

# File permissions in Linux

## Project description

[Describe what you accomplish through Linux commands.]

Managing Authorizations

## Check file and directory details

```
researcher2@357da0f4bb63:~$ cd projects
researcher2@357da0f4bb63:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 17:10 .
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 17:47 ..
-rw--w---- 1 researcher2 research_team  46 Oct 25 17:10 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Oct 25 17:10 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Oct 25 17:10 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Oct 25 17:10 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 17:10 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 17:10 project_t.txt
researcher2@357da0f4bb63:~/projects$
```

[Add content here.]

To check for specific permissions, and hidden files, I input “ls -la” into the shell.

## Describe the permissions string

[Add content here.]

If one is looking at the last file on the list above “project\_t.txt”, one could see that the first dash means that this is for a file, if it was for a directory, it would start with the letter “d”. The second to the fourth strings are for the user. The fourth character has a dash, which indicates the user has no executable permissions. However, the user has read and write permissions. The fifth through seventh string characters are for the group, which indicates that the group also does not have executable permissions, but does have read, and write. Lastly, the other only has read permissions, which is indicated by an r at the 8th string character, and followed by two dashes.

## Change file permissions

```
researcher2@a6657f47fbab:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 16:47 .
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 17:20 ..
-r--r----- 1 researcher2 research_team  46 Oct 25 16:47 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Oct 25 16:47 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 16:47 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Oct 25 16:47 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 16:47 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 16:47 project_t.txt
researcher2@a6657f47fbab:~/projects$
```

[Add content here.]

Based on the current file permissions sheet, I was able to identify several files that needed to be modified. The “project\_k.txt” file needed read permissions for the other. The project\_m.txt needed read permissions for the group. The “project\_x.txt” needed read and write permissions for the user, and read permissions for the group. The “drafts” file needed read, write, and executable permissions for the user, and executable permissions for the group. To change the file permissions I input chmod with two arguments for each file that I had to change. For instance, I inputted “chmod u=rw,g=rw,o=rw project\_k.txt”, to make the changes to the first file on the current file permissions page(project\_k.txt). I double checked my work using “ls -la”.

## Change file permissions on a hidden file

```
researcher2@a6657f47fbab:~/projects$ chmod u=r,g=r .project_x.txt
researcher2@a6657f47fbab:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 16:47 .
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 17:20 ..
-r--r----- 1 researcher2 research_team  46 Oct 25 16:47 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Oct 25 16:47 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 16:47 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Oct 25 16:47 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 16:47 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 16:47 project_t.txt
researcher2@a6657f47fbab:~/projects$
```

[Add content here.]

To change the file permissions for a hidden file, I had to first locate the hidden file. I inputted “ls -la” into the shell to pull up any hidden files. I was able to locate the “.project\_x.txt” file. Then, I inputted “chmod u=r,g=r .project\_x.txt” into the shell to modify the permissions for the hidden file.

## Change directory permissions

```
researcher2@357da0f4bb63:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 17:10 .
drwxr-xr-x 3 researcher2 research_team 4096 Oct 25 17:47 ..
-rw--w---- 1 researcher2 research_team  46 Oct 25 17:10 .project_x.txt
drwx----- 2 researcher2 research_team 4096 Oct 25 17:10 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Oct 25 17:10 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Oct 25 17:10 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 17:10 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Oct 25 17:10 project_t.txt
researcher2@357da0f4bb63:~/projects$ chmod g-x drafts
researcher2@357da0f4bb63:~/projects$
```

[Add content here.]

To modify the directory permissions on the draft, I inputted “chmod g-x drafts”, to remove the groups executable permissions from the “draft” file.

## Summary

[Add content here.]

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