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| Bahrain Polytechnic |
| Unix Systems |
| Lab Session 2B |
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# Lab session 2B –Command Line Interface

## Introduction

The lab work consists of a instructional material which is designed to get you familiar with the software you will be using in the Unix systems course. Additionally, there will be some practical tasks which will require you to upload a file to Moodle once complete.

You must submit the following to the correct area in Moodle:

* A compressed file named ‘**lab02\_*studentID.rar*’** with the text documents named ‘**lab2B\_q5.txt**’ and ‘**lab2B\_q7.txt**’ inside it.

**Note: Each Lab session is worth 0.5% of your final mark**

### **Learning Outcomes Assessed**

The following learning outcomes are being assessed in this lab session:

* Use the command-line on a UNIX system
* Manage a Linux server system (including files, processes, users)

## Lab 2B – Basic Unix commands practice

Log in to the Unix server using putty

Using the Unix commands cheat sheet (available on Moodle), find out the correct commands to complete the following tasks:

1. Home Directory

The directory in which you find yourself when you first login is called your home directory.

You will be doing much of your work in your home directory and subdirectories that you'll be creating to organize your files.

You can go in your home directory anytime using one of the following command:

**cd /home/A20XXXXX** or**cd ~**

Here **~** indicates home directory. If you want to go in any other user's home directory then use the following command:

**cd ~username**

To go in your last directory you can use following command:

**cd -**

1. Changing directories
   1. Create a directory **Lab2B**

**Mkdir Lab2B**

Note: All files and directories created during this lab should be placed in this directory. In the future, please keep your home folder organized by creating a folder UnitX for each unit and a folder LabX for each lab.

* 1. Change your working directory to **Lab2B**

**Cd Lab2B**

Note: the output of the pwd command should now be **/home/A20XXXX/Lab2B**

* 1. Using the shortest commands possible move to your Home directory then move again to the Lab2 directory.

**cd ~**

**cd Lab2B**

1. Absolute/Relative Pathnames:
   1. Directories are arranged in a hierarchy with root (/) at the top. The position of any file within the hierarchy is described by its pathname.

To determine where you are within the filesystem hierarchy at any time, enter the command **pwd** to print the current working directory.

* 1. A pathname is **absolute** if it is described in relation to root, so absolute pathnames always begin with a /.

These are some example of absolute filenames.

**/etc/passwd**

**/home/A20XXXX/unix/notes**

**/dev/rdsk/Os3**

* 1. A pathname can also be relative to your current working directory. Relative pathnames never begin with /. Relative to user amrood' home directory, some pathnames might look like this:

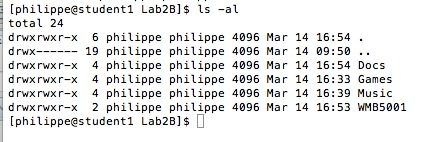
**unix/notes**

**lab2/test**

1. The directories . (dot) and .. (dotdot)

The filename . (dot) represents the current working directory; and the filename .. (dotdot) represent the directory one level above the current working directory, often referred to as the parent directory.

If we enter the command to show a listing of the current working directories files and use the -a option to list all the files and the -l option provides the long listing, this is the result.



* 1. Using the dot notation, change directory to the parent directory.

**Cd ..**

* 1. Go back to your last directory (Lab2B).

**cd – or cd Lab2B**

1. Creating a directory structure and moving files
   1. Create the directory tree below.

Notes: (1) – Blue squares represent directories, Green squares represent files.

Notes: (2) – Be careful about spaces in filenames. Hint: Use “” around names with spaces.

Notes: (3) – You can create a directory and its parents directories in just ONE command. Use man mkdir to find out what option to use.

Notes: (4) – Use the tab key to complete the name of a directory that already exists.

**Mkdir -p My\_Stuff /{/Music/{“Van Morrisson”, U2, “Green Day”},Docs/{ITB5004,ITB5005},Games/{Tetris,Warcraft},WMV5001}**

**Ls -R OR tree**

**Touch My\_Stuff/Music/U2/BeautifulDay.mp3**

**Touch My\_Stuff/Music/U2/21\_Guns.mp3**

**Touch My\_Stuff/Docs/ITB5004/Notes.txt**

**Touch My\_Stuff/Docs/ITB5005/Notes.txt**

**Touch My\_Stuff/Games/Tetris/HighestScores.txt**

**Touch My\_Stuff/Games/Warcraft/CheatCodes.txt**

**Ls -R OR tree**

* 1. Create a listing of the content of the directory “My\_Stuff” and redirect it to a file called lab2B\_q5.txt. This file should now be located in /home/A20XXX/Lab2B/My\_Stuff.

**Ls -R > Lab2B\_q5.txt**

**More Lab2B\_q5.txt**

**Mv Lab2B\_q5.txt My\_Stuff/**

* 1. Move the 21\_Guns.mp3 file into the Green Day folder.

**Cd My\_Stuff**

**Mv Music/U2/21\_Guns.mp3 Music/Green\ Day/**

**tree**

* 1. Move the folder WMB5001 into the Docs directory.

**Mv WMV5001/ Docs/**

**Tree**

1. Deleting Files and Directories
   1. Delete the Van Morrisson directory.

**Rmdir Music/”VanMorrisson”**

**Tree**

* 1. Delete the Games directory and all its content using only one command.

**Rm -r Games/**

**Tree**

1. Directory Listing
   1. Create a listing of all directories and subdirectories contained in My\_Stuff.

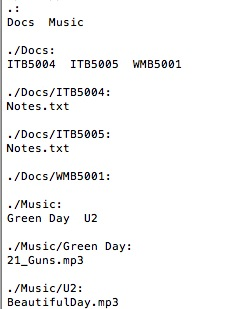
**Ls -R**

* 1. Redirect the command above to a file named ‘lab2B\_q7.txt’. This file should now be located in /home/A20XXX/Lab2B/My\_Stuff.

**Ls -R > Lab2B\_q7.txt**

**Tree**

* 1. Confirm that the content of the file is correct and compare it to the screenshot below.



**More Lab2B\_q7.txt**

1. Retrieve the files labB2\_q5.txt and lab2B\_q7.txt from the unix server using FTP.

**Open psftp**

**Open student2.bptest.cloud**

**A202201043**

**041112253**

**Ls Lab2B/My\_Stuff**

**Lcd C:\Users\USER\Documents**

**Get Lab2B/My\_Stuff/Lab2B\_q5.txt**

**Get Lab2B/My\_Stuff/Lab2B\_q7.txt**

## Lab2B – What you need to submit

* Retrieve the files lab2B\_q5.txt and lab2B\_q7.txt
* Compress them in a file named ‘lab02B\_*studentID.rar*’

**Select both files**

**Click compressed zip**

* Upload it to the lab 2 file upload area in Moodle

This lab is worth 0.5**%** of the course.

Connect to Moodle using the standard web browser (<http://www.tinyurl.com/moodlepoly>) or (<http://webdev.polytechnic.bh/moodle>)

**How to create a directory tree**

mkdir -p tmpdir/{trunk/sources/{includes,docs},branches,tags}

Which would create:

tmpdir

\_\_\_\_\_\_\_\_|\_\_\_\_\_\_

| | |

branches tags trunk

|

sources

\_\_\_\_|\_\_\_\_\_

| |

includes docs