LAB 0: NAVIGATING THE LINUX TERMINAL

Due Aug 24 by 3:30pm **Points** 5 **Submitting** a media recording or a file upload **Available** until Aug 24 at 3:30pm

This assignment was locked Aug 24 at 3:30pm.

Update: I just learned something new, you need to set your preferences to have a solid background for your terminal or it will show transparent like the below screenshots.

Navigation

Average Time: 15 minutes. This lab goes through some of the basic commands for listing and navigating between files and directories on a Linux machine. You will be turning in one (1) .png or .jpg file for your graded submission. See step 14 for details (i.e. **lab0.jpg**).

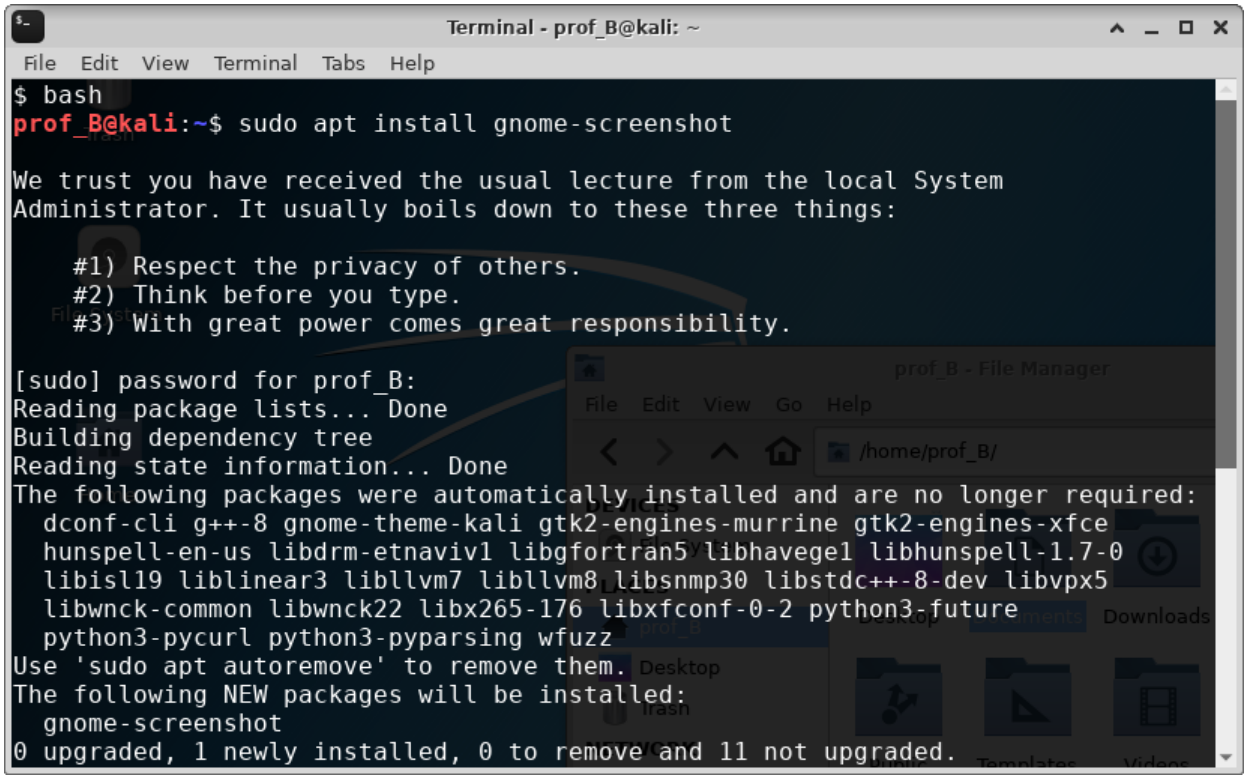
Step 0:

Install gnome-screenshot

Depending on your OS (kali/raspbian), you may want to install a screenshot application. The first thing you want to do is open a terminal and type

```
bash
apt install gnome-screenshot
```

Why bash? Because i like the color scheme.



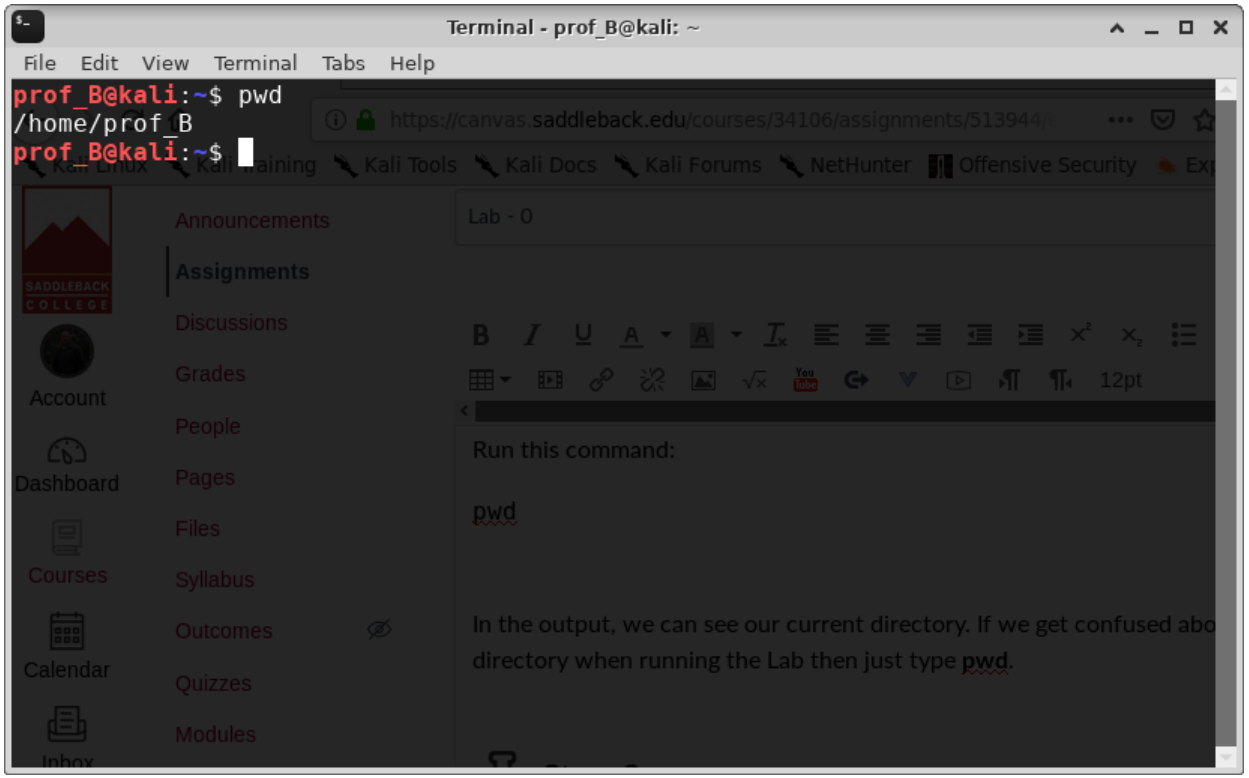
Step 1:

Print Working Directory (pwd)

Let's get started with basic Linux command line usage. The second thing we want to do is to find our current working directory. One of the biggest challenges for people coming from Windows to Linux is understanding the directory structure. Directory structure confusion makes it difficult to know where you are at any given time while you're in the Linux terminal. Fortunately, there's a way to always know. To see your current directory, enter the command **pwd** (print working directory).

Run this command:

```
pwd
```



In the output, we can see our current directory. If we get confused about our current directory when running the Lab then just type **pwd**.

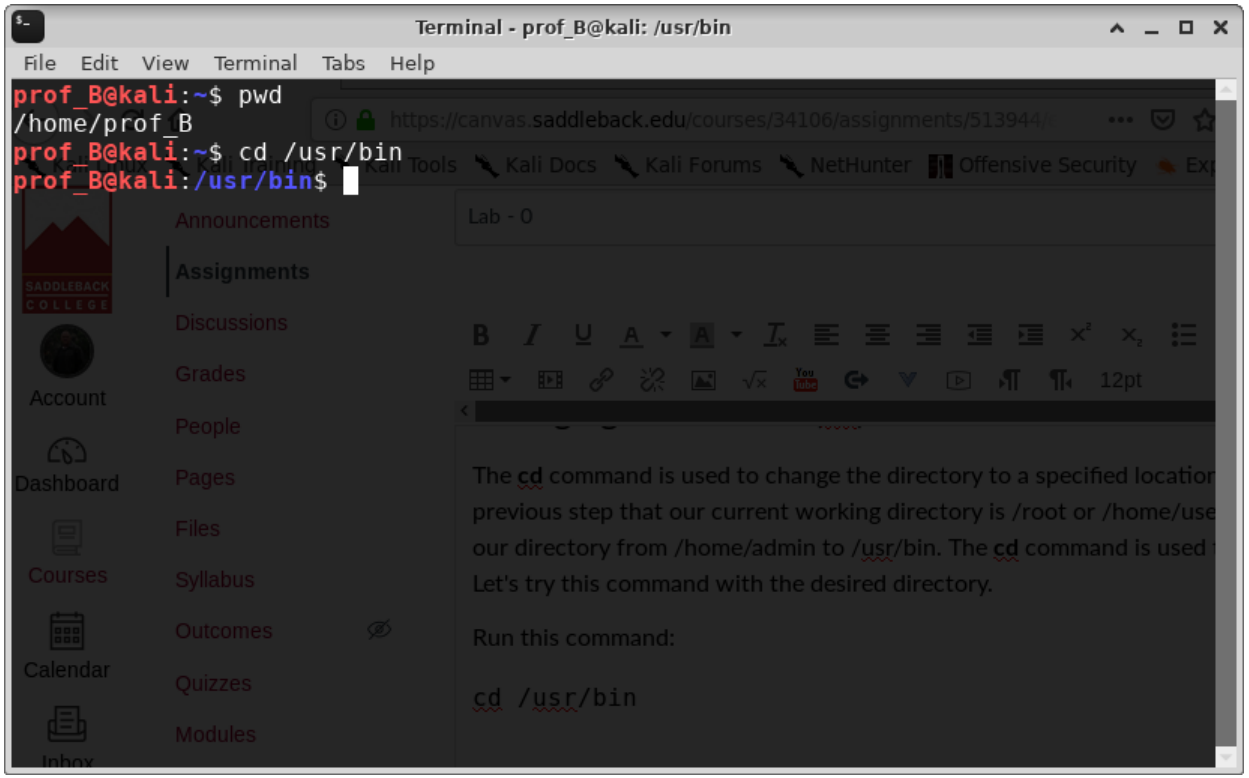
Step 2:

Changing Directories (cd)

The **cd** command is used to change the directory to a specified location. We saw from the previous step that our current working directory is /root or /home/user. Now Let's change our directory from /home/admin to /usr/bin. The **cd** command is used to change directory. Let's try this command with the desired directory.

Run this command:

```
cd /usr/bin
```



Use the **pwd** command and make sure the current directory is /usr/bin.

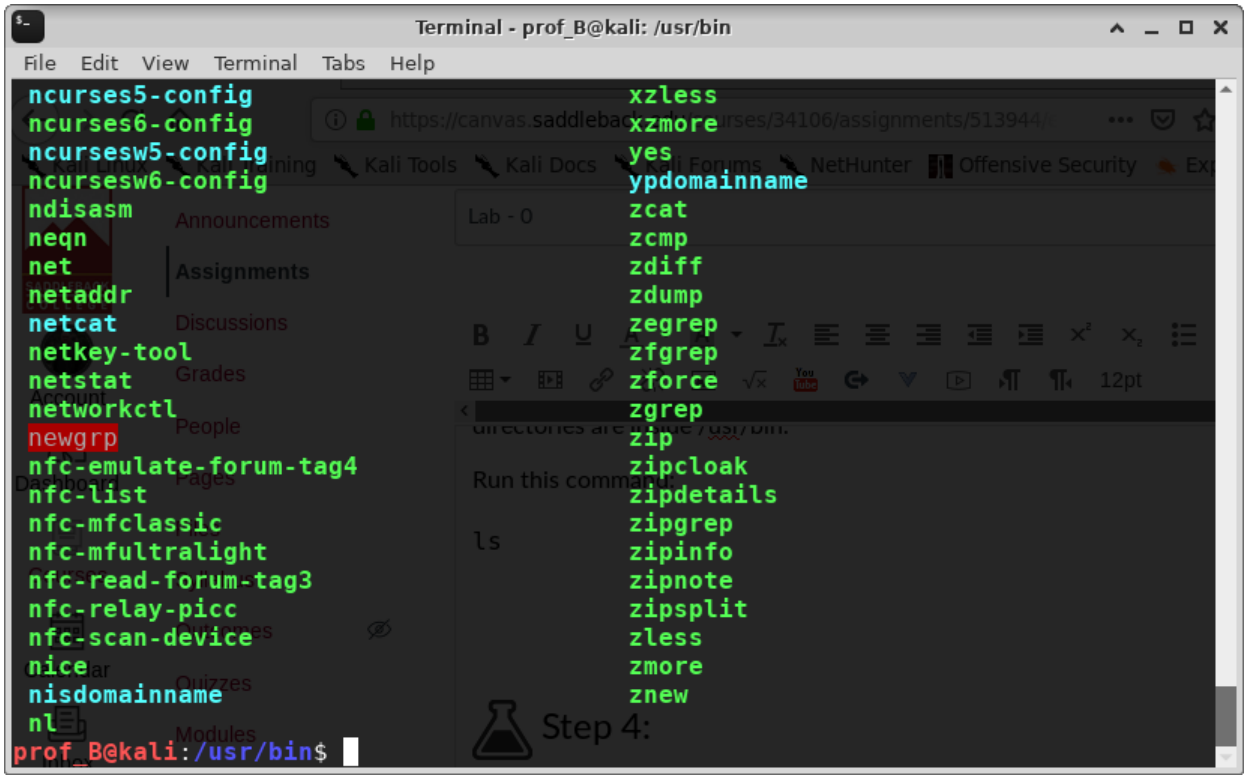
Step 3:

Listing Files and directories (ls)

The ls (list) command returns a list of files and directories and lists them in the terminal. We are currently in the /usr/bin directory so lets run **ls** command and see what files and directories are inside /usr/bin.

Run this command:

```
ls
```

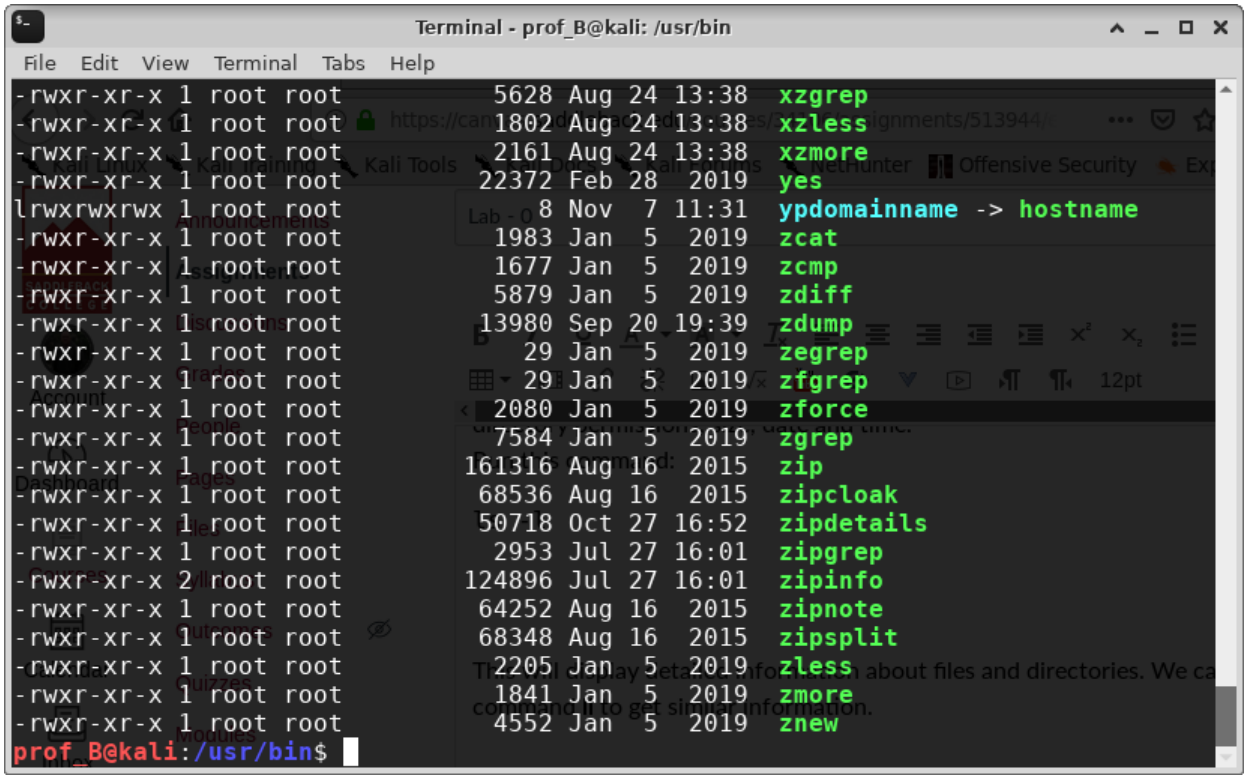


Step 4:

ls with modifier (ls -l)

Let's list the files in the current working directory with detailed information such as file or directory permissions, size, date and time.
Run this command:

```
ls -l
```



This will display detailed information about files and directories. We can also use the command **ll** to get similar information.

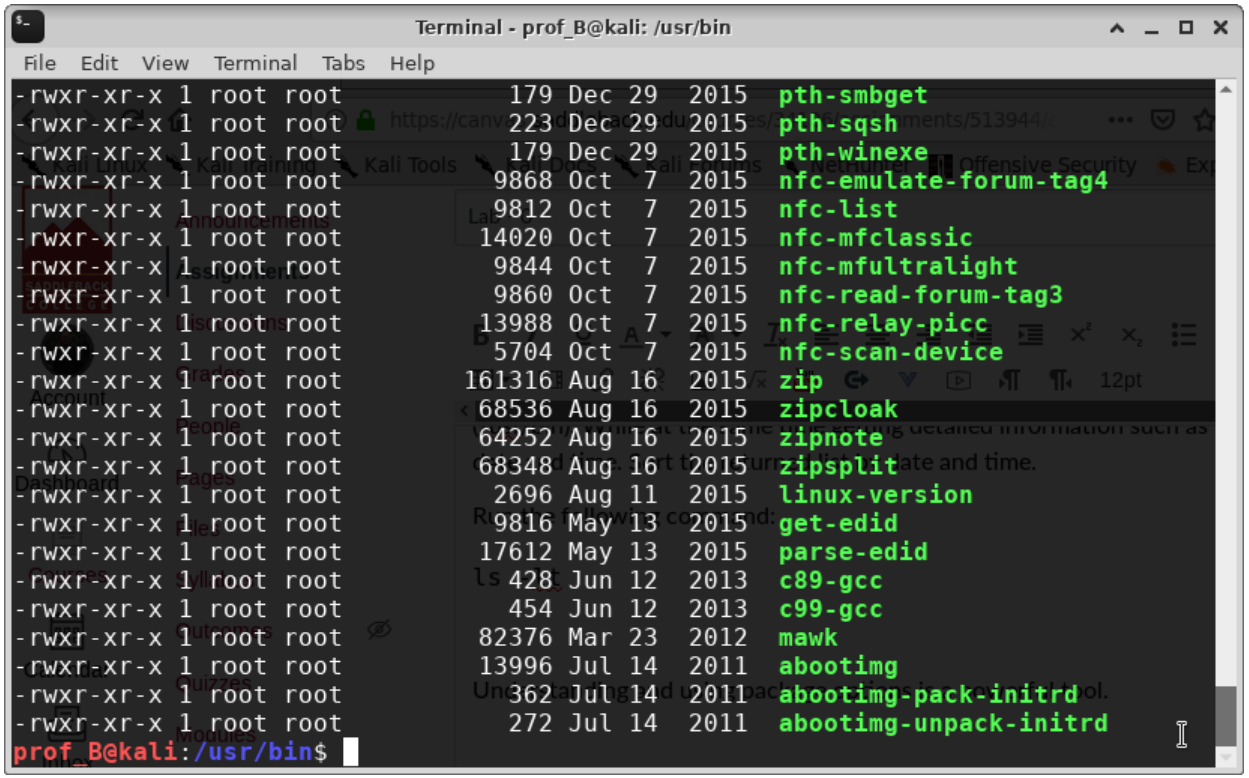
Step 5:

ls with modifier (ls -lt)

Now, let's learn about several **ls** options. Search for all the files in the current directory (/usr/bin). While at the same time getting detailed information such as file permissions, size, date and time. Sort the returned list by date and time.

Run the following command:

```
ls -lt
```



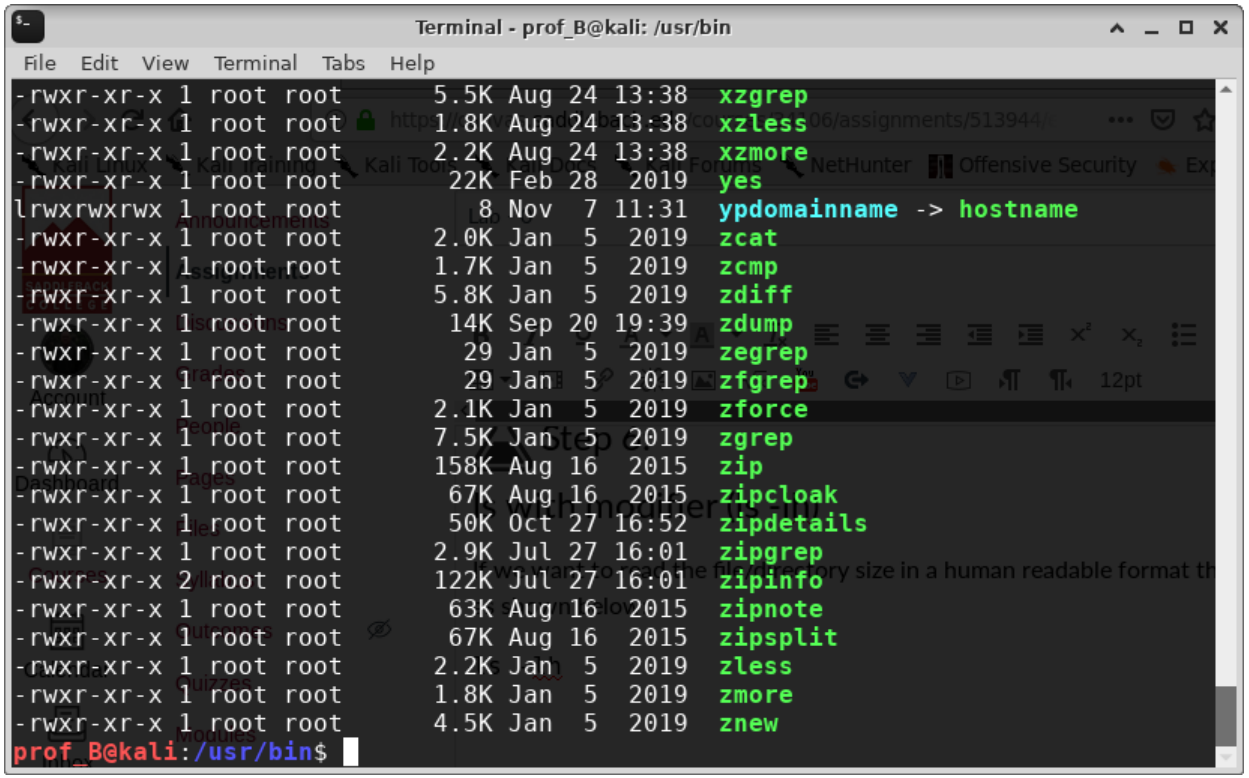
Understanding and using package options is a powerful tool.

Step 6:

ls with modifier (ls -lh)

If we want to read the file/directory size in a human readable format then run the command as shown below:

```
ls -lh
```



We can see that all the files are listed in a human readable format. Also, as with the previous steps, we can get all the details of directories.

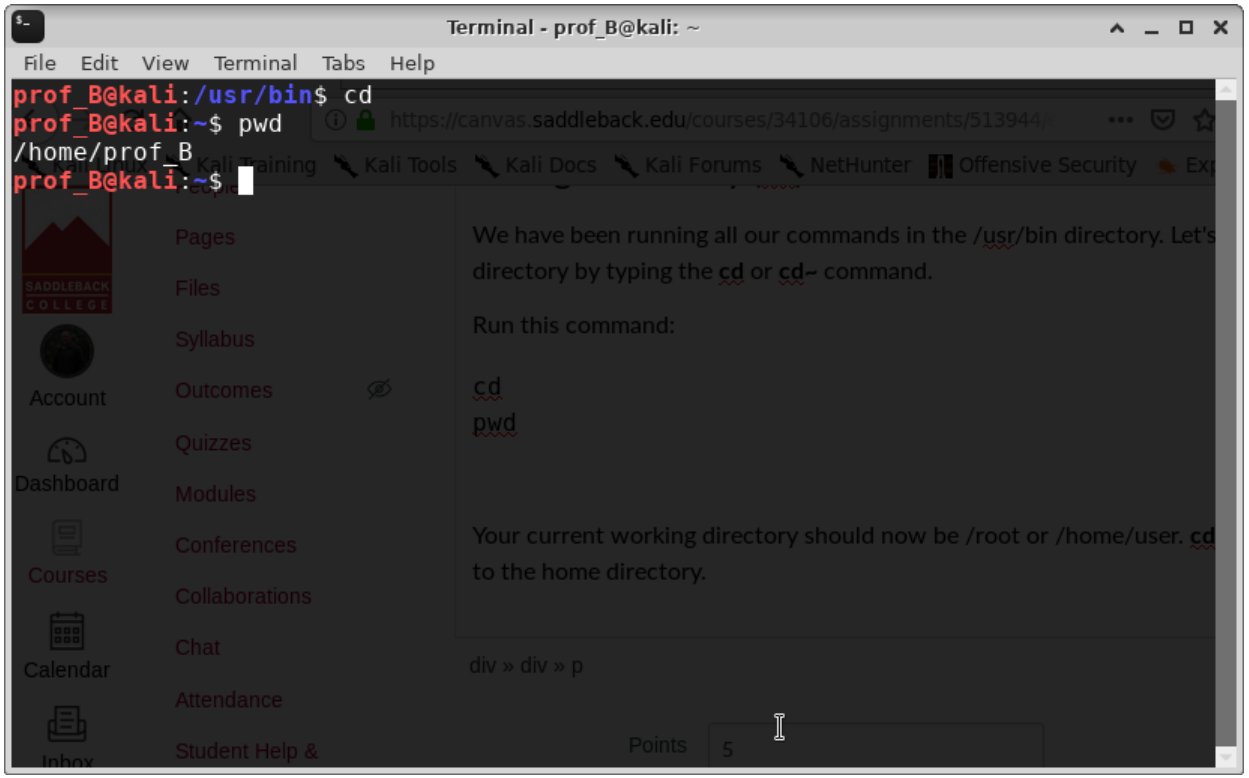
Step 7:

Change directory (cd)

We have been running all our commands in the /usr/bin directory. Let's move our current directory by typing the **cd** or **cd~** command.

Run this command:

```
cd
pwd
```



Your current working directory should now be /home/*user*. **cd ~** will also bring you to the home directory.

Step 8:

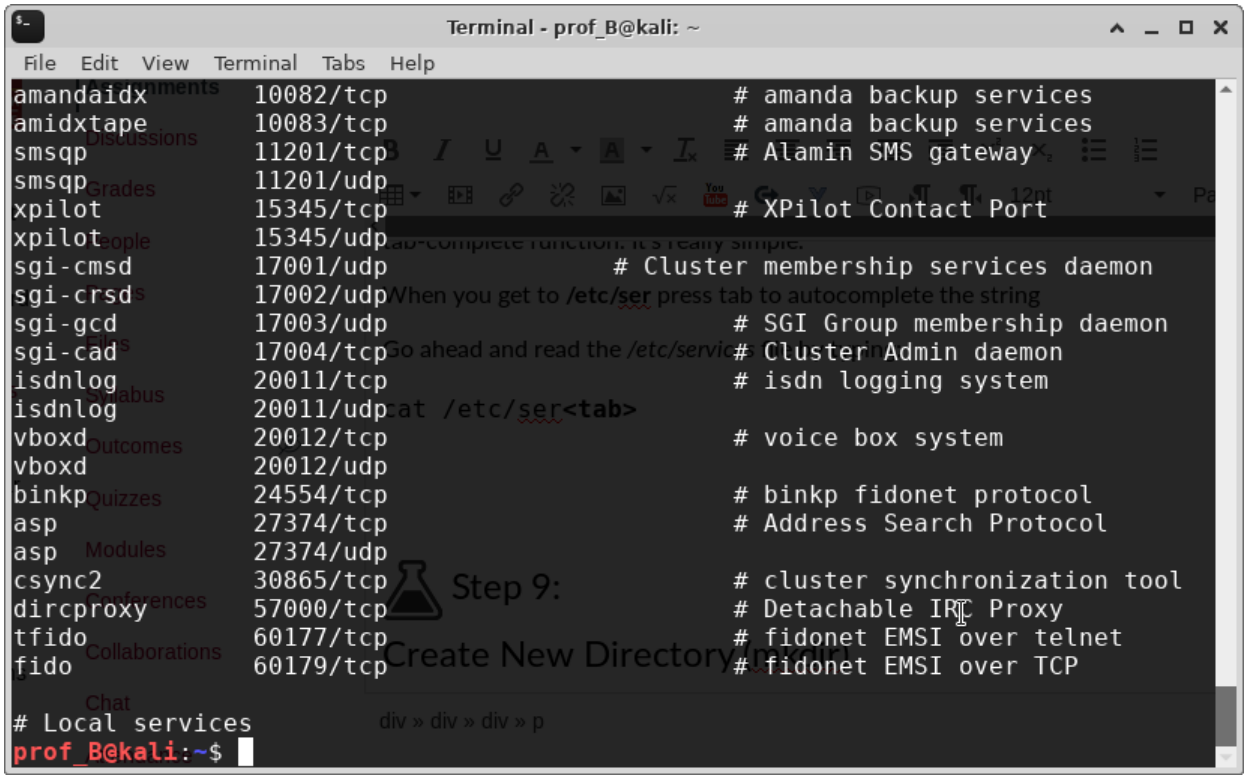
Auto-complete and Command History: The long way

Another important technique that will make you much faster is using the auto-complete or tab-complete function. It's really simple.

When you get to **/etc/ser** press tab to autocomplete the string

Go ahead and read the */etc/services* file by typing:

```
cat /etc/ser<tab>
```



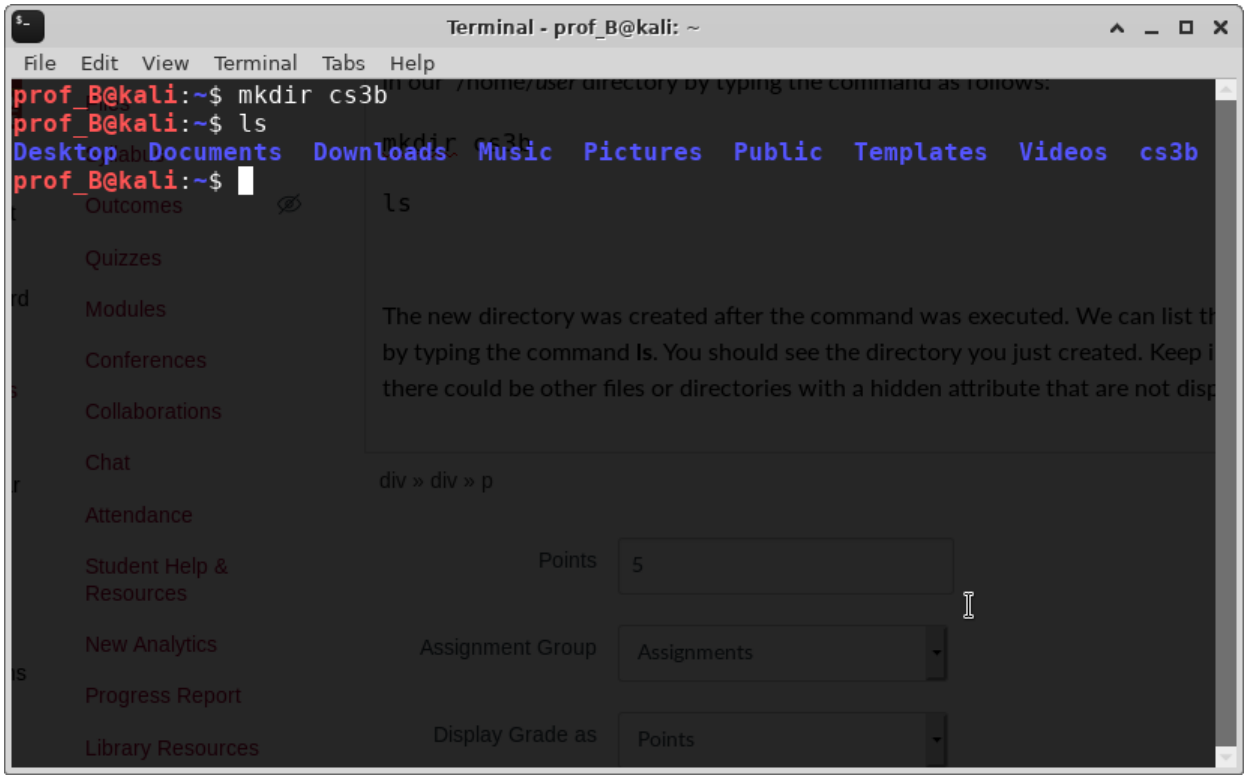
Step 9:

Create New Directory (mkdir)

To create a new directory use the **mkdir** command. Let's create a new directory named **cs3b** in our /home/*user* directory by typing the command as follows:

```
mkdir cs3b
```

```
ls
```



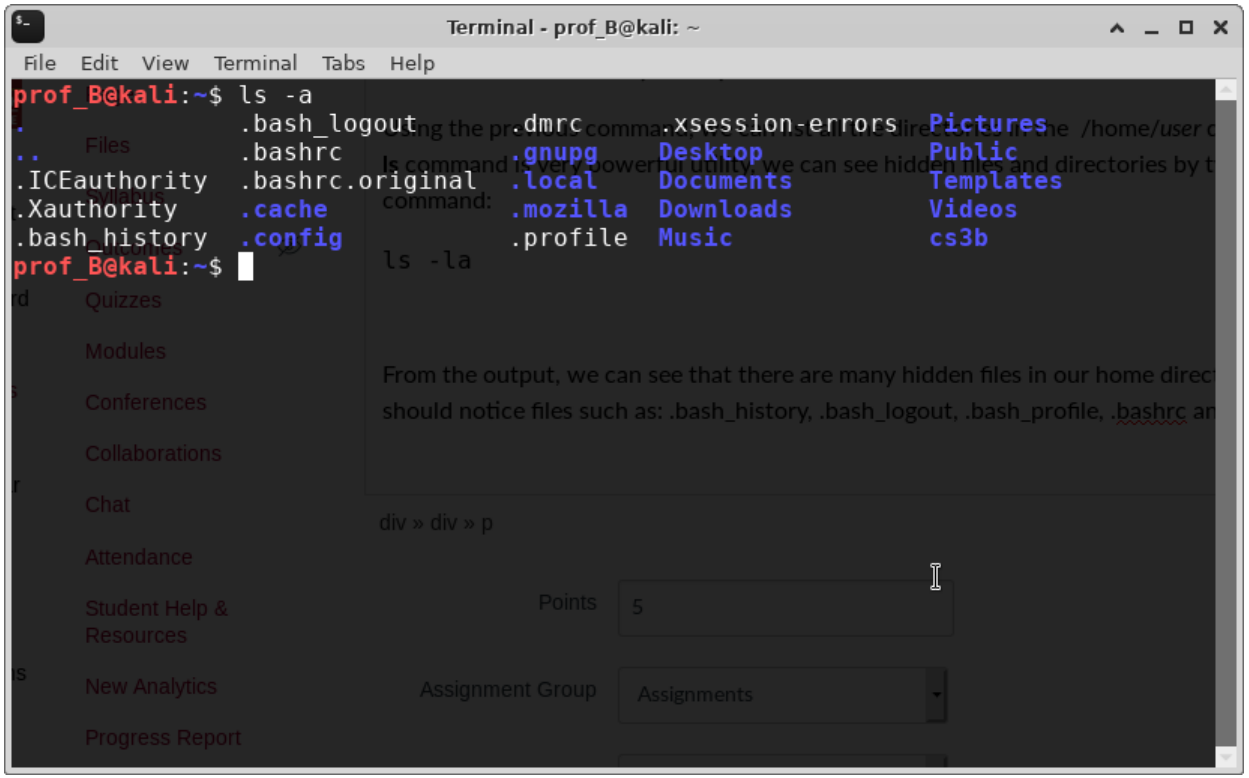
The new directory was created after the command was executed. We can list the directory by typing the command **ls**. You should see the directory you just created. Keep in mind that there could be other files or directories with a hidden attribute that are not displayed.

Step 10:

ls with modifier (ls -la)

Using the previous command, we can list all the directories in the /home/*user* directory. The **ls** command is very powerful utility, we can see hidden files and directories by typing the command:

```
ls -la
```



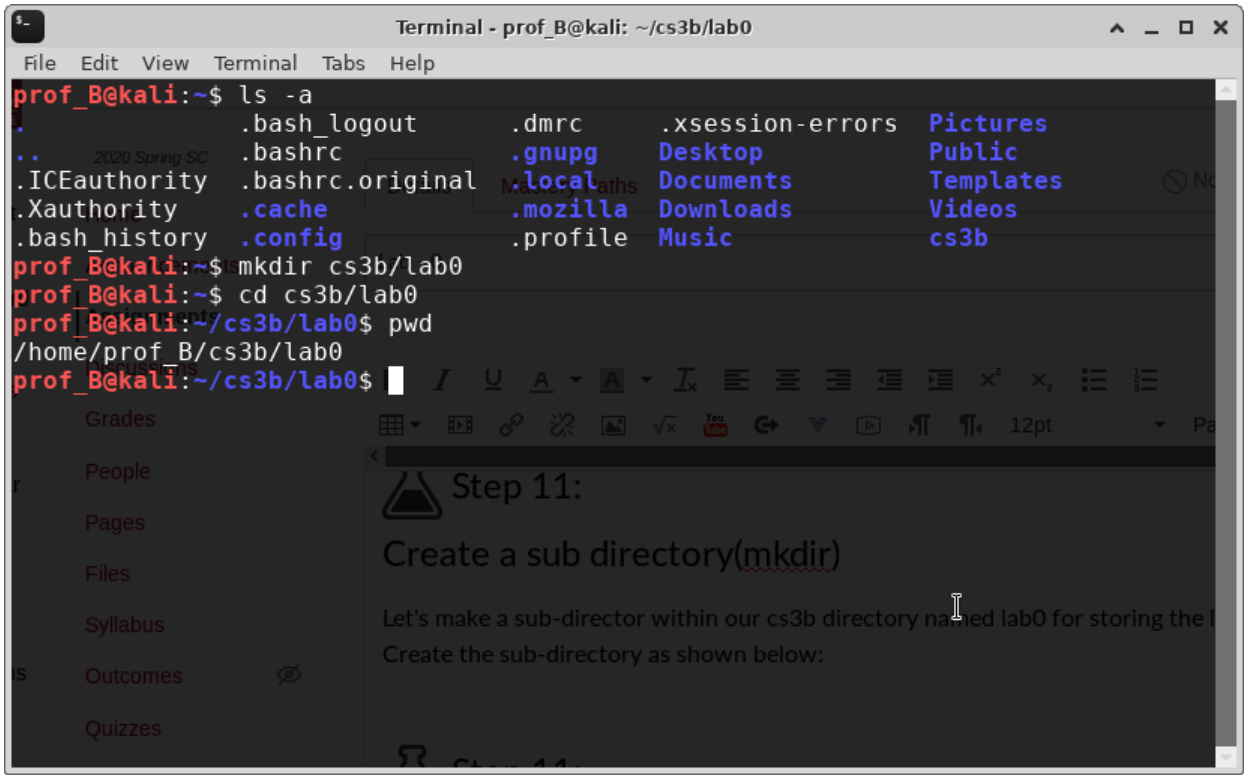
From the output, we can see that there are many hidden files in our home directory. You should notice files such as: .bash_history, .bash_logout, .bash_profile, .bashrc and etc.

Step 11:

Create a sub directory(mkdir)

Let's make a sub-directory within our cs3b directory named lab0 for storing your lab0 submission (**lab0.jpg**). Create the sub-directory, navigate to it using cd, and finally show its contents as shown below:

```
mkdir cs3b/lab0
cd cs3b/lab0
pwd
```



Step 12:

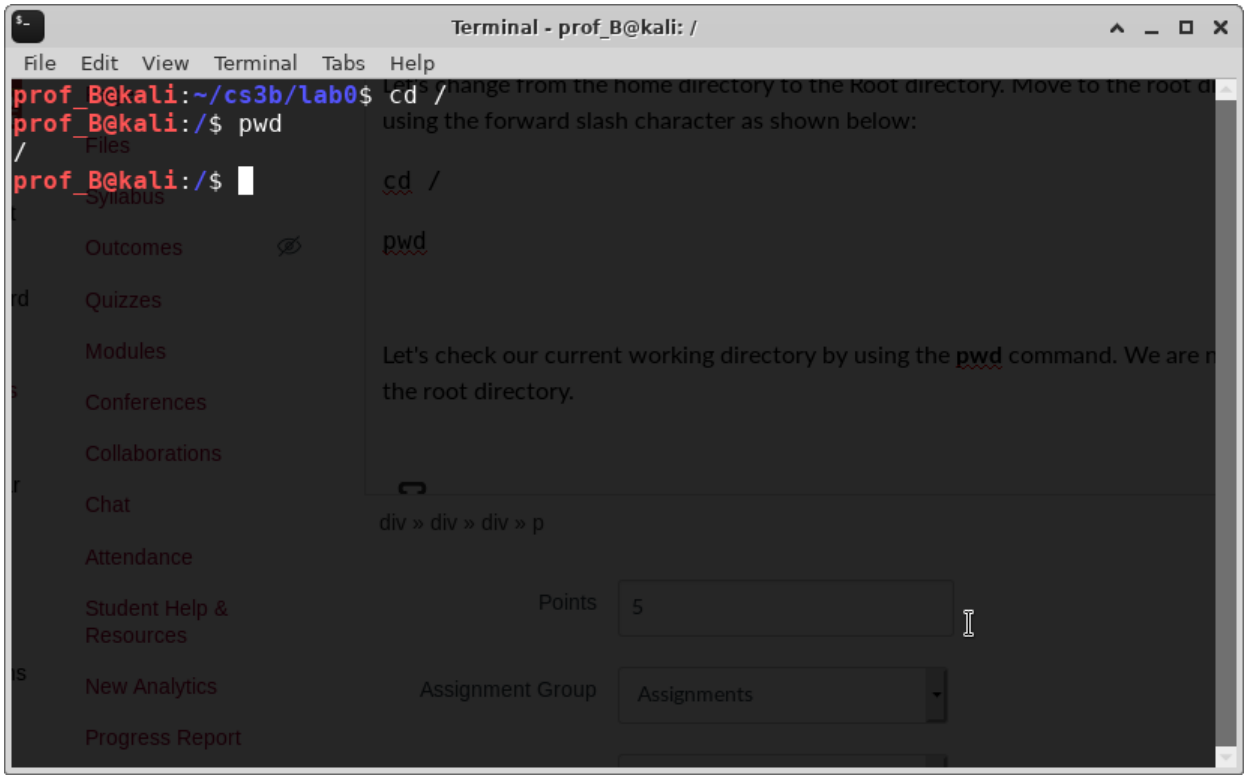
Change to Root directory (cd)

Let's change from the home directory to the Root directory. Move to the root directory by using the forward slash character as shown below:

```
cd /
```

Let's check our current working directory by using the **pwd** command. We are now inside the root directory.

```
pwd
```



Step 13:

Change directory to Parent directory (cd)

Let's navigate to the **/var** directory using the command **cd /var**.

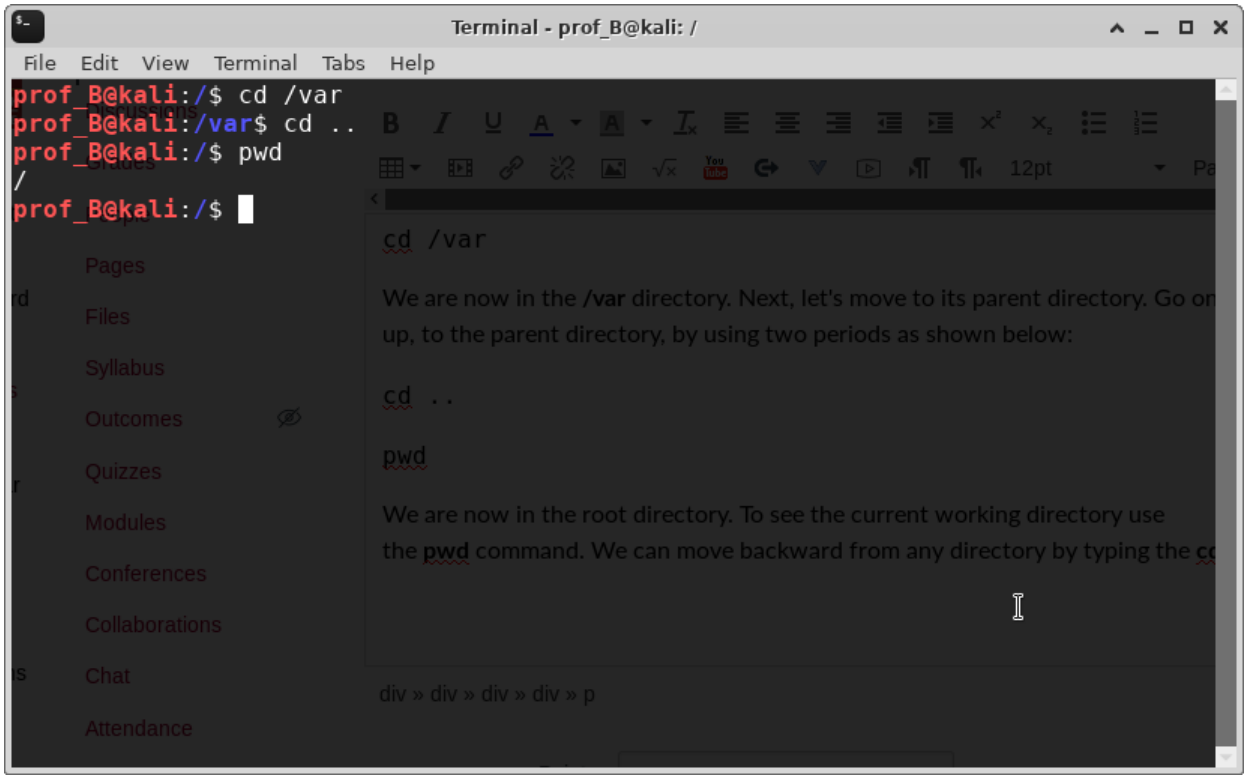
```
cd /var
```

We are now in the **/var** directory. Next, let's move to its parent directory. Go one directory up, to the parent directory, by using two periods as shown below:

```
cd ..
```

We are now in the root directory. To see the current working directory use the **pwd** command. We can move backward from any directory by typing the **cd ..** command.

```
pwd
```



Step 14:

Showing the terminal file (tty)

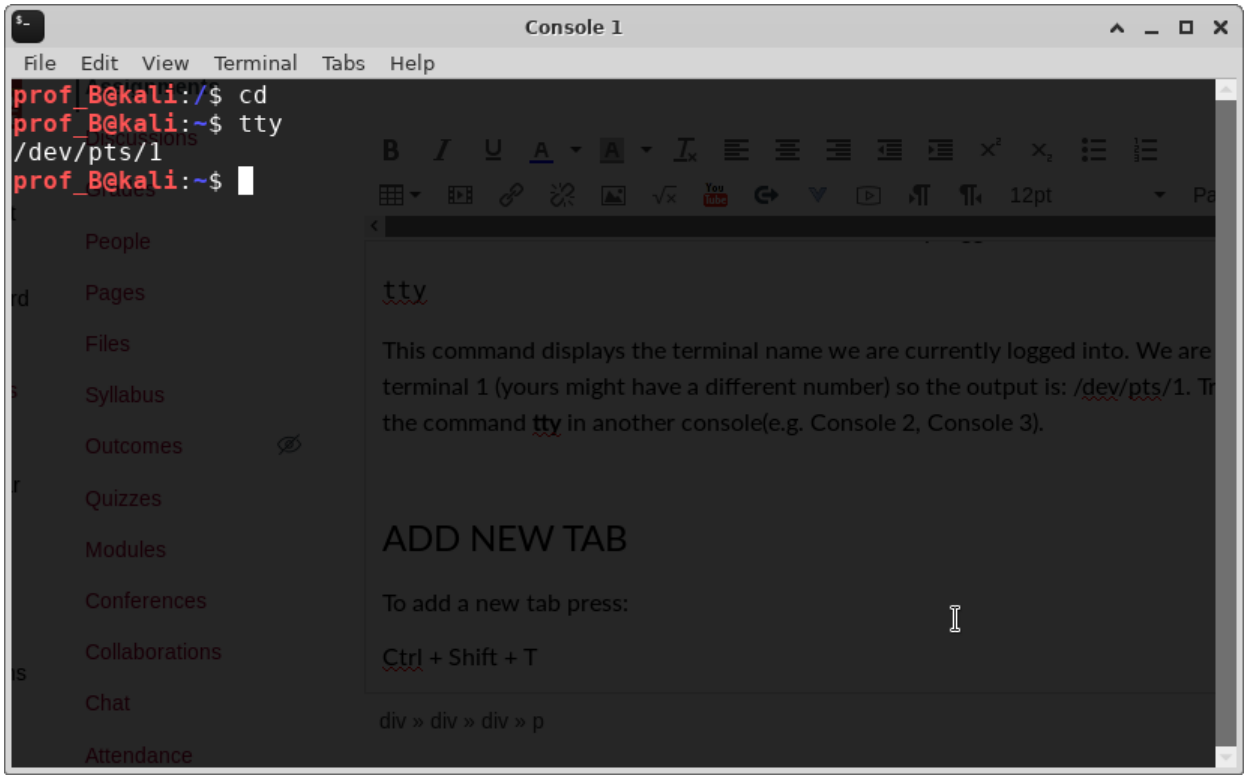
First, make sure that you are currently in the /home/*user* directory by typing the **pwd** command. If we are not in this directory just use the **cd** command.

```
cd
```

So far we learned commands to change directory and list files. Now, let's check the terminal name we are currently logged into. Use the command:

```
tty
```

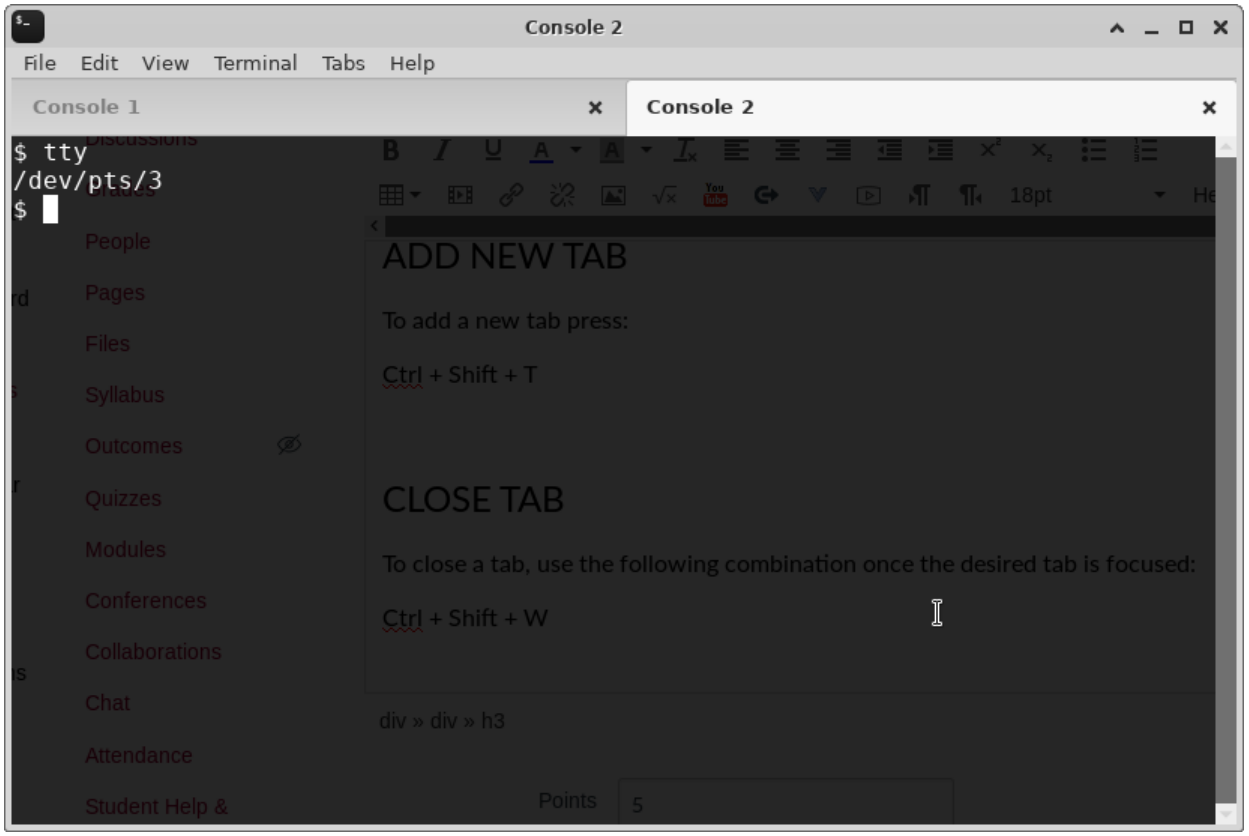
This command displays the terminal name we are currently logged into. We are right now in terminal 1 (yours might have a different number) so the output is: /dev/pts/1. Try executing the command **tty** in another console(e.g. Console 2, Console 3). You will notice that I changed my console name to "Console 1" by double clicking on the header and editing the name field. This makes it easier to keep up with multiple consoles. Also notice that this is not a bash shell and doesn't have the nice colors.



ADD NEW TAB

To add a new tab press:

Ctrl + Shift + T



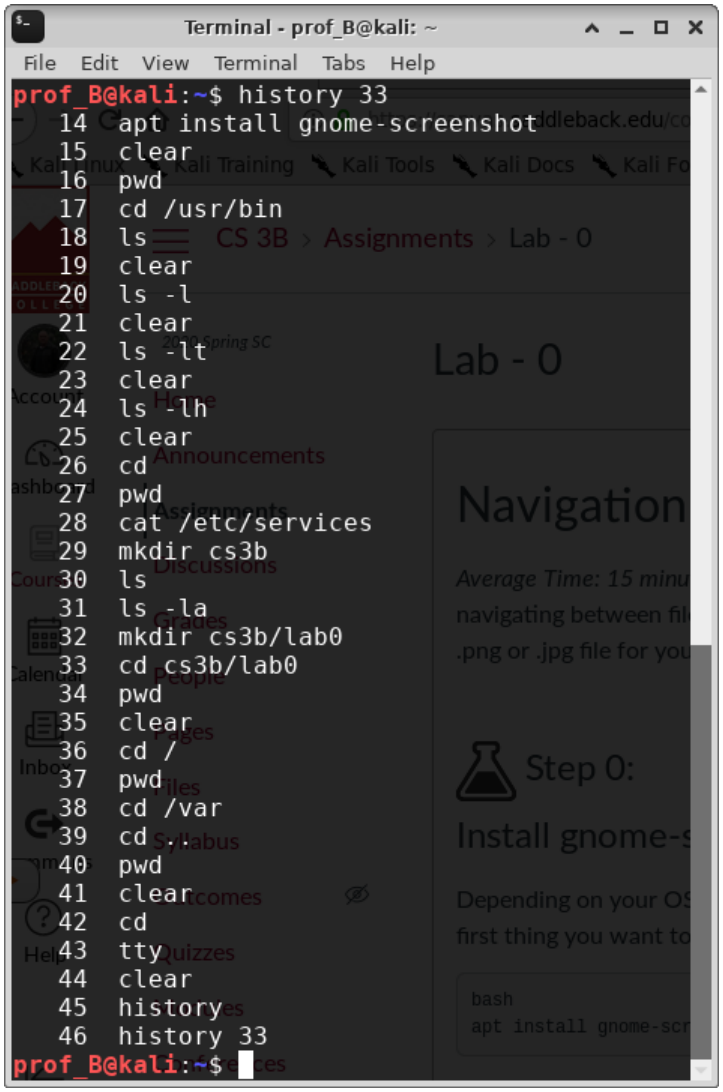
CLOSE TAB

To close a tab, use the following combination once the desired tab is focused:

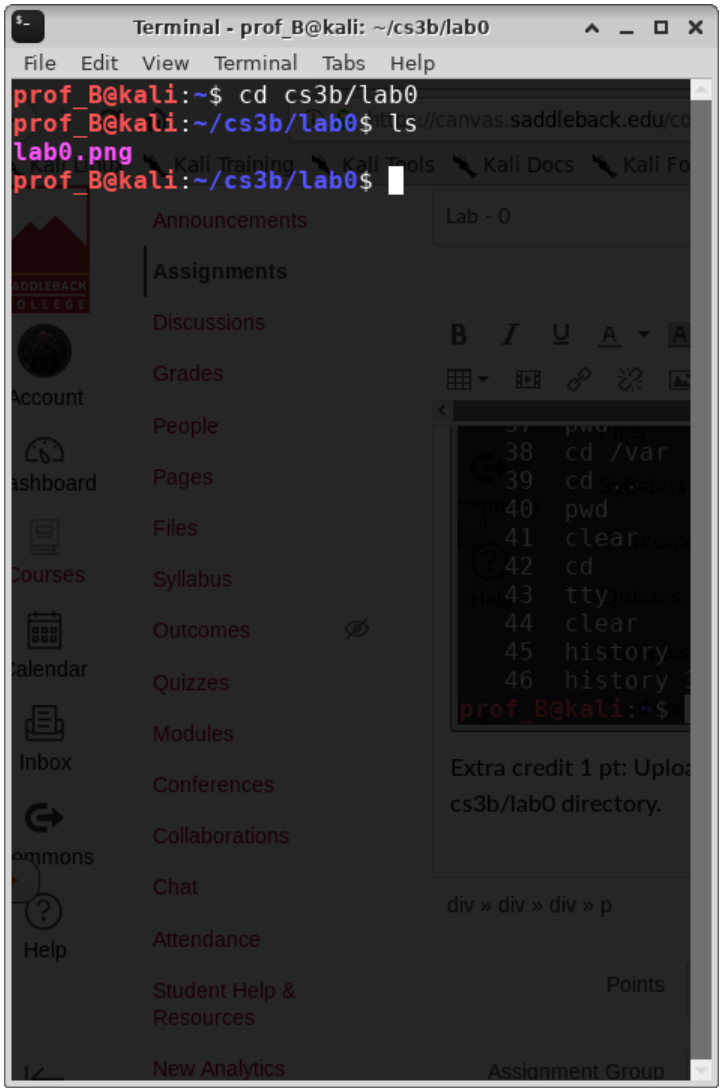
Ctrl + Shift + W

So far in this Lab, we familiarized with many file and directory basics.

This completes the Linux Navigation lab. Once you've finished all 14 steps, you are to enter the following command and submit a clipped screenshot of the result displayed by your terminal. Only show the windowed terminal and not the desktop named lab0.png or lab0.jpg. Save this your your lab0 subdirectory. Ensure that it shows the entire history beginning with step 1. You'll also notice that I excluded the first 13 lines of my history as they were commands I executed for other things not related to this lab. I actually entered history 33 to show the last 33 lines of my history.



Extra credit 1 pt: Upload a second .png that proves you saved your lab0 screenshot to the cs3b/lab0 directory.


Terminal - prof_B@kali: ~/cs3b/lab0
File Edit View Terminal Tabs Help
prof_B@kali:~$ cd cs3b/lab0
prof_B@kali:~/cs3b/lab0$ ls
lab0.png
prof_B@kali:~/cs3b/lab0$
Announcements
Assignments
Discussions
Grades
People
Pages
Files
Syllabus
Outcomes
Quizzes
Modules
Conferences
Collaborations
Chat
Attendance
Student Help & Resources
New Analytics
Lab - 0
Extra credit 1 pt: Upload
cs3b/lab0 directory.
div » div » div » p
Points
Assignment Group