OS (OPERATING SYSTEM) Lab

LAB REPORT # 2

Semester: 5thSemester

Section: C

Submitted To:

Mr. Muhammad Hasnain

Submitted By:

Name: Abdul Ahad

Roll No: 22-CS-071

Lab Tasks

Q1 Difference between terminal and shell.

Q2 Write 10 Basic commands in Linux.

Q3 Show Simulation results after performing the following tasks by using suitable commands in Linux

1. Verify that you are in your home directory.

2. Make the directory adir using the command: mkdir adir if problem occurs, use sudo mkdir adir and then give password

3. List the files in the current directory to verify that the directory adir has beenmade correctly.

4. Change directories to adir.

5. Verify that you have succeeded in moving to the adir directory.

6. Make file testfile.

7. Verify that the file testfile exists.

8. List the contents of the file testfile to the screen.

9. Make a copy of the file testfile under the name secondfile.

10. Verify that the files testfile and secondfile both exist.

11. List the contents of both testfile and secondfile to the monitor screen.

12. Delete the file testfile.

13. Verify that testfile has been deleted.

14. Clear the window.

15. Rename the secondfile to thefile.

16. Copy thefile to your home directory.

17. Remove thefile from the current directory.

18. Verify that thefile has been removed.

19. Copy thefile from your home directory to the current directory.

20. Verify that thefile has been copied from your home directory to the current directory.

21. Change directories to your home directory.

22. Verify that you are in your home directory.

23. Verify that a copy of thefile is in your home directory.

24. Remove thefile from your home directory.

25. Remove thefile from the directory adir.

26. Remove the directory adir from your home directory with the command. rmdir adir

27. Verify that thefile and adir are gone from your home directory.

Solution:

Q1: Difference between terminal and shell

- **Terminal**: It's an interface (or an app) that allows you to interact with the system via the command line. It can run different shells.
- **Shell**: A shell is a command-line interpreter that provides an interface to interact with the operating system. Popular examples are `bash`, `zsh`, and `sh`. The terminal runs the shell.

Q2: 10 Basic Commands in Linux

1. `pwd` - Prints the current working directory.
2. `ls` - Lists files and directories in the current directory.
3. `cd` - Changes the current directory.
4. `mkdir` - Creates a new directory.
5. `touch` - Creates an empty file.
6. `cp` - Copies files or directories.
7. `mv` - Moves or renames files or directories.
8. `rm` - Removes files or directories.
9. `cat` - Concatenates and displays file content.
10. `man` - Shows the manual pages for commands.

Q3: Simulation Results with Linux Commands

1. **Verify you are in your home directory**:

   ```
   pwd
   ```

2. **Create directory `adir`**:

   ```
   mkdir adir

   # If there's a permission issue:

   sudo mkdir adir
   ```

3. **List files to verify `adir` was created**:

   ```
   ls
   ```

4. **Change to directory `adir`**:

   ```
   cd adir
   ```

5. **Verify you are in `adir`**:

   ```
   pwd
   ```

6. **Create file `testfile`**:

   ```
   touch testfile
   ```

7. **Verify `testfile` exists**:

   ```
   ls
   ```

8. **List contents of `testfile` (it will be empty)**:

```
cat testfile
```

9. **Copy `testfile` to `secondfile`**:

```
cp testfile secondfile
```

10. **Verify both files exist**:

```
ls
```

11. **List contents of both files**:

```
cat testfile secondfile
```

12. **Delete `testfile`**:

```
rm testfile
```

13. **Verify `testfile` was deleted**:

```
ls
```

14. **Clear the window**:

```
clear
```

15. **Rename `secondfile` to `thefile`**:

```
mv secondfile thefile
```

16. **Copy `thefile` to home directory**:

```
cp thefile ~/
```

17. **Remove `thefile` from the current directory**:

```
rm thefile
```

18. **Verify `thefile` is gone from the current directory**:

```
ls
```

19. **Copy `thefile` from home directory back to current directory**:

```
cp ~/thefile .
```

20. **Verify `thefile` was copied back**:

   ```
   ls
   ```

21. **Change to your home directory**:

   ```
   cd ~
   ```

22. **Verify you are in your home directory**:

   ```
   pwd
   ```

23. **Verify a copy of `thefile` is in your home directory**:

   ```
   ls
   ```

24. **Remove `thefile` from your home directory**:

   ```
   rm thefile
   ```

25. **Remove `thefile` from `adir`**:

   ```
   cd adir
   rm thefile
   ```

26. **Remove `adir`**:

   ```
   cd ..
   rmdir adir
   ```

27. **Verify `thefile` and `adir` are gone**:

   ```
   ls
   ```

The following is the Simulation of the task Performed in the Terminal the Output was collected using the **script** Command

```
Script started on 2024-10-17 00:12:42+05:00 [TERM="xterm-256color" TTY="/dev/pts/0"
COLUMNS="120" LINES="30"]
whitedevil@PC: /mnt/f/My_Private_Folder/UNI/4thSemester/OS/Lab/2
whitedevil@PC:/mnt/f/My_Private_Folder/UNI/4thSemester/OS/Lab/2$ cd ~
whitedevil@PC: ~
whitedevil@PC:~$ pwd
/home/whitedevil
whitedevil@PC: ~
```

```
whitedevil@PC:~$ mkdir adir
whitedevil@PC: ~
whitedevil@PC:~$ ls
adir  ansifilter-master  ansifilter-master.tar.gz  dir
whitedevil@PC: ~
whitedevil@PC:~$
whitedevil@PC: ~
whitedevil@PC:~$ cd adir
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ pwd
/home/whitedevil/adir
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ touch testfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ ls
testfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cat testfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cp testfile secondfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ ls
secondfile  testfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cat testfile secondfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ rm testfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ ls
secondfile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ clear
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ mv secondfile thefile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cp thefile ~/
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ rm thefile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ ls
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cp ~/thefile .
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ ls
```

thefile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cd ~
whitedevil@PC: ~
whitedevil@PC:~$ pwd
/home/whitedevil
whitedevil@PC: ~
whitedevil@PC:~$ ls
adir ansifilter-master ansifilter-master.tar.gz dir thefile
whitedevil@PC: ~
whitedevil@PC:~$ rm thefile
whitedevil@PC: ~
whitedevil@PC:~$ cd adir
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ rm thefile
whitedevil@PC: ~/adir
whitedevil@PC:~/adir$ cd ..
whitedevil@PC: ~
whitedevil@PC:~$ rmdir adir
whitedevil@PC: ~
whitedevil@PC:~$ ls
ansifilter-master ansifilter-master.tar.gz dir
whitedevil@PC: ~
whitedevil@PC:~$ exit
exit

Script done on 2024-10-17 00:14:49+05:00 [COMMAND_EXIT_CODE="0"]