9 - Filesystem Access

1. **Review questions**

Notice that the questions below refer to ‘ordinary’ users, and that restrictions discussed do not apply to user ***root*** (or any other user with **UID=0**).

1. What permissions are required to copy a file?

-wx in the file directory and –x in all parent directories. If copying to a new file, the same permissions are needed in the destination.

1. If a directory has the ‘sticky bit’ set, can you remove a file located in it (assume you have the write permission on that directory)?
2. What permissions will be assigned to new files and directories if the value of umask is 002?

Other users will be able to write.

1. What is the purpose of the SUID and SGID permission bits?

SUID and SGID are used to change effective ownership of files. SUID changes effective owner, and SGID changes effective group.

1. What command would assign new group ownership to **project** directory and its entire content?

chgrp –R groupName /project/

1. **In this lab, we will use file-permission modification commands.**
2. Change to your home directory, take a copy of the ***/etc/group*** file and check at its permission flags.
3. Remove from the **group** file the read permission (for the file owner only) and then run a command that would count lines in the **group** file.
4. Remove the group file from your home directory. Are you surprised that it worked? Which permissions were consulted for the purpose of this operation? **Full permissions are given to me to remove files in the directory that I am in.**
5. Now try:

$ **rm –f /etc/group**

Why can’t you delete the file?

I do not have the permissions here, only root does.

1. **This lab investigates the directory access permissions, the *x* bit.**
2. You should still have a directory called ***project2*** (created in an earlier lab).

If, by any chance, this directory no longer exists, create it (in your home directory).

1. Put a couple of files in your **project2** directory; you can use **cp**, **touch**, **>** , or any method you prefer, even **vi** ;-)
2. Make sure you are in your home directory, and then take away (from yourself) the ***x*** bit from the **project2** directory.
3. What are the implications of what have you just done? Use **ls** and **ls -l** on the **project2** directory and interpret the results.
4. Can you successfully change into the **project2** directory ?
5. Now re-assign the search permission to the **project2** directory, and test that you can again do the long listing of **project2** (change into it, etc).