

## CHAPTER 5: Sharing Files (File Access Permissions)

### Introduction:

Bayanihan Linux makes it easy for users to share files and directories by controlling exactly who has access to certain files and directories thru file access permissions.

### In this chapter, you will learn how to:

- Understand files access permissions
- Change the access permissions of a file and directory
- Share files with other users

### Situation:

Your laboratory teacher asked each pair in your class to submit a report. You and your lab partner Kim have already completed the draft of your report, you only need to type and print it for submission. Kim will not be able to join you in encoding the report during your lunch break because she has to attend the school body meeting. She instead asked you to encode the 1<sup>st</sup> half of the report and she'll encode the 2<sup>nd</sup> half the next day.

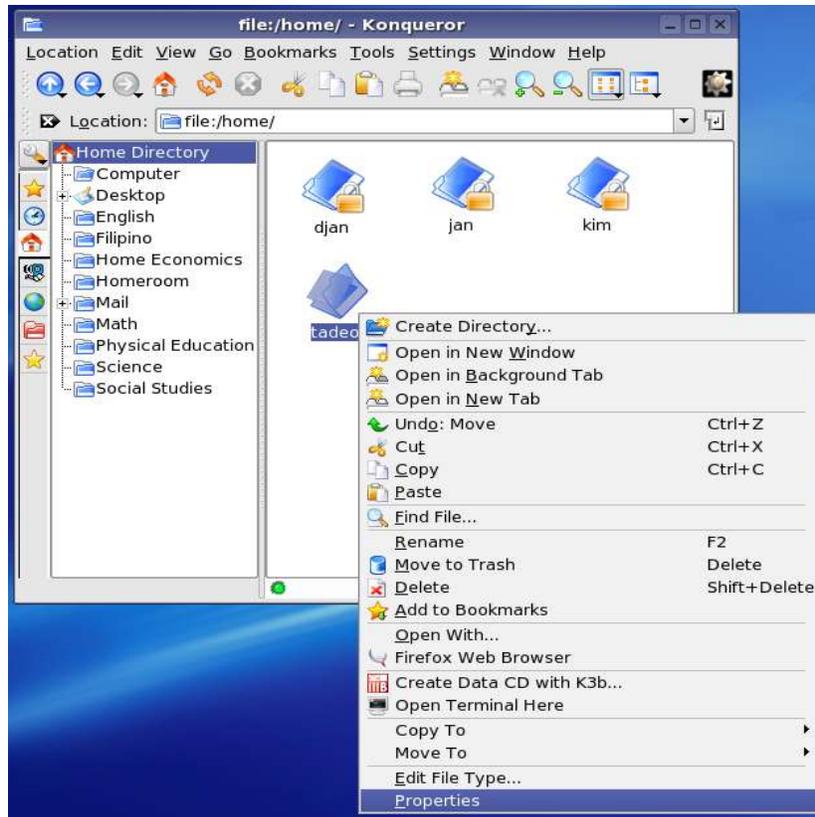
In your computer laboratory, you are not allowed to share your account with other students. Instead a user group for each lab pair is created by the administrator to enable file sharing between users.

### Tasks:

1. Create and encode your part of the report.
2. Save the file.
3. Change the file access permission of the file and your directory.
4. Tell your lab partner the location and filename of the report.

### Solution:

1. Login using your username and password.
2. Create the file using a file editor and encode your part of the report.
3. Save the file as "Lab\_Report.txt" in your "Computer" directory and close the editor.
4. Go to your home directory by double-clicking the *Home* icon in your Desktop. The Konqueror program will appear and display the contents of your home directory. From the Konqueror click the up button ( ) to show the  directories in "/home". Select your personal directory which is "<username>" and click the right mouse button to show the menu related to the directory.



5. Click *Properties*, this will show you the Properties Dialog Box for the directory "<username>". Click on the "Permissions" tab to show the access permissions of the directory.



Familiarity with groups, file ownership, and access permissions will help you understand how file access and security work in Linux.

- Groups: Users can be classified into groups. Permissions imposed on a group are enforced to every user in that group.
- File Ownership: This specifies who owns the file. The owner of the file is the user who created the file.
- File Permissions: File Permissions determine the accessibility of the file.

Permissions for directories:

- Read permission allows you to see the files in the directory
- Write permission allows you to manipulate files in the directory (Take note that a directory is a kind of file)
- Execute permission allows you use the directory name in a path

If “Show Entries” (read permission) in a directory is enabled you can only read the names of the files in the directory but you cannot read the contents nor write/modify the files. On the other hand, having execute permission but not read permission lets you read, write to, or execute files in the directory. To be able to do this you must know the files name and that you have the appropriate permissions for that file.

6. To change the access permissions of your home directory “<username>”, change the “Group” entry on the “Ownership” frame to “lab101p2” since you and Kim are a member of that group. On the “Group” entry in the “Access Permissions”, enable “Show Entries” and “Enter”. Enabling “Show Entries” will let Kim see the directories and files in your home directory “<username>”. Enabling “Enter”, on the other hand, will let her enter the subdirectories and copy but not modify the files.

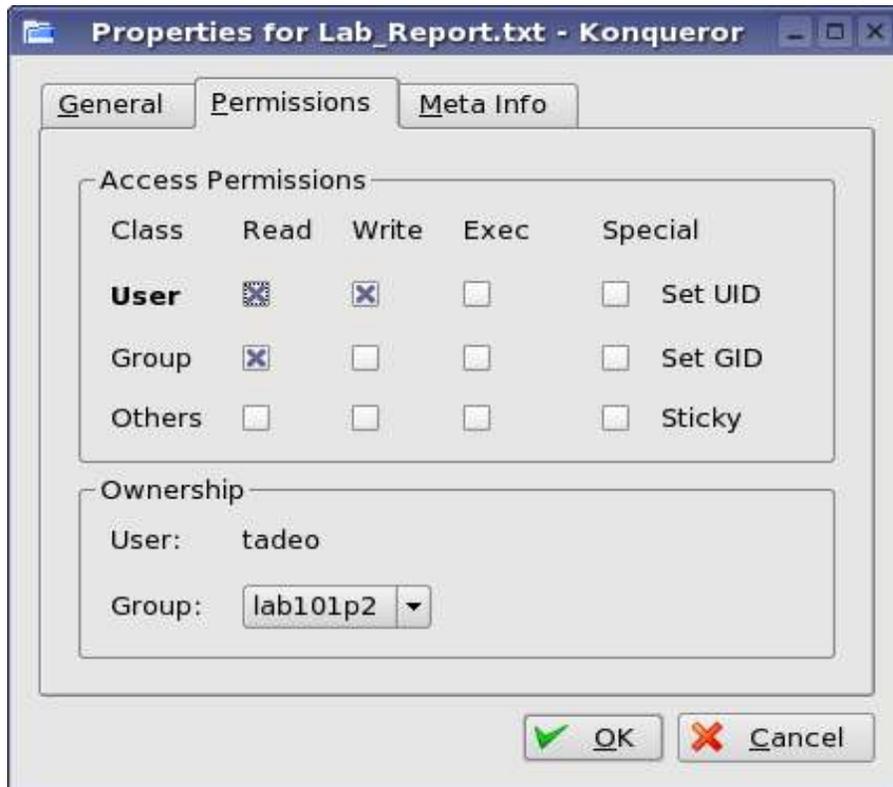
Click on “Apply changes to all subdirectories and their contents” and click “OK” button to apply the changes you have made.

7. Now, go to the “<username>/Homeroom” directory and check for the file permissions of the file “Lab\_Report.txt”.

A file always belongs to both a user and a group. Usually, the user who created the file is the owner. The group who owns the file is the group the user was working in when the file was created. The permissions available on files include read, write, and execute. Read permission for a file enables the user to only read its contents. Write permission, on the other hand, enables the user to modify or remove the file. Execute permission, to run it as a program.

To change the access permissions of “Lab\_Report.txt”, change the “Group” entry on the “Ownership” frame to “lab101p2”. This will share the file with Kim. Click the “OK” button to apply the changes.

8. You are now able to share your file with Kim. Just tell her the location of the file “Lab\_Report.txt” so that she can create a copy on her home directory.



**Summary:**

You are now able to:

- Understand files access permissions
- Change the access permissions of a file and directory
- Share files with other users