Linux Commands

The **command-line interface** is one of the nearly all well-built trademarks of **Linux**. There exists an ocean of **Linux commands**, permitting you to do nearly everything you can be under the impression of doing on your Linux operating system. Although, this to the end of time creates a problem: by all of so copious commands accessible to manage, you don't comprehend where and at which point to fly learning them, especially when you are learner. If you are facing this problem, and are peering for a painless method to begin your command line journey in Linux, you've come to the right place, as in this, we will launch you to a hold of well-liked and **helpful Linux commands**.

Description:

Display system date and time.

Command:

```
date
```

Description:

Display calendar.

Command:

```
cal
```

Description:

Display date, time and calendar.

Command:

```
date & cal
```

Description:

Display August month 2016-year calendar.

Command:

```
cal 8 2016
```

Description:

Used to clear the terminal window.

Command:

```
clear
```

Description:

Exit from the terminal window.

Command:

```
exit
```

Description:

Display free and used system memory.

Command:

```
free
```

Description:

Display free and used system memory in bytes.

Command:

```
free -b
```

Description:

Display free and used system memory in kilobytes.

Command:

```
free -k
```

Description:

Display free and used system memory in megabytes.

Command:

```
free -m
```

Description:

Change user password.

Command:

```
passwd
```

Description:

Power-off the machine.

Command:

```
shutdown
```

Description:

Power-off the machine immediately.

Command:

```
shutdown -h now
```

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Description:

Power-off the machine after 10 minutes.

Command:

```
shutdown -h +10
```

Description:

Print current working directory.

Command:

```
echo $PWD
```

Description:

Print previous working directory.

Command:

```
echo $OLDPWD
```

Description:

Executes the 11th command in command history.

Command:

```
!11
```

Description:

Reveals your command history.

Command:

```
history
```

Description:

Power off or reboot the Operating system.

Command:

```
sudo reboot
```

Description:

Display the IP address of the host.

Command:

```
ip address
```

Description:

List the size of files and directories.

Command:

```
ls -s
```

Description:

View mounted file systems.

Command:

```
mount
```

Description:

Display the information of disk usage of files and directories.

Command:

```
du
```

Description:

Tells you how long the system has been running.

Command:

```
uptime
```

Description:

Set current date as 02 Nov 1988.

Command:

```
date -- set 1998-11-02
```

Description:

Set current time as 12:11:02 IST.

Command:

```
date -- set 12:11:02
```

Description:

View and change the configuration of the network interfaces on the system.

Command:

```
ifconfig
```

Description:

Lists all files and directories in the present working directory.

Command:

```
ls
```

Description:

Report the process information.

Command:

```
ps
```

Description:

Display disk usage.

Command:

```
df
```

Description:

Display disk usage in gigabytes, megabytes, or kilobytes.

Command:

```
df -H
```

Description:

Delete every file and every directory.

Command:

```
rm -r *
```

Description:

Provides a quick overview of the currently running processes.

Command:

```
top
```

Description:

The system performs an immediate reboot.

Command:

```
reboot
```

Description:

Terminate processes without having to log out or reboot.

Command:

```
kill
```

Description:

Change the current working directory.

Command:

```
cd
```

Description:

Create a new session on the system.

Command:

```
login
```

Description:

List open files.

Command:

```
lsof
```

Description:

List USB devices.

Command:

```
lsusb
```

Description:

Check the status of the network services.

Command:

```
service network status
```

Description:

Start the network service.

Command:

```
service network start
```

Description:

Stop the network service.

Command:

```
service network stop
```

Description:

Restart the network service.

Command:

```
service network restart
```

Description:

Report information about the users currently on the machine and their processes.

Command:

```
w
```

Description:

Display the current directory.

Command:

```
pwd
```

Description:

Displays CPU architecture information (such as number of CPUs, threads, cores, sockets, and more).

Command:

```
lscpu
```

Description:

Displays the number of processing units available to the current process.

Command:

```
nproc
```

Description:

The system performs an immediate reboot.

Command:

```
init 6
```

Description:

Power-off the machine.

Command:

```
init 0
```

Description:

List files by date.

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Command:

```
ls -lrt
```

Description:

Report information about storage devices such as hard disks, flash drives etc.

Command:

```
lsblk
```

Description:

Show exit status of previous command.

Command:

```
echo $?
```

Description:

Lists a few useful info commands.

Command:

```
info
```

Description:

Prints current year's calendar.

Command:

```
cal -y
```

Description:

Check the status of all the services.

Command:

```
service --status-all
```

Description:

Display time in hh:mm:ss.

Command:

```
date +%T
```

Description:

Tells when the user last logged on and off and from where.

Command:

```
last 1 username
```

Description:

Sort files and directories by extension name.

Command:

```
ls -X
```

Description:

Display the manual for the pwd command.

Command:

```
man pwd
```

Description:

Displays information about running processes in the form of a tree.

Command:

```
pstree
```

Description:

Resets your terminal.

Command:

```
reset
```

Description:

Displays What date is it this Friday.

Command:

```
date -d fri
```

Description:

Displays the size of each individual file.

Command:

```
du a
```

Description:

Display information about the Advanced configuration and power Interface.

Command:

```
acpi
```

Description:

Takes you two folders back.

Command:

```
cd ../..
```

Description:

Takes you to the previous directory.

Command:

```
cd -
```

Description:

Displays a list of shell built-in commands.

Command:

```
help
```

Description:

Lists your last logins.

Command:

```
last yourusername
```

Description:

Create a new directory called myfiles.

Command:

```
mkdir myfiles
```

Description:

Remove the directory myfiles.

Command:

```
rmdir myfiles
```

Description:

Disable password for a specific user "root1".

Command:

```
passwd -d root1
```

Description:

Switch to user "root1".

Command:

```
sudo su root1
```

Description:

Exit from the terminal window.

Command:

```
logout
```

Description:

Creates a user "root1".

Command:

```
useradd "root1"
```

Description:

Assign password to user "root1".

Command:

```
passwd "root1"
```

Description:

Repeats the last command.

Command:

```
!!
```

Description:

Display Who you are logged in as.

Command:

```
whoami
```

Description:

Display the login name of the current user.

Command:

```
logname
```

Description:

Report the name of the kernel.

Command:

```
uname
```

Description:

Print the kernel version.

Command:

```
uname -v
```

Description:

Print the operating system.

Command:

```
uname -o
```

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Description:

Report the machine hardware name.

Command:

```
uname -m
```

Description:

Print version information and exit.

Command:

```
uname --version
```

Description:

Print the kernel release.

Command:

```
uname -r
```

Description:

Report the network node hostname.

Command:

```
uname -n
```

Description:

Display all port connections (both TCP and UDP).

Command:

```
netstat -a
```

Description:

Display only TCP (Transmission Control Protocol) port connections.

Command:

```
netstat -at
```

Description:

Display only UDP (User Datagram Protocol) port connections.

Command:

```
netstat -au
```

Description:

Display all active listening ports.

Command:

```
Netstat -I
```

Description:

Display all active listening TCP ports.

Command:

```
netstat -It
```

Description:

Display all active listening UDP ports.

Command:

```
netstat -lu
```

Description:

Reveal all the information about the current user (user id, username, group id, group name etc.).

Command:

```
id
```

Description:

Reveal all the information about the user "root1" (user id, username, group id, group name etc.).

Command:

```
id root1
```

Description:

Print the machine's architecture.

Command:

```
arch
```

Description:

Display the list of available fonts.

Command:

```
fc-list
```

Description:

Create two directories (myfiles, files).

Command:

```
mkdir myfiles files
```

Description:

install apache (CentOS).

Command:

```
yum install httpd
```

Description:

install apache (Ubuntu).

Command:

```
apt install httpd
```

Description: upgrade

apache (CentOS).

Command:

```
yum update httpd
```

Description: upgrade

apache (Ubuntu).

Command:

```
apt update httpd
```

Description:

uninstall apache (CentOS).

Command:

```
yum remove httpd
```

Description:

uninstall apache (Ubuntu).

Command:

```
apt remove httpd
```

Description:

Display usage summary for the command (date).

Command:

```
date --help
```

Description:

List active connections to/from system.

Command:

```
ss -tup
```

Description:

List internet services on a system.

Command:

```
ss -tupl
```

Description:

Display all active UNIX listening ports.

Command:

```
netstat -lx
```

Description:

Display all the active interfaces details.

Command:

```
ifconfig
```

Description:

Display information of all network interfaces.

Command:

```
ifconfig -a
```

Description:

Compare the contents of two files (1.txt, 2.txt).

Command:

```
diff 1.txt 2.txt
```

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Description:

Tells you how many lines, words, and characters there are in a file (1.txt).

Command:

```
wc 1.txt
```

Description:

Compresses file (1.txt), so that it takes up much less space.

Command:

```
gzip 1.txt
```

Description:

Uncompresses file (1.txt) compressed by gzip.

Command:

```
gunzip 1.txt
```

Description:

Examine the contents of the file (1.txt).

Command:

```
cat 1.txt
```

Description:

Display calendar.

Command:

```
ncal
```

Description:

Removes the file (1.txt).

Command:

```
rm 1.txt
```

Description:

Rename a file named 1.txt to 0.txt.

Command:

```
mv 1.txt 0.txt
```

Description:

Replace the contents of 0.txt with that of 1.txt.

Command:

```
cp 1.txt 0.txt
```

Description:

Create a empty file (test.txt).

Command:

```
touch test.txt
```

Description:

Print the last 10 lines of a file (1.txt).

Command:

```
tail 1.txt
```

Description:

Print N number of lines from the file (1.txt).

Command:

```
tail -n N 1.txt
```

Description:

Prints the number of words in a file (1.txt).

Command:

```
wc -w 1.txt
```

Description:

Prints the number of characters from a file (1.txt).

Command:

```
wc -m 1.txt
```

Description:

Prints the length of the longest line in a file (1.txt).

Command:

```
wc -L 1.txt
```

Description:

Print information about usb ports, graphics cards, network adapters etc.

Command:

```
lspci
```

Description:

View contents of a file (1.txt).

Command:

```
less 1.txt
```

Description:

Display calendar (last month, current month, and next month).

Command:

```
cal -3
```

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Description:

Compare the contents of three files (1.txt, 2.txt, 3.txt) line by line.

Command:

```
diff3 1.txt 2.txt 3.txt
```

Description:

Compare two files (1.txt, 2.txt) line-by-line.

Command:

```
comm 1.txt 2.txt
```

Description:

Perform byte-by-byte comparison of two files (1.txt, 2.txt).

Command:

```
cmp 1.txt 2.txt
```

Description:

Prints the CRC checksum and byte count for the file "myfiles.txt".

Command:

```
cksum myfiles.txt
```

Description:

Append contents of files (1.txt, 2.txt) into one file (0.txt).

Command:

```
cat 1.txt 2.txt > 0.txt
```

Description:

Append contents of files (1.txt, 2.txt, 3.txt) into one file (0.txt).

Command:

```
sed r 1.txt 2.txt 3.txt > 0.txt
```

Description:

Append contents of files (1.txt, 2.txt, 3.txt) into one file (0.txt).

Command:

```
sed h 1.txt 2.txt 3.txt > 0.txt
```

Description:

Append contents of files (1.txt, 2.txt, 3.txt) into one file (0.txt).

Command:

```
sed -n p 1.txt 2.txt 3.txt > 0.txt
```

Shortcuts:

```
| ctrl+c           | Halts the current command           |
| ctrl+z           | Stops the current command           |
|                  |                                     |
| ctrl+d           | Logout the current session          |
| ctrl+w           | Erases one word in the current line |
|                  |                                     |
| ctrl+u           | Erases the whole line               |  |
ctrl+r           | Type to bring up a recent command   |
```

Description:

Writes contents of a file (0.txt) to output, and prepends each line with line number.

Command:

```
nl 0.txt
```

Description:

Create a empty file (test1.txt) inside a directory (test).

Command:

```
mkdir test cd
test  pwd
touch test1.txt
```

Description:

Gather information about hardware components such as CPU, disks, memory, USB controllers etc.

Command:

```
sudo lshw
```

Description:

Gather information about file system partitions.

Command:

```
sudo fdisk -l
```

Description:

Displays the line (good morning) in which the string (good) is found in the file (1.txt).

Command:

```
grep good 1.txt
```

Description:

Append contents of files (1.txt, 2.txt, 3.txt) into one file (0.txt) using for loop.

Command:

```
for i in {1..3}; do cat "$i.txt" >> 0.txt; done
```

Description:

Search for files (test.txt, test1.txt, test2.txt, test.php, test.html) in a directory as well as its sub-directories.

Command:

```
find test*
```

Description:

Displays status related to a file (1.txt).

Command:

```
stat 1.txt
```

```
###
|     Command      |  Description       |
|:-----------------|-------------:      |
| vi               | Open vi editor     |
| i                | Go to Insert mode  |
|                  |                    |
| a =20; b =64;    |                    |
| print (a + b);   |                    |
| Hit Escape to return to Normal mode.  |
| :w hello.py      | Save text          |
| :q               | Quit               |  |
python hello.py  |Print the output:84 |
```

Description:

Download the file (file.txt) from url "http: //website.com/files/file.txt".

Command:

```
wget http://website.com/files/file.txt
```

Description:

Display host's numeric ID in hexadecimal format.

Command:

```
hostid
```

Description:

Display file type of the file (myfiles.txt).

Command:

```
file myfiles.txt
```

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Description:

Create a file (myfiles.txt) containing a text (Hello World).

Command:

```
echo 'Hello World' > myfiles.txt
```

Description:

Create a file (myfiles.txt) containing a text (Hello World).

Command:

```
printf 'Hello World' > myfiles.txt
```

Description:

Display IP address of the hostname.

Command:

```
hostname -i
```

Description:

Add a new line of text to an existing file (1.txt).

Command:

```
echo "Hello world!" >> 1.txt echo
"this is 2nd line text" >> 1.txt echo
"last line!" >> 1.txt
```

Description:

Displays a single line description about a command (cal).

Command:

```
whatis cal
```

###

```
|     Command      |  Description       |
|:-----------------|-------------:      |

| vi               | Open vi editor     |
| i                | Go to Insert mode  |
| Type some text.  |                    |
| Hit Escape to return to Normal mode.  |
| :w test.txt      | Save text          |
| :q               | Quit               |  |
:q!              |Quit without saving |


###
|     Command      |  Description          |
|:-----------------|-------------:         |
| vi               | Open vi editor        |
| i                | Go to Insert mode     |
| $name = "Paul";  |                       |
| print "$name";   |                       |
| Hit Escape to return to Normal mode.     |
| :w hello.pl      | Save text             |
| :q               | Quit                  |  |
perl hello.pl    |Print the output: Paul |


###
|     Command                |  Description           |
|:---------------------------|-------------:          |
| vi                         | Open vi editor         |
| i                          | Go to Insert mode      |
| echo "What is your name?"  |                        |
| read PERSON                |                        |
| echo "Hello, $PERSON"      |                        |
| Hit Escape to return to Normal mode.               |
| :w hello.sh                | Save text              |
| :q                         | Quit                   |
```

```
| sh hello.sh                | Output:                |
|                            | What is your name?     |
|                            | If you enter: Zara Ali |
|                            | Hello, Zara Ali        |
```

Description:

Check the network connectivity between host (your connection) and server (Google server).

Command:

```
ping google.com
```

Description:

Find the location of source/binary file of a command (cal).

Command:

```
whereis cal
```

Description:

List the files in the bin directory.

Command:

```
ls /bin
```

Description:

List the files in the bin directory and the etc directory.

Command:

```
ls /bin /etc
```

Description:

Moves the file test.txt to the folder newrepo.

Command:

```
mv test.txt ./newrepo
```

Description:

Deletes all the lines in the test.txt containing tue word.

Command:

```
sed -i "/tue/d" test.txt
```

---

import subprocess subprocess.call ('**linux command**')	import os os.system('**linux command**')

import os os.system('ls')	

import subprocess subprocess.call ('ls')	**List all the files and directories in the current directory**

What is Linux and why is it so popular?

Whether you know it or not you are already using Linux (the best-known and most-used open-source operating system) every day. From supercomputers to smartphones, the Linux operating system is everywhere. As an operating system, Linux is a family of open-source Unix-like software based on the Linux kernel - that sits underneath all of the other software on a computer, receiving requests from those programs and relaying these requests to the computer's hardware. With regard to careers, it is becoming increasingly valuable to have Linux skills rather than just knowing how to use Windows. In general, Linux is harder to manage than Windows, but offers more flexibility and configuration options.

Every desktop computer uses an operating system. The most popular operating systems in use today are: Windows, Mac OS, and LINUX. Linux is the best-known notoriously reliable and highly secure open-source portable operating system -- very much like UNIX -- that has become very popular over the last several years -- created as a task done for pleasure by Linus Torvalds -- computer science student at the University of Helsinki in Finland -- in the early 1990s and later developed by more than a thousand people around the world.

Linux is fast, free and easy to use, that sits underneath all the other software on a computer − runs your computer -- handling all interactions between you and the hardware i.e., whether you're typing a letter, calculating a money budget, or managing your food recipes on your computer, the Linux operating system (similar to other Operating Systems, such as Windows XP, Windows 7, Windows 8, and Mac OS X) provides the essential air that your computer breathes.

Linux is the most important technology advancement of the twenty-first century and Licensed under the General Public License (GPL) that Linux uses ensures that the software will always be open to anyone and whose source code is open and available for any user to check, which makes it easier to find and repair vulnerabilities and it power the laptops, development machines and

servers at Google, Facebook, Twitter, NASA, and New York Stock Exchange, just to name a few. Linux has many more features to amaze its users such as: Live CD/USB, Graphical user interface (X Window System) etc.

Why LINUX?

Although Microsoft Windows (which is the most likely the victim of viruses and malware) has made great improvements in reliability in recent years, it considered less reliable than Linux. Linux is notoriously reliable and secure and it is free from constant battling viruses and malware (which may affect your desktops, laptops, and servers by corrupting files, causing slowdowns, crashes, costly repairs and taking over basic functions of your operating system) – and it keep yourself free from licensing fees i.e., zero cost of entry ... as in free. You can install Linux on as many reliable computer ecosystems on the planet as you like without paying a cent for software or server licensing. While Microsoft Windows usually costs between $99.00 and $199.00 USD for each licensed copy and fear of losing data.

Below are some examples of where Linux is being used today:

- Android phones and tablets
- Servers
- TV, Cameras, DVD players, etc.
- Amazon
- Google
- U.S. Postal service
- New York Stock Exchange

Linux Operating System has primarily three components:

- **Kernel**

Kernel is the core part of Linux Operating System and interacts directly with hardware. It is responsible for all major activities of the Linux operating system.

- **System Library**

System libraries are special programs using which application programs accesses Kernel's features.

- **System Utility**

System Utility programs are responsible to do specialized tasks.