

# Linux Commands Cheat Sheet

## Hardware Information

<b>dmesg</b>	show bootup messages
<b>cat /proc/cpuinfo</b>	show CPU information
<b>free -h</b>	show free and used memory (-m flag indicates memory in MB)
<b>lshw</b>	list information about hardware configuration
<b>lsblk</b>	list information about block devices
<b>lspci -tv</b>	show PCI devices in a tree-like diagram
<b>lsusb -tv</b>	show USB devices in a tree-like diagram
<b>dmidecode</b>	show hardware information from the BIOS
<b>hdparm -i /dev/[disk]</b>	show information about disk data
<b>hdparm -tT /dev/[disk]</b>	conduct a read speed test on disk
<b>badblocks -s /dev/[disk]</b>	test for unreadable blocks on disk

## File Compression

<b>tar cf [compressed_file.tar] [file_name]</b>	create an archived file from a file
<b>tar xf [compressed_file.tar]</b>	extract archived file
<b>tar czf [compressed_file.tar.gz]</b>	create a gzip compressed tar file
<b>gzip [file_name]</b>	compress a file with the .gz extension

## Package Installation

<b>yum search [keyword]</b>	find a package by a related keyword
<b>yum info [package_name]</b>	show package information and summary
<b>yum install [package_name.rpm]</b>	install a package using the YUM package manager
<b>dnf install [package_name.rpm]</b>	install a package using the DNF package manager
<b>rpm -i [package_name.rpm]</b>	install an rpm package from a local file
<b>rpm -e [package_name.rpm]</b>	remove an rpm package
<b>tar zxvf [source_code.tar.gz] cd [source_code] ./configure make make install</b>	install software from source code

## SSH Login

<b>ssh user@host</b>	connect to host as user
<b>ssh host</b>	securely connect to host via SSH default port 22
<b>ssh -p [port] user@host</b>	connect to host using a particular port
<b>telnet host</b>	connect to host via telnet default port 23

## Searching

<b>grep [pattern] [file_name]</b>	search for a specific pattern in a file
<b>grep -r [pattern] [directory_name]</b>	search recursively for a specific pattern in a directory
<b>locate [name]</b>	find all files and directories by a specific name
<b>find [/folder/location] -name [a]</b>	list names that begin with [a] in [/folder/location]
<b>find [/folder/location] -size [+100M]</b>	list files larger than 100M in a particular folder

## File Transfer

<b>scp [file_name.txt] [server/tmp]</b>	securely copy a specific file to a server directory
<b>rsync -a [/your/directory] [/backup/]</b>	synchronize the contents of a specific directory with a backup directory

## Process Related

<b>ps</b>	show a snapshot of active processes
<b>pstree</b>	show processes as a tree
<b>pmap</b>	shows a memory usage map of processes
<b>top</b>	show all running processes
<b>kill [process_id]</b>	kill a process under a given ID
<b>pkill [proc_name]</b>	kill a process under the specified name
<b>killall [proc_name]</b>	kill all processes labelled proc
<b>bg</b>	list and resume stopped jobs in the background
<b>fg</b>	bring the most recent suspended job to the foreground
<b>fg [job]</b>	bring a particular job to the foreground
<b>lsuf</b>	list files opened by processes

## File Permission

<b>chmod 777 [file_name]</b>	give read, write, and execute permission to everyone
<b>chmod 755 [file_name]</b>	give full permission to owner, and read and execute permission to group and others
<b>chmod 766 [file_name]</b>	give full permission to owner, and read and write permission to group and others
<b>chown [user] [file_name]</b>	change the file ownership
<b>chown [user]: [group] [file_name]</b>	change the owner and group ownership of a file

## File Commands

<b>ls</b>	list files in directory
<b>ls -a</b>	list all files, including hidden
<b>pwd</b>	show the directory currently working in
<b>mkdir [directory]</b>	create a new directory
<b>rm [file_name]</b>	remove a file
<b>rm -r [directory_name]</b>	remove a directory recursively
<b>rm -rf [directory_name]</b>	remove a directory recursively without requiring confirmation
<b>cp [file_name1] [file_name2]</b>	copy the contents of the first file to the second file
<b>cp -r [directory_name1] [directory_name2]</b>	recursively copy the contents of the first directory into the second directory
<b>mv [file_name1] [file_name2]</b>	rename file_name1 to file_name2
<b>ln -s /path/to/[file_name] [link_name]</b>	create a symbolic link to a file
<b>touch [file_name]</b>	create a new file
<b>more [file_name]</b>	show the contents of a file
<b>head [file_name]</b>	show the first 10 lines of a file
<b>tail [file_name]</b>	show the last 10 lines of a file
<b>gpg -c [file_name]</b>	encrypt a file
<b>gpg [file_name.gpg]</b>	decrypt a file
<b>wc</b>	print the number of words, lines, and bytes in a file

## System Information

<b>uname -r</b>	show system information
<b>uname -a</b>	show kernel release information
<b>uptime</b>	show how long the system has been running, including load average
<b>hostname</b>	show system hostname
<b>hostname -i</b>	show the IP address of the system
<b>last reboot</b>	show system reboot history
<b>date</b>	show current time and date
<b>timedatectl</b>	query and change the system clock
<b>cal</b>	show current calender month and day
<b>w</b>	show logged in users in the system
<b>whoami</b>	show user you are using
<b>finger [username]</b>	show information about a user

## Network

<b>ip addr show</b>	show IP addresses and network interfaces
<b>ip address add [IP_address]</b>	assign an IP address to interface eth0
<b>ifconfig</b>	show IP addresses of all network interfaces
<b>netstat -pnltu</b>	show active (listening) ports
<b>netstat -nutlp</b>	show tcp and udp ports and their programs
<b>whois [domain]</b>	show more information about a domain
<b>dig [domain]</b>	show DNS information about a domain
<b>dig -x host</b>	reverse lookup on domain
<b>dig -x [ip_address]</b>	reverse lookup of an IP address
<b>host [domain]</b>	do an IP lookup for a domain
<b>hostname -I</b>	show the local IP address
<b>wget [file_name]</b>	download a file from a domain

## Directory Navigation

<b>cd ..</b>	move up one level in the directory tree structure
<b>cd</b>	change directory to \$HOME
<b>cd /chosen/directory</b>	change to specified directory

## Users

<b>id</b>	show details of the active user
<b>last</b>	show the last logins onto the system
<b>who</b>	show who is logged into the system
<b>w</b>	show who is logged in and their activity
<b>groupadd [group_name]</b>	add a new group
<b>adduser [user_name]</b>	add new user
<b>usermod -aG [group_name] [user_name]</b>	add a user to a group
<b>userdel [user_name]</b>	delete a user
<b>usermod</b>	use for changing / modifying user information

## Disk Usage

<b>df -h</b>	show free and used space on mounted systems
<b>df -i</b>	show free inodes on mounted filesystems
<b>fdisk -l</b>	show disk partitions, sizes, and types
<b>du -ah</b>	show disk usage for all files and directory
<b>du -sh</b>	show disk usage of current directory
<b>findmnt</b>	show target mount point for all filesystems
<b>mount [device_path] [mount_point]</b>	mount a device

## Keyboard Shortcuts

<b>Ctrl + C</b>	kill current process running in the terminal
<b>Ctrl + Z</b>	stop current process (can be resumed in the foreground with fg or in the background with bg)
<b>Ctrl + W</b>	cut one word before the cursor and add it to clipboard
<b>Ctrl + U</b>	cut part of the line before the cursor and add it to clipboard
<b>Ctrl + K</b>	cut part of the line after the cursor and add it to clipboard
<b>Ctrl + Y</b>	paste from clipboard
<b>Ctrl + R</b>	recall last command that matches the provided characters
<b>Ctrl + O</b>	run the previously recalled command
<b>Ctrl + G</b>	exit command history without running a command
<b>!!</b>	repeat the last command
<b>exit</b>	log out of current session