TOP 50 LINUX COMMANDS FOR DEVOPS

System Info Commands

① System Info Commands

hostname – shows the name of the system host.

```
→ ~ hostname
localhost
```

hostid – shows the host id of the system assigned by the OS.

```
→ ~ hostid
0a123456
```

date - shows the current date and time in UTC format.

```
→ ~ date
Wed Jan 19 12:34:56 UTC 2024
```

① System Info Commands

uptime - shows the elapsed time duration since the machine logged in.

```
→ ~ uptime
12:34:56 up 1 day, 3:45, 2 users, load average: 0.25, 0.20, 0.18
```

uname – unix name.

```
→ ~ uname
Linux
```

① System Info Commands

clear - clears the screen.

```
→ ~ clear
```

history - lists all the commands executed until now.

```
→ ~ history
1 ls
2 cd Documents
3 nano file.txt
4 gcc program.c –o program
5./program
6 history
```

① System Info Commands

sudo - Super User Do.

```
→ ~ sudo su -
USERNAME
```

echo $? - shows the exit status of the last executed command (0 - success, 1-255 - error/failure).

```
→ ~ echo $?
127
```

① System Info Commands

shutdown -r now - restart the machine immediately (-r restart).

```
➜ ~ sudo shutdown -r now
Broadcast message from user@hostname
 (/dev/pts/0) at 12:34 ...

The system is going down for reboot NOW!
```

printenv - displays all the environment variables of the Linux system.

```
➜ ~ printenv
TERM=xterm-256color
SHELL=/bin/bash
USER=your_username
...
```

① System Info Commands

last - shows previous logins in the Linux system.

```
→ ~ last
root pts/0 Wed Jan 19 12:34 still logged in
reboot system boot 5.4.0-96-generic Wed Jan 19 12:33 still running
```

systemctl — System Control: Manage system services using systemd.

1 System Info Commands

```
➜ ~ systemctl status sshd
● sshd.service - OpenBSD Secure Shell server
Loaded: loaded (/lib/systemd/system/sshd.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-01-19 12:34:56 UTC; 1 day 3h ago
Docs: man:sshd(8)
man:sshd_config(5)
Process: 1234 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
Main PID: 5678 (sshd)
Tasks: 1 (limit: 1234)
Memory: 2.3M
CPU: 12ms
CGroup: /system.slice/sshd.service
└─5678 /usr/sbin/sshd -D

Jan 19 12:34:56 hostname systemd[1]: Starting OpenBSD Secure Shell server...
Jan 19 12:34:56 hostname sshd[5678]: Server listening on 0.0.0.0 port 22.
Jan 19 12:34:56 hostname sshd[5678]: Server listening on :: port 22.
Jan 19 12:34:56 hostname systemd[1]: Started OpenBSD Secure Shell server.
```

File Commands

2 File Commands

touch - creates an empty file or updates timestamp of the existing file.

- **touch <fileName>** - creates a single empty file.
- **touch <file1> <file2>** - creates file1, file2 empty files.

cat - concatenates and displays the contents of files.

- **cat <fileName>** - displays the contents of the file.
- **cat > <fileName>** - creates a new file, allows to input content interactively and redirects inputted content to the created file (> redirection operator).

② File Commands

head <fileName> - displays first 10 lines of the file by default.

- **head -n 5 <fileName>** - displays first 5 lines of the file (-n number)

➜ ~ head -n 5 help.txt

1. Commands shortcut

....

5. huddle - Connect to Syncup Call

② File Commands

tail <fileName> - displays the last 10 lines of the file by default.

- **tail -F <fileName>** - displays contents of the file in real-time even when the file is rotated or replaced (used for log file monitoring).

```
➜ ~ tail -F mySystem.logs
echo "I love DevOps"
echo "Best Linux commands"
....
```

2 File Commands

less <fileName> - used to view large files (log files) in a paginated manner.

rm - remove command.

- **rm <fileName>** - removes the file.
- **rm -r <dirName>** - removes files & folders of directory recursively (-r recursive).
- **rm -rf <dirName>** - force remove the files & folders of directory recursively (-f force).
- Example: rm -r ./test

2 File Commands

cp - copy command.

- **cp <source> <destination>** - copy the files and folders from source to destination.
- **cp -r <dir1> <dir2>** - copy dir1 directory to dir2 directory recursively (-r recursive).
- Example: cp -r ./sourceDir ./destiDir

File Permission Commands

3 File permission Commands

ls -l <pathOfFileName> - shows the permissions of the file.

```
• ➜ ~ ls -l .
total 1016
-rw-r--r-- 1 vinodhakumaral staff 48 Jan 19 21:06 crazy.sh
-rw-r--r-- 1 vinodhakumaral staff 2463 Jan 2 11:25 help
-rw-r--r-- 1 vinodhakumaral staff 48 Jan 19 22:14 mySystem.logs
drwxr-xr-x@ 8 vinodhakumaral staff 256 Dec 20 12:51 observability-signoz
```

3 File permission Commands

ls -ld <dirNamePath> - shows the permissions of the directory.

```
➜ ~ ls -ld Downloads
drwx------@ 53 vinodhakumaral staff 1696 Jan 19 21:00 Downloads
```

chmod <octalNumber> <fileName> - changes mode/permissions of the file.

- Example: chmod 742 test.txt

chmod <octalNumber> -R <dirName> - changes mode/permissions of the directory recursively.

3 File permission Commands

ls -ld <dirNamePath> - shows the permissions of the directory.

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3 File permission Commands

chown <newUser> <fileName> - changes the user ownership of a file.

- Example: chown rocky test.txt

chown <newUser>:<newGroup> <fileName> - changes the user & group ownerships of a file

chgrp <groupName> <fileName/dirName> - updates the group name for file/directory.

3 File permission Commands

- Example: chgrp mygroup ./test

getfacl <fileName/dirName> - shows the file/directory access control list

```
→ ~ getfacl filename.txt
# file: filename.txt
# owner: user1
# group: group1
user::rw-
```


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3 File permission Commands

group::r—
other::r--

setfacl -m u:<userName>:rwx <fileName/dirName> - modifies the current acl of the file/directory.

setfacl -x u:<userName>: <fileName/dirName> - removes the acl permissions for the file/directory.

setfacl -m g:<groupName>:rwx <fileName/dirName> - modifies the group acls for the file/directory.

3 File permission Commands

setfacl -x g:<groupName>: <fileName/dirName> - removes the group acl permissions for the file/directory.

File Permission Octral Number

4 File Permission Octral Number

read (r) — 4, write (w)- 2, execute (x) — 1

- *Sum the numbers to generate an octal number for setting permissions on a file or directory.*

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User Management Commands

5 User Management Commands

ac — Total connect time for all users or specified users.

- The ac command reads the /var/log/wtmp file, which contains binary data about every login, logout, system event, and current status on the system. It gets its data from the wtmp file.
- Display total login time of a specific user.

ac john

- Display total login time for each user.

ac -p

- Display total login time for each day.

5 User Management Commands

ac — Total connect time for all users or specified users.

- **ac -d**
- Display total login time for the current day.

ac -d -p

- Display login time from a specific log file.

ac -f /var/log/wtmp

useradd - Creates a user account.

useradd <userName> - Creates user account without home & mail spool directories

5 User Management Commands

- Example: useradd bot
- Example: useradd -m bot
- useradd -m <userName> - Creates user account with home & mail spool directories.
- ususerdel - Deletes User Account.
- userdel <userName> - deletes the user from the system.
- userdel -r <userName> - deletes the user from the system along with home and mail spool directories.
- Example: userdel -r bot
- /etc/passwd - Stores information about user accounts.

5 User Management Commands

- passwd <userName> - The system generates a password for the user and then stores it in the /etc/shadow file.
- cat /etc/passwd - displays the complete list of users on that machine.

Group Management Commands

6 Group Management Commands

groupadd <groupName> - creates the group.

groupdel <groupName> - delete the group.

/etc/group - stores the information of the groups.

cat /etc/group - displays the complete list of groups on that machine.

gpasswd <groupName> - creates a password for the group.

- **gpasswd -a <userName> <groupName>** - adds the user to the group.
- **gpasswd -d <userName> <groupName>** - removes the user from the group.

6 Group Management Commands

- **gpasswd -M <userName1>,<userName2>,<userName3> <groupName>** - adds multiple users to the group and removes the existing ones of the group.

Searching Commands

7 Searching Commands

find — Search for files/directories based on their names.

- **find . -name <fileName>** - finds the mentioned file if available in the current directory (.(period) represents current directory).
- **find <dirName> -name <fileName>** - finds the mentioned file in the directory.
- **find <dirName> -perm 754** - finds the files in the directory having 754 permission.

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7 Searching Commands

locate is faster for finding files by name due to its pre-built database, while **find** is more versatile, allowing complex searches based on various criteria in real-time.

locate - Search for files/directories based on their names.

- **locate <fileName/dirName>** - locates the file/directory and displays the path.

- Example: locate crazy.txt

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GREP Command_Global Regular Expression Print

8 GREP Command — Global Regular Expression Print

find — Search for files/directories based on their names.

- **`grep <textToSearch> <fileName>`** - used to find text patterns within files.
- **`grep -i <textToSearch> <fileName>`** - used to find text patterns within the file ignoring the case (-i ignore case).
- **`grep -v <textToSearch> <fileName>`** - used to find non matching lines of text patterns (-v invert-match).

8 GREP Command — Global Regular Expression Print

find — Search for files/directories based on their names.

- **`grep -l <textToSearch> <fileNames>`** - used to display the matching string file names.
- Example: `grep -l welcome crazy.txt`
- There are additional commands related to grep.
- `egrep` (or `grep -E`)

8 GREP Command — Global Regular Expression Print

find — Search for files/directories based on their names.

- `fgrep` (or `grep -F`)
- `zgrep` (for compressed files)
- `zegrep` (or `zgrep -E` for compressed files)
- `egrep` (or `grep -E`)
- `bzgrep` (for compressed files)

Hardware Infomation Commands

9 Hardware Infomation Commands

free -h - Display system memory information in human-readable format (-h). names.

df -h - It displays the disk space usage of mounted file systems.

du - Disk usage.

9 Hardware Infomation Commands

- **`du -h`** - Display disk usage information in human-readable format.
- **`du -sh`** - Display the total size of the directory in human-readable format, summarizing the size instead of listing individual file sizes.
- **`du -sh <fileName/dirName>`** - Displays the total size of the file/directory.

10

Connection To Remote System

10 Connection To Remote System

ssh - Secure Shell: Connect to a remote server securely.
Example: `ssh user@remote_host`
scp - Securely Copy Files: Copy files between local and remote systems using SSH.
Example: `scp file.txt user@remote_host:/path`
rsync - Remote Sync: Synchronize files and directories between systems.
Example: `rsync -avz local_folder/ user@remote_host:remote_folder/`

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11

Network Commands

11 Network Commands

•**nc** — Simple tcp proxy, network daemon testing

- Example: `nc -vz google.com 443`

•**ping <hostName>** - tests the reachability & responsiveness of the remote host.

- Example: `ping google.com -c 2` (-c pings 2 times)

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11 Network Commands

- **dig <domainName>** - Shows DNS information of the domain.

  - Example: `dig medium.com`

- **wget <url>**- Used to retrieve/download files from the internet.

  - **curl** - client URL.

11 Network Commands

- **`curl <url>`** - Used to retrieve/download files from the internet.
- **`ifconfig`** - Display available network interfaces.
- **`ip addr`** - Display and manipulate network interface info.
- **`curl ifconfig.me`** - Shows the public ip address of the machine.
- **`netstat -antp`**- shows all tcp open ports (-a all, t-tcp, n-active, p protocol).
- **`traceroute <url>`** - traces the route using packets from source to destination host.

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