

## File permissions in Linux

### Project description

This project is to show how I use Linux to create, manage, delete and check file permissions for files and directories.

### Check file and directory details

```
researcher2@ebd08150591f:~$ cd projects
researcher2@ebd08150591f:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Aug 30 05:24 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Aug 30 05:24 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Aug 30 05:24 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Aug 30 05:24 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Aug 30 05:24 project_t.txt
researcher2@ebd08150591f:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 30 05:24 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 30 06:31 ..
-rw--w---- 1 researcher2 research_team  46 Aug 30 05:24 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Aug 30 05:24 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Aug 30 05:24 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Aug 30 05:24 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Aug 30 05:24 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Aug 30 05:24 project_t.txt
```

1. Navigate to the projects directory. Command (**cd projects**).
2. List the contents and permissions of the projects directory. Command (**ls -l**).
3. Check whether any hidden files exist in the projects directory. Commands (**ls -la**).

### Change file permissions

```
-rw-rw-rw- 1 researcher2 research team  46 Aug 30 05:24 project_k.txt
```

- The above image is the permissions assigned to **user**, **group** and **other** owner types of **project\_k.txt**. They have permission to read and write but not to execute.

```
chmod o-w project_k.txt
```

- I used the **chmod** command to change the **write** permission for the other owner group using command (**o-w**).

```
-rw-rw-r-- 1 researcher2 research_team 46 Aug 30 05:24 project_k.txt
```

- The result is **-rw-rw-r--**

### Change file permissions on a hidden file

```
researcher2@ebd08150591f:~/projects$ ls -la
```

- Command **ls -la** used to check details of hidden files.

```
-rw--w---- 1 researcher2 research_team 46 Aug 30 05:24 .project_x.txt
```

- In this case **project\_x.txt** was the hidden file because it starts with a **(.)**.

```
chmod ug+r-w .project_x.txt
```

- Command to change permissions of user and group to only read and revoke write permission.

```
-r--r----- 1 researcher2 research_team 46 Aug 30 05:24 .project_x.txt
```

- Result both user and group owner types have the write permission revoked, and the read permission granted.

### Change directory permissions

```
researcher2@ebd08150591f:~$ cd projects
researcher2@ebd08150591f:~/projects$ chmod g-x drafts
researcher2@ebd08150591f:~/projects$ ls -l
total 20
drwx----- 2 researcher2 research_team 4096 Aug 30 05:24 drafts
```

- In this image I changed the permissions of sub-directory **drafts** which is a child of directory **projects**, and revoked group owner type permission to execute. Result (**drwx ---**).

### Summary

This content is a summary of commands I have used in Linux to create, change and modify permissions for different owner types which include user, group, and others.