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 into 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 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:

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find -name file1.txt → searches for file1.txt in the current directory hierarchy.
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10. `history`: displays all the recently used commands

11. `cat`:

Example:

- `cat file1.txt` → displays the contents of the file1.txt on 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 owner, 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 hidi` → ("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 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.
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