

Full Name: ANTONY SCARIA

Roll No.: 23. Section: MCA A Batch

Subject: Networking & System Administration Lab

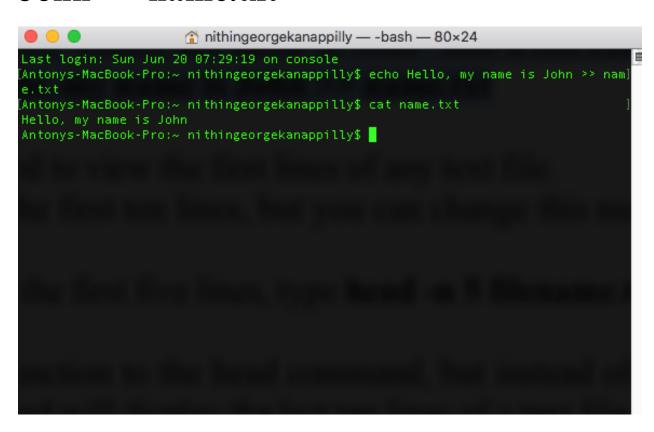
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1. echo

echo command is used to move some data into a file.

If you want to add the text, "Hello, my name is John" into a file called name.txt,

you would type echo Hello, my name is John >> name.txt



2. head

The head command is used to view the first lines of any text file.

By default, it will show the first ten lines, but you can change this number to your liking.

If you only want to show the first five lines, type **head -n 5 filename.txt**

3. tail

This one has a similar function to the head command, but instead of showing the first lines, the tail command will display the last ten lines of a text file.

tail -n filename.txt

```
Last login: Sun Jun 20 19:01:13 on ttys000
[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ tail -n 5 name.txt ]
16. Visaaranai (2015) 8.4
17. 3 Idiots (2009) 8.3
18. Like Stars on Earth (2007) 8.3
19. Jersey (2019) 8.3
20. Soorarai Pottru (2020) 8.3Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

4. read

read the contents of a line into a variable.

The **read** command can be used with and without arguments

read command is used to read [options]
[name...]

\$read

\$read var1 var2 var3

\$echo "[\$var1] [\$var2] [\$var3]"

```
inithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 21:26:55 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ read name antony

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ echo $name antony

Antonys-MacBook-Pro:~ nithingeorgekanappilly$

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$

[Antony
```

5. more

Like cat command, more command displays the content of a file. Only difference is that, in case of larger files, 'cat' command output will scroll off your screen while 'more' command displays output one screenful at a time.

Enter key: To scroll down page line by line.

Space bar: To go to next page.

b key: To go to the backward page.

/ key: Lets you search the string.

Syntax: more <file name>

more /etc/passwd

```
nithingeorgekanappilly — more /etc/passwd — 80×24
ast login: Sun Jun 20 21:27:32 on ttys000
Antonys-MacBook-Pro:~ nithingeorgekanappilly$ more /etc/passwd
 User Database
 Note that this file is consulted directly only when the system is running
 in single-user mode. At other times this information is provided by
 Open Directory.
 See the opendirectoryd(8) man page for additional information about
 Open Directory.
nobody:*:-2:-2:Unprivileged User:/var/empty:/usr/bin/false
oot:*:0:0:System Administrator:/var/root:/bin/sh
daemon:*:1:1:System Services:/var/root:/usr/bin/false
uucp:*:4:4:Unix to Unix Copy Protocol:/var/spool/uucp:/usr/sbin/uucico
taskgated: *:13:13:Task Gate Daemon:/var/empty:/usr/bin/false
networkd: *:24:24:Network Services:/var/networkd:/usr/bin/false
installassistant: *:25:25:Install Assistant:/var/empty:/usr/bin/false
lp:*:26:26:Printing Services:/var/spool/cups:/usr/bin/false
postfix:*:27:27:Postfix Mail Server:/var/spool/postfix:/usr/bin/false
scsd:*:31:31:Service Configuration Service:/var/empty:/usr/bin/false
ces:*:32:32:Certificate Enrollment Service:/var/empty:/usr/bin/false
appstore: *:33:33:Mac App Store Service:/var/empty:/usr/bin/false
```

6. less

The 'less' command is same as 'more' command but include some more features.

It automatically adjust with the width and height of the teminal window, while 'more'

command cuts the content as the width of the terminal window get shorter.

less <file name>

\$less /etc/passwd

```
inithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 21:34:39 on ttys000

Antonys-MacBook-Pro:~ nithingeorgekanappilly$ less /etc/passwd
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Thinlingsorgistanappily—less /stc/passed — 202-63

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7. cut

The cut command is used for cutting out the sections from each line of files and writing the result to standard output. It can be used to cut parts of a line by byte position, character and field

cut OPTION... [FILE]...

\$cut -b 1,2,3 state.txt

```
inithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 21:32:50 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ cut -b 1,2,3 name.txt ]

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

8. paste

It is used to join files horizontally (parallel merging) by outputting lines consisting of lines from each file specified, separated by **tab** as delimiter, to the standard output.

paste [OPTION]... [FILES]...

\$ paste state.txt capital.txt

```
👚 nithingeorgekanappilly — -bash — 80×24
Last login: Sun Jun 20 21:34:39 on ttys000
Antonys-MacBook-Pro:~ nithingeorgekanappilly$ paste name.txt file1.txt

    Pather Panchali (1955)

2. Nayakan (1987)
                                                 how are you?
3. Pariyerum Perumal (2018)
4. Anbe Sivam (2003)
5. Hanky Panky (1979)
6. C/o Kancharapalem (2018)
The World of Apu (1959)
                                8.5
8. Kireedam (1989)
9. Manichitrathazhu (1993)
                                8.4
10. Natsamrat (2016)
11. 96 (2018)
12. Thevar Magan (1992) 8.4
13. Black Friday (2004) 8.4
14. Kumbalangi Nights (2019)
                                8.4
15. Drishyam 2 (2021)
16. Visaaranai (2015)
17. 3 Idiots (2009)
18. Like Stars on Earth (2007) 8.3
19. Jersey (2019)
20. Soorarai Pottru (2020)
Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

9. uname

The uname command, short for Unix Name, will print detailed information about your Linux system like the machine name, operating system, kernel, and so on.

\$uname

Suname-r

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↑ nithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 21:34:45 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ uname

Darwin

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ uname -r

17.7.0

Antonys-MacBook-Pro:~ nithingeorgekanappilly$

Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

10. cp

cp command is used to copy files from the current directory to a different directory. For instance, the command **cp scenery.jpg**

/home/username/Pictures would create a copy of scenery.jpg (from your current directory) into the Pictures directory.

cp -i will ask for user's consent in case of a potential file overwrite.

cp -p will preserve source files' mode, ownership and timestamp.

cp -**r** will copy directories recursively.

cp -u copies files only if the destination file is not existing or the source file is newer than the destination file.

```
↑ nithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 21:44:30 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ cp name.txt Documents

Antonys-MacBook-Pro:~ nithingeorgekanappilly$

| Antonys-MacBook-Pro:~ nithingeorgekanappilly$
| Antonys-MacBook-Pro:~ nithingeorgekanappilly$
| Antonys-MacBook-Pro:~ nithingeorgekanappilly$
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```

11. mv

The primary use of the mv command is to move files, it can also be used to rename files. The arguments in mv are similar to the cp command. You need to type mv, the file's name, and the destination's directory.

mv file.txt /home/username/Documents

To rename files, the Linux is my oldname.ext newname.ext

```
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Last login: Sun Jun 20 21:49:24 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ mv file1.txt Documents

Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

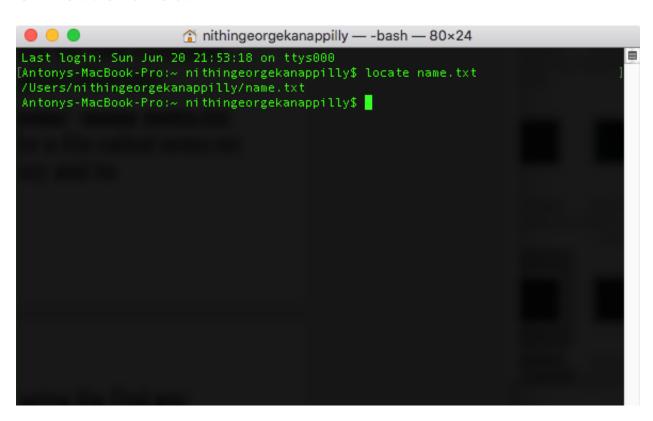
12. locate

To locate a file, just like the search command in Windows.

What's more, using the -i argument along with this command will make it case- insensitive, so you can search for a file even if you don't remember its exact name.

To search for a file that contains two or more words, use an asterisk (*).

For example, **locate -i school*note** command will search for any file that contains the word "school" and "note", whether it is uppercase or lowercase.



13. find

Similar to the locate command, using find also searches for files and directories.

The difference is, you use the find command to locate files within a given directory.

As an example, **find /home/ -name notes.txt** command will search for a file called notes.txt within the home directory and its subdirectories.

Other variations when using the find are:

To find files in the current directory use, **find**.

-name notes.txt

To look for directories use, / -type d -name notes. txt

```
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Last login: Sun Jun 20 22:02:03 on ttys000

Antonys-MacBook-Pro:~ nithingeorgekanappilly$ find name.txt

name.txt

Antonys-MacBook-Pro:~ nithingeorgekanappilly$

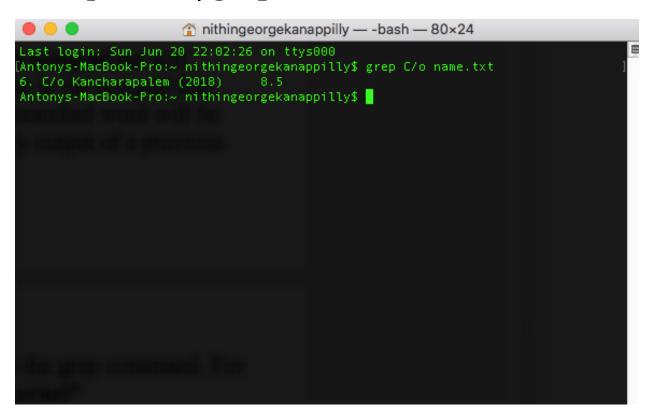
| Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

14. grep

Another basic Linux command that is undoubtedly helpful for everyday use is grep. It lets you search through all the text in a given file.

To illustrate, **grep blue notepad.txt** will search for the word blue in the notepad file. Lines that contain the searched word will be displayed fully. Usually output of a previous

command is piped into the grep command. For example ls -l | grep "kernel"



15. df

Use df command to get a report on the system's disk space usage, shown in percentage and KBs. If you want to see the report in megabytes, type **df-m**.

Last login: Sun Antonys-MacBook Filesystem 11	-Pro:∼ ni	ithingeo	rgekanappi	illy\$ di		ifree] %ius
ed Mounted on					.,		
/dev/disk2s1 % /	228736	114914	109086	52%	1659265	9223372036853116542	0
devfs	0	0	0	100%	674	0	100
% /dev							
/dev/disk2s4	228736	4096	109086	4%	5	9223372036854775802	0
% /private/va	r/vm						
/dev/disk1s2	119407	8589	110818	8%	105542	4294861737	0
<pre>% /Volumes/Dougle</pre>	wnloads						
/dev/disk1s3	119209	689	118519	1%	437	4294966842	0
<pre>% /Volumes/Do</pre>	cuments						
/dev/disk1s4	714668	212436	502232	30%	81874	4294885405	0
% /Volumes/My	Files						
map -hosts	0	0	0	100%	0	0	100
% /net							
map auto_home	0	0	0	100%	0	0	100
% /home							
Antonys-MacBook	-Pro:~ ni	ithingeo	rgekanappi	11v\$			

16. du

If you want to check how much space a file or a directory takes, the du (Disk Usage) command is the answer. However, the disk usage summary will show disk block numbers instead of the usual size format.

If you want to see it in bytes, kilobytes, and megabytes, add the -h argument to the command line.

\$du-h

```
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17. useradd

This is available only to system admins Since Linux is a multi-user system, this means more than one person can interact

with the same system at the same time. useradd is used to create a new user, while passwd is adding a password to that user's account. To add a new person named John

type, **useradd John** and then to add his password type, **passwd 123456789**

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Last login: Sun Jun 20 22:20:27 on ttys000
[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ sudo dscl . -create /Users/scaria ]
[Password:
Antonys-MacBook-Pro:~ nithingeorgekanappilly$ ■
```

18. userdel

Remove a user is very similar to adding a new user. To delete the users account type, userdel UserName

```
↑ nithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 22:22:49 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ sudo /usr/bin/dscl . -delete "/Use] rs/scaria"

[Password: ]

Antonys-MacBook-Pro:~ nithingeorgekanappilly$ ■
```

19. sudo

Short for "SuperUser Do", this command enables you to perform tasks that require administrative or root permissions. You must have sufficient permissions to use this command.

sudo useradd maria

```
↑ nithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 22:20:27 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ sudo dscl . -create /Users/scaria ]

[Password:

Antonys-MacBook-Pro:~ nithingeorgekanappilly$

| Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```

20. passwd

Changes passwords for user accounts.

A normal user may only change the password for their own account, while the superuser may change the password for any account.

passwd[option] [username]
passwd

passwd user1

```
inithingeorgekanappilly — -bash — 80×24

Last login: Sun Jun 20 22:25:38 on ttys000

[Antonys-MacBook-Pro:~ nithingeorgekanappilly$ sudo /usr/bin/dscl . -passwd /User] s/nithingeorgekanappilly root

[Password: ]

Antonys-MacBook-Pro:~ nithingeorgekanappilly$
```