



Al- Isra' a university college Cyber Security Engineering

ASST. LECT MOHAMMED S. ALI



**Al-Isra' a University College Cyber
Security Engineering**

Operating systems

By:- ASST. LECT MOHAMMED S. ALI

Lecture (2,3)

1- Kali Linux Command Line

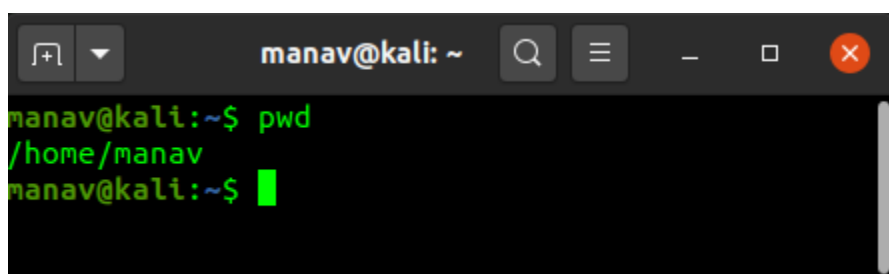
Command-line plays a vital role while working with Kali Linux as most of its tools don't have a Graphical User Interface and if you are performing ethical hacking or penetration testing then most of the time you will have to work with command Line Interface itself. While executing a command in Kali Linux we enter a command on the terminal emulator and it gives us the appropriate output after the execution of the command.

There are some commands in Kali Linux which we use too frequently. So we should be aware of those commands as it could increase our productivity.

Kali Linux Command Line Essentials

1. To display present working directory

`pwd`

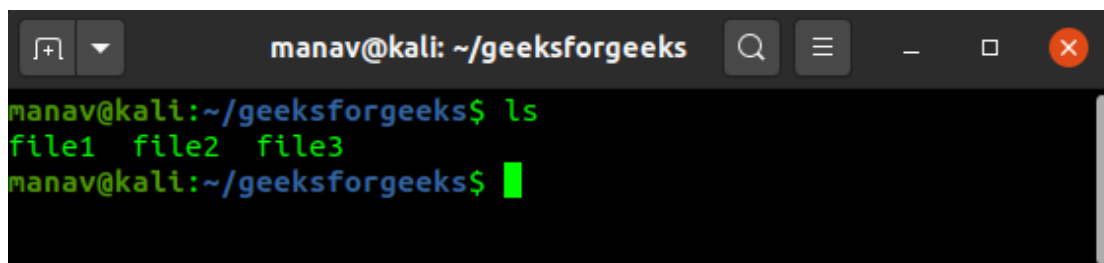
A terminal window titled 'manav@kali: ~' showing the command 'pwd' being executed. The output is '/home/manav'.

```
manav@kali:~$ pwd
/home/manav
manav@kali:~$
```

This command will display the current directory you are in.

2. To list the directories and files in the current directory.

`ls`

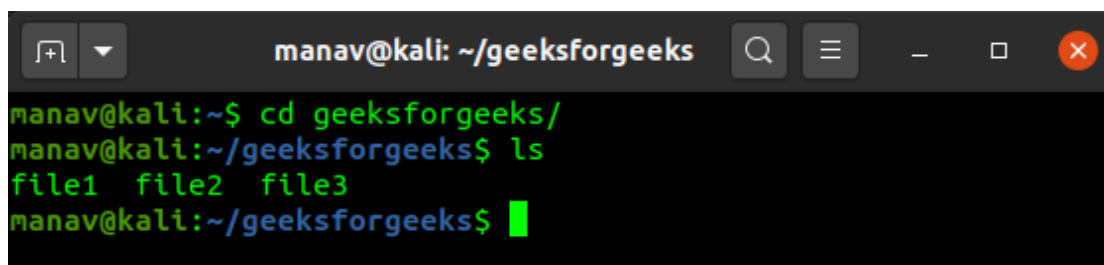
A terminal window titled 'manav@kali: ~/geeksforgeeks' showing the command 'ls' being executed. The output is 'file1 file2 file3'.

```
manav@kali:~/geeksforgeeks$ ls
file1 file2 file3
manav@kali:~/geeksforgeeks$
```

This command will display the list of files and directories in the current directory.

3. To change the current working directory

`cd`

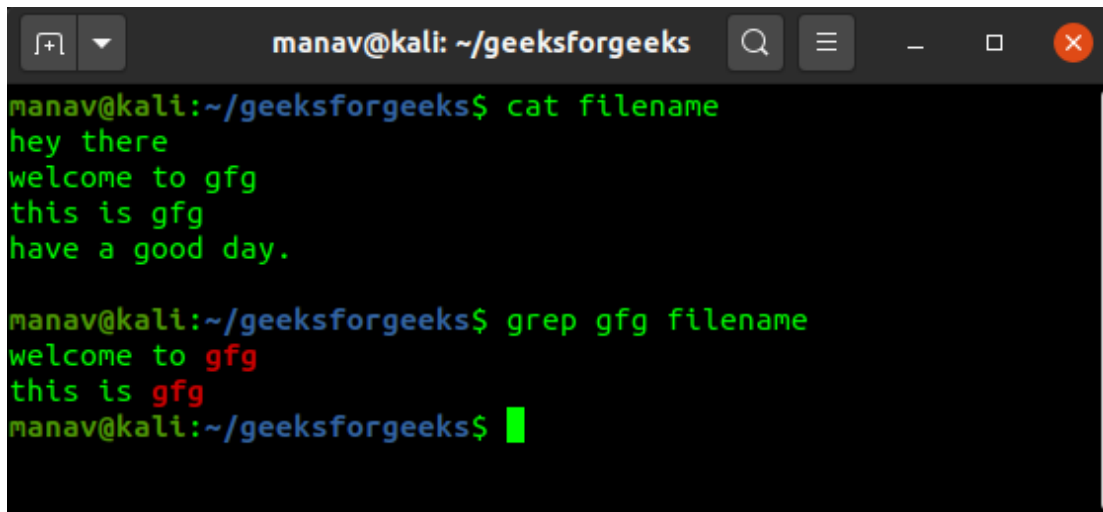
A terminal window titled 'manav@kali: ~/geeksforgeeks' showing the command 'cd geeksforgeeks/' being executed. The prompt changes to 'manav@kali:~/geeksforgeeks\$'. Then the command 'ls' is executed, showing the output 'file1 file2 file3'.

```
manav@kali:~$ cd geeksforgeeks/
manav@kali:~/geeksforgeeks$ ls
file1 file2 file3
manav@kali:~/geeksforgeeks$
```

This command will change the directory you are currently working on.

4. To find a word in a file.

`grep keyword filename`

A terminal window titled 'manav@kali: ~/geeksforgeeks' with search, menu, and window control icons. The user enters 'cat filename' and the output is 'hey there', 'welcome to gfg', 'this is gfg', and 'have a good day.'. Then, the user enters 'grep gfg filename' and the output is 'welcome to gfg' and 'this is gfg'.

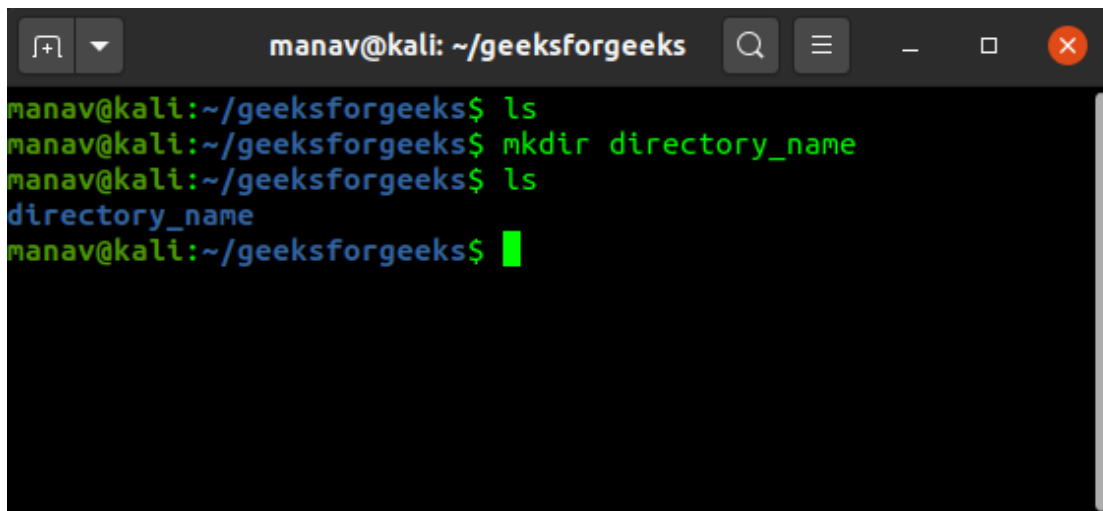
```
manav@kali:~/geeksforgeeks$ cat filename
hey there
welcome to gfg
this is gfg
have a good day.

manav@kali:~/geeksforgeeks$ grep gfg filename
welcome to gfg
this is gfg
manav@kali:~/geeksforgeeks$
```

This command will list all the lines containing the keyword in them.

5. To create a new directory

`mkdir directory_name`

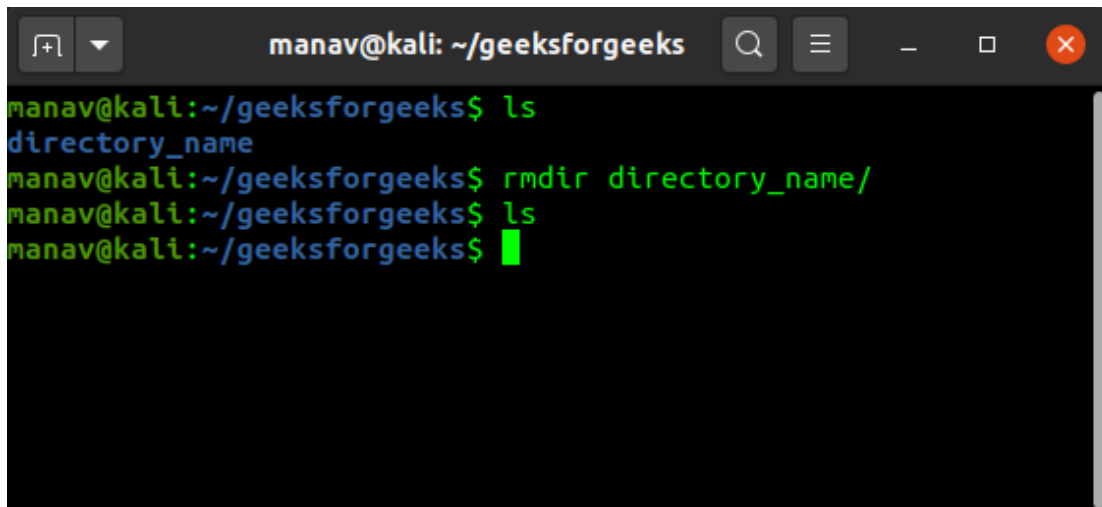
A terminal window titled 'manav@kali: ~/geeksforgeeks' with search, menu, and window control icons. The user enters 'ls' and the output is 'directory_name'. Then, the user enters 'mkdir directory_name' and the output is 'mkdir: created directory 'directory_name''. Finally, the user enters 'ls' and the output is 'directory_name'.

```
manav@kali:~/geeksforgeeks$ ls
directory_name
manav@kali:~/geeksforgeeks$ mkdir directory_name
mkdir: created directory 'directory_name'
manav@kali:~/geeksforgeeks$ ls
directory_name
manav@kali:~/geeksforgeeks$
```

This command will create a new directory in the current folder with the name **directory_name**.

6. To remove a directory

`rmdir directory_name`

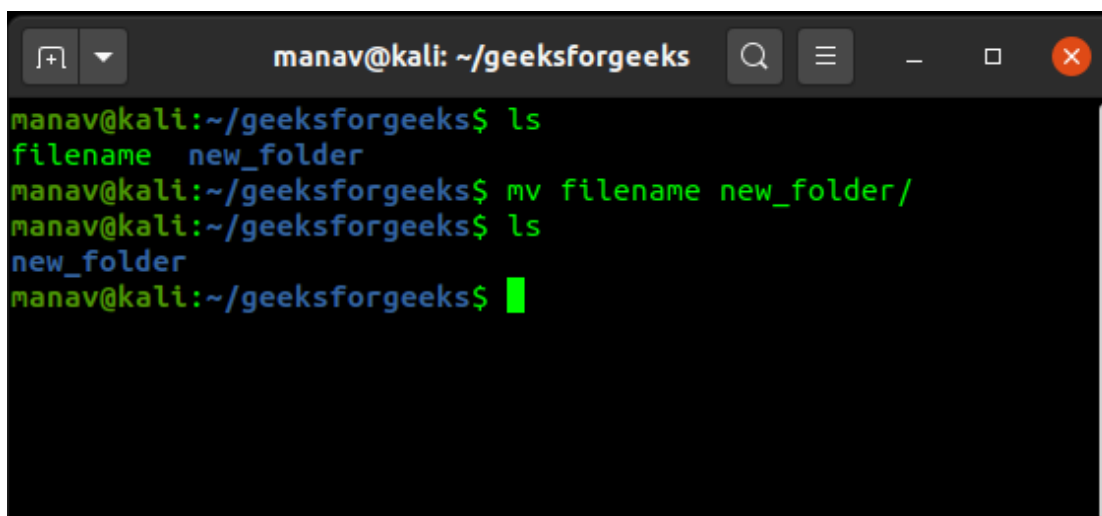
A terminal window titled 'manav@kali: ~/geeksforgeeks' with standard window controls. The terminal shows a sequence of commands: 'ls' followed by 'directory_name', 'rmdir directory_name/', and another 'ls'. The prompt returns after each command, with a green cursor at the end of the final line.

```
manav@kali:~/geeksforgeeks$ ls
directory_name
manav@kali:~/geeksforgeeks$ rmdir directory_name/
manav@kali:~/geeksforgeeks$ ls
manav@kali:~/geeksforgeeks$
```

This command will remove the directory with the name **directory_name** from the current directory.

7. To move a file

`mv source destination`

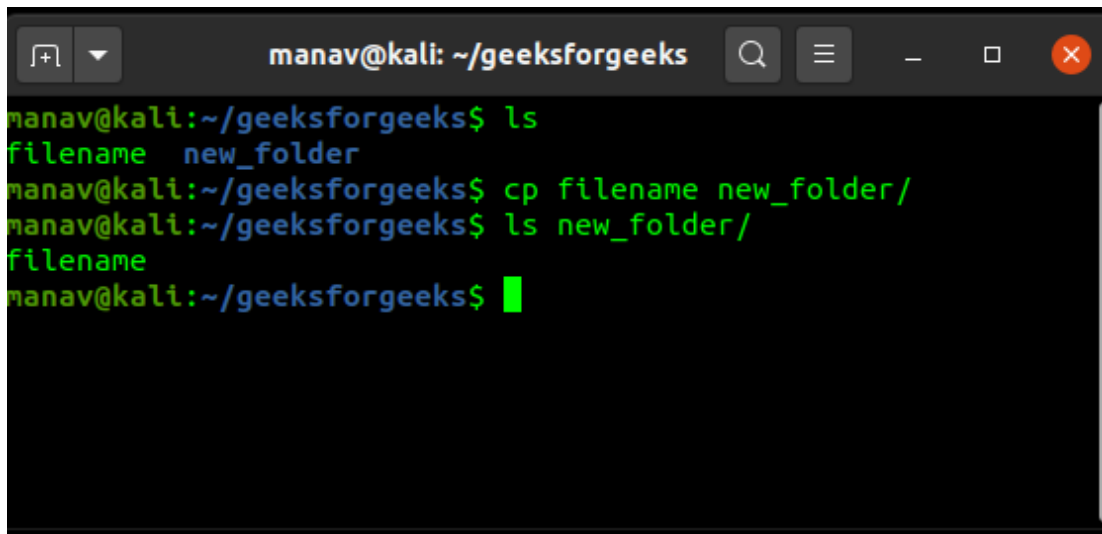
A terminal window titled 'manav@kali: ~/geeksforgeeks' with standard window controls. The terminal shows a sequence of commands: 'ls' followed by 'filename' and 'new_folder', 'mv filename new_folder/', and another 'ls' followed by 'new_folder'. The prompt returns after each command, with a green cursor at the end of the final line.

```
manav@kali:~/geeksforgeeks$ ls
filename  new_folder
manav@kali:~/geeksforgeeks$ mv filename new_folder/
manav@kali:~/geeksforgeeks$ ls
new_folder
manav@kali:~/geeksforgeeks$
```

This command is used to move a file from one location to another.

8. To copy a file

cp source destination

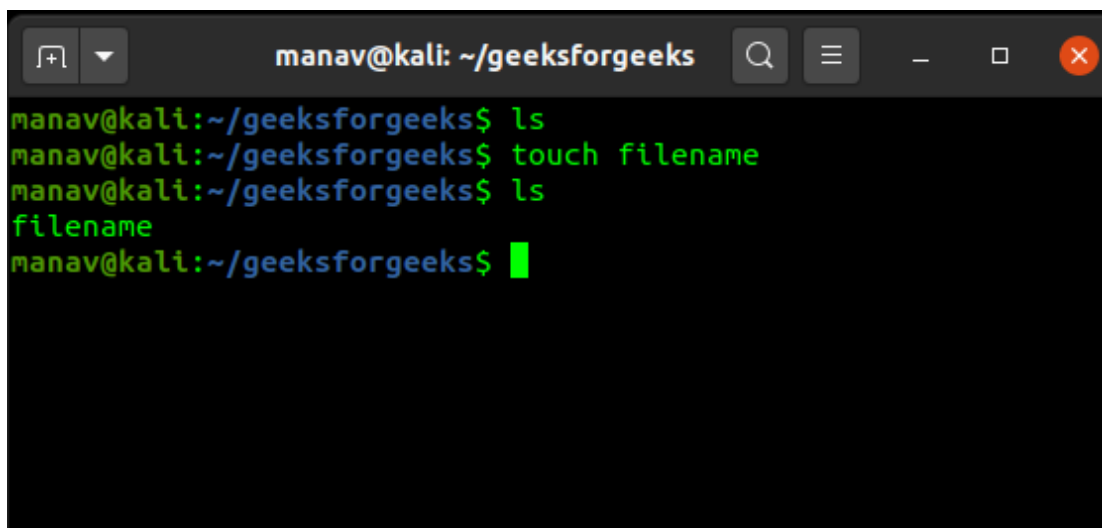
A terminal window titled 'manav@kali: ~/geeksforgeeks' with search, menu, and window control icons. The terminal shows the following commands and output:

```
manav@kali:~/geeksforgeeks$ ls
filename  new_folder
manav@kali:~/geeksforgeeks$ cp filename new_folder/
manav@kali:~/geeksforgeeks$ ls new_folder/
filename
manav@kali:~/geeksforgeeks$
```

This command will copy the file from the source to the destination.

9. To create a new file

touch filename

A terminal window titled 'manav@kali: ~/geeksforgeeks' with search, menu, and window control icons. The terminal shows the following commands and output:

```
manav@kali:~/geeksforgeeks$ ls
manav@kali:~/geeksforgeeks$ touch filename
manav@kali:~/geeksforgeeks$ ls
filename
manav@kali:~/geeksforgeeks$
```

*This command will create a new file with the name “**filename**”*

10. To display manual of a command

man ls

```
manav@kali: ~/geeksforgeeks
LS(1) User Commands LS(1)
NAME
  ls - list directory contents
SYNOPSIS
  ls [OPTION]... [FILE]...
DESCRIPTION
  List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

  Mandatory arguments to long options are mandatory for short options too.

  -a, --all
      do not ignore entries starting with .

  -A, --almost-all
      do not list implied . and ..

  --author
      with -l, print the author of each file
Manual page ls(1) line 1 (press h for help or q to quit)
```

This command will display a manual or a user guide for the command.

11. To check the internet connection or to check whether the host is active or not.

ping google.com

```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ ping google.com
PING google.com (172.217.160.238) 56(84) bytes of data:
64 bytes from del03s09-in-f14.1e100.net (172.217.160.238): icmp_seq=1 ttl=119 time=13.2 ms
64 bytes from del03s09-in-f14.1e100.net (172.217.160.238): icmp_seq=2 ttl=119 time=11.5 ms
64 bytes from del03s09-in-f14.1e100.net (172.217.160.238): icmp_seq=3 ttl=119 time=13.9 ms
64 bytes from del03s09-in-f14.1e100.net (172.217.160.238): icmp_seq=4 ttl=119 time=12.2 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 11.547/12.705/13.853/0.886 ms
manav@kali:~/geeksforgeeks$
```

This command will send some packets to the mentioned host and will give us output about the details of what is the status of the packet. This command could be used to check the internet connection.

12. To display network interface details.

ifconfig

```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ ifconfig
enp3s0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
        txqueuelen 1000 (Ethernet)
        RX packets 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 0 bytes 0 (0.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

This command is used to display the details of the network interfaces connected to the system.

13. To download a file

wget link_to_file

```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ ls
manav@kali:~/geeksforgeeks$ wget https://cdn.pixabay.com/photo/2012/04/26/19/47/penguin-42936_960_720.png
--2020-06-18 22:29:15-- https://cdn.pixabay.com/photo/2012/04/26/19/47/penguin-42936_960_720.png
Resolving cdn.pixabay.com (cdn.pixabay.com)... 104.18.20.183, 104.18.21.183, 2606:4700::6812:14b7, ...
Connecting to cdn.pixabay.com (cdn.pixabay.com)|104.18.20.183|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 152404 (149K) [image/png]
Saving to: 'penguin-42936_960_720.png'

penguin-42936_960_100%[=====] 148.83K --.-KB/s in 0.1s

2020-06-18 22:29:15 (1.49 MB/s) - 'penguin-42936_960_720.png' saved [152404/152404]

manav@kali:~/geeksforgeeks$ ls
penguin-42936_960_720.png
manav@kali:~/geeksforgeeks$
```

This command will download the file from the link entered in the command.

14. To install a package

sudo apt install package_name

```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ sudo apt install netcat
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  gconf-service gconf-service-backend gconf2 gconf2-common libgconf-2-4 libpython2-stdlib
  libpython2.7-minimal libpython2.7-stdlib python-is-python2 python2 python2-minimal python2.7
  python2.7-minimal
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  netcat
0 upgraded, 1 newly installed, 0 to remove and 8 not upgraded.
Need to get 2,172 B of archives.
After this operation, 15.4 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 netcat all 1.206-1ubuntu1 [2,172 B]
Fetched 2,172 B in 0s (5,082 B/s)
Selecting previously unselected package netcat.
(Reading database ... 244266 files and directories currently installed.)
Preparing to unpack .../netcat_1.206-1ubuntu1_all.deb ...
Unpacking netcat (1.206-1ubuntu1) ...
Setting up netcat (1.206-1ubuntu1) ...
manav@kali:~/geeksforgeeks$
```

This command is used to install the mentioned package in the system.

15. To remove a package

`sudo apt remove package_name`

```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ sudo apt remove netcat
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  gconf-service gconf-service-backend gconf2 gconf2-common libgconf-2-4 libpython2-stdlib
  libpython2.7-minimal libpython2.7-stdlib python-is-python2 python2 python2-minimal python2.7
  python2.7-minimal
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  netcat
0 upgraded, 0 newly installed, 1 to remove and 8 not upgraded.
After this operation, 15.4 kB disk space will be freed.
Do you want to continue? [Y/n] Y
(Reading database ... 244269 files and directories currently installed.)
Removing netcat (1.206-1ubuntu1) ...
manav@kali:~/geeksforgeeks$
```

This command will remove the mentioned package from the system.

16. To upgrade packages in the system

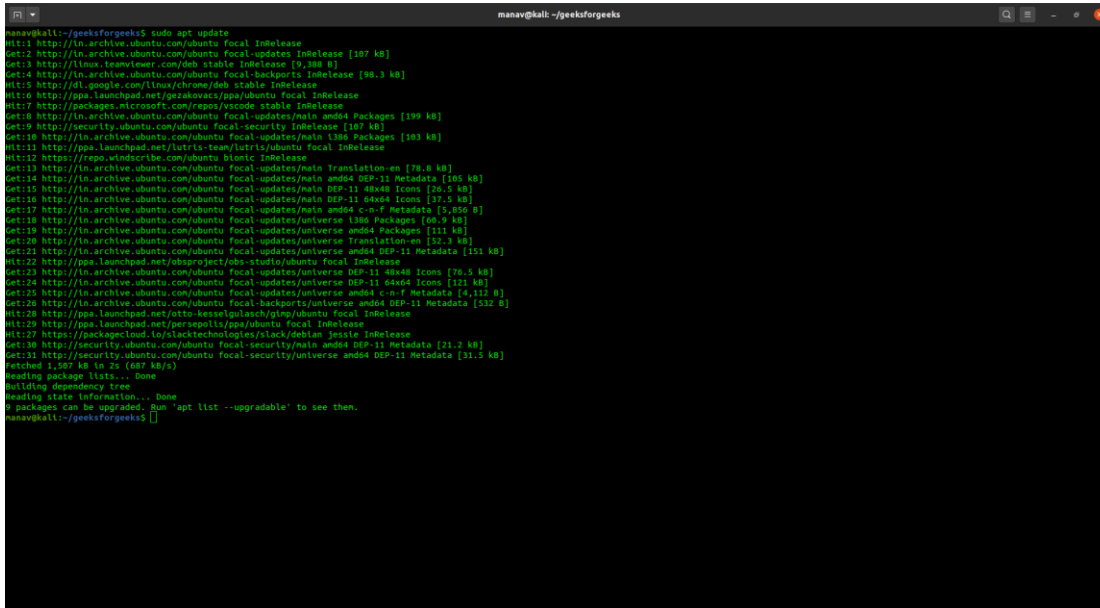
`sudo apt upgrade`

```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ sudo apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  gconf-service gconf-service-backend gconf2 gconf2-common libgconf-2-4 libpython2-stdlib
  libpython2.7-minimal libpython2.7-stdlib python-is-python2 python2 python2-minimal python2.7
  python2.7-minimal
Use 'sudo apt autoremove' to remove them.
The following packages will be upgraded:
  apport apport-gtk bind9-dnsutils bind9-host bind9-libs gnome-shell-extension-ubuntu-dock
  python3-apport python3-problem-report
8 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 1,596 kB of archives.
After this operation, 4,096 B disk space will be freed.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-dnsutils amd64 1:9.16.1-0ubuntu2.2 [134 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-libs amd64 1:9.16.1-0ubuntu2.2 [1,115 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-host amd64 1:9.16.1-0ubuntu2.2 [43.8 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 python3-problem-report all 2.20.11-0ubuntu27.3 [9,840 B]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 python3-apport all 2.20.11-0ubuntu27.3 [81.6 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 apport all 2.20.11-0ubuntu27.3 [128 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 apport-gtk all 2.20.11-0ubuntu27.3 [14,716 B]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 gnome-shell-extension-ubuntu-dock all 0ubuntu1-20.04.1 [72.6 kB]
Fetched 1,596 kB in 1s (1,322 kB/s)
(Reading database ... 244269 files and directories currently installed.)
Preparing to unpack .../0-bind9-dnsutils_1:9.16.1-0ubuntu2.2_amd64.deb ...
Unpacking bind9-dnsutils (1:9.16.1-0ubuntu2.2) over (1:9.16.1-0ubuntu2.1) ...
Preparing to unpack .../1-bind9-libs_1:9.16.1-0ubuntu2.2_amd64.deb ...
Unpacking bind9-libs:amd64 (1:9.16.1-0ubuntu2.2) over (1:9.16.1-0ubuntu2.1) ...
Preparing to unpack .../2-bind9-host_1:9.16.1-0ubuntu2.2_amd64.deb ...
Unpacking bind9-host (1:9.16.1-0ubuntu2.2) over (1:9.16.1-0ubuntu2.1) ...
Preparing to unpack .../3-python3-problem-report_2.20.11-0ubuntu27.3_all.deb ...
Unpacking python3-problem-report (2.20.11-0ubuntu27.3) over (2.20.11-0ubuntu27.2) ...
Preparing to unpack .../4-python3-apport_2.20.11-0ubuntu27.3_all.deb ...
Unpacking python3-apport (2.20.11-0ubuntu27.3) over (2.20.11-0ubuntu27.2) ...
Preparing to unpack .../5-apport_2.20.11-0ubuntu27.3_all.deb ...
Unpacking apport (2.20.11-0ubuntu27.3) over (2.20.11-0ubuntu27.2) ...
Preparing to unpack .../6-apport-gtk_2.20.11-0ubuntu27.3_all.deb ...
Unpacking apport-gtk (2.20.11-0ubuntu27.3) over (2.20.11-0ubuntu27.2) ...
Preparing to unpack .../7-gnome-shell-extension-ubuntu-dock_0ubuntu1-20.04.1_all.deb ...
Unpacking gnome-shell-extension-ubuntu-dock (0ubuntu1-20.04.1) over (0ubuntu1-20.04.5) ...
Setting up bind9-libs:amd64 (1:9.16.1-0ubuntu2.2) ...
Setting up python3-problem-report (2.20.11-0ubuntu27.3) ...
Setting up python3-apport (2.20.11-0ubuntu27.3) ...
Setting up bind9-host (1:9.16.1-0ubuntu2.2) ...
Setting up apport (2.20.11-0ubuntu27.3) ...
apport.service is a disabled or a static unit, not starting it.
Setting up apport-gtk (2.20.11-0ubuntu27.3) ...
Setting up bind9-dnsutils (1:9.16.1-0ubuntu2.2) ...
Processing triggers for libc-bin (2.30-0ubuntu1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
```

This command will upgrade all the packages in the system.

17. To fetch the packages updates

`sudo apt update`

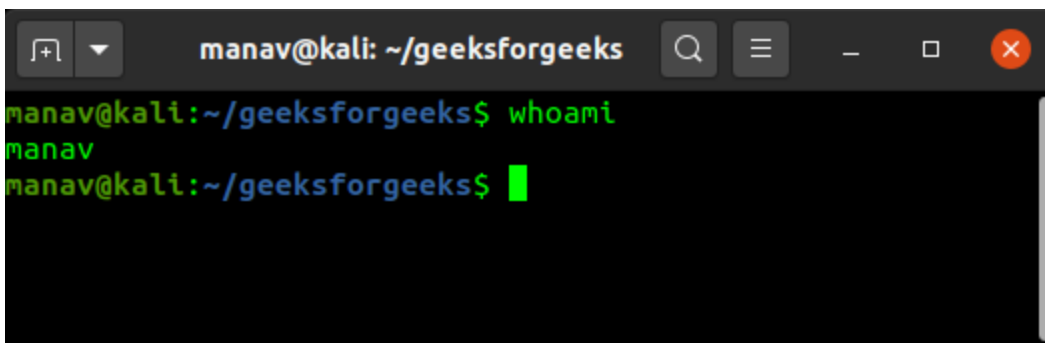


```
manav@kali:~/geeksforgeeks$ sudo apt update
Hit:1 http://ln.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://ln.archive.ubuntu.com/ubuntu focal-updates InRelease [107 kB]
Get:3 http://linux.teamviewer.com/deb stable InRelease [0,388 B]
Get:4 http://ln.archive.ubuntu.com/ubuntu focal-backports InRelease [90.3 kB]
Hit:5 http://dl.google.com/linux/chrome/deb stable InRelease
Hit:6 http://ppa.launchpad.net/geekstools/ppa/ubuntu focal InRelease
Hit:7 http://packages.microsoft.com/repos/vscode stable InRelease
Get:8 http://ln.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [199 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security InRelease [107 kB]
Get:10 http://ln.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [183 kB]
Hit:11 http://ppa.launchpad.net/lutris-team/lutris/ubuntu focal InRelease
Hit:12 https://ppa.winehq.com/ubuntu bionic InRelease
Get:13 http://ln.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [78.8 kB]
Get:14 http://ln.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [185 kB]
Get:15 http://ln.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [26.5 kB]
Get:16 http://ln.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [37.5 kB]
Get:17 http://ln.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [5,450 B]
Get:18 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [60.9 kB]
Get:19 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [111 kB]
Get:20 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [52.9 kB]
Get:21 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 Metadata [151 kB]
Hit:22 http://ppa.launchpad.net/obsproject/obs-studio/ubuntu focal InRelease
Get:23 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64 Icons [76.5 kB]
Get:24 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64 Icons [121 kB]
Get:25 http://ln.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [4,112 B]
Get:26 http://ln.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-11 Metadata [112 B]
Hit:28 http://ppa.launchpad.net/otto-kesselgulasch/gimp/ubuntu focal InRelease
Hit:29 http://ppa.launchpad.net/perspolis/ppa/ubuntu focal InRelease
Hit:30 https://packagecloud.io/blacktechnologies/blackdebian Jessie InRelease
Get:31 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [21.2 kB]
Get:32 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Metadata [31.5 kB]
Fetched 1,367 kB in 2s (687 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
0 packages can be upgraded. Run 'apt list --upgradable' to see them.
manav@kali:~/geeksforgeeks$
```

This command will check for updates of all the packages and will add the updates in the list to upgrade.

18. To get the current username

`whoami`

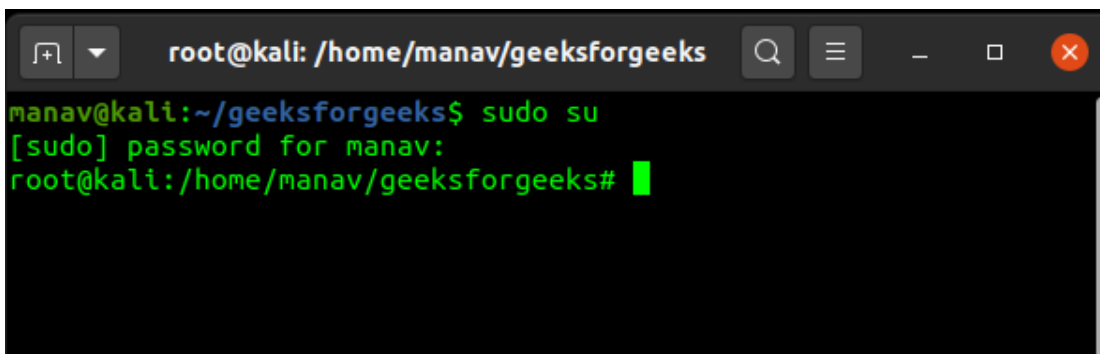


```
manav@kali: ~/geeksforgeeks
manav@kali:~/geeksforgeeks$ whoami
manav
manav@kali:~/geeksforgeeks$
```

This command is used to print the username of the current user.

19. To change the current user to superuser or root

`sudo su`

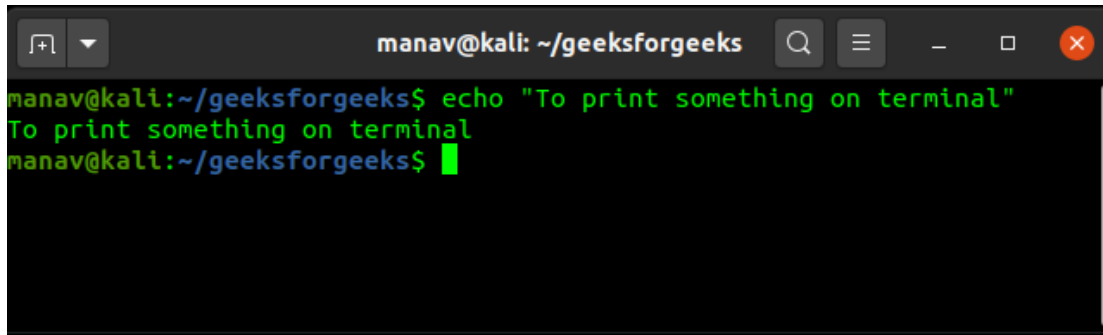


```
manav@kali:~/geeksforgeeks$ sudo su
[sudo] password for manav:
root@kali:/home/manav/geeksforgeeks#
```

This command will ask for a password and will change the current user to root.

20. *To print in terminal*

echo "To print something on terminal"

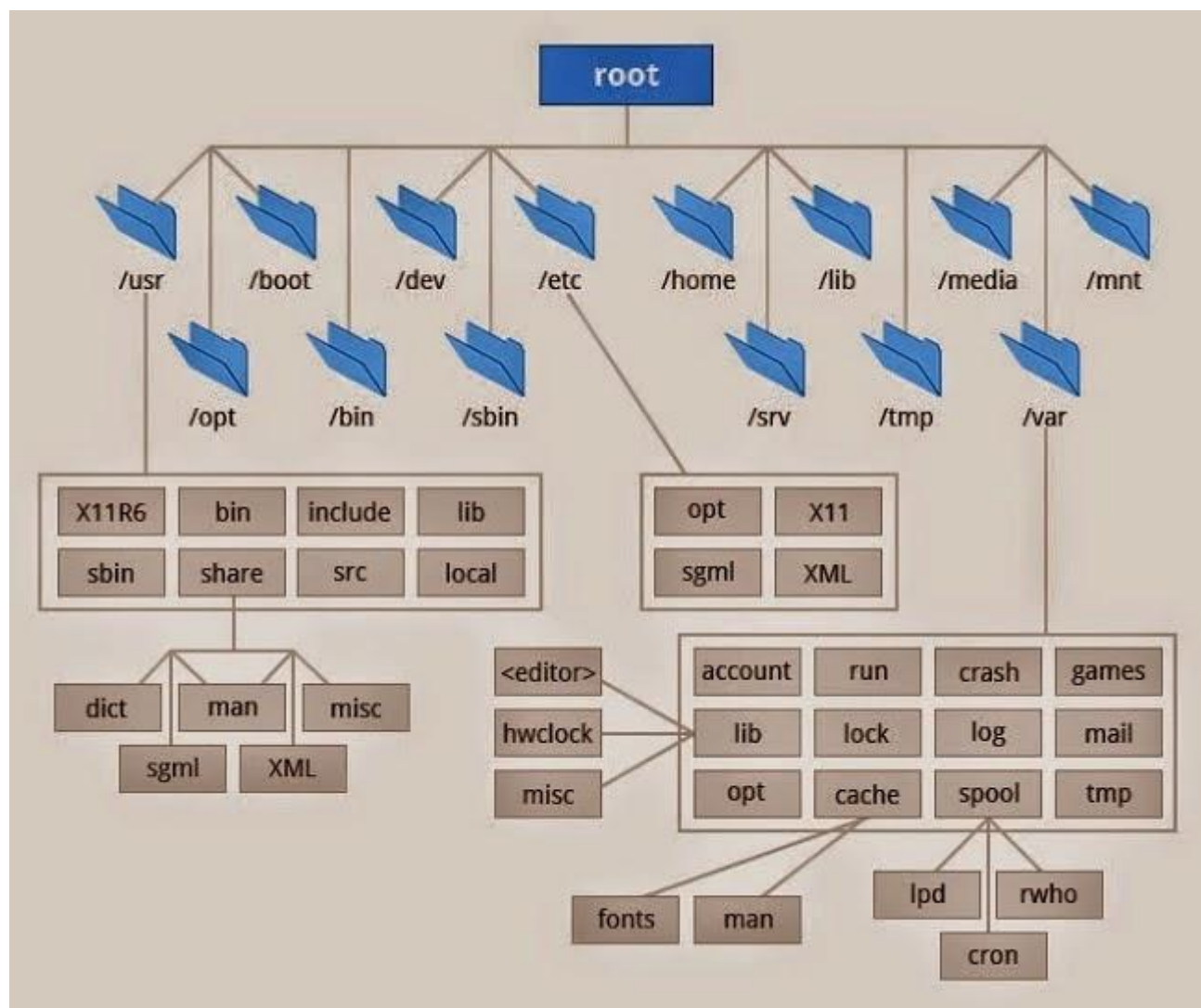
A screenshot of a terminal window with a dark background. The title bar at the top shows 'manav@kali: ~/geeksforgeeks' along with standard window control icons. The terminal content shows a green prompt 'manav@kali:~/geeksforgeeks\$' followed by the command 'echo "To print something on terminal"' in green. The output 'To print something on terminal' is displayed in green on the next line. A second green prompt 'manav@kali:~/geeksforgeeks\$' is visible on the third line, followed by a green cursor block.

```
manav@kali:~/geeksforgeeks$ echo "To print something on terminal"
To print something on terminal
manav@kali:~/geeksforgeeks$
```

The command will print the mentioned text on the terminal.

2- Kali Linux File System

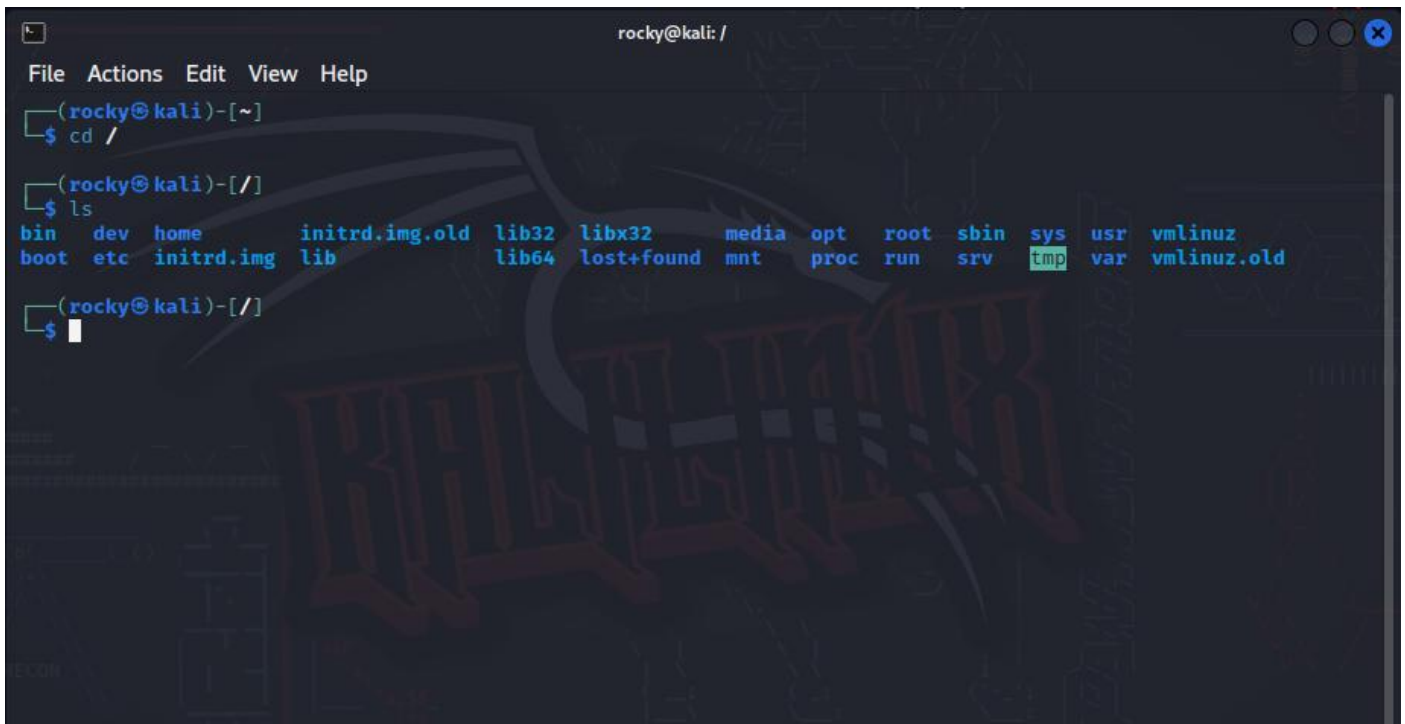
In our this guide we are going to talk about file system of Kali Linux this is very crucial for a user using Kali Linux. For the new comers who comes to Linux from Windows it is very important to understand the file system. For those who comes from another Debian based Linux distribution (Like Debian, Ubuntu, Linux Mint, Elementary OS etc) with a basic Linux knowledge can easily get this.



The directory structure of Kali Linux system is based on the [Unix File system Hierarchy Standard \(FHS\)](#), and that's how the directories are structured inside Kali Linux. In our Windows system, the root directory is **C:**, but in Kali Linux, it's a forward slash (/). Please do not confuse the term "**root directory**" with the "**root user's home directory**" (which is **/root**), because they are two different things. the latter is the home is the home directory (**/root**) for the root user.

Talking about root user, root user is the super user, for an example it can be consider as Administrative user on Windows system, previously Kali Linux comes with root user by default but after [2020.1 update Kali Linux](#) comes with non-root user by default, that means we need to run **sudo** if we want to execute high-privileged commands. New user should be careful using **sudo** because wrong command could destroy our system.

To understand the file system of Kali Linux we need to open our terminal window and execute the command **cd /** , here **cd** stands for change directory, and **/** is our root directory. That means we are changing the directory to the root directory. Then we need to run **ls** (list) command to see all the files/folders here. As we can see in the following screenshot:

A screenshot of a terminal window titled 'rocky@kali: /'. The terminal shows the user 'rocky' at 'kali' in the directory '~'. The user enters 'cd /' to move to the root directory. Then, the user enters 'ls' to list the contents of the root directory. The output shows a list of directories and files: bin, boot, dev, etc, home, initrd.img, initrd.img.old, lib, lib32, lib64, libx32, lost+found, media, mnt, opt, proc, root, run, sbin, srv, sys, tmp, usr, var, vmlinuz, and vmlinuz.old. The 'tmp' directory is highlighted in green. The terminal window has a menu bar with 'File', 'Actions', 'Edit', 'View', and 'Help'.

In the above screenshot we can see some contents on our root directory. We need to know about them to understand the file system.

- **/bin** (binaries): This directory contains Linux binaries like the `cd` and `ls` command that we executed earlier.
- **/sbin** (system binaries): This directory holds system binary files that serve as administrative commands (like `fdisk`).
- **/boot**: This directory contains the Linux bootloader files.
- **/dev** (devices): This directory contains the device configuration files (like `/dev/null`).
- **/sys**: This is similar to `/dev`, which contains configurations about devices and drivers.
- **/etc** (etcetera): This directory contains all the administration system files (like `/etc/passwd` shows all the system users in Kali Linux).
- **/lib** (libraries): This directory holds the shared libraries for the binaries inside `/bin` and `/sbin`.
- **/proc** (processes): This directory contains the processes and kernel information files.
- **/lost+found**: As in the name, this directory contains the files that have been recovered.
- **/mnt** (mount): This directory contains the mounted directories (example, a remote file share).
- **/media**: This directory holds the removable media mounted directories (like DVD).

- **/opt** (option): This directory is used for add-on software package installation. It is also used when installing software by users (example, hacking tools that you download from GitHub).
- **/tmp** (temporary): This is a temporary folder used temporarily, the holdings are wiped after each reboot. The tmp folder is a good place to download our tools for privilege escalation once we got a limited shell.
- **/usr** (user): This directory contains many sub-directories. In fact, */usr/share/* is a folder that we need to memorize because most of the tools that we use in Kali Linux (like Nmap, Metasploit, etc.) are stored there, and it also contains the wordlist dictionary files (*/usr/share/wordlists*).
- **/home**: This is the home for Kali Linux users (example */home/kali/*).
- **/root**: Home directory for root user.
- **/srv** (serve): This folder contains some data related to system server functionalities (like data for FTP servers).
- **/var** (variable): This folder contains variable data for databases, logs, and websites. For an example, */var/www/html/* contains the files for the Apache2 web server.
- **/run** (runtime): This directory holds runtime system data (like currently logged-in users).