

File permissions in Linux

Project description

[Describe what you accomplish through Linux commands.]

Using Linux commands to manage file permissions

Check file and directory details

Checked file permissions using the `ls -la` command to also show hidden files

```
researcher2@bba64d0f15a2:~$ cd projects
researcher2@bba64d0f15a2:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:21 .
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:52 ..
-rw--w---- 1 researcher2 research_team  46 Dec 13 17:21 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Dec 13 17:21 drafts
-rw-rw-rw- 1 researcher2 research_team  46 Dec 13 17:21 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Dec 13 17:21 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_t.txt
researcher2@bba64d0f15a2:~/projects$
```

Describe the permissions string

Looking at the text file `.project_x.txt`, we can see that the 10 character string is `-rw--w---`

The first hyphen means that this is a regular file and not a directory, the following `rw-` confirms that the user or owner of the file has read and write permissions, but not execute permissions. The following `-w-` confirms that the group has only write permissions, while the following three hyphens (`---`) confirm that all other users do not have any read, write, or execute permissions.

Change file permissions

Since no other users can have write permissions, we will need to change the permissions of the `project_k.txt` file by using the `"chmod o-w project_k.txt"` command to remove write permissions from the other users

```

researcher2@bba64d0f15a2:~/projects$ chmod o-w project_k.txt
researcher2@bba64d0f15a2:~/projects$ ls-la
-bash: ls-la: command not found
researcher2@bba64d0f15a2:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:21 .
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:52 ..
-rw--w---- 1 researcher2 research_team  46 Dec 13 17:21 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Dec 13 17:21 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Dec 13 17:21 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_t.txt
researcher2@bba64d0f15a2:~/projects$ █

```

Change file permissions on a hidden file

Currently the archived file .project_x.txt has read and write permissions for the user and write permissions for the group. Both the user and group should only have read permissions where everyone else should not have any permissions. To change permissions, we use the command `chmod u=r , g=r .project_x.txt`

```

drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:21 .
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:52 ..
-r--r----- 1 researcher2 research_team  46 Dec 13 17:21 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Dec 13 17:21 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Dec 13 17:21 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_t.txt
researcher2@bba64d0f15a2:~/projects$ █

```

Change directory permissions

The command used to change directory permissions so that only the user can read, write, and execute permissions is “`chmod g-x drafts`”

```
researcher2@bba64d0f15a2:~/projects$ chmod g-x drafts
researcher2@bba64d0f15a2:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:21 .
drwxr-xr-x 3 researcher2 research_team 4096 Dec 13 17:52 ..
-r--r----- 1 researcher2 research_team  46 Dec 13 17:21 .project_x.txt
drwx----- 2 researcher2 research_team 4096 Dec 13 17:21 drafts
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_k.txt
-rw-r----- 1 researcher2 research_team  46 Dec 13 17:21 project_m.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_r.txt
-rw-rw-r-- 1 researcher2 research_team  46 Dec 13 17:21 project_t.txt
researcher2@bba64d0f15a2:~/projects$ █
```

Summary

This project demonstrates the commands used to manage permissions in Linux. Read, write, and execute permissions were changed for the user, group, and others for the drafts directory, the project_k.txt file, and the archived .project_x.txt file.