USER AND GROUP MANAGEMENT IN LINUX

Project Description

The research team at my organization needed to create and manage user accounts, assign them to groups, and control ownership of specific project files. This was necessary to ensure that only authorized users had access to sensitive research files. To complete this task, I worked with Linux commands that manage users, groups, and file permissions.

Steps Performed

I began by creating a new user account called researcher9 with the "useradd" command. After creating the account, I assigned the user to the "research_team" group using the "usermod -g" command. I then attempted to access the file "/home/researcher2/projects/project_r.txt", which resulted in a "Permission denied" error. This confirmed that access controls on the file were functioning properly.

```
nalyst@dc2c8a77cddd:~$ sudo useradd researcher9
nalyst@dc2c8a77cddd:~$ sudo usermod -g research_team researcher9
nalyst@dc2c8a77cddd:~$ /home/researcher2/projects/project_r.txt
```

Next, I changed the ownership of project_r.txt to researcher9 by using the "chown" command. This transferred file ownership and gave the new user the necessary access. I also added researcher9 to the "sales_team" group with the "usermod" -a -G command. This option allowed the user to join an additional group without removing their original membership.

Finally, when the account was no longer needed, I cleaned up the system by removing the user with the "userdelcommand" and deleting the group with "groupdel".

```
analyst@dc2c8a77cddd:~$ sudo chown researcher9 project_r.txt
chown: cannot access 'project_r.txt': No such file or directory
analyst@dc2c8a77cddd:~$ sudo chown researcher9 /home/researcher2/projects/project_r.txt
analyst@dc2c8a77cddd:~$ sudo usermod -a -G sales_team researcher9
analyst@dc2c8a77cddd:~$ sudo userdel researcher9
userdel: group researcher9 not removed because it is not the primary group of user researcher
9.
analyst@dc2c8a77cddd:~$ sudo groupdel researcher9
analyst@dc2c8a77cddd:~$
```

Summary

In this project, I worked with Linux commands such as "useradd", "usermod", "chown", "userdel", and "grouped"l to create, manage, and remove users, assign them to groups, and control file ownership. These steps ensured that sensitive project files were properly secured and that only authorized users had access.