

**Object 1**

Basic Linux Commmand

1. **pwd :**stands for Print Working Directory. It prints the path of the working directory, starting from the root.

# Example :-

beryl@beryl-Latitude-E6520: ~$ pwd

/home/beryl

1. **ls** — Use the **"ls"** command to know what files are in the directory you are in. You can see all the hidden files by using the command “**ls -a”**.

ls - t -> sort the files by modification time . last modified file display first. ls -1 -> display 1 file or directory per line.

ls -l -> display long listing information about file or directory.

ls – lh -> display long listing information in human readable form. ls – ld -> display information about directory. Or (ls (dir\_name) ). ls – lt -> display detail information with lastlmodified time sorting.

ls – ltr -> display detail information with last modified time sorting in reverse. ls - a -> display all files including hidden.

ls- i -> display all content with inode number .

|  |  |  |
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| **Example :-** |  | |
| Desktop | monk | Public |
| Documents | Music | Templates |
| Downloads | npm-debug.log | test |
| examples.desktop | onkar | users |
| google-chrome-stable\_current\_amd64.deb | Pictures | Videos |

1. **cd** — Use the **"cd"** command to go to a directory.

To return to the home directory immediately, use **cd ~** (tilde)OR **cd**

* 1. To change into the root directory of Linux file system, use **cd /**.
  2. To go into the root user directory, run **cd /root/** as root user.
  3. To navigate up one directory level up, use **cd ..**
  4. To go back to the previous directory, use **cd -**

# Example :-

beryl@beryl-Latitude-E6520: ~/onkar/monk2/monk3$ cd .. beryl@beryl-Latitude-E6520: ~/onkar/monk2$ cd .. beryl@beryl-Latitude-E6520: ~/onkar$ cd monk2 beryl@beryl-Latitude-E6520: ~/onkar/monk2$ cd monk2

1. **mkdir & rmdir** — Use the **mkdir** command when you need to create a folder or a directory.

But **rmdir** can only be used to delete an empty directory. To delete a directory containing files, use **rm**.

# Example :-

beryl@beryl-Latitude-E6520: ~$ mkdir Onkar

beryl@beryl-Latitude-E6520: ~$ rmdir Onkar

1. **rm** - Use the **rm** command to delete files and directories. Use "**rm -r**" to delete just the directory. It deletes both the folder and the files it contains when using only the **rm** command.

# Example :-

**beryl@beryl-Latitude-E6520**: ~/onkar/monk2$ rm -r monk3

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ ls

**beryl@beryl-Latitude-E6520**: ~/onkar$ ls monk2 new1.txt new2.txt

beryl@beryl-Latitude-E6520: ~/onkar$ rm new1.txt

beryl@beryl-Latitude-E6520: ~/onkar$ ls monk2 new2.txt

1. **touch** — The **touch** command is used to create a file. It can be anything, from an empty txt file to an empty zip file. For example, “**touch new.txt**”.

# Example :-

beryl@beryl-Latitude-E6520: ~/onkar$ ls monk2 monk3 new1.txt new2.txt

beryl@beryl-Latitude-E6520: ~/onkar$ touch newfile.txt beryl@beryl-Latitude-E6520: ~/onkar$ ls

monk2 monk3 new1.txt new2.txt newfile.txt

1. **cp** — Use the **cp** command to copy files through the command line. It takes two arguments: The first is the location of the file to be copied, the second is where to copy.

**Some option : -R** is used to copy directory. , **\*** is used to copy all content of

source directory.

# Example :-

beryl@beryl-Latitude-E6520: ~/onkar$ **cp** newfile.txt /monk3 beryl@beryl-Latitude-E6520: ~/onkar$ cp **-r** monk2 monk3 beryl@beryl-Latitude-E6520: ~/onkar$ ls monk3

monk2

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ cp -r ../ **\*** ./ cp: cannot copy a directory, '../', into itself, './'

cp: 'new1.txt' and './new1.txt' are the same file beryl@beryl-Latitude-E6520: ~/onkar/monk2$ ls monk2 new1.txt new3.txt newfile.txt

1. **mv** — Use the **mv** command to move files through the command line. We can also use the **mv** command to rename a file. For example, if we want to rename the file “**text**” to “**new**”, we can use “**mv text new**”. It takes the two arguments, just like the **cp** command. **Example :-**

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **mv** new1.txt monk3 beryl@beryl-Latitude-E6520:~/onkar/monk2$ **ls** monk3

new1.txt

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **mv** newfile.txt new4.txt beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **ls**

monk3 new3.txt new4.txt

1. **free :** Display the amount of free and used memory of system.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **free** | | | | | | | |
| Mem: | total  3905668 | used  1680488 | | free  199236 | shared buff/cache  559700 2025944 | | available  1382768 |
| Swap: | 2097148 | 524 | | 2096624 |  | |  |
| beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **free -g** **{**for data in GB**}** | | | | | | | |
|  | total | used | free | shared | buff/cache | available | |
| Mem: | 3 | 1 | 0 | 0 | 1 | 1 | |
| Swap: | 1 | 0 | 1 |  |  |  | |

1. **Vi ->** operation mode -
   1. Command Mode 2. Insert Mode

copy / cut , paste , delete Write text only

**Open File ->** vi <file\_name>

**Switch Mode ->** press **i** to go insert mode **.** Press **ESC** ti exit insert mode .

**Save / Close file** -> :w save the changes.

:q Close the file .

:q! Close without save.

:wq Save and Close the file.

1. **man ->** (manual) this command is used to see the manual of any command.

**USE :** man <command\_name > , PRESS **q** to Exit the manual page .

# uname ->

uname : display the information of system.

Option -> -a : display all information. -m : Hardware name -n :Hostname of current computer -p : type of processor -s : kernal name -r : kernal release - v : version beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **uname**

Linux

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **uname -a**

Linux beryl-Latitude-E6520 5.4.0-72-generic #80~18.04.1-Ubuntu SMP Mon Apr 12 23:26:25 UTC 2021 x86\_64 x86\_64 x86\_64 GNU/Linux

1. **grep ->** Search character pattern in file. SYNTAX: Grep [option] pattern file\_path. Option ->

-c : display the number matched line.

-h : display the match line and hide the file name .

-i : Ignore the case during maching.

-l : display the file not lines.

-n : display the matched line and line number.

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **grep -n** "line" new3.txt new4.txt new3.txt:3:this the first line

new4.txt:2:line tobe deposite

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **grep -c** "line" new3.txt new4.txt new3.txt:1

new4.txt:1

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **grep -i** "line" new3.txt new4.txt new3.txt:this the first line

new4.txt:line tobe deposite

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **grep -h** "line" new3.txt new4.txt this the first line

line tobe deposite

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ **grep -l** "line" new3.txt new4.txt new3.txt

new4.txt

1. **find ->** search file or directory at provided path. SYNTAX : file [path] -name [file\_name]

beryl@beryl-Latitude-E6520: ~/onkar/monk2$ find ./ -name "new1.txt"

./monk3/new1.txt

1. ***chmod ->***

To change directory permissions in Linux.

**chmod +rwx filename** to add permissions. (r = 4 , w =2 , x = ) **chmod -rwx directoryname** to remove permissions. beryl@beryl-Latitude-E6520: ~/Desktop$ ls -l

**drwxr-xr-x** 2 beryl beryl 4096 Apr 22 17:51 fiel beryl@beryl-Latitude-E6520: ~/Desktop$ **chmod go-x fiel** beryl@beryl-Latitude-E6520: ~/Desktop$ ls -l

d**rwxr--r--** 2 beryl beryl 4096 Apr 22 17:51 fiel beryl@beryl-Latitude-E6520: ~/Desktop$ **chmod 666 fiel** beryl@beryl-Latitude-E6520: ~/Desktop$ ls -l

**drw-rw-rw-** 2 beryl beryl 4096 Apr 22 17:51 fiel

***beryl@beryl-Latitude-E6520***: ~/onkar/monk2$ chmod ug=rwx new.txt beryl@beryl-Latitude-E6520: ~/onkar/monk2$ ls -l

total 12

drwxr-xr-x 2 beryl beryl 4096 Apr 21 12:29 monk3

-rwxrwxr-- 1 beryl beryl 46 Apr 21 14:32 new3.txt

-rw-r--r-- 1 beryl beryl 38 Apr 21 14:52 new4.txt

1. scp -> secure copy

SYNTAX : scp <option> <file or directory > user@targethost:/ <folder>

1. tar -> Tape ARchive

use tocreate archive as well as extract the archive.

SYNTAX : tar [option] [archive\_name] [ file or folder to be archive]

-c : Create archive -x : Extract archive -v : display verbose information.

-f : Create archive with given file name

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| beryl@beryl-Latitude-E6520: | ~/onkar/monk2$ | **tar -cvf file monk3** |
| monk3/ |  |  |
| monk3/new1.txt |  |  |
| beryl@beryl-Latitude-E6520: | ~/onkar/monk2$ | ls |
| file monk3 mytar new3.txt |  |  |
| beryl@beryl-Latitude-E6520: | ~/onkar/monk2$ | rm -rf monk3 |

|  |  |  |
| --- | --- | --- |
| beryl@beryl-Latitude-E6520: file mytar new3.txt | ~/onkar/monk2$ | ls |
| beryl@beryl-Latitude-E6520: monk3/  monk3/new1.txt  beryl@beryl-Latitude-E6520: | ~/onkar/monk2$  ~/onkar/monk2$ | **tar -xvf file**  ls |

file monk3 mytar new3.txt new4.txt

# apt-get ->

**apt-get** is a command-line tool which helps in handling packages in Linux. Its main task is to retrieve the information and packages from the authenticated sources for installation, upgrade and removal of packages along with their dependencies.

**Update :** This command is used to synchronize the package index files from their sources again.

SYNTAX : apt-get update

**upgrade :** This command is used to install the latest versions of the packages currently installed on the user’s system from the sources enumerated in **/etc/apt/sources.list**.

**SYNTAX :** apt-get upgrade

1. **du ->** allows a user to gain disk usage information quickly.

Option : -h ( human readable ) , -s (summarize ) , --time , -a ( all ) , -c ( total ) , -x ( excluded )

beryl@beryl-Latitude-E6520: ~$ du **-ah** onkar

0 onkar/monk2/monk3/new1.txt 4.0K onkar/monk2/monk3

12K onkar/monk2/file 12K onkar/monk2/mytar

4.0K onkar/monk2/new3.txt 4.0K onkar/monk2/new4.txt 4.0K onkar/monk2/.new3.txt.swp 44K onkar/monk2

4.0K onkar/new3.txt 4.0K onkar/file.txt

0 onkar/new2.txt 4.0K onkar/file2.txt

0 onkar/newfile.txt 4.0K onkar/okk

64K onkarberyl@beryl-Latitude-E6520: ~$ du **-shc** onkar 64K onkar

64K total

1. **gzip ->** Gzip compresses only single files and creates a compressed file for each given file.

# Option :

-k : If you want to keep the input (original) file. SYNTAX : gzip -k filename

**-c** **:** to keep the original file , which tells gzip to write on standard output and redirect the output to a file: SYNTAX : gzip -c filename > filename.gz

**-v :** if you want to see the percentage reduction and the names of the files that are being processed: **SYNTAX** **:** **gzip -v filename**

**-*r*** ***:*** To compress all files in a given directory. **SYNTAX :** gzip -r directory

**Change the compression level :** gzip allows you to specify a range of compression levels .

**-1or --fast ->** means fastest compression speed with minimal compression ratio

**-9 or –best** **->** indicates the slowest compression speed with maximum compression ratio.

**-6 ->** The default compression level .

**-d ->** To [decompress a](https://linuxize.com/post/how-to-unzip-gz-file/) [.g](https://linuxize.com/post/how-to-unzip-gz-file/)z [file](https://linuxize.com/post/how-to-unzip-gz-file/) . SYNTAX :gzip -d filename.gz

**-l ->** gzip shows statistics about the given compressed files:

**SYNTAX :** gzip -l filename

# Nano File Editor :

1. To create and open a new file.

nano new\_filename

1. To save a file : press Ctrl+o
2. To cut paste in a file :
   * *To cut and paste a whole line*. Move to the line which you want to cut then press *Ctrl+k*. Now the line is moved to clipboard, To paste it, go to the position where you want to paste and then press *Ctrl+u.*
   * *Press ALT+A to set mark.*
   * *Press ALT+ ^ to Copy.*
3. To search a word in a file. *Ctrl+w* is used.

Press Ctrl+w

It will ask for a word to search for. Enter the word

It will search for the word and will place the cursor in the first letter of the first occurrence of the word.

1. To enable spell check in nano. First, install the spell check package.

$sudo apt install spell

* + To do spell check first press Ctrl+t
  + Now it will ask you to replace the incorrect words
  + Enter the word to replace with there
  + As soon as you will press the enter key

1. Move the set mark :
   * ALT + / -> to reach to the bottom.
   * ALT + \ -> to reach to the top.
   * ALT + G -> then ask for the line number : and get to go.
   * ALT + R -> used for replace. - AKS for search (to replace):

then Replace with :