100+ Linux Commands

A practical cheat sheet for beginners and semi-pros

Organized by use case, with explanations, common flags, and an example for every command.

150 commands · 12 categories · Compiled July 2026 · SplitZrate.com

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1. File Management & Navigation

ls — List files and directories Common flags: `-l` (long listing), `-a` (show hidden files), `-h` (human-readable sizes), `-t` (sort by time), `-R` (recursive) Example: `ls -lah` — detailed listing with hidden files and readable sizes; `ls -lt` — newest files first

cd — Change directory Example: `cd ~` — go to your home directory; `cd -` — go back to the previous directory; `cd ..` — go up one level

pwd — Show the current directory (print working directory) Example: `pwd`

mkdir — Create a directory Common flags: `-p` (create the full path, including parent directories) Example: `mkdir -p project/src/assets`

rmdir — Remove an empty directory Example: `rmdir old_folder`

rm — Remove files/directories Common flags: `-r` (recursive, for directories), `-f` (force, no confirmation), `-i` (ask before each removal) Example: `rm -ri old_folder` — a safer variant that asks per file

cp — Copy files/directories Common flags: `-r` (recursive), `-v` (show what's happening), `-i` (ask before overwriting) Example: `cp -rv src/ backup/`

mv — Move or rename files Example: `mv old.txt new.txt` — rename; `mv file.txt ~/Documents/` — move

touch — Create an empty file / update its timestamp Example: `touch notes.txt`

find — Search a directory tree for files Common flags: `-name`, `-type f/d`, `-mtime`, `-size` Example: `find . -name "*.log"` — find all .log files; `find . -type f -mtime -7` — files modified in the last 7 days

locate — Fast file search using a prebuilt index Example: `locate nginx.conf` (requires `updatedb` to have been run)

tree — Show the directory structure graphically Common flags: `-L` (limit depth), `-a` (show hidden files) Example: `tree -L 2`

ln — Create links Common flags: `-s` (symbolic link) Example: `ln -s /var/www/app app-shortcut`

stat — Detailed file information Example: `stat file.txt`

file — Identify a file's type Example: `file unknown_file`

du — Show disk usage for files/directories Common flags: `-h` (readable), `-s` (summary), `--max-depth` Example: `du -sh *` — size of everything in the current directory

df — Show disk space for filesystems Common flags: `-h` (readable) Example: `df -h`

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2. View & Edit Files

cat — Show file contents / concatenate files Example: `cat file1.txt file2.txt > merged.txt`

less — Page through files one screen at a time Example: `less big_log.txt` (page with space, search with `/`)

more — Simpler predecessor to less Example: `more file.txt`

head — Show the first lines of a file Common flags: `-n` (number of lines) Example: `head -n 20 log.txt`

tail — Show the last lines of a file Common flags: `-n`, `-f` (follow the file live, great for logs) Example: `tail -f /var/log/syslog`

nano — Simple terminal text editor Example: `nano config.txt`

vim — Powerful terminal text editor Example: `vim script.sh` (press `i` to insert, `Esc` + `:wq` to save and quit)

tee — Write output to both the screen and a file Example: `echo "hi" | tee log.txt`

wc — Count lines, words, bytes, and characters Common flags: `-l` (lines), `-w` (words), `-c` (bytes), `-m` (characters) Note: `-c` counts raw bytes, not characters. For plain ASCII text the two are the same, but for anything with accented letters, emoji, or other multi-byte UTF-8 text, `-c` and `-m` can give different numbers — use `-m` when you actually want a character count. Example: `wc -l file.txt`

diff — Compare two files Example: `diff file1.txt file2.txt`

cmp — Compare files byte by byte Example: `cmp file1.bin file2.bin`

sort — Sort lines Common flags: `-r` (reverse), `-n` (numeric), `-u` (unique) Example: `sort -nr numbers.txt`

uniq — Remove duplicate lines (requires sorted input) Common flags: `-c` (count occurrences) Example: `sort file.txt | uniq -c`

cut — Cut out columns/fields from text Common flags: `-d` (delimiter), `-f` (field number) Example: `cut -d ',' -f 1,3 data.csv`

paste — Merge lines from multiple files side by side Example: `paste names.txt ages.txt`

tr — Replace or delete characters Example: `tr 'a-z' 'A-Z' < file.txt` — convert to uppercase

split — Split a large file into smaller pieces Example: `split -l 1000 big.csv part_`

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3. Text Processing & Search

grep — Search for text patterns in files Common flags: `-i` (case-insensitive), `-r` (recursive), `-n` (show line numbers), `-v` (invert, show non-matching lines) Example: `grep -rn "TODO" src/` — find all TODO comments with line numbers; `grep -i "error" log.txt`

egrep / grep -E — Search using extended regular expressions Example: `egrep "error|warning" log.txt`

fgrep / grep -F — Search for an exact text string (no regex) Example: `fgrep "192.168.1.1" access.log`

sed — Stream editor for text (search & replace, etc.) Example: `sed 's/old/new/g' file.txt` — replace every occurrence; `sed -i 's/foo/bar/g' file.txt` — edit the file in place

awk — Powerful column-based text-processing tool Example: `awk '{print $1, $3}' data.txt` — print columns 1 and 3

xargs — Build and run commands from input Example: `find . -name "*.tmp" | xargs rm` — remove all .tmp files

echo — Print text Common flags: `-e` (interpret escape sequences) Example: `echo -e "line1\nline2"`

printf — Formatted text output Example: `printf "%s has %d points\n" "Anna" 42`

rev — Reverse the characters in each line Example: `echo "hi" | rev`

fold — Wrap long text at a given width Example: `fold -w 60 long_text.txt`

column — Format text into neat columns Example: `column -t -s ',' data.csv`

jq — Powerful tool for processing JSON Example: `curl api.example.com/data | jq '.items[].name'`

4. File Permissions & Ownership

chmod — Change file permissions Common flags: symbolic (`u+x`, `g-w`) or numeric (`755`, `644`) Example: `chmod +x script.sh` — make the file executable; `chmod 644 file.txt` — read/write for the owner, read-only for others

chown — Change a file's owner Example: `chown anna:developers file.txt`

chgrp — Change a file's group Example: `chgrp developers file.txt`

umask — Default permissions for new files Example: `umask 022`

sudo — Run a command as another user (usually root) Example: `sudo apt update`

su — Switch user in the current shell Example: `su - anna`

id — Show user/group IDs Example: `id`

whoami — Show the current username Example: `whoami`

groups — Show which groups a user belongs to Example: `groups anna`

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5. Process Management

ps — Show running processes Common flags: `aux` (all processes, detailed) Example: `ps aux | grep nginx`

top — Live monitoring of processes and resource usage Example: `top` (press `q` to quit)

htop — An improved, interactive version of top Example: `htop`

kill — Terminate a process by PID Common flags: `-9` (force, SIGKILL), `-15` (ask nicely, SIGTERM) Example: `kill -9 12345`

killall — Terminate processes by name Example: `killall firefox`

pkill — Terminate processes matching a pattern Example: `pkill -f "python script.py"`

pgrep — Find the PID of processes by name Example: `pgrep nginx`

bg — Send a paused process to the background Example: `bg %1`

fg — Bring a background process to the foreground Example: `fg %1`

jobs — List active background jobs Example: `jobs`

nice — Start a process with a given priority Example: `nice -n 10 heavy_script.sh`

renice — Change the priority of a running process Example: `renice 5 -p 12345`

nohup — Run a command that keeps running after you log out Example: `nohup ./server.sh &`

wait — Wait for background processes to finish Example: `wait`

time — Measure how long a command takes Example: `time ./script.sh`

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6. System Info & Monitoring

uname — Show system information Common flags: `-a` (all) Example: `uname -a`

uptime — Show how long the system has been running plus load Example: `uptime`

free — Show memory usage Common flags: `-h` (readable) Example: `free -h`

vmstat — Statistics on memory, processes, and I/O Example: `vmstat 2 5` — update every 2 seconds, 5 times

iostat — Disk I/O statistics Example: `iostat -x 2`

lscpu — Show CPU information Example: `lscpu`

lsblk — List block devices (disks/partitions) Example: `lsblk`

dmesg — Show the kernel's message buffer (e.g. hardware errors) Example: `dmesg | tail -50`

journalctl — Read systemd logs Common flags: `-u` (specific service), `-f` (follow live), `-b` (since last boot) Example: `journalctl -u nginx -f`

who — Show logged-in users Example: `who`

w — Show logged-in users and what they're doing Example: `w`

last — Show login history Example: `last -10`

date — Show or set the date/time Example: `date "+%Y-%m-%d %H:%M"`

cal — Show a calendar Example: `cal`

hostnamectl — Show/change the hostname (systemd) Example: `hostnamectl`

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7. Networking

ping — Test whether a host is reachable Example: `ping -c 4 google.com`

curl — Fetch/send data via URLs Common flags: `-I` (headers only), `-o` (save to file), `-X` (HTTP method) Example: `curl -X POST -d "name=Anna" https://api.example.com/users`

wget — Download files from the web Example: `wget https://example.com/file.zip`

ssh — Securely connect to another computer remotely Example: `ssh anna@server.example.com`

scp — Copy files securely over SSH Example: `scp file.txt anna@server:/home/anna/`

rsync — Efficient file/directory synchronization Common flags: `-a` (archive mode), `-v` (verbose), `-z` (compress) Example: `rsync -avz src/ anna@server:/backup/`

netstat — Show network connections (older tool) Example: `netstat -tulpn`

ss — Modern replacement for netstat Example: `ss -tulpn`

ip — Manage network interfaces and routing (modern Linux) Example: `ip addr show`

ifconfig — Show/configure network interfaces (older tool) Example: `ifconfig`

traceroute — Show the path packets take to a host Example: `traceroute google.com`

dig — Look up DNS information Example: `dig example.com`

nslookup — Simpler DNS lookup Example: `nslookup example.com`

whois — Look up domain/IP ownership information Example: `whois example.com`

nc (netcat) — Read/write raw data over the network, port troubleshooting Example: `nc -zv example.com 443` — check whether port 443 is open

iptables — Manage firewall rules (older, but still common) Example: `sudo iptables -L`

hostname — Show or set the computer's hostname Example: `hostname`

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8. Package Management

apt / apt-get — Package management on Debian/Ubuntu Example: `sudo apt update && sudo apt upgrade` — refresh package lists and upgrade installed packages; `sudo apt install htop`; `sudo apt remove htop`

dpkg — Low-level package management on Debian-based systems Example: `dpkg -l | grep nginx`

yum — Package management on older RHEL/CentOS Example: `sudo yum install htop`

dnf — Modern successor to yum (Fedora/RHEL) Example: `sudo dnf install htop`

pacman — Package management on Arch Linux Example: `sudo pacman -S htop`

snap — Universal packages (Snapcraft) Example: `sudo snap install code`

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9. Disk & Storage

mount — Mount a filesystem Example: `sudo mount /dev/sdb1 /mnt/usb`

umount — Unmount a filesystem Example: `sudo umount /mnt/usb`

fdisk — Partition hard drives Example: `sudo fdisk -l` — list partitions

mkfs — Create a filesystem on a partition This formats the target and destroys any data already on it — double-check the device name (`lsblk` or `sudo fdisk -l` first) before running it, since a typo can wipe the wrong disk. Example: `sudo mkfs.ext4 /dev/sdb1`

fsck — Check and repair a filesystem Example: `sudo fsck /dev/sdb1`

blkid — Show UUID and filesystem type for block devices Example: `sudo blkid`

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10. Archiving & Compression

tar — Archive (and optionally compress) files Common flags: `-c` (create), `-x` (extract), `-v` (verbose), `-z` (gzip), `-f` (filename) Example: `tar -czvf archive.tar.gz folder/` — create a compressed archive; `tar -xzvf archive.tar.gz` — unpack it

zip — Create a zip archive Example: `zip -r archive.zip folder/`

unzip — Unpack a zip archive Example: `unzip archive.zip`

gzip / gunzip — Compress/decompress individual files Example: `gzip file.txt` / `gunzip file.txt.gz`

bzip2 — Alternative compression method, often a better ratio Example: `bzip2 file.txt`

xz — Modern compression with a high compression ratio Example: `xz file.txt`

7z — 7-Zip archiving (requires p7zip) Example: `7z a archive.7z folder/`

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11. User Management

useradd — Create a new user Example: `sudo useradd -m anna` (`-m` creates a home directory)

userdel — Remove a user Example: `sudo userdel -r anna` (`-r` also removes the home directory)

usermod — Modify an existing user Example: `sudo usermod -aG sudo anna` — add anna to the sudo group

passwd — Change a password Example: `passwd`

adduser — An interactive, user-friendly alternative to useradd Example: `sudo adduser anna`

groupadd — Create a new group Example: `sudo groupadd developers`

chpasswd — Bulk-update passwords from a file/script Example: `echo "anna:newpassword" | sudo chpasswd`

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12. Scripting, Environment & Misc

export — Set an environment variable Example: `export PATH=$PATH:/opt/my-tool/bin`

alias — Create a shortcut for a command Example: `alias ll='ls -lah'`

unalias — Remove an alias Example: `unalias ll`

history — Show command history Example: `history | grep git`

source — Run a script file in the current shell (e.g. to load variables) Example: `source ~/.bashrc`

env — Show environment variables / run a command in a clean environment Example: `env | grep PATH`

which — Show the path to a command's executable Example: `which python3`

whereis — Find the binary, source, and man pages for a command Example: `whereis python3`

type — Show how a command would be interpreted (alias, function, binary) Example: `type ll`

man — Read manual pages Example: `man grep`

chsh — Change your default shell Example: `chsh -s /bin/zsh`

crontab — Schedule recurring jobs Example: `crontab -e` — edit scheduled jobs

bash / sh — Run a shell script Example: `bash script.sh`

xdg-open — Open a file/URL with the default program (Linux desktop) Example: `xdg-open document.pdf`

watch — Run a command repeatedly and show the result live Example: `watch -n 2 df -h` — update every 2 seconds

sleep — Pause for a given number of seconds (handy in scripts) Example: `sleep 5`

clear — Clear the terminal window Example: `clear`

exit — End the terminal session Example: `exit`

reboot — Restart the system Example: `sudo reboot`

shutdown — Shut down the system Example: `sudo shutdown now`

systemctl — Manage systemd services Common flags: `start`, `stop`, `restart`, `status`, `enable` Example: `sudo systemctl restart nginx`

service — Older way to manage services (works via a systemd wrapper) Example: `sudo service nginx restart`

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