Contents

[Basic Linux Commands & Concepts 2](#_Toc194883640)

[User & File Permissions 6](#_Toc194883641)

[Process & Service Management 7](#_Toc194883642)

[Networking & Security 7](#_Toc194883643)

[Cloud & DevOps Practical Usage 7](#_Toc194883644)

[Troubleshooting & System Health 8](#_Toc194883645)

[Bonus - Behavioral/Team Fit 8](#_Toc194883646)

[Shell & Bash Scripting 8](#_Toc194883647)

[Text Processing 9](#_Toc194883648)

[File & Directory Handling 10](#_Toc194883649)

[User Management & Permissions 10](#_Toc194883650)

[Process Management & Scheduling 11](#_Toc194883651)

[Package Management 11](#_Toc194883652)

[System Monitoring & Troubleshooting 12](#_Toc194883653)

# Basic Linux Commands & Concepts

1. **What command do you use to find your current working directory?**  
   pwd
2. **How do you check the disk usage of a directory?**  
   du -sh /path/to/directory
3. **How can you see hidden files in a Linux directory?**  
   ls -a
4. **What’s the difference between > and >> in Linux?**  
   > overwrites a file with new content.  
   >> appends to a file.
5. **How do you search for a string inside a file?**  
   grep "search string" filename
6. **How do you find and kill a process by name?**  
   ps aux to see all processes  
   pkill process\_name  
   kill $(pgrep process\_name)
7. **What’s the difference between a hard link and a soft link?**  
   Hard Link: Directly points to the file’s data on disk.  
   Soft Link: Points to the file’s path.
8. **How do you check environment variables in Linux?**  
   printenv or echo $VARNAME
9. **What is the use of chmod, chown, and chgrp?**  
   chmod: Changes file permissions.  
   chown: Changes file owner.  
   chgrp: Changes the group ownership.
10. **What is the use of echo command?**

echo is a command that outputs the strings that are passed to it as arguments.

1. **How to check the computer name or hostname in Linux?**

Using 'hostname' command

1. **How to check the name of current user in Linux terminal?**

whoami

1. **Explain the difference between relative and absolute path?**

Relative path: Start from current working directory

Absolute path: The full path to a file or directory

1. **Which command to be used to create a file in Linux?**

Touch, vi, vim and nano

1. **How will you edit an existing file on a Linux server?**

Using vi, vim, nano etc

1. **How to rename a file in Linux?**

Using mv command

1. **Difference between grep and egrep?**

In egrep, you can search for more than one strings at same time

egrep "keyll key2 1 key4"

1. **What is the advantage of using less command?**

We can easily read big files.

Forward and backward search is easy.

Navigation from top to bottom is easy.

1. **How to check a file's permission?**

ls -l

1. **How to check the IP of your Linux server?**

if config

ip addr

1. **How to read the top 5 lines in a file?**

head -5 file\_name

1. **How to read the last 5 lines in a file?**

Tail -5 file \_ name

1. **How to see all the recently used commands?**

History

1. **What is root?**

Admin or super user

/ root home directory for root user

/ root directory

1. **What is inode and how to find it for a file?**

Is -li

inode is an index node. specific piece of metadata It serves as a unique identifier for a specific piece of metadata on a given filesystem.

1. **Which command can you use for finding files on a Linux system?**

using find and locate command

1. **How can you combine two commands? or What is pipe used for?**

We can combine two commands using I

ex: command1 | command2

1. **How to view the difference between two files?**

diff filel file2

1. **What is the use of the shred command do? (permanently delete a file which is unable to recover)**

shred -u file name

shred --remove file name

1. **How to check system architecture info?**

dmidecode and Iscpu

1. **How to combine two files?**

cat filel file2

cat fil$l \*file2 > file3

1. **How can you find the type of file?**

file file \_ name

1. **Different ways to access a Linux server remotely machine)?**

Using some tools and terminal like putty MobaXtream git bash

1. **How to write the output of a command into a file?**

command > file name

1. **How to redirect an error of a command into a file?**

To redirect an error we need to use 2>

To redirect both error and output, 2>81

1. **How to Automate any task or script?**

Using cron jobs

For which we have crontab and at command.

1. **How to check scheduled jobs?**

crontab -l

1. **If your cron job didn't work, how would you check?**

check system time,

crontab entry,

check /var/log/messages

1. **What is daemon service?**

Service that keep running in background. Example: httpd, sshd, chronyd

1. **How to check if a service is running or not?**

systemctl status service \_ name

1. **How to start/stop any service?**

systemctl start service\_name

systemctl stop service\_name

1. **How to check for free disk space?**

We can use df command

1. **How to check the size of a directory's content?**

We can use du command

1. **How to check CPU usage for a process?**

We can use top command

1. **How to check if a process/application is running or not?**

Using ps command

1. **How to terminate/stop a running process?**

Using kill command

1. **Difference between kill and kill -9**

kill -9 will terminate a program forcefully

1. **How to check if a IP/Server is accessible or not?**

We can use ping or telnet command

1. **Which command to use to get info about ports?**

We can use netstat command

1. **How to check network interfaces in Linux?**

We can use ifconfig and netstat command

1. **Difference between Telnet and SSH?**

SSH is secured and telnet is not.

1. **Which service should be running on server to allow you to connect remotely?**

ssh or sshd

1. **What is SSH?**

SSH or Secure Shell is a network communication protocol that enables two computers/devices to communicate and share data.

1. **Why it is called as Secure Shell?**

Because communication between host and client will be in encrypted format.

1. **What id default port for SSH?**

22

1. **Which command is used to access a Linux system from a terminal or**

**another Linux server?**

ssh user 198.168.x.x

# User & File Permissions

1. **How does Linux file permission notation like drwxr-xr-x work?**  
   First character (d) → Directory, next 9 characters → User, Group, Others permissions.
2. **How do you change ownership of a directory recursively?**  
   chown -R user:group /path/to/directory
3. **What does the umask command do?**  
   Sets default permissions for newly created files/directories.
4. **How do you create a new user and set a password?**  
   sudo useradd -m username  
   sudo passwd username

# Process & Service Management

1. **What is the difference between a process and a thread?**  
   Process: Independent program with its own memory.  
   Thread: Lightweight sub-process sharing memory.
2. **How do you restart a service using systemctl?**  
   sudo systemctl restart servicename
3. **How do you check if a service is enabled on boot?**  
   sudo systemctl is-enabled servicename
4. **What does the top and htop command show?**  
   top: Basic system monitor.  
   htop: Enhanced version of top.

# Networking & Security

1. **How do you check open ports on your system?**  
   netstat -tulnp  
   ss -tulnp
2. **What command would you use to test network connectivity?**  
   ping example.com
3. **What’s the difference between curl and wget?**  
   curl: For transferring data via many protocols.  
   wget: For downloading files with automatic saving.
4. **How do you add firewall rules using ufw?**  
   sudo ufw allow 22/tcp  
   sudo ufw deny 80

# Cloud & DevOps Practical Usage

1. **How do you manage logs in Linux? What tools do you use?**  
   journalctl, tail -f /var/log/syslog

# Troubleshooting & System Health

1. **How do you check system resource usage?**  
   top, htop, free -h, df -h
2. **What logs do you check when troubleshooting a server issue?**  
   /var/log/syslog, /var/log/auth.log, journalctl -xe
3. **How do you check if a port is already in use?**  
   netstat -tulnp | grep :80
4. **What’s the use of /etc/hosts and when do you edit it?**  
   Maps hostnames to IPs. Edit for local testing or blocking sites.

# Bonus - Behavioral/Team Fit

1. **How do you handle feedback when your solution doesn't work as expected?**  
   Acknowledge the feedback, reproduce the issue, fix and communicate, document.
2. **What’s the difference between a terminal and a shell?**  
   Terminal: Interface to interact with the shell.  
   Shell: The command-line interpreter that directly communicate with your os.

# Shell & Bash Scripting

1. **What is the difference between sh, bash, and zsh?**  
   sh: Basic shell, bash: Popular default shell, zsh: Enhanced bash with features.
2. **How do you define and use a variable in a bash script?**  
   name="Linux"  
   echo "$name"
3. **What is $? in bash?**  
   Exit status of the last command.
4. **What’s the purpose of set -e in a script?**  
   Exits script immediately if any command fails.
5. **How do you run a script in the background?**  
   ./script.sh &
6. **How do you pass arguments into a bash script?**  
   ./script.sh arg1 arg2
7. **What are && and || used for in command chaining?**  
   &&: Run next command if previous succeeds.  
   ||: Run next command if previous fails.
8. **How can you make a script executable?**  
   chmod +x script.sh
9. **What is a here document (<<EOF)?**  
   Used to pass multiline input to a command.
10. **How do you debug a bash script?**  
    bash -x script.sh

# Text Processing

**How do you extract specific columns using awk?**  
awk '{print $1, $3}' file.txt

1. **What’s the difference between awk and sed?**  
   awk: Column-based text processing,  
   sed: Find and replace text editing.
2. **How do you count lines, words, and characters in a file?**  
   wc file.txt

wc -l filename for count lines

wc -w filename for count words

wc -m filename for count characters

1. **How do you sort the contents of a file?**  
   sort file.txt
2. **What’s the use of cut, tr, and uniq?**  
   cut: Extract columns,  
   tr: Translate characters,  
   uniq: Remove adjacent duplicates.

# File & Directory Handling

1. **How do you copy a directory recursively?**  
   cp -r /source /destination
2. **How can you find the 10 largest files in a directory?**  
   find /path/to/dir -type f -exec du -h {} + | sort -rh | head -n 10
3. **What is the use of df -h and du -sh?**  
   df -h: Disk space,  
   du -sh: Disk usage.
4. **How do you mount and unmount a file system?**  
   sudo mount /dev/sdX1 /mnt,  
   sudo umount /mnt
5. **What is an inode?**  
   it is a Metadata structure storing file attributes except name.
6. **How do you compress and extract .tar.gz files?**  
   tar -czvf archive.tar.gz /path/to/dir  
   tar -xzvf archive.tar.gz

# User Management & Permissions

1. **How do you switch to another user using the terminal?**  
   su - username  
   sudo -i
2. **What’s the difference between su and sudo?**  
   su: Full shell access as target user,  
   sudo: Run a single command as root.
3. **How do you give sudo access to a user?**  
   usermod -aG sudo username
4. **How do you lock and unlock a user account?**  
   sudo passwd -l username,  
   sudo passwd -u username
5. **What is the /etc/passwd and /etc/shadow file?**  
   /etc/passwd: User information,  
   /etc/shadow: Encrypted passwords.

# Process Management & Scheduling

1. **How do you list all running processes?**  
   ps aux
2. **How do you find memory usage per process?**  
   top, htop, ps aux
3. **What is a zombie process and how do you handle it?**  
   A dead process whose entry remains in the process table.  
   ps aux | grep 'Z'
4. **Difference between Process & Service?**

| **Feature** | **Process** | **Service** |
| --- | --- | --- |
| **Definition** | A running instance of a program | A background process managed by OS |
| **Started by** | User or application | System or user (during boot or login) |
| **Runs in** | Foreground or background | Always runs in background |
| **Example** | chrome.exe, python myapp.py | sshd, nginx, apache2 |
| **Control** | Started/stopped manually or by app | Managed via service managers (like systemctl on Linux) |

# Package Management

1. **What’s the difference between apt, yum, and dnf?**  
   apt: Debian/Ubuntu,  
   yum: RHEL/CentOS 7,  
   dnf: RHEL/CentOS 8.
2. **How do you install and remove packages?**  
   sudo apt install package,  
   sudo apt remove package,  
   sudo apt purge package
3. **How do you update all packages at once?**  
   sudo apt update && sudo apt upgrade -y
4. **How do you search for a package?**  
   apt search "nginx"
5. **How do you find where a binary is installed?**  
   which nano,  
   whereis nano

# System Monitoring & Troubleshooting

1. **How do you check the system boot time?**  
   uptime -s,  
   who -b,