

Linux Command Cheat Sheet

1. Search Inside Files (grep)

- Search for a word in a file: `grep "error" app.log`
- Search in all files in folder: `grep "error" *`
- Search recursively: `grep -r "error" /var/log/`
- Ignore case: `grep -i "error" app.log`
- Show line numbers: `grep -n "error" app.log`
- Whole word match: `grep -w "error" app.log`
- Show only filenames: `grep -l "error" *.log`

2. Search for Files (find)

- Find file by name: `find /path -name "config.json"`
- Ignore case: `find /path -iname "config.json"`
- Find all .log files: `find /path -type f -name "*.log"`
- Larger than 100MB: `find / -size +100M`
- Find empty files: `find /var -type f -empty`
- Find and delete: `find /tmp -name "*.tmp" -delete`

3. Count & Summary Commands

- Count lines: `wc -l file.txt`
- Count words: `wc -w file.txt`
- Count characters: `wc -c file.txt`
- Count word occurrences: `grep -o "error" file.log | wc -l`

4. View & Extract Parts of Files

- First 10 lines: `head file.txt`
- First 20 lines: `head -20 file.txt`
- Last 10 lines: `tail file.txt`
- Live logs: `tail -f app.log`
- Extract CSV columns: `cut -d',' -f1,3 file.csv`
- Sort: `sort file.txt`
- Remove duplicates: `uniq file.txt`

- Count duplicates: `sort file.txt | uniq -c`

5. Memory Commands

- RAM usage: `free -h`

- Detailed memory: `cat /proc/meminfo`

- Resource usage: `top`

- Better monitor: `htop`

- Swap usage: `swapon -s`

- Memory per process: `ps aux --sort=-%mem`

6. Disk Usage & Filesystem

- Disk usage: `df -h`

- Folder size: `du -sh /var/log`

- Subfolder sizes: `du -h --max-depth=1 /home`

- Filesystem type: `df -T`

- Find large folders: `du -ah / | sort -h | tail`

- Disk health: `smartctl -a /dev/sda`

7. Networking Commands

- Show IP: `ip addr`

- Routes: `ip route`

- Interfaces: `ip link`

- Active connections: `ss -tulpn`

- Ping: `ping google.com`

- DNS lookup: `nslookup google.com`

- Open ports: `netstat -tulpn`

- Traceroute: `traceroute google.com`

- Download: `wget https://example.com/file`

8. Process Management

- All processes: `ps aux`

- Search process: `ps aux | grep nginx`

- Real-time view: `top`

- Kill PID: `kill 1234`

- Force kill: `kill -9 1234`
- Kill by name: `pkill nginx`
- Process tree: `pstree`
- Background process: `command &`
- Foreground: `fg %1`

9. System Commands

- System info: `uname -a`
- OS version: `cat /etc/os-release`
- Hardware info: `lscpu`, `lsblk`, `lspci`, `lsusb`
- Uptime: `uptime`
- Logged-in users: `who`
- System logs: `journalctl -xe`
- Reboot: `reboot`
- Shutdown: `shutdown now`