

Linux Commands

Basic File Operations

ls	List files and directories.
ls -a	Show hidden files.
cd [dir]	Change directory.
pwd	Print current working directory.
mkdir [dir]	Create a directory.
cp [src] [dest]	Copy files or directories.
cp -r [src] [dest]	Recursively copy directories.
mv [src] [dest]	Move or rename files.
rm [file]	Remove files.
rm -r [dir]	Recursively remove directories.
touch [file]	Create an empty file.

Directory Traversal

cd ..	Move up one directory level.
cd ~	Go to home directory.
cd /	Go to root directory.
cd /tmp	Navigate to the /tmp directory.
cd -	Switch to the previous directory.
pushd [dir]	Save the current directory and switch to another directory.
popd	Return to the last saved directory.

Process Management

ps aux	Display all running processes.
top	Real-time view running processes.
htop	Enhanced graphical version of top
kill [PID]	Kill a process by ID.
killall [proc_name]	Kill processes by name.
bg	Resume a suspended job in the background.
fg	Bring a background job to the foreground.
jobs	List active jobs.
pstree	Show a tree of processes.
nice [command]	Run a command with altered scheduling priority.
renice [PID] [priority]	Change the priority of a running process.

Disk Management

df -h	Show disk space usage in human-readable format.
du -h [dir]	Display disk usage of a directory.
fdisk -l	List disk partitions.
lsblk	List block devices.
blkid	Get block device attributes (UUID, file system type).
mount [dev] [dir]	Mount a file system.
umount [dir]	Unmount a file system.
parted	Manage partitions interactively.
fsck [device]	Check and repair a filesystem.

Networking

ifconfig	View or configure network interfaces.
ip a	Display IP addresses.
ping [host]	Test network connectivity.
netstat -tuln	Show active ports.
curl [url]	Transfer data from or to a server.
wget [url]	Download files from the web.
ssh [user@host]	Connect to a remote host via SSH.
traceroute [host]	Trace the route packets take to a host.
ss	Display socket statistics.
dig [domain]	Query DNS servers.

File Compression And Archiving

tar -cvf [file.tar] [dir]	Create a tar archive.
tar -xvf [name.tar]	Extract files from a tar archive.
tar -tvf [name.tar]	List contents of a tar archive.
gzip [file]	Compress a file.
gunzip [file.gz]	Decompress a gzip file.
bzip2 [file]	Compress a file using bzip2.
bunzip2 [file.bz2]	Decompress a bzip2 file.
zip [name.zip] [file]	Create a zip archive.
unzip [name.zip]	Extract a zip archive.

File Permissions

chmod [perm] [file]	Change file permissions.
chmod u+x [file]	Add executable permission for the file owner.
chmod 755 [file]	Set read/write/execute for the owner, and read/execute for others.
chown [owner] [group] [file]	Change file ownership.
chgrp [group] [file]	Change group ownership of a file.
umask [perm]	Set default file creation permissions.
ls -l	List files with permissions.

User Management

adduser [username]	Add a new user.
passwd [username]	Change user password.
userdel [username]	Delete a user.
usermod -aG [group] [username]	Add user to a group.
id [username]	Display user and group information.
groups [username]	Display group memberships.
su [username]	Switch to another user.

System Information

uname -a	Display system information.
hostname	Show or set system hostname.
uptime	Show system uptime.
whoami	Display current logged-in user.
dmesg	Show system messages.
free -h	Display memory usage in human-readable format.
lscpu	Display CPU architecture information.
lsb_release -a	Display distribution-specific information.

Package Management (Debian-based systems)

apt-get update	Update package lists.
apt-get upgrade	Upgrade installed packages.
apt-get install [package]	Install a package.
apt-get remove [package]	Remove a package.
apt-get autoremove	Remove unused packages.
dpkg -i [package.deb]	Install a .deb package.
apt-cache search [package]	Search for packages.

Text Processing

grep [pattern] [file]	Search for a pattern in a file.
sed 's/[old]/[new]/g' [file]	Replace text in a file.
awk '{print \$1}' [file]	Extract specific columns from text.
cut -d[delimiter] -f[field] [file]	Extract fields from text.
wc -l [file]	Count lines in a file.
sort [file]	Sort lines in a file.
uniq [file]	Filter out repeated lines in a file.

History and Miscellaneous

history	Display command history.
history -c	Clear history
!!	Repeat the last command.
clear	Clear the terminal screen.
Ctrl+R	Search the command history interactively.
alias [name]='[command]'	Create a custom command alias.