



# Mawlana Bhashani Science and Technology University

## Lab-Report

Lab Report No: 04

Lab Report Name: File operation and permission.

Course code: ICT-3110

Course title: Operating System Lab

Date of Performance: 14-09-2020

Date of Submission:

### Submitted by

Name: Md Masud Rana

ID: IT-18002

3<sup>rd</sup> year 1<sup>st</sup> semester

Session: 2017-18

Dept. of ICT.

### Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT,

MBSTU.

## Experiment No: 04

Experiment Name: File operation and permission

**File Operation:** To use the Linux terminal like a pro, we'll need to know the basics of managing files and navigating directories. Different file operation is given below.

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

```
masud@masud-VirtualBox:~$ ls
Desktop    Downloads      file  java  mukeshs-93rd-birthday  Pictures  Videos
djangoapp  env            file1 local  Music                  Public
Documents  examples.desktop image masud  name.java              Templates
```

2. we can also list files recursively — that is, list all files in directories inside the current directory — with ls -R.

```
masud@masud-VirtualBox:~$ ls -R
.:
Desktop    Downloads      file  java  mukeshs-93rd-birthday  Pictures  Videos
djangoapp  env            file1 local  Music                  Public
Documents  examples.desktop image masud  name.java              Templates

./Desktop:
fname  java  java1  masud  tum.txt

./Desktop/masud:
bird  bird1  birdnew  cricket  Desktop  file.docx
```

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.

```
masud@masud-VirtualBox:~$ ls
Desktop    Downloads      file  java  mukeshs-93rd-birthday  Pictures  Videos
djangoapp  env            file1 local  Music                  Public
Documents  examples.desktop image masud  name.java              Templates
masud@masud-VirtualBox:~$ cd Desktop/
masud@masud-VirtualBox:~/Desktop$
```

4. `cd ..` will take you up a directory.

```
masud@masud-VirtualBox:~/Desktop$ cd ..
masud@masud-VirtualBox:~$ pwd
/home/masud
masud@masud-VirtualBox:~$
```

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.

```
masud@masud-VirtualBox:~$ mkdir Masud
masud@masud-VirtualBox:~$ ls
Desktop    Downloads  file      java      Masud      name.java  Templates
djangoapp  env        file1     local     mukeshs-93rd-birthday Pictures    Videos
Documents  examples.desktop image     masud     Music      Public
```

6. `rmdir` – Remove Directories The `rmdir` command removes an empty directory. `rmdir directory` would delete the directory named “directory” in the current directory.

```
masud@masud-VirtualBox:~$ ls
Desktop    Downloads  file      java      Masud      name.java  Templates
djangoapp  env        file1     local     mukeshs-93rd-birthday Pictures    Videos
Documents  examples.desktop image     masud     Music      Public
masud@masud-VirtualBox:~$ rmdir Masud
masud@masud-VirtualBox:~$ ls
Desktop    Downloads  file      java      mukeshs-93rd-birthday Pictures    Videos
djangoapp  env        file1     local     Music      Public
Documents  examples.desktop image     masud     name.java  Templates
```

7) `ln` – Create Links The `ln` command creates links. The most commonly used type of link is probably the symbolic link, which you can create with `ln -s`.

```
masud@masud-VirtualBox:~$ cd Desktop
masud@masud-VirtualBox:~/Desktop$ ln -s /home/Desktop
masud@masud-VirtualBox:~/Desktop$ ls
Desktop  fname  java  java1  masud  tum.txt
masud@masud-VirtualBox:~/Desktop$
```

## File Permissions-

- 1) Read
- 2) Write
- 3) Execute permission

Read (r): this gives permission to merely open a file or folder and view its contents.

Write (w): this gives permission to overwrite, append-to or delete a file or folder.

Execute (x): this gives permission to "run" a file. For example to run a script or a program. 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:

```
masud@masud-VirtualBox:~$ ls -l
total 1652
drwxr-xr-x 3 masud masud 4096 মার্চ 27 11:03 Desktop
drwxr-xr-x 4 masud masud 4096 এপ্রিল 28 15:53 djangoapp
drwxr-xr-x 3 masud masud 4096 মার্চ 13 19:19 Documents
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Downloads
drwxr-xr-x 7 masud masud 4096 এপ্রিল 28 14:48 env
-rw-r--r-- 1 masud masud 8980 ফেব 28 2020 examples.desktop
-rw-r--r-- 1 masud masud 0 এপ্রিল 1 10:11 file
-rw-r--r-- 1 masud masud 0 মার্চ 21 10:41 file1
-rw-r--r-- 1 masud masud 0 মার্চ 29 12:53 image
drwxr-xr-x 2 masud masud 4096 মার্চ 2 2020 java
drwxr-xr-x 5 masud masud 4096 মার্চ 18 14:38 local
drwxr-xr-x 5 masud masud 4096 মার্চ 25 10:34 masud
-rw-r--r-- 1 masud masud 1624549 মার্চ 31 09:53 mukeshs-93rd-birthday
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Music
-rw-r--r-- 1 masud masud 0 মার্চ 2 2020 name.java
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Pictures
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Public
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Templates
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Videos
```



the following command to view all files in a list:

**ls -al**

```
masud@masud-VirtualBox:~$ ls -al
total 1740
drwxr-xr-x 23 masud masud 4096 সপ্টে 9 11:51 .
drwxr-xr-x 3 root root 4096 ফেব 28 2020 ..
-rw----- 1 masud masud 9846 সপ্টে 8 16:05 .bash_history
-rw-r--r-- 1 masud masud 220 ফেব 28 2020 .bash_logout
-rw-r--r-- 1 masud masud 3771 ফেব 28 2020 .bashrc
drwx----- 17 masud masud 4096 এপ্রিলি 28 13:33 .cache
drwx----- 15 masud masud 4096 সপ্টে 8 21:23 .config
drwx----- 3 root root 4096 মার্চ 31 15:46 .dbus
drwxr-xr-x 3 masud masud 4096 মার্চ 27 11:03 Desktop
drwxr-xr-x 4 masud masud 4096 এপ্রিলি 28 15:53 djangoapp
drwxr-xr-x 3 masud masud 4096 মার্চ 13 19:19 Documents
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Downloads
drwxr-xr-x 7 masud masud 4096 এপ্রিলি 28 14:48 env
-rw-r--r-- 1 masud masud 8980 ফেব 28 2020 examples.desktop
-rw-r--r-- 1 masud masud 0 এপ্রিলি 1 10:11 file
-rw-r--r-- 1 masud masud 0 মার্চ 21 10:41 file1
-rw----- 1 masud masud 12288 মার্চ 25 12:38 .fname.swp
-rw-r--r-- 1 masud masud 53 মার্চ 13 19:20 .gitconfig
drwx----- 3 masud masud 4096 মার্চ 24 12:40 .gnupg
-rw----- 1 masud masud 3930 মার্চ 31 09:20 .ICEauthority
-rw-r--r-- 1 masud masud 0 মার্চ 29 12:53 image
drwxr-xr-x 2 masud masud 4096 মার্চ 2 2020 java
drwxr-xr-x 5 masud masud 4096 মার্চ 18 14:38 local
drwx----- 5 masud masud 4096 এপ্রিলি 28 14:20 .local
drwxr-xr-x 5 masud masud 4096 মার্চ 25 10:34 masud
drwx----- 5 masud masud 4096 ফেব 28 2020 .mozilla
-rw-r--r-- 1 masud masud 1624549 মার্চ 31 09:53 mukeshs-93rd-birthday
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Music
-rw----- 1 root root 3676 সপ্টে 9 11:30 .mysql_history
-rw-r--r-- 1 masud masud 0 মার্চ 2 2020 name.java
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Pictures
-rw-r--r-- 1 masud masud 807 ফেব 28 2020 .profile
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Public
drwx----- 2 masud masud 4096 মার্চ 24 12:40 .ssh
-rw-r--r-- 1 masud masud 0 ফেব 29 2020 .sudo_as_admin_successful
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Templates
drwx----- 6 masud masud 4096 ফেব 28 2020 .thunderbird
drwxr-xr-x 2 masud masud 4096 ফেব 28 2020 Videos
masud@masud-VirtualBox:~$
```

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.

**Discussion:** This is lab is about file operation and permission. Here we use some command for file operation such as ls is used for show the file list and ls -R is used for show the all file list in current directory. mkdir is used for create directory cd for change the directory and also some other for various purposes. In file permission we see that the linux divides the file into read, write and executed denoted by r,w,x. ls -al is used for view all files in list.