# User role assignment in Linux

## **Project description**

This document is to demonstrate how a user can be added to a user group as well as changing the permissions of particular user. Previously, we focused on authorization, the concept of granting access to specific resources in a system. Another important concept in security is authentication. Authentication is the process of a user proving that they are who they say they are in the system.

When managing this, security analysts need to ensure not all users get access to the system, new users (those who are new to the organization or a group) are added to the system, and current users who change groups or leave the organization are deleted from the system.

In this lab activity, you’ll use the useradd, usermod, userdel, and chown commands to manage user access in the Linux Bash shell.

## **Task-1: Adding a new user**

In this task we have to add a new user to the system. The username assigned is **researcher9**

sudo useradd researcher9

Assigning a particular group (i.e., **research\_team**) to user can be done as below.

sudo usermod -g research\_team researcher9

## **Task-2: Assign file ownership**

The new employee, researcher9, will take responsibility for project\_r. In this task, we must make them the owner of the project\_r.txt file. The project\_r.txt file is located in the /home/researcher2/projects directory, and owned by the researcher2 user.

sudo chown researcher9 /home/researcher2/projects/project\_r.txt

## **Task-3: Add user to the secondary group**

A couple of months later, this employee's role at the organization has changed, and he is working in both the Research and the Sales departments.

In this task, we will add researcher9 to a secondary group (sales\_team). Their primary group is still research\_team.

* We have to use the usermod command with the -a and -G options to add researcher9 to the sales\_team group as a secondary group.

sudo usermod -a -G sales\_team researcher9

## **Task-4: Delete a user**

A year later, researcher9, decided to leave the company. In this task, we will remove him from the system.

We can run a command to delete researcher9from the system:

sudo userdel researcher9

**Note:**When you create a new user in Linux, a group with the same name as the user is automatically created and the user is the only member of that group. After removing users, it is good practice to clean up any such empty groups that may remain behind.

## **Summary**

In this activity we learned the below concepts.

* add a new user,
* add a user to a group,
* change user permissions on files, and
* delete a user.

This is an important milestone on our journey toward managing users in Linux!