

# LINUX COMMANDS CHEAT SHEET



## System

|                 |    |  |
|-----------------|----|--|
| uname           | => | Displays Linux system information                                    |
| uname -r        | => | Displays kernel release information                                  |
| uptime          | => | Displays how long the system has been running including load average |
| hostname        | => | Shows the system hostname  |
| hostname -i     | => | Displays the IP address of the system                                |
| last reboot     | => | Shows system reboot history  |
| date            | => | Displays current system date and time                                |
| timedatectl     | => | Query and change the System clock                                    |
| cal             | => | Displays the current calendar month and day                          |
| w               | => | Displays currently logged in users in the system                     |
| whoami          | => | Displays who you are logged in as                                    |
| finger username | => | Displays information about the user                                  |



## Hardware

|                       |    |  |
|-----------------------|----|--|
| dmesg                 | => | Displays bootup messages   |
| cat /proc/cpuinfo     | => | Displays more information about CPU e.g model, model name, cores, vendor id  |
| cat /proc/meminfo     | => | Displays more information about hardware memory e.g. Total and Free memory   |
| lshw                  | => | Displays information about system's hardware configuration                   |
| lsblk                 | => | Displays block devices related information                                   |
| free -m               | => | Displays free and used memory in the system (-m flag indicates memory in MB) |
| lspci -tv             | => | Displays PCI devices in a tree-like diagram                                  |
| lsusb -tv             | => | Displays USB devices in a tree-like diagram                                  |
| dmidecode             | => | Displays hardware information from the BIOS                                  |
| hdparm -i /dev/xda    | => | Displays information about disk data   |
| hdparm -tT /dev/xda   | => | Conducts a read speed test on device xda                                     |
| badblocks -s /dev/xda | => | Tests for unreadable blocks on disk  |



## Users

|                  |    |   |
|------------------|----|---|
| id               | => | Displays the details of the active user e.g. uid, gid, and groups |
| last             | => | Shows the last logins in the system                               |
| who              | => | Shows who is logged in to the system                              |
| groupadd "admin" | => | Adds the group 'admin'  |
| adduser "Sam"    | => | Adds user Sam   |
| userdel "Sam"    | => | Deletes user Sam  |
| usermod          | => | Used for changing / modifying user information                    |



## File Commands

|                                    |    |  |
|------------------------------------|----|--|
| ls -al                             | => | Lists files - both regular & hidden files and their permissions as well. |
| pwd                                | => | Displays the current directory file path                                 |
| mkdir 'directory_name'             | => | Creates a new directory  |
| rm file_name                       | => | Removes a file   |
| rm -f filename                     | => | Forcefully removes a file  |
| rm -r directory_name               | => | Removes a directory recursively  |
| rm -rf directory_name              | => | Removes a directory forcefully and recursively                           |
| cp file1 file2                     | => | Copies the contents of file1 to file2                                    |
| cp -r dir1 dir2                    | => | Recursively Copies dir1 to dir2. dir2 is created if it does not exist    |
| mv file1 file2                     | => | Renames file1 to file2   |
| ln -s /path/to/file_name link_name | => | Creates a symbolic link to file_name                                     |
| touch file_name                    | => | Creates a new file   |
| cat > file_name                    | => | Places standard input into a file  |
| more file_name                     | => | Outputs the contents of a file   |
| head file_name                     | => | Displays the first 10 lines of a file                                    |
| tail file_name                     | => | Displays the last 10 lines of a file                                     |
| gpg -c file_name                   | => | Encrypts a file  |
| gpg file_name.gpg                  | => | Decrypts a file  |
| wc                                 | => | Prints the number of bytes, words and lines in a file                    |
| xargs                              | => | Executes commands from standard input                                    |



## Process Related

|                        |    |   |
|------------------------|----|---|
| ps                     | => | Display currently active processes          |
| ps aux   grep 'telnet' | => | Searches for the id of the process 'telnet' |
| pmap                   | => | Displays memory map of processes            |
| top                    | => | Displays all running processes              |
| kill pid               | => | Terminates process with a given pid         |
| killall proc           | => | Kills / Terminates all processes named proc |
| pkill process-name     | => | Sends a signal to a process with its name   |
| bg                     | => | Resumes suspended jobs in the background    |
| fg                     | => | Brings suspended jobs to the foreground     |
| fg n                   | => | Brings job n to the foreground              |
| lsof                   | => | Lists files that are open by processes      |
| renice 19 PID          | => | Makes a process run with very low priority  |
| pgrep firefox          | => | Find Firefox process ID                     |
| pstree                 | => | Visualizing processes in tree model         |

## File Permission

|   |    |   |
|---|----|---|
| chmod octal filename                    | => | Change file permissions of the file to octal  |
| Example                                 |    |   |
| chmod 777 /data/test.c                  | => | Set rwx permissions to owner, group and everyone (everyone else who has access to the server) |
| chmod 755 /data/test.c                  | => | Set rwx to the owner and r_x to group and everyone  |
| chmod 766 /data/test.c                  | => | Sets rwx for owner, rw for group and everyone   |
| chown owner user-file                   | => | Change ownership of the file  |
| chown owner-user: owner-group file_name | => | Change owner and group owner of the file  |
| chown owner-user:owner-group-directory  | => | Change owner and group owner of the directory   |

## Network

|  |    |  |
|--|----|--|
| ip addr show                           | => | Displays IP addresses and all the network interfaces                             |
| ip address add 192.168.0.1/24 dev eth0 | => | Assigns IP address 192.168.0.1 to interface eth0                                 |
| ifconfig                               | => | Displays IP addresses of all network interfaces                                  |
| ping host                              | => | ping command sends an ICMP echo request to establish a connection to server / PC |
| whois domain                           | => | Retrieves more information about a domain name                                   |
| dig domain                             | => | Retrieves DNS information about the domain                                       |
| dig -x host                            | => | Performs reverse lookup on a domain  |
| host google.com                        | => | Performs an IP lookup for the domain name  |
| hostname -i                            | => | Displays local IP address  |
| wget file_name                         | => | Downloads a file from an online source   |
| netstat -pnltu                         | => | Displays all active listening ports  |

## Compression / Archives

|                                     |    |   |
|-------------------------------------|----|---|
| tar -cf home.tar home               | => | Creates archive file called 'home.tar' from file 'home' |
| tar -xf files.tar                   | => | Extract archive file 'files.tar'                        |
| tar -zcvf home.tar.gz source-folder | => | Creates gzipped tar archive file from source folder     |
| gzip file                           | => | Compression a file with .gz extension                   |

## Install Packages

|                      |    |                                   |
|----------------------|----|-----------------------------------|
| rpm -i pkg_name.rpm  | => | Install an rpm package            |
| rpm -e pkg_name      | => | Removes an rpm package            |
| dnf install pkg_name | => | Install package using dnf utility |

## Install Source (Compilation)

```
./configure
make
make install
```

## Search

|                           |    |   |
|---------------------------|----|---|
| grep 'pattern' files      | => | Search for a given pattern in files                     |
| grep -r pattern dir       | => | Search recursively for a pattern in a given directory   |
| locate file               | => | Find all instances of the file                          |
| find /home/ -name "index" | => | Find file names that begin with 'index' in /home folder |
| find /home -size +10000k  | => | Find files greater than 10000k in the home folder       |

## Login

|                              |    |  |
|------------------------------|----|--|
| ssh user@host                | => | Securely connect to host as user                       |
| ssh -p port_number user@host | => | Securely connect to host using a specified port        |
| ssh host                     | => | Securely connect to the system via SSH default port 22 |
| telnet host                  | => | Connect to host via telnet default port 23             |

## File Transfer

|                               |    |   |
|-------------------------------|----|---|
| scp file1.txt server2/tmp     | => | Securely copy file1.txt to server2 in /tmp directory                |
| rsync -a /home/apps / backup/ | => | Synchronize contents in /home/apps directory with /backup directory |

## Disk Usage

|                               |    |   |
|-------------------------------|----|---|
| df -h                         | => | Displays free space on mounted systems                                  |
| df -i                         | => | Displays free inodes on filesystems                                     |
| fdisk -l                      | => | Shows disk partitions, sizes, and types                                 |
| du -sh                        | => | Displays disk usage in the current directory in a human-readable format |
| findmnt                       | => | Displays target mount point for all filesystems                         |
| mount device-path mount-point | => | Mount a device  |

## Directory Traverse

|          |    |   |
|----------|----|---|
| cd ..    | => | Move up one level in the directory tree structure |
| cd       | => | Change directory to \$HOME directory              |
| cd /test | => | Change directory to /test directory               |