

Assignment Part-5

1. Assignment 1: - How to upload HTML web pages on Apache2 web server in EC-2 Instance?
Please justify with step-by-step answers.

*** Launch an EC2 instance ***

- Choose Instance Type
- Configure Instance
- Add Storage
- Configure Security Group
- Create a new security group' and add HTTP
- Review and launch.

*** Install a Apache2 Web Server EC2 instance ***

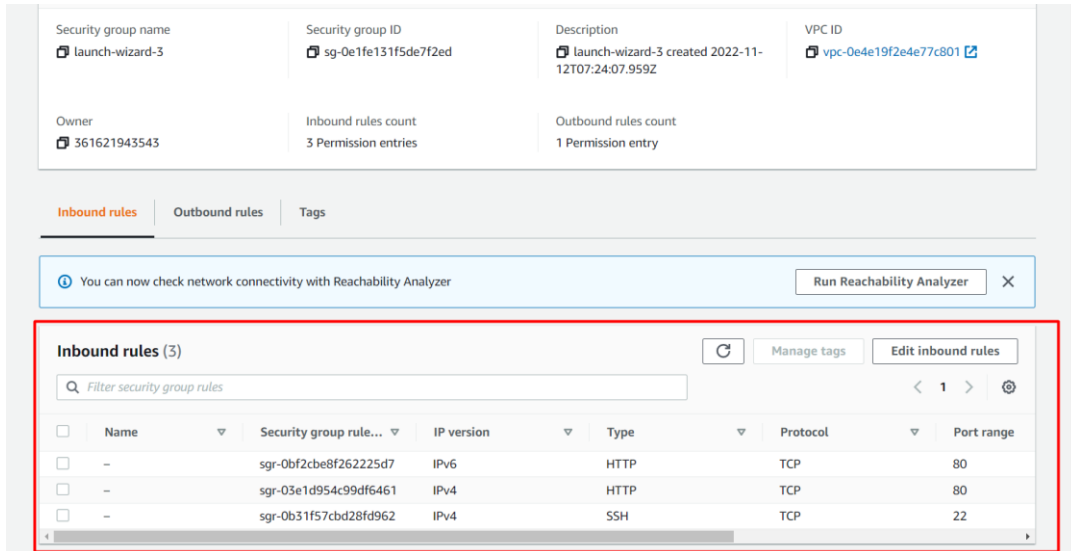
- Elevate your privileges
- Update all of the packages on the instance
- Install an apache2 webserver
- Start the webserver
- Configure the web server to restart if it gets stopped

*** Add a static HTML file ***

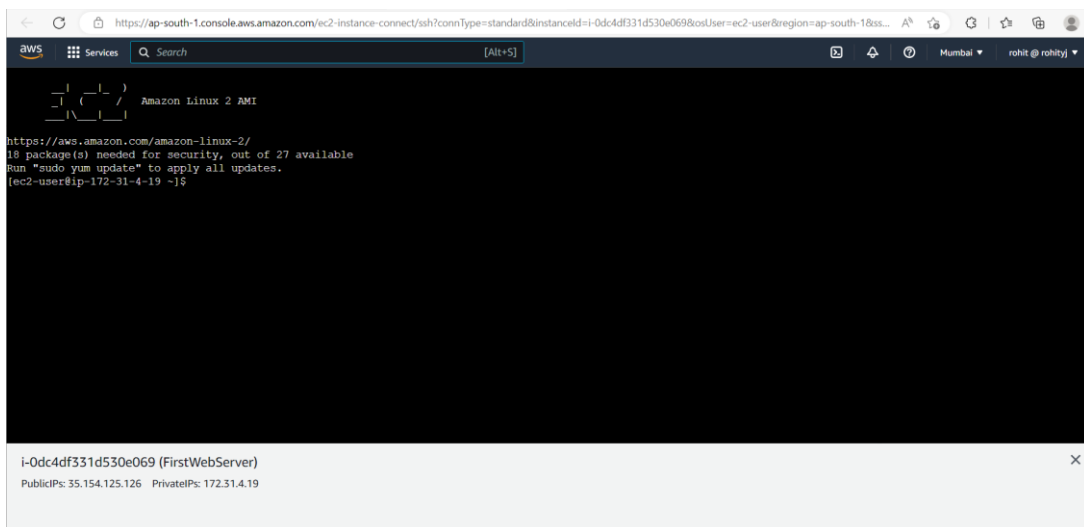
- Navigate to the directory
- Manually create an index.html file in this directory
- Add valid html to the file
- Make sure that the file has content

1) Updating Security Group

- In this step, you will choose the type of traffic your “virtual laptop” will allow from the outside.
- You need to allow 2 types of traffic – SSH (Login to Virtual Laptop) & HTTP (To View our web pages through the browser).



➔ Connect EC2 instance



- ➔ Update all of the packages on the instance
yum update -y

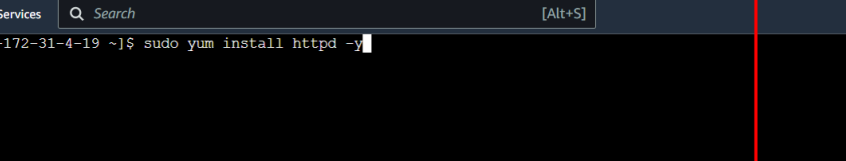
```
https://ap-south-1.console.aws.amazon.com/ec2-instance-connect/h3shfcmcon?type=standard&instanceid=i-0dc4df331d530e069&osUser=ec2-user&region=ap-south-1&ss...
AWS Services Search [Alt+S] Mumbai rohith | rohity |
Verifying : libmount-2.30.2-2.amzn2.0.7.x86_64 43/53
Verifying : glibc-all-langpacks-2.26-60.amzn2.x86_64 44/53
Verifying : 2vim-data-8.2.5172-1.amzn2.0.1.noarch 46/53
Verifying : 2vim-enhanced-8.2.5172-1.amzn2.0.1.x86_64 46/53
Verifying : 2vim-filesystem-8.2.5172-1.amzn2.0.1.noarch 47/53
Verifying : 12:dhcp-libs-4.2.5-79.amzn2.1.1.x86_64 48/53
Verifying : 12:dhclient-4.2.5-79.amzn2.1.1.x86_64 49/53
Verifying : 12:dhcp-common-4.2.5-79.amzn2.1.1.x86_64 50/53
Verifying : libcrypto-2.26-60.amzn2.x86_64 51/53
Verifying : cloud-init-19.3-45.amzn2.noarch 52/53
Verifying : util-linux-2.30.2-2.amzn2.0.7.x86_64 53/53

Installed:
kernel.x86_64 0:5.10.149-133.644.amzn2

Updated:
cloud-init.noarch 0:19.3-46.amzn2 curl.x86_64 0:7.79.1-6.amzn2.0.1 dhclient.x86_64 12:4.2.5-79.amzn2.1.2
dhcp-common.x86_64 12:4.2.5-79.amzn2.1.2 dhcp-libs.x86_64 12:4.2.5-79.amzn2.1.2 ec2-net-utils.noarch 0:1.7.2-1.amzn2
glibc-2.26-62.amzn2 glibc-all-langpacks.x86_64 0:2.26-62.amzn2 glibc-common.x86_64 0:2.26-62.amzn2
glibc-locale-source.x86_64 0:2.26-62.amzn2 glibc-minimal-langpack.x86_64 0:2.26-62.amzn2 libblkid.x86_64 0:2.30.2-2.amzn2.0.9
libcrypt.x86_64 0:2.26-62.amzn2 libcurl.x86_64 0:7.79.1-6.amzn2.0.1 libfdisk.x86_64 0:2.30.2-2.amzn2.0.9
libmount.x86_64 0:2.30.2-2.amzn2.0.9 libmariadb-tools.x86_64 0:2.30.2-2.amzn2.0.9 libuuid.x86_64 0:2.30.2-2.amzn2.0.9
pcre2.x86_64 0:10.23-11.amzn2.0.1 tzdata.noarch 0:2022e-1.amzn2.0.1 util-linux.x86_64 0:2.30.2-2.amzn2.0.9
vim-common.x86_64 2:9.0.475-1.amzn2.0.1 vim-data.noarch 2:9.0.475-1.amzn2.0.1 vim-enhanced.x86_64 2:9.0.475-1.amzn2.0.1
vim-filesystem.noarch 2:9.0.475-1.amzn2.0.1 vim-minimal.x86_64 2:9.0.475-1.amzn2.0.1

Complete!
[ec2-user@ip-172-31-4-19 ~]$
```

➔ Install an Apache webserver



The screenshot shows a web browser window with the AWS Management Console URL. The terminal interface has a dark background with a red border. The command prompt shows the user is 'ec2-user' on an instance with IP '172-31-4-19'. The command 'sudo yum install httpd -y' is being typed, with a cursor at the end of the line.

```
[ec2-user@ip-172-31-4-19 ~]$ sudo yum install httpd -y
```

➔ `yum install httpd -y`

```
aws ap-south-1.console.aws.amazon.com/ec2-instance-connect/shh:connType=standard&instance=i-0dc4df331d530e069&osUser=ec2-user#region=ap-south-1&...

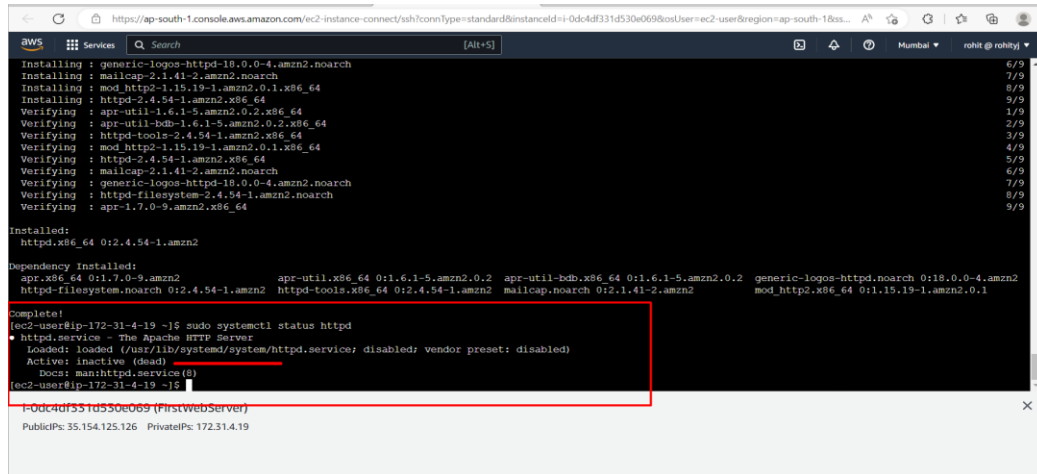
Installing : apr-1.7.0-9.amzn2.x86_64 1/9
Installing : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 2/9
Installing : apr-util-1.6.1-5.amzn2.0.2.x86_64 3/9
Installing : httpd-tools-2.4.54-1.amzn2.x86_64 4/9
Installing : httpd-filesystem-2.4.54-1.amzn2.noarch 5/9
Installing : generic-logos-httpd-18.0.0-4.amzn2.noarch 6/9
Installing : mailcap-2.1.41-2.amzn2.noarch 7/9
Installing : mod_http2-1.15.19-1.amzn2.0.1.x86_64 8/9
Installing : httpd-2.4.54-1.amzn2.x86_64 9/9
Verifying : apr-util-1.6.1-5.amzn2.0.2.x86_64 1/9
Verifying : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 2/9
Verifying : httpd-tools-2.4.54-1.amzn2.x86_64 3/9
Verifying : mod_http2-1.15.19-1.amzn2.0.1.x86_64 4/9
Verifying : httpd-2.4.54-1.amzn2.x86_64 5/9
Verifying : mailcap-2.1.41-2.amzn2.noarch 6/9
Verifying : generic-logos-httpd-18.0.0-4.amzn2.noarch 7/9
Verifying : httpd-filesystem-2.4.54-1.amzn2.noarch 8/9
Verifying : apr-1.7.0-9.amzn2.x86_64 9/9

Installed:
httpd.x86_64 0:2.4.54-1.amzn2

Dependency Installed:
apr.x86_64 0:1.7.0-9.amzn2          apr-util.x86_64 0:1.6.1-5.amzn2.0.2  apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2  generic-logos-httpd.noarch 0:18.0.0-4.amzn2
httpd-filesystem.noarch 0:2.4.54-1.amzn2  httpd-tools.x86_64 0:2.4.54-1.amzn2  mailcap.noarch 0:2.1.41-2.amzn2  mod_http2.x86_64 0:1.15.19-1.amzn2.0.1

Complete!
ec2-user@ip-172-31-4-19 ~$
```

- ➔ Check the web server status
sudo systemctl status httpd



```
aws
Services
Search
[Alt+S]
Installing : generic-logos-httpd-18.0.0-4.amzn2.noarch 6/9
Installing : mailcap-2.1.41-2.amzn2.noarch 7/9
Installing : mod_http2-1.15.19-1.amzn2.0.1.x86_64 8/9
Installing : httpd-2.4.54-1.amzn2.x86_64 9/9
Verifying : apr-util-1.6.1-5.amzn2.0.2.x86_64 1/5
Verifying : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 2/5
Verifying : httpd-tools-2.4.54-1.amzn2.x86_64 3/5
Verifying : mod_http2-1.15.19-1.amzn2.0.1.x86_64 4/5
Verifying : httpd-2.4.54-1.amzn2.x86_64 5/5
Verifying : mailcap-2.1.41-2.amzn2.noarch 6/9
Verifying : generic-logos-httpd-18.0.0-4.amzn2.noarch 7/9
Verifying : httpd-filesystem-2.4.54-1.amzn2.noarch 8/5
Verifying : apr-1.7.0-5.amzn2.x86_64 9/5

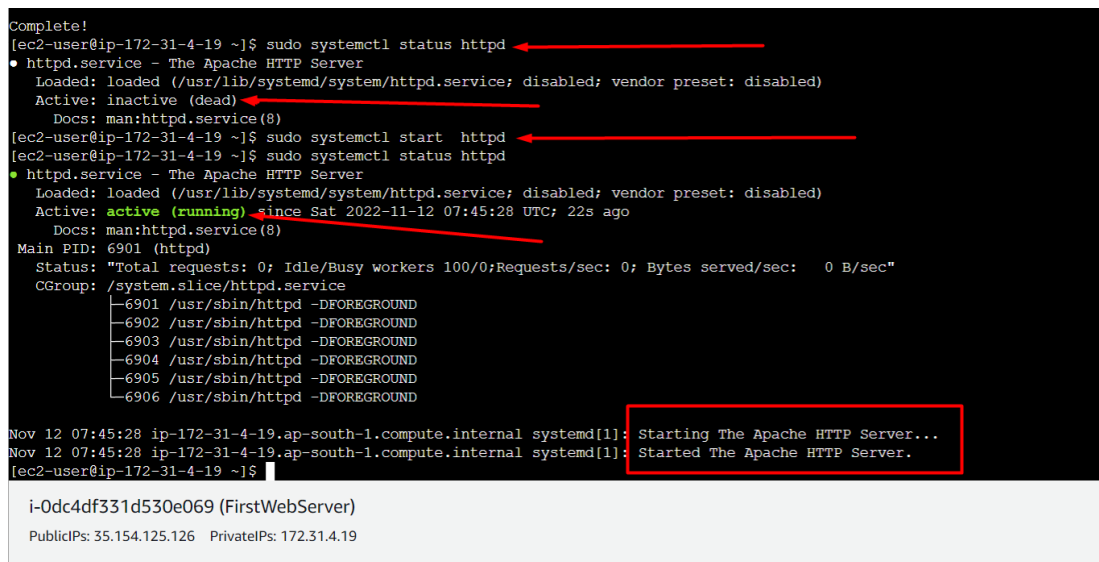
Installed:
httpd.x86_64 0:2.4.54-1.amzn2

Dependency Installed:
apr.x86_64 0:1.7.0-5.amzn2 apr-util.x86_64 0:1.6.1-5.amzn2.0.2 apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2 generic-logos-httpd.noarch 0:18.0.0-4.amzn2
httpd-filesystem.noarch 0:2.4.54-1.amzn2 httpd-tools.x86_64 0:2.4.54-1.amzn2 mailcap.noarch 0:2.1.41-2.amzn2 mod_http2.x86_64 0:1.15.19-1.amzn2.0.1

Complete!
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl status httpd
• httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
  Docs: man:httpd.service(8)
[ec2-user@ip-172-31-4-19 ~]$

i-Odc4df331d530e069 (FirstWebServer)
PublicIPs: 35.154.125.126 PrivateIPs: 172.31.4.19
```

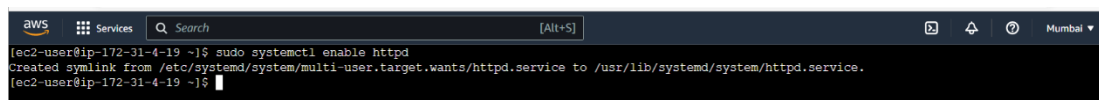
- ➔ Start the webserver
sudo systemctl start httpd



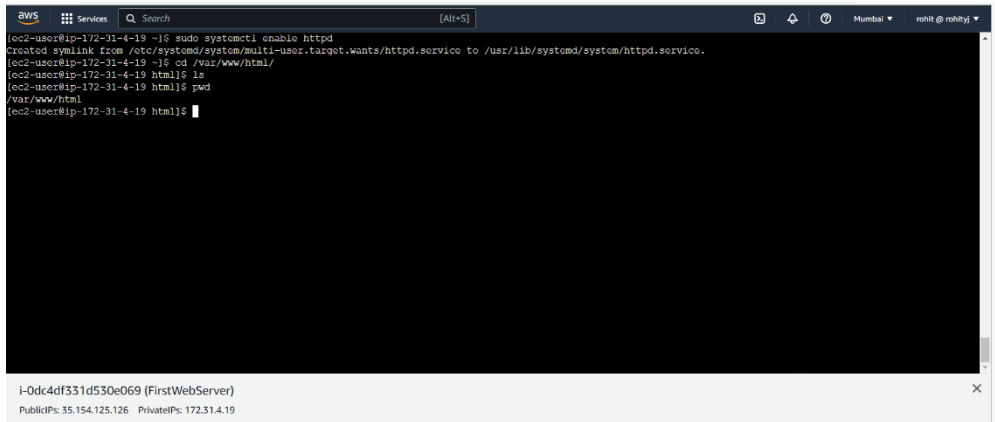
```
Complete!
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl status httpd
• httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
  Docs: man:httpd.service(8)
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl start httpd
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl status httpd
• httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
  Active: active (running) since Sat 2022-11-12 07:45:28 UTC; 22s ago
  Docs: man:httpd.service(8)
  Main PID: 6901 (httpd)
  Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes served/sec: 0 B/sec"
  CGroup: /system.slice/httpd.service
          └─6901 /usr/sbin/httpd -DFOREGROUND
             └─6902 /usr/sbin/httpd -DFOREGROUND
                └─6903 /usr/sbin/httpd -DFOREGROUND
                   └─6904 /usr/sbin/httpd -DFOREGROUND
                      └─6905 /usr/sbin/httpd -DFOREGROUND
                         └─6906 /usr/sbin/httpd -DFOREGROUND

Nov 12 07:45:28 ip-172-31-4-19.ap-south-1.compute.internal systemd[1]: Starting The Apache HTTP Server...
Nov 12 07:45:28 ip-172-31-4-19.ap-south-1.compute.internal systemd[1]: Started The Apache HTTP Server.
[ec2-user@ip-172-31-4-19 ~]$

i-Odc4df331d530e069 (FirstWebServer)
PublicIPs: 35.154.125.126 PrivateIPs: 172.31.4.19
```



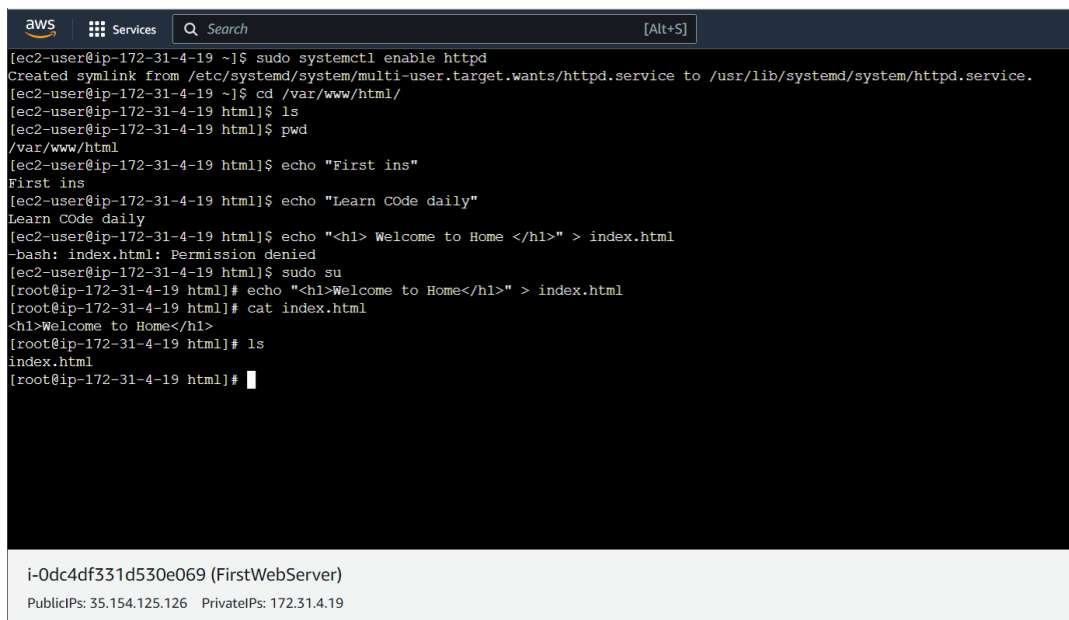
```
aws
Services
Search
[Alt+S]
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-172-31-4-19 ~]$
```



```
aws Services Search [Alt+S] Mumbai rohit@rohitzy
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-172-31-4-19 ~]$ cd /var/www/html/
[ec2-user@ip-172-31-4-19 html]$ ls
[ec2-user@ip-172-31-4-19 html]$ pwd
/var/www/html
[ec2-user@ip-172-31-4-19 html]$
```

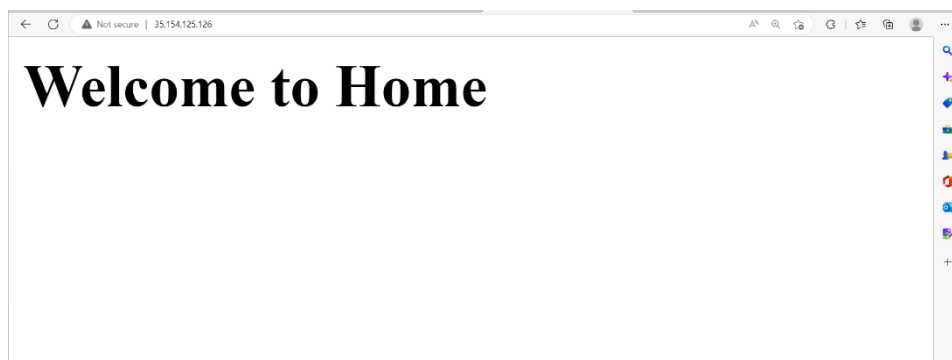
i-Odc4df331d530e069 (FirstWebServer)
PublicIPs: 35.154.125.126 PrivateIPs: 172.31.4.19

- ➔ Navigate to the directory
- ➔ create an index.html file in this directory



```
aws Services Search [Alt+S]
[ec2-user@ip-172-31-4-19 ~]$ sudo systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-172-31-4-19 ~]$ cd /var/www/html/
[ec2-user@ip-172-31-4-19 html]$ ls
[ec2-user@ip-172-31-4-19 html]$ pwd
/var/www/html
[ec2-user@ip-172-31-4-19 html]$ echo "First ins"
First ins
[ec2-user@ip-172-31-4-19 html]$ echo "Learn Code daily"
Learn Code daily
[ec2-user@ip-172-31-4-19 html]$ echo "<h1> Welcome to Home </h1>" > index.html
-bash: index.html: Permission denied
[ec2-user@ip-172-31-4-19 html]$ sudo su
[root@ip-172-31-4-19 html]# echo "<h1>Welcome to Home</h1>" > index.html
[root@ip-172-31-4-19 html]# cat index.html
<h1>Welcome to Home</h1>
[root@ip-172-31-4-19 html]# ls
index.html
[root@ip-172-31-4-19 html]#
```

i-Odc4df331d530e069 (FirstWebServer)
PublicIPs: 35.154.125.126 PrivateIPs: 172.31.4.19



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

```
GNU nano 2.3.1      File: readfile.sh

#!/bin/sh
echo `pwd`
echo `date`
echo `time`
echo `ls -l first1.sh`
echo `ls -l file1.sh`
```

```
[root@localhost bashlab]# nano readfile.sh
[root@localhost bashlab]# ./readfile.sh
/home/rohit/rohit/bashlab
Sun Nov 20 16:09:09 IST 2022
user    0m0.00s
sys     0m0.00s

ls: cannot access first1.sh: No such file or directory

-rwxr-xr-x. 1 root root 289 Nov 20 15:51 file1.sh
```

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

```
GNU nano 2.3.1      File: file1.sh      Modified

#!/bin/sh

read -p "Enter a name :: " name
echo "Have a great day ahead ${name}"

rohit@localhost:/home/rohit/rohit/bashlab

[root@localhost bashlab]# ./file1.sh
Enter a name :: rohit
Have a great day ahead rohit
[root@localhost bashlab]#
```

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


- The balance is less than zero
- The balance is zero
- The balance is above zero

For instance, in the following program, use the if, elif, else statements to display different outputs in different scenarios: Use "if" condition to check if the balance is less than zero. If this condition evaluates to true, display the message using the echo command: "Balance is less than zero, please add more funds else you will be charged penalty". If the above condition does not match, then use "elif" condition to check if the balance is equal to zero. If it evaluates to true, display the message: Balance is zero, please add funds. If none of the above condition matches, use the "else" condition to display the: Your balance is above zero.

```
rohit@localhost:/home/rohit/rohit/bashlab
[root@localhost bashlab]# cat file1.sh
#!/bin/sh

read -p "Enter Amount which is available in bank: " amt
if [ $amt -lt 0 ];
then
echo "Balance is less than Zero,Please add more funds else you will be charged penalty"
elif [ $amt -eq 0 ]; then
echo "Balance is zero,please add funds"
else
echo "Your Balance is above zero"
fi

[root@localhost bashlab]# ./file1.sh
Enter Amount which is available in bank::-500
Balance is less than Zero,Please add more funds else you will be charged penalty
[root@localhost bashlab]# ./file1.sh
Enter Amount which is available in bank::200
Your Balance is above zero
[root@localhost bashlab]# ./file1.sh
Enter Amount which is available in bank::0
Balance is zero,please add funds
[root@localhost bashlab]#
```



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

```
#!/bin/bash # Print a message about disk usage.
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
```



A terminal window titled 'rohit@localhost:/home/rohit/rohit/bashlab' showing the execution of a script. The prompt is '[root@localhost bashlab]#'. The user enters './file1.sh'. The terminal displays two error messages: './file1.sh: line 7: syntax error near unexpected token ``'' and './file1.sh: line 7: `[6-7]*)'. The prompt returns to '[root@localhost bashlab]#'.

```
rohit@localhost:/home/rohit/rohit/bashlab
[rohit@localhost bashlab]# ./file1.sh
./file1.sh: line 7: syntax error near unexpected token ``'
./file1.sh: line 7: `[6-7]*)'
[rohit@localhost bashlab]#
```