# Scenario

You are a security professional at a large organization. You mainly work with their research team. Part of your job is to ensure users on this team are authorized with the appropriate permissions. This helps keep the system secure.

Your task is to examine existing permissions on the file system. You’ll need to determine if the permissions match the authorization that should be given. If they do not match, you’ll need to modify the permissions to authorize the appropriate users and remove any unauthorized access.

# File permissions in Linux

## Project description

Goal of this project is to practice managing file permissions in Linux system to ensure security through rule of the least privileges

## Check file and directory details

To check file and directory privileges we use ls -l command.

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## Describe the permissions string

Example:



-rw-rw-rw indicate that for file **project\_k.txt**:

**User** researcher2 has **read** and **write** privileges

**Group** research\_team have **read** and **write** privileges

**Other** have **read** and **write** privileges

According to organization’s policy project files should be accessed only for **research\_team** and **researcher2** user, our goal is to remove all unnecessary privileges.

## Change file permissions

To achieve that we will use **chmod** command which is used to manage privileges in Linux system.

Example:



Now it looks like:



We increased security of our system. Let’s repeat this process for other files.

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Now only research\_team and researcher2 have privileges to read or modify project files.

## Change file permissions on a hidden file

There is also hidden file **.project\_x.txt** which is archived by organization which means that no one should have ability to modify it. We use **ls -la** to additionally display hidden files

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We found **.project\_x.txt** hidden in this directory. Now we have to remove write privilege for **.project\_x.txt** for all possible users.

It is generally recommended to use ls -la to never miss out on hidden files.

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## Change directory permissions

**Drafts** directory is misconfigured. Directory belongs to researcher2 and only he should have access to it. Let’s fix that!

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## Summary

Through this project we continually improved security of our system according to policies set by organization by managing access to privileged personnel. Only authorized users have access to sensitive data contained in our projects directory.