**Consolidation Session Exercise**

**Module topic: Linux**

**Contact session title: Permissions, groups, and process control**

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**Participant:** <*write your name here>*

**Date:** <*write today’s date here*>

**Permissions, groups, and process control**

**Introduction**

The aim of this consolidation session exercise is to practise and better understand the files permissions and how to change them and help you start writing your first shell scripts to automate tasks.

**Tools used in this session**

If you do have a Linux system installed in your machine, make use of your system terminal. If you are a windows user, we highly recommend the use of the Cywgin tool (<https://cygwin.com/index.html>). You can find more information about the Cywgin installation via this link: <https://cygwin.com/install.html>

Some of the commands (nano and wget) we will be using need extra packages installations for Cygwin, if it’s not already done, no worries, it takes few minutes.

**Always remember these rules while working with the Linux terminal**

* Make sure you separate your command name, arguments and options using spaces
* Each option is preceded by - (examples: -l, -r, -lh)
* You can combine different options: -lh for example means a combination of -l and -h
* Linux is case-sensitive: A and a are different (it’s not the case for Cygwin and some Mac OS terminals)
* Make use of these Wildcards while working with the command lines

**Please note**

* **Hand-in information** If you are formally enrolled in the IBT course: please note that you are NOT required to upload this exercise to the Vula ‘Practical Assignments’ tab. HOWEVER, the content covered in the consolidation session (both the lectures and this exercise) may be tested in the module assessment. Therefore, it is important to take the consolidation session exercise seriously as part of your learning.

**Instructions**

1. Create a new sub-directory Scripting under Linux
2. Create a shell script named Assignment1 (under Scripting), which should clear the screen. Then print any message on the screen. Write down the different steps that would allow you to do this.
3. What were the default permissions for the different users when you first created your script?
4. What did you change to make it work?
5. Change the permissions again to give the execution right to anyone belonging to the user group. Write down 2 possible commands that could be used to do this.
6. Retrieve all the permissions from all the users who don't belong to the same group as the owner of the file.
7. What are the values of your HOME and PWD variables?
8. What is the difference between PWD and pwd?
9. Write a new script that will allow you to create automatically (in your scripting directory) 5 different files named: file1.txt, file2.txt, file3.txt, file4.txt and file5.txt

10. Remember the testfasta.fasta file you created during the last session? Write a new script "testfasta" that would:

- Display the message: the fasta file I have created is testfasta.fasta

- Display the message: My fasta ‘filename’ contains ‘X’ sequences

(‘filename’ should be replaced by the real name and ‘X’ should be replaced by the real number of sequences in your file)