**Some Essential Linux Commands For DevOps**

1. **ls**: (List Segment) Lists all files and directories in the current directory.
2. **ls -a**: Shows hidden files (hidden files in linux are starting with a dot).
3. **ls -l**: Lists files and directories along with permissions, size, owner, group, date and time of last modification.
4. **cd <directory\_name>**: (Change Directory) Changes to the specified directory.

Ex: cd /home (home is a directory)

1. **cd ..** : Moves one level up to the parent directory (Suppose you are currently in the directory /home/user/documents. If you run the command (cd ..)You will be moved up one level to /home/user, as this is the parent directory of /home/user/documents. If you run cd .. again from /home/user, you will move up another level, and the directory will change to /home, which is the parent of /home/user. If you run cd .. when you're at the root directory /, nothing will happen because / is the top-level directory and does not have a parent.)
2. **pwd**: (Print Working Directory) Displays the full path to the current directory.
3. **mkdir <directoryname>**: (Make Directory) Creates a new directory in the current working directory.

Ex: mkdir cloud

*mkdir aa bb cc dd (make multiple directories at same time)*

*mkdir –p /a/b/c/d (make a nested directory )*

1. **cat <filename>**: (Concatenate) Displays the content of a file or creates a new file.

***Ex****: cat > aws (to create file using cat command we use > followed by file nam)*

*cat aws ( to see content of file)*

1. **touch <filename>**: Creates a new empty file.

**Ex:** touch test1

*touch test1 test2 test3 test4 (to make multiple empty file at same time )*

1. **rm <filename>**: (Remove) Deletes the specified file.

***Ex:*** *rm test1*

1. **rmdir <directoryname>**: (Remove Directory) Deletes an empty directory.

***Ex:*** *rmdir xyz*

1. **cp <source> <destination>**: (Copy) Copies a file or folder from the source to the destination.

***Ex:*** *cp file1 file2 (cp copies a file or directory)*

1. **mv <source> <destination>**: (Move) Moves a file or folder from the source to the destination or renames it.

***Ex:*** *mv file1 file2 (mv deletes the source file or directory after moving it.)*

1. **cp -r <source> <destination>**: Copies directories recursively.

***Ex****: cp –r file1 file2 (-r stands for recursive)*

1. **find / -name <filename>**: Searches for a file or directory by its name, starting from the root directory.

***Ex:*** *find / -name project (here project is file or folder name)*

1. **less <filename>**: Views the content of a file page by page (great for large files).

***Ex:*** *less project*

1. **head <filename>**: Displays the first ten lines of a file.

***Ex****: head /etc/passwd (to see any number of line use –n <number of line> for example to see only 2 lines from top command will be: head –n 2 file name)*

1. **tail <filename>**: Displays the last ten lines of a file.

***Ex****: tail /etc/passwd*

1. **ps**: Displays currently active processes.
2. **top:** (Table of processes) Displays all running processes in real-time.
3. **kill <pid>**: (Process ID) Kills the process with the given PID (Process ID).
4. **pkill <name>**: Kills the process by name.
5. **chmod <octal> <filename>**: (Change Mode) Changes the permissions of a file (Octal values between 0 and 7).

***Ex:*** *Chmod 755 test1 (755 is permission for file test1)*

1. **chown <ownername> <filename>:** (Change Owner) Changes the owner of a file.

**Ex:** chown prity test1 (prity user will become owner of file test1)

1. **chgrp <groupname> <filename>:** (Change Group) Changes the group owner of a file.

**Ex:** chgrp HR test1 (here HR is name of group)

1. **grep <pattern> <files>:** (Global Regular Expression Print) Searches for a pattern in files.

***Ex:*** *grep root /etc/passwd (root is pattern we want to search)*

1. **grep -r <pattern> <dir>**: Searches recursively for a pattern in a directory.

***Ex:*** *grep –r root /etc/passwd (root is pattern we want to search)*

1. **echo 'text'**: Prints text to the console.

***Ex****: echo “Welcome”*

1. **diff <file1> <file2> : (Difference**) Compares two files and shows the differences.
2. **wc <filename>:** (Word Count) Counts lines, words, and characters in a file.

***Ex****: wc test1*

1. **df**: (Disk Filesystem) Shows disk usage for file systems.
2. **df -h**: Shows disk usage in a human-readable format.
3. **du –sh <file/folder>**: (Disk Usage) See the size of file and folder.

***Ex:*** *du –sh /etc/passwd*

1. **free**: Displays memory and swap usage.
2. **date**: Displays the current date and time.
3. **cal**: (calendar ) Displays this month’s calendar.
4. **uptime**: Shows system uptime.
5. **whoami**: See the logging user name
6. **hostname:** See the host name.
7. ***history:*** *Display all used commands*
8. ***man:*** *(Manual) Displays the user manual for other commands, helping us understand how to use them and what options they support.*

***Ex:*** *man ls , man mkdir*

1. ***ls –i:*** *Show file and folders with name and inode number*.

**Shortcuts :**

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| **Command** | **Description** |
| **ctrl+c** | **Terminates a process.** |
| **ctrl+z** | **Stop a process and puts it in the background.** |
| **ctrl+d** | **Logs out from the current session.** |
| **ctrl+l** | **Clears the terminal screen.** |
| **tab** | **Auto- completes flie/ directory names** |