Orange County Community College

Computer Science and Technology Department

**CIT 117 – Unix/Linux**

Laboratory Exercise 2

Covers chapter 2-3 and part of chapter 4

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**Objectives**:

• File structure and commands

• Directory creation, traversal, and commands

• Shells, shell commands, and environment variables

**Procedures**:

1. Log in to your Linux system and open a terminal/shell.

2. Examine the command prompt. Write the prompt below and explain the individual pieces of information found in it.

occc@ubuntu-virtual-machine:~$

Shows who’s the active user in the terminal.

3. Type the command “pwd” and press Enter. What information is printed to the screen?

/home/occc

What does the command “pwd” do?

Is means print working directory and it shows the current directory the user is in.

4. Change directories into the /etc directory. What commands did you use to perform this action?

I did cd /etc

5. List the files found in the /etc directory. What commands did you use to perform this action?

I did ls -l

What sort of files are found in this directory? List several of the files found there:

There are other directories, config files, hard links, etc.

6. Take a “long” listing of this directory. What commands did you use to perform this action?

ls -l

List several example lines from the output of this command.

7. List only the files whose name begins with “host”. What commands did you use to perform this action?

Ls -l host\*

List the files obtained:

8. Take a “long” listing of these files. What commands did you use to perform this action?

Ls -l host\*

What is the size of the “hosts” file?

237

9. Examine the contents of the “hosts” file. What commands did you use to perform this action?

File hosts

What sort of information is contained in this file?

ASCII Text

10. Type the command “env” at the prompt and press enter. What information is printed to the screen.

The environment variables

List several of the elements printed.

User = occc

Display=:0

11. Type the command

env | grep HOME

at the command prompt and press Enter. What information is printed to the screen.

HOME=/home/occc

What does the “| grep” portion of the command do?

It acts like a find tool

12. Use variations of the commands from the last question to find out what shell you are currently using. What commands did you use to perform this action?

env | grep SHELL

What shell are you using?

SHELL=/bin/bash

GNOME\_SHELL\_SESSION\_MODE=ubuntu

13. Use variations of the commands from the last two questions to determine the “path” of your current shell. What is the path currently set to?

What is the “path” used for?

Env | grep SHELL

14. Change into your home directory. What commands did you use to perform this action?

cd

15. Create a directory in your home directory named “bin”. What commands did you use to perform this action?

Mkdir bin

16. Check to make sure the directory has been created. What commands did you use to perform this action?

ls

17. What is the absolute pathname of the bin directory you have just created?

/home/occc/bin

18. Add this bin directory to the PATH of your shell. What commands did you use to perform this action?

PATH= /home/occc/bin: $PATH

19. Change into the “bin” directory you have just created. What commands did you use to perform this action?

Cd bin

20. Create a new file with the vim editor (You may have to install the vim editor on your machine, if so, your instructor will assist you in installing it).

Name the file lab1.txt. Enter some text into the file and save it. Describe the steps you used in vim to insert text into the file and save the file, list any vim command keys.

I did: touch lab1

Sudo vim lab1

Then I entered some text

21. Take a “long” listing of the bin directory. What commands did you use to perform this action? What is the file size of the lab1.txt file you just created?

Ls -l

It is 29MB

22. Create a “hard link” to the lab1.txt file in the bin directory, name it lab2.txt. What commands did you use to perform this action?

Ln -T lab1 lab2

23. Take a “long” listing of the bin directory. How many links are there for the lab1.txt and lab2.txt files. How did you determine this information?

2 the first number after the RWX displays how many links there are.

24. Create a “soft link” to the lab1.txt file in the bin directory, name it lab3.txt. What commands did you use to perform this action?

Ln -s lab1 lab3

25. Take a “long” listing of the bin directory. Write the output below, and identify each informational element of in the listing:

26. Explain the difference in the link count and file size portions of the output for the three lab[123].txt files.

27. Use the **uname** command to find the kernel version that you are currently running. How did you go about this and what is the version of your kernel?

28. change to the /usr/bin directory

Find the grep file. How did you go about finding if this file exists?

What type of file is the grep file? How did you went about accomplish this?

29. In the /usr/bin directory there should be a a file called ps. What does this file do? How did you go about finding information about this file?

30. Elevate your privilege to root. How did you go about this?

31. Using the “fdisk -l” command list the non loop disks.

32. looking at the /dev what kind disks are these drives? IDE/SATA/SAS….?

33. If you type “who” who is logged in and how many shells are opened. Make sure that you are still in su mode.