



# LINUX COMMANDS CHEAT SHEET FOR DEVOPS



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# Linux Commands Cheat Sheet for DevOps

## 1. File & Directory Management

| Command | Use Case                                   |
|---------|--|
| ls      | List files in a directory                  |
| cd      | Change directory                           |
| pwd     | Print current working directory            |
| mkdir   | Create a new directory                     |
| touch   | Create a new, empty file                   |
| cp      | Copy files or directories                  |
| mv      | Move or rename files                       |
| rm      | Remove files                               |
| rm -r   | Remove directories recursively             |
| tree    | Show directory structure as a tree         |
| find    | Search for files based on name, type, etc. |
| locate  | Fast file search using a database          |

## 2. File Viewing & Editing

| Command            | Use Case                      |
|--------------------|-------------------------------|
| cat                | View file contents            |
| less /<br>more     | View large files page by page |
| head               | Show first 10 lines of a file |
| tail               | Show last 10 lines of a file  |
| tail -f            | Live-monitor logs or files    |
| nano / vi /<br>vim | Edit files from the terminal  |

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## 3. Process Management

| Command                    | Use Case   |
|----------------------------|--|
| <code>ps</code>            | Show running processes                             |
| <code>top</code>           | Dynamic real-time view of processes                |
| <code>htop</code>          | Advanced version of <code>top</code> (interactive) |
| <code>kill</code>          | Kill a process by PID                              |
| <code>killall</code>       | Kill a process by name                             |
| <code>nice / renice</code> | Change process priority                            |

## 4. User Management

| Command                        | Use Case                     |
|--------------------------------|------------------------------|
| <code>whoami</code>            | Show current user            |
| <code>id</code>                | Display UID, GID, and groups |
| <code>adduser / useradd</code> | Create new users             |
| <code>passwd</code>            | Change a user's password     |
| <code>su</code>                | Switch to another user       |
| <code>sudo</code>              | Run command as superuser     |

## 5. Permissions & Ownership

| Command            | Use Case                       |
|--------------------|--------------------------------|
| <code>chmod</code> | Change file/folder permissions |
| <code>chown</code> | Change file/folder ownership   |
| <code>umask</code> | Set default file permissions   |
| <code>ls -l</code> | View file permissions          |

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## 6. Disk Usage

| Command             | Use Case                                       |
|---------------------|--|
| <code>df -h</code>  | Show disk space usage in human-readable format |
| <code>du -sh</code> | Show directory size                            |
| <code>mount</code>  | Mount a filesystem                             |
| <code>umount</code> | Unmount a filesystem                           |

## 7. Networking

| Command                         | Use Case                                    |
|---------------------------------|---|
| <code>ip addr / ifconfig</code> | Show IP address and network interfaces      |
| <code>ping</code>               | Test connectivity                           |
| <code>netstat -tuln</code>      | Show open ports and listening services      |
| <code>ss -tuln</code>           | Faster version of netstat                   |
| <code>curl</code>               | Make HTTP requests                          |
| <code>wget</code>               | Download files via HTTP                     |
| <code>traceroute</code>         | Show the path packets take to a destination |
| <code>nslookup</code>           | Resolve domain names to IP                  |
| <code>dig</code>                | Detailed DNS lookup                         |
| <code>hostname</code>           | Show or set the hostname                    |

## 8. Package Management

| Command (Ubuntu/Debian)              | Use Case                   |
|--------------------------------------|----------------------------|
| <code>apt update</code>              | Update package list        |
| <code>apt upgrade</code>             | Upgrade all packages       |
| <code>apt install &lt;pkg&gt;</code> | Install a package          |
| <code>apt remove &lt;pkg&gt;</code>  | Remove a package           |
| Command (RHEL/CentOS)                |                            |
| <code>yum install &lt;pkg&gt;</code> | Install package            |
| <code>dnf install &lt;pkg&gt;</code> | Newer Fedora-based systems |

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## 9. Bash Scripting & Variables

| Command                     | Use Case                          |
|-----------------------------|-----------------------------------|
| <code>echo</code>           | Print a message or variable       |
| <code>read</code>           | Accept input from the user        |
| <code>export</code>         | Set environment variables         |
| <code>#!/bin/bash</code>    | Script shebang (interpreter path) |
| <code>if, then, else</code> | Conditionals in bash              |
| <code>for, while</code>     | Looping structures                |
| <code>function</code>       | Define reusable blocks            |

## 10. System Services (Systemd)

| Command                       | Use Case                        |
|-------------------------------|---------------------------------|
| <code>systemctl start</code>  | Start a service                 |
| <code>systemctl stop</code>   | Stop a service                  |
| <code>systemctl status</code> | Check status of a service       |
| <code>journalctl -u</code>    | View logs for a systemd service |

## 11. Compression & Archiving

| Command                  | Use Case                             |
|--------------------------|--------------------------------------|
| <code>tar -czf</code>    | Create a .tar.gz archive             |
| <code>tar -xzf</code>    | Extract a .tar.gz archive            |
| <code>zip/unzip</code>   | Compress/uncompress zip files        |
| <code>gzip/gunzip</code> | Compress/uncompress individual files |

## 12. File Transfer & Sync

| Command            | Use Case                                    |
|--------------------|---|
| <code>scp</code>   | Secure file copy to/from remote server      |
| <code>rsync</code> | Efficient sync between local/remote systems |
| <code>ftp</code>   | Connect to FTP server                       |
| <code>sftp</code>  | Secure FTP over SSH                         |

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## Advanced Linux Commands

| Command                | Description   |
|------------------------|---|
| <b>strace</b>          | Trace system calls and signals for a process            |
| <b>lsof</b>            | List open files and the processes using them            |
| <b>nc (netcat)</b>     | Check port connectivity and transfer data over networks |
| <b>xargs</b>           | Build and execute command lines from standard input     |
| <b>awk</b>             | Process and extract data from structured text files     |
| <b>sed</b>             | Edit text in files using patterns and replacements      |
| <b>watch</b>           | Run a command repeatedly at fixed intervals             |
| <b>tmux</b>            | Run multiple terminal sessions in one screen            |
| <b>iostat</b>          | Monitor disk I/O usage per process                      |
| <b>nmap</b>            | Scan network for open ports and services                |
| <b>ufw</b>             | Simplify firewall management on Ubuntu                  |
| <b>sysctl</b>          | View and modify kernel parameters at runtime            |
| <b>hostnamectl</b>     | Set or view the system hostname                         |
| <b>envsubst</b>        | Substitute environment variables in template files      |
| <b>date --iso-8601</b> | Display the date in ISO 8601 format                     |
| <b>uptime</b>          | Show system uptime and average load                     |
| <b>crontab / at</b>    | Schedule recurring or one-time jobs                     |
| <b>ss</b>              | Display active socket connections (faster than netstat) |
| <b>trap</b>            | Define actions for shell script signals                 |
| <b>ethtool</b>         | Display or control Ethernet device settings             |