Mawlana Bhashani Science and Technology University

Lab-Report

Report No : 04

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Submitted by

Name: Iqbal Hossen

ID: IT- IT-18041

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Dept. of ICT

MBSTU.

Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU.

i) File Operation

Answer*:*

File Operation: All data in Linux is organized into files. All files are organized into directories. These directories are organized into a tree-like structure called the file system. These operations in File system is known as file operation.

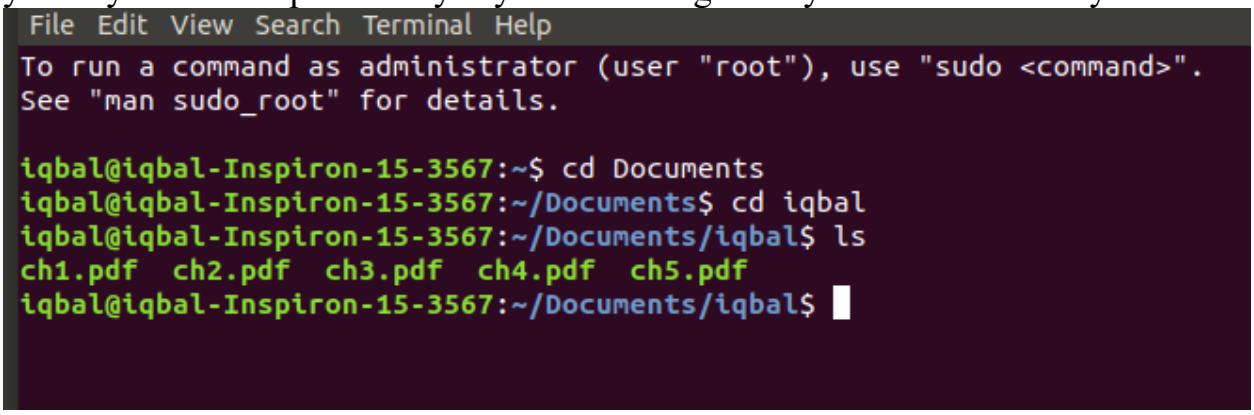
1.) **ls** – List Files
The ls command lists the files in a directory. By default, ls lists files in the current directory.

```
To run a command as administrator (user "root"), use "sudo <c
See "man sudo_root" for details.

iqbal@iqbal-Inspiron-15-3567:~$ cd Documents
iqbal@iqbal-Inspiron-15-3567:~/Documents$ ls
ch10.pdf  ch7.pdf  ch9.pdf    imran  iqbal.txt
ch6.pdf   ch8.pdf  derectory  iqbal  new.txt
iqbal@iqbal-Inspiron-15-3567:~/Documents$
```

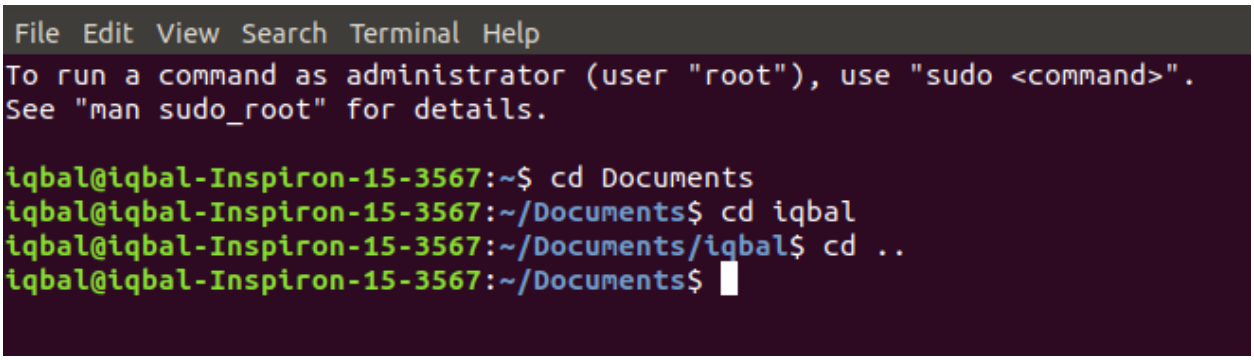
2**) ls –R :**we can also list files recursively — that is, list all files in directories inside the current directory —

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

iqbal@iqbal-Inspiron-15-3567:~$ cd Documents
iqbal@iqbal-Inspiron-15-3567:~/Documents$ ls
ch10.pdf  ch6.pdf  ch7.pdf  ch8.pdf  ch9.pdf  imran  iqbal
iqbal@iqbal-Inspiron-15-3567:~/Documents$ ls -R
.:
ch10.pdf  ch6.pdf  ch7.pdf  ch8.pdf  ch9.pdf  imran  iqbal

./imran:
Abraham-Silberschatz-Operating-System-Concepts---9th2012.12.pdf
operating-system-concepts-10th.pdf

./iqbal:
ch1.pdf  ch2.pdf  ch3.pdf  ch4.pdf  ch5.pdf
iqbal@iqbal-Inspiron-15-3567:~/Documents$
```

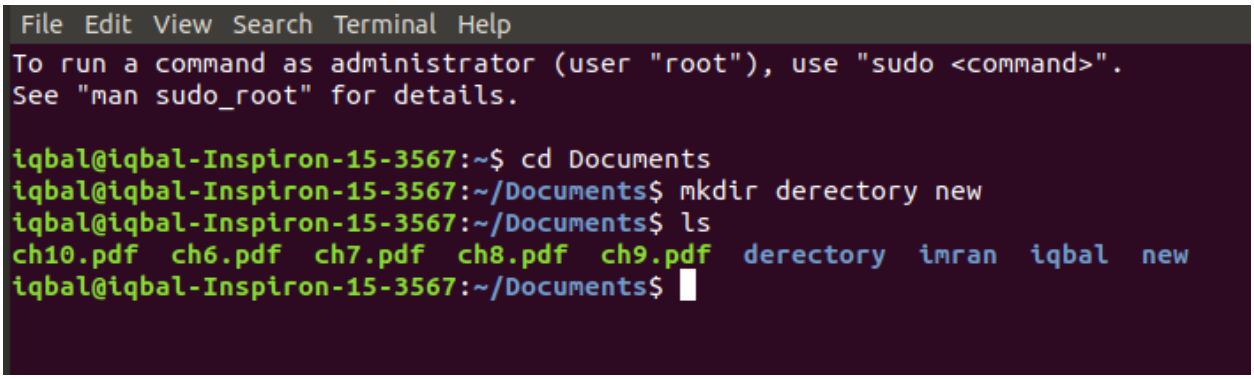
3) cd – Change Directory
The cd command changes to another directory. For example, cd Desktop will take you to your Desktop directory if you're starting from your home directory.



4) **cd . .** will take you up a directory.

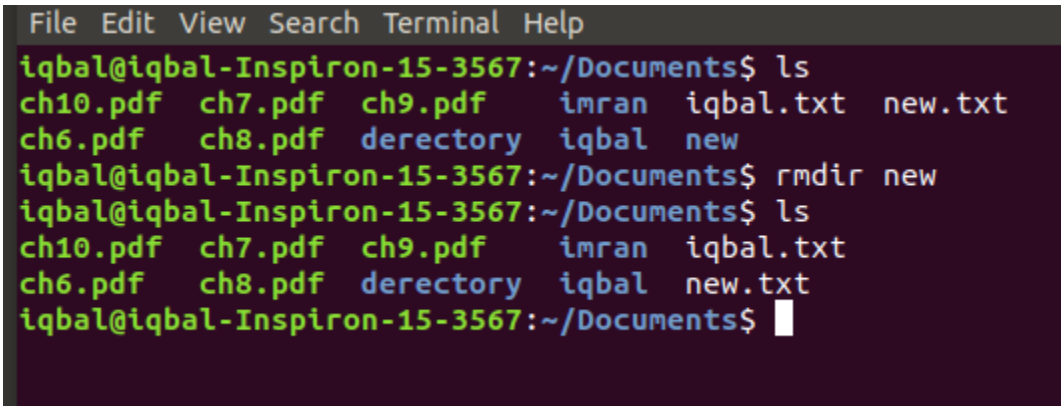


5) **mkdir** – Make Directories
The mkdir command makes a new directory. mkdir example will make a directory with the name "example" in the current directory.

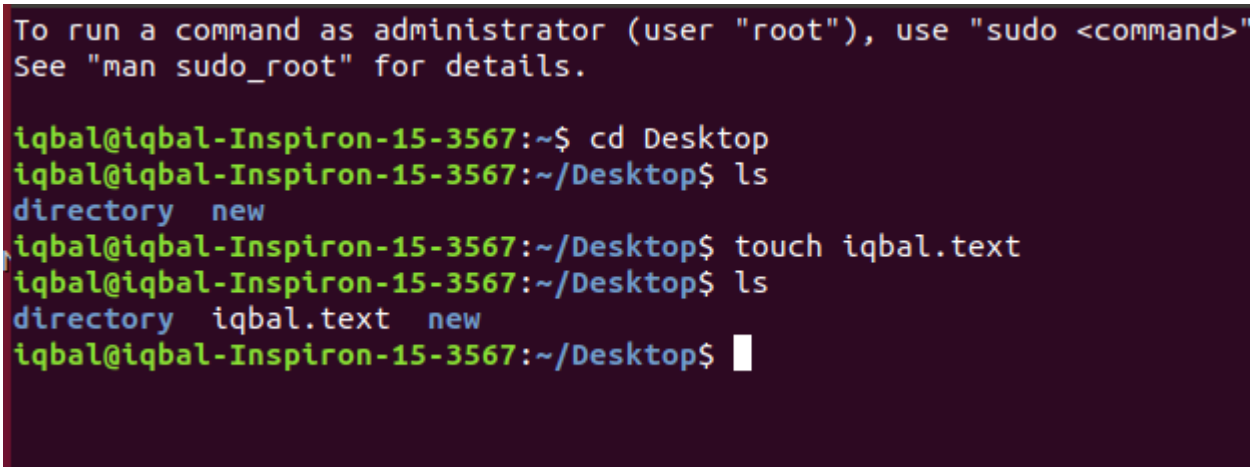


6.) **rmdir** – Remove Directories

The rmdir command removes an empty directory. rmdir directory would delete the directory named “directory” in the current directory



7) **touch :** The touch command creates new file in your current directory



ii) File Permission.

Answer:

File Permission: File ownership is an important component of Linux that provides a secure method for storing files. Every file in Linux has the following attributes −

 Owner permissions − The owner's permissions determine what actions the owner of the file can perform on the file.

 Group permissions − The group's permissions determine what actions a user, who is a member of the group that a file belongs to, can perform on the file.

 Other (world) permissions − The permissions for others indicate what action all other users can perform on the file.

File Access Modes

The permissions of a file are the first line of defense in the security of a Unix system. The basic building blocks of Unix permissions are the **read**, **write**, and **execute** permissions, which have been described below −

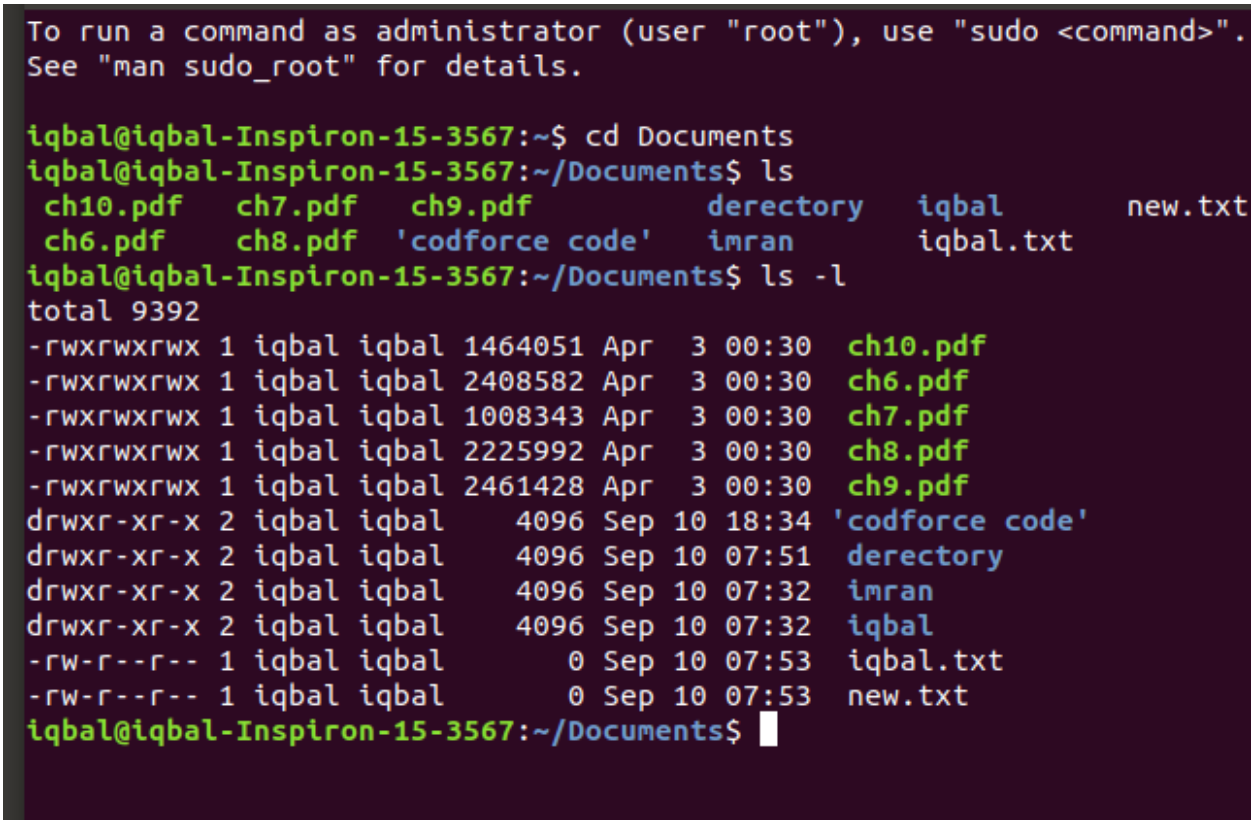
Read : Grants the capability to read, i.e., view the contents of the file.

Write : Grants the capability to modify, or remove the content of the file.

Execute : User with execute permissions can run a file as a program.

** ls –l

So, how can we put this all into context? Let's have a look at the contents of a typical folder. I used the command ls -l to bring up this list:



we can also do this via the command-line. Go to a directory that has files in it and type

the following command to view all files in a list:

**ls –al

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

iqbal@iqbal-Inspiron-15-3567:~$ cd Documents
iqbal@iqbal-Inspiron-15-3567:~/Documents$ ls -al
total 9400
drwxr-xr-x  6 iqbal iqbal    4096 Sep 10 18:34  .
drwxr-xr-x 21 iqbal iqbal    4096 Sep 10 18:32  ..
-rwxrwxrwx  1 iqbal iqbal 1464051 Apr  3 00:30  ch10.pdf
-rwxrwxrwx  1 iqbal iqbal 2408582 Apr  3 00:30  ch6.pdf
-rwxrwxrwx  1 iqbal iqbal 1008343 Apr  3 00:30  ch7.pdf
-rwxrwxrwx  1 iqbal iqbal 2225992 Apr  3 00:30  ch8.pdf
-rwxrwxrwx  1 iqbal iqbal 2461428 Apr  3 00:30  ch9.pdf
drwxr-xr-x  2 iqbal iqbal    4096 Sep 10 18:34 'codforce code'
drwxr-xr-x  2 iqbal iqbal    4096 Sep 10 07:51  derectory
drwxr-xr-x  2 iqbal iqbal    4096 Sep 10 07:32  imran
drwxr-xr-x  2 iqbal iqbal    4096 Sep 10 07:32  iqbal
-rw-r--r--  1 iqbal iqbal       0 Sep 10 07:53  iqbal.txt
-rw-r--r--  1 iqbal iqbal       0 Sep 10 07:53  new.txt
iqbal@iqbal-Inspiron-15-3567:~/Documents$
```

Next to each file and directory, we'll see a special section that outlines the permissions it

has. It looks like this:

-rwx rw- r–

The r stands for "read," the w stands for "write," and the x stands for "execute."

Directories will be start with a "d" instead of a "-". You'll also notice that there are 10

spaces which hold value. You can ignore the first, and then there are 3 sets of 3. The first

set is for the owner, the second set is for the group, and the last set is for the world.

To change a file or directory's permissions, let's look at the basic form of the chmod

command.

chmod [class][operator][permission] file

chmod [ugoa][+ or –] [rwx] file

u: This is for the owner.

g: This is for the group.

o: This is for all others.

a: This will change permissions for all of the above.

+: The plus sign will add the permissions which follow.

-: The minus sign will remove the permissions which follow.

r: Allows read access.

w: Allows write access.

x: Allows execution.

Conclusion: From this lab work we come to learn that the Linux being a multiuser system uses permissions and ownership for security.