**Linux Commands**

**Basic Commands**

pwd – To print current working directory.

*pwd*

hostname – To display the host.

*hostname*

date – To display current date.

*date*

who – To show who is logged on.

*who*

w – To show who is logged on and what they are doing.

*w*

history – To display history of commands used in the terminal.

*history*

sort – To display sorted output.

*sort <filename>*

vi – To open vi text editor.

*vi <filename>*

leafpad – To open leafpad text editor.

*leafpad <filename>*

gedit – To open gedit text editor.

*gedit <filename>*

cd – To change the directory.

*cd <directory name>*

ls – To list the directories and files .

*ls*

whoami – To print effective user name.

*whoami*

man – To open manual pages for specific command.

*man <command name>*

find – To search for files in a directory hierarchy.

*find <directory to start from> -type <type (f/d)> -name <filename/directory>*

apropos – To search for files (command) in a directory hierarchy.

*apropos <function of the command/keyword>*

grep – To print lines that match patterns.

*grep <keyword>*

cat – To display content of a file.

*cat <filename>*

touch – To create file and change file timestamps.

*touch <filename>*

mkdir – To create new directory.

*mkdir <directory name>*

cp – To copy a files or directories from one location to another.

*cp <filename/directory name> <location to copy>*

mv – To move or rename file/directories.

*mv <filename/directory name> <location to move>*

rmdir – To remove empty directory.

*rmdir <directory name>*

rm – To remove files or directories (recursively delete files inside).

*rm <filename> (or) rm -rf <directory>*

head – To output the first part of files (by default first 10 lines).

*head <filename>*

tail – To output the last part of files (by default last 10 lines).

*tail <filename>*

plocate – To find files by name, quickly.

*plocate <filename/directory name>*

whereis – To locate the binary, source, manual page files for a command.

*whereis <commad name>*

which – To locate a command.

*which <commad name>*

echo – To display a line of text.

*echo <text>*

> - To write or redirect the output.

*Echo “text”* ***>*** *<filename> (or) echo “writing to file”* ***>*** *<filename>*

>> - To append text to a file.

*echo “text”* ***>>*** *<filename> (or) echo “appending to file”* ***>>*** *<filename>*

**Note :-**

0 – Standard Input (0<)

1 – Standard Output (1>)

2 – Standard Error (2>)

**Wildcards**

? – Represents single character.

\* - Match any character of any length.

[ ] – Match characters that appear inside the bracket (OR operation)

**Text Manipulation Commands**

nl – To display number lines of files.

*nl <filename>*

sed – Stream editor for filtering and transforming text.

more – To display the contents of a file in a terminal

*more <filename>*

less – Similar to ‘more’ but it is better.

*less <filename>*

**Networking Commands**

ifconfig – To configure a network interface.

*ifconfig*

iwconfig – To configure a wireless network interface.

*iwconfig*

dhclient – Dynamic Host Configuration Protocol Client to assign IP to a system automatically which does not have an IP address.

*dhclient*

dig – DNS lookup utility.

*dig <ip address/domain name of the target>*

traceroute – To print the route packets trace to network host.

*traceroute <ip address/domain name of the target>*

proxychains – To redirect connections through proxy servers.

*proxychains <command name>*

**Software Installation Commands**

apt search – To search for a package.

*apt search <package name>*

apt install – To install a package.

*apt install <package name>*

apt update – To update the repository with new version of software.

*apt update <package name>*

apt upgrade – To upgrade package to its latest version.

*apt upgrade <package name>*

apt remove – To remove a package.

*apt remove <package name>*

apt purge – To remove a package along with its configuration files.

*apt purge <package name>*

git clone – To clone a GitHub Repository to local machine.

*git clone <GitHub repo link>*

**User Management and Permission Commands**

chown – To change file owner and group.

*chown <permissions> <filename/directory name>*

chgrp – To change group ownership.

*chgrp <permissions> <filename/directory name>*

chmod – To change file mode bits or file permissions.

*chmod <permissions> <filename/directory name>*

umask – To set file mode creation mask.

*umask <umask number/permission>*

suid – To set User ID, this command can grant temporary root permissions for specified file.

*Add 4 before file permission of the file*

sgid – To set Group ID.

*Add 2 before file permission of the file*

sticky bit – To allow users to delete or rename the file within the directory.

*Add 1 before file permission of the file*

adduser – To add or manipulate users.

*adduser <username>*

addgroup – To add or manipulate groups.

*addgroup <groupname>*

deluser – To remove a user the system.

*deluser <username>*

delgroup – To remove a group from the system.

*delgroup <groupname>*

useradd – To create a new user or update default new user information.

*useradd <options> <username>*

groupadd – To create a new group.

*groupadd <options> <groupname>*

userdel – To delete a user account and related files.

*userdel <username>*

groupdel – To delete a group.

*groupdel <groupname>*

usermod – To modify a user account.

*usermod <options> <username>*

groupmod – To modify a group definition on the system.

*groupmod <options> <groupname>*

sudo – To execute a command as another user.

*sudo <command name>*

su – To run a command with substitute user and group ID or to switch user.

*su <user to switch as>*

passwd – To manipulate user password.

*passwd <username>*

**Process Management Commands**

ps – To report a snapshot of the current processes.

*ps -aux*

top – To display Linux processes consuming higher CPU.

*top*

nice –To run a program with modified scheduling priority from its current priority.

*nice -n <niceness (-20 to 19) > <process id>*

renice – To alter priority of running processes (absolute priority).

*renice <niceness (-20 to 19) > <process id>*

kill – To send a signal to a process (usually kill signal).

*kill -number <process id>*

The most command kill number or signals are :

|  |  |  |
| --- | --- | --- |
| Signal | Number | Note |
| SIGHUP (Hung Up) | 1 | Stop and restart a process with same PID. |
| SIGINT (Interrupt) | 2 | Send interrupt signal. |
| SIGQUIT (Core Dump) | 3 | Terminate a process and store info in a file ‘core’. |
| SIGKILL (Absolute Kill) | 9 | Force process to stop and send to special device. |
| SIGTERM (Termination) | 15 | Default Kali command |
| SIGCONT (continue) | 18 | Resume stopped process |
| SIGTSTP (Keyboard Stop) | 19 | To stop a running process |

& - To run a process in background.

*& <process id>*

fg – To bring a background process to foreground.

*fg <process id>*

at – To schedule execution of set of commands in future.

*at <time>*

crond – To schedule task that occur everyday, weekly or monthly.

*crond <time>*

**Environment Variable Commands**

env – To run a program in a modified environment or to print all default environment variables.

*env*

set – To list all environment variables that are unique to your system.

*set*

export – To export new value from current environment to rest of the system.

*export <variable name>*

unset – To delete a variable in current environment or system variable.

*unset <variable name>*

**Compressing and Archiving Commands**

tar – An archiving utility.

*tar -cvf <new filename>.tar <files to make tar ball>*

gzip – To compress a file to .tar.gz or .tgz extension.

*gzip <filename with .tar extension>*

gunzip – To decompress a file with .tar.gz extension.

*gunzip <filename>*

bzip2 – To compress a file to .tar.bz2 extension.

*bzip2 <filename with .tar extension>*

bunzip2 – To decompress a file with .tar.bz2 extension.

*bunzip2 <filename>*

compress – To compress a file to .tar.z extension.

*compress <filename with .tar extension>*

uncompress – To decompress a file with .tar.z extension.

*decompress <filename>*

dd – To convert and copy a file or to make bit by bit copy of a filesystem (/file/hard drive).

*dd if=<input filename/device> of=<output filename/device>*

**Filesystem and Disk Management Commands**

fdisk – To manipulate disk partition table.

*fdisk <device name>*

cfdisk – To display or manipulate a disk partition table.

*cfdisk <device name>*

parted – a partition manipulation program.

*parted <device name>*

gparted – GNOME Partition Editor for manipulating disk partitions.

*gparted <device name>*

lsblk – To list block devices.

*lsblk*

mount – To mount a filesystem.

*mount <device name>*

umount – To unmount a filesystem.

*umount <device name>*

df – To report file system space usage.

*df*

fsck – To check and repair a Linux filesystem.

*fsck <device name>*

mkfs – To build a Linux filesystem.

*mkfs.<file system> <device name>*

partprobe – To inform the OS of partition table changes.

*partprobe*

**Service Management Commands**

service start – To start a service.

*service start <service name>*

service stop – To stop a service.

*service stop <service name>*

service restart – To restart a service.

*service restart <service name>*

systemctl – To control the ystem system and service manager.

*systemctl <enable/disable> <service name>*

**Kernal Module Commands**

uname – To print system information.

*uname -a*

sysctl – To configure kernel parameters at runtime.

*sysctl <options> <parameters>*

lsmod – To show the status of modules in the Linux Kernel.

*lsmod*

dmesg – To print or control the kernel ring buffer.

*dmesg*

modprobe – To add and remove modules from the Linux Kernel.

*modprobe -a <module name> (or) modprobe -r <module name>*