

# Third School on LHC Physics

## Linux Commands

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1. mkdir : Creates a directory

Example: mkdir dir1

2. ls : lists all the files and directories in the current directory.

Example:

- ls → Simple listing.
- ls -l → long listing(includes permissions,size etc.)
- ls -t → lists in the modification time order
- ls -a → lists all files(including hidden files)

3. cd : Changes the directory.

Example:

- cd dir1 → Change to dir1
- cd .. → You will move one level up in the directory hierarchy i.e, going into the parent directory.
- cd → takes to your home directory. Default directory is your home directory.

4. pwd : prints the path of the current working directory

5. gedit : Graphical text editor.

Example:

- `gedit &` → opens the gedit editor(as a background job).Type something in to that and save the file.
- `gedit file1.txt &` → opens gedit showing the contents of file1.txt

6. `cp` : copy the contents from source to destination

Example:

- `cp file1.txt file2.txt` → Make a copy of file1.txt and names it as file2.txt
- `cp file1.txt dir1` → copies the file1.txt into directory dir1. The file will have same name “file1.txt” in dir1.

7. `mv`:

Example:

- `mv file1.txt file2.txt` → renames the file1.txt with file2.txt. Use “`ls`” to see the result. Now you don’t find file1.txt.
- `mv file1.txt dir1` → moves file file1.txt in to directory dir1. The file is deleted in the current directory and in dir1 it will have the same name file1.txt

8. `rm`: Removes files or directories

Example:

- `rm file1.txt` → Removes file1.txt
- `rm -f file1.txt` → Removes the file with our asking for confirmation(forceful removing)
- `rm -rf dir1` → Removes the directory dir1 recursively,i.e, it will delete
- all the directory hierarchy below the dir1 also.

Note:

- Use rm command with extreme caution. Data will be lost forever.
- If the you don't have the write permission for that file and you are trying to remove that file, then it asks your confirmation for the deletion of a file.

9. find: Search for a file or directory.

Example:

find -name file1.txt → searches for file1.txt in the current directory hierarchy.

10. history : displays all the recently used commands

11. cat:

Example:

- cat file1.txt → displays the contents of the file1.txt on to the terminal.
- cat file1.txt file2.txt → concatenates the contents of both the files and displays on to the terminal.

12. echo: echoes the content on the screen

Example:

- echo Welcome to TSLP → Displays "Welcome to TSLP" on the terminal.

13. grep :

Example:

- grep dog file1.txt → displays the lines containing "dog" in file1.txt
- grep -i dog file1.txt → Case Insensitive search. Displays all line matching with dog not considering the case(eg DOG,Dog,doG, etc..)

14. wc: Word count

Example:

- `wc file1.txt` → Displays number of lines, words, characters present in the file1.txt
- `wc -l file1.txt` → Prints only the number of lines of file1.txt

#### 15. sort:

##### Example:

- `sort file1.txt` → sorts the lines of file1.txt
- `sort -f file1.txt` → sort the lines of file1.txt with ignoring case
- `sort -n file1.txt` → sort the line of file1.txt in numeric order
- `sort -r file1.txt` → prints the reverse order of sorted lines of file1.txt

#### 16. chmod: change mode/permissions

##### Example:

- `chmod 777 file1.txt` → gives read,write and execute permission to ownern,group and others. Can be checked by using `ls -l` command.
- `chmod 764 file1.txt` → gives read,write,execute permissions to owner, read and write permissions to group and only read permission to the others.

#### 17. chown : change ownership of a file/directory

##### Example:

- `chown remo file1.txt` → makes remo as the owner of file1.txt. Can be observed by using the "`stat file1.txt`" command before and after using this command.

#### 18. su :

##### Example:

- `su remo` → will ask the password for remo account and changes the user.

- su → will ask the root password and changes the user as root(super user).

19. passwd: Change password

Example:

- passwd → ask your old password first and then a new password to choose.

20. who: prints the logged on users

Example:

- who
- who -b → prints the last system boot time.

21. ps: prints the process's information(pid,process name) which are created by this terminal only.

Example:

- ps

22. top: Shows system processes in real time(ps only gives a snapshot).

23. bg: makes the process as background job.

Example:

- Type "gedit" in terminal and this will start the process in foreground. Now type "ctrl+z" this will stop the gedit process. Now type "bg" and this makes your gedit process to run in background.

24. jobs:

Eg. jobs → gives the jobs and their ids that are running in background.

25. fg:

Example:

- `fg` → makes the last background process as foreground process.
- `fg %id1` → (“id1” can be taken from jobs command)background job with id “id1” will be made as foreground process.

26. `tar`: compresses and decompresses the files.

Example:

- `tar -zcvf dir1.tar.gz dir1` → To compress dir1
- `tar -zxvf archive.tar.gz` → To decompress archive.tar

27. `zip` & `unzip`:

Example:

- `zip file1.txt.zip file1.txt` → zip file file1.txt
- `unzip file1.txt.zip` → unzip file1.txt.zip
- `zip -r dir1.zip dir1` → zip a directory dir1
- `unzip dir1.zip` → unzip dir1.zip

28. `mount` & `umount`: Need to be superuser to execute these commands.

Check the partition to be mounted in `/dev` dir. Create a directory `dir1` in your home directory. Now use the following command “`mount /dev/sda5 dir1`” this makes you to access the files on `sda5` device through `dir1` directory(i.e, you can see all the files in device `sda5` in `dir1`). To unmount this device `sda5` use the following command “`umount dir1`”

29. `du`:

Example:

- `du` → Prints the each file’s size in the current directory.

- `du file1.txt` → Prints only for file1.txt
- `du -time` → Gives last modification time of each file.

30. `df`:

Example:

- `df` → Prints all the disks and the memory available and used.

31. `quota`:

Example:

- `quota -v` → Gives the memory used and memory allocated to you.

32. `reboot` & `shutdown`: needs to be superuser to execute these commands

Example:

- `reboot` → will restart the system
- `shutdown now`