File permissions in Linux

Project Description:
The research team at our organization sought to update file permissions within the projects directory to ensure the appropriate level of authorization and enhance system security. By swiftly utilizing precise Linux commands, we successfully rectified the misconfigured permissions on the project files. The following optimized steps were undertaken:

1. Check File and Directory Details:
- Change directory: `cd projects`
- List content and their permissions: `ls -l`

Permissions Description:
The 10-character string represents the permissions, where the first 4 dashes indicate user permissions, the next 4 indicate group permissions, and the last two represent owner permissions.

2. Describe the Permissions String:
The 10-character string can be deconstructed to determine the authorized access and specific permissions for users, groups, and others.

3. Change File Permissions:
We removed write permissions for each file, such as "project_m.txt", using the command `chmod u-w <filename>`. This process was repeated for all relevant files.

4. Change File Permissions on Hidden Files:
To view hidden files in the directory, use `ls -la`. Modify permissions for hidden files using appropriate `chmod` commands.

5. Change Directory Permissions:
Similar to file permissions, modify directory permissions using the `chmod` command. For example, `chmod u-w /home/projects/drafts` to remove write permissions for the directory.

Summary:
By skillfully employing commands such as `ls`, `chmod`, and `cd`, we swiftly rectified the misconfigured permissions, ensuring the appropriate level of authorization for files and directories within the projects directory. This fortification enhances system security, safeguards file integrity, and protects against unwanted changes.