

1. Create user with group

```
aseer@aseerubuntu:~$ cat /etc/passwd
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
_apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-network:x:101:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:102:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:104::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:104:105:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
pollinate:x:105:1::/var/cache/pollinate:/bin/false
sshd:x:106:65534::/run/sshd:/usr/sbin/nologin
syslog:x:107:113::/home/syslog:/usr/sbin/nologin
uidd:x:108:114::/run/uidd:/usr/sbin/nologin
tcpdump:x:109:115::/nonexistent:/usr/sbin/nologin
tss:x:110:116:TPM software stack,,:/var/lib/tpm:/bin/false
landscape:x:111:117::/var/lib/landscape:/usr/sbin/nologin
fwupd-refresh:x:112:118:fwupd-refresh user,,:/run/systemd:/usr/sbin/nologin
usbmux:x:113:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
aseer:x:1000:1000:aseer:/home/aseer:/bin/bash
lxd:x:999:100::/var/snap/lxd/common/lxd:/bin/false
user1:x:1001:1001::/home/user1:/bin/bash
aseer@aseerubuntu:~$ _
```

2. Create 2 directories named “mkdir os-concepts” and “ubuntu-is-the-best”

```
aseer@aseerubuntu:~$ ls
os-concepts  ubuntu-is-the-best
aseer@aseerubuntu:~$ _
```

3. Create 2 files in each directory

```
aseer@aseerubuntu:~$ touch os-concepts/file1.txt ubuntu-is-the-best/file2.txt
aseer@aseerubuntu:~$ ls os-concepts/
file1.txt
aseer@aseerubuntu:~$ ls ubuntu-is-the-best/
file2.txt
aseer@aseerubuntu:~$ _
```

4. List the files with detailed information (including file permission)

```
aseer@aseerubuntu:~$ ls -l os-concepts/
total 0
-rw-rw-r-- 1 aseer aseer 0 Oct  8 06:05 file1.txt
aseer@aseerubuntu:~$ ls -l ubuntu-is-the-best/
total 0
-rw-rw-r-- 1 aseer aseer 0 Oct  8 06:05 file2.txt
aseer@aseerubuntu:~$ _
```

5. Update file permission so that owner can read,write and group can only read and others can not do anything

```
aseer@aseerubuntu:~$ chmod 640 os-concepts/file1.txt
aseer@aseerubuntu:~$ ls -l os-concepts/
total 0
-rw-r----- 1 aseer aseer 0 Oct  8 06:05 file1.txt
aseer@aseerubuntu:~$
```

6. Create another group

```
aseer@aseerubuntu:~$ groupadd mygroup1
aseer:x:1000:
user1:x:1001:
mygroup1:x:1002:
aseer@aseerubuntu:~$
```

7. Add the user to the new group

```
aseer@aseerubuntu:~$ usermod -s /bin/bash -g mygroup1 user1
aseer@aseerubuntu:~$ _
```

8. Update file ownership to the newly created group

```
aseer@aseerubuntu:~$ sudo chown :mygroup1 os-concepts/file1.txt
aseer@aseerubuntu:~$ ls -l os-concepts/
total 0
-rw-r----- 1 aseer mygroup1 0 Oct  8 06:05 file1.txt
aseer@aseerubuntu:~$ _
```

9. Create a file called crash.in

```
aseer@aseerubuntu:~$ sudo find ./ -type f -exec grep -l 'crash' {} +
./test/crash.in
aseer@aseerubuntu:~$
```

10. replace the lines with crash to broken to all files

```
aseer@aseerubuntu:~$ sudo find ./ -type f -exec grep -l 'crash' {} +  
./test/crash.in  
aseer@aseerubuntu:~$ sudo find ./ -type f -exec sed -i 's/crash/broken/g' {} +  
aseer@aseerubuntu:~$ cat test/crash.in  
broken  
aseer@aseerubuntu:~$
```