Day 6

Task # 1 & 2 : Create a simple file and do `ls -ltr` to see the details of the files. Write an article about File Permissions based on your understanding from the notes.

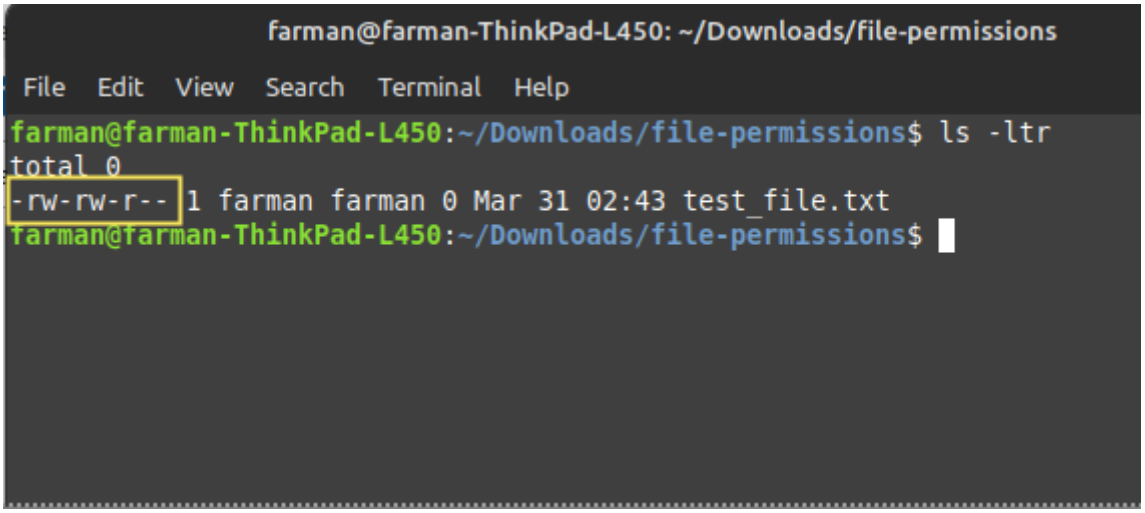
Each of the three permissions are assigned to three defined categories of users. The categories are:
- owner — The owner of the file or application.
- "chown" is used to change the ownership permission of a file or directory.
- group — The group that owns the file or application.
- "chgrp" is used to change the gropu permission of a file or directory.
- others — All users with access to the system. (outised the users are in a group)
- "chmod" is used to change the other users permissions of a file or directory.

'chmod 777' the commad to change the file's permissions is chmod (you must be an admin to run this command or you can use sudo before chmod)
and then the numbers shows the access levels for file's owner, groups and publice.

There are 3 permission's level for each group.
1. Read (r) - 4
2. Write (w) - 2
3. Execute (x) - 1

So, as mention above 'chmod 777' which means you are giving full permissions to all the types of owners,
you have to do some maths in order to understand the permissions mechanism, let's suppose there is a
file on which you want to give full acess (rwx) to the owner of a file, read and write (rw-) permissions
to the groups and for others or public only read (r--)permissions. You can use the following command.

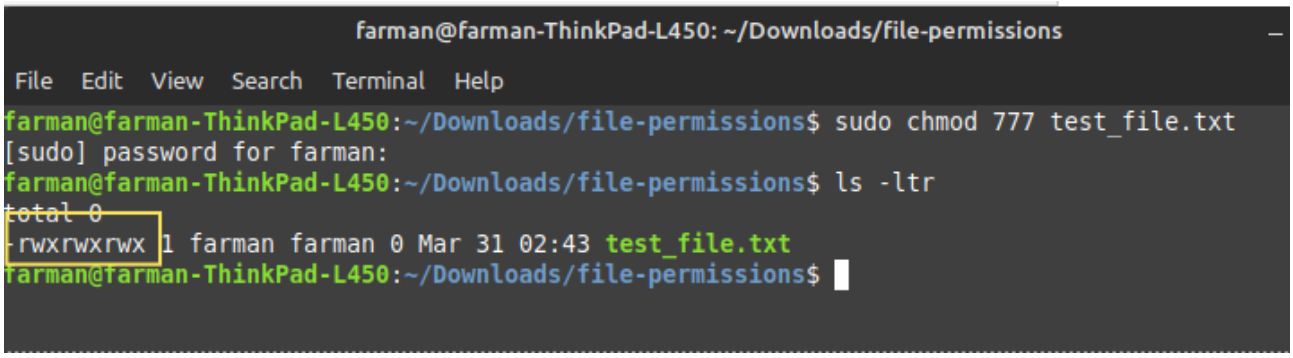
sudo chmod 764 <filename>



File Permissions

1	2	3	4	5	6	7	8	9	10
-/d	r	w	-	r	-	x	r	-	-
File type	Owner Permissions			Group Permissions			Other user Permission- Not in Group		
	4 +2 + 0 = 6			4 + 0 + 1 = 5			4 + 0 + 0 = 4		

As mention above in the snapshot that the file 'test_file.txt' has read and write permission for Owner of the file and groups and only read permissions to Other user. I will change the file permissions and will assign READ + WRITE + EXECUTE permissions to test_file.txt as mention below :



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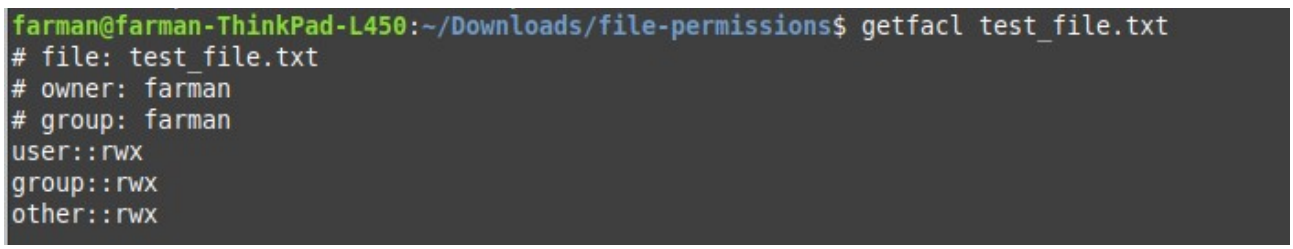
Task # 3 : Read about ACL and try out the commands `getfacl` and `setfacl`

ACL stands for Access control list, likewise 'ls -ltr' and 'chmod' commands, you can view and change the permissions for files and folders.

getfacl : means you are asking to Get File Access Control List for any specific file and it will show your, Owner and group of the file, also show the file permissions as per owner, group and for other users.



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setfacl: Through this command you can change the file permission of any file, in other words, this command is an alternate of ‘chmod’ command.

To modify the current access ACL for file test.file.txt and also giving only user faraz read access:

```
farman@farman-ThinkPad-L450:~/Downloads/file-permissions$ sudo setfacl -m user::rwx,group::rwx,other::r--,user:faraz:r-- test_file.txt
```