File permissions in Linux

Project description

Using linux commands I will update the file permissions to reflect the authorization that should be given.

Check file and directory details

```
researcher2@6fac928b6086:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Jun  5 22:15 .
drwxr-xr-x 3 researcher2 research_team 4096 Jun  5 22:19 ..
-rw--w---- 1 researcher2 research_team   46 Jun  5 22:15 .project_x.txt
drwx------ 2 researcher2 research_team 4096 Jun  5 22:15 drafts
-rwxrw-rw- 1 researcher2 research_team   46 Jun  5 22:15 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Jun  5 22:15 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Jun  5 22:15 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Jun  5 22:15 project_t.txt
researcher2@6fac928b6086:~/projects$
```

ls -la displays the permissions to files and directories

Describe the permissions string

```
-rw------- 1 researcher2 research_team   25 Jun  5 22:25 .bash_history
-rw-r--r-- 1 researcher2 research_team  220 Apr 18  2019 .bash_logout
-rw-r--r-- 1 researcher2 research_team 3574 Jun  5 22:15 .bashrc
-rw-r--r-- 1 researcher2 research_team 3574 Jun  5 22:15 .profile
drwxr-xr-x 3 researcher2 research_team 4096 Jun  5 22:15 projects
researcher2@6fac928b6086:~$  chmod g+w .bash_history
researcher2@6fac928b6086:~$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Jun  5 22:19 .
drwxr-xr-x 1 root        root          4096 Jun  5 22:15 ..
-rw--w---- 1 researcher2 research_team   32 Jun  5 22:25 .bash_history
```

The permission string is what is underlined in the above image. It is a 10 character string that represents the permissions. The 1st character indicates a directory which is “d” if the character was a file it would be a hyphen. The 2nd-4th character represents the users permissions r=read w=write x=execute. The 5th-7th character represents the group's permissions and the

8th-10th characters represents the other. Any hyphens mean that particular set of owners do not have permissions.

Change file permissions

```
researcher2@6fac928b6086:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Jun  5 22:15 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Jun  5 22:15 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Jun  5 22:15 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Jun  5 22:15 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Jun  5 22:15 project_t.txt
researcher2@6fac928b6086:~/projects$ chmod u+x project_k.txt
researcher2@6fac928b6086:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Jun  5 22:15 drafts
-rwxrw-rw- 1 researcher2 research_team   46 Jun  5 22:15 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Jun  5 22:15 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Jun  5 22:15 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Jun  5 22:15 project_t.txt
researcher2@6fac928b6086:~/projects$ S
```

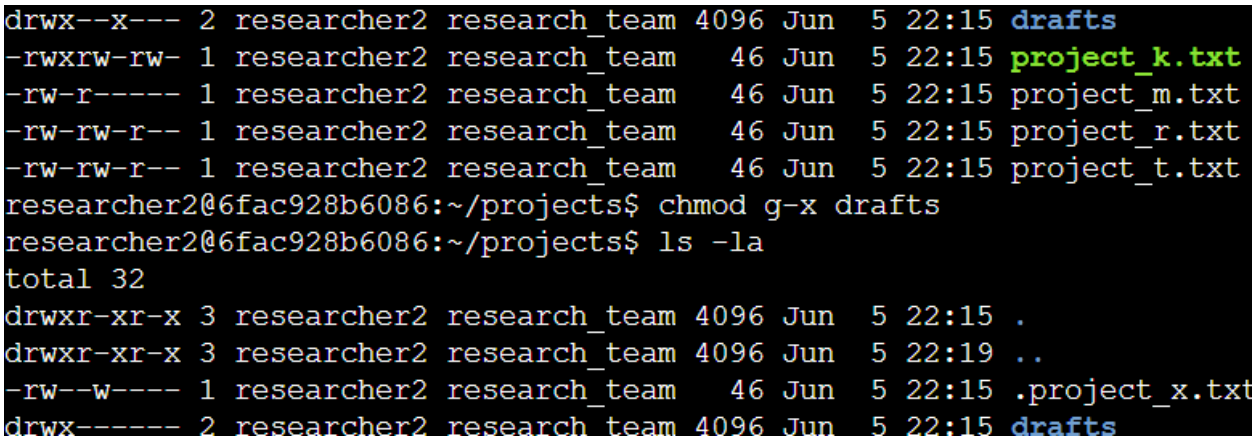
To change file permissions I use the command “chmod u+x” followed by the file name that command will give the execute permission to the user.

Change file permissions on a hidden file

```
researcher2@3213bbc1d047:~/projects$ chmod u-w,g-w,g+r .project_x.txt
researcher2@3213bbc1d047:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Dec 20 15:36 .
drwxr-xr-x 3 researcher2 research_team 4096 Dec 20 15:36 ..
-r--r----- 1 researcher2 research_team   46 Dec 20 15:36 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Dec 20 15:36 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Dec 20 15:36 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Dec 20 15:36 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Dec 20 15:36 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Dec 20 15:36 project_t.txt
researcher2@3213bbc1d047:~/projects$
```

The hidden file here is .project_x..txt I change this file permissions by using “chmod u-w and g-w and g+r” takes away write permissions from the group and user. Then “g+r” gives the group read permissions.

Change directory permissions



[Add content here.]

Summary

I used Linux to change permissions to files and directories using the command “chmod” this command means change mode. The command ls -la displays permissions to files and directories including hidden files.