



FIT3143 Lab Week 1

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INTRODUCTION TO LINUX

OBJECTIVES

- The purpose of this lab is to introduce you to the Linux VM
- You will also form group for the lab assessment tasks
- Understand Lab-work evaluation process

Assignment Project Exam Help

INSTRUCTIONS

- Form a group of two members
- Download and set up the Linux VM
- Setup eFolio (including Git) and share with tutor and partner

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DESCRIPTION:

- Become familiar with Linux VM
- Basic Linux commands that will be useful in subsequent labs
- Understand Linux networking
- Discover your programming tools

WHAT TO SUBMIT:

- Screenshot of the running Linux VM and Lab answers in the eFolio.

EVALUATION CRITERIA

- This Lab-work is not part of grading

LAB ACTIVITIES

Finding Help

- (a) Which text-based command provides information on the use of other Linux commands and utilities? List at least two.
- (b) List the command-line for finding help on the usage of ssh?
- (c) How do you access Linux manual pages? List the full command line for accessing a particular section.
- (d) Where would you generally look for help on the Web? List 3 major sites.

File and Directory Manipulation

- (a) List the command-lines for creating and deleting sub-directories.
- (b) List the command-line for creating a zero-length file.

Users and Access Control

- (a) Create a user account for yourself and assign it to a unique group. List the command-line.
- (b) Set the permissions for your home directory, such that no one besides yourself can read your home directory's contents. List the command line.
- (c) What does `chmod 4775 filename` do?
- (d) How do you set the executable permission on a file? List the command-line.
- (e) List the command-line for inspecting the permissions assigned to a file.
- (f) List the command line for inspecting the permissions assigned to a directory.

Linux Shell

- (a) What is your default Linux shell? Read the manual pages on your shell and then answer the following questions.
- (b) How do you get the last command-line re-displayed?
- (c) Which key-stroke invokes filename completion?
- (d) Which file in your home directory contains the PATH variable, what does it do, and how do you inspect its value?
- (e) What does the shell function alias do? Add an alias to your shell configuration file and test that it works. List the command-lines.
- (f) How does which command work? List a command-line demonstrating its function.
- (g) How do you execute a program file in the shell? List the command-line.
- (h) Why it's sometime necessary to prefix `./` to run an executable file?
- (i) How are the contents of a text file displayed? List the command-line.
- (j) List the command-line for search all files with an extension `.html` on the system.

(k) Create a simple shell script for listing the contents of your directory and make it executable. List the script and the command-line for changing it into an executable file.

Networking

(a) Using ifconfig list the following networking parameters for eth0:

IP address:

Hardware address:

Netmask:

(b) What is the function of /etc/hosts file?

(c) What is the function of /etc/resolv.conf?

(d) Using netstat display the routing table in the numeric format. List the command line and default route.

Programming Tools

Confirm the following programming utilities are available within your VM.

(a) gcc

(b) Open MPI

Hint: apt-cache search SearchTerm

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