# Exercise 2

## Users and Groups

1. In this exercise you may need to use root privileges. You should use the **sudo** command whenever it’s necessary.
2. Add two users:
   1. User **adduser** to add **user1**
   2. User **useradd** to add **user2** (use man or google to learn about the special flags needed for the command)
3. Create a password for both users using the **passwd** command
4. Make sure you can switch to these users using
   1. **su** command
   2. **sudo su** command
   3. remember that other users do not have the ability to use **sudo**, so they will be required to enter their password**.**
5. Adding **sudo** privileges:
   1. Add **user1** to the **group sudo**. Then switch to it and make sure you can use any **sudo** commands when you’re logged to that user.
   2. Sometimes we want a user to run tasks without having to enter the password each time. Make **user1** so that it doesn’t ask for password when running sudo commands.
   3. You can use **whoami** and **id** commands to verify which user you are currently logged into your current terminal, but also notice that the **prompt** changes accordingly to reflect which **username** and **hostname** you are currently logged into.
   4. When you use **su** or **su –** you actually start a new **bash** inside your current **bash**. To go back one level up you can either use **exit** command, or press **ctrl+d**. Try that.
   5. Add the ability for **user2** to run only the **id** command using **sudo**. You may have to do a little research on the syntax of **/etc/sudoers** file

Sudo visudo

A: username ALL=(ALL) NOPASSWD:/usr/bin/id

* 1. Lock **user2** and then try to **su** into it
  2. Delete **user2**

## File ownership and permissions

1. Create a file named **hello.txt** which contains the word “**hello”**
2. Give it permissions to be run by your user

A: chmod +x filename

1. Change the group of the file to be root (you may need sudo)

A: sudo chgrp root filename

1. Perform t
   1. Create hard link to that file named **hello-hard-link.txt**

**A****: ln /Desktop/hello.txt linkname**

* 1. Verify that both files are using the same **i-node** (hint: i-nodes)

A: stat “filename” they have different inode number beacause they are at the same filesystem.

* 1. Create a soft-link to the file **hello-soft-link.txt**

A: Ln -s hello-hard-disk.txt “softlink”

1. Try to create a soft-link to a directory. Now try to create a hard-link to a directory. Did it work? Try to search the web as to why.

## Packages

1. Install **apache2** package using **apt** without being asked questions (search for the appropriate flag of the apt command)

## Services

1. Use **systemctl** command to check status, stop, start, and restart the **cron** service