarrow All]

List all the file with intended pattern

Print only filename which contains pattern

Grep -l "pattern name" *

35. R-Grep:-

Search pattern in present directory & sub directory.

[R \Rightarrow recursive search]

Grep -R "pattern name" *

Grep -l -R "pattern name" *

\Rightarrow print only filename
if l is removed then
line will be printed

Search only particular word [not character]

Grep -w "pattern name" File name

36. Grep V :-

It is used to print all the lines except the

line which have mentioned pattern

Grep -V "pattern name" filename

37. Search line which starts with particular word.

Grep " ^ L " File name [L → char. Example]

" ^ letter/word " File Name.

38. Search line which ends with particular pattern [Eq.k]

Grep " k \$ " File name.

Grep " letter /word \$ " File name.

39. Pipe [] also called as filter?

it used to pass o/p of one command as i/p
to next command.

Eq: ls | grep "fixed" "myfile" o/p ⇒ myfile

40. How to display 99th line of a file

head -99 | tail -1 Head -99 myfile | tail -1.

41. How to display 2nd last line of a file.

tail -2 myfile | Head -1.

42. Tee

it used to write the output of a command

either to file or display on screen.

(i) ls -lrt | tee myfile.

it used to display recently modified file
and save it on the file.

it will overwrite data in file like **Redirect**

(ii). ls -lrt | tee -a myfile

it will attach o/p of a command ^{some} in file like **Append**

43. chmod :- [change mode]

is used to change the permission of file / directory

chmod 777 filename.

it will change the permission of filename to user as

it will give all permission [Read(r), write(w), Execute(x)]
for all user, group & others.

44. chmod 541 myfile

it will give only read & execute → user.
write → group
execute → others.

5 | 4 | 1
x - x - w - - x

7 | 4 | 1
r w x | 2 - - 2 -

r = 4
w = 2
x = 1
- => 0
r, w, x => 1

in Binary.

45. How to change permission of a directory.

chmod -R 777 dirname

-R ⇒ change permission of all directories and subdirectories

if -R is removed it will change permission of PWD.

46. (i) How to remove only write permission from owner, group & others

chmod a-w myfile.

[a = all [r, g, o]
- => remove + => add]

(ii) Remove write for ^{user}, read for ^{group} execute for others

chmod u-w, g-r, o-x. myfilename.

(iii) Add write for user, remove write for group & read & execute for others

chmod u+w, g-w, o-r, o-x myfilename

(iv). `chmod a -rwx myfilename`
is used to remove all permissions in file for all
i.e user, group & others
 $a +rwx \Rightarrow$ Add all permissions to all.

47. echo

echo is used to print statement in linux.

* `echo "Hai"`
used to print Hai

* `echo "linux is interesting"`
used to print linux is interesting

* `echo -e "linux \n is \n interesting"`
print
linux
is
interesting.
\n → newline -e ⇒ mandatory.

48. PS [processes] | `ps -aux` lists process more detail

- * is used to list all current running processes
on a system
* is used to check whether a process is running or not
* is used to get PID of a process

(i) `ps -ef`

is used to list all current running process in a table

(ii) `ps -ef | grep "process name"`

is used to check the particular process is running or not

(iii) ps -ef | grep -e "process name" -e "process name"
is used to check multiple process is running or not.

(iv). PS -u "user name"
is used to show particular user name

Kill all - name "process name"

19. Kill
Kill is used to ^{Terminate} stop all process forcefully

-9 is the specific signal to terminate the process.

Kill -9 PID ⑥ Kill -9 1983

used to kill PID 1983.

to terminate/stop multiple files

Kill -9 PID1 PID2 PID3 ← [Separate by space key].

50. To change the name of ownership.

chown Newname filename

Chown is used to find ownership of a file ⑤ directory

51. To change shell. / How to change default shell.

echo \$SHELL.

chsh ksh

o/p => /bin/bash

52. umask

- * It need to change default permissions on a system

umask 000

- * whoever created file on a system will have permission by def.

- * usually run by root user.

- * it will change permissions of all new files/directories created ^{only} after execution of umask command.

- * it is reversal of chmod.

umask 000 \Rightarrow rwx rwx rwx

umask 777 \Rightarrow --- --- ---

* rwx r-x r--

chmod	7	5	4
- sub ↑	7	7	7
	0	2	3

 \Rightarrow umask 023

* r-x rw- r-x

5	6	1
7	7	7
2	1	6

 \Rightarrow umask 216.

53. Check size of File / Directories

53. df -h

is used to check memory of a disk

54. df -h .

is used to check ~~memory~~ present disk memory

55. du -sh filename

is used to check size of a file ~~or~~ Directory.

56. du -sh *

is used to check size of file / Directory in pwd

Note :- df = disk free

h = human readable

du = disk usage

57. How do you check system memory.

free is used to check system memory [Ram size]

free -h

58. sed [stream editor]

is used to replace a string without opening a file

Sed 's/old string name/new name/g' filename

(i) Replace string on in 3rd line

Sed '3 s/oldname/newname/g' filename.

(ii) Replace string only in 5th & 7th line

Sed '5,7 s/oldname/newname/g' filename

(iii). Replace string only in last line

Sed '\$ s/oldname/newname/g' filename

(iv) Replace string ONLY for FIRST OCCURANCE in first line

Sed '1 s/oldname/newname/1' filename.

59. Display only specific line using Sed.

(i) Sed -n '3P' filename \Rightarrow prints only 3rd line

(ii) Sed -n '2,4P' filename \Rightarrow prints line 2 to 4 [2,3,4]

(iii) Sed -n '\$P' filename \Rightarrow prints last line

60. Delete a line using sed command.

Sed '2d' filename

Sed '2,4d' filename

Sed '5d' filename.

Sed -i will edit and save file but doesn't display in screen

Display random line using Sed Command.

Sed -n '4p' filename; Sed -n '8P' filename

61. CUT

is used to cut the file column wise

Cut -d " " -f₁ filename

f = field group

Display 1st & 3rd column

d = delimiter.

Cut -d " " -f_{1,3} filename

62. AWK :-

is used to cut the file column wise & row wise

awk -F " " '{print \$1}' filename

is used to print first column of a file

(i). awk -F " " '{print \$2}' filename

will print only 2nd column of a file

(ii). awk -F " " '{print \$1,\$2}' filename

will print first & second column of a file

(iii). awk -F " " '{print \$NF}' filename

will print last column of a file

(iv). awk -F " " '{print \$(NF-1)}'

will print 2nd last column of a file

63. Flavours of linux [version usually used]

Redhat Febrora

Ubuntu Kubuntu

Suse

Atx

64. FIND

Find is used to find the location of a file

Find is automatic recursive it will search in all subdirectories also

(i) `find . -name "myfilename"`

is used to find a location of a file/directory

(ii) `find . -iname "myfilename"`

is used to find the location of a file and till search without case sensitivity

(iii) `find /home/maboxterm -name "myfilename"`

is used to find the file by using path

(iv). find the files which are modified 30 days back

`find . -type f -mtime +30`

(v). find/list the files which are modified within 30 days

`find . -type f -mtime -30`

(vi) find/list the files Directories which are modified 30 days before

`find . -type d -mtime +30`

`find . -type f -mtime +30`
to find both file & direct

Directories which are modified within 30 days

`find . -type d -mtime -30`

(vii) Find the files modified ~~before~~ 5 minutes back

`find . -type f -mmin +5`

65. List / find the files which are modified 3 months ago & delete them

(i) xargs

xargs will pass its arguments to next command. [separated by space]

`find . -type f -mtime +30 | xargs rm -f`

to delete
dir & rm -f

is an inbuilt command.

(ii) -exec rm

find . -type f -mtime +90 ! -exec rm

66. List the files which have permission 777 using find

find . -type f -perm 777

List the files which are Empty.

find . -type f -empty | find -type f -size 0

67. Find / list the files of current directory only modified before 30 day

find . -type f -maxdepth 1 -mtime -30

max depth 2 \Rightarrow search in 1st & 2nd level directories only.

Non empty

find . -type f -not empty

find . -type f ! -empty

find . -type f -size 0

find . -type f -mSize +2GB

ls -l*

it will print all the file name that starts with "l"
i.e filename first character 'l' followed by anything will be listed

ls *l*

it will print all file name that contain character 'l' anywhere in the filename

69. SSH [Secure Shell]

SSH Command is used to Connect to a remote Server.
it uses port 22

68. SSH username@server2

password:

is used to login to a remote server [i.e. server2]

70. SCP [Secure Copy]

is used to copy files @ directory from one server to another server.

70. (i) To copy file1 from server1 to server2.

SCP file1 username@server2:/home/temp.

/home/kmp
=> Destination
to where file
should be copied

(ii) Preserve the same permissions of a file and copy to server2.

SCP -P file1 username@server2:/home/temp.

(iii) copy directory from server1 to server2

SCP -r dir1 username@server2:/home/temp

71. rsync :-

is used to copy the file / directory from one server to other and also within the server.

(i) rsync file1 username@server2:/home/kmp

copy file from one server to server2

(ii) rsync dir1 dir2

Copy directory1 to directory2 within the server

while Copying a file from one server to another
if copying is stopped in between due to network/system issue
& once system is back if we use

(i) SCP => it will start copying from beginning

(ii) rsync => it will start copying from where it was stopped

71. Ping :-

it used to check whether the server is up & running our

Ping ip

| $\text{ctrl} + \text{C}$ => Come out.

Ping ip address @ hostname

it used to check whether particular server is up & running.

72. Telnet :-

it is used to break firewall. [it uses Port 23]

it used to authenticate our account credentials on a
remote server.

telnet ip

username:
password:

if success \rightarrow Authentication successful
fail \rightarrow Authentication denied.

73. uptime :-

it used to check from how long the system is up & running

currenttime

#? how many user are currently logged on

system load average for the past 5, 10, 15 minutes

load average :- system load for 1 min, 5 min, 15 min

system load :- no of open @ processes waiting to execute

74. Sort

Sort is used to sort data/content in the file

(i) Sort filename

used to sort data of file in ascending order.

(ii) Sort -r filename

used to sort data of file in descending order.

75. Uniq

uniq is used to print only unique data

it is always used along with sort.

it will print only if they are consecutive entries [or sequential entries]

uniq filename

Sort filename | uniq.

Sort file alphabetically ascending as well as unique entries

[i.e. duplicates removed but they still exist in original file].

76. who

used to check how many were logged in to the system

whoami :- is used to check logged in user.

uname

uname -a is used to check all linux version [i.e. complete info about linux]

uname -v is used to check present linux version.

Netstat:-

is used to monitor network connection of both incoming & outgoing routing tables

Soft link

Soft link is a shortcut to a file.

If we update anything in actual file and those changes will get reflected in the soft link also. If we delete the original file soft link will not work.

In $-s$ ^{original} filepath \rightarrow linkname.

In $-s$ /home/user/bg linkname.

Hard link

If we delete original file ^{soft link} will not work because soft links point to a file.

If we delete original file hardlink will work ^{copy of original} because it points to inode of a file.

inode is a unique identification number which indicates number of links to a file.

ls -i

Hard link file size will be same as original file size of In filename linkname.

Profile @ .bashrc

It is an autoexecute file which gets executed automatically as soon as we log in to a system.

Su [Switch user @ Super user]

Su is used to log-in as a root user.

Root user has highest privileges on the system.

Su -root @ Su - test

[test → Root username]

password:

=> logged in as root user.

Sudo [Super user do it]

is used to execute commands, file with root permissions.

Be need to provide file,

Sudo username

where do you find @ edit sudoers

/etc/sudoers

To

Netstat:-

is used to check free ports available on a system.

it displays network connections [both incoming & outgoing],
Routing table
Network protocol statistics.

List all listening ports TCP & UDP.

Netstat -a ⇒ List all TCP & UDP ports.

Netstat -at ⇒ List only TCP ports.

Netstat -au ⇒ List only UDP ports.

Netstat -l ⇒ List all listening ports.

Netstat -lt ⇒ To list only listening TCP ports

Netstat -lu ⇒ To list only listening UDP ports

TCP = Transmission Control Protocol

UDP = User Datagram Protocol

Environment Variables

Environment variables are the variables which are exported to subshell.

Environment variables are used to pass info into process

PATH: ⇒ Colon Separated list of directories to search for command

HOME: ⇒ Current user's Home directory.

LOGNAME: ⇒ Current user name

SHELL :- user's preferred shell

EDITOR :- user's preferred text editor

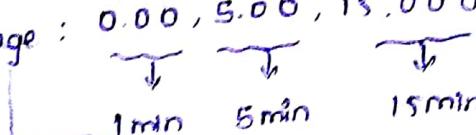
MAIL :- The user's electronic mail inbox location.

- * Bash is the shell (i) Command Language Interpreter for Linux OS
 - * Bash is acronym of Bourne Again Shell
 - * Bash is default shell for Linux
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NOTE:-

- * chown : (i) To change the ownership of a file to user & group
chown user:group file name
- (ii) To change the ownership of a directory.
chown -R user:group directory name
- * Need to search particular word not pattern in a file
grep -w "pattern/word" filename.

- * uptime:
is used to check from how long system is up & running.
It'll display following parameters

load average : 0.00, 5.00, 15.00

 System load / time

System load :- no of procs. waiting to get executed.