CS 497: Assignment 2

Abstract

Working with Bash, create files, folders, users, and groups. Write useful information to files. Set permissions for files and folders using groups.

Assignment

Using your Ubuntu virtual machine, complete the following tasks using only the bash shell. All activities must be done using the Linux command prompt in the bash shell.

Provide a single document detailing the activity, including your process, methods, and results. All screenshots should be nicely resized and annotated. Your document should show what you did, how you did it, display the results, and explain what happened.

Include all of the commands used during your work in separate text file to be included with your submission.

Activity

*Before getting started, review the man page for setfacl, as this will be needed for setting permissions. File ACL are required for this assignment.

- Create a new group called, read_sec_files.
- Create another new group called, write_sec_files.
- Create 2 new users with names of your choosing.
- Add one of your new users to read_sec_files. Add the other user to write_sec_files.
- Create a new folder in /var/tmp called CS497.
- Check the permissions for this folder. Show this.
- Create a new file called myFile.txt in the new CS497 folder.
- Redirect the output of the following commands to this new file:
  date
  uname -a
  whoami
  ip address
- Move the CS497 folder to your user's Desktop folder. (This can be shortened using ~/Desktop) The final path should be /home/username/Desktop/CS497.
- The /var/tmp/cs497 folder that you created earlier should no longer exist. Check. Show this.
- Check the permissions for the CS497 folder and myFile.txt file now located in the Desktop folder. Show this.

Change the permissions for this folder such that:

- Your user account is the owner of this new folder. Show this.
- Users in the read_sec_files group may read all contents of the CS497 folder. Show this.
- Users in the write_sec_files group may read and write all contents of the CS497 folder. Show this.
- Users not in either group have no access to the files in this folder. Show this.

Create a third user account. Using su, switch to this new user and attempt to access the CS497 folder contents. Document the results.
Last using redirection, add the following to your myFile.txt file.

Use wc to display the word count info for your file.
Use ls -la to display the permission info for the contents of the CS497 directory.

Conclusion

In addition to your conclusion, add the following:

- Look up the man page for chmod and answer the following. Be very specific.
  - What does chmod 644 filename do?
  - What does the 644 represent?
  - What would other numbers do?
  - How can this be used to make files only readable by one user?
  - How can this be used to make files executable?
- Describe the difference between owner and group permissions.
- Clearly describe file access control lists. What is the problem solved by FACL?

Deliverables

A document with detailing your process, methods, and results. This includes annotated screenshots. Clearly detail your work in a reproducible way following the provided sample format.

Additionally, submit all text files created for this assignment. Attach these files to your submission. Do not zip, tar, or archive.

Additionally, submit a single text file with all of the commands used for this assignment. One command per line. This should be complete and organized in order of use.

Upload these files to Canvas before the deadline.