

File permissions in Linux

Project description

The task was to check if the permissions match the authorization that should be given and, if otherwise, make them match.

Check file and directory details

The command-line “ls -la” was used to list all permissions to directories and files, including hidden ones, in the “projects” folder.

```
researcher2@633b5e4a56bb:~$ ls
projects
researcher2@633b5e4a56bb:~$ cd projects
researcher2@633b5e4a56bb:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Mar 16 00:01 .
drwxr-xr-x 3 researcher2 research_team 4096 Mar 16 01:04 ..
-rw--w---- 1 researcher2 research_team  46 Mar 16 00:01 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Mar 16 00:01 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Mar 16 00:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Mar 16 00:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_t.txt
researcher2@633b5e4a56bb:~/projects$
```

Describe the permissions string

One example from the output is the following: “-rw-w--- 1 researcher2 research_team 46 Mar 16 00:01 .project_x.txt”. It says that the user “researcher2” and the group “research_team” have permission to write over the hidden file “project_x.txt” and only one to have the read permission is the user.

Change file permissions

The command “chmod o-w project_k.txt” was used to remove the permissions to write of other users.

```
researcher2@633b5e4a56bb:~/projects$ chmod o-w project_k.txt
researcher2@633b5e4a56bb:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Mar 16 00:01 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Mar 16 00:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_t.txt
researcher2@633b5e4a56bb:~/projects$
```

Change file permissions on a hidden file

The command “chmod ____project_x.txt” was used to remove permission from user and group to write, and allow group to read.

```
researcher2@633b5e4a56bb:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Mar 16 00:01 .
drwxr-xr-x 3 researcher2 research_team 4096 Mar 16 01:04 ..
-rw--w---- 1 researcher2 research_team  46 Mar 16 00:01 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Mar 16 00:01 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Mar 16 00:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_t.txt
researcher2@633b5e4a56bb:~/projects$ chmod u-w .project_x.txt
researcher2@633b5e4a56bb:~/projects$ chmod g-w .project_x.txt
researcher2@633b5e4a56bb:~/projects$ chmod g+r .project_x.txt
researcher2@633b5e4a56bb:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Mar 16 00:01 .
drwxr-xr-x 3 researcher2 research_team 4096 Mar 16 01:04 ..
-r--r----- 1 researcher2 research_team  46 Mar 16 00:01 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Mar 16 00:01 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Mar 16 00:01 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Mar 16 00:01 project_t.txt
researcher2@633b5e4a56bb:~/projects$
```

Change directory permissions

The command “chmod g-x drafts” was used to remove the permission over the directory drafts to execute from group.

```
researcher2@e8bc13f300b4:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Mar 16 02:15 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Mar 16 02:15 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Mar 16 02:15 project_m.txt
-rw-rw-r--  1 researcher2 research_team  46 Mar 16 02:15 project_r.txt
-rw-rw-r--  1 researcher2 research_team  46 Mar 16 02:15 project_t.txt
researcher2@e8bc13f300b4:~/projects$ chmod g-x drafts
researcher2@e8bc13f300b4:~/projects$ ls -l
total 20
drwx----- 2 researcher2 research_team 4096 Mar 16 02:15 drafts
-rw-rw-rw-  1 researcher2 research_team  46 Mar 16 02:15 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Mar 16 02:15 project_m.txt
-rw-rw-r--  1 researcher2 research_team  46 Mar 16 02:15 project_r.txt
-rw-rw-r--  1 researcher2 research_team  46 Mar 16 02:15 project_t.txt
researcher2@e8bc13f300b4:~/projects$
```

Summary

The permissions were checked and, those who were not as they should, were changed.