

Week – 1 (DevOps)

1. Create a file, assign permissions (read, write, execute) to different user categories (owner, group, others), and practice changing permissions using chmod.

Resources :

<https://www.youtube.com/watch?v=iwolPf6kN-k><https://www.pluralsight.com/blog/it-ops/linux-file-permissions>

Answer:

Steps:

1. Create a file.
2. Assign permissions to different user categories (owner, group, others).
3. Practice changing permissions using chmod.

Commands:

```
touch myfile.txt
```

```
chmod 764 myfile.txt
```

```
ls -l myfile.txt
```

```
utsav@utsav-katharotiya:~/celebal$ touch myfile.txt
utsav@utsav-katharotiya:~/celebal$ ls -l myfile.txt
-rw-rw-r-- 1 utsav utsav 0 May 21 15:59 myfile.txt
utsav@utsav-katharotiya:~/celebal$ chmod 755 myfile.txt
utsav@utsav-katharotiya:~/celebal$ ls -l myfile.txt
-rwxr-xr-x 1 utsav utsav 0 May 21 15:59 myfile.txt
```

2. Execute basic Linux commands (e.g., ls, cd, mkdir, rm, touch) to manipulate files and directories, with an emphasis on understanding their usage.

Resources : <https://www.redhat.com/sysadmin/create-delete-files-directories-linux>

Answer:

```
ls
```

```
# Change directory
cd /path/to/directory

# Make a new directory
mkdir new_directory

# Remove a file
rm myfile.txt

# Create a new file
touch newfile.txt
```

```
utsav@utsav-katharotiya:~$ cd celebal
utsav@utsav-katharotiya:~/celebal$ ls
myfile.txt
utsav@utsav-katharotiya:~/celebal$ mkdir newDir
utsav@utsav-katharotiya:~/celebal$ ls
myfile.txt  newDir
utsav@utsav-katharotiya:~/celebal$ rm myfile.txt
utsav@utsav-katharotiya:~/celebal$ ls
newDir
utsav@utsav-katharotiya:~/celebal$ touch newfile.txt
utsav@utsav-katharotiya:~/celebal$ ls
newDir  newfile.txt
utsav@utsav-katharotiya:~/celebal$
```

3. Using the terminal, practice navigating through directories, listing file contents, and moving files to different locations.

Resources :

<https://www.redhat.com/sysadmin/navigating-filesystem-linux-terminal>

Answer:

```
# Navigate to a directory
cd /path/to/directory

# List detailed contents of the current directory
ls -l

# Move a file to a different location
```

```
mv myfile.txt /new/location/myfile.txt
```

```
utsav@utsav-katharotiya:~/celebal$ ls -l
total 4
drwxrwxr-x 2 utsav utsav 4096 May 21 16:31 newDir
-rw-rw-r-- 1 utsav utsav  0 May 21 16:32 newfile.txt
utsav@utsav-katharotiya:~/celebal$ mv newfile.txt ~/celebal/newDir
utsav@utsav-katharotiya:~/celebal$ ls
newDir
utsav@utsav-katharotiya:~/celebal$ cd newDir
utsav@utsav-katharotiya:~/celebal/newDir$ ls -l
total 0
-rw-rw-r-- 1 utsav utsav 0 May 21 16:32 newfile.txt
utsav@utsav-katharotiya:~/celebal/newDir$
```

4. Create a new user and group, set their permissions, and explore user management commands like useradd, usermod, and userdel.

Resources :

<https://www.redhat.com/sysadmin/manage-permissions4>

Answer:

```
# Create a new group
sudo groupadd mygroup

# Create a new user and add them to the new group
sudo useradd -m -G mygroup myuser

# Set password for the new user
sudo passwd myuser

# Modify user details (e.g., add to another group)
sudo usermod -aG anothergroup myuser
```

```
# Delete a user  
sudo userdel -r myuser
```

```
utsav@utsav-katharotiya:~/celebal$ sudo groupadd mygroup  
[sudo] password for utsav:  
utsav@utsav-katharotiya:~/celebal$ sudo useradd -m -G mygroup myuser  
utsav@utsav-katharotiya:~/celebal$ sudo passwd myuser  
New password:  
Retype new password:  
passwd: password updated successfully
```

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5. Practices more linux commands

Resources :

<https://www.javatpoint.com/linuxtutorial#:~:text=It%20is%20an%20commercial%20OS,%2C%20shells%2C%20VI%20editor%20etc>

Answer:

```
utsav@utsav-katharotiya:~/celebal$ cd newDir
utsav@utsav-katharotiya:~/celebal/newDir$ ls
newfile.txt
utsav@utsav-katharotiya:~/celebal/newDir$ cat newfile.txt
Abcd
1234
1
2
3
4
5
6
7
8
9
10
utsav@utsav-katharotiya:~/celebal/newDir$ head newfile.txt
Abcd
1234
1
2
3
4
5
6
7
8
utsav@utsav-katharotiya:~/celebal/newDir$ tail newfile.txt
1
2
3
4
5
6
7
8
9
10
```

```
utsav@utsav-katharotiya:~/celebal/newDir$ grep "7" newfile.txt
7
utsav@utsav-katharotiya:~/celebal/newDir$ du -h
8.0K    .
utsav@utsav-katharotiya:~/celebal/newDir$ df -h
```

| Filesystem | Size | Used | Avail | Use% | Mounted on |
|-------------|------|------|-------|------|---------------------------|
| udev | 3.8G | 0 | 3.8G | 0% | /dev |
| tmpfs | 782M | 3.6M | 779M | 1% | /run |
| /dev/sdb5 | 94G | 83G | 6.4G | 93% | / |
| tmpfs | 3.9G | 219M | 3.7G | 6% | /dev/shm |
| tmpfs | 5.0M | 4.0K | 5.0M | 1% | /run/lock |
| tmpfs | 3.9G | 0 | 3.9G | 0% | /sys/fs/cgroup |
| /dev/loop0 | 128K | 128K | 0 | 100% | /snap/bare/5 |
| /dev/loop2 | 56M | 56M | 0 | 100% | /snap/core18/2812 |
| /dev/loop1 | 312M | 312M | 0 | 100% | /snap/code/158 |
| /dev/loop3 | 312M | 312M | 0 | 100% | /snap/code/159 |
| /dev/loop6 | 75M | 75M | 0 | 100% | /snap/core22/1380 |
| /dev/loop5 | 64M | 64M | 0 | 100% | /snap/core20/2264 |
| /dev/loop4 | 56M | 56M | 0 | 100% | /snap/core18/2823 |
| /dev/loop7 | 75M | 75M | 0 | 100% | /snap/core22/1122 |
| /dev/loop8 | 64M | 64M | 0 | 100% | /snap/core20/2318 |
| /dev/loop9 | 107M | 107M | 0 | 100% | /snap/discord/190 |
| /dev/loop10 | 165M | 165M | 0 | 100% | /snap/gnome-3-28-1804/194 |
| /dev/loop12 | 219M | 219M | 0 | 100% | /snap/gnome-3-34-1804/90 |
| /dev/loop11 | 165M | 165M | 0 | 100% | /snap/gnome-3-28-1804/198 |