

1. Elevate your user access to root;

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski
filipdaskalovski@DESKTOP-180FJ2H:~$ sudo -s
[sudo] password for filipdaskalovski:
root@DESKTOP-180FJ2H: /home/filipdaskalovski#
```

2. add a new user to your Linux OS and set a password for it;

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski# useradd test -m -s /bin/bash
root@DESKTOP-180FJ2H: /home/filipdaskalovski# ls /home/
filipdaskalovski  test
root@DESKTOP-180FJ2H: /home/filipdaskalovski# passwd test
New password:
Retype new password:
passwd: password updated successfully
```

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

```
test@DESKTOP-180FJ2H: ~
filipdaskalovski@DESKTOP-180FJ2H:~$ whoami
filipdaskalovski
filipdaskalovski@DESKTOP-180FJ2H:~$ su - test
Password:
test@DESKTOP-180FJ2H:~$ whoami
test
test@DESKTOP-180FJ2H:~$
```

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

```
test@DESKTOP-180FJ2H: ~
test@DESKTOP-180FJ2H:~$ grep test /etc/passwd
test:x:1002:1002::/home/test:/bin/bash
test@DESKTOP-180FJ2H:~$
```

5. grep the UID of each user;

```
test@DESKTOP-180FJ2H: ~
test@DESKTOP-180FJ2H:~$ lslogins -u
  UID USER      PROC PWD-LOCK PWD-DENY LAST-LOGIN GECOS
    0 root          10             root
 1000 filipdaskalovski 2             ''
 1001 filip        0
 1002 test         3
test@DESKTOP-180FJ2H:~$
```

- Find out the GID of the created user;

```
test@DESKTOP-180FJ2H: ~  
test@DESKTOP-180FJ2H:~$ id -g filipdaskalovski  
1000  
test@DESKTOP-180FJ2H:~$ id -g test  
1002  
test@DESKTOP-180FJ2H:~$ id -G filip  
1001  
test@DESKTOP-180FJ2H:~$
```

- Change the password of the user and force it to change the pass on his next login;

```
filipdaskalovski@DESKTOP-180FJ2H:~$ sudo -s  
[sudo] password for filipdaskalovski:  
root@DESKTOP-180FJ2H:/home/filipdaskalovski# passwd -e test  
passwd: password expiry information changed.  
root@DESKTOP-180FJ2H:/home/filipdaskalovski#
```

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

```
root@DESKTOP-180FJ2H:/home/filipdaskalovski# chage -E 2023-03-14 test2  
root@DESKTOP-180FJ2H:/home/filipdaskalovski# sudo chage -l test2  
Last password change          : Mar 09, 2023  
Password expires              : never  
Password inactive             : never  
Account expires               : Mar 14, 2023  
Minimum number of days between password change : 0  
Maximum number of days between password change : 99999  
Number of days of warning before password expires : 7  
root@DESKTOP-180FJ2H:/home/filipdaskalovski#
```

- Create a new group;

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski  
root@DESKTOP-180FJ2H:/home/filipdaskalovski# groupadd testing  
root@DESKTOP-180FJ2H:/home/filipdaskalovski#
```

- Assign the two new users to that group;

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski  
root@DESKTOP-180FJ2H:/home/filipdaskalovski# usermod -a -G testing test  
root@DESKTOP-180FJ2H:/home/filipdaskalovski# usermod -a -G testing test2
```

```
testing:x:1004:test,test2  
root@DESKTOP-180FJ2H:/home/filipdaskalovski#
```

11. Lock one of the user accounts;

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski
root@DESKTOP-180FJ2H: /home/filipdaskalovski# usermod -L test
```

12. Change the shell of one user to tcsh;

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:,:/nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:,:/nonexistent:/usr/sbin/nologin
uuidd:x:106:112:/run/uuidd:/usr/sbin/nologin
tcpdump:x:107:113:,:/nonexistent:/usr/sbin/nologin
filipdaskalovski:x:1000:1000:,:/home/filipdaskalovski:/bin/bash
filip:x:1001:1001:/home/filip:/bin/sh
test:x:1002:1002:/home/test:/bin/tcsh
test2:x:1003:1003:/home/test2:/bin/bash
```

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

```
try chmod --help for more information.
root@DESKTOP-180FJ2H: /home/filipdaskalovski# chmod go+x /home/filipdaskalovski
root@DESKTOP-180FJ2H: /home/filipdaskalovski#
```

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

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski
root@DESKTOP-180FJ2H: /home/filipdaskalovski# ls
example  numberfive.sh  numberfour.sh  numberone.sh  numbersix.sh  numberthree.sh  numbertwo.sh
root@DESKTOP-180FJ2H: /home/filipdaskalovski# mkdir labs
root@DESKTOP-180FJ2H: /home/filipdaskalovski# ls
example  labs  numberfive.sh  numberfour.sh  numberone.sh  numbersix.sh  numberthree.sh  numbertwo.sh
root@DESKTOP-180FJ2H: /home/filipdaskalovski#
```

15. Create an empty file in labs directory

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski/labs
root@DESKTOP-180FJ2H:/home/filipdaskalovski# ls
example labs numberfive.sh numberfour.sh numberone.sh numbersix.sh numberthree.sh numbertwo.sh
root@DESKTOP-180FJ2H:/home/filipdaskalovski# cd labs
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# ls
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# touch file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# ls
file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs#
```

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

```
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chmod 777 file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# ls -l file
-rwxrwxrwx 1 root root 0 Mar  9 16:42 file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs#
```

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

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski/labs
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# ls -l
total 0
-rwxrwxrwx 1 root root 0 Mar  9 16:42 file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chmod 666 file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# ls -l
total 0
-rw-rw-rw- 1 root root 0 Mar  9 16:42 file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs#
```

19. Check what owners does the file have.

```
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# stat file
File: file
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 820h/2080d Inode: 29392       Links: 1
Access: (0666/-rw-rw-rw-)  Uid: (  0/   root)   Gid: (  0/   root)
Access: 2023-03-09 16:42:57.333096071 +0100
Modify: 2023-03-09 16:42:57.333096071 +0100
Change: 2023-03-09 16:45:29.115941437 +0100
 Birth: 2023-03-09 16:42:57.333096071 +0100
```

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

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski/labs
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chown test file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# stat file
  File: file
  Size: 0                Blocks: 0          IO Block: 4096   regular empty file
Device: 820h/2080d      Inode: 29392       Links: 1
Access: (0666/-rw-rw-rw-)  Uid: ( 1002/   test)   Gid: (    0/   root)
Access: 2023-03-09 16:42:57.333096071 +0100
Modify: 2023-03-09 16:42:57.333096071 +0100
Change: 2023-03-09 16:48:36.217103635 +0100
 Birth: 2023-03-09 16:42:57.333096071 +0100
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs#
```

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

```
root@DESKTOP-180FJ2H: /home/filipdaskalovski
root@DESKTOP-180FJ2H:/home/filipdaskalovski# groupadd group1
root@DESKTOP-180FJ2H:/home/filipdaskalovski# useradd -G group1 groupuser
root@DESKTOP-180FJ2H:/home/filipdaskalovski# passwd groupser
passwd: user 'groupser' does not exist
root@DESKTOP-180FJ2H:/home/filipdaskalovski# passwd groupuser
New password:
Retype new password:
passwd: password updated successfully
root@DESKTOP-180FJ2H:/home/filipdaskalovski# useradd -G group1 groupuser2
root@DESKTOP-180FJ2H:/home/filipdaskalovski# passwd groupuser2
New password:
Retype new password:
passwd: password updated successfully
root@DESKTOP-180FJ2H:/home/filipdaskalovski#
```

22. Create a file called group1.txt and redirect below input into the file:

“This is our group test file”.

```
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# cat > group.txt
This is our group test file
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# more group.txt
This is our group test file
```

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

```
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chown test2 group.txt
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# ls -l
total 4
-rw-rw-rw- 1 test  root  0 Mar  9 16:42 file
-rw-r--r-- 1 test2 root 28 Mar  9 16:50 group.txt
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs#
```

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

```
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chown groupuser group.txt
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chown groupuser2 group.txt
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs# chown 060 group.txt
root@DESKTOP-180FJ2H:/home/filipdaskalovski/labs#
```