

Linux Commands

- Basic commands and File Handling commands:

1. **pwd** : Present working directory.
2. **ll** : Long list (shows list of all files and directories with date, permission, type of file, memory etc).
3. **ls** : List all the files and directories.
4. **ls -ltr** : Shows only file/directories which are created by the user.
5. **ls -a** : Shows only file/directories which are created by the user, even hidden files(.).
6. **cd** : Change directory.
7. **cd ..** : Previous directory.
8. **cd ~** : Go to the home directory from anywhere.
9. **mkdir dirname**: To create a new directory.
10. **rmdir dirname** : To delete an empty directory.
11. **rm -r dirname** : To delete directory and its content.
12. **touch filename** : To create a new file.
13. **rm filename** : To delete file.
14. **mv filename1 newfilename2** : To rename a file if the address is the same.
15. **mv filename newaddress** : To move file.
16. **cp file1.txt file2.txt** : To copy file.
17. **cp file1.txt newaddress** : Copy to new destination.
18. **vim filename** : Edit file.
19. **Cat filename** : To print file content.
20. **Man** : Manual of any command.
21. **Date** : date and time.
22. **Uname -a** : To check kernel and version.

- vim editor :

1. **a** - Append text in following the current cursor position.
2. **A** - Append text to the end of the current line.
3. **i** - Insert text before the current cursor position.
4. **I** - Insert text at the beginning of the cursor line.
5. **o** - Open up a new line following the current line and add text there.

6. **O** - Open up a new line in front of the current line and add text there.
7. **V** : Visual mode(select multiple lines).
8. **v** : Visual mode(select character).
9. **R** : Replace mode on cursor point.

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10. **:q** - To exit without doing anything.
 11. **:q!** - To exit without saving changes.
 12. **:wq** - To exit with saving changes.
 13. **:w** -To save without exiting.

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14. **0 (zero)**- jump to the start of the line.
 15. **\$** - jump to the end of the line.
 16. **gg** - go to the first line of the document.
 17. **dd** - delete (cut) a line.
 18. **yy** - yank current line.
 19. **p** - paste below cursor.
 20. **P** - paste above cursor.
 21. **u** - Undo last change.

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22. **:/word** - To search the word After the cursor uses the backslash key and then write the word and press enter.
 23. **:n** - Use n to move on to the next matching word.
 24. **:N** -Use N to move on previous matching words.
 25. **:s/searchword/replaceword/** - To replace the word in file use s/ command in vim like.
 26. **:s/searchword/replaceword/g** - To replace all occurrences of word use globe(g).
 27. **:set number** - To set numbers for each line.
 28. **:set nonumber** - To remove numbers.
 29. **:vs file2.txt** - Vertical split.
 30. **:split file2.txt** - Horizontal split.

- **User management :**

1. **who** : Currently logged-in users.
2. **who -H** : Gives header to currently logged-in user.
3. **cat /etc/passwd** : List of linux users.
4. **sudo cat /etc/shadow** : List of linux users with password info.
5. **sudo adduser username** : adding/creating new user.(useradd: doesn't create home directory).
6. **id username** : To check id and group of users.
7. **sudo passwd username** : To set password to user.
8. **sudo userdel username** : To delete user (userdel -r).
9. **sudo usermod -u new_id username** : To change user id.
10. **sudo usermod -g new_id username** : To change group id.
11. **sudo groupadd groupname** : To create a new group.
12. **getent group groupname** : To check group id and name.
13. **sudo usermod -aG groupname username** : To change the group of an existing user.
14. **sudo deluser username groupname**: To remove users from the group.
15. **sudo passwd -l username** : To lock user.
16. **sudo passwd -u username** : To unlock the user.
17. **sudo usermod -l new_login_name old_login_name** : To change login of user.
18. **sudo passwd -e username** : Force password change on next login.
19. **sudo chage -l username** : Check user expire.
20. **sudo adduser --home /path username** : Creating user in specific directory.
21. **sudo usermod -s /path/shell username** : Changing default shell of user.
22. **sudo passwd -s username** : To check user is locked or unlocked.
23. **sudo chage -m<days> username** : To set min age expire(-M - max age).
24. **Sudo chage -E yyyy-mm-dd** : To set password expire.
25. **Last username** : To check the last login of the user.

- **Permissions :**

chmod 777 filename: set permission.

chown : change owner of file.

- **Hard link and Soft link :**

1. **ln source_file Hard_link_name :** Creating hard link.
2. **ln -s source_file soft_link_name :** Creating soft link.

- **Archiving and Compression :**

1. **tar cvf file.tar :** Archiving.
2. **tar xvf file.tar :** Extracting.
3. **tar tvf file.tar :** View the archived files.
4. **tar rvf file.tar file7.txt :** Add file in archived file.
5. **tar --delete f archives.tar file7.txt :** Deleting file from archived file.

- **Gzip compression(-z) :**

1. **tar czvf file.tar.gz :** Creating.
2. **tar xzvf file.tar.gz :** Extracting.

- **bzip2(-j) :**

1. **tar cjvf file.tar.bz2 :** Creating.
2. **tar xjvf file.tar.bz2 :** Extracting.

- **xz compression(-J) :**

1. **tar cJvf file.tar.xz :** Creating.
2. **tar xJvf file.tar.xz :** Extracting.

- **Crontab :**

m h dom mon dow

(minute hour day_of_month month day_of_week)

crontab -e : opens crontab file.

crontab -l : list.

crontab -r : remove/delete.

- **Search and utility commands :**

1. **head(head file.txt)** : Top 10 lines of a file/data(head -n 5 file.txt-top 5).
2. **tail(tail file.txt)** : Bottom 10 lines of a file/data(tail -n 5 file.txt-bottom 5)
3. **sort(sort file.txt)** : Sort ascending(sort -r file.txt - descending).
4. **uniq(uniq file.txt)** : Removes duplicates while they are continuous.
5. **wc file.txt** : Gives number of lines, words, characters in data(wc -l : lines, wc -w : words, wc -m : characters, wc -L : longest line).
6. **grep** : Search a particular word or char, used with |(pipe) (ex: cat file.txt | grep Linux).
7. **sed** : Stream editor/edit the text file. Used to search, find, and replace, insert, delete, modify texts.
8. **awk** : Used for pattern scan and process.(awk 'pattern{action}' file).

- **Process management :**

1. **top** : To track the running processes on the machine.
2. **jobs** : Used to list/check background running jobs.
3. **bg** : Used to resume a suspended job in the background.
4. **fg** : Used to bring background jobs to the foreground(CLI).
5. **&** : Used to run the command in the background.
6. **ps(process status)** : It displays the currently running processes.
7. **ps -ef** : View all running processes in full format(Screenshot of process).
8. **ps -elf** : More detailed view of all running processes.

9. **nice(nice -n <nice value>) cmd** : To start the process with/ setting priority.
(<value> : -20 high priority, 19 low priority).
10. **renice(renice<nice value> -p <process Id>)** : To change Priority.
11. **kill %ld** : To terminate processes.
12. **kill -l** : To list signals.
13. **kill -9 process_Id** : Force kill.

- **Networking :**

1. **ping <destination>** : Used to check/test network connectivity between your system and another system.
2. **nslookup <destination>** : To fetch the IP address and domain name from DNS records.
3. **traceroute** : Used to trace packets taken from system to remote destination.
4. **host <destination>** : To find domain name with IP address.
5. **netstat(network statistics)** : Used to display routing table, connection info, status of ports, etc.
6. **ifconfig** : Used to display or configure network interfaces in linux, It allows you to view and modify the configuration of network interfaces.
7. **dig(domain information groper)** : Used to query DNS name servers and troubleshoot DNS issues.

- **Important port numbers :**

1. **20** - FTP (File transfer protocol)(data transfer).
2. **21** - FTP.
3. **22** - SSH.
4. **23** - Telnet.
5. **25** - SMTP (mail transfer protocol).
6. **53** - DNS(Domain name system).
7. **80** - HTTP.
8. **443** - HTTPS.
9. **3306** - MySQL Database System.
10. **3389** - RDP Port.