CONESTOGA
Connect Life and Learning

Student Name:	
Deliverable:	NTWK8140 Practical Assignment #1
Course Name:	NTWK8140

Date Assigned:	Week 1 Friday 12:01am
Date Due:	Hand in **Week 5** Sunday 11:59pm Demos: Week 6 and/or 7 in-class.
Rules:	• Individual. • Cheating is not allowed. • Plagiarism counts as cheating! • That FAILURE to submit work in the course can result in a grade of 'F' or 'I' for failure to complete the course!

Deliverables

This is a multi-part assignment. The questions below will be due in Week 6. In week 6 and/or 7 there will also be practical demonstrations of skills learned in this assignment as well as in class and the textbook. **Do not assume this assignment covers all topics for the practical demos**. You will need to study all material to prepare.

This lab provides the practical experience required to start getting used to performing common actions on files and directories in a Linux environment. This work will all be done from the command line.

Before starting this assignment, read through the entire assignment so you can gain better understanding of the overall requirements. When performing work within a directory structure, it is often a good idea to sketch out the structure you are trying to create. That allows you to understand the goal and determine how you are going to achieve it, rather than trying to understand and achieve the goal concurrently.

This work will be performed on your Linux VM using the user account you created during the installation process.

Take as many screen shots as required to document your process to complete the lab. **All screenshots must be documented with question numbers and an explanation.**

ONLY SELECTED QUESTIONS FROM THIS PROBLEM SET WILL BE MARKED. COMPLETE ALL QUESTIONS TO ENSURE A GOOD GRADE.

Open a Zoom meeting in your host OS and record your full screen desktop. Your face must be visible. You must complete all questions in a single zoom recording and upload this at the end along with your assignment files. You may use your textbook, the command line help and the course material, but you cannot use and personal notes, you must complete the assignment on your own without help from anyone else or any internet searching such as Google etc.

You may want to practice the questions a few times before attempting the Zoom recording.

Make sure to hand in your assignment well before the deadline, no extensions will be given for any reason, including if the vSphere cluster has issues.

Working with Directories and Files:

1. Open up Bash to complete the following steps.
2. In your home directory, create a directory named files1.
3. In your home directory create a directory named files2.
4. Enter a command to verify you completed the last 2 steps correctly.
5. Navigate to the /etc directory.
6. **Without changing directories**, create a directory named files1a under files1.
7. In your home directory, create the directories files3/files3a using a single command.
8. Enter a command to verify you completed the last step correctly.
9. In your home directory, create three empty text files named text1, text2 and text3.

10. **Copy** the file text1 to the files1 directory.
11. Copy the text1 and text2 files to the files2 directory using a single command.
12. Copy the text3 file to the files1 directory, naming the copy text3a.
13. Copy the files2 directory and its contents into the files1 directory.
14. Make the files1/files1a directory current using a single command and a **relative path**.
15. Make the files2 directory current using a single command and an **absolute path**.
16. Make the files3/files3a directory current using a single command and a relative path.
17. Make the files1/files1b directory without leaving the files3/files3a directory, then make it the present working directory using a single command and relative path.
18. Make the parent to the current directory current using a relative path.
19. Move the text file in the current directory to the files3 directory using relative paths.
20. Move the files2 directory in the current directory to the files3a directory using relative paths.
21. Make your home directory current.
22. Delete the contents of the files2 directory.
23. Delete the files2 directory.
24. In your home directory, create a directory named files4.
25. Move the text1 file into the files4 directory where the file takes a new name text1a.
26. Move the text2 and text3 files into the files4 directory using a single command.
27. Delete the files4 directory with all its contents using a single command.

Working with Text:

28. Using the Vim editor, create a file in your home directory named VimText.txt
29. Copy the text from Questions 1-27 into the file.
30. Using Vim built in commands, replace all instances of “file” with “directory”
31. Save the file and close Vim.
32. Open the VimText.txt file using nano
33. Using nano built in commands, replace all instances of “text” with “document”
34. Save the file with a new name NanoText.txt in your home directory.
35. Do a grep search in each file for the words file, text, directory, and document.

Working with Tar files:

36. Create a tar archive of all the contents of your home directory. Name the archive “my_home_directory.tar”
37. Create a gzip compressed tar archive of all the contents of your home directory. Name the archive “my_home_directory.tar.gz”
38. Delete all non-hidden contents of your home directory except the two archives.
39. Extract the non-gzipped archive into your home directory and verify that everything is restored correctly.
40. Delete all non-hidden contents of your home directory except the two archives.
41. Extract the gzipped archive into your home directory and verify that everything is restored correctly.

Working with Hardware 1:

42. Using a single command, display the kernel modules used by a PCI device in your system.

Working with globs:

43. Create a directory named files.
44. Make the files directory current.
45. Create the files with the following names in the files directory using as few commands and parameters as possible: 1, 2, 3, 4, 5, 6, 1a, 1b, 1c, 1d, 1e, 1f, 2a,
    2b, 2c, 2d, 2e, 2f, 3a, 3b, 3c, 3d, 3e, 3f, a, b, c, d, e, f, A, B, C, D, E, F, a1, a2, a3, a4, a5, a6, 11, 22, 33, 44, 55, 66, abc, def, ghi, jkl, file1, file2, file3, file4, file5, file6, File1, File2, File3, File4, File5, File6, file1a, file2b, file3c, file4d, file5e, file6f.
46. List all files that have a single character for a name using a single command line.
47. List all the files that have two characters for a name using a single command line.
48. List all the files that have two characters for a name and the first character is 1 using a single command line.
49. List all the files that have two characters for a name and the last character is 1 using a single command line.
50. List all the files that have two characters for a name and the first character is a using a single command line.
51. List all the files that have a name starting with the letter f using a single command line.
52. List all the files that have a name ending with **digit1** using a single command line.
53. List all the files that have a name ending with the digit **1** using a single command line.
54. List all the files that have a name starting with the letter **F** using a single command line.
55. List all the files that end with the letter a using a single command line.
56. List all the files that have a single lower case character for a name using a single command line.
57. List all the files that have a single digit for a name using a single command line.
58. List all the files that have a single upper case character for a name using a single command line.
59. List all the files that have a single alpha character for a name using a single command line.
60. List all the files that have a name beginning with either an upper or lower case F using a single command line.
61. List all the files that contain at least one digit using a single command line.

62. List all the files that start with a 1, 3, d, or j, using a single command line.

63. Use the history command],m and send the output to a file named PA1_history_{your_student_number}.txt. Make sure you don't have any mistakes, and all questions are included. If you have any mistakes or typos, delete the history and start over.
64. Upload this text file along with your assignment file.

Working with hardware:

65. With a single cli command, display all partitions and their mount points.

66. Create three 1GB THIN PROVISIONED disks for your VM and rescan the SCSI adapter to enumerate the disks. Create two 500MB LVM partitions on each disk. Provide the commands used to create one of the partitions.

67. Create physical volumes from each of the previously created partitions. Create a volume group from all six physical volumes. Create three 750MB logical volumes named data, reports and public. Provide one screen capture displaying the volume group after all items are configured.

68. Create an LVM group spanning all three partitions. Create a type EXT4 filesystem on all logical volumes. Provide the commands used in the box below. Mount the filesystem to directory /dat. Provide a screen capture of the output of a command that will demonstrate the proper completion of this step.

Example Demo tasks, and working with tar files, ssh/scp , and rsync:

69. Download the tarball from econestoga, copy the tarball from yuo GUI linux to one of your CLI (headless) servers using ssh and/or scp and/or rsync.

70. Create a folder called PA1 in your home folder. Extract the tarball on the CLI server into the PA1 directory. There will be multple directories and files extracted.

71. In the root of the tarballs directory structure, find the tasks text file "PA1_tasks.txt", open the file in nano.

72. Complete all tasks int the tasks file.

73. Make a new tarball containing the extracted directories with modified files, named "{your_student_number}_PA1.tar" and upload it with this completed assignment sheet.

Once you have completed all steps, stop your Zoom recording and upload this along with all required assignment files.

Evaluation

Your evaluation will be held to the following rules and constraints. These rules are firm and are irrefutable.

- Failure to submit this completed deliverable will result in a grade of zero (0) on this deliverable. ○ There will be no opportunity provided to make up for this missed deliverable or raise your grade.

- In the instance that the failure to submit this work results in a grade of zero (0) that ultimately causes an overall course grade below fifty-five (55) then there will be no opportunity to perform any work, tests, activities or tasks to raise your grade above the failing mark.

- It is the student's responsibility to ensure that their work has been submitted through eConestoga, on-time, to the correct course and in the correct folder.
  - If you submit your work to the incorrect folder then you may not receive any grade for your work. This will be completely up to the discretion of your Instructor.
  - If you, the student, submit your file to the wrong folder or course on eConestoga then you must simply resubmit to the correct folder.
- To pass this course you are required to submit every single deliverable. ○ If you have failed to submit any work by the end of the course your Instructor reserves the right to assign a final course grade of incomplete (I) or failure (F) for your performance in the entire course.
- Submission Details

FILE NAMES

All submissions must adhere to the programs naming convention. For details regarding this naming convention documentation can be retrieved from the *How-To* module, within the *Support* module for your course on eConestoga, file name "O3 - Student Submissions Naming Convention - ver1.0.PDF." If this is group work you must include your group members names within your work and within the NOTES section of your dropbox submission. Submitting your work with an improper file type may result in a grade of zero (0) being assigned.

ACADEMIC HONESTY

1) By submitting your work through Conestoga College's eConestoga dropbox you hereby affirm that;
   a. You are in complete understanding of, and accept in full, the *Academic Integrity Policy* and *Violation of Academic Integrity Policy* of Conestoga College. If you are not familiar with these policies it is your responsibility to familiarize yourself with them, in full, before submitting any work through eConestoga.
   b. The work that you have submitted is your own work and has not been: taken, replicated, duplicated or copied in any way from any source inside or outside of the classroom.
   c. Your work will be retained and indexed by Turnitin.com for academic honesty and comparison purposes.
2) If you share your work with, or use the work of, others then your grade, along with the grade of any other participating[1] student, will be adjusted to reflect this infraction and you will face academic penalties[2] including, but not limited to;

- Discontinuance for Conestoga for a minimum of 12 months and a failing grade for all current courses.
- A failed grade for the course and suspension from Conestoga College for an undetermined length of time.
- A failed grade for the course, which may result in your inability to continue in your Program.
- A failed grade for the deliverable on which the *Academic Integrity Policy* was violated.

3) Turnitin.com will compare the values and data of each student submission against submissions from;

1 Participation includes both unknowing participation as well as willful participation in any activity that results in academic misconduct.
2 No refunds will be made available to any student who has been discontinued from their program due to violations of academic policy.

- Your current classmates, including all submissions they have made in the past or present.
- Former students of your program as well as students from other intakes for your program.
- Students enrolled in any course or program at Conestoga College, past or present.
- A perpetually growing database of work from 26 million students from Colleges and Universities worldwide.
- More than 12 **b**illion webpages including all mainstream data sites, repositories and wikis.
- Direct quotations taken from any source will be identified by Turnitin.com and will require Instructor review, it is, therefore, imperative that you cite any work(s) taken from other sources following proper APA form