

Linux Cheat Sheet

Basic Navigation & Information

- `ls` – List directory contents
- `cd [directory]` – Change directory
- `pwd` – Print working directory
- `clear` – Clear terminal screen
- `whoami` – Show current user
- `man [command]` – Display manual page for a command
- `uname -a` – Show system information
- `date` – Show current date and time
- `uptime` – Show how long the system has been running

File & Directory Management

- `mkdir [directory]` – Create a new directory
- `touch [file]` – Create an empty file
- `cp [source] [destination]` – Copy files or directories
- `mv [source] [destination]` – Move or rename files/directories
- `rm [file]` – Remove files (add `-r` for directories)
- `cat [file]` – Display file content
- `more [file]` / `less [file]` – View file contents page-by-page
- `head -n [number] [file]` – Show first *n* lines of a file
- `tail -n [number] [file]` – Show last *n* lines of a file
- `find [directory] -name [filename]` – Search for files by name

File Permissions & Ownership

- `chmod [permissions] [file]` – Change file permissions
- `chown [user]:[group] [file]` – Change file ownership
- `ls -l` – List files with permissions and ownership

Disk & Storage Management

- `df -h` – Show disk usage in human-readable format
- `du -sh [directory]` – Show disk usage of a directory
- `fdisk -l` – List all partitions
- `mount [device] [directory]` – Mount a device to a directory
- `umount [directory]` – Unmount a device from a directory

Process Management

- `ps aux` – Show running processes
- `top` – Display active processes with real-time updates
- `kill [PID]` – Terminate a process by PID

- `pkill [process_name]` – Terminate processes by name
- `bg` – Resume a job in the background
- `fg` – Bring a job to the foreground

System Monitoring & Performance

- `free -h` – Display free and used memory
- `vmstat` – Show system performance information
- `iostat` – Show CPU and disk I/O statistics
- `sar` – Collect and display system activity information

Networking

- `ifconfig` – Show or configure network interfaces
- `ip a` – Show all network interfaces and IP addresses
- `ping [host]` – Check connectivity to a host
- `netstat -tuln` – Show network connections, listening ports
- `traceroute [host]` – Display the route packets take to network host
- `wget [url]` – Download files from the web
- `curl [url]` – Transfer data from or to a server

User & Group Management

- `useradd [user]` – Add a new user
- `userdel [user]` – Delete a user
- `usermod -aG [group] [user]` – Add a user to a group
- `passwd [user]` – Change password for a user
- `groupadd [group]` – Create a new group

System Updates & Package Management

For Debian/Ubuntu:

- `apt update` – Update package list
- `apt upgrade` – Upgrade installed packages
- `apt install [package]` – Install a new package
- `apt remove [package]` – Remove a package

For RHEL/CentOS:

- `yum update` – Update packages
- `yum install [package]` – Install a new package
- `yum remove [package]` – Remove a package

File Compression & Archiving

- `tar -cvf archive.tar [file/dir]` – Create a tar archive
- `tar -xvf archive.tar` – Extract a tar archive
- `gzip [file]` – Compress a file

- `gunzip [file.gz]` – Decompress a file

Text Processing

- `grep [pattern] [file]` – Search for a pattern in files
- `sed 's/[pattern]/[replacement]/' [file]` – Replace text in a file
- `awk '{print $1}' [file]` – Pattern scanning and processing language
- `sort [file]` – Sort file contents
- `uniq [file]` – Filter duplicate lines in a file

SSH & Remote Connections

- `ssh user@host` – Connect to a remote host via SSH
- `scp [source] [user@host:destination]` – Copy files to/from a remote host
- `rsync -av [source] [destination]` – Synchronize files and directories

System Logs & Troubleshooting

- `dmesg` – Display system boot log
- `tail -f /var/log/syslog` – Follow system log in real-time
- `journalctl -xe` – View systemd service logs
- `lsof` – List open files and associated processes

System Shutdown & Restart

- `shutdown -h now` – Shut down the system immediately
- `reboot` – Restart the system
- `systemctl [command] [service]` – Manage services (e.g., `systemctl start sshd`)

Scripting Basics

- `echo "Hello World"` – Print text
- `bash script.sh` – Run a shell script
- `chmod +x script.sh` – Make a script executable
- `crontab -e` – Edit cron jobs for scheduled tasks