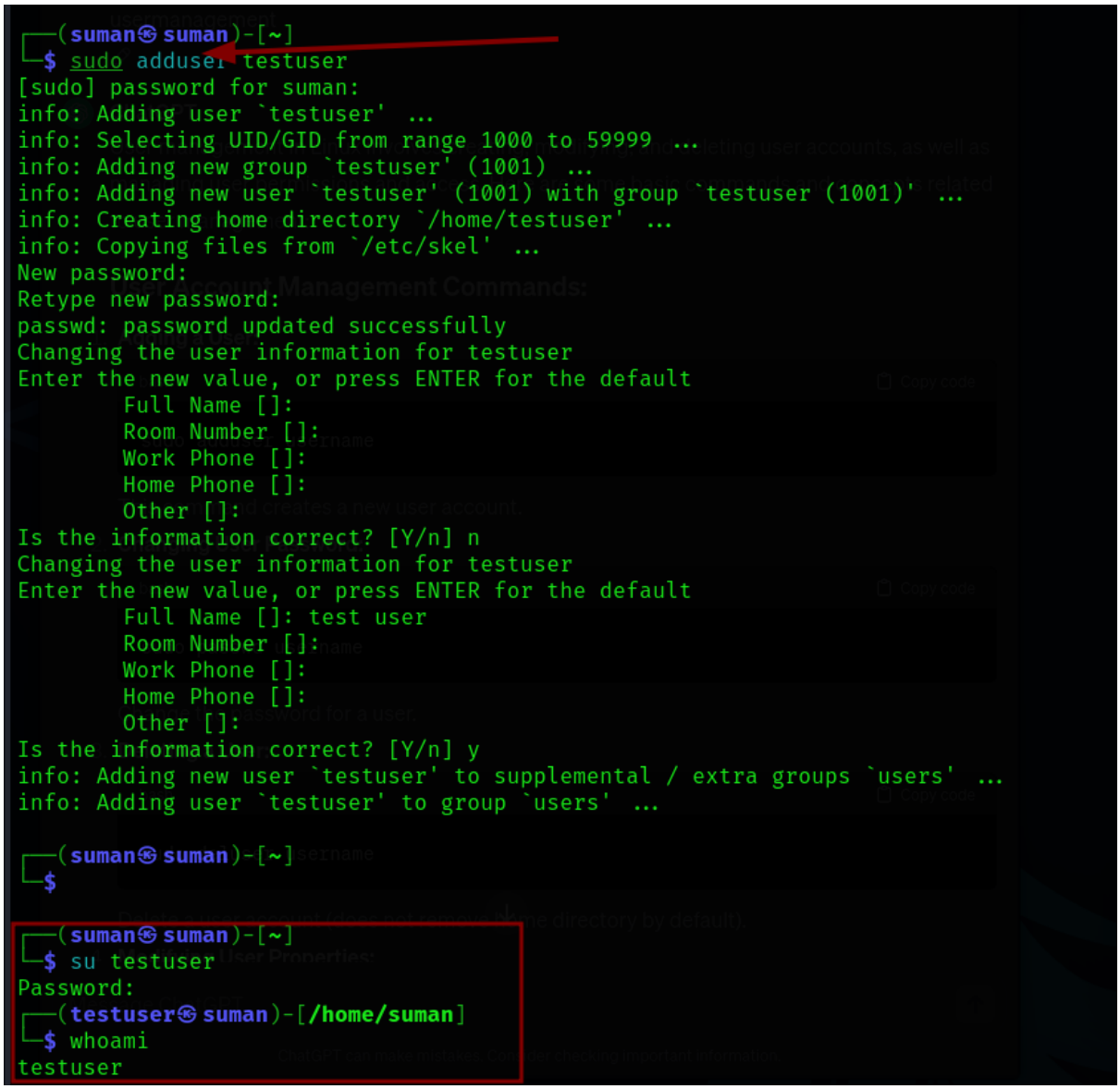
User Management

User management is one of the main tasks of Linux administrators . It involves creating, modifying and deleting the user account, as well as managing user permissions and access. Here the some basic commands related to user management:-

1. Add user:

   This command is used to create a new user account.
   here's the syntax:-
   Sudo adduser <username>



Note:

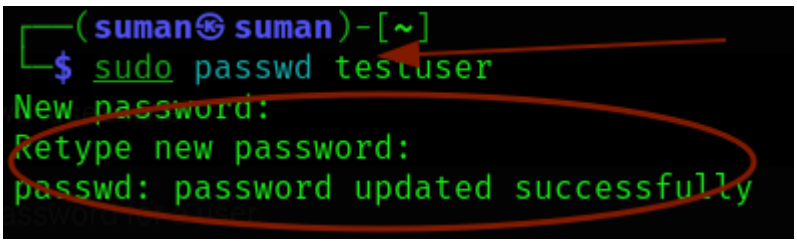
whoami is used to display the current username.

su command is used to switch user.

2. Changing user Password

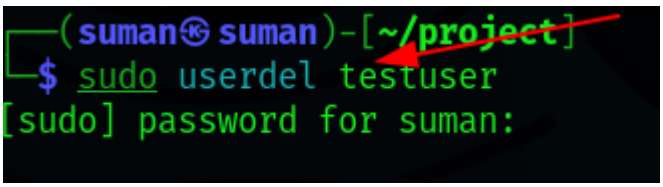
Here the syntax to change the password of user:-

sudo passwd <username>



3. **Deleting the user:-**

To delete a user in linux weuse ‘userdel’ command. Here’s the example:-

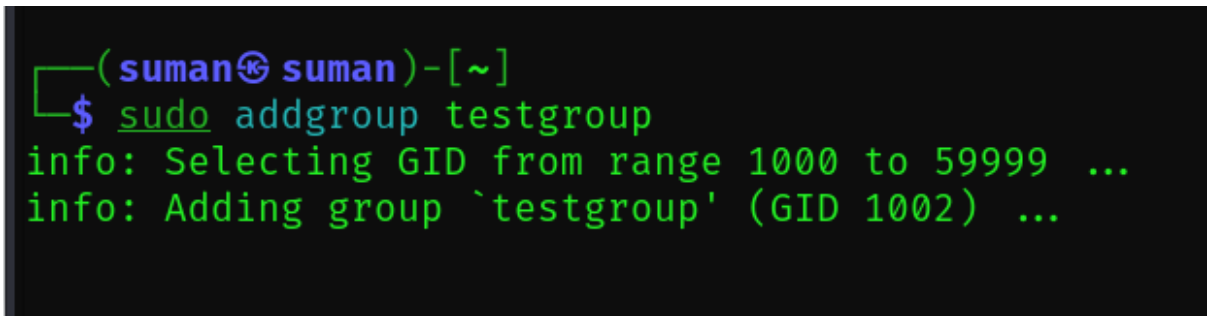


Group management

1. Adding a Group

Here the syntax to add a new group in linux:

Sudo addgroup <groupname>



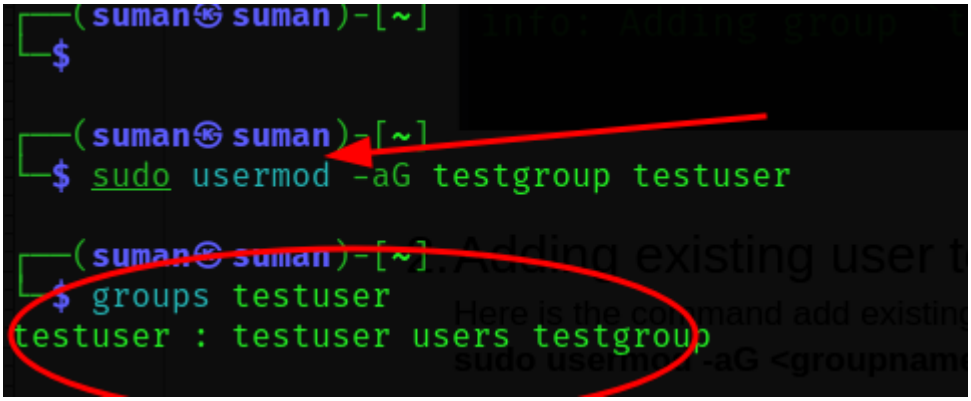
2. Adding existing user to a group:-

Here is the command add existing user in group :-

sudo usermod -aG <groupname> <username>

In this command -aG stand for “append to the group list”

Here the example to add a user named “testuser” to group named “testgroup” :-

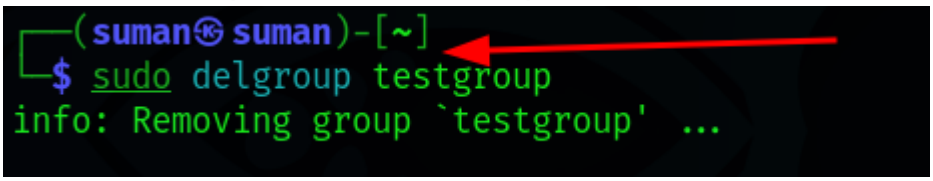


3. Deleting a Group:

   Here is the command to delete group:-

   sudo delgroup <groupname>

   Here the example of deleting group i have created:-

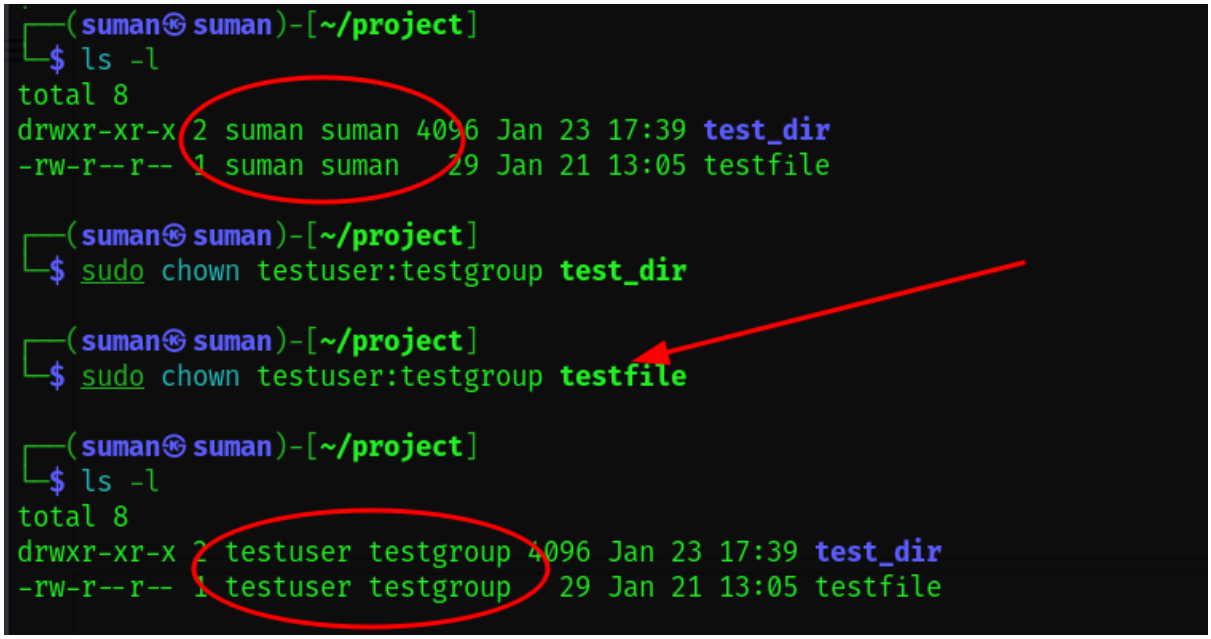


File and Directory Permissions:

1. **Change the ownership of a file or directory:-**

   To change the ownership of a file or directory in linux, we use the ‘chown’ command . Here’s the basic syntax and example:

   sudo chown <desired owner:group or group ID> <file or directory>



In this figure I have a directory named “test_dir” and a file named “testfile” . Initially, both were owned by the user ‘suman’ and the group ‘suman’.

After I use the “sudo chown” command to change the ownership of both ‘test_dir’ and ‘testfile’ to a new user named ‘testuser’ and a new group named ‘testgroup .

Chmod

Files and directories have associated permissions that define who can do what with them . Permission are represented by a series of letters and symbols, often displayed using ‘ls -l’ command . Here’s a brief explanation of file and directory permissions in linux:-

a). In directories :

‘drwxr-xr-x’ :- this represent the type and permissions of the directory :-

‘d’ = directory
‘**rwx’** = permissions of the owner (testuser)
‘r-x’ = permissions for the group (testgroup)
‘r-x’ = permissions for others

b). In files:

‘-rw-r–r– 1 :-this represent the type and permissions of the directory :-
‘-’ = file
‘rw’ = permissions of the owner (testuser)
‘r’ = permissions for the group (testgroup)
‘r’ = opermissions for others

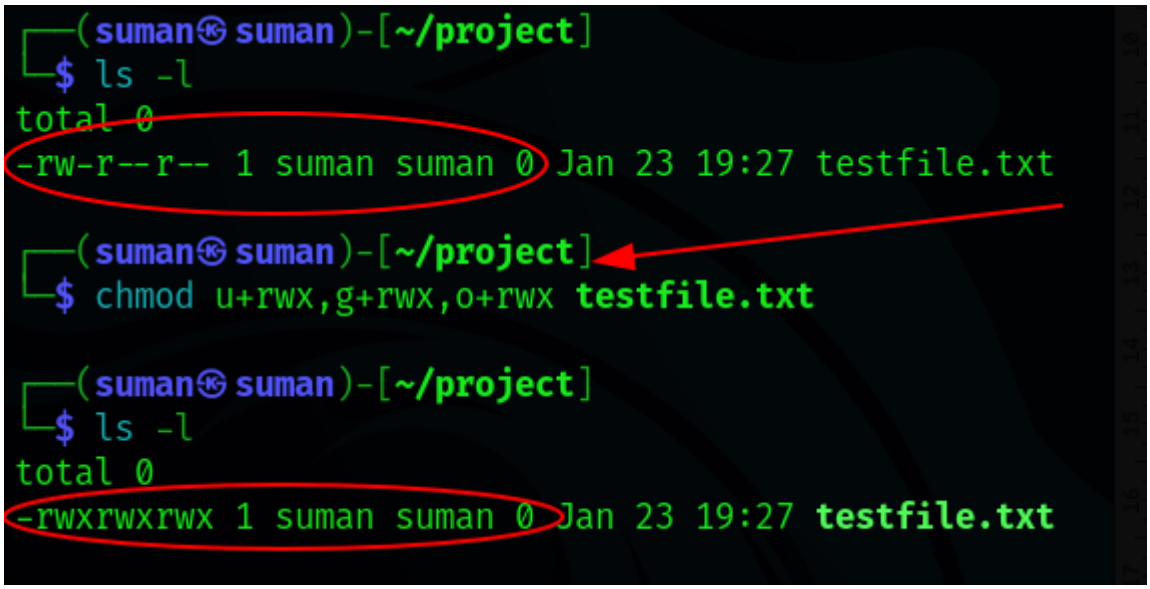
Here’s the detailed overview of symbolic and numeric representation in permission:-

a). Symbolic Representation:-

- r: Read
- w: Write
- x: Execute
- -: No permission

eg: if we need to change the file permission to read, write and execute to all (user, group and others) in symbolic we use this command:-

sudo chmod u+rwx,g+rwx,o+rwx <filename>

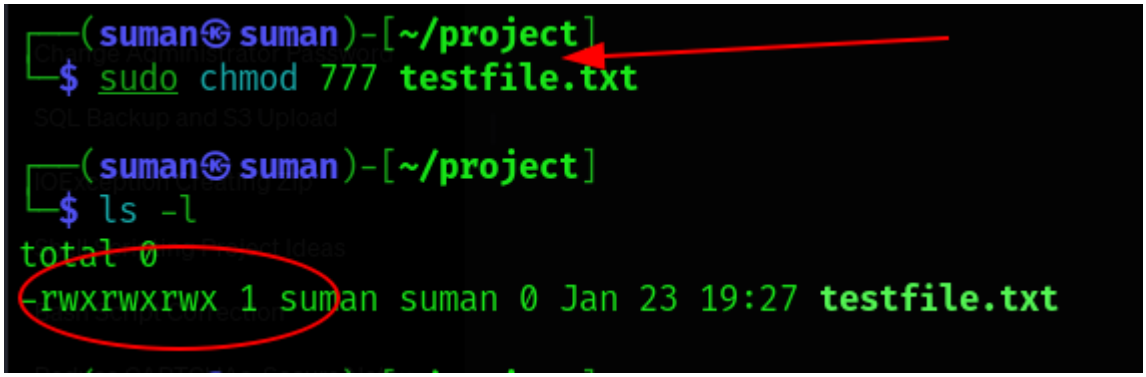


b). Numeric Representation:-

- 4: Read
- 2: Write
- 1: Execute

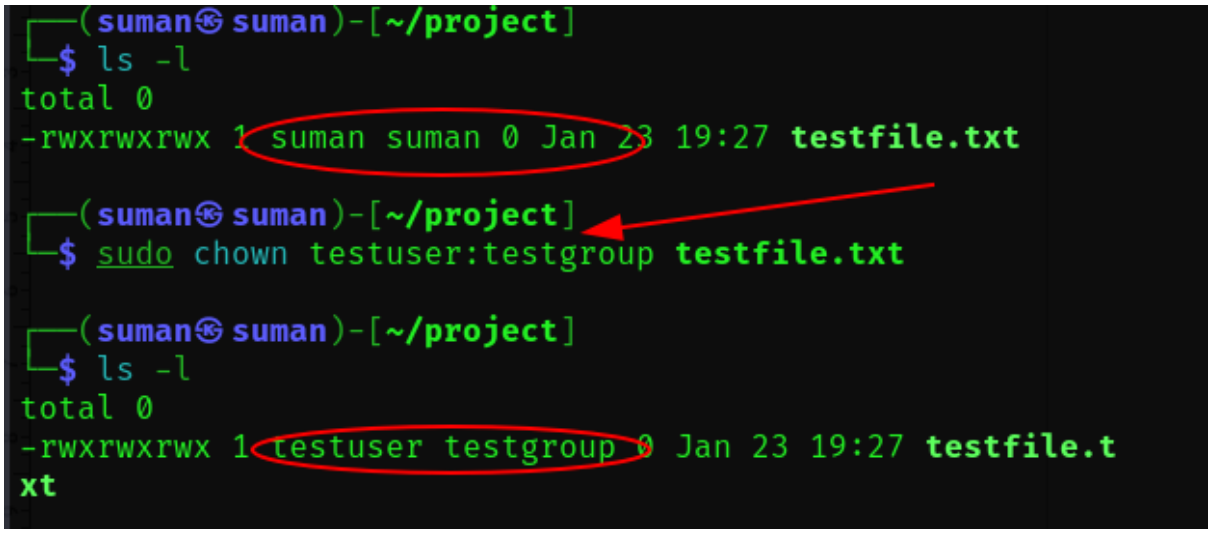
  eg: if we need to change the file permission to read, write and execute to all (user, group and others) in numeric we use this command:-

  sudo chmod 777 <filename>



Chown

The **‘chown’** command is use to changes the owner or group of file or directory .
Here is the basic syntax and example of chown:-
sudo chown <owner:group> <file_or_dir_>



Chgrp

The **‘chgrp’** command is specially used to change the group ownership of a file or directory . Here is the basic syntax and example:-
sudo chgrp <group name > <file_or_dir>
This command changes the ownership of ‘testfile.txt’ to the group ‘prod_group’