File permissions in Linux

Project description

My task is to examine the current permissions and ensure that they match authorization that should be given. If they don't match, I'll use `chmod` to make any modifications necessary

Check file and directory details

To check the file and directory details, I can use `ls -l` and `ls -la` to also include hidden files. Doing this gives the following permissions.

```
researcher2@7e3dd2ebd3d1:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:35 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:50 ..
-rw--w---- 1 researcher2 research_team   46 Aug 29 01:35 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Aug 29 01:35 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Aug 29 01:35 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Aug 29 01:35 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_t.txt
researcher2@7e3dd2ebd3d1:~/projects$
```

Describe the permissions string

For project_k.txt, we know it's a file because the string starts with a hyphen. The user has read and write permissions, the group has read and write permissions, and all others have read and write permissions. This is because each group has rw. No group has executable permissions because the file isn't an executable

Change file permissions

Since the other group isn't allowed to have write permissions on any files, project_k.txt needs to be modified. This can be done with `chmod o-w project_k.txt`

```
researcher2@7e3dd2ebd3d1:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:35 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:50 ..
-rw--w---- 1 researcher2 research_team   46 Aug 29 01:35 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Aug 29 01:35 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Aug 29 01:35 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_t.txt
researcher2@7e3dd2ebd3d1:~/projects$
```

Change file permissions on a hidden file

To remove all write permissions on the hidden file, I'll use `chmod u-w,g-w .project_x.txt`
To give the user and group read permissions, I'll use `chmod u+r,g+r .project_x.txt`

```
researcher2@7e3dd2ebd3d1:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:35 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:50 ..
-r--r----- 1 researcher2 research_team   46 Aug 29 01:35 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Aug 29 01:35 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Aug 29 01:35 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_t.txt
researcher2@7e3dd2ebd3d1:~/projects$
```

Change directory permissions

To remove access to the drafts directory, I'll use `chmod g-x drafts`

```
researcher2@7e3dd2ebd3d1:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:35 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 29 01:50 ..
-r--r----- 1 researcher2 research_team   46 Aug 29 01:35 .project_x.txt
drwx------ 2 researcher2 research_team 4096 Aug 29 01:35 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Aug 29 01:35 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 29 01:35 project_t.txt
researcher2@7e3dd2ebd3d1:~/projects$
```

Summary

I changed multiple permissions using the chmod command based on the guidelines provided by my organization