

# Linux Cheatsheet for commads

## Basic Commands

- `pwd` – Print the current working directory.
- `ls` – List directory contents.
  - `ls -l` – Long listing format.
  - `ls -a` – Show hidden files.
- `cd [directory]` – Change directory.
  - `cd ..` – Move up one directory.
  - `cd ~` – Go to the home directory.
- `mkdir [directory]` – Create a new directory.
- `rmdir [directory]` – Remove an empty directory.
- `rm [file]` – Remove a file.
  - `rm -r [directory]` – Remove a directory and its contents.

## File Operations

- `touch [file]` – Create an empty file or update its timestamp.
- `cat [file]` – View file contents.
- `more [file]` – View file contents one page at a time.
- `less [file]` – Similar to `more`, but allows backward navigation.
- `cp [source] [destination]` – Copy files or directories.
- `mv [source] [destination]` – Move or rename files or directories.
- `nano [file]` – Edit files using the Nano text editor.
- `vi [file]` – Edit files using the Vi text editor.

## File Permissions

- `chmod [permissions] [file]` – Change file permissions.
  - Example: `chmod 755 [file]`
    - `7` = read, write, execute (owner).
    - `5` = read, execute (group).
    - `5` = read, execute (others).
- `chown [owner][:group] [file]` – Change file owner and group.
  - Example: `chown user:group [file]`.

## Process Management

- `ps` – Display running processes.
- `top` – Real-time view of system processes.
- `kill [PID]` – Terminate a process by its process ID.
  - `kill -9 [PID]` – Force kill a process.
- `jobs` – List active jobs.
- `fg [job_id]` – Bring a background job to the foreground.

- `bg [job_id]` – Resume a job in the background.

## Disk Usage

- `df -h` – Show disk space usage in human-readable format.
- `du -h [directory]` – Show directory size in human-readable format.

## Networking

- `ping [host]` – Test connectivity to a host.
- `ifconfig` – Display or configure network interfaces.
- `wget [url]` – Download files from the web.
- `curl [url]` – Transfer data from or to a server.

## Search and Find

- `find [path] -name [filename]` – Search for files by name.
- `grep [pattern] [file]` – Search for a pattern in a file.
  - `grep -r [pattern] [directory]` – Recursively search in a directory.
- `locate [filename]` – Find a file by name (uses a pre-built index).

## Archiving and Compression

- `tar -cvf [archive.tar] [files]` – Create a tar archive.
- `tar -xvf [archive.tar]` – Extract a tar archive.
- `gzip [file]` – Compress a file with gzip.
- `gunzip [file.gz]` – Decompress a gzip file.
- `zip [archive.zip] [files]` – Compress files into a zip archive.
- `unzip [archive.zip]` – Extract files from a zip archive.

## User Management

- `whoami` – Show the current user.
- `who` – List logged-in users.
- `adduser [username]` – Add a new user.
- `passwd [username]` – Change a user's password.
- `su [username]` – Switch to another user.

## Environment Variables

- `echo ${VARIABLE}` – Display the value of a variable.
- `export [VARIABLE]=[value]` – Set a new environment variable.
- `env` – Show all environment variables.
- `unset [VARIABLE]` – Remove an environment variable.

## Miscellaneous

- `date` – Display the current date and time.
- `uptime` – Show system uptime.
- `history` – List command history.
- `alias [name]='[command]'` – Create a shortcut for a command.
- `uname -a` – Display system information.
- `clear` – Clear the terminal screen.

## Help and Documentation

- `[command] --help` – Display help for a command.
- `man [command]` – Show the manual for a command.
- `info [command]` – Show detailed information about a command.