422 Linux Commands

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Manual pages, are an essential feature of **Unix-like operating systems**, including **Linux**. Manual pages are pre-installed and contains the official documentation and detailed descriptions of the system commands, utilities, and programming functions.

Sections: Manual pages are organized into different sections, each covering specific areas:

1. **Section 1: User Commands** – Commands for regular users (`ls`, `cd`, `cp`, `mv`, `rm`, `pwd`, ...).
2. **Section 2: System Calls** – Functions that provide services to programs by the kernel (`open`, `read`, `write`, `close`, `fork`, `exec`, ...).
3. **Section 3: Library Functions** – Functions provided by system libraries for use by programs (`printf`, `malloc`, `free`, `strcpy`, `strlen`, `fopen`, ...).
4. **Section 4: Devices and Drivers** – Commands related to devices and hardware management (`tty`, `shm`, `dmesg`, `lsblk`, `mount`, `lspci`, ...).
5. **Section 5: File Formats and Conventions** – Configuration files and file formats used by the system (`passwd`, `crontab`, `fstab`, `groupadd`, `ld.so.conf`, `hosts`, ...).
6. **Section 6: Games and Screens** – Fun or interactive programs (`nethack`, `fortune`, `cowsay`, `tetris`, `pacman`, `zombie`, ...).
7. **Section 7: Miscellaneous** – Commands that don't fit into other categories but are commonly used (`git`, `bash`, `grep`, `awk`, `sed`, `curl`, ...).
8. **Section 8: System Administration Commands** – Commands for system management and configuration (`systemctl`, `useradd`, `usermod`, `chmod`, `chown`, `service`, ...).

Structure of Manual Pages — Each manual-page is divided into several parts:

- **NAME**: Briefly describes the command or function.
- **SYNOPSIS**: Shows how to use the command, including syntax and options.
- **DESCRIPTION**: Provides more detailed information about the command or function.
- **OPTIONS**: Lists and explains the options/flags that can be used with the command.
- **EXAMPLES**: Gives practical examples of using the command.
- **SEE ALSO**: Provides references to related commands or topics.

Bash scripting is a powerful Linux shell feature that not only extends system management but also is widely used in areas such as **virtualization**, **containerization**, **DevOps**, **infrastructure as code (IaC)**, and more. Bash scripting is used to execute, simplify or automate: complex or time-demanding tasks, integration with cloud services, manage virtualized environments, deploy and orchestrate containers, and even create CI/CD pipelines.

Linux distributions (CentOS, Debian, Fedora, Red Hat, Ubuntu, Arch Linux, ...) are released with between 1,000 and 2,000 commands. This document compiles 422 Linux commands, each with a one-line description.

List of 422 Linux commands

1. **`a2disconf`** – Disable an Apache configuration file. `$ sudo a2disconf example.conf`
2. **`a2dismod`** – Disable an Apache module. `$ sudo a2dismod rewrite`
3. **`a2dissite`** – Disable an Apache site. `$ sudo a2dissite example.com`
4. **`a2enconf`** – Enable an Apache configuration file. `$ sudo a2enconf example.conf`
5. **`a2enmod`** – Enable an Apache module. `$ sudo a2enmod rewrite`
6. **`a2ensite`** – Enable an Apache site. `$ sudo a2ensite example.com`
7. **`a2query`** – Query Apache configuration. `$ a2query -m rewrite`
8. **`aa-enabled`** – Check if AppArmor is enabled. `$ aa-enabled`
9. **`aa-exec`** – Execute a command under an AppArmor profile. `$ aa-exec -p profile_name command`
10. **`aa-status`** – Display AppArmor status. `$ aa-status`
11. **`aa-teardown`** – Unload all AppArmor profiles. `$ sudo aa-teardown`
12. **`ab`** – Apache HTTP server benchmarking tool. `$ ab -n 100 -c 10 http://localhost/`
13. **`ac`** – Print the total connect time for users. `$ ac -p`
14. **`accton`** – Turn on process accounting. `$ sudo accton /var/log/account/pacct`
15. **`add-apt-repository`** – Add a repository to APT sources. `$ sudo add-apt-repository ppa:example/ppa`
16. **`addpart`** – Add a partition to a device. `$ sudo addpart /dev/sda 3 1024 2048`
17. **`agetty`** – Alternative Linux getty. `$ agetty tty1 9600`
18. **`alias`** – Create shortcuts for longer commands. `$ alias ll='ls -l'`
19. **`alsamixer`** – ALSA soundcard mixer. `$ alsamixer`
20. **`amidi`** – ALSA MIDI utility. `$ amidi -l`
21. **`amixer`** – ALSA soundcard mixer (command-line). `$ amixer sset Master 50%`
22. **`anacron`** – Run periodic jobs. `$ sudo anacron`
23. **`apache2ctl`** – Apache HTTP server control interface. `$ sudo apache2ctl restart`
24. **`apg`** – Generate random passwords. `$ apg -m 12`
25. **`apm`** – Advanced Power Management utility. `$ apm`
26. **`apmsleep`** – Suspend or hibernate using APM. `$ sudo apmsleep suspend`
27. **`apparmor_parser`** – Load AppArmor profiles. `$ sudo apparmor_parser -r /etc/apparmor.d/profile`

28. **`apply`** – Apply a command to a set of arguments. `$ apply "echo" file1 file2`
29. **`apropos`** – Search the man pages for a keyword. `$ apropos copy`
30. **`apt-cache`** – Query the APT cache (Debian/Ubuntu). `$ apt-cache search vim`
31. **`apt-get`** – APT package handling utility (Debian/Ubuntu). `$ sudo apt-get install vim`
32. **`apt-key`** – Manage keys for APT repositories. `$ sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys <key>`
33. **`apt-mark`** – Mark or unmark packages as automatically installed. `$ sudo apt-mark auto package_name`
34. **`apt-sortpkgs`** – Sort APT package lists. `$ apt-sortpkgs file.list`
35. **`apt`** – Package management system for Debian-based distributions. `$ sudo apt update`
36. **`ar`** – Create, modify, and extract from archives. `$ ar x archive.a`
37. **`arch`** – Display machine architecture. `$ arch`
38. **`arj`** – Compress or extract .arj archives. `$ arj x archive.arj`
39. **`arping`** – Send ARP requests to a neighbor. `$ arping -I eth0 192.168.1.1`
40. **`as`** – The GNU assembler. `$ as -o file.o file.s`
41. **`at`** – Schedule a one-time task to be executed later. `$ at 09:00 < command`
42. **`atq`** – Display the at job queue. `$ atq`
43. **`atrm`** – Remove a job from the at queue. `$ atrm 1`
44. **`atrun`** – Run at jobs. `$ sudo atrun`
45. **`authconfig`** – Configure system authentication. `$ sudo authconfig --update`
46. **`authselect`** – Configure system authentication (modern replacement for authconfig). `$ sudo authselect select sssd`
47. **`autoconf`** – Generate configuration scripts. `$ autoconf`
48. **`automake`** – Generate Makefile.in files. `$ automake`
49. **`autoreconf`** – Rebuild configure scripts. `$ autoreconf`
50. **`autoscan`** – Generate a preliminary configure.ac. `$ autoscan`
51. **`autoupdate`** – Update configure.ac to newer standards. `$ autoupdate`
52. **`awk`** – Pattern scanning and processing language. `$ awk '{print $1}' file.txt`
53. **`axel`** – Lightweight command-line download accelerator. `$ axel http://example.com/file.txt`
54. **`badblocks`** – Search for bad blocks on a device. `$ sudo badblocks /dev/sda`
55. **`base32`** – Encode or decode data in base32. `$ echo "hello" | base32`
56. **`base64`** – Encode or decode data in base64. `$ echo "hello" | base64`
57. **`basename`** – Strip directory and suffix from filenames. `$ basename /path/to/file.txt`
58. **`basenc`** – Encode or decode data in various formats. `$ basenc --base64 file.txt`
59. **`bashbug`** – Report a bug in Bash. `$ bashbug`
60. **`batch`** – Execute commands when system load levels permit. `$ batch`
61. **`bc`** – Command-line calculator. `$ echo "5+2" | bc`
62. **`bccmd`** – Send BlueCore commands. `$ bccmd -t bcsp /dev/ttyS0`
63. **`bchunk`** – Convert a CD image to an ISO file. `$ bchunk file.bin file.cue file.iso`
64. **`bdftopcf`** – Convert BDF fonts to PCF format. `$ bdftopcf font.bdf`

65. `beep` – Produce a beep sound. `$ beep`
66. `bg` – Resume a suspended job in the background. `$ bg %1`
67. `bind` – Show or set key bindings for the shell. `$ bind -P`
68. `bison` – GNU parser generator. `$ bison file.y`
69. `blkdiscard` – Discard sectors on a device. `$ sudo blkdiscard /dev/sda`
70. `blkid` – Locate/print block device attributes. `$ blkid /dev/sda1`
71. `blockdev` – Call block device ioctls. `$ sudo blockdev --report /dev/sda`
72. `bootctl` – Manage systemd-boot. `$ sudo bootctl status`
73. `brctl` – Manage Ethernet bridges. `$ sudo brctl addbr br0`
74. `break` – Exit from a loop. `$ for i in 1 2 3; do break; done`
75. `bsdtar` – Manipulate tar archives. `$ bsdtar -xvf archive.tar`
76. `btrfs` – Manage Btrfs filesystems. `$ sudo btrfs subvolume create /mnt/subvol`
77. `bunzip2` – Decompress .bz2 files. `$ bunzip2 file.bz2`
78. `busctl` – Introspect the D-Bus. `$ busctl list`
79. `byobu` – Text-based window manager and terminal multiplexer. `$ byobu`
80. `bzcat` – Decompress `.bz2` files. `$ bzcat file.bz2`
81. `bzcmp` – Compare bzip2 compressed files. `$ bzcmp file1.bz2 file2.bz2`
82. `bzdiff` – Compare `.bz2` files. `$ bzdiff file1.bz2 file2.bz2`
83. `bzexe` – Compress executable files. `$ bzexe file`
84. `bzgrep` – Search `.bz2` files with `grep`. `$ bzgrep "pattern" file.bz2`
85. `bzip2` – Compress files using Burrows-Wheeler block sorting. `$ bzip2 file.txt`
86. `bzip2recover` – Recover data from a corrupted `.bz2` file. `$ bzip2recover file.bz2`
87. `bzless` – View .bz2 files with less. `$ bzless file.bz2`
88. `bzmore` – View .bz2 files page by page. `$ bzmore file.bz2`
89. `c99` – Compile C programs. `$ c99 -o program program.c`
90. `cal` – Display a calendar. `$ cal 2025`
91. `calibrate_ppa` – Calibrate a PPA (Pulse Per Second) device. `$ sudo calibrate_ppa`
92. `cancel` – Cancel a print job. `$ cancel 123`
93. `capinfo` – Display capabilities of a file. `$ capinfo file`
94. `capsh` – Set or get capabilities for a process. `$ capsh --print`
95. `captoinfo` – Convert termcap to terminfo. `$ captoinfo file.termcap`
96. `case` – Conditional statement in shell scripts. `$ case $var in pattern) command;; esac`
97. `cat` – Concatenate and display file contents. `$ cat file.txt`
98. `catman` – Create or update the manual page cache. `$ sudo catman`
99. `cd` – Change the current directory. `$ cd /home/user`
100. `cdrecord` – Record CDs or DVDs. `$ cdrecord dev=/dev/cdrom file.iso`
101. `cfdisk` – Partition table manipulator. `$ sudo cfdisk /dev/sda`
102. `chattr` – Change file attributes on a Linux file system. `$ chattr +i file.txt`
103. `chcon` – Change the SELinux security context of a file. `$ chcon -t httpd_sys_content_t file.txt`
104. `chgrp` – Change the group ownership of a file. `$ chgrp group file.txt`

105. `chkconfig` – Manage system services. `$ sudo chkconfig --list`
106. `chmod` – Change file permissions. `$ chmod 755 file.sh`
107. `chown` – Change file owner and group. `$ chown user:group file.txt`
108. `chroot` – Change root directory for a command. `$ chroot /newroot /bin/bash`
109. `cksum` – Calculate a CRC checksum of a file. `$ cksum file.txt`
110. `clear` – Clear the terminal screen. `$ clear`
111. `cmp` – Compare two files byte by byte. `$ cmp file1.txt file2.txt`
112. `comm` – Compare two sorted files line by line. `$ comm file1.txt file2.txt`
113. `consoletype` – Display the type of terminal in use. `$ consoletype`
114. `continue` – Resume the next iteration of a loop. `$ continue`
115. `cp` – Copy files or directories. `$ cp file1.txt file2.txt`
116. `cpio` – Copy files to and from archives. `$ cpio -o < files.txt`
117. `cron` – Daemon to execute scheduled commands. `$ cron`
118. `crontab` – Edit the cron jobs for the current user. `$ crontab -e`
119. `csplit` – Split a file into sections based on context. `$ csplit file.txt /pattern/ {2}`
120. `ctrlaltdel` – Reboot the system using a keyboard shortcut. `$ ctrlaltdel`
121. `curl` – Transfer data with URLs. `$ curl -O http://example.com/file.txt`
122. `cut` – Remove sections from each line of files. `$ cut -d, -f1 file.csv`
123. `date` – Display or set the system date and time. `$ date "+%Y-%m-%d"`
124. `dc` – Desk calculator for arbitrary precision arithmetic. `$ echo "2 3 + p" | dc`
125. `dd` – Copy and convert files. `$ dd if=/dev/sda of=/dev/sdb`
126. `declare` – Declare variables and their attributes. `$ declare -i num=10`
127. `df` – Report disk space usage. `$ df -h`
128. `diff3` – Compare three files line by line. `$ diff3 file1.txt file2.txt file3.txt`
129. `diff` – Compare files line by line. `$ diff file1.txt file2.txt`
130. `dig` – DNS lookup utility. `$ dig google.com`
131. `dir` – List directory contents. `$ dir /home/user`
132. `dircolors` – Set terminal color schemes for `ls`. `$ dircolors`
133. `dirname` – Strip the last component from the file name. `$ dirname /path/to/file.txt`
134. `dirs` – Display the directory stack. `$ dirs`
135. `dmesg` – Print or control the kernel ring buffer. `$ dmesg | grep error`
136. `dnf` – Package manager for Fedora and Red Hat. `$ sudo dnf install vim`
137. `docker` – Manage Docker containers and images. `$ docker run hello-world`
138. `dpkg` – Debian package manager for installing, removing, and querying packages. `$ dpkg -i package.deb`
139. `dstat` – Versatile resource statistics tool. `$ dstat`
140. `du` – Estimate file space usage. `$ du -sh /home/user`
141. `echo` – Display a line of text. `$ echo "Hello, world!"`
142. `egrep` – Extended regular expressions for `grep`. `$ egrep '^test' file.txt`
143. `eject` – Eject removable media like CD/DVD. `$ eject`
144. `enable` – Enable a shell built-in command. `$ enable -n echo`

145. `env` – Display environment variables. `$ env`
146. `ethtool` – Display or change network interface settings. `$ ethtool eth0`
147. `eval` – Evaluate and execute arguments as a command. `$ eval echo hello`
148. `ex` – Ex editor, part of the vi editor. `$ ex file.txt`
149. `exec` – Execute a command in the current shell. `$ exec ls -l`
150. `exit` – Exit the shell. `$ exit`
151. `expand` – Convert tabs to spaces. `$ expand file.txt`
152. `expect` – Automate interactive applications. `$ expect script.exp`
153. `export` – Set environment variables. `$ export PATH=$PATH:/new/path`
154. `expr` – Evaluate expressions. `$ expr 3 + 2`
155. `factor` – Factorize a number. `$ factor 28`
156. `fakechroot` – Run a command with fake root privileges. `$ fakechroot ls`
157. `false` – Do nothing, return failure status. `$ false`
158. `fc` – Fix or re-edit commands from the history. `$ fc`
159. `fdisk` – Partition table manipulator for Linux. `$ fdisk /dev/sda`
160. `fg` – Bring a background job to the foreground. `$ fg %1`
161. `fgrep` – Fixed-string search for `grep`. `$ fgrep "pattern" file.txt`
162. `file` – Determine file type. `$ file file.txt`
163. `find` – Search for files in a directory hierarchy. `$ find /home -name '*.txt'`
164. `finger` – User information lookup program. `$ finger user`
165. `fmt` – Simple text formatter. `$ fmt file.txt`
166. `fold` – Wrap text to a specified width. `$ fold -w 80 file.txt`
167. `for` – Loop through a list of values. `$ for i in {1..5}; do echo $i; done`
168. `free` – Display memory usage. `$ free -h`
169. `fsck` – File system consistency check. `$ fsck /dev/sda1`
170. `ftp` – File Transfer Protocol client. `$ ftp ftp.example.com`
171. `function` – Define a function in the shell. `$ function myfunc { echo "Hello"; }`
172. `fuser` – Identify processes using a file. `$ fuser file.txt`
173. `g++` – GNU C++ compiler. `$ g++ file.cpp -o file`
174. `gawk` – Pattern scanning and processing language. `$ gawk '{print $1}' file.txt`
175. `gcc` – GNU C compiler. `$ gcc -o program program.c`
176. `gdb` – GNU debugger. `$ gdb ./program`
177. `gedit` – GUI text editor for GNOME. `$ gedit file.txt`
178. `getent` – Get entries from databases. `$ getent passwd user`
179. `getfacl` – Get file access control lists. `$ getfacl file.txt`
180. `getopt` – Parse command-line options. `$ getopt -o ab: file.txt`
181. `getopts` – Parse positional parameters in a shell script. `$ getopts "a:b:" opt`
182. `git` – Version control system for tracking changes in files. `$ git status`
183. `grep` – Search for patterns in files. `$ grep 'pattern' file.txt`
184. `groupadd` – Add a new group. `$ sudo groupadd mygroup`
185. `groupdel` – Delete a group. `$ sudo groupdel mygroup`

186. `groupmod` – Modify a group. `$ sudo groupmod -n newgroup oldgroup`
187. `groups` – Show user groups. `$ groups username`
188. `gunzip` – Decompress `.gz` files. `$ gunzip file.gz`
189. `gzip` – Compress files using the gzip algorithm. `$ gzip file.txt`
190. `halt` – Halt the system immediately. `$ halt`
191. `hash` – Remember the full path of a command. `$ hash`
192. `hd` – Display files in hexadecimal format. `$ hd file.txt`
193. `head` – Output the first part of files. `$ head -n 10 file.txt`
194. `history` – Show the history of commands used in the shell. `$ history`
195. `host` – DNS lookup utility. `$ host google.com`
196. `hostname` – Show or set the system's hostname. `$ hostname`
197. `hostnamectl` – Control the system hostname. `$ hostnamectl set-hostname newhostname`
198. `htop` – Interactive process viewer. `$ htop`
199. `iconv` – Convert between different character encodings. `$ iconv -f utf-8 -t iso-8859-1 file.txt`
200. `id` – Print user and group information. `$ id`
201. `ifconfig` – Configure network interfaces. `$ ifconfig eth0`
202. `ifdown` – Shut down a network interface. `$ sudo ifdown eth0`
203. `ifup` – Bring a network interface up. `$ sudo ifup eth0`
204. `inotifywait` – Wait for changes to files using inotify. `$ inotifywait /path/to/file`
205. `install` – Copy files and set attributes. `$ install -m 755 file /path/to/destination`
206. `inxi` – Display system information. `$ inxi -Fxz`
207. `iostat` – CPU and I/O statistics. `$ iostat`
208. `iotop` – Display real-time I/O usage by processes. `$ iotop`
209. `ip addr` – Show or manipulate IP addresses. `$ ip addr show`
210. `ip link` – Show or manipulate network interfaces. `$ ip link show`
211. `ip route` – Show or manipulate IP routing. `$ ip route show`
212. `ip rule` – Show or manipulate routing policy database. `$ ip rule show`
213. `ip tunnel` – Show or configure tunnels. `$ ip tunnel add tun0 mode gre remote 192.168.1.1 local 192.168.1.2`
214. `ip` – Show/manipulate network interfaces, routing, etc. `$ ip addr show`
215. `ipcalc` – Perform IP calculations. `$ ipcalc 192.168.0.0/24`
216. `iptables` – User-space utility for configuring Linux kernel firewall. `$ sudo iptables -L`
217. `is` – List information about a file or directory. `$ is file.txt`
218. `isoinfo` – Display information about ISO-9660 filesystems. `$ isoinfo -i file.iso -d`
219. `iw` – Show or manipulate wireless devices and settings. `$ iw dev wlan0 link`
220. `iwconfig` – Configure wireless network interfaces. `$ iwconfig wlan0 essid "Network"`
221. `iwlist` – Get more detailed wireless network information. `$ iwlist wlan0 scan`
222. `jobs` – Display active jobs in the current shell. `$ jobs`
223. `join` – Join lines of two files on a common field. `$ join file1.txt file2.txt`
224. `journalctl` – Query systemd journal logs. `$ journalctl -u apache2`

225. `jq` – Command-line JSON processor. `$ jq '.name' file.json`
226. `kill` – Terminate a process. `$ kill 1234`
227. `killall` – Kill processes by name. `$ killall firefox`
228. `kmod` – Manage kernel modules. `$ kmod list`
229. `last` – Show the last logins of users. `$ last`
230. `less` – View file contents interactively. `$ less file.txt`
231. `let` – Perform arithmetic operations in the shell. `$ let x=5+3`
232. `ln` – Create hard or symbolic links. `$ ln -s /path/to/file symlink`
233. `loadkeys` – Change the keyboard layout. `$ loadkeys us`
234. `local` – Declare local variables in shell functions. `$ local var=10`
235. `locate` – Find files by name using a database. `$ locate file.txt`
236. `login` – Begin a session on the system. `$ login`
237. `logname` – Print the name of the current user. `$ logname`
238. `ls` – List directory contents. `$ ls -l`
239. `lsattr` – List file attributes on a Linux second extended file system. `$ lsattr file.txt`
240. `lsblk` – List information about block devices. `$ lsblk`
241. `lscpu` – Display information about the CPU architecture. `$ lscpu`
242. `lshw` – Display detailed hardware information. `$ lshw -short`
243. `lsmod` – Show the status of modules in the Linux kernel. `$ lsmod`
244. `lsof` – List open files. `$ lsof -i`
245. `lspci` – List all PCI devices. `$ lspci`
246. `lsscsi` – List SCSI devices. `$ lsscsi`
247. `lssubsys` – Show system device hierarchies. `$ lssubsys`
248. `lsusb` – List all USB devices. `$ lsusb`
249. `machinectl` – Control local and remote containers. `$ machinectl list`
250. `man` – Display the manual pages for a command. `$ man ls`
251. `md5sum` – Calculate and check MD5 checksums. `$ md5sum file.txt`
252. `mii-tool` – Query or control the MII status of network interfaces. `$ mii-tool eth0`
253. `mkdir` – Create directories. `$ mkdir mydir`
254. `mkfifo` – Create a named pipe (FIFO). `$ mkfifo mypipe`
255. `mkfs` – Create a file system. `$ sudo mkfs.ext4 /dev/sda1`
256. `mkisofs` – Create an ISO 9660 filesystem image. `$ mkisofs -o image.iso /path/to/files`
257. `mknod` – Create a special file. `$ mknod mydevice c 89 1`
258. `mktemp` – Create a temporary file or directory. `$ mktemp`
259. `more` – View file contents page by page. `$ more file.txt`
260. `mount -o loop` – Mount an ISO image as a file system. `$ sudo mount -o loop file.iso /mnt`
261. `mount` – Mount a file system. `$ mount /dev/sda1 /mnt`
262. `mpstat` – Report CPU statistics. `$ mpstat -P ALL`
263. `mtr` – Network diagnostic tool combining `ping` and `traceroute`. `$ mtr google.com`
264. `mv` – Move or rename files or directories. `$ mv file.txt /path/to/destination/`

265. `namei` – Follow a path to its components. `$ namei -l /path/to/file`
266. `nano` – Command-line text editor. `$ nano file.txt`
267. `nc` – Netcat, a utility for reading from and writing to network connections. `$ nc -l 1234`
268. `netcat` – Another name for `nc`. `$ netcat -z -v 192.168.1.1 1-1000`
269. `netstat` – Display network connections, routing tables, and more. `$ netstat -tuln`
270. `newgrp` – Log in to a new group. `$ newgrp staff`
271. `nice` – Start a process with a modified scheduling priority. `$ nice -n 10 command`
272. `nl` – Number lines of a file. `$ nl file.txt`
273. `nm` – List symbols from object files. `$ nm /path/to/file.o`
274. `nmcli` – Command-line interface for NetworkManager. `$ nmcli device status`
275. `nohup` – Run a command immune to hangups. `$ nohup command &`
276. `nproc` – Show the number of processing units available. `$ nproc`
277. `nslookup` – Query Internet name servers interactively. `$ nslookup google.com`
278. `ntpdate` – Synchronize the system clock with a remote NTP server. `$ sudo ntpdate time.google.com`
279. `numactrl` – Control NUMA (Non-Uniform Memory Access) policy. `$ numactrl --interleave=all`
280. `od` – Dump files in octal, hexadecimal, or ASCII. `$ od -c file.txt`
281. `parted` – A command-line partition manipulation program. `$ parted /dev/sda`
282. `passwd` – Change user password. `$ passwd user`
283. `paste` – Merge lines of files. `$ paste file1.txt file2.txt`
284. `patch` – Apply a patch file to source code. `$ patch < patchfile.diff`
285. `pathchk` – Check the validity of a file name or path. `$ pathchk /path/to/file`
286. `pg` – View file contents with scrolling and searching. `$ pg file.txt`
287. `pidof` – Find the PID of a running program. `$ pidof firefox`
288. `ping` – Send ICMP echo requests to network hosts. `$ ping google.com`
289. `pkill` – Kill processes by name. `$ pkill firefox`
290. `pl` – Perl pager for reading output. `$ pl file.txt`
291. `pluto` – Network time protocol for synchronization. `$ pluto`
292. `pmap` – Display memory usage of processes. `$ pmap 1234`
293. `pmount` – Mount removable devices automatically. `$ pmount /dev/sdb1`
294. `popd` – Pop a directory from the directory stack. `$ popd`
295. `poweroff` – Shut down the system immediately. `$ poweroff`
296. `pr` – Format text files for printing. `$ pr file.txt`
297. `printenv` – Print all or specific environment variables. `$ printenv PATH`
298. `printf` – Format and print data. `$ printf "Hello, %s!\n" "world"`
299. `ps` – Report a snapshot of current processes. `$ ps aux`
300. `pstree` – Display processes in a tree format. `$ pstree`
301. `ptables` – Display current network port tables. `$ ptables`
302. `pushd` – Save the current directory and change to a new one. `$ pushd /home/user`
303. `pwd` – Print the current working directory. `$ pwd`

304. **`quota`** – Display disk usage and limits for users. `$ quota -u user`
305. **`quotacheck`** – Check file system disk quotas. `$ quotacheck -avug`
306. **`ram`** – Manage system memory (less common, might be specific to certain distributions). `$ ram status`
307. **`ramdisk`** – Create a RAM-based file system. `$ ramdisk /mnt/ramdisk`
308. **`read`** – Read a line of input from standard input. `$ read varname`
309. **`reboot`** – Reboot the system. `$ sudo reboot`
310. **`rename`** – Rename files according to regular expressions. `$ rename 's/.txt/.bak/' *.txt`
311. **`renice`** – Change the priority of running processes. `$ renice -n 10 -p 1234`
312. **`reorder`** – Reorder the lines in a file based on a key. `$ reorder file.txt`
313. **`reset`** – Reset the terminal. `$ reset`
314. **`resize`** – Set terminal window size. `$ resize`
315. **`rev`** – Reverse the lines of a file. `$ rev file.txt`
316. **`rm`** – Remove files or directories. `$ rm file.txt`
317. **`rmdir`** – Remove empty directories. `$ rmdir mydir`
318. **`route`** – Show or manipulate the IP routing table. `$ route -n`
319. **`rsync`** – Remote file and directory synchronization. `$ rsync -avz source/ destination/`
320. **`runlevel`** – Show the current runlevel. `$ runlevel`
321. **`scp`** – Securely copy files between hosts. `$ scp file.txt user@remotehost:/path/to/destination`
322. **`screen`** – Terminal multiplexer to manage multiple sessions. `$ screen`
323. **`sd`** – Stream editor (a more minimal version of `sed`). `$ sd 'old' 'new' file.txt`
324. **`sdparm`** – Set or get device parameters. `$ sdparm --all /dev/sda`
325. **`sed`** – Stream editor for filtering and transforming text. `$ sed 's/old/new/' file.txt`
326. **`select`** – Select from a list of options. `$ select var in option1 option2; do break; done`
327. **`service`** – Start, stop, or restart system services. `$ sudo service apache2 restart`
328. **`set`** – Set or display shell variables. `$ set var=value`
329. **`sftp`** – Secure File Transfer Protocol. `$ sftp user@remotehost`
330. **`sh`** – Command interpreter (shell). `$ sh script.sh`
331. **`sha256sum`** – Compute and check SHA-256 checksums. `$ sha256sum file.txt`
332. **`shutdown`** – Shutdown the system. `$ sudo shutdown -h now`
333. **`sl`** – Steam Locomotive (funny command). `$ sl`
334. **`sleep`** – Delay for a specified amount of time. `$ sleep 5`
335. **`sort`** – Sort lines in text files. `$ sort file.txt`
336. **`source`** – Read and execute commands from a file in the current shell. `$ source ~/.bashrc`
337. **`split`** – Split files into pieces. `$ split -l 100 file.txt`
338. **`ss`** – Utility to investigate sockets. `$ ss -tuln`
339. **`ssh`** – Secure Shell client to access remote machines. `$ ssh user@remotehost`
340. **`stat`** – Display file or file system status. `$ stat file.txt`
341. **`strace`** – Trace system calls and signals. `$ strace -p 1234`
342. **`stty`** – Change and print terminal line settings. `$ stty -a`

343. `su` – Switch user or execute a command as another user. `$ su - user`
344. `sudo` – Execute commands as another user (typically root). `$ sudo apt-get update`
345. `sum` – Calculate file checksum and block counts. `$ sum file.txt`
346. `symlink` – Create symbolic links. `$ ln -s /path/to/file symlink`
347. `sync` – Synchronize the file system. `$ sync`
348. `sysctl` – Configure kernel parameters at runtime. `$ sysctl net.ipv4.ip_forward=1`
349. `systemctl` – Control the systemd system and service manager. `$ sudo systemctl restart apache2`
350. `tac` – Concatenate and print files in reverse. `$ tac file.txt`
351. `tail` – Output the last part of files. `$ tail -n 10 file.txt`
352. `tar` – Archive files into a tarball. `$ tar -czvf archive.tar.gz /path/to/directory`
353. `tee` – Read from standard input and write to standard output and files. `$ echo "Hello" | tee file.txt`
354. `telnet` – User interface for the Telnet protocol. `$ telnet remotehost`
355. `test` – Check file types and compare values. `$ test -e file.txt`
356. `time` – Measure program execution time. `$ time ls`
357. `timeout` – Run a command with a time limit. `$ timeout 5s command`
358. `times` – Display user and system times for processes. `$ times`
359. `top` – Display tasks and resource usage in real-time. `$ top`
360. `touch` – Change file timestamps or create an empty file. `$ touch file.txt`
361. `tput` – Initialize terminal capabilities. `$ tput setaf 1` (sets text color to red)
362. `tr` – Translate or delete characters from input. `$ echo "abc" | tr 'a' 'x'`
363. `tracepath` – Traceroute with automatic MTU discovery. `$ tracepath google.com`
364. `traceroute` – Trace the route packets take to a network host. `$ traceroute google.com`
365. `trap` – Set up signal handling in scripts. `$ trap "echo Goodbye" EXIT`
366. `tree` – Display directory structure as a tree. `$ tree /path`
367. `true` – Do nothing, return success status. `$ true`
368. `ts` – Timestamp output (part of `moreutils`). `$ echo "hello" | ts`
369. `tty` – Print the terminal type. `$ tty`
370. `type` – Display information about a command type. `$ type ls`
371. `ulimit` – Get or set user resource limits. `$ ulimit -a`
372. `umask` – Set the file mode creation mask. `$ umask 022`
373. `umount` – Unmount file systems. `$ sudo umount /mnt`
374. `unalias` – Remove aliases. `$ unalias ll`
375. `uname` – Print system information. `$ uname -r`
376. `unzip` – Extract files from a ZIP archive. `$ unzip archive.zip`
377. `uptime` – Show how long the system has been running. `$ uptime`
378. `useradd` – Add a new user to the system. `$ sudo useradd user`
379. `userdel` – Delete a user account. `$ sudo userdel user`
380. `usermod` – Modify a user account. `$ sudo usermod -aG group user`
381. `uuidgen` – Generate a new universally unique identifier (UUID). `$ uuidgen`

382. **`vdir`** – List directories in a detailed format. `$ vdir`
383. **`vi`** – A text editor. `$ vi file.txt`
384. **`view`** – View a file with `vi` in read-only mode. `$ view file.txt`
385. **`w`** – Display who is logged in and what they are doing. `$ w`
386. **`wait`** – Wait for a process to complete. `$ wait $!`
387. **`wall`** – Send a message to all users. `$ wall "System will shut down in 10 minutes"`
388. **`watch`** – Execute a program periodically and show output. `$ watch df -h`
389. **`wc`** – Count words, lines, and characters in files. `$ wc file.txt`
390. **`wget`** – Download files from the web. `$ wget http://example.com/file.txt`
391. **`whatis`** – Display a one-line description of a command. `$ whatis ls`
392. **`whereis`** – Locate binary, source, and man pages for a command. `$ whereis ls`
393. **`which`** – Show the full path of a command. `$ which python`
394. **`who`** – Show who is logged in. `$ who`
395. **`whoami`** – Show the current logged-in user. `$ whoami`
396. **`wpa_cli`** – Control the wpa_supplicant (wireless network configuration). `$ wpa_cli status`
397. **`write`** – Send a message to another user. `$ write user`
398. **`xargs`** – Build and execute command lines from input. `$ echo "file1 file2" | xargs rm`
399. **`xdg-open`** – Open a file or URL in the user's preferred application. `$ xdg-open http://example.com`
400. **`yes`** – Output a string repeatedly. `$ yes "hello"`
401. **`zcat`** – Concatenate and display compressed files. `$ zcat file.gz`
402. **`zcmp`** – Compare compressed files. `$ zcmp file1.gz file2.gz`
403. **`zdiff`** – Compare compressed files line by line. `$ zdiff file1.gz file2.gz`
404. **`zegrep`** – Search compressed files with `grep`. `$ zegrep "pattern" file.gz`
405. **`zfgrep`** – Search compressed files with `fgrep`. `$ zfgrep "pattern" file.gz`
406. **`zgrep`** – Search compressed files for a pattern. `$ zgrep "pattern" file.gz`
407. **`zip`** – Package and compress files into a ZIP archive. `$ zip archive.zip file1.txt file2.txt`
408. **`zipcloak`** – Encrypt a ZIP archive. `$ zipcloak archive.zip`
409. **`zipinfo`** – Display detailed information about a ZIP archive. `$ zipinfo archive.zip`
410. **`zipsplit`** – Split a large ZIP archive into smaller files. `$ zipsplit archive.zip`
411. **`zless`** – View compressed files with `less`. `$ zless file.gz`
412. **`zmore`** – View compressed files page by page. `$ zmore file.gz`
413. **`zsh`** – Z shell, an extended Bourne shell with many features. `$ zsh`
414. **`zstd`** – Fast compression algorithm, an alternative to `gzip`. `$ zstd file.txt`
415. **`zstdcat`** – Decompress `.zst` files. `$ zstdcat file.zst`
416. **`zstdgrep`** – Search inside `.zst` compressed files. `$ zstdgrep "pattern" file.zst`
417. **`zstdmt`** – Multi-threaded version of `zstd`. `$ zstdmt -o file.zst file.txt`
418. **`zsv`** – Validate `.zst` compressed files. `$ zsv file.zst`
419. **`ztest`** – Test .zst compressed files for integrity. `$ ztest file.zst`
420. **`zupdate`** – Update .zst compressed files. `$ zupdate file.zst`

421. **`zverify`** – Verify .zst compressed files. `$ zverify file.zst`
422. **`zzz`** – A placeholder command (often used in scripts). `$ zzz`

Linux System Components

```
                         +---------------------+
                         |     Linux System    |
                         +---------------------+
                                   |
        +--------------------------+-------------------------------------
-+
        |                          |
|
+-------------------+        +-------------------+              +-----------
----------+
|  User Space       |        |  Kernel Space     |              |   System
Libraries  |
+-------------------+        +-------------------+              +-----------
----------+
        |                         |                                     |
+-------+-------+          +-------+-------+                    +-------+---
----+
| Applications  |          |  Process      |                    |   C
Library   |
+---------------+          |  Scheduler    |                    +-----------
----+
        |                  +---------------+                            |
+-------+-------+                 |                                 +-------
+-------+
| User Commands|            +-----+---------+                     | System
Calls  |
+---------------+           | Device Drivers|                     +-------
--------+
                            +---------------+                           |
                            |   Interrupts  |                      +----
----+
                            +---------------+                      |
File   |

|Systems |
                                                                     +----
----+
```

Linux System Architecture Overview

- **Linux Operating System**: The complete software environment that provides the fundamental services and resource management for applications and hardware.

- **User Space**: A distinct memory space where user-level applications and processes operate, isolated from the kernel's privileged environment.

  - **Applications**: User-driven software such as web browsers, text editors, and other functional programs.
  - **User Commands**: System-level instructions executed by the user via the terminal, for example, `ls`, `cp`, `rm`, etc.

- **Kernel Space**: The privileged layer of the operating system that directly interfaces with hardware and governs the overall system operation.

  - **Processes**: Active programs or tasks that are managed and executed by the kernel.
  - **Scheduler**: The component responsible for managing process execution, prioritizing tasks, and allocating CPU time.
  - **Device Drivers**: Software components that facilitate communication between the operating system and peripheral hardware devices, such as network interfaces and storage controllers.
  - **Interrupts**: Mechanisms for handling hardware or software events that require immediate attention, ensuring efficient resource utilization.

- **Hardware**: The physical components, including the CPU, memory, and storage devices, that are controlled and managed by the operating system.

- **System Libraries**: Collections of precompiled routines and functions that provide standardized services for applications and facilitate system-level interactions.

  - **C Library**: The primary standard library for the C programming language, enabling access to essential system calls and common utilities.
  - **File Systems**: The software layer responsible for managing storage devices, structuring data into files and directories, and ensuring data persistence.
  - **System Calls**: The programming interface that allows user-space applications to request services from the kernel, enabling interaction with system resources.

Linux Commands Classification

```
                              +----------------------------+
                              |    Linux Commands          |
                              +----------------------------+
                                             |
              +-----------------------------+-----------------------------------+
              |                             |                                   |
      +----------------------+      +----------------------+        +-----------
--------+
      |  File Management    |       |  Process Management |         | System
Management |
      +----------------------+      +----------------------+        +-----------
--------+
              |                             |                                 |
      +-------+-----+           +----------+-------+                +--------+--
------+
      | File Ops    |           | Process Control  |                | System
Info     |
      +-------------+           +------------------+                +-----------
------+
              |                             |                                 |
      +-------+-------+       +-----------+------------+        +------------+--
---------+
      | Viewing Files |       |Managing Processes & Jobs|       | Disk Usage &
Networking|
      +---------------+       +------------------------+        +---------------
---------+
              |
      +-------+---------+
      | File Permissions|
      +-----------------+
```

1. File Management

Commands in the **File Management** category focus on tasks related to handling files and directories on a Linux system.

- **File Operations**: Commands that allow you to create, remove, move, or copy files and directories.
  - `$ cp`, `mv`, `rm`, `mkdir`
- **Viewing Files and Directories**: Commands used for viewing file contents and listing directory contents.
  - `$ cat`, `ls`, `head`, `tail`

- **File Permissions**: Commands that control access and modify permissions for files and directories.
  - `$ chmod`, `chown`, `chgrp`

2. Process Management

The **Process Management** category contains commands for handling processes on the system, including starting, stopping, and monitoring processes.

- **Process Control**: Commands for controlling running processes, including starting, stopping, and managing jobs.
  - `$ ps`, `kill`, `bg`, `fg`
- **Managing Processes and Jobs**: Commands for listing running jobs and processes, as well as managing job execution.
  - `$ jobs`, `top`, `nice`

3. System Management

Commands related to **System Management** are used for configuring system settings, monitoring system performance, and managing system resources.

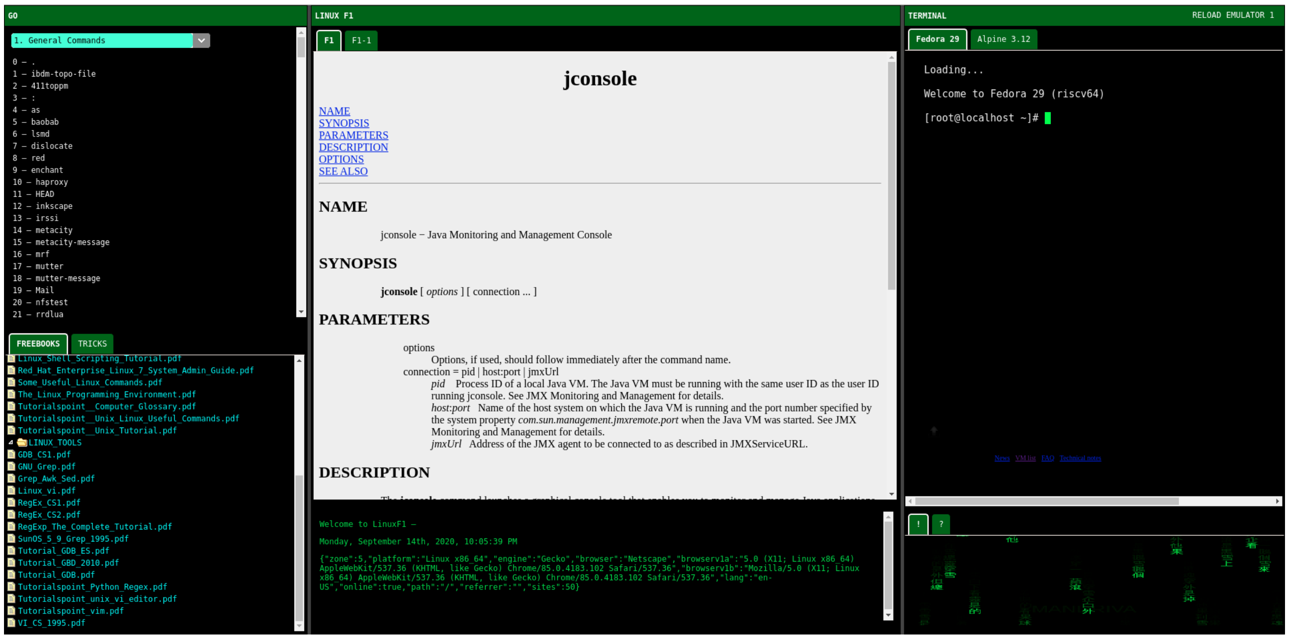
- **System Info**: Commands that provide information about the system's hardware, OS version, uptime, and more.
  - `$ uname`, `uptime`, `hostname`, `dmesg`
- **Disk Usage**: Commands for managing disk space and displaying disk usage statistics.
  - `$ df`, `du`, `mount`, `umount`
- **Networking**: Commands for configuring and monitoring network interfaces, connections, and routing.
  - `$ ifconfig`, `ping`, `netstat`, `traceroute`

Each classification serves a different aspect of system administration, from managing files to handling processes and configuring system resources.

LinuxF1

LinuxF1 is a utility website written in JavaScript, launched in 2020, designed to index Linux Manual Pages for various Linux distributions and link to external sources —where Manual Pages are stored— to display the documentation. The initial version was released to index CentOS Manual Pages, enabling fast online searches for Linux commands, and is easily configurable to index **Manual Pages** for other Linux distributions.

GitHub: https://github.com/abritoh/linuxf1



```
0 — .
1 — ibdm-topo-file
2 — 411toppm
3 — :
4 — as
5 — baobab
6 — lsmd
7 — dislocate
8 — red
9 — enchant
10 — haproxy
11 — HEAD
12 — inkscape
13 — irssi
14 — metacity
15 — metacity-message
16 — mrf
17 — mutter
18 — mutter-message
19 — Mail
20 — nfstest
21 — rrdlua
```

```
Linux_Shell_Scripting_Tutorial.pdf
Red_Hat_Enterprise_Linux_7_System_Admin_Guide.pdf
Some_Useful_Linux_Commands.pdf
The_Linux_Programming_Environment.pdf
Tutorialspoint__Computer_Glossary.pdf
Tutorialspoint__Unix_Linux_Useful_Commands.pdf
Tutorialspoint__Unix_Tutorial.pdf
LINUX_TOOLS
GDB_CS1.pdf
GNU_Grep.pdf
Grep_Awk_Sed.pdf
Linux_vi.pdf
RegEx_CS1.pdf
RegEx_CS2.pdf
RegExp_The_Complete_Tutorial.pdf
SunOS_5_9_Grep_1995.pdf
Tutorial_GDB_ES.pdf
Tutorial_GBD_2010.pdf
Tutorial_GDB.pdf
Tutorialspoint_Python_Regex.pdf
Tutorialspoint_unix_vi_editor.pdf
Tutorialspoint_vim.pdf
VI_CS_1995.pdf
```

jconsole

NAME
SYNOPSIS
PARAMETERS
DESCRIPTION
OPTIONS
SEE ALSO

NAME

jconsole − Java Monitoring and Management Console

SYNOPSIS

jconsole [*options*] [connection ...]

PARAMETERS

options
Options, if used, should follow immediately after the command name.
connection = pid | host:port | jmxUrl
pid Process ID of a local Java VM. The Java VM must be running with the same user ID as the user ID running jconsole. See JMX Monitoring and Management for details.
host:*port* Name of the host system on which the Java VM is running and the port number specified by the system property *com.sun.management.jmxremote.port* when the Java VM was started. See JMX Monitoring and Management for details.
jmxUrl Address of the JMX agent to be connected to as described in JMXServiceURL.

DESCRIPTION

```
Welcome to LinuxF1 —

Monday, September 14th, 2020, 10:05:39 PM

{"zone":5,"platform":"Linux x86_64","engine":"Gecko","browser":"Netscape","browserv1a":"5.0 (X11; Linux x86_64)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.102 Safari/537.36","browserv1b":"Mozilla/5.0 (X11; Linux
x86_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.102 Safari/537.36","lang":"en-
US","online":true,"path":"/","referrer":"","sites":50}
```

```
Loading...

Welcome to Fedora 29 (riscv64)

[root@localhost ~]#
```

> EOF