

# Linux Commands for Beginners and Cybersecurity

## Basic Linux Commands

These are the most commonly used commands to navigate and interact with a Linux system.

1. Command: pwd  
Full Form: Print Working Directory  
Definition: Displays the current working directory path.  
Example: pwd
2. Command: ls  
Full Form: List  
Definition: Lists files and directories in the current directory.  
Example: ls -l
3. Command: cd  
Full Form: Change Directory  
Definition: Used to move between directories.  
Example: cd /home
4. Command: clear  
Full Form: Clear  
Definition: Clears the terminal screen.  
Example: clear
5. Command: history  
Full Form: History  
Definition: Shows the list of previously executed commands.  
Example: history

## File & Directory Management

Commands to create, view, move, copy, and delete files and directories.

1. Command: mkdir  
Full Form: Make Directory  
Definition: Creates a new directory.  
Example: mkdir new\_folder

2. Command: rmdir  
Full Form: Remove Directory  
Definition: Deletes an empty directory.  
Example: rmdir test\_folder
3. Command: rm  
Full Form: Remove  
Definition: Deletes files or directories.  
Example: rm file.txt
4. Command: cp  
Full Form: Copy  
Definition: Copies files or directories.  
Example: cp file.txt backup/
5. Command: mv  
Full Form: Move  
Definition: Moves or renames files or directories.  
Example: mv old.txt new.txt
6. Command: cat  
Full Form: Concatenate  
Definition: Displays the contents of a file.  
Example: cat notes.txt
7. Command: touch  
Full Form: Touch  
Definition: Creates an empty file or updates its timestamp.  
Example: touch file1.txt
8. Command: nano  
Full Form: Nano Editor  
Definition: Opens a file for editing in nano text editor.  
Example: nano file.txtUser

## **Management & Permissions**

Commands used to manage users, groups, and file permissions.

1. Command: adduser  
Full Form: Add User  
Definition: Adds a new user to the system.

Example: `sudo adduser alice`

2. Command: `passwd`  
Full Form: Password  
Definition: Changes the password of a user.  
Example: `passwd alice`
3. Command: `chmod`  
Full Form: Change Mode  
Definition: Changes the file permission.  
Example: `chmod 755 script.sh`
4. Command: `chown`  
Full Form: Change Owner  
Definition: Changes the ownership of a file.  
Example: `sudo chown user:user file.txt`
5. Command: `whoami`  
Full Form: Who Am I  
Definition: Displays the current logged-in username.  
Example: `whoami`
6. Command: `id`  
Full Form: Identity  
Definition: Displays user ID and group information.  
Example: `idSystem`

## Information & Process Management

Commands for viewing system info and managing running processes.

1. Command: `uname`  
Full Form: Unix Name  
Definition: Displays system information.  
Example: `uname -a`
2. Command: `top`  
Full Form: Table Of Processes  
Definition: Displays all running processes dynamically.  
Example: `top`
3. Command: `ps`  
Full Form: Process Status  
Definition: Shows currently running processes.

Example: ps aux

4. Command: kill  
Full Form: Kill  
Definition: Terminates a running process.  
Example: kill 1234
5. Command: df  
Full Form: Disk Free  
Definition: Shows disk space usage.  
Example: df -h
6. Command: free  
Full Form: Free  
Definition: Displays memory usage details.  
Example: free -m
7. Command: uptime  
Full Form: Uptime  
Definition: Shows how long the system has been running.  
Example: uptime

## Networking & Cybersecurity Commands

Commands used for network management, troubleshooting, and security testing.

1. Command: ifconfig  
Full Form: Interface Configuration  
Definition: Displays or configures network interfaces.  
Example: ifconfig eth0
2. Command: ping  
Full Form: Packet Internet Groper  
Definition: Tests network connectivity with a host.  
Example: ping google.com
3. Command: netstat  
Full Form: Network Statistics  
Definition: Shows network connections, routing tables, and ports.  
Example: netstat -tuln
4. Command: nmap  
Full Form: Network Mapper  
Definition: Scans networks for open ports and services.

Example: nmap 192.168.1.1

5. Command: whois  
Full Form: Who Is  
Definition: Displays domain registration details.  
Example: whois example.com
6. Command: dig  
Full Form: Domain Information Groper  
Definition: Performs DNS lookups.  
Example: dig google.com
7. Command: traceroute  
Full Form: Trace Route  
Definition: Traces the path packets take to reach a destination.  
Example: traceroute google.com
8. Command: tcpdump  
Full Form: TCP Dump  
Definition: Captures network packets for analysis.  
Example: sudo tcpdump -i eth0
9. Command: ssh  
Full Form: Secure Shell  
Definition: Connects securely to remote servers.  
Example: ssh [user@192.168.1.5](#)

## Package Management

Commands to install, update, and manage software packages.

1. Command: apt update  
Full Form: Advanced Package Tool Update  
Definition: Updates the list of available packages.  
Example: sudo apt update
2. Command: apt upgrade  
Full Form: Advanced Package Tool Upgrade  
Definition: Upgrades all installed packages to the latest version.  
Example: sudo apt upgrade
3. Command: apt install  
Full Form: Advanced Package Tool Install  
Definition: Installs new software packages.

Example: `sudo apt install nmap`

4. Command: `apt remove`  
Full Form: Advanced Package Tool Remove  
Definition: Removes installed software packages.  
Example: `sudo apt remove nano`
5. Command: `dpkg -l`  
Full Form: Debian Package List  
Definition: Lists all installed packages.  
Example: `dpkg -lFile`

## Compression & Archiving

Commands to compress or extract files and archives.

1. Command: `tar`  
Full Form: Tape Archive  
Definition: Creates or extracts archive files.  
Example: `tar -xvf file.tar`
2. Command: `gzip`  
Full Form: GNU Zip  
Definition: Compresses files using gzip algorithm.  
Example: `gzip file.txt`
3. Command: `gunzip`  
Full Form: GNU Unzip  
Definition: Decompresses gzip files.  
Example: `gunzip file.txt.gz`
4. Command: `zip`  
Full Form: Zip Archive  
Definition: Compresses files into a zip archive.  
Example: `zip archive.zip file.txt`
5. Command: `unzip`  
Full Form: Unzip Archive  
Definition: Extracts files from a zip archive.  
Example: `unzip archive.zip`

## Monitoring & Logs

Commands used to monitor system logs and view events important for cybersecurity.

1. Command: `dmesg`  
Full Form: Display Message  
Definition: Displays kernel-related messages.  
Example: `dmesg | less`
2. Command: `journalctl`  
Full Form: Journal Control  
Definition: Views logs collected by `systemd`.  
Example: `journalctl -xe`
3. Command: `tail`  
Full Form: Tail  
Definition: Shows the last few lines of a file, often used for logs.  
Example: `tail -f /var/log/syslog`
4. Command: `grep`  
Full Form: Global Regular Expression Print  
Definition: Searches for text patterns in files.  
Example: `grep 'error' /var/log/syslog`
5. Command: `last`  
Full Form: Last Logins  
Definition: Shows login history of users.  
Example: `last`