

Linux Command Cheat Sheet

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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``