Unix scenario based Commands

SCENARIO 1: Navigating the Filesystem

Command	What It Does	Example
pwd	Print working directory	pwd
ls	List files/directories	ls -l
cd	Change directory	cd /var/log
mkdir	Make directory	mkdir demo_dir
rmdir	Remove empty directory	rmdir old_dir
tree	View directory structure (install needed)	tree

Practice Task:"Create a folder project, go inside, and list its contents"

mkdir project

cd project

pwd

ls

SCENARIO 2: Working with Files

Command	What It Does	Example
touch	Create empty file	touch notes.txt
cp	Copy files	cp notes.txt backup.txt
mv	Move or rename files	mv backup.txt old_notes.txt
rm	Delete files	rm old_notes.txt
cat	View file content	cat notes.txt
less / more	View large files page by page	less /var/log/syslog

Practice Task:"Create a file, copy it, rename the copy, and delete the original."

SCENARIO 3: Searching and Finding

Command	What It Does	Example
find	Find files by name/type	find . -name "*.log"
grep	Search inside files	grep "ERROR" logs.txt
which	Find path of a command	which python
locate	Quickly search files (needs updatedb)	locate passwd

Practice Task:"Search for all .txt files in your home directory that contain the word hello."

SCENARIO 4: Permissions & Ownership

Command	What It Does	Example
chmod	Change permissions	chmod 755 script.sh
chown	Change owner	chown user:user file.txt
ls -l	View permissions	ls -l

Practice Task:"Create a script, make it executable, and view its permissions."

SCENARIO 5: Archiving and Compression

Command	What It Does	Example
tar	Archive files	tar -cvf backup.tar *.txt
gzip / gunzip	Compress/decompress files	gzip file.txt
zip / unzip	ZIP file operations	zip project.zip *.py

Practice Task:"Create a folder with 3 .txt files and compress it into a .zip file."

SCENARIO 6: Disk, Memory & Process Management

Command	What It Does	Example
df -h	Check disk usage	df -h
du -sh	Size of folder	du -sh /home/user
top	Live process monitor	top
ps	Show current processes	`ps aux
kill	Kill a process	kill -9 <PID>

Practice Task:"List all running processes, find your shell, and check disk space."

SCENARIO 7: Networking & Environment

Command	What It Does	Example
ifconfig / ip a	Show network interfaces	ip a
ping	Test connectivity	ping google.com
env	Show environment variables	env
export	Set environment variable	export NAME=Dani

Practice Task:"Set a variable COURSE=UNIX, then echo it."

SCENARIO 8: Shell Scripting Basics

Command	What It Does	Example
echo	Print to screen	echo "Hello"
read	Take user input	read name
#!/bin/bash	Shebang for script	#!/bin/bash
sh / bash	Run shell scripts	bash script.sh

Practice Task:"Write a script that asks for your name and greets you."

```
#!/bin/bash

echo "Enter your name:"

read name

echo "Welcome, $name!"
```

BONUS: Hands-On Checklist (Training Workbook Idea)

Task	Commands Used
Create project folders	mkdir, cd
Manipulate files	touch, cp, mv, rm
View logs	cat, less, grep
Search files	find, locate
Manage permissions	chmod, chown, ls -l
Compress and archive	zip, tar, gzip
Monitor system	top, ps, df, du
Use variables	export, env
Write basic scripts	bash, echo, read