**Understanding of file permissions**

In Linux each file and directory has a set of permissions . These permissions determine who can read, write or execute the file.

**Permission Types**

1. **Read :** allows viewing the contents of the file
2. **Write** : allows modifying the contents of the file
3. **Execute**: allows running the file as a program

**Permission Categories:**

1. **User**: the owner of the file
2. **Group**: users who are part of the files
3. **Others**: for everyone

**Ls -l** is to know the file permissions

Example: -rwxr-xr--

Rwx --> for the user(owner) --> user can read , write and execute the file

r-x --> for the group --> group can read and can execute the file

'r--' --> for others --> others can only read the file

How to know the file permissions: ls -l <file\_name>

**Changing the permissions with "chmod":**

**Using symbols -->**  syntax --> **chmod (who) (operation) (permission) <file\_name>**

**Who:** 'u'-->user , 'g'-->group, 'o'-->others

**Operation:** '+' (add), '-' (remove), '='(set exactly)

**Permission:** 'r'(read), 'w'(write), 'x'(execute)

Example: add execute permission for the user

Chmod u+x file\_name

**Using numbers:** permission can also be set using octal(numeric) values. Each permission has a number.

--> r (read): 4

--> w(write): 2

--> x(execute): 1

**Syntax:** chmod (permission) file\_name

r+w+x= 7

Example: set read , write, and execute for the users --> chmod 777 demo-1

Example: set read and execute for the group only --> chmod 757 demo-1

Example: set read only for others --> chmod 004 demo-3