

Linux Commands List

Hardware Information

Show **bootup messages**:

```
dmesg
```

See **CPU information**:

```
cat /proc/cpuinfo
```

Display **free and used memory** with:

```
free -h
```

List **hardware configuration** information:

```
lshw
```

See information about **block devices**:

```
lsblk
```

Show **PCI devices** in a tree-like diagram:

```
lspci -tv
```

Display **USB devices** in a tree-like diagram:

```
lsusb -tv
```

Show **hardware information** from the BIOS:

```
dmidecode
```

Display **disk data** information:

```
hdparm -i /dev/disk
```

Conduct a **read-speed test** on device/disk:

```
hdparm -tT /dev/[device]
```

Test for **unreadable blocks** on device/disk:

```
badblocks -s /dev/[device]
```

Searching

Search for a specific pattern in a file with grep:

```
grep [pattern] [file_name]
```

Recursively search for a pattern in a directory:

```
grep -r [pattern] [directory_name]
```

Find all **files and directories related to a particular name**:

```
locate [name]
```

List names that **begin with a specified character** [a] in a specified location [/folder/location] by using the find command:

```
find [/folder/location] -name [a]
```

See **files larger than a specified size** [+100M] in a folder:

```
find [/folder/location] -size [+100M]
```

File Commands

List files in the directory:

```
ls
```

List all files (shows hidden files):

```
ls -a
```

Show directory you are currently working in:

```
pwd
```

Create a new directory:

```
mkdir [directory]
```

Remove a file:

```
rm [file_name]
```

Remove a directory recursively:

```
rm -r [directory_name]
```

Recursively remove a directory without requiring confirmation:

```
rm -rf [directory_name]
```

Copy the contents of one file to another file:

```
cp [file_name1] [file_name2]
```

Recursively copy the contents of one file to a second file:

```
cp -r [directory_name1] [directory_name2]
```

Rename [file_name1] to [file_name2] with the command:

```
mv [file_name1] [file_name2]
```

Create a symbolic link to a file:

```
ln -s /path/to/[file_name] [link_name]
```

Create a new file:

```
touch [file_name]
```

Show the contents of a file:

```
more [file_name]
```

or use the cat command:

```
cat [file_name]
```

Append file contents to another file:

```
cat [file_name1] >> [file_name2]
```

Display the first 10 lines of a file with:

```
head [file_name]
```

Show the last 10 lines of a file:

```
tail [file_name]
```

Encrypt a file:

```
gpg -c [file_name]
```

Decrypt a file:

```
gpg [file_name.gpg]
```

Show the **number of words, lines, and bytes** in a file:

```
wc
```

Directory Navigation

Move **up one level** in the directory tree structure:

```
cd ..
```

Change **directory** to `$HOME`:

```
cd
```

Change location to a specified directory:

```
cd /chosen/directory
```

File Compression

Archive an existing file:

```
tar cf [compressed_file.tar] [file_name]
```

Extract an archived file:

```
tar xf [compressed_file.tar]
```

Create a **gzip compressed tar file** by running:

```
tar czf [compressed_file.tar.gz]
```

Compress a file with the `.gz` extension:

```
gzip [file_name]
```

File Transfer

Copy a file to a server directory securely:

```
scp [file_name.txt] [server/tmp]
```

Synchronize the contents of a directory **with a backup directory** using the **rsync** command:

```
rsync -a [/your/directory] [/backup/]
```

Users

See details about the **active users**:

```
id
```

Show **last system logins**:

```
last
```

Display who is **currently logged into the system** with the `who` command:

```
who
```

Show which users are **logged in** and **their activity**:

```
w
```

Add a new group by typing:

```
groupadd [group_name]
```

Add a new user:

```
adduser [user_name]
```

Add a user to a group:

```
usermod -aG [group_name] [user_name]
```

Temporarily **elevate user privileges** to superuser or root using the sudo command:

```
sudo [command_to_be_executed_as_superuser]
```

Delete a user:

```
userdel [user_name]
```

Modify user information with:

```
usermod
```


Package Installation

List all installed packages with `yum`:

```
yum list installed
```

Find a package by a **related keyword**:

```
yum search [keyword]
```

Show **package information and summary**:

```
yum info [package_name]
```

Install a package using the **YUM package manager**:

```
yum install [package_name.rpm]
```

Install a package using the **DNF package manager**:

```
dnf install [package_name.rpm]
```

Install a package using the **APT package manager**:

```
apt-get install [package_name]
```

Install an `.rpm` package from a local file:

```
rpm -i [package_name.rpm]
```

Remove an `.rpm` package:

```
rpm -e [package_name.rpm]
```

Install software from **source code**:

```
tar zxvf [source_code.tar.gz]
cd [source_code]
./configure
make
make install
```

Process Related

See a **snapshot of active processes**:

```
ps
```

Show **processes in a tree-like diagram**:

```
pstree
```

Display a **memory usage map** of processes:

```
pmap
```

See **all running processes**:

```
top
```

Terminate a Linux process under a **given ID**:

```
kill [process_id]
```

Terminate a process under a **specific name**:

```
pkill [proc_name]
```

Terminate all processes **labelled "proc"**:

```
killall [proc_name]
```

List and resume stopped jobs in the background:

```
bg
```

Bring the most **recently suspended job** to the foreground:

```
fg
```

Bring a **particular job** to the foreground:

```
fg [job]
```

List **files opened by running processes**:

```
lsof
```

System Information

Show **system information**:

```
uname -r
```

See kernel release information:

```
uname -a
```

Display **how long the system has been running**, including load average:

```
uptime
```

See system **hostname**:

```
hostname
```

Show the **IP address** of the system:

```
hostname -i
```

List system **reboot history**:

```
last reboot
```

See current **time and date**:

```
date
```

Query and **change the system clock** with:

```
timedatectl
```

Show current **calendar** (month and day):

```
cal
```

List **logged in users**:

```
w
```

See which **user you are using**:

```
whoami
```

Show **information about a particular user**:

```
finger [username]
```

Disk Usage

See **free and used space** on mounted systems:

```
df -h
```

Show **free inodes** on mounted filesystems:

```
df -i
```

Display **disk partitions, sizes, and types** with the command:

```
fdisk -l
```

See disk usage for all files and directory:

```
du -ah
```

Show **disk usage of the directory** you are currently in:

```
du -sh
```

Display **target mount point** for all filesystem:

```
findmnt
```

Mount a device:

```
mount [device_path] [mount_point]
```

SSH Login

Connect to host as user:

```
ssh user@host
```

Securely **connect to host via SSH** default port 22:

```
ssh host
```

Connect to host **using a particular port**:

```
ssh -p [port] user@host
```

Connect to host **via telnet default port 23**:

```
telnet host
```

File Permission

Chown command in Linux changes file and directory ownership.

Assign **read, write, and execute permission** to everyone:

```
chmod 777 [file_name]
```

Give **read, write, and execute permission to owner**, and **read and execute permission to group and others**:

```
chmod 755 [file_name]
```

Assign **full permission to owner**, and **read and write permission to group and others**:

```
chmod 766 [file_name]
```

Change the **ownership of a file**:

```
chown [user] [file_name]
```

Change the **owner and group ownership of a file**:

```
chown [user]:[group] [file_name]
```

Network

List **IP addresses and network interfaces**:

```
ip addr show
```

Assign an **IP address to interface eth0**:

```
ip address add [IP_address]
```

Display **IP addresses of all network interfaces** with:

```
ifconfig
```

See **active (listening) ports** with the **netstat** command:

```
netstat -pnltu
```

Show **tcp** and **udp ports** and their programs:

```
netstat -nutlp
```

Display more **information about a domain**:

```
whois [domain]
```

Show **DNS information** about a domain using the **dig** command:

```
dig [domain]
```

Do a **reverse lookup on domain**:

```
dig -x host
```

Do **reverse lookup of an IP address**:

```
dig -x [ip_address]
```

Perform an **IP lookup for a domain**:

```
host [domain]
```


Show the **local IP address**:

```
hostname -I
```

Download a file from a domain using the **wget** command:

```
wget [file_name]
```

Linux Keyboard Shortcuts

Kill process running in the terminal:

```
Ctrl + C
```

Stop **current process**:

```
Ctrl + Z
```

The process can be **resumed** in the **foreground** with `fg` or in the **background** with `bg`.

Cut **one word before the cursor** and add it to clipboard:

```
Ctrl + W
```

Cut **part of the line before the cursor** and add it to clipboard:

```
Ctrl + U
```

Cut **part of the line after the cursor** and add it to clipboard:

```
Ctrl + K
```

Paste from clipboard:

```
Ctrl + Y
```

Recall last command that matches the provided characters:

```
Ctrl + R
```

Run the previously recalled command:

```
Ctrl + O
```

Exit command history without running a command:

```
Ctrl + G
```

Run the last command again:

```
!!
```

Log out of current session:

```
exit
```