Lab 2: Basic Linux Commands

Part 1: From the Terminal

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# Prerequisites

You should have made yourself familiar with the ‘Linux Commands’ content section. It will be helpful to have this open as a reference while you work through the lab.

Be sure to do steps in order, remember where you leave off if you must do things in more than one sitting.

# Objectives

* Practice the use of basic Linux commands

# Task 1

SSH into the PI and create the following File Structure. Remember /home/pi is the directory you are brought into by default when you log in (Home Directory).

It is highly advised you keep a notepad open and put in every command you used to create this folder structure. Task 2 will require you to use Python to do the same thing programmatically.

home

└──pi

└──cst8254

├── linux

│ ├── labs

│ │ ├── Lab1

│ │ ├── Lab2

│ │ └── Lab3

│ │

│ │

│ └── lectures

│ ├── Week1

│ ├── Week2

│ └── Week3

├── backup

└── python

Now, from a terminal type in the following. Be sure you are in your home directory (/home/pi)

ls -l > lab3-1.txt

Question 1a: What does this do?

Make a copy of the file ***lab3-1.txt*** and call it ***lab3-2.txt***

Question 1b: What command did you use?

Using Nano, change one of the lines of ***lab3-2.txt***, then save the file.

Move the file ***lab3-1.txt*** to the folder **cst8254/linux/labs/Lab3**

Question 1c: What command did you use?

Copy the file ***lab3-2.txt*** to the folder ***cst8254/linux/labs/Lab3***

Question 1d: What Command did you use?

Remember to replace **<networkid>** with your Algonquin network ID.

Using Nano, create the file ***<networkid>.txt*** in the cst8254 folder where ***<networkid>*** is your Algonquin network ID. As for the content of the file, write a simple one liner on one thing you learned about Linux this semester.

Once you have saved and exited from Nano, issue the following command:

tree cst8254 > lab3-3.txt

# Task 2:

Create a gzipd tar archive of the directory structure using.

tar zcvf /home/pi/<networkid>-lab3.tgz /home/pi/cst8254

using sftp from your HOST computer (meaning your laptop), log in to your pi. You can either use something like *WinSCP* (<https://winscp.net/eng/index.php>) if you are on windows. Or you can just use the sftp command from your terminal on Mac or Linux.

If you are using windows, log in, and graphically grab the file (you will automatically be in the proper directory on the pi, make sure you know where on the host you are, if in doubt, make sure you are on the desktop). If you are using Linux or Mac, run a terminal, make sure your present working directory is your desktop and do the following.

sftp pi@<your-ip-or-host>

get <networkid>-lab3.tgz

# Task 3:

We are going to use Markdown for the first time to provide our answers from Task 1.

* First, familiarize yourself with the basics of Markdown by reading the following article, <https://www.markdownguide.org/basic-syntax/> you will be tested on this later, so please read the entire page.
* Create a document on your Laptop called **<networkid>-answers.md**
* Open the document in a notepad editor (notepad++ or notepad3) and put your answers in for Task 1.
* The format you will be using is as follows

# Part one answers for **<networkid>**

## Question

answer

Repeat the question answer blocks for all the questions. This is a template, the only thing you need to focus on is how the #, and the ## are working. Replace networkid as always with your Algonquin network ID, and each Subheading (##) Should be the question number (1a, 1b, 1c, etc.), and answer should be replaced with your answer.

# Task 4:

Delete the cst8254 folder form you Pi then write a python program that makes use of the os and shutil modules to recreate the same folder structure. Name your program lab2.py

# Submission

Please submit the following files to BrightSpace under the lab Submission Box.

* <networkid>-lab3.tgz
* **<networkid>-answers.md**
* **lab2**.py

Use the next page to hold part 1 answers:

# Answers

Fill in the following sections:

## Question 1a:

## ls -l > lab3-1.txt

## **(ls -l )— list items in current directory and show to see permissions, size, and modification date** **and creates lab3-1.txt**

## Question 1b:

## Make a copy of the file ***lab3-1.txt*** and call it ***lab3-2.txt***

## **cp lab3-1.txt lab3-2.txt**

Question 1c:

Using Nano, change one of the lines of lab3-2.txt, then save the file.

## **nano lab3-2.txt > added 1 or 2 lines > ctrl+o(save and enter)>ctrl+x(exit)**

Move the file lab3-1.txt to the folder cst8254/linux/labs/Lab3

* **mv lab3-1.txt cst8254/linux/labs/Lab3**

Question 1d:

Copy the file lab3-2.txt to the folder cst8254/linux/labs/Lab3

* **cp lab3-2.txt cst8254/linux/labs/Lab3**

import os,shutill

mainpath= ‘home/pi’

os.mkdir(mainpath+