Activity No. 13	
Working with Files and Directories in Linux	
Course Code: CPE 201A	**Program:**
Course Title: COMPUTER SYSTEM ADMINISTRATION AND TROUBLESHOOTING	**Date Performed:**
Section:	**Date Submitted:**
Name:	**Instructor:**

1. Objective/s:

This activity aims to navigate and manage files and directories using command line interface.

2. Intended Learning Outcome/s:

The students should be able to:

2.1 Demonstrate how to navigate home and system directories
2.2 Demonstrate how to how to list files and directories.
2.3 Demonstrate how to use globbing to manipulate files and directories.
2.4 Demonstrate how to create, move and delete files and directories.

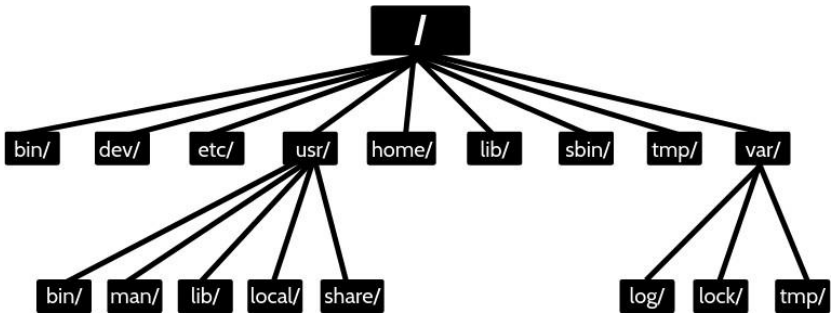
3. Discussion:

Files and Directories

The Linux filesystem is similar to other operating system's filesystems in that it contains *files* and *directories*. Files contain data such as human-readable text, executable programs, or binary data that is used by the computer.
Directories are used to create organization within the filesystem. Directories can contain files and other directories.

Directory Structure

On a Windows system, the *top level* of the directory structure is called ***My Computer.*** The Linux directory structure, called a ***filesystem***, also has a top level called the ***root directory*** (symbolized by the **slash /character**).



Home Directory

On most Linux distributions there is a directory called **home** under the root /directory. Under this **/home** directory there is a directory for each user on the system. When a user opens a shell, they should automatically be placed in their home directory. The user has the full control to create and delete additional files and directories in their home directory. Most other directories in a Linux filesystem are

protected with *file permissions*. The home directory has a special symbol used to represent it, the **tilde ~ character**.

The directory name is the same as the name of the user. So, a user named sysadmin would have a *home directory* called /home/sysadmin:

File and Directory Names

File and directory names in Linux can contain lower case and upper case letters, numbers, spaces and special characters. However, since many special characters have a special meaning in the Linux shell, it is good practice to not use spaces or special characters when naming files or directories. Spaces, for example, need the *escape character* \ to be entered correctly

Paths

A path is a list of directories separated by the / character. There are two types of paths: *absolute* and *relative*. For example, /home/sysadmin is a path to the home directory

A. Absolute Paths

Absolute paths allow the user to specify the exact location of a directory. Absolute paths always starts at the root directory, and therefore it always begins with the / character.

B. Relative Paths

A relative path gives directions to a file relative to the current location in the filesystem. The user must currently be in a directory that contains objects in the path. Relative paths start with the name of a directory.

Special Relative Paths

The single period . character always represents the current directory.
Two period .. characters always represents one directory higher relative to the current directory, sometimes referred to as the parent directory.

4. Resources:

Personal Computer with installed Virtual Box
Ubuntu Server or Desktop virtual machine

5. Procedure:

1. Login using your username and password.
2. Use terminal emulator application (if you are using desktop version)
3. Execute the following commands to navigate files and directories. Copy a screenshot as output after you execute the given command. Create a brief explanation of the command.

Command	Screenshot	Explanation
1. pwd		
2. cd /		
3. pwd		
4. cd		
5. pwd		

6. cd /home		
7. pwd		
8. cd ~		
9. pwd		
10. echo ~ ~sysadmin ~root ~mail ~nobody where sysadmin is your username		
11. cd ~root		
12. cd /usr/bin		
13. pwd		
14. cd /usr		
15. type ls		
16. pwd		
17. cd /usr/share/doc		
18. pwd		
19. cd bash		
20. pwd		
21. cd ..		
22. pwd		
23. cd ../dict		
24. pwd		
25. cd		
26. ls		
27. ls -a		
28. ls -l /etc/hosts		
29. ls -R /etc/udev		
30. ls -d /etc/s*		
31. ls -d /etc/????		
32. ls –d /etc/[abcd]*		

4. Execute the following commands to manage files and directories. Copy a screenshot as output after you execute the given command. Create a brief explanation of the command.

Command	Screenshot	Explanation
1. echo *		
2. echo D*		
3. echo P*		
4. echo *s		
5. echo D*n*s		
6. echo ??????		
7. echo D?????????		
8. echo ?????*s		
9. echo [DP]*		
10. echo [!DP]*		

11. echo [D-P]*		
12. echo [!D-P]*		
13. ls		
14. cp /etc/hosts hosts		
15. ls		
16. rm hosts		
17. ls		
18. cp –v /etc/hosts hosts		
19. ls		
20. rm hosts		
21. ls		
22. cp –v /etc/hosts .		
23. ls		
24. rm hosts		
25. ls		
26. cd /etc		
27. ls -l hosts		
28. cp –p hosts/home/sysadmin		
29. cd		
30. ls –l hosts		
31. rm hosts 32. cp -p /etc/hosts ~ 33. cp hosts newname 34. ls –l hosts newname 35. rm hosts newname		
36. mkdir Myetc 37. cp –R /etc/udev Myetc 38. ls –l Myetc 39. ls –lR Myetc		
40. ls 41. rm -r Myetc42.ls		
43. touch premove 44. ls 45. mv premove postmove 46. ls 47. rm postmove		

6. Supplementary Activity:

Copy screen shot(s) of the following tasks:

1. Create a directory CPE231 in the Documents directory.
2. Create a directory <lastname> and <firstname> under CPE231 directory.
3. Create two text files: (1) A.txt and (2) B.txt in the <lastname> directory.
4. Copy the content of <lastname> directory to <firstname> directory.
5. Delete the content of <lastname> directory.

6. Create a directory CPE231_backup in the Documents directory. 7. Copy the content of CPE231 to CPE231_backup directory. 8. Remove the CPE231 directory.
7. Conclusion:
8. Assessment (Rubric for Laboratory Performance):