Assignment

Assignment Date:05-11-2022
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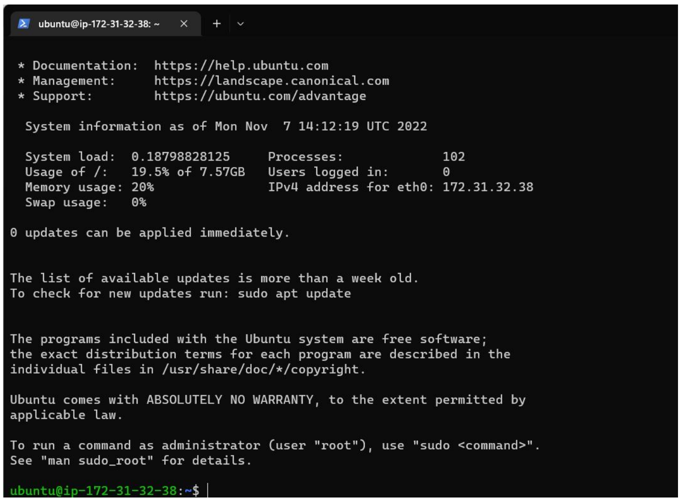
Assignment 1 :- How to upload HTML web pages on Apache2 web server in EC-2 Instance?

Step1: Initially I created a Linux server using Ubuntu image under EC2 section once the server is up then I connected to that server via SSH

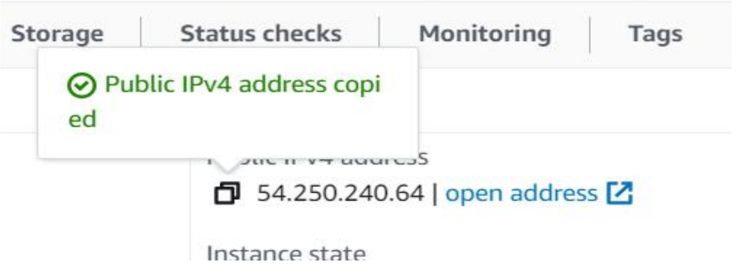


```
 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Mon Nov  7 14:12:19 UTC 2022

  System load:  0.18798828125     Processes:             102
  Usage of /:   19.5% of 7.57GB   Users logged in:       0
  Memory usage: 20%               IPv4 address for eth0: 172.31.32.38
  Swap usage:   0%

0 updates can be applied immediately.


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-32-38:~$ 
```

Step2: Once connected I updated the Linux server using **sudo apt-get update command**

Step3: After updating the machine I installed the apache2 server using **sudo apt-get install apache2**

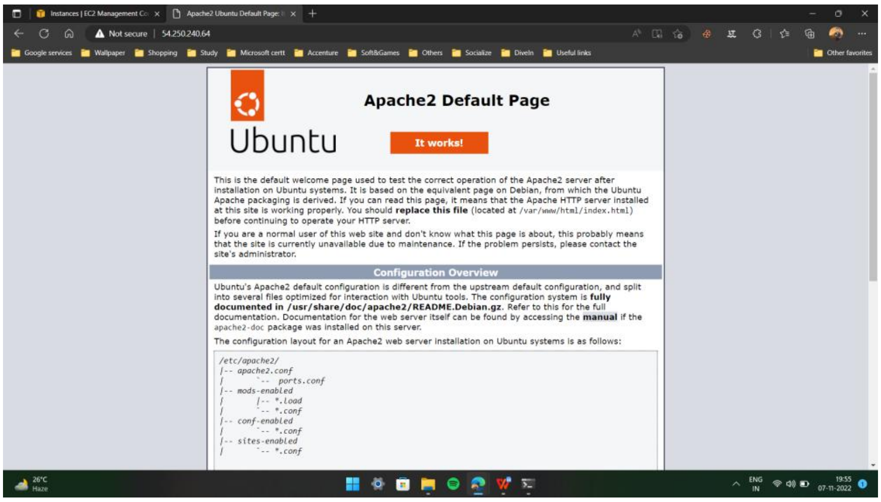
Step4: Now I went to my instance and took the public ip of it and opened it



Public IPv4 address copied

54.250.240.64 | open address

Instance state



Apache2 Default Page

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at /var/www/html/index.html) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

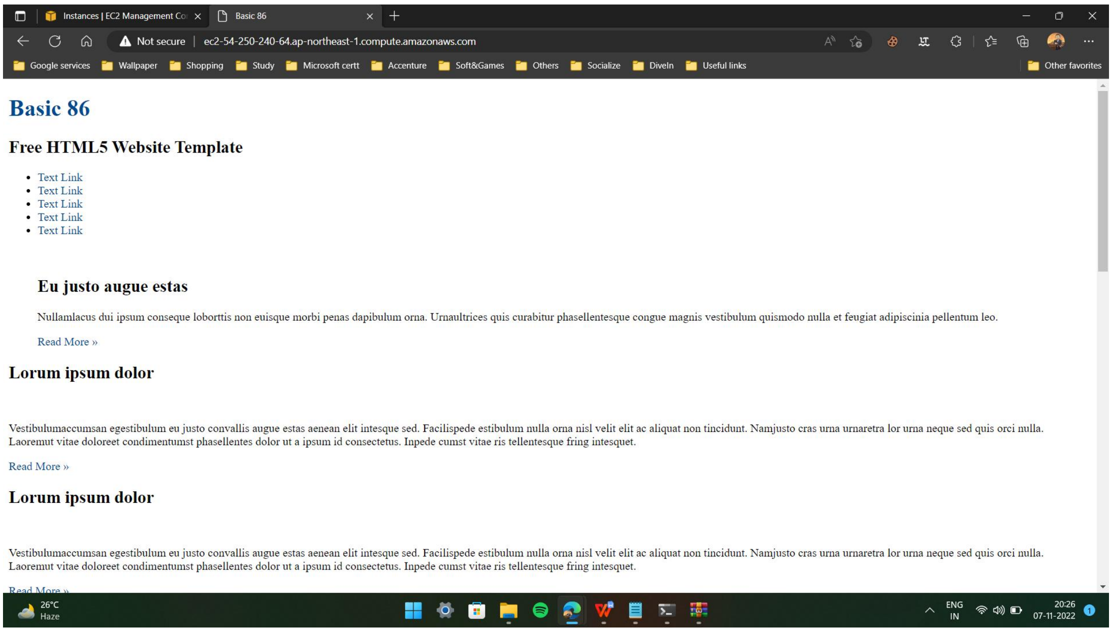
Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the apache2-doc package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|       `--  ports.conf
|-- mods-enabled
|       |-- *.load
|       `-- *.conf
|-- conf-enabled
|       `-- *.conf
|-- sites-enabled
|       `-- *.conf
```

I got default page of Apache server now I’m going to put new HTML file to load new page for this IP address

Step5: This default page HTML will be located in /var/www/html/index.html so I moved to this path and started editing index.html to load new page



Basic 86

Free HTML5 Website Template

- Text Link
- Text Link
- Text Link
- Text Link
- Text Link

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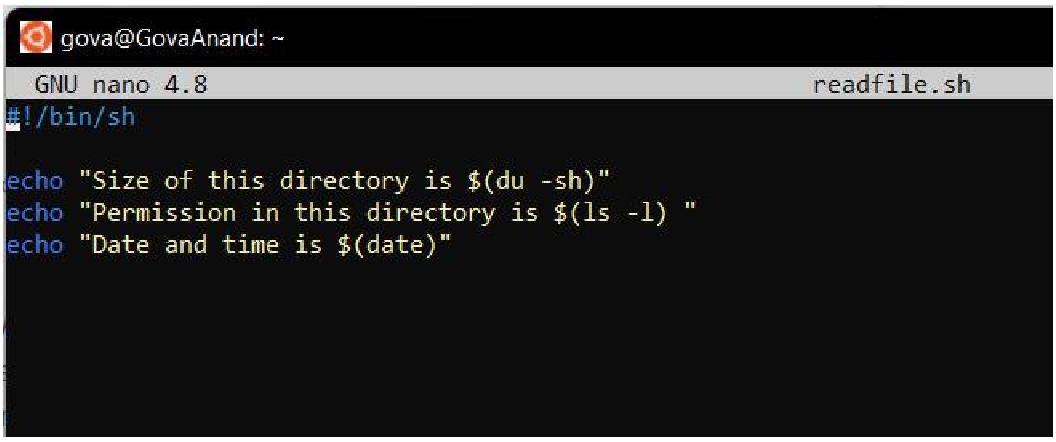
Step6: once edited the page I reloaded the tab to see updated page

Assignment 2 : Create readfile.sh in which you can read the information of PWD like size, permission, date time etc.

So, I created a file called readfile.sh and provided permission to it to execute using chmod +x readfile.sh

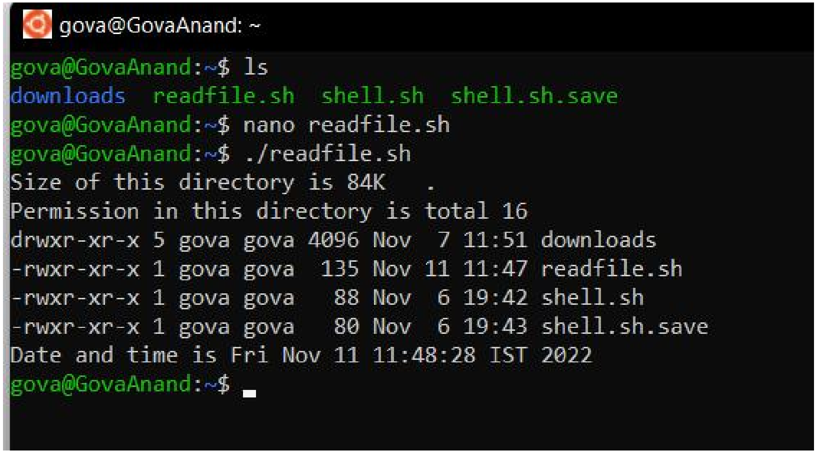
And added below lines to get the Present working directory’s size,permisson and date&time



```
  GNU nano 4.8                              readfile.sh
#!/bin/sh

echo "Size of this directory is $(du -sh)"
echo "Permission in this directory is $(ls -l) "
echo "Date and time is $(date)"
```

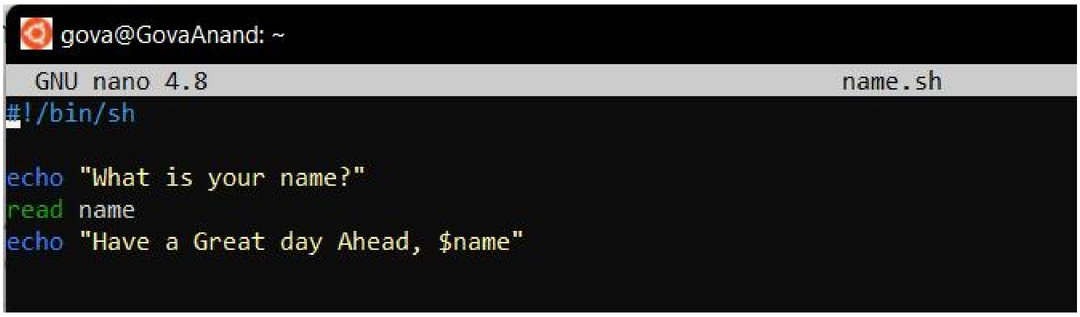
Output is:



```
gova@GovaAnand:~$ ls
downloads  readfile.sh  shell.sh  shell.sh.save
gova@GovaAnand:~$ nano readfile.sh
gova@GovaAnand:~$ ./readfile.sh
Size of this directory is 84K   .
Permission in this directory is total 16
drwxr-xr-x 5 gova gova 4096 Nov  7 11:51 downloads
-rwxr-xr-x 1 gova gova  135 Nov 11 11:47 readfile.sh
-rwxr-xr-x 1 gova gova   88 Nov  6 19:42 shell.sh
-rwxr-xr-x 1 gova gova   80 Nov  6 19:43 shell.sh.save
Date and time is Fri Nov 11 11:48:28 IST 2022
gova@GovaAnand:~$ 
```

Assignment 3 : Take an input of name from user and print Have a great day ahead {name}

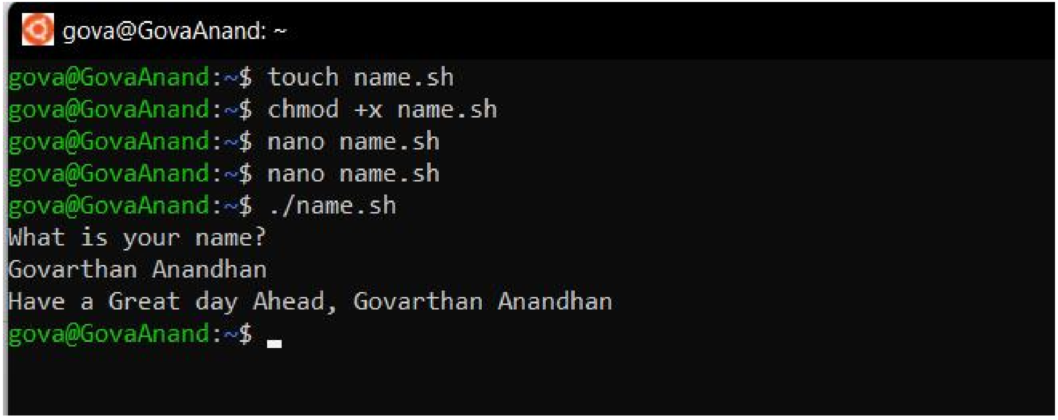
Created new sh file called name.sh and added the below commands



```
  GNU nano 4.8                                              name.sh
#!/bin/sh

echo "What is your name?"
read name
echo "Have a Great day Ahead, $name"
```

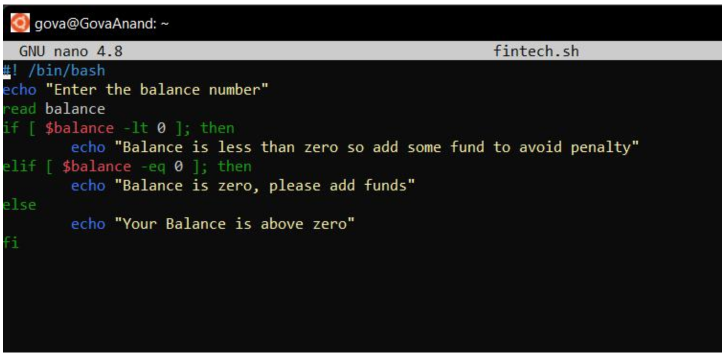
And the output is:



```
gova@GovaAnand:~$ touch name.sh
gova@GovaAnand:~$ chmod +x name.sh
gova@GovaAnand:~$ nano name.sh
gova@GovaAnand:~$ nano name.sh
gova@GovaAnand:~$ ./name.sh
What is your name?
Govarthan Anandhan
Have a Great day Ahead, Govarthan Anandhan
gova@GovaAnand:~$ _
```

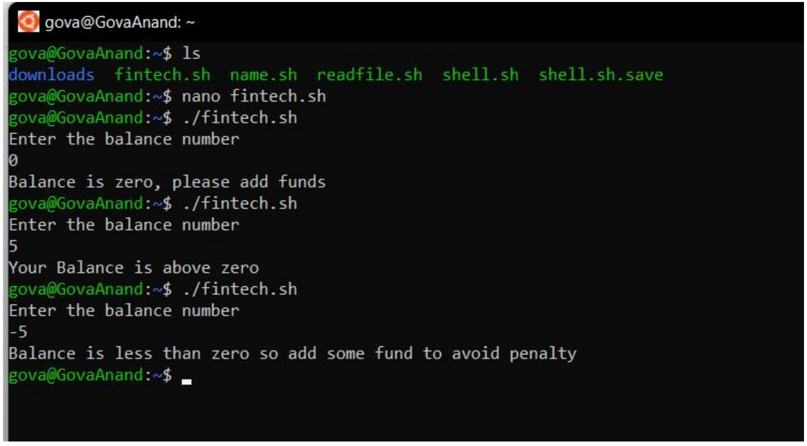
Assignment 4 : Let's take a scenario of fintech app program in which we want to have three separate outputs for 3 different situations:

I created the fintech.sh file and added the below condition inside that



```
  GNU nano 4.8                                   fintech.sh
#! /bin/bash
echo "Enter the balance number"
read balance
if [ $balance -lt 0 ]; then
        echo "Balance is less than zero so add some fund to avoid penalty"
elif [ $balance -eq 0 ]; then
        echo "Balance is zero, please add funds"
else
        echo "Your Balance is above zero"
fi
```

And the output is:



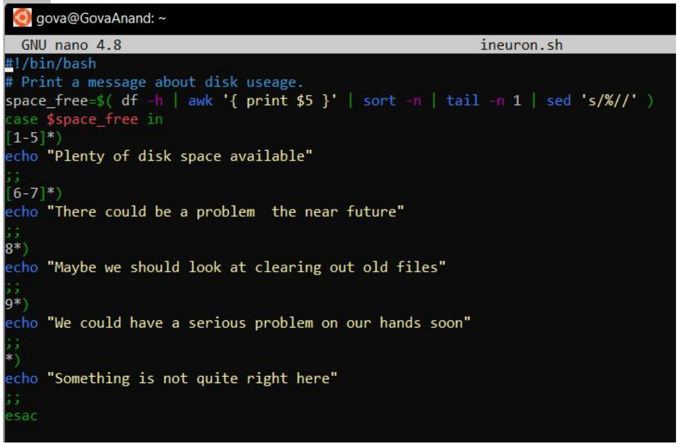
```
gova@GovaAnand:~$ ls
downloads  fintech.sh  name.sh  readfile.sh  shell.sh  shell.sh.save
gova@GovaAnand:~$ nano fintech.sh
gova@GovaAnand:~$ ./fintech.sh
Enter the balance number
0
Balance is zero, please add funds
gova@GovaAnand:~$ ./fintech.sh
Enter the balance number
5
Your Balance is above zero
gova@GovaAnand:~$ ./fintech.sh
Enter the balance number
-5
Balance is less than zero so add some fund to avoid penalty
gova@GovaAnand:~$ _
```

Assignment 5 : Debug and define briefly about the following program :-

```
#!/bin/bash
# Print a message about disk useage.space_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n
1 | sed 's/%//' )
case $space_free in
[1-5]*)
echo Plenty of disk space available
[6-7]*)
echo There could be a problem in the near future
8*)
echo Maybe we should look at clearing out old files
9*)
echo We could have a serious problem on our hands soon
*)
echo Something is not quite right here
;;
Esac
```

Since the Above program has some syntax error I resolved those and correct program is

```
#!/bin/bash
# Print a message about disk useage.
space_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n 1 | sed 's/%//' )
case $space_free in
[1-5]*)
echo "Plenty of disk space available"
;;
[6-7]*)
echo "There could be a problem  the near future"
;;
8*)
echo "Maybe we should look at clearing out old files"
;;
9*)
echo "We could have a serious problem on our hands soon"
;;
*)
echo "Something is not quite right here"
;;
Esac
```



```
  GNU nano 4.8                                          ineuron.sh
#!/bin/bash
# Print a message about disk useage.
space_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n 1 | sed 's/%//' )
case $space_free in
[1-5]*)
echo "Plenty of disk space available"
;;
[6-7]*)
echo "There could be a problem  the near future"
;;
8*)
echo "Maybe we should look at clearing out old files"
;;
9*)
echo "We could have a serious problem on our hands soon"
;;
*)
echo "Something is not quite right here"
;;
esac
```

Explanation:

So in this script its checking for free disk space in the directory we are in so for that they used

df-h

Which will provide use the output of disk free space in human readable form (in kb,mb,gb,tb like that)

And then Pipeline command **|**

awk{print $5}

So **awk** command is used to manipulate the data and here they used **print $5** wchich will print 5th field in **df -h** so in free space 5th field is **use%**

Sort -n

This will sort the output from lowest to highest

Tail -n 1

This cmd will print last line

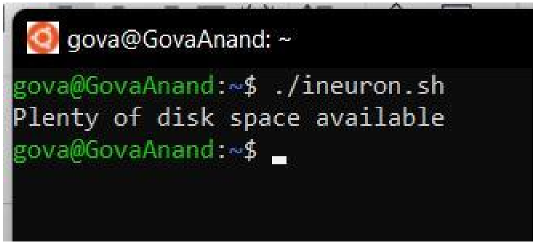
Sed s/%//

So sed command is a stream editor and it is **used to find and replace content** .

Here we are **finding %** and **replacing it with empty space** so at the and the output will be just number which sorted from low to high

Switch case is used here it will check each and every case if it passes any case then particular output will be displayed

My output is:



```
gova@GovaAnand:~$ ./ineuron.sh
Plenty of disk space available
gova@GovaAnand:~$ 
```