

FOSS LAB ASSIGNMENT 1

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Exp No . 1

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Aim :**Basic Linux Commands**

1,Getting started with Linux basic commands for directory operations,displaying directory structure in tree format etc.

2,Linux commands for operations such as redirection,ipes,filters,job control,changing ownership/permissions of files/links/directory.

3,Advanced Linux commands curl,wget,ftp,ssh and grep

Command 1:

Purpose of command : To Make directory

Usage :mkdir <dirname>

Sample I/p and Output : s1759@linux-server:~\$ mkdir anna
s1759@linux-server:~\$ ls
anna

Command 2:

Purpose of command :To goto the directory

Usage :cd <dirname>

Sample I/p and Output :s1759@linux-server:~\$ cd anna
[s1759@linux-server:~/anna\\$](#)

Command 3:

Purpose of command :To go to one folder up in hierarchy

Usage :cd ..

Sample I/p and Output :s1759@linux-server:~/anna\$ cd ..
s1759@linux-server:~\$

Command 4:

Purpose of command :To display all files in directory

Usage :ls <filename(optional)>

Sample I/p and Output :s1759@linux-server:~\$ ls
anna

Command 5:

Purpose of command :To display all commands previously done

Usage :history

Sample I/p and Output :s1759@linux-server:~\$ history
1 mkdir anna
2 ls
3 cd anna
4 cd ..
5 ls
6 history

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Command 6:

Purpose of command :To create file without entering file

Usage :touch <filename>

Sample I/p and Output :s1759@linux-server:~/anna\$ touch hello
s1759@linux-server:~/anna\$ ls
hello

Command 7:

Purpose of command :To create file by saving (entering) it

Usage :nano <filename>

Sample I/p and Output :s1759@linux-server:~/anna\$ nano test

Command 8:

Purpose of command :To display contents of file

Usage :cat <filename>

Sample I/p and Output :s1759@linux-server:~/anna\$ cat test
Hello Good Morning

Command 9:

Purpose of command :To show path

Usage :pwd <name(optional)>

Sample I/p and Output :s1759@linux-server:~\$ pwd
/home/us/s17/s1759

Command 10:

Purpose of command :To move file/folder

Usage :mv <file destination> <new destination>

Sample I/p and Output :s1759@linux-server:~\$ mv file ./annas
s1759@linux-server:~/anna\$ ls
file hello test

Command 11:

Purpose of command :To remove file

Usage :rm <filename>

Sample I/p and Output :s1759@linux-server:~\$ rm ./anna/hello
s1759@linux-server:~\$ cd anna
s1759@linux-server:~/anna\$ ls
file test tot
s1759@linux-server:~/anna\$ rm -r tot
s1759@linux-server:~/anna\$ ls
file test

Command 12:

Purpose of command :To remove folder

Usage :rm -r <foldername>

Sample I/p and Output :s1759@linux-server:~/anna\$ mkdir tot
s1759@linux-server:~/anna\$ ls
file test tot

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```
s1759@linux-server:~/anna$ rm -r tot
s1759@linux-server:~/anna$ ls
file test
```

Command 13:

Purpose of command :To copy file

Usage :cp <filename> <new destination>

```
Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~$ cp how.c ./here
ubnutu@ubnutu-VPCEH26EN:~$ cd here
ubnutu@ubnutu-VPCEH26EN:~/here$ ls
how.c
```

Command 14:

Purpose of command :To copy folder

Usage :cp -r <foldername> <new destination>

```
Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~$ cp -r ./here/vivo ./there
ubnutu@ubnutu-VPCEH26EN:~$ cd there
ubnutu@ubnutu-VPCEH26EN:~/there$ ls
vivo
```

Command 15:

Purpose of command :To display top 10 lines

Usage :head <filename>

```
Sample I/p and Output :s1759@linux-server:~$ nano test2
s1759@linux-server:~$ head test2
```

```
1
2
3
4
5
6
7
8
9
10
```

Command 16:

Purpose of command :To display first m lines

Usage :head <filename> -n m

```
Sample I/p and Output :s1759@linux-server:~$ head test2 -n 2
1
2
```

Command 17:

Purpose of command :To display all lines except last m lines

Usage :head <filename> -n -m

```
Sample I/p and Output :s1759@linux-server:~$ head test2 -n -2
1
2
```

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3
4
5
6
7
8
9
10

Command 18:

Purpose of command :To display last 10 lines

Usage :tail <filename>

Sample I/p and Output :s1759@linux-server:~\$ tail test2

3
4
5
6
7
8
9
10
11
12

Command 19:

Purpose of command :To display last m lines

Usage :tail <filename> -n m

Sample I/p and Output :s1759@linux-server:~\$ tail test2 -n 2

11
12

Command 20:

Purpose of command :To show directory in tree structure

Usage :tree <foldername><optional>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~/fol\$ tree

```
.
├── here
│   ├── how.c
│   └── vivo
└── v1_051523630.png
```

2 directories, 2 files

Command 21:

Purpose of command :To get manual or help

Usage :man <search>

<search> --help

Sample I/p and Output :

s1759@linux-server:~\$ man nano

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NANO(1)
NANO(1)

General Commands Manual

NAME

nano - Nano's ANOther editor, an enhanced free Pico clone

SYNOPSIS

nano [options] [[+line,column] file]...

DESCRIPTION

nano is a small, free and friendly editor which aims to replace Pico, the default editor included in the non-free Pine package. On

top of copying Pico's look and feel, nano also implements some missing (or disabled by default) features in Pico, such as "search and replace" and "go to line and column number".

s1759@linux-server:~\$ nano --help

Usage: nano [OPTIONS] [[+LINE,COLUMN] FILE]...

Option

GNU long option

Meaning

-h, -?

--help

Show this message

+LINE,COLUMN

Start at line LINE, column COLUMN

-A

--smarhome

Enable smart home key

-B

--backup

Save backups of existing files

etc.

Command 22:

Purpose of command :To list details of file

Usage :ls -la

Sample I/p and Output :s1759@linux-server:~/anna\$ ls -la

```
total 12
drwxrwxr-x 2 s1759 s1759 4096 Feb 5 21:02 .
drwx----- 4 s1759 s1759 4096 Feb 5 21:27 ..
-rw-rw-r-- 1 s1759 s1759 0 Feb 5 20:56 file
-rw-rw-r-- 1 s1759 s1759 19 Feb 5 20:49 test
```

Command 23:

Purpose of command :To display system information

Usage :uname

Sample I/p and Output :s1759@linux-server:~\$ uname

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Linux

Command 24:

Purpose of command :To display same string

Usage :echo <string>

Sample I/p and Output :s1759@linux-server:~\$ echo Hello
Hello

Command 25:

Purpose of command :Creates a symbolic link to a file

Usage :ln -s <filename> <dirname>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ mkdir sym
ubnutu@ubnutu-VPCEH26EN:~\$ ln -s test sym
ubnutu@ubnutu-VPCEH26EN:~\$ ls -li test sym
7340458 test

sym:

7340459 test

ubnutu@ubnutu-VPCEH26EN:~\$ ls -li test sym

-rw-rw-r-- 2 ubnutu ubnutu 7 Feb 8 15:26 test

sym:

total 0

lrwxrwxrwx 1 ubnutu ubnutu 4 Feb 8 15:29 test -> test

Command 26:

Purpose of command :To create hardlink

Usage :ln <original file> <hard link file>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ mkdir sym
ubnutu@ubnutu-VPCEH26EN:~\$ touch s
ubnutu@ubnutu-VPCEH26EN:~\$ nano test
ubnutu@ubnutu-VPCEH26EN:~\$ ln s test symlink
ubnutu@ubnutu-VPCEH26EN:~/symlink\$ ls
s test

Command 27:

Purpose of command :Set the permission on file/folder

Usage :chmod {a,u,g,o} {+,-} {r,w,x} filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ ls -li s.c
-rw-rw-r-- 1 ubnutu ubnutu 917 Sep 12 00:45 s.c
ubnutu@ubnutu-VPCEH26EN:~\$ chmod +x s.c
ubnutu@ubnutu-VPCEH26EN:~\$ ls -li s.c
-rwxrwxr-x 1 ubnutu ubnutu 917 Sep 12 00:45 s.c

Command 28:

Purpose of command :To change group owner of a file/folder

Usage :chgrp <groupname> <filename>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ ls -li file
-rw-rw-r-- 1 ubnutu ubnutu 13 Feb 8 19:50 file
ubnutu@ubnutu-VPCEH26EN:~\$ chgrp snooker file
chgrp: invalid group: 'snooker'

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Command 29:

Purpose of command :To change user owner and group owner of a file/folder

Usage :chown <userowner>:<groupowner> <filename>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ chown well file

chown: invalid user: 'well'

Command 30:

Purpose of command :To output commands result to file (overwritten)

Usage :Linux-command > filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ echo Hello > file.txt

ubnutu@ubnutu-VPCEH26EN:~\$ cat file.txt

Hello

Command 31:

Purpose of command :To output commands result to file (append)

Usage :Linux-command >> filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ ls ./there >> file.txt

ubnutu@ubnutu-VPCEH26EN:~\$ cat file.txt

Hello

vivo

Command 32:

Purpose of command :To take input to Linux command from file instead of keyboard

Usage :Linux-command < filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ nano lin

ubnutu@ubnutu-VPCEH26EN:~\$ cat < lin

Hello Hello

Command 33:

Purpose of command :Using pipe more than two commands can be connected

Usage :command 1 | command 2 | command 3

Sample I/p and Output :To count words starting with some letter

s1759@linux-server:~/anna\$ cat test | grep ^H |wc -l

1

To display word starting with some letter

s1759@linux-server:~/anna\$ cat test | grep ^H

Hello Good Morning

Filter :Command accepts its input data from standard input and produces its output on standard output .Certain types of filters are given below:

Command 34:

Purpose of command :Puts stdin on stdout and also into a file

Usage :Linux-command | tee <filename>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ ls ./fol | tee lin

here

v1_051523630.png

ubnutu@ubnutu-VPCEH26EN:~\$ cat lin

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here
v1_051523630.png

Command 35:

Purpose of command : Translate characters

Usage :tr <character> <new character>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ nano file

ubnutu@ubnutu-VPCEH26EN:~\$ cat file

why

to

where

ubnutu@ubnutu-VPCEH26EN:~\$ cat file | tr 'w' 'q'

qhy

to

qhere

Command 36:

Purpose of command :Counting word,lines,characters

Usage :wc {-l,-c,-w} filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ wc -l file

3 file

Command 37:

Purpose of command :To sort file alphabetically or numerically

Usage :sort {-n} {-kcolumn number} filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ cat file1

Sachin

Dhoni

Anu

Arun

Shriya

ubnutu@ubnutu-VPCEH26EN:~\$ sort file1

Anu

Arun

Dhoni

Sachin

Shriya

Command 38:

Purpose of command :sed can perform editing functions in stream

Usage :sed <expression>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ echo anu123 | sed 's/anu/wow/'

wow123

Command 39:

Purpose of command :To list all background jobs

Usage :jobs

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ jobs

[1]+ Stopped

tr w q

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Command 40:

Purpose of command :Find all files according to conditions

Usage :find options starting/path expression

The options attribute will control the behavior and optimization method of the find process. The starting/path attribute will define the top level directory where find begins filtering. The expression attribute controls the tests that search the directory hierarchy to produce output.

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ touch ee
ubnutu@ubnutu-VPCEH26EN:~\$ touch well

Command 36:

Purpose of command :Counting word,lines,characters

Usage :wc {-l,-c,-w} filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ wc -l file
3 file

Command 37:

Purpose of command :To sort file alphabetically or numerically

Usage :sort {-n} {-kcolumn number} filename

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ cat file1

Sachin

Dhoni

Anu

Arun

Shriya

ubnutu@ubnutu-VPCEH26EN:~\$ sort file1

Anu

Arun

Dhoni

Sachin

Shriya

Command 38:

Purpose of command :sed can perform editing functions in stream

Usage :sed <expression>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ echo anu123 | sed 's/anu/wow/'
wow123

Command 39:

Purpose of command :To list all background jobs

Usage :jobs

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ jobs

[1]+ Stopped tr w q

Command 40:

ubnutu@ubnutu-VPCEH26EN:~\$ find . -newer ee
.
./well

Command 41:

Purpose of command :Sending current foreground job to background

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Usage :CTRL + Z

bg

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ fg

find / -type d -name "*.c"

^Z

[3]+ Stopped find / -type d -name "*.c"

ubnutu@ubnutu-VPCEH26EN:~\$ bg

[3]+ find / -type d -name "*.c" &

Command 42:

Purpose of command :To locate file

Usage :locate <filename>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ locate vivo

/home/ubnutu/.local/share/Trash/files/vivo

/home/ubnutu/.local/share/Trash/files/vivo/Desktop

/home/ubnutu/.local/share/Trash/files/vivo/dd

/home/ubnutu/.local/share/Trash/files/vivo/deen

/home/ubnutu/.local/share/Trash/info/vivo.trashinfo

/usr/share/mime/video/vnd.vivo.xml

Command 43:

Purpose of command :Kill a specific background job

Usage :kill %jobnumber

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ kill %2

ubnutu@ubnutu-VPCEH26EN:~\$ jobs

[1]+ Stopped tr w q

[2]- Terminated tr w q

Command 44:

Purpose of command :Transfer data from url

Usage :curl <url>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ curl www.skyfilabs.com

<html>

<head><title>301 Moved Permanently</title></head>

<body bgcolor="white">

<center><h1>301 Moved Permanently</h1></center>

</body>

</html>

Command 45:

Purpose of command :Download file.

Usage :wget <url>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~/fol\$ wget

https://ssl.gstatic.com/gb/images/v1_051523630.png

--2019-02-08 14:11:20-- https://ssl.gstatic.com/gb/images/v1_051523630.png

Resolving ssl.gstatic.com (ssl.gstatic.com)... 2404:6800:4007:80c::2003, 172.217.163.67

Connecting to ssl.gstatic.com (ssl.gstatic.com)[2404:6800:4007:80c::2003]:443... connected.

HTTP request sent, awaiting response... 200 OK

Length: 63333 (62K) [image/png]

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Saving to: 'v1_051523630.png'

```
v1_051523630.png          100%
[=====>]
61.85K  251KB/s  in 0.2s
```

2019-02-08 14:11:21 (251 KB/s) - 'v1_051523630.png' saved [63333/63333]

```
ubnutu@ubnutu-VPCEH26EN:~/fol$ ls
v1_051523630.png
```

Command 46:

Purpose of command :To open an ftp connection to a remote system

Usage :ftp <ip address>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ ftp 137.97.18.93

```
ftp: connect: Connection timed out
ftp> ^Z
[4]+  Stopped                  ftp 137.97.18.93
```

Command 47:

Purpose of command :logging into the remote machine, transferring files between the two machines, and for executing commands on the remote machine.

Usage :ssh <hostname>

Sample I/p and Output :ubnutu@ubnutu-VPCEH26EN:~\$ ssh ubnutu-VPCEH26EN

```
ssh: connect to host ubnutu-vpceh26en port 22: Connection refused
```

Command 48:

Purpose of command :To search string or pattern

Usage :grep {-i,w} <string> <filename>

Sample I/p and Output :s1759@linux-server:~\$ nano Document

```
s1759@linux-server:~$ nano test3
s1759@linux-server:~$ grep Anna test3
Anna
s1759@linux-server:~$ grep -i anna test3
Anna
s1759@linux-server:~$ grep -w An test3
s1759@linux-server:~$ grep -w Anna test3
Anna
```

CONCLUSION

Familiarisation of Basic Linux Commands have been done and required results are obtained using ubnutu version 16.04.