

Assignment 1: Login to claim or reclaim your Linux Lab account

When you enrolled in this course, you are given an account on the network of Linux Lab computers in the Computer Science Department of Hunter College, or have received it from the previous semester. The account entitles you to use the computers in the Linux lab, either by being physically in the lab, or by connecting to them remotely from outside the lab, in the comfort of your home for example.

You will begin your UNIX journey by logging into your account for the Linux Lab to claim, or reclaim it, to maintain personal access for the semester, and learn a few details about your account.

Instructions

For this assignment, note that you must be enrolled into the course first! You should have received an account from *root* (root@biocs.cs.hunter.cuny.edu) to your myHunter email account (<http://www.hunter.cuny.edu/myhunter>), which contains your assigned, case-sensitive login credentials for the Linux Lab.

- If you were enrolled into a Hunter College Computer Science Department course requiring a Linux Lab account in the previous semester, your login credentials are unchanged.
- If you do not have an email from *root*, you are not officially enrolled for the course. Your name must appear on the official course roster before the deadline of the participation requirement.

Find the email sent from *root* first before proceeding to complete the remainder of the assignment instructions.

1. On your computer, open up a terminal application.
 - If you have a modern PC, it is generally the **Command Prompt** application. A terminal prompt will appear – it will likely be a program window with a black background.
 - i. The Windows OS version must be at least Windows 10.
 - ii. If your PC is using a deprecated Windows OS, you may need to use **PuTTY** instead. The steps outlined in the remote logins PowerPoint presentation when using that application must be followed instead.
 - If you have a Mac, it is generally the **Terminal** application. A terminal prompt will appear – it will likely be a program window with a white background.

Regardless of which device you use to open your terminal application, a flashing text cursor will await your instructions where you will type in a **command**.

The steps of SSH protocol to remotely log into the Department of Computer Science's *eniac* server and the Linux Lab machines are outlined in great detail the course resources:

- **Section 7. Programming and Systems Access, Remote Logins** of the course syllabus,
- the Linux Lab FAQ (<http://compsci.hunter.cuny.edu/~csdir/>),
- the remote logins PowerPoint presentation, or
- the video tutorial 'Remote Login into Linux Lab'.

2. In your terminal prompt, `ssh` into the UNIX host gateway computer set up by Hunter College' Department of Computer Science:

```
ssh <username>@eniac.cs.hunter.cuny.edu
```

where `<username>` is replaced with the Linux Lab account username assigned to you by the network administrator (the email you received from *root*).

- Note that usernames are case-sensitive! You must type it exactly as given to you from *root*.
- For example, a student whose Linux Lab account username is `Student.USER00` must type

```
ssh Student.USER00@eniac.cs.hunter.cuny.edu
```

When you are done typing in the command, press the **Enter** key or the **return** key on your keyboard to execute your `ssh` command.

3. If the `ssh` command is successfully executed, you will be prompted with an introductory summary of the *eniac* gateway server, written by the Linux Lab administration. At the bottom of the prompt, you will be asked to type your password.
 - You will not be able to see what you have typed for security purposes.
 - Passwords are case-sensitive! You must type it exactly as given to you from *root* when logging in.
 - Later, you can change the password for your Linux Lab account after you have logged into a Linux Lab computer through *eniac*.

When you are done typing your password at the password prompt, press the **Enter** key or the **return** key on your keyboard to enter your password.

- If you incorrectly type your password five times sequentially, your computer's public IP address will be blocked for security purposes. You will not be able to remotely `ssh` until it is unblocked.
 - The error message will contain the phrase 'connection reset by peer'.
 - You must follow the steps outlined in the IP address unblocking procedure to unblock your IP address.

4. Upon the successful password login, you will be logged into the *eniac* server. A summary of the gateway server usage will appear, reminding you **not** to do work directly on the server – you must log into an actual lab computer machine! At the bottom of the terminal window, the **command line prompt** will include your username, showing that you are logged into *eniac*. For example, the student of Linux Lab account `Student.USER00` will see

```
[Student.USER00@eniac ~]$
```

Pick any of the available Linux Lab machines to `ssh` into while you are logged into *eniac*. The computers are named and numbered as `cs1ab1`, `cs1ab2`, `cs1ab3`, ..., upwards to `cs1ab25`. For example, the student with account `Student.USER00` decides to `ssh` into `cs1ab13`. While logged onto *eniac*, they will type the `ssh` command

```
ssh cs1ab13
```

Type your `ssh` command in a similar fashion, using the Linux Lab machine of your choice. When you are done typing in the command, press the **Enter** key or the **return** key on your keyboard to execute your `ssh` command.

5. If your `ssh` command into a Linux Lab machine is successful, you will again be prompted to enter your password as completed in step 3.
 - Depending on the computer machine, you might be asked if you want to continue connecting, and are asked to type either 'yes' or 'no'. If you see that message, type and enter 'yes'.

After successfully logging into a Linux Lab machine, you can change your password anytime by using the command `yppasswd`. Follow the password prompts it gives you. After you change the password to your liking, that password will be used in for all future logins into both *eniac* and for any of the Linux Lab machines.

- You do not have to change your password every time you log into *eniac*.
 - You do not have to change your password every time you log into any of the Linux Lab machines – after you change it on one of the Linux Lab computers, that password will also work for the 24 other remaining machines you are not actively logged into.
6. Upon the successful password login, the welcome prompt of the Linux Lab computer will appear. When logging into a Linux Lab machine, you will be located in your **home directory**. The command line prompt will change – it will have the name of whichever Linux Lab machine you logged into. For example, the student with account `Student.USER00` logged into `cs1ab13` will see

```
[Student.USER00@cs1ab13 ~]$
```

Now you are ready to claim or reclaim your Linux Lab account, learn a few details about your Linux Lab account.

- Each user on the Linux Lab receives their own home directory, a place in the file-system where they can write and save files, and their own directories. Learn the **absolute pathname** of your home directory by executing the command `pwd`. For the student user `Student.USER00` logged into `cslab13`, when they execute it,

```
[Student.USER00@cslab13 ~]$ pwd
```

they will learn that the absolute pathname of their home directory is

```
/data/biocs/b/student.accounts/Student.USER00
```

Execute this command for yourself while you are currently logged into your home directory. It is your workspace to learn UNIX, practice commands, and to work on your programming assignments.

- To claim or reclaim your account, you will use the command that is prompted in the gateway server usage summary called `touch`. You will learn more about the `touch` command in Unit 3. For now, you only need to know that this command can create empty files when given a name of a file that does not yet exist. While located in your home directory, you must create the empty file with the filename `'fall.2020'`.

For example, the student `Student.USER00` logged into `cslab13`, they will claim their account by executing the `touch` command

```
[Student.USER00@cslab13 ~]$ touch fall.2020
```

The student can check to see if the empty file `fall.2020` has been made in their home directory with the `ls` command. The `ls` command lists the names of files or directories that are presently named in the current directory location of the user. When the student checks, they will see that the file appears in their home directory:

```
[Student.USER00@cslab13 ~]$ ls  
fall.2020  
[Student.USER00@cslab13 ~]$
```

When you are finished claiming your account, take a screenshot image that contains

- the absolute pathname of your home directory (by using the `pwd` command), and
- the output of files and directories in it from using the `ls` command. If your directory was initially empty, only the empty file `fall.2020` you created with the `touch` command should appear.

To take a screenshot image on a Windows PC, visit the Microsoft Support site article:

<https://support.microsoft.com/en-us/help/4488540/>

To take a screenshot image on a Mac, visit the Apple Support site article:

<https://support.apple.com/en-us/HT201361>

Grading Rubric

This assignment is graded on a 100 point scale.

Submitting Requirements

- **Due date:** Sunday September 13, 11:59PM Eastern Standard Time
- Late submissions will be docked total points at the rate of 1 point for every day it is late. No submissions will be accepted after Sunday September 20, 11:59PM Eastern Standard Time.
- Accepted format for screenshot image(s) in JPEG, PNG, or TIF.
 - of all instruction steps, or
 - the screenshot image asked for the output of the commands in step 7 and step 8.