



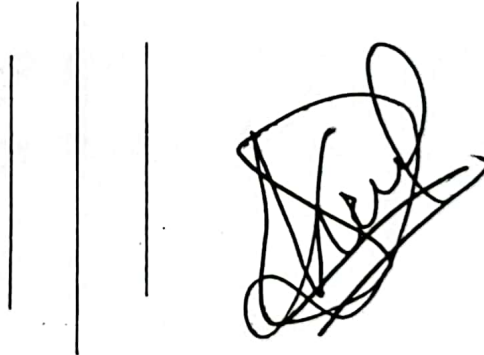
TRIBHUVAN UNIVERSITY

INSTITUTE OF SCIENCE AND TECHNOLOGY



HIMALAYA COLLEGE OF ENGINEERING

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Lab Report No:- 1

Title:- Introduction to commands in UBUNTU

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TITLE : Introduction to Commands in UBUNTU.

OBJECTIVE :

→ To understand and use basic linux commands, including terminal navigation, file handling and the command usage. This lab introduces essential to commands and their practical applications in the ubuntu operating system.

THEORY :

→ linux commands are instructions input into a terminal to perform specific tasks. The terminal allows users to interact directly with the OS. Commands in linux range from basic file handling to complex system administration tasks.

Terminal Shortcut :

→ `Ctrl + Alt + T` : opens the terminal in ubuntu.

Basic Commands :

1. `echo "helloworld"` : prints "helloworld" to terminal.
2. `cal` : Displays the current months calendar.
3. `clear` : clears the terminal screen.

file system & commands :

→ In linux, everything is considered a file, including directories, hardware devices and even network sockets. This unified file system approach simplifies interaction with the system.

- a, user Commands % Commands that can be executed by the user from the shell. These are the most common commands and include utilities like 'ls', 'echo', and 'man'.
- b, system calls % functions provided by the kernel that can be called by user programs to perform lower-level operations. Examples include 'open', 'read', and 'write'.
- c, C Library functions % standard functions provided by the C library, such as 'printf', 'malloc', and 'exit'.
- d, Devices and special files % Documentation on the special files found in '/dev', such as device drivers for hardware.
- e, file formats % Descriptions of various file formats including configuration files & data formats.
- f, Games % Documentation for games and screen savers available on the system.
- g, Miscellaneous % various topics that don't fit into the other sections, such as macro packages and conventions.
- h, system Administration % Commands and information used by system administrators for the system maintenance and configuration, such as 'iptables', 'mount', and 'cron'.

→ The linux manual pages or man pages, are a set of online documentation that provide information about commands, system calls, the library functions and more. The man pages are divided into sections, each covering a specific category of commands or functions. Thus, this were some manual structures.

Common Commands & Their manual sections:

- `man 1 which` : Displays the manual for the 'which' command, which locates a command.
- `man 1 ls` : Displays the manual for the 'ls' command, which lists directory contents.

Commands & Output's :

Q. Basic commands :

1, `echo "helloworld"` :

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha:~$ echo "helloworld"  
helloworld
```


2, cal :

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha:~$ cal  
    July 2024  
Su Mo Tu We Th Fr Sa  
   1  2  3  4  5  6  
  7  8  9 10 11 12 13  
14 15 16 17 18 19 20  
21 22 23 24 25 26 27  
28 29 30 31
```

3, clear :

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha:~$ cal  
    July 2024  
Su Mo Tu We Th Fr Sa  
   1  2  3  4  5  6  
  7  8  9 10 11 12 13  
14 15 16 17 18 19 20  
21 22 23 24 25 26 27  
28 29 30 31  
  
surajan-shrestha@Surajan-Shrestha:~$ clear
```

b> file Handling Commands :

1> creating and viewing files :

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha:~$ nano surajan
```

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha:~$ cat surajan  
^O  
hello i m creating a file using a command in terminal in ubuntu using command  
nano surajan  
surajan-shrestha@Surajan-Shrestha:~$
```



```
surajan-shrestha@Surajan-Shrestha: ~  
GNU nano 7.2 surajan  
hello i m creating a file using a command in terminal in ubuntu using command  
nano surajan  
[ Read 3 lines ]  
^C Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location  
^X Exit      ^R Read File  ^_ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

2, Redirecting output :

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha: $ date >xy.txt  
surajan-shrestha@Surajan-Shrestha: $ cat xy.txt  
Fri Jul 12 09:42:51 AM +0545 2024  
surajan-shrestha@Surajan-Shrestha: $
```

3, cut command :

↳ `$cut < date.txt --delimiter " " --fields 1`

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha:~$ date > date.txt  
surajan-shrestha@Surajan-Shrestha:~$ ls  
date.txt  Downloads  Music      snap          Templates  xy.txt  
Desktop   error.txt  Pictures   surajan       Videos  
Documents input.txt  Public     surajan.save  work  
surajan-shrestha@Surajan-Shrestha:~$ cat date.txt  
Fri Jul 12 09:48:56 AM +0545 2024  
surajan-shrestha@Surajan-Shrestha:~$ cut < date.txt --delimiter=" " --fields=1  
Fri  
surajan-shrestha@Surajan-Shrestha:~$
```

C, Listing files :

↳ `$LS -h :`

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha: $ ls -h  
date.txt  Downloads  Music      snap          Templates  xy.txt  
Desktop   error.txt  Pictures   surajan       Videos  
Documents input.txt  Public     surajan.save  work  
surajan-shrestha@Surajan-Shrestha:~$
```


2, \$ ls -l -h :-

```
surajan-shrestha@Surajan-Shrestha: ~  
surajan-shrestha@Surajan-Shrestha: $ ls -l -h  
total 56K  
-rw-rw-r-- 1 surajan-shrestha surajan-shrestha 34 Jul 12 09:48 date.txt  
drwxr-xr-x 4 surajan-shrestha surajan-shrestha 4.0K Jul 3 07:46 Desktop  
drwxr-xr-x 2 surajan-shrestha surajan-shrestha 4.0K Jun 23 20:06 Documents  
drwxr-xr-x 2 surajan-shrestha surajan-shrestha 4.0K Jun 29 12:49 Downloads  
-rw-rw-r-- 1 surajan-shrestha surajan-shrestha 0 Jul 12 09:40 error.txt  
-rw-rw-r-- 1 surajan-shrestha surajan-shrestha 0 Jul 12 09:40 input.txt  
drwxr-xr-x 2 surajan-shrestha surajan-shrestha 4.0K Jun 23 20:06 Music  
drwxr-xr-x 3 surajan-shrestha surajan-shrestha 4.0K Jun 29 15:41 Pictures  
drwxr-xr-x 2 surajan-shrestha surajan-shrestha 4.0K Jun 23 20:06 Public  
drwx----- 7 surajan-shrestha surajan-shrestha 4.0K Jun 29 09:00 snap  
-rw-rw-r-- 1 surajan-shrestha surajan-shrestha 94 Jul 12 09:32 surajan  
-rw-rw-r-- 1 surajan-shrestha surajan-shrestha 4 Jul 12 09:26 surajan.save  
drwxr-xr-x 2 surajan-shrestha surajan-shrestha 4.0K Jun 23 20:06 Templates  
drwxr-xr-x 2 surajan-shrestha surajan-shrestha 4.0K Jun 23 20:06 Videos  
drwxrwxr-x 3 surajan-shrestha surajan-shrestha 4.0K Jun 23 15:14 work  
-rw-rw-r-- 1 surajan-shrestha surajan-shrestha 34 Jul 12 09:42 xy.txt  
surajan-shrestha@Surajan-Shrestha: $
```

Discussion:

→ In this lab, we explored various fundamental commands in Ubuntu Linux. These commands serve as building blocks for more advanced operations and understanding the Linux operating system. The 'echo', 'cat' and 'clear' commands demonstrate basic terminal interactions. The file handling commands, including 'nano', 'cat', 'date', and 'cut', illustrate how to create, view and manipulate files. Listing commands like 'ls -h' and 'ls -l -h' show how to display files in a directory with human readable formats.

Understanding the structure of the manual ('man' pages) is crucial for self-learning and troubleshooting in Linux. The 'man' command provides detailed information about other commands, including their options and usage.

CONCLUSION:

→ This lab provided an introduction to essential linux commands and their practical usage. By mastering these commands users can efficiently interact with the ubuntu operating system, manage files and utilize the terminal for various tasks. The knowledge gained from this lab forms the foundation for more advanced linux operations and system administration tasks.