

LAB 1 – Linux Basics

Lab Files Used:

- Lab3
- Lab5

Commands Executed and Explained

- ◊ Command 1: `ls -l`

Work of “ls” command – list directory contents

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ ls
1_script.sh    array1.sh      lab1.sh          starter
2_script.sh    array2.sh      'n '           starter_kit_streamline
3_script.sh    array3.sh      print_numbers.sh  starter_kit_streamline.sh
4_script.sh    array4.sh      second_script.sh
6_script.sh    array_loop.sh  second_script.sj
```

ls -l detailed list

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ ls -l
total 64
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 32 Aug 20 14:35 1_script.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 86 Aug 23 11:53 2_script.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 73 Aug 23 11:58 3_script.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 79 Aug 23 12:32 4_script.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 72 Aug 23 12:42 6_script.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 100 Aug 26 12:48 array1.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 174 Aug 26 13:17 array2.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 102 Aug 26 13:21 array3.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 231 Aug 26 13:49 array4.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 103 Sep  5 20:33 array_loop.sh
-rw-rw-r-- 1 bhaktib0108 bhaktib0108  0 Sep  5 22:22 lab1.sh
-rw-rw-r-- 1 bhaktib0108 bhaktib0108 13 Sep  4 10:44 'n '
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 60 Sep  5 20:28 print_numbers.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 38 Aug 20 14:45 second_script.sh
-rwxrwxrwx 1 bhaktib0108 bhaktib0108  0 Aug 20 14:41 second_script.sj
-rw-rw-r-- 1 bhaktib0108 bhaktib0108 2513 Sep  4 11:36 starter
drwxrwxrwx 2 bhaktib0108 bhaktib0108 4096 Sep  4 10:45 starter_kit_streamline
-rwxrwxrwx 1 bhaktib0108 bhaktib0108 2976 Sep  4 11:57 starter_kit_streamline.s
h
```

ls -a shows hidden files

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ ls -a
[...]
6_script.sh      .array_loop.sh.swp    starter
..               array1.sh        lab1.sh    starter_kit_streamline
1_script.sh     array2.sh        'n'       starter_kit_streamline.sh
2_script.sh     array3.sh        print_numbers.sh
3_script.sh     array4.sh        second_script.sh
4_script.sh     array_loop.sh   second_script.sj
```

ls -la combined

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ ls -la
total 76
drwxrwxrwx  3 bhaktib0108 bhaktib0108 4096 Sep  5 22:22 .
drwxr-x--- 22 bhaktib0108 bhaktib0108 4096 Sep  5 22:21 ..
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   32 Aug 20 14:35 1_script.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   86 Aug 23 11:53 2_script.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   73 Aug 23 11:58 3_script.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   79 Aug 23 12:32 4_script.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   72 Aug 23 12:42 6_script.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108  100 Aug 26 12:48 array1.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108  174 Aug 26 13:17 array2.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108  102 Aug 26 13:21 array3.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108  231 Aug 26 13:49 array4.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108  103 Sep  5 20:33 array_loop.sh
-rw-rw-r--  1 bhaktib0108 bhaktib0108 1024 Sep  5 20:34 .array_loop.sh.swp
-rw-rw-r--  1 bhaktib0108 bhaktib0108     0 Sep  5 22:22 lab1.sh
-rw-rw-r--  1 bhaktib0108 bhaktib0108   13 Sep  4 10:44 'n'
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   60 Sep  5 20:28 print_numbers.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108   38 Aug 20 14:45 second_script.sh
-rwxrwxrwx  1 bhaktib0108 bhaktib0108     0 Aug 20 14:41 second_script.sj
-rw-rw-r--  1 bhaktib0108 bhaktib0108 2513 Sep  4 11:36 starter
drwxrwxrwx  2 bhaktib0108 bhaktib0108 4096 Sep  4 10:45 starter_kit_streamline
-rwxrwxrwx  1 bhaktib0108 bhaktib0108 2976 Sep  4 11:57 starter_kit_streamline.sh
```

pwd – print working directory

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ pwd
/home/bhaktib0108/scripts
```

cd – change directory

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ cd starter_kit_streamline
bhaktib0108@bhaktib0108-VirtualBox:~/scripts/starter_kit_streamline$ cd document
s
bash: cd: documents: No such file or directory
bhaktib0108@bhaktib0108-VirtualBox:~/scripts/starter_kit_streamline$ cd ...
bash: cd: ...: No such file or directory
bhaktib0108@bhaktib0108-VirtualBox:~/scripts/starter_kit_streamline$ cd ..
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ cd /
bhaktib0108@bhaktib0108-VirtualBox:/$ cd -
/home/bhaktib0108/scripts
```

mkdir – makes a directory

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ mkdir assign.sh
```

touch – makes file

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ touch assign.txt
```

copying of a folder

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ cp -r folder1 folder2
```

mv – move or rename files

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ mv assign.txt assignment.txt
```

rm – remove files

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ rm assignment.txt
```

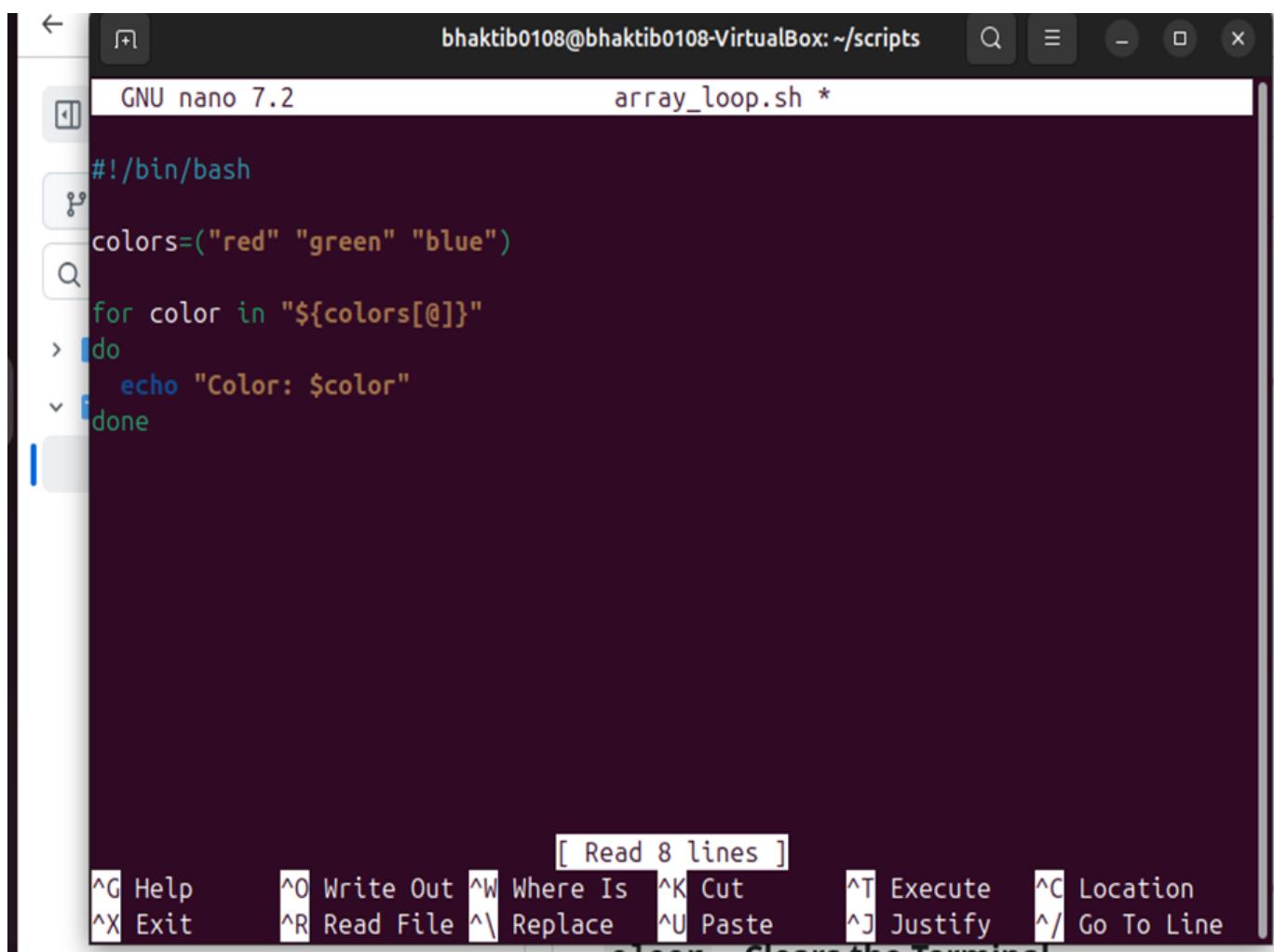
cat- view file content

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ cat array_loop.sh
#!/bin/bash

colors=("red" "green" "blue")

for color in "${colors[@]}"
do
    echo "Color: $color"
done
```

nano – edits the particular file



- Ctrl+x – exits the file • Ctrl+o – saves the file

clear – clear all the commands

- Ctrl + L

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ clear
```

echo – prints the text

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ echo "hello world"
hello world
```

whoami - shows the current user

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ whoami
bhaktib0108
```

man – manual for any command

```
LS(1)                               User Commands                               LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILEs (the current directory by default).
    Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

    Mandatory arguments to long options are mandatory for short options too.

    -a, --all
        do not ignore entries starting with .

    -A, --almost-all
        do not list implied . and ..

    --author
Manual page ls(1) line 1 (press h for help or q to quit)
```

- Q to quit the page

find – locate files

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ find . -name "*.txt"
/source.txt
```

grep- find inside files

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ grep "color" array_loop.sh
colors=("red" "green" "blue")
for color in "${colors[@]}"
  echo "Color: $color"
```

to run multiple commands in one line

```
bhaktib0108@bhaktib0108-VirtualBox:~/scripts$ mkdir test && cd test && touch hello.txt
```

QUESTIONS Q1 What is the difference between chmod and chown? Chmod- change mode • Changes the permission for a file or a directory • It implies on who can read, write or execute Chown – Changes the ownership • Changes the ownership for a file or a directory • It implies on who owns a file or which group owns it. Q2 How do you check current directory and user? Ans • pwd – current directory • whoami – tells the current user