Trent Dozier

File permissions in Linux

Project description

You are a security professional at a large organization. You mainly work with their research team. Part of your job is to ensure users on this team are authorized with the appropriate permissions. This helps keep the system secure.

Your task is to examine existing permissions on the file system. You'll need to determine if the permissions match the authorization that should be given. If they do not match, you'll need to modify the permissions to authorize the appropriate users and remove any unauthorized access.

Check file and directory details

```
researcher2@5f9f34cb4ef1:~$ cd projects
researcher2@5f9f34cb4ef1:~/projects$ ls -l
total 20
drwx--x--- 2 researcher2 research_team 4096 Mar 22 23:03 drafts
-rw-rw-rw- 1 researcher2 research_team   46 Mar 22 23:03 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Mar 22 23:03 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_t.txt
researcher2@5f9f34cb4ef1:~/projects$ 
```

Describe the permissions string

For the drafts directory the first character describes that we are looking at a directory. The user researcher2 has read write and execute permissions, while the group research_team has only execute permission but not read or write, finally other users have no permissions for this directory.

Change file permissions

I will be changing the project_k.txt file to remove write permissions for other users.

```
researcher2@5f9f34cb4ef1:~/projects$ chmod o-w project_k.txt
researcher2@5f9f34cb4ef1:~/projects$ ls -l project_k.txt
-rw-rw-r-- 1 researcher2 research_team 46 Mar 22 23:03 project_k.txt
researcher2@5f9f34cb4ef1:~/projects$ 
```

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Change file permissions on a hidden file

```
researcher2@5f9f34cb4ef1:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Mar 22 23:03 .
drwxr-xr-x 3 researcher2 research_team 4096 Mar 22 23:57 ..
-rw--w---- 1 researcher2 research_team   46 Mar 22 23:03 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Mar 22 23:03 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Mar 22 23:03 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_t.txt
researcher2@5f9f34cb4ef1:~/projects$ chmod g-w .project_x.txt
researcher2@5f9f34cb4ef1:~/projects$ []
```

Here, I have removed write permissions from the hidden file .project_x.txt for the group research_team.

Change directory permissions

```
researcher2@5f9f34cb4ef1:~/projects$ ls -la
total 32
drwxr-xr-x 3 researcher2 research_team 4096 Mar 22 23:03 .
drwxr-xr-x 3 researcher2 research_team 4096 Mar 22 23:57 ..
-rw--w---- 1 researcher2 research_team   46 Mar 22 23:03 .project_x.txt
drwx--x--- 2 researcher2 research_team 4096 Mar 22 23:03 drafts
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_k.txt
-rw-r----- 1 researcher2 research_team   46 Mar 22 23:03 project_m.txt
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_r.txt
-rw-rw-r-- 1 researcher2 research_team   46 Mar 22 23:03 project_t.txt
researcher2@5f9f34cb4ef1:~/projects$ chmod g-w .project_x.txt
researcher2@5f9f34cb4ef1:~/projects$ chmod g-x drafts
researcher2@5f9f34cb4ef1:~/projects$ []
```

Here I removed execute permissions for the directory drafts from the group research_team.