DevOps

Top 200 Linux Commands

? Introduction

Linux is the backbone of modern computing. From powering over 90% of cloud infrastructure and web servers to enabling embedded systems, mobile devices, and supercomputers — Linux is everywhere. And at the heart of Linux is the command line — a powerful interface that gives users complete control over the operating system.

Whether you're a system administrator, DevOps engineer, developer, cybersecurity analyst, or a beginner learning Linux for the first time, mastering the command line is non-negotiable. The terminal isn't just a tool; it's a superpower that allows you to automate tasks, monitor systems, manage files, install software, troubleshoot issues, and interact with every layer of a Linux-based system — all at lightning speed.

? 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.
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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.

6. `exit` – Closes the terminal session.

7. `history` – Displays a list of previously used commands.
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8. `man` – Opens the manual page for a command.

9. `whoami` – Prints the current logged-in username.

10. `hostname` – Shows the system's 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.**
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.**
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.**
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.**
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

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.**

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.**

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.**
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.**
199. **uptime -p – Shows pretty uptime format.**
200. **hostname -I – Shows all IP addresses assigned to the host.**