Important Linux Commands You Should Know

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Abstract

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 article, we will launch you to a hold of well liked and helpful Linux commands.
## Linux

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Linus Benedict Torvalds is a Finnish-American software engineer who is the creator and, historically, the main developer of the Linux kernel, used by Linux distributions and other operating systems such as Android and Chrome OS.
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:

```bash
free  -b
```

Description:

Display free and used system memory in kilobytes.

Command:

```bash
free  -k
```

Description:

Display free and used system memory in megabytes.

Command:

```bash
free  -m
```
Description:

Change user password.

Command:

passwd

Description:

Power-off the machine.

Command:

shutdown

Description:

Power-off the machine immediately.
shutdown -h now

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:

```
for x in $(mount | grep -v tmpfs | grep -v /run); do echo mount $x; done
```

Description:

Tells you how long the system has been running.

Command:

```
uptime
```

```
9
```
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:
**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.
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:**

```sh
date -d fri
```

**Description:**

Displays the size of each individual file.

**Command:**

```sh
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.
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

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:
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 -tup1

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

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 take 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 an 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:
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

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:

cat 1.txt 2.txt > 0.txt

Description:

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

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

**Description:**

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

---

**Command:**

```bash
sudo lshw
```

**Description:**

Gather information about file system partitions.

---

**Command:**

```bash
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
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`
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:

...
**Description:**

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

**Command:**

```bash
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:**

```bash
whatis cal
```

```bash
###
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
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</tbody>
</table>
```
###

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vi</td>
<td>Open vi editor</td>
</tr>
<tr>
<td>i</td>
<td>Go to Insert mode</td>
</tr>
<tr>
<td>$name = &quot;Paul&quot;;</td>
<td></td>
</tr>
<tr>
<td>print &quot;$name&quot;;</td>
<td></td>
</tr>
<tr>
<td>Hit Escape to return to Normal mode.</td>
<td></td>
</tr>
<tr>
<td>:w hello.pl</td>
<td>Save text</td>
</tr>
<tr>
<td>:q</td>
<td>Quit</td>
</tr>
<tr>
<td>perl hello.pl</td>
<td>Print the output: Paul</td>
</tr>
</tbody>
</table>

###

<table>
<thead>
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<td>Open vi editor</td>
</tr>
<tr>
<td>i</td>
<td>Go to Insert mode</td>
</tr>
<tr>
<td>echo &quot;What is your name?&quot;</td>
<td></td>
</tr>
<tr>
<td>read PERSON</td>
<td></td>
</tr>
<tr>
<td>echo &quot;Hello, $PERSON&quot;</td>
<td></td>
</tr>
<tr>
<td>Hit Escape to return to Normal mode.</td>
<td></td>
</tr>
<tr>
<td>:w hello.sh</td>
<td>Save text</td>
</tr>
<tr>
<td>:q</td>
<td>Quit</td>
</tr>
<tr>
<td>sh hello.sh</td>
<td>Output:</td>
</tr>
<tr>
<td></td>
<td>What is your name?</td>
</tr>
<tr>
<td></td>
<td>If you enter: Zara Ali</td>
</tr>
<tr>
<td></td>
<td>Hello, Zara Ali</td>
</tr>
</tbody>
</table>
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`

---

<table>
<thead>
<tr>
<th><strong>import subprocess</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>subprocess.call ('<strong>linux command</strong>')</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>import os</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>os.system('<strong>linux command</strong>')</td>
<td></td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th><strong>import os</strong></th>
<th><strong>List all the files and directories in the current directory</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>os.system('ls')</td>
<td></td>
</tr>
</tbody>
</table>
Command:

last reboot

Description:

Show system reboot history

Command:

dmesg

Description:

Displays the messages from the kernel ring buffer (a data structure that records messages related to the operation of the kernel)

Command:

cat /proc/cpuinfo

Description:

Display CPU information
Command:

`cat /proc/meminfo`

Description:

Display memory information

Command:

`lspci -tv`

Description:

Display PCI (Peripheral Component Interconnect) devices

Command:

`lsusb -tv`

Description:

Display USB devices
**Command:**

free -h

**Description:**

Display free and used memory (-h for human readable, -m for MB, -g for GB)

**Command:**

mpstat 1

**Description:**

Display processor related statistics

**Command:**

vmstat 1
Display virtual memory statistics

**Command:**

```
iostat 1
```

**Description:**

Display Input / Output statistics

**Command:**

```
watch df -h
```

**Description:**

Execute "df -h" command, showing periodic updates

**Command:**

```
ps -ef
```

**Description:**
Display all the currently running processes on the system

**Command:**

```
ip a
```

**Description:**

Display all network interfaces and IP address

**Command:**

```
dig wikipedia.org
```

**Description:**

Display DNS information for domain *(wikipedia.org)*

**Command:**

```
host wikipedia.org
```

**Description:**
Display the IP address details of the specified domain (wikipedia.org)

**Command:**

```bash
netstat -nutlp
```

**Description:**
Display listening Transmission Control Protocol (TCP) and the User Datagram Protocol (UDP) ports and corresponding programs

**Command:**

```bash
rpm -qa
```

**Description:**
List all installed packages

**Command:**

```bash
yum list installed
```

**Description:**
List all installed packages (CentOS)
yum info httpd

**Description:**
Display description and summary information about package "httpd" (CentOS)

**Command:**

du -ah

**Description:**
Display disk usage for all files and directories in human readable format

**Command:**

du -sh

**Description:**
Display total disk usage off the current directory

**Command:**
cd /etc

**Description:**

Change to the /etc directory

**Command:**

```bash
ps -A
```

**Description:**

List the status of all the processes along with process id and PID

**Command:**

```c
#include <stdio.h>

int main()
{
    printf("Hello world\n");
    return 0;
}
```

`gcc Hello.c`
Description:

Compile the C program saved in Hello.c file

Command:

```c
#include <iostream>
int main()
{
    std::cout << "Hello world!";
    return 0;
}
```

g++ Hello.cpp

Description:

Compile the C++ program saved in Hello.cpp file

Command:

```c
tty
```

Description:

Displays the file name of the terminal connected to standard input
**Command:**

```
public class MyClass {
    public static void main(String [] args) {
        System.out.println("Hello, World!");
    }
}
```

`javac MyClass.java`

**Description:**

Compile the Java program saved in `MyClass.java` file using javac compiler

**Command:**

```
od -b myfiles.txt
```

**Description:**

Displays the contents of `myfiles.txt` file in octal format

**Command:**

```
od -c myfiles.txt
```
Description:

Displays the contents of myfiles.txt file in character format

Command:

```bash
od -An -c myfiles.txt
```

Description:

Displays the contents of myfiles.txt file in character format but with no offset information

Command:

```bash
csplit myfiles.txt 13 62 101
```

Description:

If the file myfiles.txt has 123 lines, the csplit command would create four files: the xx00 file would contain lines 1–12, the xx01 file would contain lines 13–61, the xx02 file would contain lines 62–100, the xx03 file would contain lines 101–123

Command:
md5sum myfiles.txt

**Description:**
Prints a 32-character (128-bit) checksum of myfiles.txt file using the MD5 algorithm

**Command:**
more myfiles.txt

**Description:**
Displays the content of myfiles.txt file

**Command:**
sha1sum myfiles.txt

**Description:**
Prints SHA1 (160-bit) checksum of myfiles.txt file

SHA 1 → Secure Hash Algorithm 1

**Command:**
*shred myfiles.txt*

**Description:**

Overwrites the myfiles.txt file repeatedly – in order to make it harder for even very expensive hardware probing to recover the data.

**Command:**

```bash
cat myfile.txt
01. Einstein
02. Newton
03. Maxwell
04. Tesla
05. Edison
tac myfile.txt
05. Edison
04. Tesla
03. Maxwell
02. Newton
01. Einstein
```

**Description:**

Print the lines of myfile.txt in reverse (from last line to first)
Command:

chkconfig --list

Description:

Displays a list of system services and whether they are started (on) or stopped (off) in run levels 0–6

Command:

chkconfig --list

Description:

Displays a list of system services and whether they are started (on) or stopped (off) in run levels 0–6

Command:

halt -p

Description:

Power-off the system
Command:

lastlog

Description:

Prints the details of the last login (login-name, port and last login time)

Command:

lastlog -t 1

Description:

Displays the login information (1 day ago)

Command:

lastlog -u manju

Description:

Display lastlog information for a particular user (manju)
**Command:**

```
cat /etc/passwd
```

```
more /etc/passwd
```

```
less /etc/passwd
```

```
getent passwd
```

**Description:**

List all users on Linux

**Command:**

```
tail -5 /etc/passwd
```

```
head -5 /etc/passwd
```
**Description:**

List last 5 users on Linux

List first 5 users on Linux

**Command:**

```
wall "The system will be shutdown in 10 minutes."
```

**Description:**

The message (The system will be shutdown in 10 minutes.) will be broadcasted to all users that are currently logged in

**Command:**

```
chage -l manju
```

**Description:**

List the password and its related details for a user (manju)
Command:

```
chage -M 10 manju
```

Description:
Set Password Expiry Date for an user (manju)

Command:

```
chage -E "2020-07-30" manju
```

Description:
Set the Account Expiry Date for an User (manju)

Command:

```
chage -I 10 manju
```

Description:
Force the user (manju) account to be locked after 10 inactivity days
**Command:**

`ftp 192.168.42.77`

**Description:**

Connect to an FTP server at remote server IP address "192.168.42.77"

**Command:**

`arp –a`

**Description:**

Lists all the peers connected at various interfaces along with their MAC Addresses and IP addresses

**Command:**

`dnsdomainname`
Display the system's DNS domain name

**Command:**

domainname

**Description:**

Display the name of the domain your machine belongs to

**Command:**

echo 'Hello World!' | base64

**Output:** SGVsbG8gV29ybGQhCg==

**Description:**

Encode text (Hello World!) to base64

**Command:**

echo 'SGVsbG8gV29ybGQhCg==' | base64 -d

**Output:** Hello World!

**Description:**
Decode (SGVsbG8gV29ybGQhCg==) to text (Hello World!)

Command:

fc-cache -f -v

Description:

Build font information cache files

Command:

cat 1.txt

Einstein
Newton
Albert

fmt 1.txt

Einstein Newton Albert

Description:

Formats text in a single line
Albert Einstein was a German-born theoretical physicist, widely acknowledged to be one of the greatest physicists of all time. Einstein is known for developing the theory of relativity, but he also made important contributions to the development of the theory of quantum mechanics.
Albert Einstein was a German-born theoretical physicist, widely acknowledged to be one of the greatest physicists of all time. Einstein is known for developing the theory of relativity, but he also made important contributions to the development of the theory of quantum mechanics.
a German-born theoretical physicist, widely acknowledged to be one of the greatest physicists of all time. Einstein is known for developing the theory of relativity, but he also made important contributions to the development of the theory of quantum mechanics.

**Command:**

`traceroute google.com`

**Description:**

Prints the route that a packet takes to reach the Google (172.217.26.206) host from the local machine.

**Command:**

`cat 1.txt`
**Description:**

View the contents of zipped file

---

**Command:**

```
zdiff 1.txt.gz 2.txt.gz
```

---

**Description:**

Compare the contents of two zipped files (1.txt.gz, 2.txt.gz)
Command:

ss | less

Description:

List all connections

Command:

ss -aA tcp

Description:

Filter out TCP (Transmission Control Protocol) connections

Command:

ss -aA udp

Description:

Filter out UDP (User Datagram Protocol) connections
**Command:**

`ss -1nt`

**Description:**

Display only listening sockets

---

**Command:**

`ss -ltp`

**Description:**

Print process name and PID

---

**Command:**

`ss -s`

**Description:**

Print summary statistics
Command:

ss -tl6

Description:

Display only IPv6 connections

Command:

ss -tl -f inet

Description:

Display only IPv4 socket connections

Command:

ss -t4 state established

Description:

Display all IPv4 TCP sockets that are in connected state
Command:

`pmap 3244`

Description:

View the memory map of a process with Process ID (3244)

Command:

`apropos -r 'remove file'`

Description:

Find command that removes file

Command:

`apropos editor`

Description:

Display information about the editing programs that are available on a system
**Command:**

apropos pstree

**Description:**

Provide information about the pstree command (which displays the names of the processes currently on the system in the form of a tree diagram)

The `apropos` command is useful when you know what you want to do, but you have no idea what command you should be using to do it. If you were wondering how to locate files, for example, the commands

```
apropos find
```

and

```
apropos locate
```

would have a lot of suggestions to offer.

```
basename /etc/passwd
```

Output: passwd

```
basename /usr/local/apache2/conf/httpd.conf
```

89
Output: httpd.conf

echo a b c d e f | xargs

Output: a b c d e f

echo a b c d e f | xargs -n 3

Output: display only 3 items per line

a b c
d e f

**Command:**

`env`

**Description:**

Print out a list of all environment variables

**Command:**
printenv HOME

**Description:**

Print HOME variable value

cat score.txt

Albert-30
John-50
William-80
Stephen-20
Justin-40

cut -d- -f2 score.txt

30
50
80
20
40

cut -d- -f1 score.txt

Albert
John
William
Stephen
Justin
cat 1.txt
Hello World

cat 2.txt
Computer Program

paste 1.txt 2.txt
Hello World  Computer Program

join 1.txt 2.txt
Hello World  Computer Program
Command:

```bash
rev 1.txt
```

Description:

Reverse lines of a file (1.txt)

```bash
cat 3.txt
22
33
11
77
55
```

```bash
sort 3.txt
11
22
33
55
77
```

sorts numeric values in 3.txt file and displays sorted output
cat 1.txt

Hello World

cat 1.txt | tr "[a-z]" "[A-Z]"

convert from lower case to upper case
HELLO WORLD

...
The thing with Linux is that the developers themselves are actually customers too: that has always been an important part of Linux.

Linus Torvalds
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 slow downs, 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.

**Important features of Linux Operating System:**

- Portable
- Open Source
- Multi-User
- Multiprogramming
- Hierarchical File System
- Security

Now Linux (successfully being used by several millions of users worldwide) has grown passed the stage where it was almost exclusively an academic system, useful only to a handful of people with a technical background. It provides more than the operating system: there is an entire infrastructure supporting the chain of effort of creating an operating system, of making and testing programs for it, of bringing everything to the users, of supplying maintenance, updates and support and customizations, runs on different platforms including the Intel and Alpha platform. Today, Linux is ready to accept the challenge of a fast-changing world to do various
types of operations, call application programs etc. Since the hiring focus is shifting more and more toward DevOps type skills, a Linux skill set will be the types of things that will make you very deployable.

"Linus Torvalds, the creator of Linux, is an expert of understatement in his leadership of Linux development community. When eager programmers would ask him, ‘What part of Linux should I work on?’ his answer would usually be, ‘Let me know when you find out’ (p.286)."

— Dan Woods, Wikis For Dummies

"Linux is a superbly polished copy of an antique - shinier than the original, perhaps, but still defined by it.”

— Jaron Lanier, You Are Not a Gadget

Source of Information:

- https://www.google.com
- https://www.wikipedia.org/