Comprehensive Linux Shell Commands Guide

File and Directory Management

- ls - list directory contents
- ls -l - long listing format
- ls -a - list all files including hidden
- cd - change directory
- pwd - print current directory
- mkdir - make directories
- rmdir - remove empty directories
- rm - remove files or directories
- rm -rf - force remove recursively
- cp - copy files and directories
- mv - move or rename files
- touch - create empty file
- stat - display file status
- tree - list contents of directories in a tree-like format

File Viewing and Editing

- cat - view file contents
- less - view file with pagination
- more - another pager like less
- head - view first lines of file
- tail - view last lines of file
- tail -f - follow file updates in real-time
- nano - simple editor
- vim - advanced text editor
- diff - compare two files line by line
- cmp - compare two files byte by byte
- wc - count words, lines, characters

File Permissions and Ownership

- chmod - change permissions

- chown - change owner

- chgrp - change group

- umask - set default permissions

- stat - show file status

- ls -l - show permissions

Searching and Finding Files

- find - search for files in a directory hierarchy

- locate - find files by name

- grep - search inside files

- grep -r - recursive grep

- grep -i - case insensitive search

Networking and Downloads

- ping - test network connection

- wget - download files from the web

- curl - transfer data to/from server

- ifconfig - view network interfaces

- ip a - modern alternative to ifconfig

- netstat - network connections and routing

- ss - socket statistics

- nslookup - query Internet name servers

- dig - DNS lookup

System Information and Monitoring

- uname -a - system information

- top - process viewer

- htop - interactive process viewer

- vmstat - system performance

- iostat - CPU and IO stats

- uptime - how long system has been running

- whoami - current user

- id - user and group ID

- hostname - view or set system hostname

Disk and Filesystem

- df -h - disk space usage

- du -sh - file/folder size

- mount - mount filesystem

- umount - unmount filesystem

- lsblk - list block devices

- blkid - block device attributes

- fdisk - manage disk partitions

Process Management

- ps - show current processes

- top - real-time process info

- kill - terminate process by PID

- killall - terminate by process name

- nice - run a program with altered priority

- renice - change priority of a running process

User Management

- adduser - add a new user

- userdel - delete a user

- usermod - modify user account

- passwd - change user password

- groupadd - create a new group

- groups - list groups for user

Archiving and Compression

- tar -cf archive.tar files - create tar archive

- tar -xf archive.tar - extract archive

- gzip - compress files

- gunzip - decompress .gz files

- zip -r archive.zip files - create zip archive

- unzip archive.zip - extract zip archive

Package Management (Debian-based)

- apt update - refresh package index

- apt upgrade - install available upgrades

- apt install - install a package

- apt remove - remove a package

- apt search - search packages

- dpkg -i package.deb - install from .deb file