Linux commands cheat sheet

12 October 2021 by Korbin Brown

The command line terminal in Linux is the operating system's most powerful component. However, due to the sheer amount of commands available, it can be intimidating for newcomers. Even longtime users may forget a command every once in a while and that is why we have created this Linux cheat sheet commands guide.
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For times like these, it's very handy to have a compiled list of Linux commands that have been sorted by category. That way, it only takes a few moments to reference the list whenever you forget the exact syntax of a command.

In this tutorial, we'll present you with a curated list of the most handy Linux commands. These are some of the most useful commands, but they aren't easy to remember for everyone. Next time your mind is blanking at a Linux terminal, take a look at the Linux commands cheat sheet below for some quick help.

In this tutorial you will learn:

- Linux commands cheat sheet

Linux commands cheat sheet

Software Requirements and Linux Command Line Conventions

Category	Requirements, Conventions or Software Version Used
System	Any Linux distro
Software	N/A
Other	Privileged access to your Linux system as root or via the `sudo` command.
Conventions	**#** – requires given linux commands to be executed with root privileges either directly as a root user or by use of `sudo` command **$** – requires given linux commands to be executed as a regular non-privileged user

File System Navigation

Command	Description
`ls`	List all the files in a directory
`ls -l`	List all files and their details (owner, mtime, size, etc)
`ls -a`	List all the files in a directory (including hidden files)
`pwd`	Show the present working directory
`cd`	Change directory to some other location
`file`	View the type of any file

View, Create, Edit, and Delete Files and Directories

Command	Description
`mkdir`	Create a new directory
`touch`	Create a new, empty file, or update the modified time of an existing one
`cat > file`	Create a new file with the text you type after
`cat file`	View the contents of a file

Command	Description
`grep`	View the contents of a file that match a pattern
`nano file`	Open a file (or create new one) in nano text editor
`vim file`	Open a file (or create new one) in vim text editor
`rm` or `rmdir`	Remove a file or empty directory
`rm -r`	Remove a directory that isn't empty
`mv`	Move or rename a file or directory
`cp`	Copy a file or directory
`rsync`	Synchronize the changes of one directory to another

Search for Files and Directories

Command	Description

Command	Description
`locate`	Quickly find a file or directory that has been cached
`find`	Seach for a file or directory based on name and other parameters

Basic Administration Commands

Command	Description
`whoami`	See which user you are currently logged in as
`sudo`	Execute a command with root permissions
`sudo apt install`	Install a package on Debian based systems
`sudo dnf install`	Install a package on Red Hat based systems
`sudo apt remove`	Remove a package on Debian based systems
`sudo dnf remove`	Remove a package on Red Hat based systems
`reboot`	Reboot the system
`poweroff`	Shut down the system

Hard Drive and Storage Commands

Command	Description
`df or df -h`	See the current storage usage of mounted partitions
`sudo fdisk -l`	See information for all attached storage devices
`du`	See disk usage of a directory's contents
`tree`	View the directory structure for a path

Command	Description
`mount and umount`	Mount and unmount a storage device or ISO file

Compression Commands

Command	Description
`tar cf my_dir.tar my_dir`	Create an uncompressed tar archive
`tar cfz my_dir.tar my_dir`	Create a tar archive with gzip compression
`gzip file`	Compress a file with gzip compression
`tar xf file`	Extract the contents of any type of tar archive
`gunzip file.gz`	Decompress a file that has gzip compression

Networking Commands

Command	Description
`ip a`	Show IP address and other information for all active interfaces
`ip r`	Show IP address of default gateway
`cat /etc/resolv.conf`	See what DNS servers your system is configured to use
`ping`	Send a ping request to a network device
`traceroute`	Trace the network path taken to a device
`ssh`	Login to a remote device with SSH

File Permissions and Ownership

Command	Description
`chmod`	Change the file permissions for a file or directory
`chown`	Change the owner of a file or directory
`chgrp`	Change the group of a file or directory

User Management Commands

Command	Description
`useradd`	Low level utility for adding new user accounts
`adduser`	High level utility for adding new user accounts
`deluser`	Delete a user account

Command	Description
`usermod`	Modify a user account
`groupadd`	Create a new group
`delgroup`	Delete a group

System Resource Management Commands

Command	Description
`free -m`	See how much memory is in use and free
`top`	See a list of processes and their resource usage
`htop`	A more human readable and interactive version of top
`nice`	Start a new process with a specified priority
`renice`	Change the nice value of a currently running process
`ps aux OR ps -ef`	View all of the currently running processes
`kill or killall`	Terminate a process
`kill -9 or killall -9`	Terminate a process with SIGKILL signal
`bg`	Send a task to the background
`fg`	Bring a task to the foreground

Environment Variable Commands

Command	Description

Command	Description
`printenv or printenv variable_name`	List all environment variables on a Linux system, or a specific one
`whereis and which`	Find where a command in PATH is located
`export MY_SITE="linuxconfig.org"`	Set a temporary environment variable (just an example, but use the same syntax)
`echo $VARIABLE`	Display the value of a variable
`unset`	Remove a variable

Kernel Information and Module Management

Command	Description
`uname -a`	Output detailed information about your kernel version and architecture
`lsmod`	Find what modules are currently loaded
`modinfo module_name`	Get information about any particular module
`modprobe --remove module_name`	Remove a module
`modprobe module_name`	Load a module into the kernel

Hardware Information Commands

Command	Description
`lspci`	See general information about host bridge, VGA controller, ethernet controller, USB controller, SATA controller, etc.
`dmidecode`	See some information about BIOS, motherboard, chassis, etc.
`cat /proc/cpuinfo`	Retrieve processor type, socket, speed, configured flags, etc.
`x86info or x86info -a`	See information about the CPU
`cat /proc/meminfo`	See detailed information about system RAM
`lshw`	List all hardware components and see their configuration details
`lshw -C memory -short`	Detect number of RAM slots used, speed, and size
`hwinfo`	List details for all hardware, including their device files and configuration options
`biosdecode`	Get some general information about your system's BIOS
`dmidecode -s bios-vendor`	Retrieve the name of your BIOS vendor with this simple command

Command	Description
`lsusb`	Get a list of USB devices plugged into your system
`ls -la /dev/disk/by-id/usb-*`	Retrieve a list of USB device files
`hdparm -I /dev/sdx`	Get information about your hard drive's make, model, serial number, firmware version, and configuration
`hdparm -tT /dev/sdx`	Show the speed of an installed hard drive – including cached reads and buffered disk reads
`wodim --devices`	Locate CD or DVD device file

Closing Thoughts

Feel free to reference this cheat sheet any time that you need a quick refresher. The goal here is to save you as much time as possible when trying to remember a certain command.

Two more commands that every user should know are the man command and apropos command. Knowing these two commands, which are very simple to use, will allow you to look up all the options that go with certain commands. `apropos` also works well as a manual search utility so you don't need to leave your terminal very often.

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