File permissions in Linux

Project description

What we accomplished during the linux command is to see permissions and change them if need be. Also we learned how to find hidden files.

Check file and directory details

Ls -la

```
researcher2@f087e90d9c4f:~$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 23 13:57 .
drwxr-xr-x 1 root        root          4096 Aug 23 13:41 ..
-rw------- 1 researcher2 research_team    6 Aug 23 13:57 .bash_history
-rw-r--r-- 1 researcher2 research_team  220 Apr 18  2019 .bash_logout
-rw-r--r-- 1 researcher2 research_team 3574 Aug 23 13:42 .bashrc
-rw-r--r-- 1 researcher2 research_team 3574 Aug 23 13:42 .profile
drwxr-xr-x 3 researcher2 research_team 4096 Aug 23 13:42 projects
researcher2@f087e90d9c4f:~$
```

Describe the permissions string

As we see here the very first line we have drwxr-xr-x thats 10 total characters. The d stands for directory if we had a - instead of a d that means it's a regular file. After that characters 2-4 are part of the user permissions which would be rwx which stands for read, write, execute. Characters 5-7 is part of the group permissions and they have r-x which means they have read, NO write, but they can execute. The last group 8-10 are other. They have r-x, which means they can only read and execute.

Change file permissions

As you can see I used chmod to change permission in the other group so none of the members part of the "other" group can write. Command looked like this… chmod o-w project_k.txt…
As you can see down below I verified the change had works be using the ls -l command to see the permissions again.

```
drwx--x--- 2 researcher2 research_team 4096 Aug 23 13:42 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Aug 23 13:42 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Aug 23 13:42 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_t.txt
researcher2@f087e90d9c4f:~/projects$ chmod o-w project_k.txt
researcher2@f087e90d9c4f:~/projects$ ls
drafts  project_k.txt  project_m.txt  project_r.txt  project_t.txt
researcher2@f087e90d9c4f:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Aug 23 13:42 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Aug 23 13:42 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_t.txt
researcher2@f087e90d9c4f:~/projects$
```

Change file permissions on a hidden file

```
researcher2@f087e90d9c4f:~/projects$ chmod g+r .project_x.txt
researcher2@f087e90d9c4f:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug 23 13:42 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 23 13:57 ..
-r--r----- 1 researcher2 research_team   46 Aug 23 13:42 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Aug 23 13:42 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_k.txt
-rw------- 1 researcher2 research_team   46 Aug 23 13:42 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Aug 23 13:42 project_t.txt
researcher2@f087e90d9c4f:~/projects$
```

Change directory permissions

```
researcher2@f087e90d9c4f:~/projects$ cd drafts
researcher2@f087e90d9c4f:~/projects/drafts$ ls -la
total 8
drwx--x--- 2 researcher2 research_team 4096 Aug 23 13:42 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 23 13:42 ..
researcher2@f087e90d9c4f:~/projects/drafts$ chmod g-x .
researcher2@f087e90d9c4f:~/projects/drafts$ ls l
ls: cannot access 'l': No such file or directory
researcher2@f087e90d9c4f:~/projects/drafts$ ls -la
total 8
drwx------ 2 researcher2 research_team 4096 Aug 23 13:42 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug 23 13:42 ..
researcher2@f087e90d9c4f:~/projects/drafts$
```

Summary

So what you just looked over was a quick example of how to check file and directory details. How to change file permissions, also find hidden files and change permissions on them too. Lastly I changed directory permissions.