File permissions in Linux

Project description

The accomplishments of this lab include checking file and directory details and permissions. In addition to this, the permissions of files and hidden files were changed and also the permissions of a folder.

Check file and directory details

First go to projects folder via ‘cd projects’
Then check contents of directory using ‘ls -la’

What is the name of the group that owns the files in the projects directory?
Research_team

Hidden file in directory is .project_x.txt

Which file grants other users write permissions?
Project_k.txt

In the /home/researcher2/projects directory, there are five files with the following names and permissions:

- project_k.txt
  - User = read, write,
  - Group = read, write
  - Other = read, write
- project_m.txt
  - User = read, write
  - Group = read
  - Other = none
- project_r.txt
  - User= read, write
  - Group = read, write
  - Other = read
- project_t.txt
  - User = read, write

○ Group = read, write
○ Other = read
● .project_x.txt
○ User = read, write
○ Group = write
○ Other = none

There is also one subdirectory inside the projects directory named drafts. The permissions on drafts are:
● User = read, write, execute
● Group = execute
● Other = none

Describe the permissions string

The ten character permissions string indicates the directory for the first character, the user permissions for the 2nd to 4th characters for read, write and executable permissions, the 5th to 7th indicate the read, write and executable permissions for the group, and the 8th to 10th characters indicate the read, write and executable permissions for the owner type of other,

Change file permissions

The owner type of other permissions for the file project_k.txt were changed so that this owner type of other cannot write to this file. This was done using the below command.
‘chmod o-w project_k.txt’

In addition to this, the project_m.txt file permissions were changed so that the group doesn;t have read or write permissions. The below command was used for this change. Note only read was removed as write was not permissible in the first place for this file and group.

‘chmod g-r project_m.txt’

Change file permissions on a hidden file

The permissions of the hidden file .project_x.txt was changed via the below commands so that no one can write to this file but the user and group should be able to read the file.

‘chmod u-rw .project_x.txt’
‘chmod u+r .project_x.txt’
‘chmod g-w .project_x.txt’
‘chmod g+r .project_x.txt’

Change directory permissions

The directory permissions were changed via the below command to change the permissions for the drafts folder. This removed the group permissions for writing and executing files.

‘chmod g-wx drafts’

Summary

As a result, the chmod command was primarily used in this prac to change the permissions of files and folders to suit the needs for the cyber security team. Hidden files were identified via their ‘.’ designation at the beginning of the file name. In addition to this, the ls -la command was used to make sure the permission changes made to the files and folder were applied correctly to the correct user, group, or other.

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