File permissions in Linux

Project Description.

In this project, my task as a security professional is to ensure users on the research team are authorized with the appropriate permissions in order to help keep the system secure. In order to complete this task, I performed the following tasks:

Check file and directory details

[The code below shows how i used Linux command the to determine the permissions for a specific directory in the file system. I used the ls -la command to display the list of the file contents. The output indicates that there five project files, one directory named drafts and one hidden file called .project\_x.txt



Describe the permissions string

[For instance, in the file named project\_k.txt; the user, group and other owner types have read and write permissions only in the 10-character string: -rw-rw-rw-.

The first character is either a d or hyphen. If it's a d then it's a directory. otherwise it's a file

The 2nd-4th character represents the read (r), write (w), and execute (x) permissions. If any of the character is a hyphen, it means the permission is not granted.

The 5th-7th character represents the read, write, and execute permissions for the group. If any character has a hyphen instead, it means that this permission is not granted to the group.

The same goes for the 8th-10th character, if any permission has a hyphen, it means that this permission is not granted for other

Change file permissions

[File project\_k.txt needs to have its permission modified because the organization does not allow other to have write access to any files.

The command used to change this permission is chmod o-w project\_k.txt

The chomd is used to change permissions on files and directories

Change file permissions on a hidden file

[The hidden file .project\_x.txt should not have write permissions for anyone, but can have read only permission for the user and group

The Linux command for the appropriate authorization is chmod u=r,g-w .project\_x.txt . A hidden file always starts with a period (.)

Change directory permissions

[The Linux command to allow only researcher2 access the drafts directory and its content is chmod g-x drafts]

Summary

The linux commands used in the tasks above is based on the principle of least prividlege where owners (user, group and others)are given access to files and directories on a need to know basis. I changed the file permissions to match the level of authorization my organization wanted for files and directories in the project directory.