

# LINUX - 200 COMMANDS

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# Top 200 Linux Commands

## What This Document Offers

This document is your ultimate companion to learning Linux. It contains the Top 200 most important and widely-used Linux commands, explained in plain English with clear syntax, use cases, examples, outputs, and pro tips for real-world usage.

Each command is grouped into logical categories such as:

File management

Process monitoring

System information

Networking

Disk operations

User & group management

Package management

Text processing (awk, sed, grep, etc.)

Scripting

Permissions & ownership

System services

Security and troubleshooting

## Basic Linux Commands

1. `pwd` Prints the current working directory you're in.
2. `ls` Lists the files and directories in the current folder. .
3. `cd` Changes the directory you're working in.
4. `clear` Clears the terminal screen.
5. `echo` Displays a line of text or variable value.

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- 6. `exit` Closes the terminal session.
- 7. `history` Displays a list of previously used commands. .
- 8. `man` Opens the manual page for a command.
- 9. `whoami` Prints the current logged-in username.
- 10. `hostname` Shows the systems hostname.

### File and Directory Operations

- 11. `touch` Creates a new empty file.
- 12. `mkdir` Creates a new directory.
- 13. `rmdir` Removes empty directories.
- 14. `rm` Removes files or directories.
- 15. `cp` Copies files or directories.
- 16. `mv` Moves or renames files.
- 17. `stat` Displays detailed file information.
- 18. `file` Identifies the type of file (text, binary, image, etc.).
- 19. `basename` Returns the file name from a full path.
- 20. `dirname` Returns the directory path from a full file path.

### File Permissions & Ownership

- 21. `chmod` Changes file or directory permissions.
- 22. `chown` Changes file ownership (user and/or group).
- 23. `chgrp` Changes the group ownership of a file.
- 24. `umask` Sets default permissions for newly created files.
- 25. `lsattr` Lists file attributes on a Linux file system.
- 26. `chattr` Changes file attributes on a Linux file system.

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27. `getfacl` Displays Access Control List (ACL) of a file.

28. `setfacl` Sets ACL permissions on files or directories.

### User & Group Management

29. `adduser` Adds a new user to the system.

30. `useradd` Low-level utility to add a user.

31. `passwd` Changes user password.

32. `usermod` Modifies a user account.

33. `userdel` Deletes a user account.

34. `groupadd` Creates a new group.

35. `groupdel` Deletes a group.

36. `groupmod` Modifies an existing group.

37. `id` Displays user ID and group ID.

38. `who` Shows who is logged in.

39. `w` Shows logged-in users and what they are doing.

40. `groups` Displays groups a user belongs to.

41. `su` Switches to another user account.

42. `sudo` Executes a command with elevated privileges.

### Process Management

43. `ps` Shows running processes.

44. `top` Displays real-time system processes and usage.

45. `htop` Interactive process viewer (enhanced top).

46. `kill` Sends signals to processes (usually to terminate).

47. `killall` Sends signals to all processes by name.

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- 48. `nice` Starts a process with a given priority.
- 49. `renice` Changes priority of a running process.
- 50. `bg` Resumes a job in the background.
- 51. `fg` Brings a background job to the foreground.
- 52. `jobs` Lists active jobs in the shell.
- 53. `pidof` Finds the process ID of a running program.
- 54. `watch` Repeats a command periodically and shows output.

### Disk & Filesystem Commands

- 55. `df` Reports file system disk space usage.
- 56. `du` Estimates file or directory space usage.
- 57. `mount` Mounts a file system.
- 58. `umount` Unmounts a file system.
- 59. `fsck` Checks and repairs file systems.
- 60. `blkid` Displays block device information.
- 61. `lsblk` Lists block devices in a tree-like structure.
- 62. `parted` Manages disk partitions interactively.
- 63. `fdisk` Partition table manipulator for Linux.
- 64. `mkfs` Creates a new file system.
- 65. `tune2fs` Tunes file system parameters.
- 66. `e2label` Changes the label of an ext2/ext3/ext4 filesystem.

### Archiving & Compression

- 67. `tar` Archives files into .tar format.
- 68. `gzip` Compresses files using .gz format.

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- 69. `gunzip` Decompresses .gz files.
- 70. `bzip2` Compresses files using .bz2 format.
- 71. `bunzip2` Decompresses .bz2 files.
- 72. `xz` Compresses files using .xz format.
- 73. `unxz` Decompresses .xz files.
- 74. `zip` Compresses files into .zip archive.
- 75. `unzip` Extracts files from .zip archives.
- 76. `7z` High-compression archiver for .7z files.
- 77. `zcat` Views contents of a compressed file.

### Networking Commands

- 78. `ip` Configures and displays IP networking.
- 79. `ifconfig` Displays or configures network interfaces (deprecated but still used).
- 80. `ip a` Displays all network addresses (modern alternative to `ifconfig`).
- 81. `ping` Checks connectivity to another host.
- 82. `traceroute` Traces the route packets take to a host.
- 83. `netstat` Displays network connections, routing tables, and stats (older tool).
- 84. `ss` Displays detailed socket statistics (modern replacement for `netstat`).
- 85. `dig` Queries DNS name servers.
- 86. `nslookup` Performs DNS lookups (older tool).
- 87. `host` Simple DNS query tool.
- 88. `curl` Transfers data from or to a server using supported protocols.
- 89. `wget` Non-interactive network downloader.
- 90. `telnet` Connects to remote machines using Telnet protocol.
- 91. `ssh` Connects to remote machines securely.

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- 92. scp Securely copies files between systems.
- 93. rsync Efficiently syncs files and directories between systems.
- 94. ftp Transfers files over FTP (less secure, older protocol).
- 95. nmcli Command-line tool for controlling NetworkManager.
- 96. nmap Network scanner for hosts and open ports.
- 97. tcpdump Captures and analyzes network packets.
- 98. iptables Manages firewall rules.

### Package Management (Debian/Ubuntu)

- 99. apt Modern package management tool for Debian-based systems.
- 100. apt-get Legacy tool for package operations.
- 101. apt-cache Queries package information.
- 102. dpkg Low-level Debian package management tool.
- 103. snap Manages snap packages (universal packages).
- 104. update-alternatives Manages default system applications.

### Package Management (RHEL/CentOS/Fedora)

- 105. yum Package manager for RPM-based systems (older systems).
- 106. dnf Modern replacement for yum.
- 107. rpm Low-level RPM package management.
- 108. repoquery Queries repository information.
- 109. dnf info Retrieves package info from DNF repos.
- 110. dnf clean Clears metadata cache.

### System Information

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- 111. `uname` Displays system information like kernel version.
- 112. `hostnamectl` Controls system hostname and related settings.
- 113. `uptime` Shows how long the system has been running.
- 114. `whoami` Displays the current username.
- 115. `id` Shows user ID and group ID.
- 116. `top` Displays dynamic real-time view of running processes.
- 117. `vmstat` Reports memory, CPU, and I/O stats.
- 118. `free` Shows memory usage.
- 119. `lscpu` Displays CPU architecture info.
- 120. `lsblk` Lists block storage devices.
- 121. `lspci` Lists PCI devices.
- 122. `lsusb` Lists USB devices.
- 123. `dmesg` Displays kernel-related messages.
- 124. `uptime` Shows system running time.
- 125. `arch` Displays system architecture.
- 126. `env` Shows all environment variables.

### Text Processing

- 127. `cat` Displays the contents of a file.
- 128. `tac` Displays contents of a file in reverse order.
- 129. `nl` Numbers the lines of a file.
- 130. `more` Views files one page at a time (forward only).
- 131. `less` Advanced pager to view files forward and backward.
- 132. `head` Displays the beginning lines of a file.
- 133. `tail` Displays the ending lines of a file.



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- 134. `cut` Removes sections from each line of input.
- 135. `split` Splits a file into pieces.
- 136. `paste` Merges lines of files horizontally.
- 137. `sort` Sorts lines in a file.
- 138. `uniq` Removes duplicate lines from sorted data.
- 139. `wc` Counts lines, words, characters.
- 140. `tr` Translates or deletes characters.
- 141. `col` Filters control characters.
- 142. `fmt` Formats text for readability.
- 143. `fold` Wraps text at a specified width.
- 144. `strings` Extracts printable strings from binary files.
- 145. `grep` Searches text using patterns.
- 146. `egrep` Extended version of `grep` with more regex support.
- 147. `fgrep` Searches fixed strings (no regex).
- 148. `awk` Pattern scanning and text processing language.
- 149. `sed` Stream editor for filtering and transforming text.
- 150. `xargs` Builds and executes command lines from standard input.
- 151. `tee` Reads from standard input and writes to file and stdout.
- 152. `rev` Reverses lines character-wise.
- 153. `cut` Cuts sections from each line (by delimiter or byte).
- 154. `yes` Outputs a string repeatedly until stopped.

## Shell Scripting & Variables

- 155. `bash` GNU Bourne Again SHell, standard shell on most systems.
- 156. `sh` Original Bourne shell.

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- 157. alias Creates shortcuts for commands.
- 158. unalias Removes defined aliases.
- 159. export Sets environment variables.
- 160. source Executes a script within the current shell.
- 161. read Reads input from user into a variable.
- 162. set Sets shell options and positional parameters.
- 163. unset Removes a variable or function definition.
- 164. declare Declares variables with attributes.
- 165. trap Catches signals and executes commands.
- 166. shift Shifts positional parameters in scripts.
- 167. test Evaluates conditional expressions.
- 168. [ ] Alternative syntax for test.

### Job Scheduling

- 169. cron Time-based job scheduler.
- 170. crontab Installs, lists, and removes cron jobs.
- 171. at Schedules a one-time task.
- 172. batch Schedules tasks to run when system load allows.
- 173. anacron Runs scheduled jobs missed due to downtime.
- 174. systemctl list-timers Lists all scheduled timers in systemd.

### System Services (Systemd)

- 175. systemctl Manages services and the systemd system.
- 176. service Legacy tool to manage services.
- 177. journalctl Views logs managed by systemd.

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178. loginctl Manages user logins in a systemd environment.

179. hostnamectl Configures hostname and related settings.

180. timedatectl Configures date and time.

181. localectl Configures system locale settings.

### Log Management

182. logrotate Rotates and compresses log files.

183. tail -f Follows a file (commonly used for real-time log viewing).

184. less /var/log/syslog Views system logs page by page.

185. journalctl -xe Views system logs with error details.

### Monitoring & Performance

186. iostat Shows CPU and I/O statistics.

187. vmstat Reports on memory, swap, I/O, system activity.

188. sar Collects, reports system activity.

189. uptime Shows system load averages.

190. free -h Displays human-readable memory usage.

191. watch Repeats and displays output of a command periodically.

192. top -n 1 Captures system processes snapshot once.

193. iotop Monitors I/O usage by processes.

194. dstat Versatile resource statistics viewer.

195. glances Cross-platform monitoring tool.

196. nmon Performance monitoring for CPU, memory, network, and more.

197. mpstat Shows CPU usage for each processor.

198. tload Shows a graph of system load average.

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199. `uptime -p` Shows pretty uptime format.

200. `hostname -I` Shows all IP addresses assigned to the host.

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