

## ✎ Module 2 — Assignment

### Problem Statement:

You work for XYZ organization, and your work environment is UNIX/Linux-based. Your assignment consists of the following tasks:

1. **Create 3 Users:** Create three users who will have access to the server.
2. **Create a Group:** Establish a group named "webdev" and add the newly created users to this group.
3. **Folder and File Permissions:** Create a folder named "dev" and place a file within it. Set permissions for the file such that it can only be accessed by members of the "webdev" group.
4. **User Removal:** Remove one user from the "webdev" group and subsequently delete that user from the system.
5. **File Relocation and Ownership Change:** Move the file from the "dev" folder to another folder. Change the file's group ownership thereafter.

1. **Create 3 Users:** Create three users who will have access to the server.

```
sudo useradd user1
sudo useradd user2
sudo useradd user3
```

Confirming:

```
getent passwd | grep 'user1\|user2\|user3'
```

```
vagrant@ubuntu-bionic:~$ getent passwd | grep 'user1\|user2\|user3'
user1:x:1002:1002:~/home/user1:/bin/sh
user2:x:1003:1003:~/home/user2:/bin/sh
user3:x:1004:1004:~/home/user3:/bin/sh
vagrant@ubuntu-bionic:~$
```

Set their passwords:

```
sudo passwd user1
sudo passwd user2
sudo passwd user3
```

```
vagrant@ubuntu-bionic:~$ sudo passwd user1
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
vagrant@ubuntu-bionic:~$ sudo passwd user2
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
vagrant@ubuntu-bionic:~$ sudo passwd user3
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
vagrant@ubuntu-bionic:~$
```

2. **Create a Group:** Establish a group named "webdev" and add the newly created users to this group.

```
sudo groupadd webdev
```

Adding the users to group dev:

```
sudo usermod -aG webdev user1
sudo usermod -aG webdev user2
sudo usermod -aG webdev user3
```

Confirming:

```
getent group webdev
```

```
vagrant@ubuntu-bionic:~/dev$ getent group webdev
webdev:x:1005:user1,user2,user3
```

3. **Folder and File Permissions:** Create a folder named "dev" and place a file within it. Set permissions for the file such that it can only be accessed by members of the "webdev" group.

```
mkdir dev #Create the folder "dev"
cd dev #Change to the "dev" directory:
touch myfile.txt #Create a file inside "dev"
ls -l #To see the permissions and ownership
```

```
vagrant@ubuntu-bionic:~$ mkdir dev
vagrant@ubuntu-bionic:~$ cd dev
vagrant@ubuntu-bionic:~/dev$ touch myfile.txt
vagrant@ubuntu-bionic:~/dev$ ls -l
total 0
-rw-rw-r-- 1 vagrant vagrant 0 Aug 20 04:07 myfile.txt
vagrant@ubuntu-bionic:~/dev$
```

Changing group ownership of the file to "webdev":

```
sudo chown :webdev myfile.txt
```

Changing the file permissions so that only group members can read the file:

```
sudo chmod 040 myfile.txt #only group can read
```

```
vagrant@ubuntu-bionic:~/dev$ sudo chown :webdev myfile.txt
vagrant@ubuntu-bionic:~/dev$ sudo chmod 040 myfile.txt
vagrant@ubuntu-bionic:~/dev$ ls -l
total 0
----r----- 1 vagrant webdev 0 Aug 20 04:07 myfile.txt
vagrant@ubuntu-bionic:~/dev$
```

4. **User Removal:** Remove one user from the "webdev" group and subsequently delete that user from the system.

Removing user user3 from the group:

```
sudo gpasswd -d user3 webdev #remove from group
```

Removal and confirmation:

```
vagrant@ubuntu-bionic:~/dev$ sudo gpasswd -d user3 webdev
Removing user user3 from group webdev
vagrant@ubuntu-bionic:~/dev$ getent group webdev
webdev:x:1005:user1,user2
vagrant@ubuntu-bionic:~/dev$
```

Deleting the user:

```
sudo userdel -r user3
```

Deletion and confirmation:

```
vagrant@ubuntu-bionic:~/dev$ sudo userdel -r user3
userdel: user3 mail spool (/var/mail/user3) not found
userdel: user3 home directory (/home/user3) not found
vagrant@ubuntu-bionic:~/dev$ getent passwd | grep 'user1\|user2\|user3'
user1:x:1002:1002::/home/user1:/bin/sh
user2:x:1003:1003::/home/user2:/bin/sh
```

5. **File Relocation and Ownership Change:** Move the file from the "dev" folder to another folder. Change the file's group ownership thereafter.

Creating "prod" folder:

```
mkdir ../prod
```

Moving the file there:

```
mv myfile.txt ../prod/
```

Changing the group ownership to "prod":

```
sudo chown :newgroup ../prod/myfile.txt
```

Confirming:

```
vagrant@ubuntu-bionic:~/dev$ ls -l ../prod/myfile.txt  
----r----- 1 vagrant prod 0 Aug 20 04:07 ../prod/myfile.txt
```