Experiment Details

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| Department Name | Computer Science and Engineering |
| Class | T.Y.BTech |
| Semester | I |
| Subject Name | Operating Systems Lab |
| Experiment No. | 1 |
| Experiment Name | Study of basic Linux commands |

Version History

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**AIM:**

To study the basic commands which are used on Linux Operating System

**THEORY:**

List of Commands:-

* **Getting help with man:-**

**Use** : man command in Linux is used to display the user manual of any command that we can run on the terminal.

**Description** : man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed.

**Syntax** : man [man options] ... [command name]

* **pwd, cd, echo, export:-**
* **pwd:-**

Use : print name of current/working directory.

Description : Print full filename of present working directory.

Syntax : pwd [OPTION]

* **cd:-**

Use : change the shell working directory.

Description : Change the current directory to DIR. The default DIR is the value of the HOME shell variable.

Syntax : cd [dir]

* **echo:-**

Use : display line of text.

Description : ECHO the string (s) to standard outputs.

Syntax : echo [SHORT-OPTION] ... [STRING]...

* **export:-**

Use : set export attribute for shell variables.

Description : Marks each NAME for automatic export to the environment of subsequently executed commands. If VALUE is supplied, assign VALUE before exporting.

Syntax : export [-fn] [name[=value] …]

* **Different environmental variables like PATH:-**

Environment variables or ENVs basically define behavior of the environment.

Syntax : $NAME, $ printenv,

* **Process related commands:-ps, pstree, jobs, fg, bg, top, nice renice, time, kill:-**
* **ps:-**

Use : report a snapshot of the current processes.

Description : ps command is used to list the currently running processes and their PIDs along with some other information depends on different options.

Syntax : ps [options]

* **pstree:-**

Use : display tree of process.

Description : pstree command in Linux that shows the running processes as a tree which is a more convenient way to display the processes hierarchy and makes the output more visually appealing. The root of the tree is either init or the process with the given pid.

Syntax : pstree [options] [pid or username]

* **jobs:-**

Use : list the jobs that you are running in the background and in the foreground.

Description : Jobs command is used to list the jobs that you are running in the background and in the foreground. If the prompt is returned with no information no jobs are present.

Syntax : jobs [JOB]

* **bg:-**

Use : to place foreground jobs in background.

Description : bg is a process control command that resumes suspended process while keeping them running in the background.

Syntax : bg [job]

* **fg:-**

Use : to put a background job in foreground.

Description : fg command moves a background job in the current shell environment into the foreground.

Syntax : fg [job]

* **top:-**

Use : show the Linux processes.

Description : The top program provides a dynamic real-time view of a running system. It can display system summary information as well as a list of processes or threads currently being managed by the Linux kernel.

Syntax : top

* **nice:-**

Use : It runs a program with modified scheduling priority.

Description: Run COMMAND with an adjusted niceness, which affects process scheduling. With no COMMAND,print the current niceness.

Syntax : nice [option][command [arg]…]

* **renice:-**

Use : Alters the priority of running processes.

Description: renice alters the scheduling priority of one or more running processes. The first argument is the priority value to be used.

Syntax : renice [-n] priority [-g][-p][-u]

* **time:-**

Use : to execute a command and prints a summary of real-time, user CPU time and system CPU time spent by executing a command when it terminates.

Description: time run the program COMMAND with any given arguments ARG....

When COMMAND finishes, time displays information about resources used by COMMAND (on the standard error output, by default).

Syntax : time [option] [COMMAND]

* **kill:-**

Use : to terminate processes manually.

Description: k ill command in Linux, is a built-in command which is used to terminate processes manually. kill command sends a signal to a process which terminates the process.

Syntax : kill [options] <pid> […]

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**PRE TEST:**

**The command used to establish the documentation of commands in UNIX is \_\_\_\_\_\_\_**

1. whatis
2. **man**
3. help
4. search

**What is the use of ‘cd’ command?**

1. Toshow the Linux processes.
2. **To change the shell working directory.**
3. To Alters the priority of running processes.
4. To display line of text.

**Which command runs a program with modified scheduling priority?**

1. Top
2. time
3. renice
4. **nice**

**What is the right syntax to execute the ‘pwd’ command?**

1. pwd [JOB]
2. pwd [job]
3. **pwd [OPTION]**
4. pwd [dir]

**Using which command do we terminate a process manually?**

1. **kill**
2. renice
3. pstree
4. bg

**PROCEDURE:**

1. Start the terminal on the Linux operating system.
2. Execute the commands as per their respective syntax carefully
3. Read and understand the output after executing the commands.

**POST TEST:**

**When we execute the ‘cd..’ command at the root level,**

1. **Nothing happens.**
2. Results in changing to he home directory.
3. Behavior is UNIX flavor dependent.
4. Error message indicating the user can not access beyond root level.

**Is it possible to create a file in Linux using the ‘echo’ command?**

1. **Yes**
2. No

**Which command will you use to change the priority of the processes?**

1. nice
2. **renice**
3. ps
4. top

**If you want to display the proccessor activity and the tasks managed by kernel, which command will you use?**

1. man
2. pstree
3. **top**
4. help

**Which command will you use to put a background job in foreground?**

1. pstree
2. cd
3. bg
4. **fg**

**If you need to display the running processes in the tree format, which command will you use?**

1. tree
2. **pstree**
3. pwd
4. bg

**REFERENCES:**

Book: Operating System Concepts 9th edition