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CYSE 270: Linux System for Cybersecurity

Assignment Lab 6: File Permission

You need to configure the system to allow three users to perform the shared folder actions. Please submit the screenshot for all the steps in a word or pdf file

Task A: Get accounts and groups ready (70 points)

Step 1. Create three groups- **employee**, **payroll**, and **admin**. (You may refer to the slides under Module 2 – Group Management)

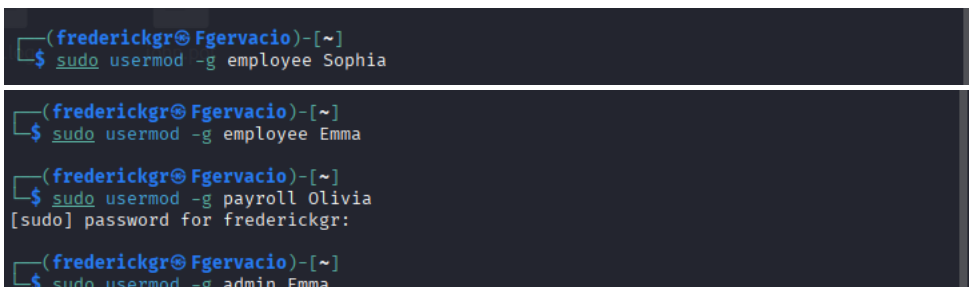
Created the groups using the “sudo groupadd and groupname”



```
frederickgr@Fgervacio: ~  
File Actions Edit View Help  
(frederickgr@Fgervacio)-[~]  
$ sudo groupadd employee  
[sudo] password for frederickgr:  
(frederickgr@Fgervacio)-[~]  
$ sudo groupadd payroll  
(frederickgr@Fgervacio)-[~]  
$ sudo groupadd admin  
(frederickgr@Fgervacio)-[~]  
$
```

Step 2. Create three user accounts with a specified home directory for **Sophia**, **Olivia**, and **Emma**. Set the primary group for Sophia, Olivia, and Emma to "employee", "payroll", and "admin", respectively. And change their login shell to /bin/bash. **Don't forget to set their passwords.**

created the accounts using the command “sudo usermod -g and accountname.”



```
(frederickgr@Fgervacio)-[~]  
$ sudo usermod -g employee Sophia  
(frederickgr@Fgervacio)-[~]  
$ sudo usermod -g employee Emma  
(frederickgr@Fgervacio)-[~]  
$ sudo usermod -g payroll Olivia  
[sudo] password for frederickgr:  
(frederickgr@Fgervacio)-[~]  
$ sudo usermod -g admin Emma
```

Then set the accounts password with command “sudo passwd and the username” and added then to the bin/bash shell login

```
(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -s /bin/bash Sophia

(frederickgr@Fgervacio)-[~]
└─$ sudo passwd Sophia
New password:
Retype new password:
passwd: password updated successfully

(frederickgr@Fgervacio)-[~]
└─$ sudo passwd Emma
New password:
Retype new password:
passwd: password updated successfully

(frederickgr@Fgervacio)-[~]
└─$ sudo passwd Olivia
New password:
Retype new password:
passwd: password updated successfully

(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -s /bin/bash Sophia
usermod: no changes

(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -s /bin/bash Emma

(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -s /bin/bash Olivia
```

Step 3. Create a shared group called "your Midas" (replace it with your MIDAS name) and set this shared group as the above accounts' secondary group. **After this step, remember to check each user's group profile.**

Created the group using the command “sudo groupadd and the groupname” then added each user to the group as a secondary group with the command "sudo usermod -G groupname and the username”

```
(frederickgr@Fgervacio)-[~]
└─$ sudo groupadd fgerv001

(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -G fgerv001 Sophia

(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -G fgerv001 Emma

(frederickgr@Fgervacio)-[~]
└─$ sudo usermod -G fgerv001 Olivia

(frederickgr@Fgervacio)-[~]
└─$ id Sophia
uid=1008(Sophia) gid=1008(employee) groups=1008(employee),1014(fgerv001)

(frederickgr@Fgervacio)-[~]
└─$ id Emma
uid=1010(Emma) gid=1010(admin) groups=1010(admin),1014(fgerv001)

(frederickgr@Fgervacio)-[~]
└─$ id Olivia
uid=1009(Olivia) gid=1009(payroll) groups=1009(payroll),1014(fgerv001)
```

Step 4. Create a directory named /home/cyse_project, which is to be owned by the “your_midas” group which is a shared group). **After this step, remember to check the permission of this shared directory.**

Created the directory with the command “sudo mkdir -p and directoryname” then changed the directory ownership to fgerv001 group. Check the directory shared permission with the command “ls -l and the directoryname”

```
(frederickgr@Fgervacio)-[~]
└─$ sudo mkdir -p /home/cyse_project

(frederickgr@Fgervacio)-[~]
└─$ ls -ld /home/cyse_project/
drwxr-xr-x 2 root root 4096 Oct 11 19:58 /home/cyse_project/

(frederickgr@Fgervacio)-[~]
└─$ sudo chgrp fgerv001 /home/cyse_project/

(frederickgr@Fgervacio)-[~]
└─$ ls -ld /home/cyse_project/
drwxr-xr-x 2 root fgerv001 4096 Oct 11 19:58 /home/cyse_project/
```

Step 5. Change the permissions of the /home/cyse_project directory to "rwxrwx---" using the octal method so that only the project group members have access to this directory.

After this step, remember to check the permission of this shared directory.

Changed the directory permission “rwxrwx---” using the command “ls -ld directoryname” to confirm the current permission and then changed it to the requested with the command “sudo chmod 770 and the directoryname” then confirmed the change with the command “ls -ld directoryname”.

```
(frederickgr@Fgervacio)-[~]
└─$ ls -ld /home/cyse_project/
drwxr-xr-x 2 root fgerv001 4096 Oct 11 19:58 /home/cyse_project/

(frederickgr@Fgervacio)-[~]
└─$ ls -l /home/cyse_project/
total 0

(frederickgr@Fgervacio)-[~]
└─$ sudo chmd 770 /home/cyse_project/
sudo: chmd: command not found

(frederickgr@Fgervacio)-[~]
└─$ sudo chmod 770 /home/cyse_project/

(frederickgr@Fgervacio)-[~]
└─$ ls -ld /home/cyse_project/
drwxrwx--- 2 root fgerv001 4096 Oct 11 19:58 /home/cyse_project/
```

Step 6. Switch to Sophia's account. Change the default permissions using octal method with umask command, to "rw-r-----" for Sophia when she creates a file or directory. **Check the value of umask, and**

permission of a new file after this step.

```
(Frederickgr@Fgervacio)-[~]
└─$ su Sophia
Password:
(Sophia@Fgervacio)-[/home/frederickgr]
└─$ unmask
Command 'unmask' not found, did you mean:
  command 'unmass' from deb unmass
Try: apt install <deb name>

(Sophia@Fgervacio)-[/home/frederickgr]
└─$ umask
0002

(Sophia@Fgervacio)-[/home/frederickgr]
└─$ umask 027

(Sophia@Fgervacio)-[/home/frederickgr]
└─$ umask
0027

(Sophia@Fgervacio)-[/home/frederickgr]
└─$ cd

(Sophia@Fgervacio)-[~]
└─$ touch test.txt

(Sophia@Fgervacio)-[~]
└─$ ls -lrt test.txt
-rw-r----- 1 Sophia employee 0 Oct 11 20:31 test.txt
```

Change to Sophia profile with the command “su username” used the umask command to see the current value then change it to the requested value using the command "umask 027". Had to change the home directory to Sophia in order to create a file with “cd” used the “touch and filename” to create a text file then used the ls -lrt filename to check the umask value.

Step 7. Create a new file called "Sophia_homework" in the home directory of Sophia and put your name in the file as content. **After this step, remember to check the content and the permission of the new file. (ls -l Sophia_homework)**

created the file using command “touch filename”, then used the echo command to my name the Sophia_homework file.

```
(Sophia@Fgervacio)-[~]
└─$ touch Sophia_homework

(Sophia@Fgervacio)-[~]
└─$ echo 'Frederick Gervacio' >Sophia_homework
echo Frederick Gervacio: command not found

(Sophia@Fgervacio)-[~]
└─$ echo 'Frederick Gervacio' >Sophia_homework

(Sophia@Fgervacio)-[~]
└─$ cat Sophia_homework
Frederick Gervacio

(Sophia@Fgervacio)-[~]
└─$ ls -l Sophia_homework
-rw-r----- 1 Sophia employee 19 Oct 11 20:42 Sophia_homework
```