

Linux Command Guide



System Information Commands 🖨️			
Command	Description	Command	Description
whoami	Displays the currently logged-in user. Output: madhurima	uname	Shows system information like OS name. Output: Linux
uname -a	Displays detailed system information, including kernel name, version, and architecture. Output: Linux hostname 5.15.0-60-generic x86_64 GNU/Linux	lscpu	Shows CPU details. Output: Model name: Intel Core i7
free	Displays memory usage. Output: Total, used, and free memory	free -h	Shows memory usage in a human-readable format. Output: 7.8G total, 2.1G free
Directory Navigation Commands 📁			
Command	Description	Command	Description
pwd	Prints the current working directory. Output: /home/madhurima	ls	Lists files and directories in the current directory. Output: Documents Downloads Pictures
ls -la	Displays detailed information including hidden files.	cd /path	Changes the current directory to the specified path. Example: cd /home/user/Documents
cd ..	Moves up one directory level. Example: If in /home/user/Documents, it moves to /home/user	mkdir directory_name	Creates a new directory. Example: mkdir new_folder
rmdir	Removes an empty directory. Example: rmdir myfolder	mv	Renames or moves a directory. Example: mv oldname newname
touch	Creates a new empty file. Example: touch myfile.txt	vim	Opens the vim editor to create or edit a file. Example: vim myfile.txt
gedit	Opens the gedit editor to create or edit a file in GUI. Example: gedit myfile.txt	rm	Deletes a file or directory. Example: rm myfile.txt
rm -r	Deletes a directory and its contents recursively. Example: rm -r myfolder	⚠️ Use rm command with caution, as it permanently deletes data.	
File and Directory Management Commands 📁			
Command	Description	Command	Description
cat	Displays/prints the content of a file on the terminal. Example: cat myfile.txt	cat	Concatenates multiple files and displays them together. Example: cat file1.txt file2.txt
cp	Copies files or directories. Example: cp source.txt destination.txt	cp -r	Copies directories recursively. Example: cp -r myfolder newfolder
cat	Displays/prints the content of a file on the terminal. Example: cat myfile.txt	cat	Concatenates multiple files and displays them together. Example: cat file1.txt file2.txt
cp	Copies files or directories. Example: cp source.txt destination.txt	cp -r	Copies directories recursively. Example: cp -r myfolder newfolder
mv	Moves or renames a file. Example: mv oldname.txt newname.txt	rm	Deletes a file. Example: rm myfile.txt
mkdir	Creates a new directory. Example: mkdir newfolder	rmdir	Removes an empty directory. Example: rmdir emptyfolder
ls	Lists files in a directory. Example: ls -l	find	Searches for files in a directory. Example: find /home -name myfile.txt
File Permissions and Ownership Commands 🛡️			
Command	Description	Command	Description
chmod	Changes file permissions. Example: chmod 755 myfile.txt	chown	Changes file ownership. Example: chown user:group myfile.txt
grep	Searches for a pattern in a file. Example: grep "hello" myfile.txt	echo	Outputs text to the terminal. Example: echo "Hello, World!"
df	Displays disk space usage. Example: df -h	du	Displays directory size. Example: du -sh myfolder
ps	Shows active processes. Example: ps aux	kill	Terminates a process. Example: kill 1234
tar -cvf	Creates a tar archive. Example: tar -cvf archive.tar myfolder	tar -xvf	Extracts a tar archive. Example: tar -xvf archive.tar
cat	Displays/prints the content of a file. Example: cat myfile.txt	cat	Concatenates multiple files and displays them. Example: cat file1.txt file2.txt
cp	Copies files or directories. Example: cp source.txt destination.txt	cp -r	Copies directories recursively. Example: cp -r myfolder newfolder
chmod	Changes file permissions. Example: chmod 755 myfile.txt	chown	Changes file ownership. Example: chown user:group myfile.txt
ls -l	Lists files with detailed permissions. Example: ls -l	File Permissions	The 10-character format: <code>rwxx--xx--</code> Example: Owner (rw), Group (r-x), Others (r--)
chmod u+x file.txt	Adds execute permission for the user.	chmod g-w file.txt	Removes write permission from the group.
chmod a+r file.txt	Gives read permission to all users.	chmod 755 file.txt	Sets permissions: owner (rw), group (r-x), others (r-x).
chmod 644 file.txt	Sets permissions: owner (rw-), group (r--), others (r-).	chown user:group file.txt	Changes the file owner and group.
ps	Shows currently running processes. Example: ps aux	ps -e	Lists all running processes.
ps -ef	Lists all processes with full details.	top	Displays real-time system processes.
kill PID	Terminates a process by PID.	kill -9 PID	Forces immediate termination of a process.
kill -SIGTERM PID	Gracefully terminates a process.	kill -SIGSTOP PID	Pauses a process.
kill -SIGCONT PID	Resumes a paused process.	kill -SIGKILL PID	Forces process termination without cleanup.
Text Processing Commands 📄			
Command	Description	Command	Description
grep	Searches for a string or pattern in files or input streams. Example: grep 'pattern' file.txt	grep -r	Recursively searches for a pattern in directories. Example: grep -r 'pattern' /path/to/directory
awk	Pattern scanning, text extraction, and data manipulation. Example: awk '{print \$1}' file.txt	awk '/pattern/ {print \$0}'	Filters rows based on a pattern. Example: awk 'error/ {print \$0}' log.txt
sort	Sorts lines of a text file alphabetically or numerically. Example: sort file.txt	sort -r	Sorts in reverse order. Example: sort -r file.txt
uniq	Filters out duplicate lines from sorted input. Example: sort file.txt uniq	uniq -c	Counts occurrences of duplicate lines. Example: sort file.txt uniq -c
wc	Counts words, lines, characters in a file. Example: wc file.txt	wc -l	Counts lines in a file. Example: wc -l file.txt
head	Displays the first n lines of a file. Example: head -n 10 file.txt	tail	Displays the last n lines of a file. Example: tail -n 10 file.txt
diff	Compares two files line by line. Example: diff file1.txt file2.txt	paste	Merges lines of multiple files. Example: paste file1.txt file2.txt
tr	Translates or deletes characters. Example: echo 'hello' tr 'a-z' 'A-Z'	sed	Stream editor for filtering and transforming text. Example: sed 's/old/new/g' file.txt
Memory Management Commands 🧠			
Command	Description	Command	Description
free	Displays memory usage (RAM and swap). Example: free -h	vmstat	Reports virtual memory statistics. Example: vmstat 5
df	Shows disk space usage. Example: df -h	swapon	Displays or enables/disables swap space. Example: swapon -s
/proc/meminfo	Shows detailed memory information. Example: cat /proc/meminfo	top	Displays real-time system memory usage. Example: top
htop	Interactive process viewer with memory usage. Example: htop	ps	Shows memory usage of running processes. Example: ps aux --sort=-%mem
pmap	Displays memory map of a process. Example: pmap PID	sync	Forces writing buffered data to disk. Example: sync
Networking Management Commands 🌐			
Command	Description	Command	Description
ping	Tests network connectivity to a host. Example: ping google.com	ip	Shows/manipulates routing, devices, and policy routing. Example: ip addr show
ssh	Secure shell for remote login and command execution. Example: ssh user@192.168.1.1	wget	Retrieves/downloads files from the web. Example: wget https://example.com/file.zip
scp	Securely copies files between hosts. Example: scp file.txt user@remote:/home/user/	curl	Transfers data from or to a server. Example: curl -O https://example.com/file.txt
netstat	Displays network connections and statistics. Example: netstat -tulnp	ss	Shows detailed socket statistics. Example: ss -tulnp
traceroute	Traces the path packets take to a host. Example: traceroute google.com	nslookup	Queries domain name servers. Example: nslookup example.com
dig	Performs DNS lookups. Example: dig example.com	ifconfig	Displays network interface information (deprecated in favor of ip command). Example: ifconfig eth0
iptables	Configures firewall rules. Example: iptables -L	route	Shows/manipulates the IP routing table. Example: route -n