Exercise 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?

The read and write permissions can be used to copy a file.

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)?

Yes, the file located in the directory can be removed if it has a ‘sticky bit’ set.

1. What permissions will be assigned to new files and directories if the value of umask is 002?

------rw-

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

The SUID and SGID permission bits set the user or the group on execution

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

Chgrp -R group directory

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.

cp /etc/group Module09 (This copies the file naming it Module09)

ls -l Module09 (This shows the permission flags specifically for the required file)

--rw-r--r--

1. 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.

sudo chmod u-r ~/Module09

ls -l Module09

--w-r--r—

wc etc/group

1. Remove the group file from your home directory. Are you surprised that it worked? Which permissions were consulted for the purpose of this operation?

rm Module09

1. Now try:

$ **rm –f /etc/group**

Why can’t you delete the file?

Because we don’t have the execute and write permission for the directory therefore unable to delete, can only read.

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. **Chmod u-x ./Project2**
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).