

```
[root@servera ~]# mkdir /sample
```

```
[root@servera ~]# touch /test.txt
```

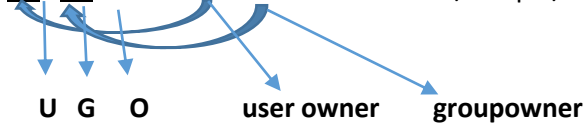
```
[root@servera ~]# ls -ld /sample/
```

```
drwxr-xr-x. 2 root root 6 Jul 18 18:42 /sample/
```

Directory

```
[root@servera ~]# ls -ld /sample/
```

```
d rwx r-x r-x. 2 root root 6 Jul 18 18:42 /sample/
```



owner → root → rwx

```
[root@servera ~]# cd /sample/
```

→ x permission

```
[root@servera sample]# touch abc
```

→ write permission

```
[root@servera sample]# ls
```

→ read permission

```
abc
```

```
[root@servera sample]# cd
```

group root → r-x

other → r-x

```
[root@servera ~]# su - sushmita
```

→ other user

```
[sushmita@servera ~]$ cd /sample/
```

→ x permission

```
[sushmita@servera sample]$
```

```
[sushmita@servera sample]$ touch xyz
```

→ write permission

```
touch: cannot touch 'xyz': Permission denied
```

```
[sushmita@servera sample]$ ls
```

→ read permission

```
abc
```

```
[sushmita@servera sample]$ ll
```

```
total 0
```

```
-rw-r--r--. 1 root root 0 Jul 18 18:44 abc
```

logout

File → /test.txt

```
[root@servera ~]# ls -l /test.txt
```

```
-rw-r--r--. 1 root root 0 Jul 18 18:42 /test.txt
```



owner → root (rw)

```
[root@servera ~]# cat > /test.txt                  → write permission
```

hello world

```
[root@servera ~]# cat /test.txt                  → read permission
```

hello world

other → (r--)

```
[root@servera ~]# su - sushmita                  → other user
```

```
[sushmita@servera ~]$ cat /test.txt              → read permission
```

hello world

```
[sushmita@servera ~]$ cat >> /test.txt          → write permission
```

```
-bash: /test.txt: Permission denied
```

```
[sushmita@servera ~]$
```

logout

COMMAND : chown

Chown command is use to change the ownership of file/directory.
we can also change user and group both.

SYNTAX:

```
# chown <username> <file/dir>           → change ownership  
# chown <user owner>:<group owner> <file/dir> → change owner and group owner
```

EG:

```
[root@servera ~]# ls -ld /sample/  
drwxr-xr-x. 2 root root 17 Jul 18 18:44 /sample/
```

```
[root@servera ~]# chown tom /sample/  
[root@servera ~]# ls -ld /sample/  
drwxr-xr-x. 2 tom root 17 Jul 18 18:44 /sample/
```

EG:

```
[root@servera ~]# mkdir -m 700 /redhat  
[root@servera ~]# ls -ld /redhat/  
drwx-----. 2 root root 6 Jul 18 18:57 /redhat/
```

```
[root@servera ~]# useradd ritesh; useradd lukesh  
[root@servera ~]# tail - 2 /etc/passwd  
ritesh:x:1002:1002::/home/ritesh:/bin/bash  
lukesh:x:1003:1003::/home/lukesh:/bin/bash
```

```
[root@servera ~]# su - lukesh           → other user (--- permission)  
[lukesh@servera ~]$ cd /redhat/  
-bash: cd: /redhat/: Permission denied  
[lukesh@servera ~]$  
logout  
[root@servera ~]# su - ritesh           → other user (--- permission)
```

```
[ritesh@servera ~]$ cd /redhat/
```

```
-bash: cd: /redhat/: Permission denied
```

```
[ritesh@servera ~]$
```

```
logout
```

```
[root@servera ~]# chown lukesh /redhat/
```

```
[root@servera ~]# ls -ld /redhat/
```

```
drwx-----. 2 lukesh root 6 Jul 18 18:57 /redhat/
```



```
[root@servera ~]# su - lukesh
```

→ user owner (rwx permission)

```
[lukesh@servera ~]$ cd /redhat/
```

→ execute permission

```
[lukesh@servera redhat]$ touch apple
```

→ write permission

```
[lukesh@servera redhat]$ ls
```

→ read permission

```
apple
```

```
[lukesh@servera redhat]$ ll
```

```
total 0
```

```
-rw-r--r--. 1 lukesh lukesh 0 Jul 18 19:00 apple
```

```
[lukesh@servera redhat]$ exit
```

```
logout
```

```
[root@servera ~]# ls -ld /sample/
```

```
drwxr-xr-x. 2 tom root 17 Jul 18 18:44 /sample/
```

```
[root@servera ~]# touch /abc
```

```
[root@servera ~]# ls -l /abc -d /sample/
```

```
-rw-r--r--. 1 root root 0 Jul 18 19:01 /abc
```

```
drwxr-xr-x. 2 tom root 17 Jul 18 18:44 /sample/
```

```
[root@servera ~]# chown lukesh /abc /sample/
```

→ changing ownership of multiple files

```
[root@servera ~]# ls -l /abc -d /sample/
```

```
-rw-r--r--. 1 lukesh root 0 Jul 18 19:01 /abc
drwxr-xr-x. 2 lukesh root 17 Jul 18 18:44 /sample/
```

-R → Recursively applied on files and directories inside a directory

```
[root@servera ~]# ls -ld /redhat/
drwx-----. 2 lukesh root 19 Jul 18 19:00 /redhat/
```

```
[root@servera ~]# ls -l /redhat/
total 0
-rw-r--r--. 1 lukesh lukesh 0 Jul 18 19:00 apple
```

```
[root@servera ~]# chown -R ritesh /redhat/
[root@servera ~]# ls -ld /redhat/
drwx-----. 2 ritesh root 19 Jul 18 19:00 /redhat/
```


```
[root@servera ~]# ls -l /redhat/
total 0
-rw-r--r--. 1 ritesh lukesh 0 Jul 18 19:00 apple
```

Group Ownership

By default the group ownership will set to the users primary group those who create the file/directory.

1. Default user

```
[root@servera ~]# id sushmita
uid=1000(sushmita) gid=1000(sushmita) groups=1000(sushmita),10(wheel)
```



Primary Group

```
[root@servera ~]# su - sushmita
[sushmita@servera ~]$ pwd
/home/sushmita
```

```
[sushmita@servera ~]$ mkdir data; touch test
[sushmita@servera ~]$ ll
total 0
drwxr-xr-x. 2 sushmita sushmita 6 Jul 18 19:09 data
-rw-r--r--. 1 sushmita sushmita 0 Jul 18 19:09 test
[sushmita@servera ~]$ exit
logout
```

2. Changing users primary group

```
[root@servera ~]# groupadd testing
[root@servera ~]# tail -1 /etc/group
testing:x:1004:
[root@servera ~]# usermod -g testing sushmita
[root@servera ~]# id sushmita
uid=1000(sushmita) gid=1004(testing) groups=1004(testing),10(wheel)
```


Primary Group

```
[root@servera ~]# su - sushmita
[sushmita@servera ~]$ pwd
/home/sushmita
[sushmita@servera ~]$ touch apple1; mkdir xyz
[sushmita@servera ~]$ ll
total 0
-rw-r--r--. 1 sushmita testing 0 Jul 18 19:20 apple1
drwxr-xr-x. 2 sushmita testing 6 Jul 18 19:09 data
-rw-r--r--. 1 sushmita testing 0 Jul 18 19:09 test
drwxr-xr-x. 2 sushmita testing 6 Jul 18 19:20 xyz
[sushmita@servera ~]$ exit
logout
```

3. Creating user without primary group

```
[root@servera ~]# useradd -N nishant
[root@servera ~]# tail -1 /etc/passwd
nishant:x:1004:100::/home/nishant:/bin/bash
[root@servera ~]# id nishant
uid=1004(nishant) gid=100(users) groups=100(users)
```



Default Primary Group

```
[root@servera ~]# su - nishant
[nishant@servera ~]$ pwd
/home/nishant
[nishant@servera ~]$ touch abc; mkdir red
[nishant@servera ~]$ ll
total 0
-rw-r--r--. 1 nishant users 0 Jul 18 19:25 abc
drwxr-xr-x. 2 nishant users 6 Jul 18 19:25 red
[nishant@servera ~]$ exit
logout
```

COMMAND: chgrp

chgrp command is use to change the group ownership of file or directory.

SYNTAX:

```
#chgrp <groupname> <file/dir>
```

EG:

```
[root@servera ~]# mkdir /red
[root@servera ~]# ls -ld /red
drwxr-xr-x. 2 root root 6 Jul 18 19:27 /red
[root@servera ~]# chgrp testing /red
```

```
[root@servera ~]# ls -ld /red
```

```
drwx r-x r-x. 2 root testing 6 Jul 18 19:27 /red
```



EG:

```
[root@servera ~]# mkdir -m 770 /centos
```

```
[root@servera ~]# ls -ld /centos/
```

```
drwxrwx---. 2 root root 6 Jul 18 19:28 /centos/
```

```
[root@servera ~]# tail -3 /etc/passwd
```

```
ritesh:x:1002:1002::/home/ritesh:/bin/bash
```

```
lukesh:x:1003:1003::/home/lukesh:/bin/bash
```

```
nishant:x:1004:100::/home/nishant:/bin/bash
```

```
[root@servera ~]# groupadd devops
```

```
[root@servera ~]# gpasswd -M ritesh,lukesh devops
```

```
[root@servera ~]# tail -1 /etc/group
```

```
devops:x:1005:ritesh,lukesh
```

```
[root@servera ~]# su - ritesh
```

→ other user

```
[ritesh@servera ~]$ cd /centos/
```

```
-bash: cd: /centos/: Permission denied
```

```
[ritesh@servera ~]$ exit
```

logout

```
[root@servera ~]# su - lukesh
```

→ other user

```
[lukesh@servera ~]$ cd /centos/
```

```
-bash: cd: /centos/: Permission denied
```

```
[lukesh@servera ~]$ exit
```

logout

```
[root@servera ~]# su - nishant
```

→ other user

```
[nishant@servera ~]$ cd /centos/
```



```
-bash: cd: /centos/: Permission denied
```

```
[nishant@servera ~]$ exit
```

```
logout
```

```
[root@servera ~]# chgrp devops /centos/
```

```
[root@servera ~]# ls -ld /centos/
```

```
drwx rwX ---. 2 root devops 6 Jul 18 19:28 /centos/
```



(Group owner) as **devops** is group owner so, members of devops will get **rwX** permission on directory

```
[root@servera ~]# su - ritesh
```

→ devops group member

```
[ritesh@servera ~]$ pwd
```

```
/home/ritesh
```

```
[ritesh@servera ~]$ cd /centos/
```

→ execute permission

```
[ritesh@servera centos]$ touch abc
```

→ write permission

```
[ritesh@servera centos]$ ls
```

→ read permission

```
abc
```

```
[ritesh@servera centos]$ exit
```

```
logout
```

```
[root@servera ~]# su - lukesh
```

→ devops group member

```
[lukesh@servera ~]$ pwd
```

```
/home/lukesh
```

```
[lukesh@servera ~]$ cd /centos/
```

→ execute permission

```
[lukesh@servera centos]$ touch apple
```

→ write permission

```
[lukesh@servera centos]$ ll
```

→ read permission

```
total 0
```

```
-rw-r--r--. 1 ritesh ritesh 0 Jul 18 19:37 abc
```

```
-rw-r--r--. 1 lukesh lukesh 0 Jul 18 19:38 apple
```

```
[lukesh@servera centos]$ exit
```

```
logout
```

-R → Recursive

```
[root@servera ~]# ls -ld /centos/
```

```
drwxrwx---. 2 root devops 30 Jul 18 19:38 /centos/
```

```
[root@servera ~]# ls -l /centos/
```

```
total 0
```

```
-rw-r--r--. 1 ritesh ritesh 0 Jul 18 19:37 abc
```

```
-rw-r--r--. 1 lukesh lukesh 0 Jul 18 19:38 apple
```

```
[root@servera ~]# chgrp -R testing /centos/
```

```
[root@servera ~]# ls -ld /centos/
```

```
drwxrwx---. 2 root testing 30 Jul 18 19:38 /centos/
```

```
[root@servera ~]# ls -l /centos/
```

```
total 0
```

```
-rw-r--r--. 1 ritesh testing 0 Jul 18 19:37 abc
```

```
-rw-r--r--. 1 lukesh testing 0 Jul 18 19:38 apple
```

COMMAND : chown

SYNTAX:

chown <user owner>:<group owner> <file/dir> → *change owner and group owner*

EG:

```
[root@servera ~]# ls -ld /centos/
```

```
drwxrwx---. 2 root testing 30 Jul 18 19:38 /centos/
```

```
[root@servera ~]# ls -l /centos/
```

```
total 0
```

```
-rw-r--r--. 1 ritesh testing 0 Jul 18 19:37 abc
```

```
-rw-r--r--. 1 lukesh testing 0 Jul 18 19:38 apple
```

```
[root@servera ~]# chown tom:devops /centos/
```

```
[root@servera ~]# ls -ld /centos/
```

```
drwxrwx---. 2 tom devops 30 Jul 18 19:38 /centos/
```

```
[root@servera ~]# ls -l /centos/
```

```
total 0
```

```
-rw-r--r--. 1 ritesh testing 0 Jul 18 19:37 abc
```

```
-rw-r--r--. 1 lukesh testing 0 Jul 18 19:38 apple
```

```
[root@servera ~]# chown -R tom:devops /centos/
```

```
[root@servera ~]# ls -ld /centos/
```

```
drwxrwx---. 2 tom devops 30 Jul 18 19:38 /centos/
```

```
[root@servera ~]# ls -l /centos/
```

```
total 0
```

```
-rw-r--r--. 1 tom devops 0 Jul 18 19:37 abc
```

```
-rw-r--r--. 1 tom devops 0 Jul 18 19:38 apple
```
