

# Linux Commands Part II

## 1. Elevate your user access to root.

- First, we check the currently logged in user with `whoami` command. Then we use the `sudo` command with `-i` as an argument, to access root. We enter the password and see how the `$` sign changed to `#`. If we run `whoami` again we will see that we are now in the root directory.

```
root@DESKTOP-I298DGN: ~  
nikki@DESKTOP-I298DGN:~$ whoami  
nikki  
nikki@DESKTOP-I298DGN:~$ sudo -i  
[sudo] password for nikki:  
root@DESKTOP-I298DGN:~# whoami  
root  
root@DESKTOP-I298DGN:~#
```

NOTE: For us to exit root directory we use `exit` or `logout` commands.

## 2. Add a new user to your Linux OS and set a password for it.

- For as to create user and the password for that user we use `useradd` command and `passwd` command. We write `useradd USERNAME` and `passwd USERNAME`, and after that we need to enter the password and after that to retype the password.

```
root@DESKTOP-I298DGN:~# useradd user1  
root@DESKTOP-I298DGN:~# passwd user1  
New password:  
Retype new password:  
passwd: password updated successfully  
root@DESKTOP-I298DGN:~#
```

3. Test if you can log in using that user.

- For us to login with the new user we use `su` command. And we need to enter the password for the new user. We can use `whoami` to see if we are logged in with the new user.

```
root@DESKTOP-I298DGN:~# su user1
Password:
$ whoami
user1
$ _
```

4. Using `grep` command check if the user is created.

- We search through `/etc/passwd` file using `grep` command and the username.

```
$ grep user1 /etc/passwd
user1:x:1001:1002::/home/user1:/bin/sh
$ _
```

5. Grep the UID of each user.

- `grep -E 1[0-9]{3} /etc/passwd`

```
root@DESKTOP-I298DGN:~# grep -E 1[0-9]{3} /etc/passwd
nikki:x:1000:1000::,/home/nikki:/bin/bash
user1:x:1001:1002::/home/user1:/bin/sh
root@DESKTOP-I298DGN:~# id -u user1
```

6. Find out the GID of the created user.

- `G`

```
root@DESKTOP-I298DGN:~# id -g user1
1002
```

7. Change the password of the user and force it to change the pass on his next login.

```
root@DESKTOP-I298DGN:~# passwd --expire user1
passwd: password expiry information changed.
root@DESKTOP-I298DGN:~# su user1
You are required to change your password immediately (administrator enforced)
Changing password for user1.
Current password:
New password:
Retype new password:
You must choose a longer password
New password:
Retype new password:
$
```

8. Add a new user and set an expiration date for it, with a five-day warning period.

- To change the expiration date for the newly created user we use the **chage** command. The -E argument is for the user expire date, and it goes Y-M-D. The -W argument is for warn day, and the 5 is for days, in this case 5.

```
root@DESKTOP-I298DGN:~# useradd user2
root@DESKTOP-I298DGN:~# passwd user2
New password:
Retype new password:
passwd: password updated successfully
root@DESKTOP-I298DGN:~# chage -E 2023-03-20 user2
root@DESKTOP-I298DGN:~# chage -W 5 user2
root@DESKTOP-I298DGN:~#
```

9. Create a new group.

- For us to create a new group in Linux we use the command **groupadd**.

```
root@DESKTOP-I298DGN:~# groupadd developer
root@DESKTOP-I298DGN:~#
```

10. Assign the two new users to that group.

- Xx4

```
root@DESKTOP-I298DGN:~# usermod -g developer user1
root@DESKTOP-I298DGN:~# usermod -g developer user2
root@DESKTOP-I298DGN:~# tail /etc/group
landscape:x:115:
admin:x:116:
netdev:x:117:nikki
lxd:x:118:
nikki:x:1000:
docker:x:1001:nikki
fwupd-refresh:x:119:
user1:x:1002:
user2:x:1003:
developer:x:1004:
```

- Xx

11. Lock one of the user accounts.

- To lock the user use the command passwd with -l argument.

```
root@DESKTOP-I298DGN:~# passwd -l user2
passwd: password expiry information changed.
```

12. Change the shell of one user to tcsh.

```
nikki@DESKTOP-I298DGN:~/labs$ sudo usermod --shell /bin/tcsh user2
```

13. Make sure your home directory has “execute” access enabled for group and other.

```
nikki@DESKTOP-I298DGN:~$ ls -l
total 36
-rwxr--r-- 1 nikki nikki 122 Mar  7 00:37 exercise1.sh
-rwxr--r-- 1 nikki nikki  67 Mar  7 03:28 exercise2.sh
-rwxr--r-- 1 nikki nikki 106 Mar  7 02:12 exercise3.sh
-rwxr--r-- 1 nikki nikki 244 Mar  7 02:24 exercise4.sh
-rwxr--r-- 1 nikki nikki 171 Mar  7 03:25 exercise5.sh
-rwxr--r-- 1 nikki nikki 128 Mar  7 03:20 exercise6.sh
-rwxr--r-- 1 nikki nikki  35 Mar  6 23:49 hello_world.sh
drwxr-xr-x 2 nikki nikki 4096 Mar  2 21:29 homework
-rwxr--r-- 1 nikki nikki 108 Mar  7 02:10 vezba.sh
nikki@DESKTOP-I298DGN:~$
```

14. Change to your home directory, and create a directory called labs.

```
nikki@DESKTOP-I298DGN:~$ mkdir labs
nikki@DESKTOP-I298DGN:~$ ls -l
total 40
-rwxr--r-- 1 nikki nikki 122 Mar  7 00:37 exercise1.sh
-rwxr--r-- 1 nikki nikki  67 Mar  7 03:28 exercise2.sh
-rwxr--r-- 1 nikki nikki 106 Mar  7 02:12 exercise3.sh
-rwxr--r-- 1 nikki nikki 244 Mar  7 02:24 exercise4.sh
-rwxr--r-- 1 nikki nikki 171 Mar  7 03:25 exercise5.sh
-rwxr--r-- 1 nikki nikki 128 Mar  7 03:20 exercise6.sh
-rwxr--r-- 1 nikki nikki  35 Mar  6 23:49 hello_world.sh
drwxr-xr-x 2 nikki nikki 4096 Mar  2 21:29 homework
drwxr-xr-x 2 nikki nikki 4096 Mar 10 21:25 labs
-rwxr--r-- 1 nikki nikki 108 Mar  7 02:10 vezba.sh
```

15. Create an empty file in labs directory.

```
nikki@DESKTOP-I298DGN:~$ cd labs
nikki@DESKTOP-I298DGN:~/labs$ touch labs
nikki@DESKTOP-I298DGN:~/labs$
```

16. Change permissions of file to rwx-rwx-rwx.

- We use **chmod** command. **ugo** is for user-group-other and rwx is for the permissions. rwd stands for read-write-execute.

```
nikki@DESKTOP-I298DGN:~/labs$ chmod ugo+rwx labs
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 0
-rwxrwxrwx 1 nikki nikki 0 Mar 10 21:31 labs
nikki@DESKTOP-I298DGN:~/labs$
```

17. List the file. What color is the file?

- The file has green color.

```
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 0
-rwxrwxrwx 1 nikki nikki 0 Mar 10 21:31 labs
```

18. Change the permissions back to rx-rw-rw.

-C

```
nikki@DESKTOP-I298DGN:~/labs$ chmod 666 labs
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 0
-rw-rw-rw- 1 nikki nikki 0 Mar 10 21:31 labs
nikki@DESKTOP-I298DGN:~/labs$
```

19. Check what owners does the file have.

- Nikki is the owner and Nikki is the group name.

```
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 0
-rw-rw-rw- 1 nikki nikki 0 Mar 10 21:31 labs
```

20. Change the user ownership of the file to another user.

- We use **chown** command for changing the ownership of the file. But we use **sudo** in front because we are not in root.

```
nikki@DESKTOP-I298DGN:~/labs$ sudo chown user1 labs
[sudo] password for nikki:
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 0
-rw-rw-rw- 1 user1 nikki 0 Mar 10 21:31 labs
```

21. Create a group called group1 and assign two users to the group.

```
nikki@DESKTOP-I298DGN:~/labs$ sudo usermod -g group1 user1
nikki@DESKTOP-I298DGN:~/labs$ sudo usermod -g group1 user2
nikki@DESKTOP-I298DGN:~/labs$ echo "This is our group test file"
```

22. Create a file called group1.txt and redirect below input into the file: "This is our group test file".

```
-rw-rw-rw- 1 user1 nikki 0 Mar 10 21:31 labs
nikki@DESKTOP-I298DGN:~/labs$ cat > group1.txt
This is our group test file
^C
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 4
-rw-r--r-- 1 nikki nikki 28 Mar 10 22:37 group1.txt
-rw-rw-rw- 1 user1 nikki 0 Mar 10 21:31 labs
nikki@DESKTOP-I298DGN:~/labs$ cat group1.txt
This is our group test file
```

23. Change the group of the file to one of your users.

- Here we change the group and user of the file in the same time.

```
nikki@DESKTOP-I298DGN:~/labs$ sudo chown user2:group1 group1.txt
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 4
-rw-r--r-- 1 user2 group1 28 Mar 10 22:37 group1.txt
-rw-rw-rw- 1 user1 nikki 0 Mar 10 21:31 labs
nikki@DESKTOP-I298DGN:~/labs$
```

24. Give members of the group group1 read/write access to this file?

```
nikki@DESKTOP-I298DGN:~/labs$ sudo chmod g+rw group1.txt
[sudo] password for nikki:
nikki@DESKTOP-I298DGN:~/labs$ ls -l
total 4
-rw-rw-r-- 1 user2 group1 28 Mar 10 22:37 group1.txt
-rw-rw-rw- 1 user1 nikki 0 Mar 10 21:31 labs
nikki@DESKTOP-I298DGN:~/labs$
```