

File permissions in Linux

Project description

My team has been tasked with changing the permissions of certain files and directories that are in the project directory.

Check file and directory details

The first command allowed us to be in the correct directory, 'projects'. Then I wrote `ls -la` as this command lists all of the files, including the hidden ones, in the projects directory and all of their permissions.

```
researcher2@6d40b06f48f4:~$ cd projects
researcher2@6d40b06f48f4:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Jun  8 12:49 .
drwxr-xr-x 3 researcher2 research_team 4096 Jun  8 13:26 ..
-rw--w---- 1 researcher2 research_team  46 Jun  8 12:49 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Jun  8 12:49 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Jun  8 12:49 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Jun  8 12:49 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun  8 12:49 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun  8 12:49 project_t.txt
```

Describe the permissions string

I will be describing this line:

```
drwx--x--- 2 researcher2 research_team 4096 Jun  8 12:49 drafts
```

This line starts with a d. This indicates these permissions are from a directory. If we look at the end we can see the directory name is 'drafts'. The next 9 characters tell us the permissions of each owner. In this specific file the user can write, read and execute, groups can read and write, and others can only read.

Change file permissions

```
researcher2@7c0eacd19aa8:~/projects$ chmod o-w project_k.txt
researcher2@7c0eacd19aa8:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Jun 15 12:01 .
drwxr-xr-x 3 researcher2 research_team 4096 Jun 15 12:47 ..
-rw--w---- 1 researcher2 research_team  46 Jun 15 12:01 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Jun 15 12:01 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Jun 15 12:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_t.txt
```

In project_k.txt I changed the permissions so that others can write.

Change file permissions on a hidden file

```
researcher2@7c0eacd19aa8:~/projects$ chmod u-r,g+r,g+r .project_x.txt
researcher2@7c0eacd19aa8:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Jun 15 12:01 .
drwxr-xr-x 3 researcher2 research_team 4096 Jun 15 12:47 ..
--w-rw---- 1 researcher2 research_team  46 Jun 15 12:01 .project_x.txt
drwxr-xr-- 2 researcher2 research_team 4096 Jun 15 12:01 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Jun 15 12:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_t.txt
```

In .project_x.txt I changed it so that users cannot read, and group can read. I meant to allow others to also read but I wrote the group can read twice.

Change directory permissions

```
researcher2@7c0eacd19aa8:~/projects$ chmod g+r,o+r drafts
researcher2@7c0eacd19aa8:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Jun 15 12:01 .
drwxr-xr-x 3 researcher2 research_team 4096 Jun 15 12:47 ..
-r--r----- 1 researcher2 research_team  46 Jun 15 12:01 .project_x.txt
drwxr-xr-- 2 researcher2 research_team 4096 Jun 15 12:01 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Jun 15 12:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Jun 15 12:01 project_t.txt
```

In drafts I made it so group can read and others can read

Summary

I changed the permissions for multiple files to match the permissions required. THis was done largely by using chmod to change permissions and ls -la to see said changes.