Module 3: Amazon EC2

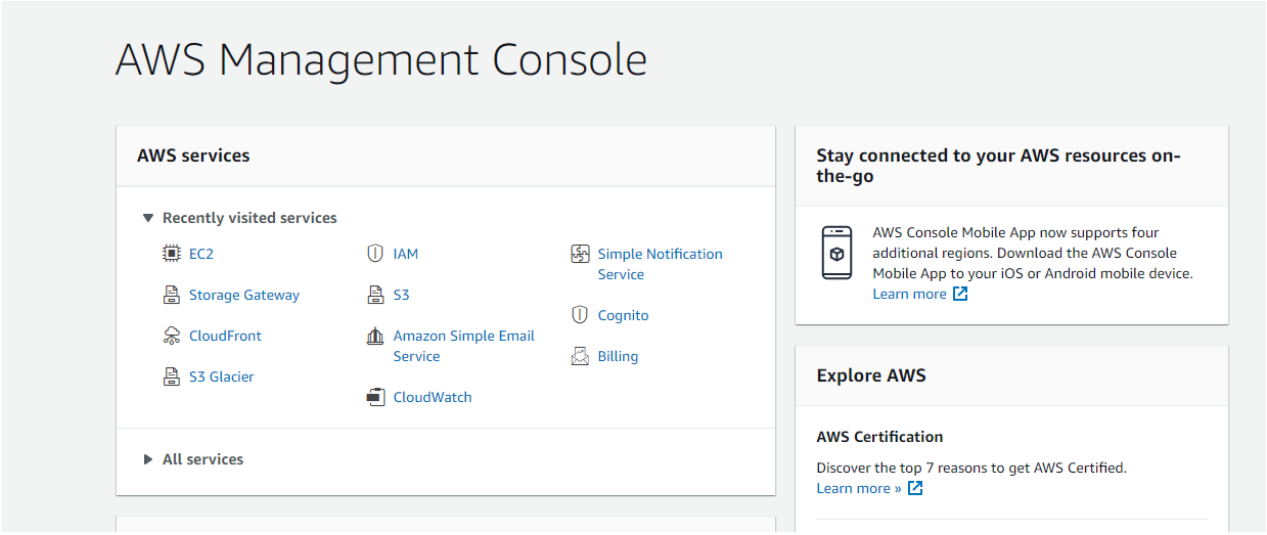
Demo Document 1

Host your Website Inside your EC2 Instance

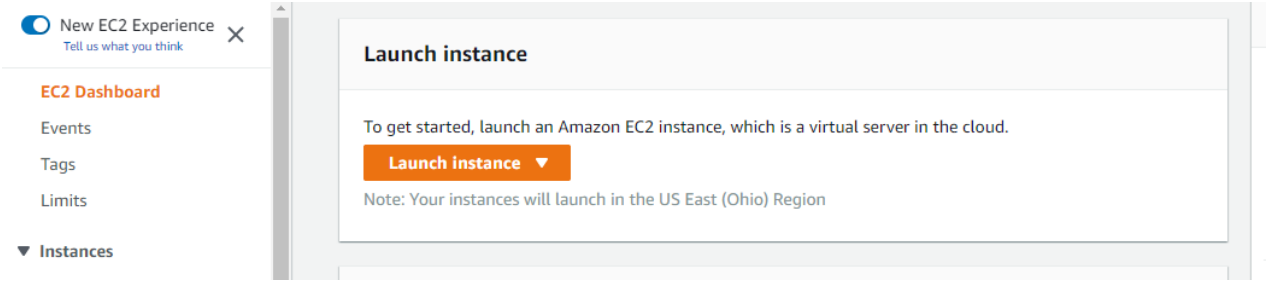
NOTE: AWS may revise console interface anytime for further improvements. This demo has been created as of October 2021. Conceptually the service should work as documented here.

Steps to launch an EC2 Instance:

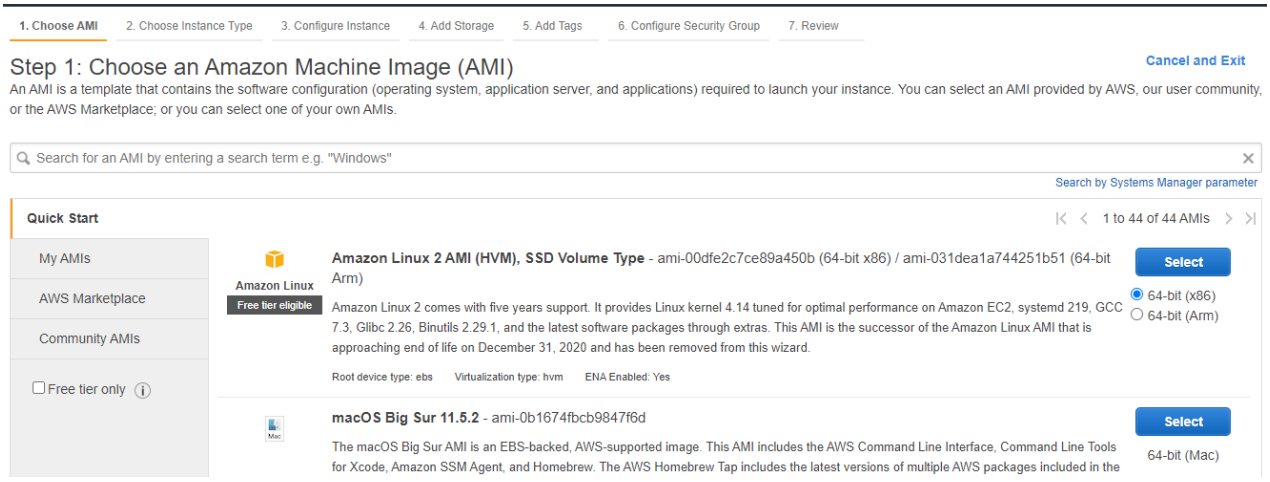
Step 1: In Services menu select EC2 service. Remember EC2 Instance is region specific and EC2 instances created in one region will not be available to other regions.



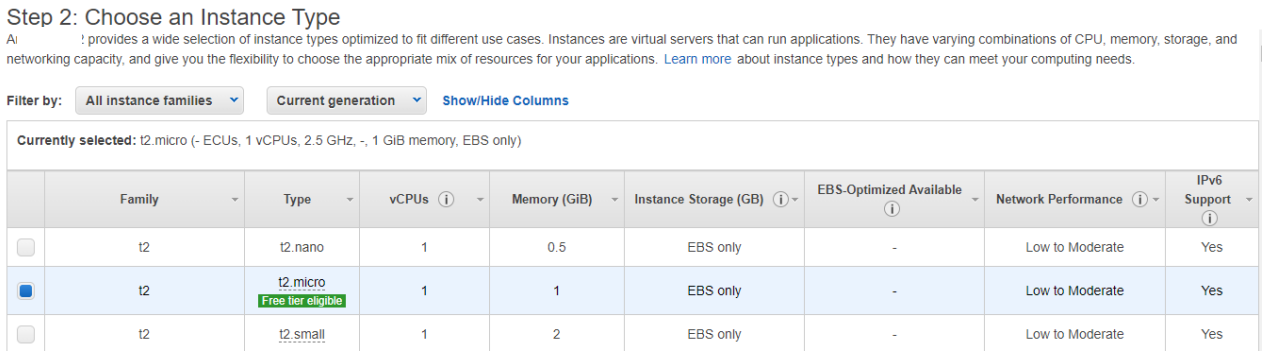
Step 2: In EC2 dashboard scroll down and click on “Launch”.



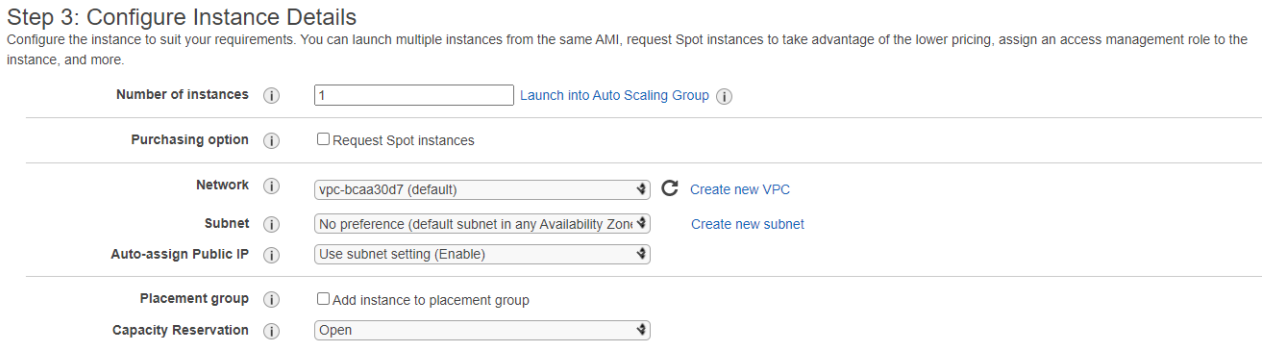
Step 3: Select an operating system. For this demo let's select Amazon Linux.



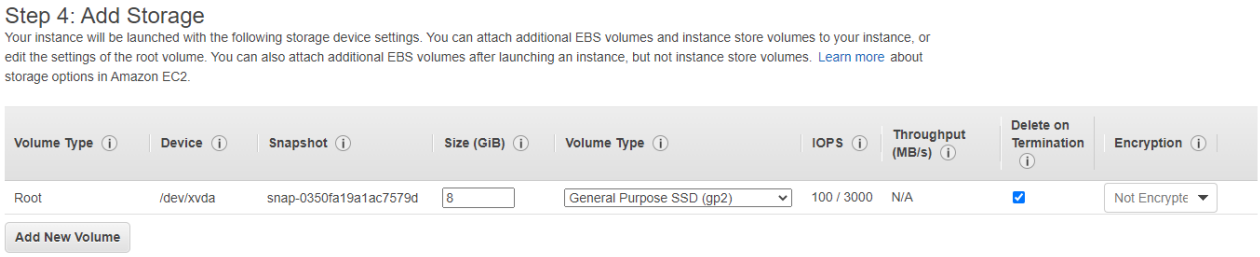
Step 4: Select t2.micro (Free tier eligible) and click on "Next Configure Instance Details".



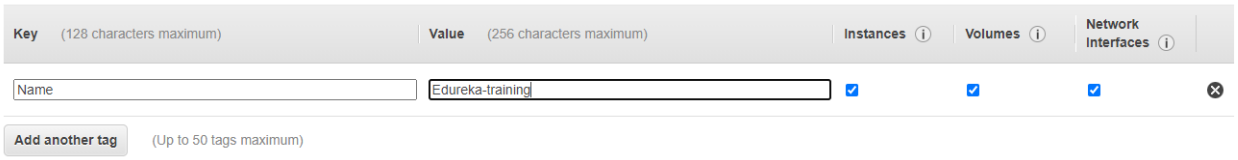
Step 5: Keep all the fields as it is. Click on “Add storage”.



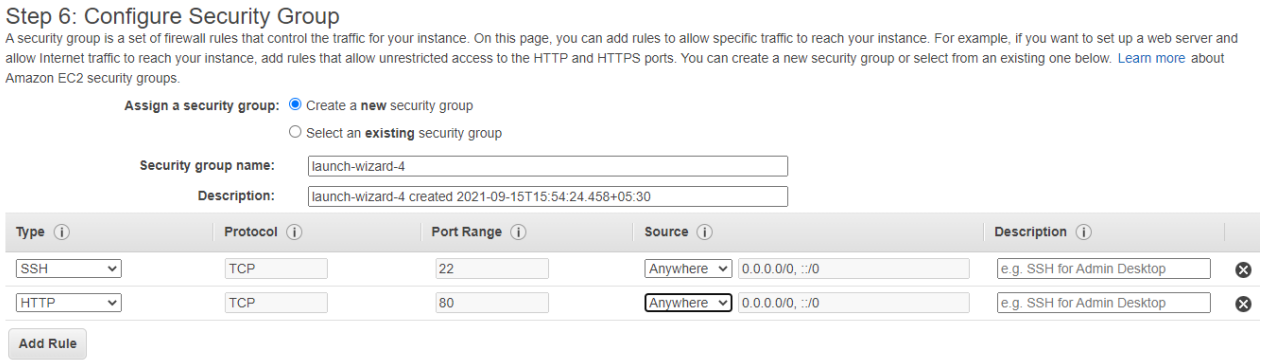
Step 6: Do not change any thing and click on “Next: Add Tags”.



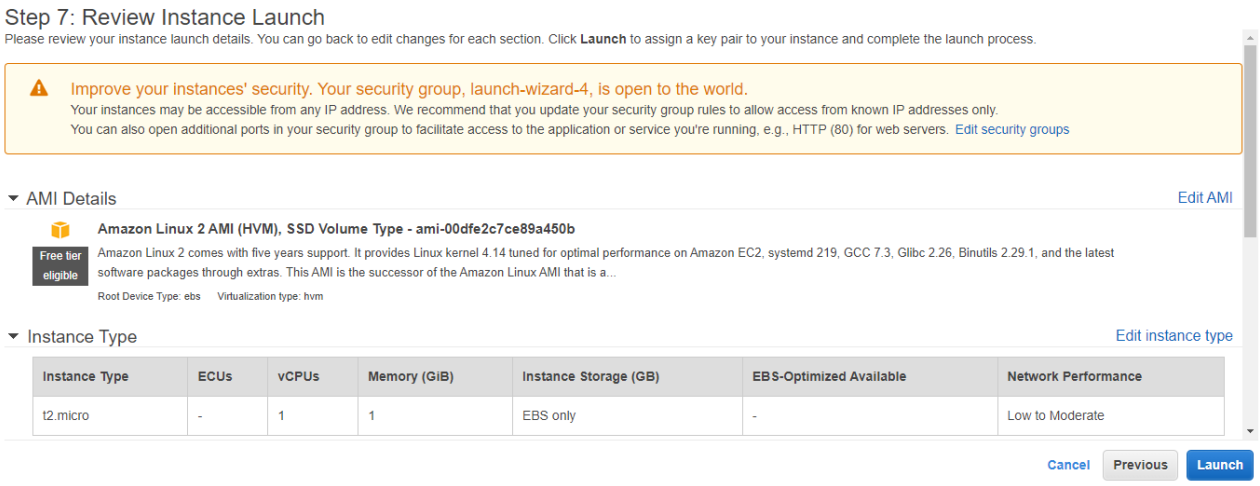
Step 7: Click on “Add another Tag” and add key and key values, click on “Next Configure Security Group”. (Add tags is an optional key-value pair field, mostly used by user to categorize servers. E.g. Production, UAT, SIT etc. This helps administrator during billing of your AWS account.)



Step 8: Choose the security group and make changes as shown below.

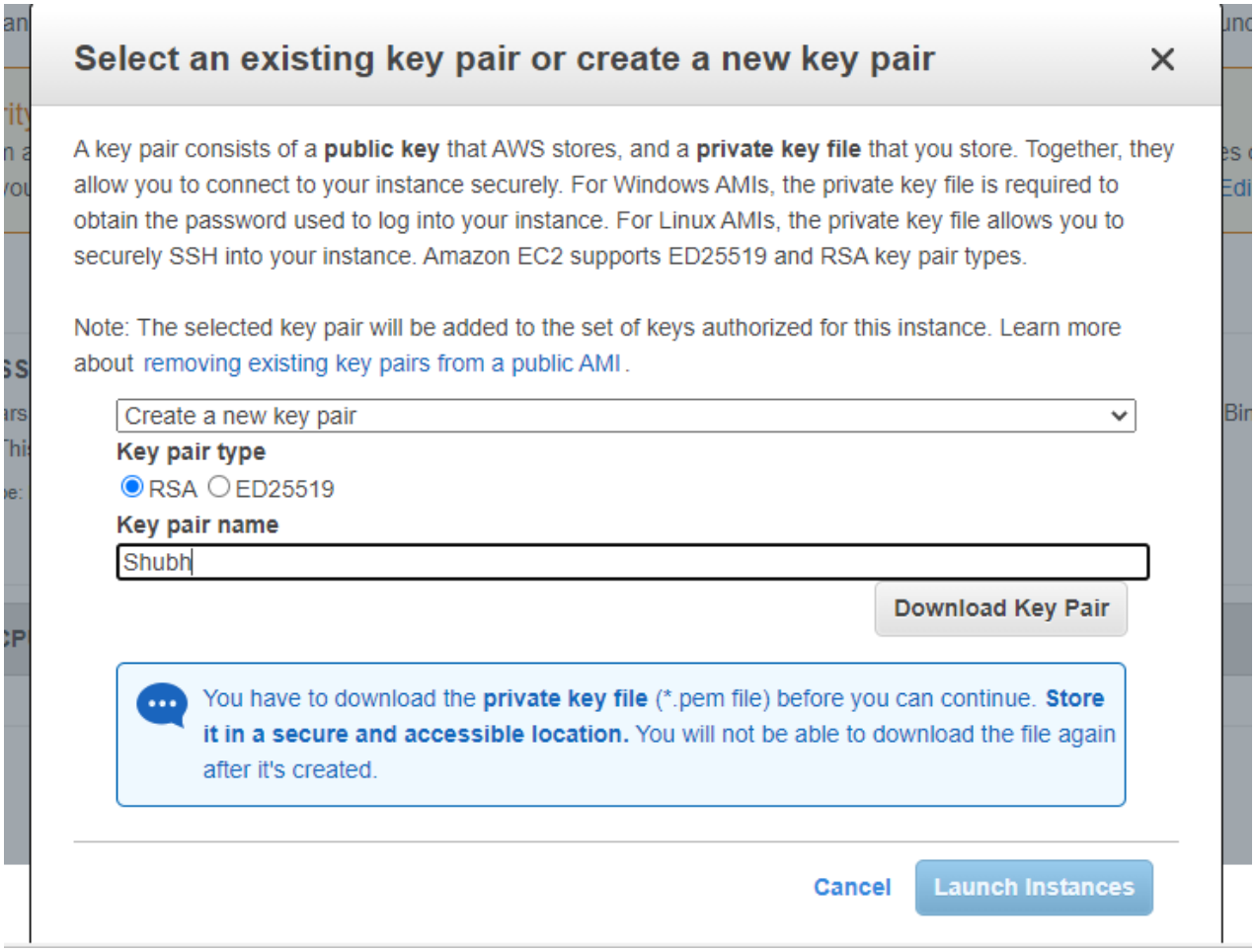


Step 9: Click on “Launch”.

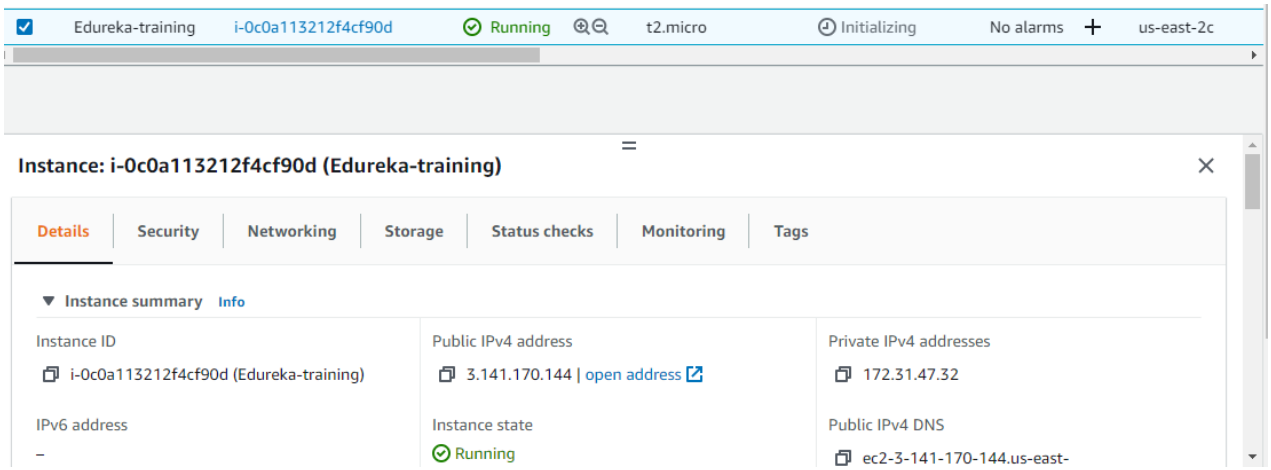


Step 10: In “Select an existing key pair or create a new key pair” popup, select “Create a new key pair” . Give a name for your key pair.

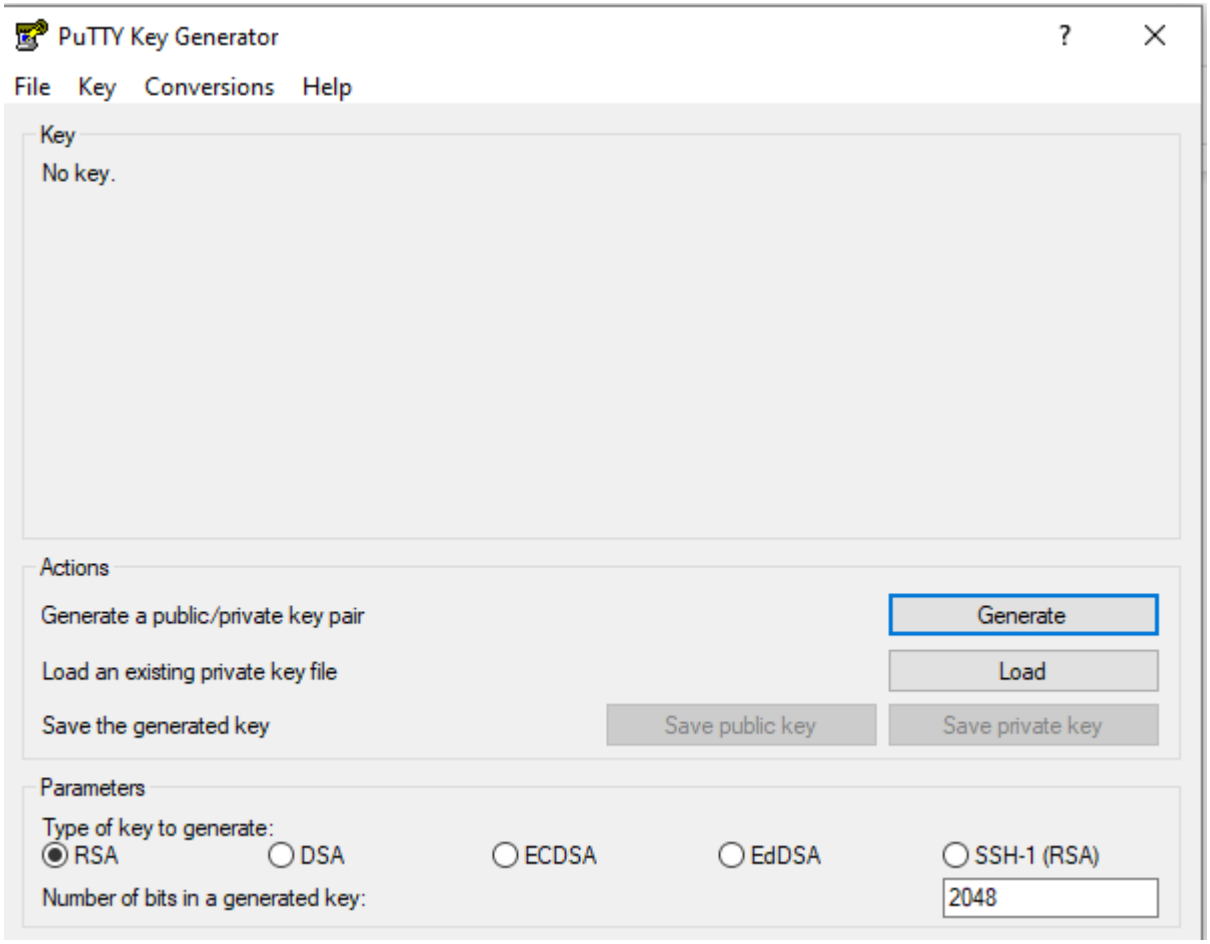
Do not forget to download key pair. Otherwise you will not be able to connect to your EC2 instances through SSH terminal (Putty, FileZilla, etc.). Finally click on **Launch Instances**.



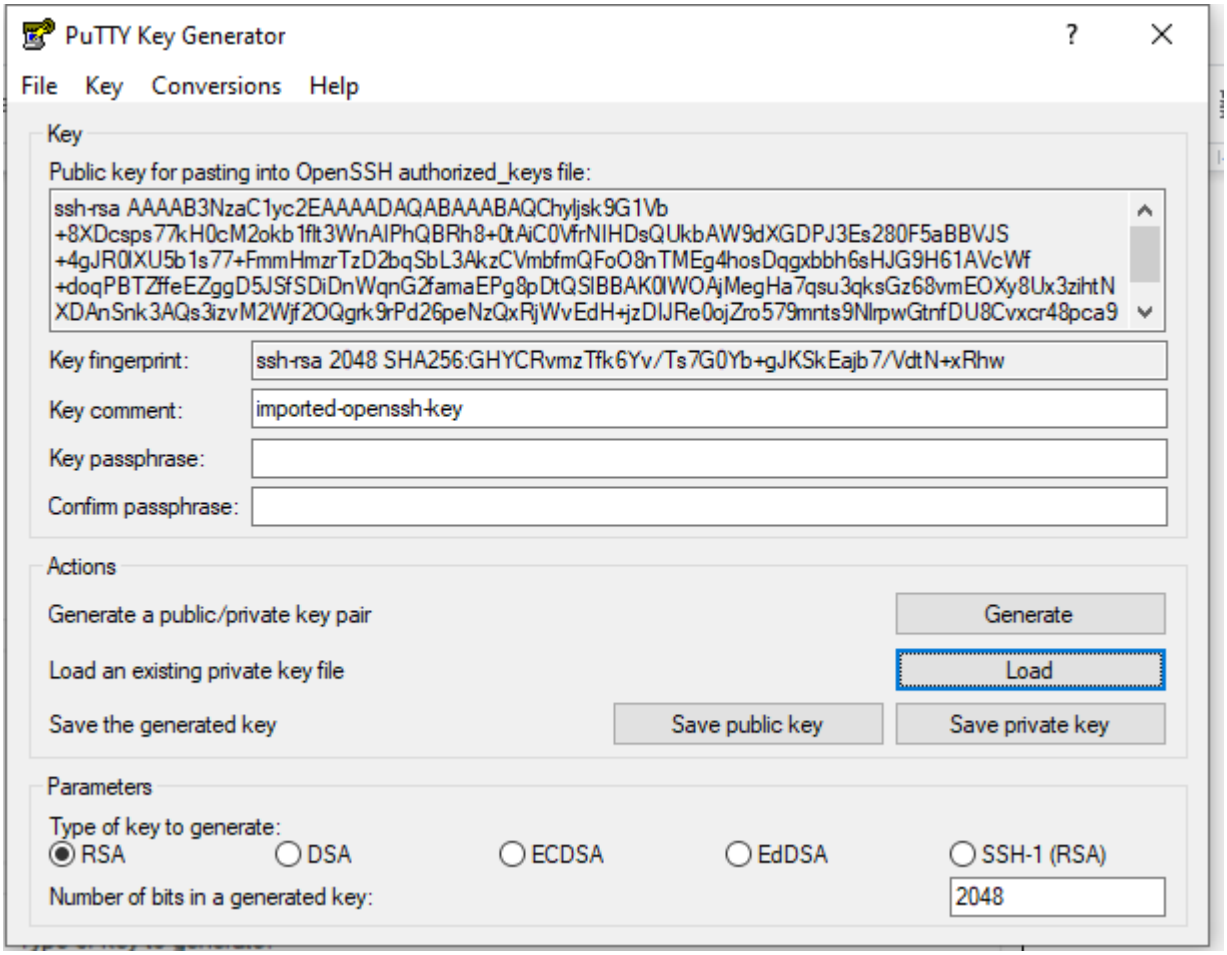
Step 11: Get **Public IP or DNS name** to connect it through internet. Also note the Instance Id to connect through CLI.



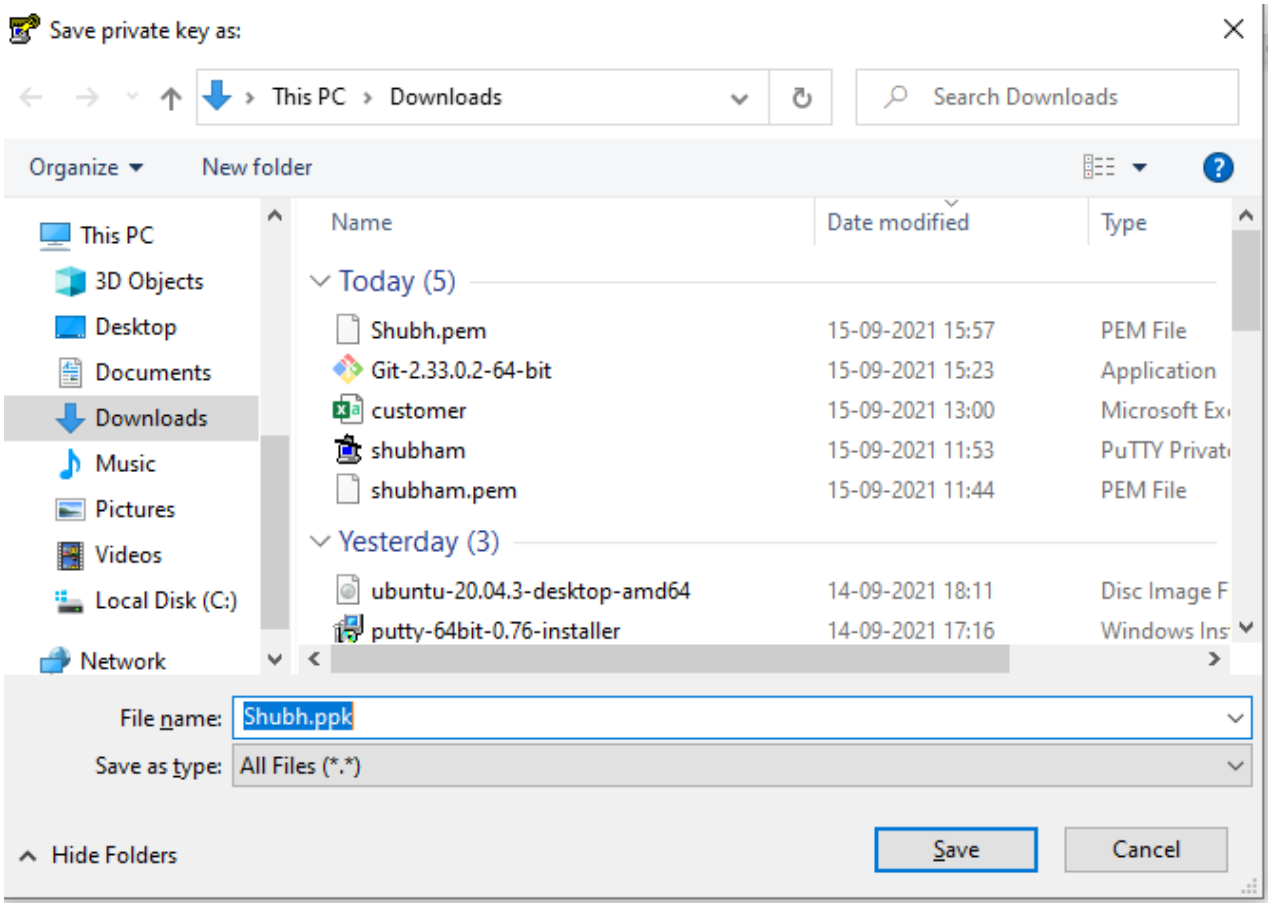
Step 12: Download PuTTy through https://www.putty.org and install it. In your task bar of your local system, search for PuTTygen and select it. PuTTygen dialogue box appears, then select **Load** option. Search for the key pair file which would be in the .pem format and open it



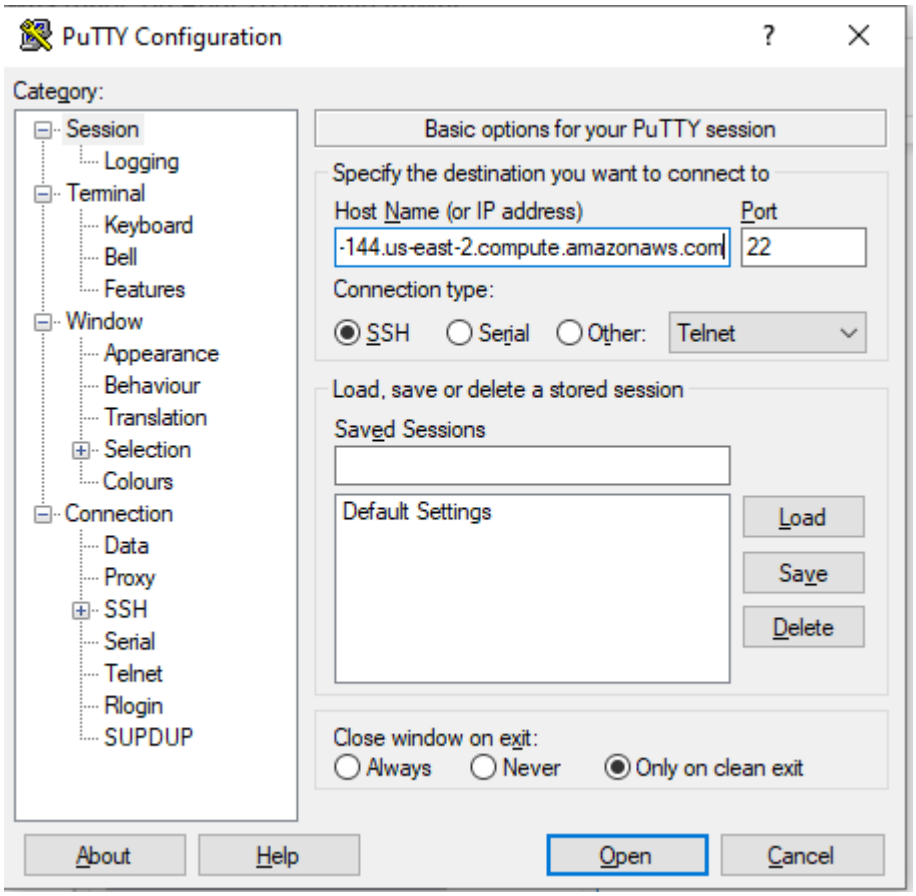
Step 13: Click on “Load”, make file type as “All Files”, select the downloaded .pem file to convert it to .ppk file, and click on “Save private key”.



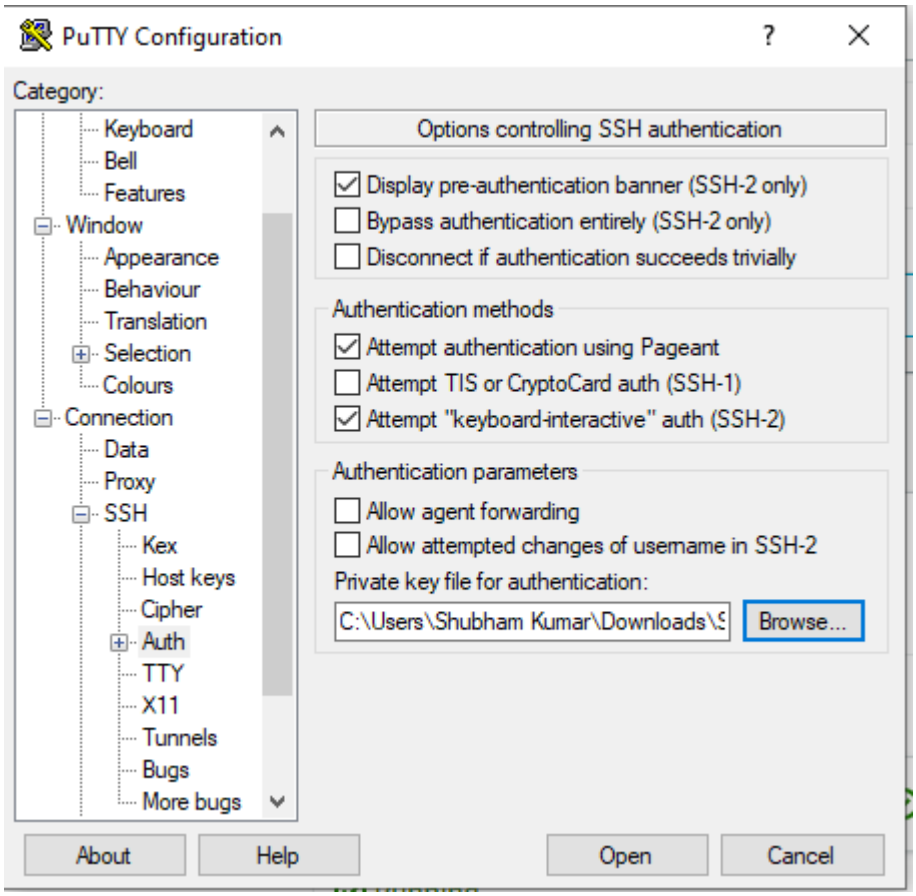
Give a name to the .ppk file and save it in your system.


Save private key as:
This PC › Downloads
Search Downloads
Organize
New folder
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Network
Name
Date modified
Type
Today (5)
Shubh.pem 15-09-2021 15:57 PEM File
Git-2.33.0.2-64-bit 15-09-2021 15:23 Application
customer 15-09-2021 13:00 Microsoft Ex
shubham 15-09-2021 11:53 PuTTY Privat
shubham.pem 15-09-2021 11:44 PEM File
Yesterday (3)
ubuntu-20.04.3-desktop-amd64 14-09-2021 18:11 Disc Image F
putty-64bit-0.76-installer 14-09-2021 17:16 Windows Ins
File name: Shubh.ppk
Save as type: All Files (*.*)
Hide Folders
Save
Cancel

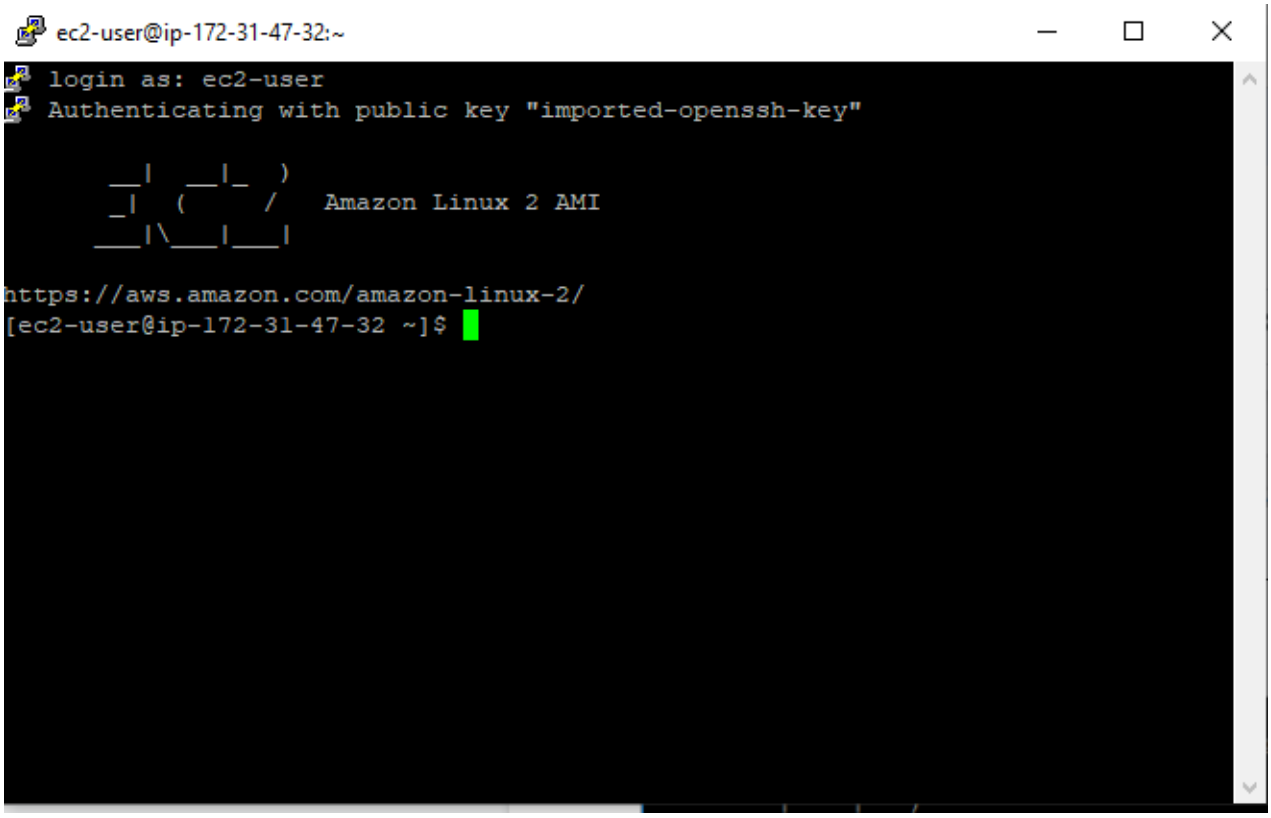
Step 14: Open putty and paste the copied **Instance DNS**.



Step 15: Select SSH>Auth>Browser and upload your key-pair (ppk file).



Step 16: To login and start working with your instance type the **User Name** of instance.



Step to connect to your Instance:

Step 1: Connect to your EC2 instance from SSH terminal.

- Launch Ubuntu instance in your console
- For Linux, Unix and Mac users -- **.pem** key pair can be used directly
- For Window users -- Convert **.pem** file to PPK file using PuTTYgen software

The different usernames for the AMIs are:

AMI Type	User Name
Linux AMI	ec2-user
Centos	centos
Debian	admin or root
Feroda	ec2-user or feroda
RHEL	ec2-user or root
SUSE	ec2-user or root
Ubuntu	ubuntu or root
Custom AMI	Check with AMI provider

- The default username for a Ubuntu machine is **ubuntu**

Use the command prompt to connect to your EC2 instance and type the following code.

```
ssh -i <.pem file Absolute path> username@public-IP
```

```
ssh -i  C:/Users/Edureka/Downloads/Key.pem ec2-user@13.1.53.42
```

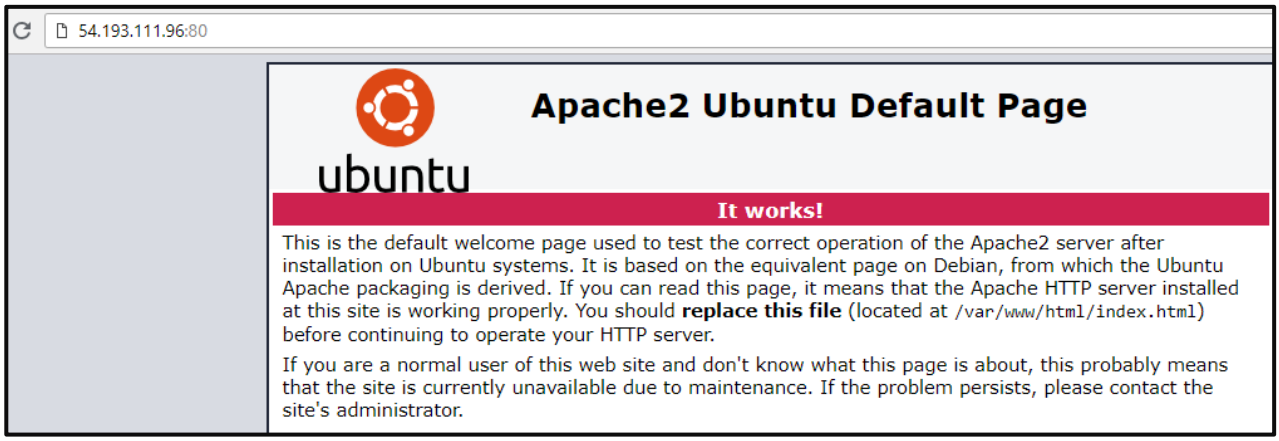
Step 2: Install your Apache server.

- Install your Apache server by typing the below code

```
sudo apt-get update
```

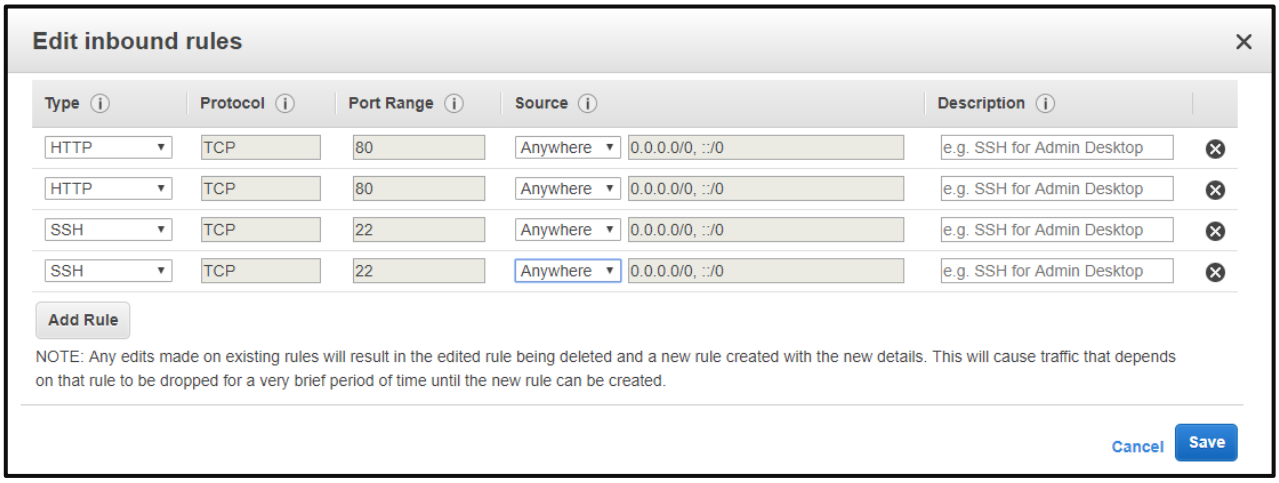
```
sudo apt-get install apache2
```

Step3: Test whether your apache server is running, by typing http://Public IP address:80 in your browser.



Step4: Troubleshoot.

- Check your security group, if you are not able to connect to the EC2 from the Internet



Step5: Create a Website.

- Create the directory

```
sudo mkdir -p /var/www/edureka123456.tk/public_html
```

- To give permissions to the folder you created, type the following code

```
sudo chmod -R 755 /var/www
```

- To change the permissions, type the following code

```
sudo chown -R $USER:$USER /var/www/edureka123456.tk/public_html
```

```
ubuntu@ip-172-31-4-153:~$ sudo chown -R $USER:$USER /var/www/edureka123456.com/p
ublic_html
ubuntu@ip-172-31-4-153:~$ sudo chmod -R 755 /var/www
```

- To enter the directory you have created, type the following code

```
cd /var/www/edureka123456.tk/public_html
```

- To create an index.html file, type the following code

```
nano /var/www/edureka123456.tk/public_html/index.html
```

```
<!DOCTYPE html>
<html>
<head>
<style>
.a{    background-color: #2471A3;
color: white;
padding: 12px 20px;
border: none;
border-radius: 4px;
cursor: pointer;
float: center;      }
```

```
.bg {background-image: url("https://bit.ly/2OEVTYp");
/* Full height */    height: 100%;
background-position: center;
background-repeat: no-repeat;
background-size: cover; }
.label {
   color: white;
   padding: 8px;
   font-family: Arial;
}
   </style>
</head>
<body class="bg" style="padding: 210px 0; background-color: #dbfcf9;">
<center>
   <h3><font size="24"> <font color="white">Welcome to edureka website</font></h3>
</center>
</body>
</html>
```

Step6: Create a Host file.

- To create a host file, type the below code

```
cd /etc/apache2/sites-available/
```

```
sudo cp /etc/apache2/sites-available/000-default.conf
/etc/apache2/sites-available/edureka123456.tk.conf
```

```
ubuntu@ip-172-31-6-148:/var/www/edureka123456.tk/public_html$ cd /etc/apache2/si
tes-available/
ubuntu@ip-172-31-6-148:/etc/apache2/sites-available$ sudo cp /etc/apache2/sites-
available/000-default.conf /etc/apache2/sites-available/edureka123456.tk.conf
```

- Edit the virtual host file as

```
sudo nano /etc/apache2/sites-available/edureka123456.tk.conf
```

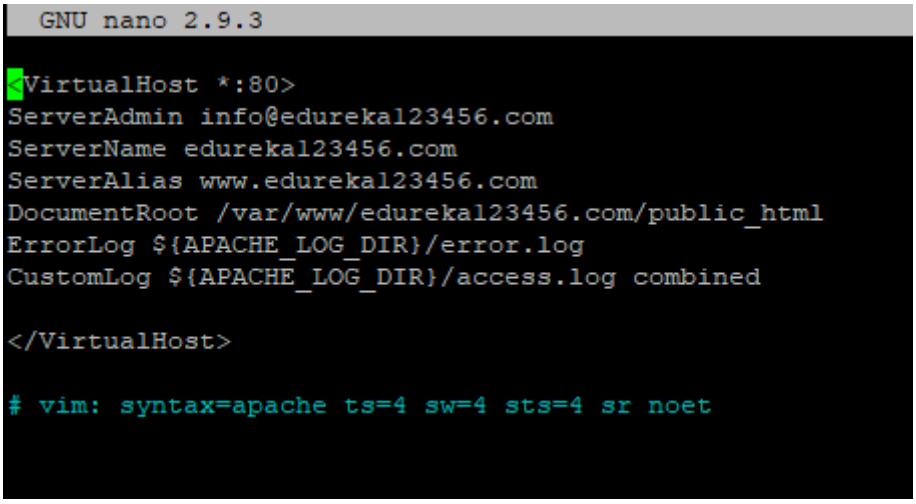
- Type the code in it

```
<VirtualHost *:80>
ServerAdmin info@edureka123456.tk
ServerName edureka123456.tk
ServerAlias www.edureka123456.tk
DocumentRoot /var/www/edureka123456.tk/public_html
ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

Step7: Enable the host file.

- To enable the host file, type the following code

```
sudo a2ensite edureka123456.tk.conf
```



- To disable the default host file, type the following code

```
sudo a2dissite 000-default.conf
```

Step8: Restart the Apache server.

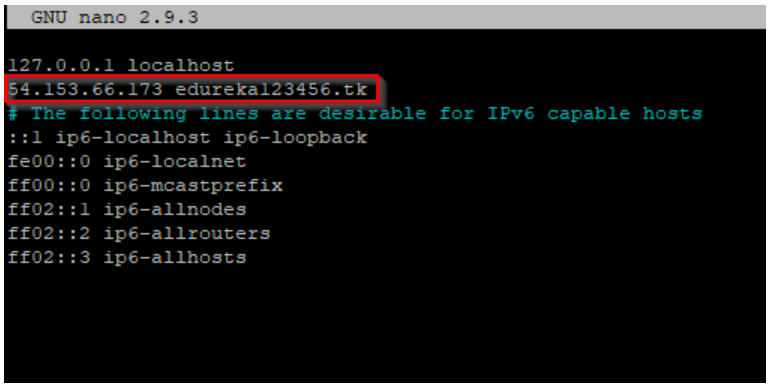
```
sudo service apache2 restart
```

Step9: Point your local host file to the website you have created.

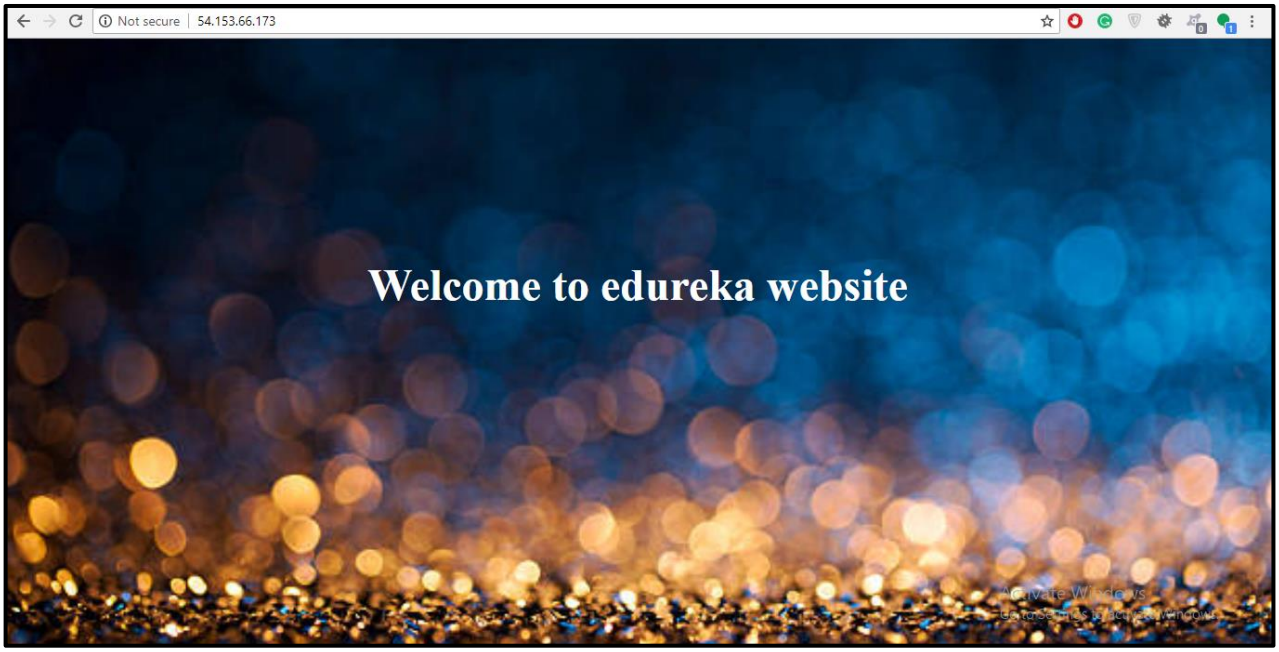
- Type the below code

```
sudo nano /etc/hosts
```

```
Public_IP_address edureka123456.tk
```



- Now when you enter your Public IP address in your web browser, you will be able to see your hosted website



Conclusion

You have successfully configured an EC2 instance and hosted a website via AWS EC2 instance.