

Linux Cheat Sheet



BY DEVOPS SHACK

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DevOps Shack

Linux Cheat Sheet

The Ultimate Guide for DevOps & System Administration

1. System Information

| Command | Description |
|----------|--|
| uname -a | Show kernel name, version, and system info |
| hostname | Display system hostname |
| uptime | Show how long the system has been running |
| whoami | Show current logged-in user |
| id | Show user ID and group ID |
| date | Show current system date and time |
| cal | Display current month calendar |
| `dmesg` | less` |

Best Practice: Use dmesg and uname for debugging hardware and OS-level issues.

2. User Management

| Command | Description |
|----------------|-----------------------------------|
| who | Show who is logged in |
| w | Show logged-in users and activity |
| adduser <user> | Add a new user |
| userdel <user> | Remove a user |
| passwd <user> | Change user password |
| su - <user> | Switch to another user |

| Command | Description |
|----------------------------|------------------------|
| groups <user> | Show group membership |
| usermod -aG sudo <user> | Add user to sudo group |

Best Practice: Create non-root users for daily operations; restrict root access.

3. File & Directory Operations

| Command | Description |
|-----------------------|--|
| ls -l | List files with details |
| ls -a | List hidden files |
| pwd | Print working directory |
| cd <dir> | Change directory |
| mkdir <dir> | Create new directory |
| mkdir -p /path/to/dir | Create nested directories |
| rmdir <dir> | Remove empty directory |
| rm -r <dir> | Remove directory recursively |
| touch <file> | Create an empty file |
| cp <src> <dest> | Copy file/directory |
| mv <src> <dest> | Move/rename file |
| stat <file> | Show file metadata |
| tree | Display directory structure (install with apt/yum) |

Best Practice: Always use -i with rm to avoid accidental deletions.

4. File Viewing & Editing

| Command | Description |
|------------|----------------------|
| cat <file> | Display file content |

| Command | Description |
|-------------------|---------------------------|
| less <file> | View file with scrolling |
| head -n 20 <file> | Show first 20 lines |
| tail -n 20 <file> | Show last 20 lines |
| tail -f <file> | Monitor file in real time |
| nano <file> | Open file in Nano editor |
| vim <file> | Open file in Vim editor |
| wc -l <file> | Count lines in a file |
| wc -w <file> | Count words in a file |

Best Practice: Use tail -f on logs to debug live applications.

5. File Permissions & Ownership

| Command | Description |
|-------------------------|-------------------------------------|
| ls -l | View permissions |
| chmod 755 <file> | rwx for owner, r-x for group/others |
| chmod u+x <file> | Add execute permission to user |
| chmod g-w <file> | Remove write permission for group |
| chown user <file> | Change owner |
| chown user:group <file> | Change owner and group |
| umask | Show default permissions |

Best Practice: Restrict permissions to least privilege; avoid 777 unless testing.

6. Process Management

| Command | Description |
|---------|--------------------|
| ps aux | Show all processes |

| Command | Description |
|-------------------------|--|
| top | Show real-time process usage |
| htop | Interactive process manager (install separately) |
| jobs | Show background jobs |
| fg %1 | Bring job 1 to foreground |
| bg %1 | Resume job 1 in background |
| kill <pid> | Kill process by PID |
| kill -9 <pid> | Force kill process |
| systemctl status <svc> | Show service status |
| systemctl start <svc> | Start a service |
| systemctl stop <svc> | Stop a service |
| systemctl restart <svc> | Restart a service |

Best Practice: Use systemctl for services instead of manually killing PIDs.

7. Networking

| Command | Description |
|-------------------|------------------------|
| ifconfig / ip a | Show IP addresses |
| ping <host> | Check connectivity |
| curl <url> | Fetch from URL |
| wget <url> | Download file |
| netstat -tulnp | Show active ports |
| ss -tulnp | Alternative to netstat |
| dig <domain> | DNS lookup |
| nslookup <domain> | Another DNS lookup |

| Command | Description |
|--------------------------|--------------------------|
| traceroute <host> | Trace path to host |
| scp file user@host:/path | Copy file to remote host |
| ssh user@host | SSH into remote server |

Best Practice: Use ss instead of netstat (modern replacement).

8. Disk Management

| Command | Description |
|---------------------------|---------------------------|
| df -h | Show disk usage |
| du -sh <dir> | Show size of directory |
| lsblk | List block devices |
| mount | Show mounted file systems |
| umount /mnt | Unmount filesystem |
| fdisk -l | Show disk partitions |
| ls -lh /dev/disk/by-uuid/ | Show disk UUIDs |
| blkid | Show block device IDs |

Best Practice: Use du -sh * to check which directories are consuming space.

9. Package Management

Ubuntu/Debian (APT)

| Command | Description |
|-------------------|----------------------|
| apt update | Update package list |
| apt upgrade | Upgrade all packages |
| apt install <pkg> | Install package |
| apt remove <pkg> | Remove package |

| Command | Description |
|------------------|----------------|
| apt search <pkg> | Search package |

CentOS/RHEL (YUM/DNF)

| Command | Description |
|-------------------|---------------------|
| yum install <pkg> | Install package |
| yum remove <pkg> | Remove package |
| yum update | Update all packages |
| dnf search <pkg> | Search package |

10. Archiving & Compression

| Command | Description |
|---------------------------|----------------------------|
| tar -cvf file.tar dir | Create tar archive |
| tar -xvf file.tar | Extract tar archive |
| tar -czvf file.tar.gz dir | Create compressed tarball |
| tar -xzvf file.tar.gz | Extract compressed tarball |
| gzip <file> | Compress file |
| gunzip <file.gz> | Decompress file |
| zip file.zip file1 file2 | Zip multiple files |
| unzip file.zip | Extract zip file |

11. Search & Find

| Command | Description |
|----------------------------|------------------------------|
| find / -name <file> | Find file by name |
| find / -type f -size +100M | Find files larger than 100MB |
| grep "text" <file> | Search inside a file |

| Command | Description |
|---|-------------------------------|
| <code>grep -r "text" <dir></code> | Recursive search in directory |
| <code>which <command></code> | Show command path |
| <code>whereis <command></code> | Show all command locations |
| <code>locate <file></code> | Find file using index |

Best Practice: Use `grep -i` for case-insensitive searches.

12. System Monitoring

| Command | Description |
|-------------------------|---|
| <code>free -h</code> | Show memory usage |
| <code>uptime</code> | Show load average |
| <code>dmesg</code> | Show kernel messages |
| <code>iostat</code> | CPU and I/O statistics |
| <code>vmstat</code> | Virtual memory statistics |
| <code>sar -u 1 3</code> | Show CPU usage at 1 sec intervals (install sysstat) |

Best Practice: Use `htop` and `glances` for interactive system monitoring.