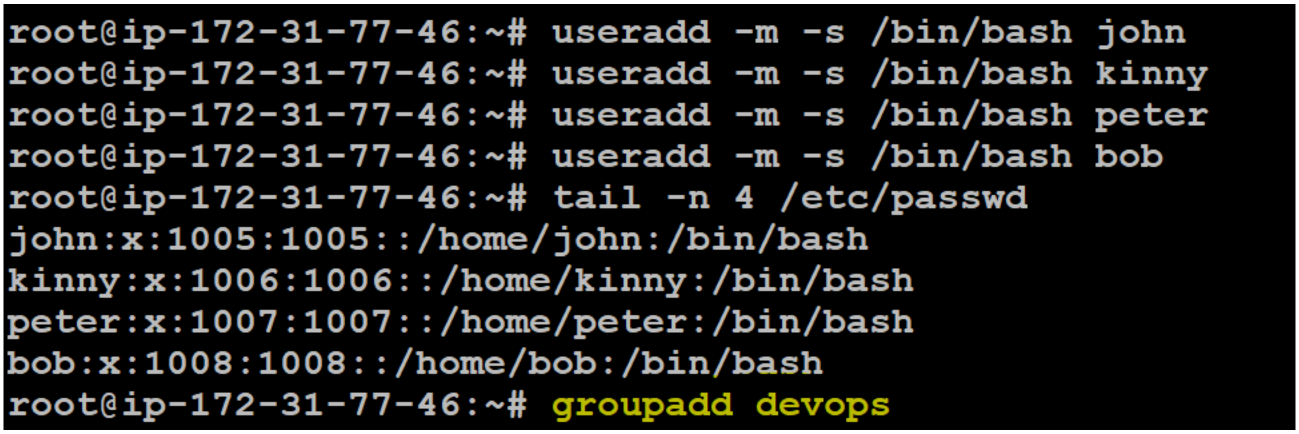
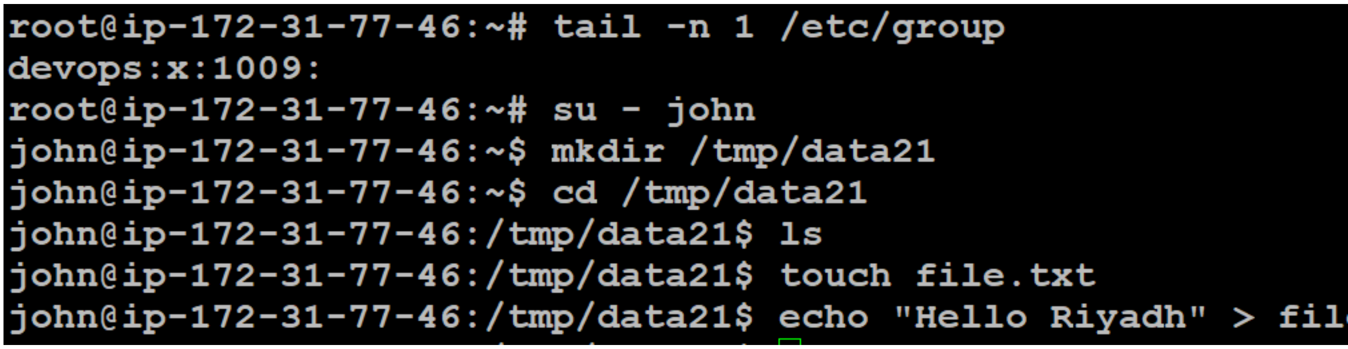
1. Switch to root user & create 4 users - john, kinny, peter, bob & also create a group “**devops**”



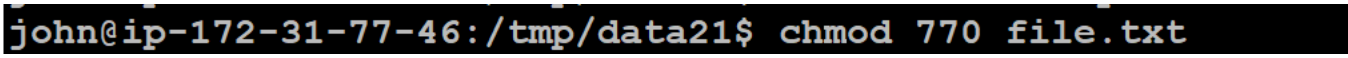
```
root@ip-172-31-77-46:~# useradd -m -s /bin/bash john
root@ip-172-31-77-46:~# useradd -m -s /bin/bash kinny
root@ip-172-31-77-46:~# useradd -m -s /bin/bash peter
root@ip-172-31-77-46:~# useradd -m -s /bin/bash bob
root@ip-172-31-77-46:~# tail -n 4 /etc/passwd
john:x:1005:1005::/home/john:/bin/bash
kinny:x:1006:1006::/home/kinny:/bin/bash
peter:x:1007:1007::/home/peter:/bin/bash
bob:x:1008:1008::/home/bob:/bin/bash
root@ip-172-31-77-46:~# groupadd devops
```

2. Check group created & switch to john user & create a dir /tmp/data21 & cd into it. After a that create file.txt and write “Hello Riyadh” in it.



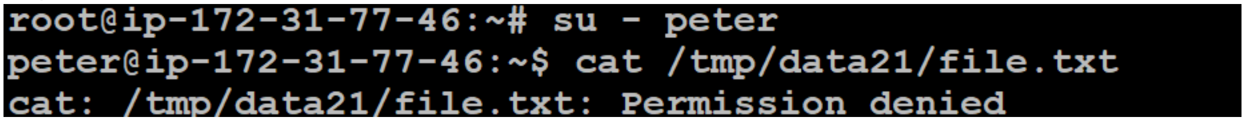
```
root@ip-172-31-77-46:~# tail -n 1 /etc/group
devops:x:1009:
root@ip-172-31-77-46:~# su - john
john@ip-172-31-77-46:~$ mkdir /tmp/data21
john@ip-172-31-77-46:~$ cd /tmp/data21
john@ip-172-31-77-46:/tmp/data21$ ls
john@ip-172-31-77-46:/tmp/data21$ touch file.txt
john@ip-172-31-77-46:/tmp/data21$ echo "Hello Riyadh" > fil
```

3. Set permission as 770 on file.txt



```
john@ip-172-31-77-46:/tmp/data21$ chmod 770 file.txt
```

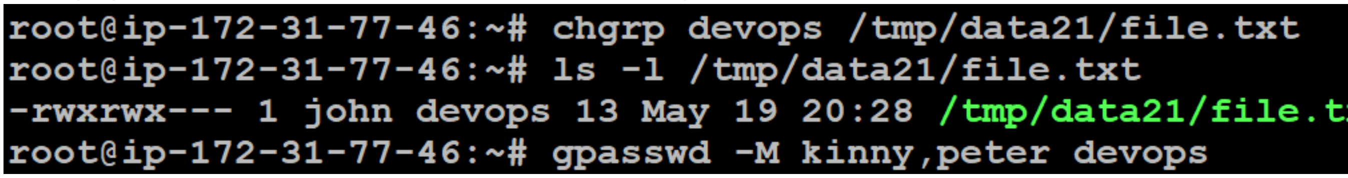
4. Login with peter user and try to read the file.



```
root@ip-172-31-77-46:~# su - peter
peter@ip-172-31-77-46:~$ cat /tmp/data21/file.txt
cat: /tmp/data21/file.txt: Permission denied
```

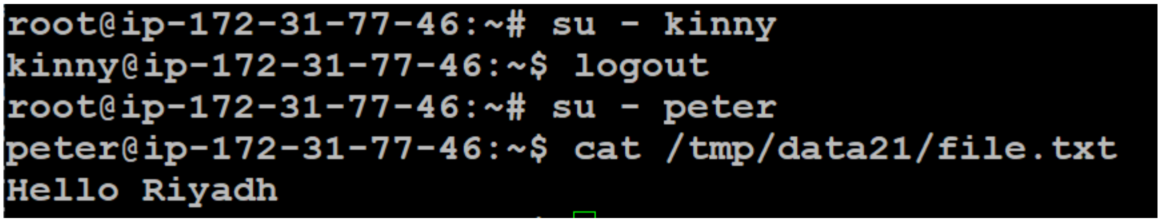
switch to root user.

5. Change group of file to devops and Kinny and peter to group.



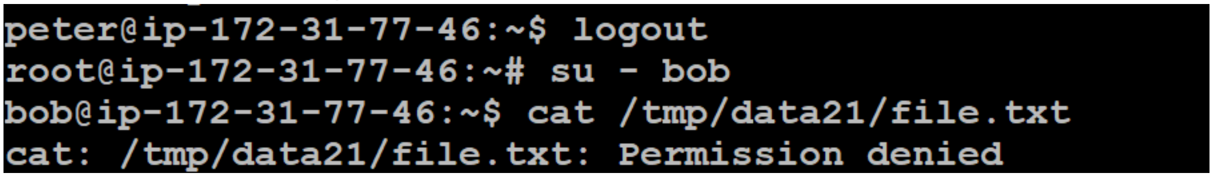
```
root@ip-172-31-77-46:~# chgrp devops /tmp/data21/file.txt
root@ip-172-31-77-46:~# ls -l /tmp/data21/file.txt
-rwxrwx--- 1 john devops 13 May 19 20:28 /tmp/data21/file.t
root@ip-172-31-77-46:~# gpasswd -M kinny,peter devops
```

6. Now login with peter and check, He is able to read, same will be for kinny



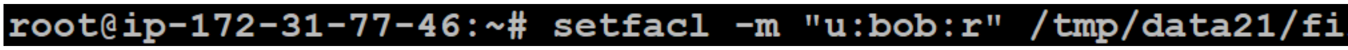
```
root@ip-172-31-77-46:~# su - kinny
kinny@ip-172-31-77-46:~$ logout
root@ip-172-31-77-46:~# su - peter
peter@ip-172-31-77-46:~$ cat /tmp/data21/file.txt
Hello Riyadh
```

7. But bob was not added to group. Let's see if he can access



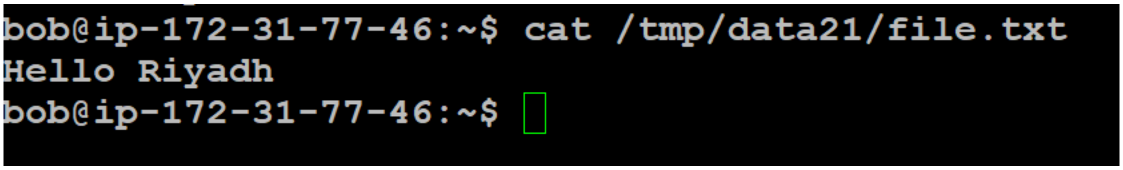
```
peter@ip-172-31-77-46:~$ logout
root@ip-172-31-77-46:~# su - bob
bob@ip-172-31-77-46:~$ cat /tmp/data21/file.txt
cat: /tmp/data21/file.txt: Permission denied
```

8. Now if you want to give access to bob but don't want to add him to the group, then ACL will come into the picture.



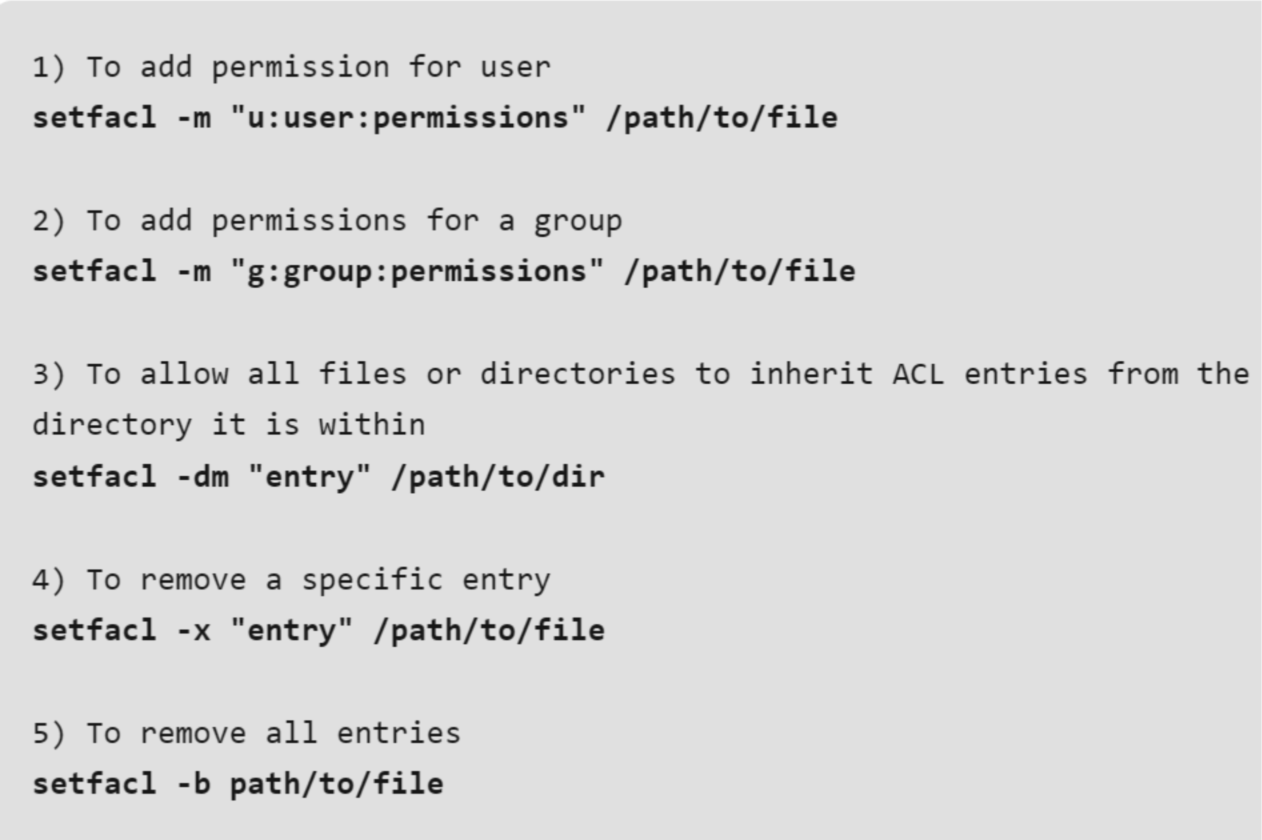
```
root@ip-172-31-77-46:~# setfacl -m "u:bob:r" /tmp/data21/fi
```

9. Verify



```
bob@ip-172-31-77-46:~$ cat /tmp/data21/file.txt
Hello Riyadh
bob@ip-172-31-77-46:~$
```

10. Use further options to do more hands-on.



```
1) To add permission for user
setfacl -m "u:user:permissions" /path/to/file

2) To add permissions for a group
setfacl -m "g:group:permissions" /path/to/file

3) To allow all files or directories to inherit ACL entries from the
directory it is within
setfacl -dm "entry" /path/to/dir

4) To remove a specific entry
setfacl -x "entry" /path/to/file

5) To remove all entries
setfacl -b path/to/file
```