Beginner Linux Commands

📒 1. File and Directory Management

Command	Description	Example
pwd	Show current directory	pwd
ls	List contents of a directory	ls -l
cd	Change directory	cd /home/user/Documents
mkdir	Create a new directory	mkdir new_folder
rmdir	Remove an empty directory	rmdir old_folder
rm	Delete a file or directory	rm file.txt
touch	Create a new empty file	touch hello.txt
cp	Copy files or directories	cp a.txt b.txt
mv	Move or rename files/directories	mv file1.txt folder/

📄 2. File Viewing and Editing

Command	Description	Example
cat	Show contents of a file	cat file.txt
less	View file page by page	less longfile.txt
head	View top lines of a file	head -n 10 file.txt
tail	View last lines of a file	tail -n 10 file.txt
nano	Simple terminal editor	nano file.txt
vi / vim	Advanced terminal editor	vi file.txt

🛡️ 3. File Permissions and Ownership

Command	Description	Example
chmod	Change file permissions	chmod +x script.sh
chown	Change file ownership	chown user:user file.txt
ls -l	View permissions and ownership	ls -l

⚙️ 4. System Information

Command	Description	Example
uname -a	Display system info	uname -a
top	Real-time process viewer	top
htop	Enhanced process viewer (if installed)	htop
df -h	Show disk space usage	df -h
du -sh	Show folder size	du -sh folder/
free -h	Show memory usage	free -h

🌐 5. Networking

Command	Description	Example
ping	Test internet connection	ping google.com
ifconfig	Show IP address (older distros)	ifconfig
ip a	Show IP address (modern distros)	ip a
wget	Download from web	wget http://example.com/file
curl	Transfer data from or to server	curl http://example.com
hostname	Show system hostname	hostname

🔄 Process Management

Command	Description	Example
ps	Show running processes	ps aux
kill	Terminate process	kill 1234
killall	Terminate by name	killall firefox

🧰 Package Management

Command	Description	Example
sudo	Run as superuser	sudo apt update
apt	Debian-based package manager	sudo apt install git
yum	RedHat-based package manager	sudo yum install git

🔧 Compression and Archiving

Command	Description	Example
tar	Archive/unarchive	tar -xvzf file.tar.gz
zip	Compress files	zip archive.zip file1 file2
unzip	Extract zip file	unzip archive.zip

👤 User Info and Help

Command	Description	Example
whoami	Show current user	whoami
id	Show user ID and group	id
man	Manual/help for command	man ls
history	Show command history	history
clear	Clear the terminal	clear

Intermediate Linux Commands

◆ Advanced File Handling

Command	Description	Example
find	Search files	find /home -name "*.txt"
locate	Quick search	locate file.txt
xargs	Pass args to command	find . -name "*.log" | xargs rm
basename	Get filename	basename /path/file.txt
dirname	Get directory	dirname /path/file.txt

◆ Text Processing

Command	Description	Example
grep	Pattern search	grep "error" file.txt
awk	Field extraction	awk '{print $1}' file.txt
sed	Stream editing	sed 's/old/new/g' file.txt
cut	Cut text columns	cut -d',' -f1 file.csv
sort	Sort lines	sort file.txt
uniq	Remove duplicates	uniq sorted.txt

◆ Process Control

Command	Description	Example
jobs	List jobs	jobs
bg	Background a job	bg %1
fg	Foreground a job	fg %1
nice	Run with priority	nice -n 10 command
renice	Change running priority	renice -n 5 -p 1234

◆ System Monitoring

Command	Description	Example
top	System monitor	top
htop	Advanced top	htop
vmstat	Memory, processes	vmstat 2 5
iostat	CPU and I/O stats	iostat
lsof	List open files	lsof -i :80

◆ User Management

Command	Description	Example
adduser	Add new user	sudo adduser user
deluser	Remove user	sudo deluser user
passwd	Change password	passwd

Expert Linux Commands

◆ Networking & Security

Command	Description	Example
iptables	Firewall control	sudo iptables -L
ufw	Simple firewall	sudo ufw enable
nmap	Network scanning	nmap 192.168.1.1
netstat	Network stats	netstat -tulnp
tcpdump	Packet sniffing	tcpdump -i eth0
ss	Socket statistics	ss -tulwn

◆ System Administration

Command	Description	Example
systemctl	Service management	systemctl restart nginx
journalctl	View logs	journalctl -xe
crontab	Scheduled tasks	crontab -e
strace	Trace syscalls	strace -p 1234
watch	Re-run commands	watch -n 5 df -h

◆ Disk and File Systems

Command	Description	Example
mount	Mount filesystem	mount /dev/sdb1 /mnt
umount	Unmount filesystem	umount /mnt
fsck	Check filesystem	fsck /dev/sda1
df -Th	Disk usage + FS type	df -Th
du -ah	File usage listing	du -ah /home | sort -rh | head

◆ Advanced Bash Scripting

Command	Description	Example
alias	Shortcut command	alias ll='ls -la'
trap	Catch signals	trap 'echo Exiting...' EXIT
set	Shell options	set -e
env	Show environment vars	env
export	Set env var	export PATH=$PATH:/bin/new