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| Bahrain Polytechnic |
| Unix Systems |
| Lab Session 7 |
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# Lab session 7 – Scripting 1

## Introduction

The lab work consists of all practical tasks which must be submitted via Moodle.

You must submit the following:

* A single zip file, uploaded to Moodle.

**Note: Each Lab session is worth 1% 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 7 – Practical tasks

1. Create a text file *disk\_usage* that contains the following:
   1. The disk usage of your home directory (*hint: look up the du command)*

**Du -h ~**

* 1. Sorts the output of the disk usage in **reverse** order

**Du -h ~ | sort -nr > disk\_usage.txt (n is for numeric and r is for reverse)**

1. The *df* command displays the amount of available disk space for file systems
   1. Create a file called *diskfree\_info* that contains the output of the *df* command in human readable format

**Df -h > diskfree\_info.txt**

* 1. Create another file called *cpu\_info* that contains any information on the CPU of the system

**Lscpu > cpu\_info (lscpu shows info about the cpu)**

* 1. Add the two files above to a compressed tar file called *lab7\_q2.tar.gz*

**Tar czvf lab7\_q2.tar.qz diskfree\_info cpu\_info**

1. You are a System Administrator and as part of your job, you need to e-mail details on the system to various people at different times. Create a script called *sys\_info.sh* and when run, you pass into the script, the e-mail address of the person you want to e-mail the information to. For example, to send the information to zainab@nowhere.com, the script would be run as follows:  
     
   $ ./*sys\_info zainab@nowhere.com*  
     
   The information sent to the e-mail address should include the following:  
   **vi sys\_info.sh**

**In vi type:**

**#!/bin/bash**

* 1. The date and time the script was run  
     **date > tempfile**
  2. Full details on the name of the system (*hint: look up the uname command)*  
     **uname -a >> tempfile**
  3. Disk free information, in human readable format  
     **df -h >> tempfile**
  4. Information about the CPU (lscpu command)  
     **lscpu >> tempfile**

The subject of the e-mail address should be “Lab 7”.   
**mail -s “lab 7” $1 < tempfile (for the email address we write $1, which means for the first argument from the line in which we run the script)**   
Any files created during the script run should be deleted afterwards.

**Rm tempfile**

**:wq**

Test your script by emailing the person sitting beside you.  
**chmod u+x sys\_info.sh**

**Bash sys\_info.sh** [**202201043@student.polytechnic.bh**](mailto:202201043@student.polytechnic.bh) **(the yellow parts are called $0 or the file name and what comes after is $1)**

**OR ./sys\_info.sh** [**202201043@student.polytechnic.bh**](mailto:202201043@student.polytechnic.bh) **(the yellow parts are called $0 or the file name and what comes after is $1)**

## Lab 7 – Optional tasks

1. You are a System Administratorof a web server. Many of the programmers keep asking you to check that the latest version of mysql/php is installed. Create a script called *mysql\_info.sh* and when run, you pass into the script, the e-mail address of the person you want to e-mail the information to. For example, to send the information to zainab@nowhere.com, the script would be run as follows:  
     
   $ *mysql\_info zainab@nowhere.com*  
     
   The information sent to the e-mail address should include the following:  
   1. The date and time the script was run
   2. Full details of all mysql related packages and their version (the list of packages installed on the system is available in /var/log/rpmpkgs)

The subject of the e-mail address should be “Lab 7 web server”.   
  
Any files created during the script run should be deleted afterwards. Can you modify the script so that no temporary file are being created

Test your script by emailing the person sitting beside you.

## Lab7 – What you need to submit

1. The following files should be combined into one zipped tarball:  
   1. *disk\_usage*
   2. *lab7\_q2.tar.gz*
   3. *sys\_info*.sh

Name the tarball *Lab7\_full.tar.gz* and submit this to Moodle.  
**Tar czvf lab7\_full.tar.gz disk\_usage lab7\_q2.tar.gz sys\_info.sh**

**Open psftp**

**Open student2.bptest.cloud**

**A202201043**

**041112253**

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

**Get lab7\_full.tar.gz**