File permissions in Linux

Project description

My task is to examine the existing permissions on the le system. I'll start by reviewing the current permissions and comparing them with the authorization that should be in place. If I nd any discrepancies, I'll need to modify the permissions accordingly, ensuring that only the appropriate users have access and removing any unauthorized access.

Check le and directory details

The following commands provide a comprehensive guide on how to check permissions for les and directories. Additionally, we've included instructions on how to verify the permissions for hidden les within a directory. These steps will enable you to accurately assess access control and ensure that the appropriate security measures are in place.

Commands used - ls -l (for accessing permissions of les in that directory).

- la -la (for accessing permissions of hidden les in that directory).

```
researcher2@3df25bb5ca53:~$ ls
projects
researcher2@3df25bb5ca53:~$ cd projects
researcher2@3df25bb5ca53:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Aug  7 15:28 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Aug  7 15:28 project_k.tx
t
-rw-r----- 1 researcher2 research_team   46 Aug  7 15:28 project_m.tx
t
-rw-rw-r-- 1 researcher2 research_team   46 Aug  7 15:28 project_r.tx
t
-rw-rw-r-- 1 researcher2 research_team   46 Aug  7 15:28 project_t.tx
t
researcher2@3df25bb5ca53:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Aug  7 15:28 .
drwxr-xr-x 3 researcher2 research_team 4096 Aug  7 15:44 ..
-rw--w---- 1 researcher2 research_team   46 Aug  7 15:28 .project_x.t
xt
drwx--x--- 2 researcher2 research_team 4096 Aug  7 15:28 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Aug  7 15:28 project_k.tx
t
-rw-r----- 1 researcher2 research_team   46 Aug  7 15:28 project_m.tx
t
-rw-rw-r-- 1 researcher2 research_team   46 Aug  7 15:28 project_r.tx
t
-rw-rw-r-- 1 researcher2 research_team   46 Aug  7 15:28 project_t.tx
t
```

Describe the permissions string

Let me explain how to understand the permission string.

Example : “-rwxrwxrwx” The notations stand : r - read only w - write only x - execute only

Also, the rst block of “rwx” stands for “user” permissions, next block stands for “group” permissions and nal block stands for “others”.

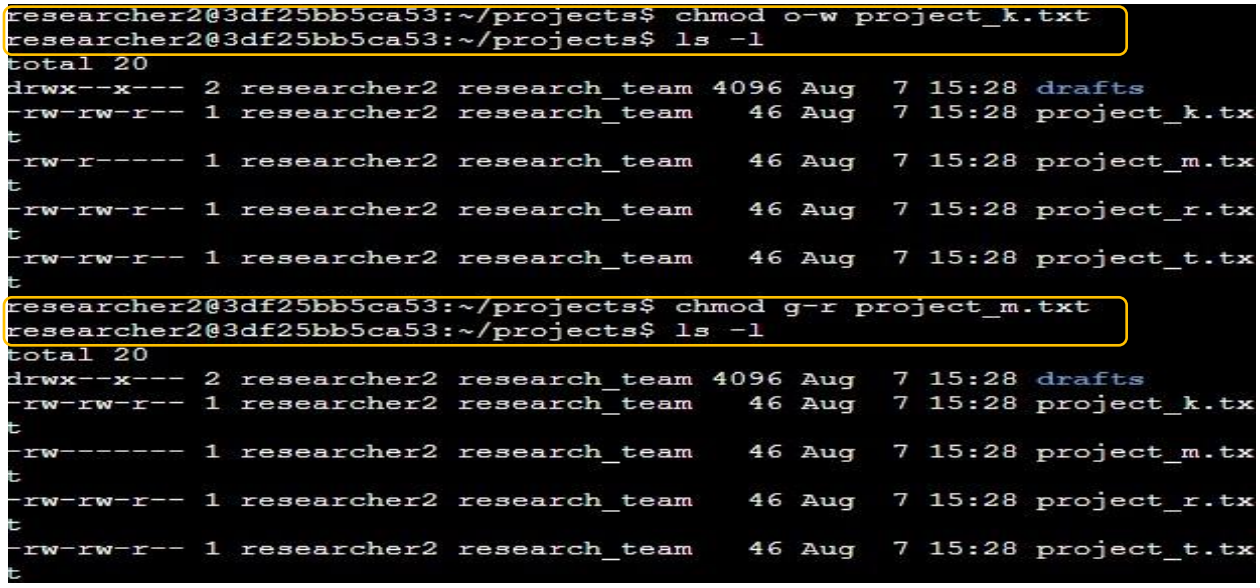
“-” at start of string stands for le permissions and if “d” is present it represents directory permissions.

Change le permissions

For changing the permissions of particular le or directory “chmod” command is used. It can be syntactically used as - chmod (u/g/o) - (w/r/x) le_name.extention - chmod (u/g/o) + (w/r/x) le_name.extention

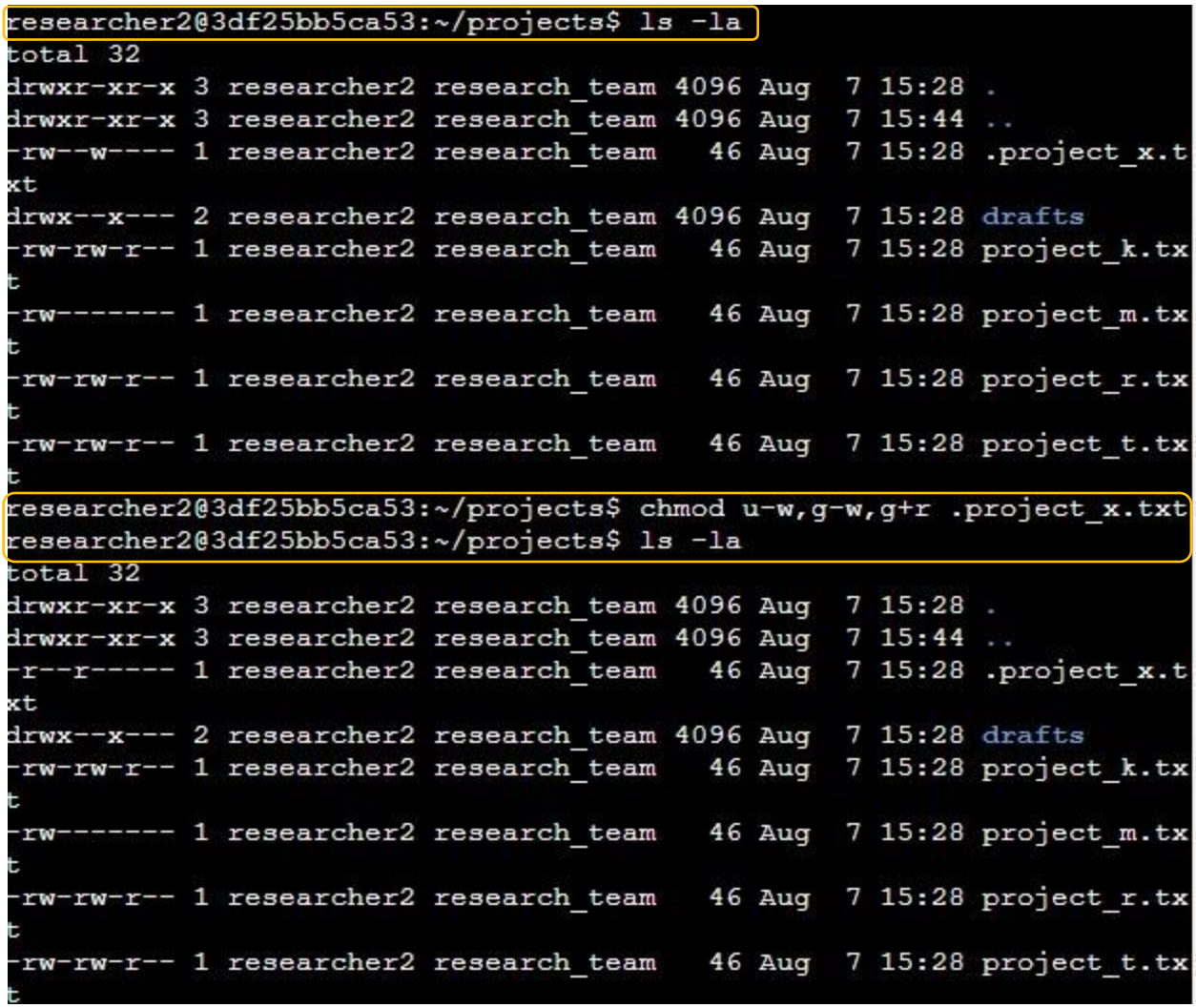
“+ ” is used to give permissions and “-” is used to remove permissions.

Example : “chmod u-r le.txt”, “u” represents users and “r” represents read permissions. In this command we have removed the read only permissions of user.



Change le permissions on a hidden le

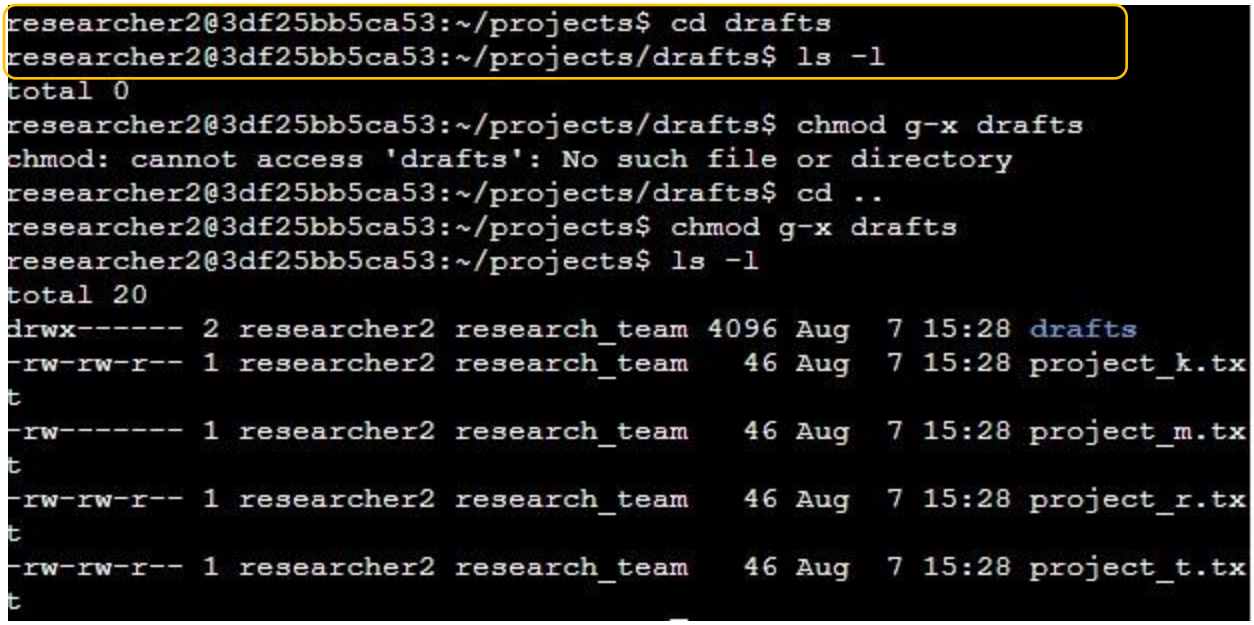
If we have to change the permissions of the hidden les we have to provide “.” before writing le name.



Change directory permissions

As discussed, “d” before the permission string represents the le permissions. To change permissions we use similar syntax.

See all the syntaxes for reference.



Summary

In conclusion, understanding how to check and manage le and directory permissions is crucial for maintaining secure access controls within a system. By following the outlined commands, you can e ectively review and, if necessary, adjust permissions to ensure that only authorized users have access to speci c resources, thereby safeguarding the integrity and con dentiality of your data.