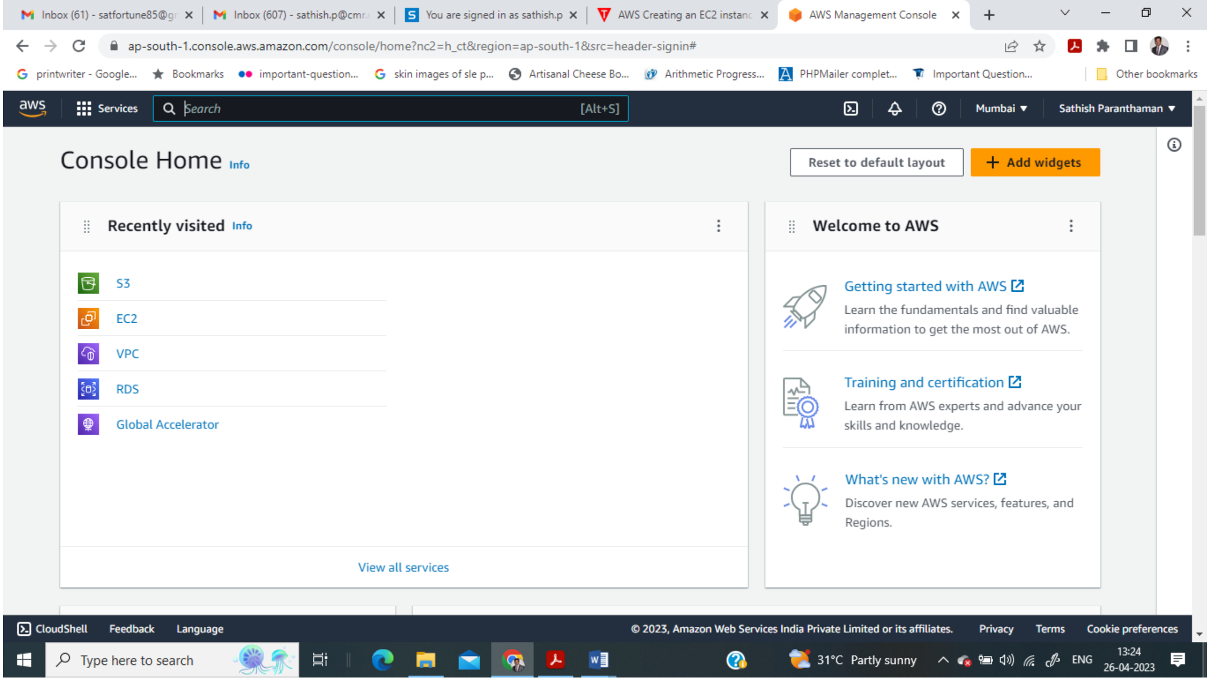
Program 6: Create a Linux based EC2 Instance and host a static website in it.

Create a Linux based EC2 Instance (you can directly go to step 17 if EC2 is ready for you already)

Step 1: Sign in to the AWS Management Console.



Console Home Info

Recently visited Info

- S3
- EC2
- VPC
- RDS
- Global Accelerator

View all services

Welcome to AWS

Getting started with AWS
Learn the fundamentals and find valuable information to get the most out of AWS.

Training and certification
Learn from AWS experts and advance your skills and knowledge.

What's new with AWS?
Discover new AWS services, features, and Regions.

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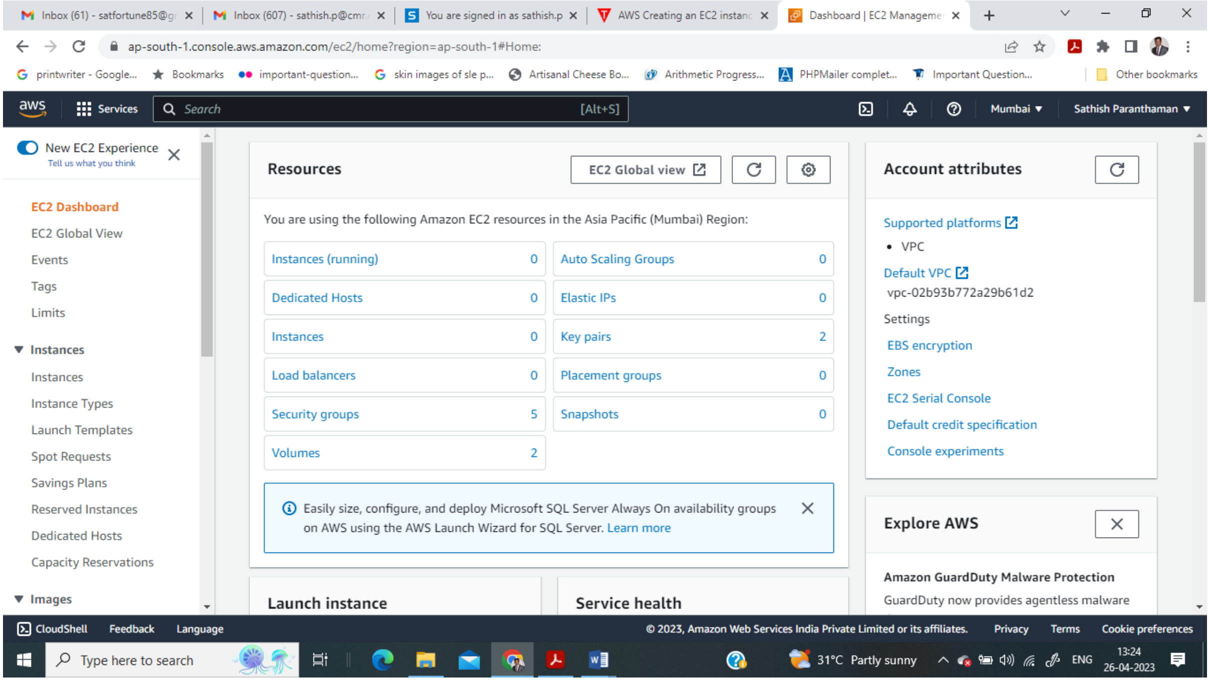
Step 2: Click on the EC2 service. Select instances.



You are using the following Amazon EC2 resources in the Asia Pacific (Mumbai) Region:

Instances (running)	0	Auto Scaling Groups	0
Dedicated Hosts	0	Elastic IPs	0
Instances	0	Key pairs	2
Load balancers	0	Placement groups	0
Security groups	5	Snapshots	0
Volumes	2		

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more

Supported platforms
- VPC

Default VPC
vpc-02b93b772a29b61d2

Settings
EBS encryption
Zones
EC2 Serial Console
Default credit specification
Console experiments

Amazon GuardDuty Malware Protection
GuardDuty now provides agentless malware

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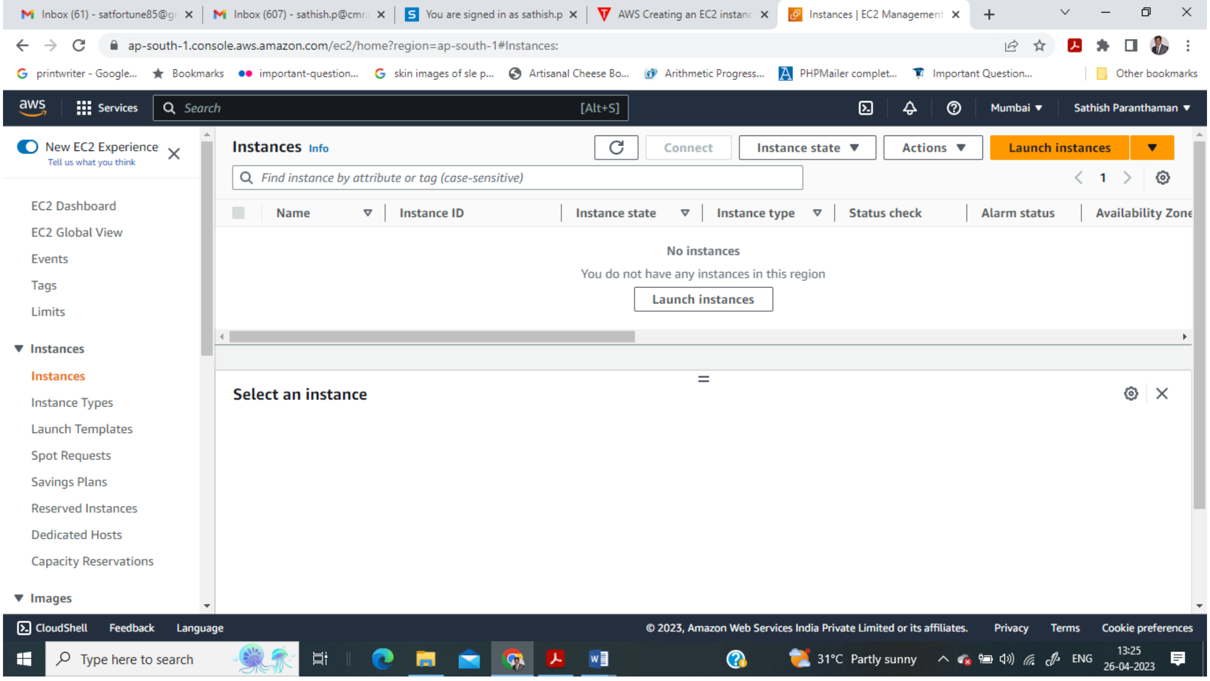
Step 3: Click on the **Launch Instance** button to create a new instance.



Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone

No instances

You do not have any instances in this region

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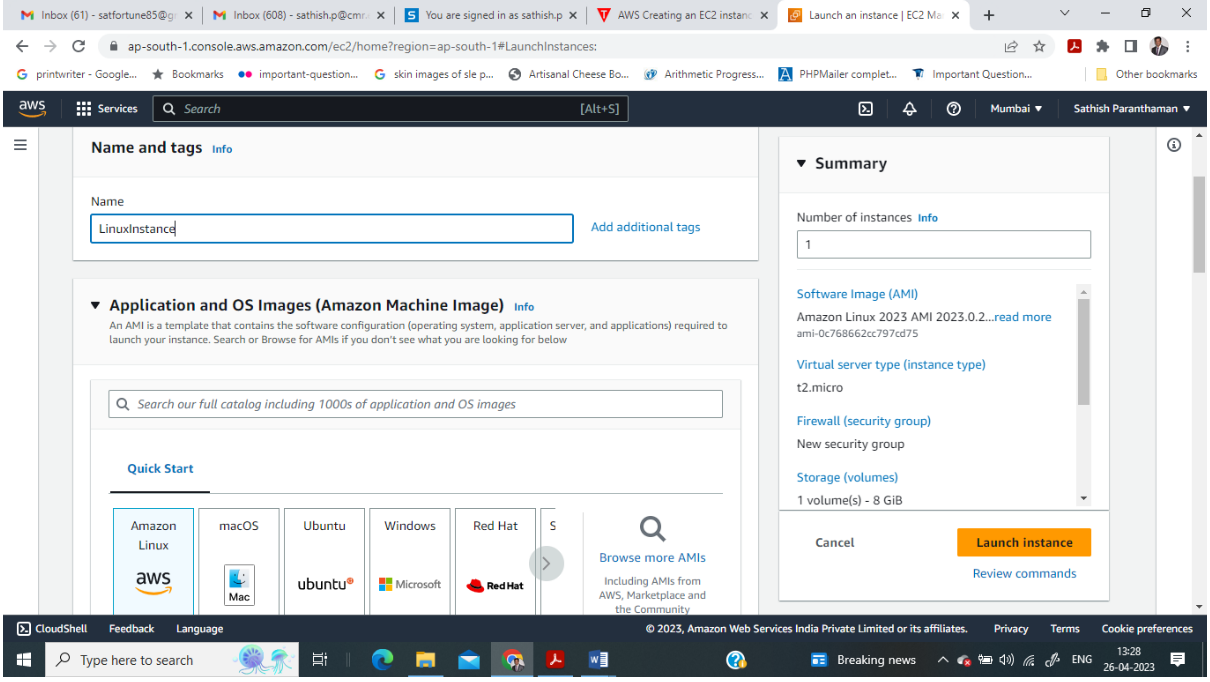
Step 4: Enter the name of the instance and select Amazon Linux AMI



Name and tags Info

Name
LinuxInstance

Add additional tags

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Summary

Number of instances Info
1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.0.2...read more
ami-0c768662cc797cd75

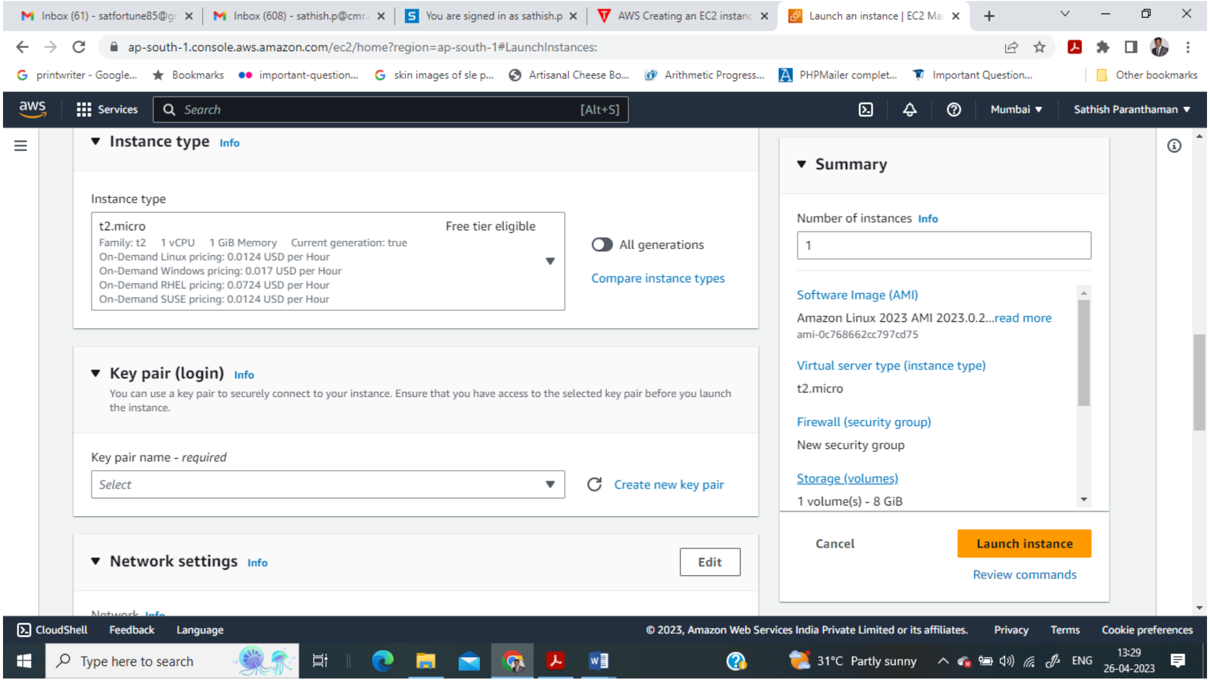
Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Step 5: Under instance type select free tier eligible instance.

Click on create new key pair to generate the .pem file



Instance type Info

Instance type
t2.micro Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux pricing: 0.0124 USD per Hour
On-Demand Windows pricing: 0.017 USD per Hour
On-Demand RHEL pricing: 0.0724 USD per Hour
On-Demand SUSE pricing: 0.0124 USD per Hour

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*
Select

Network settings Info

Summary

Number of instances Info
1

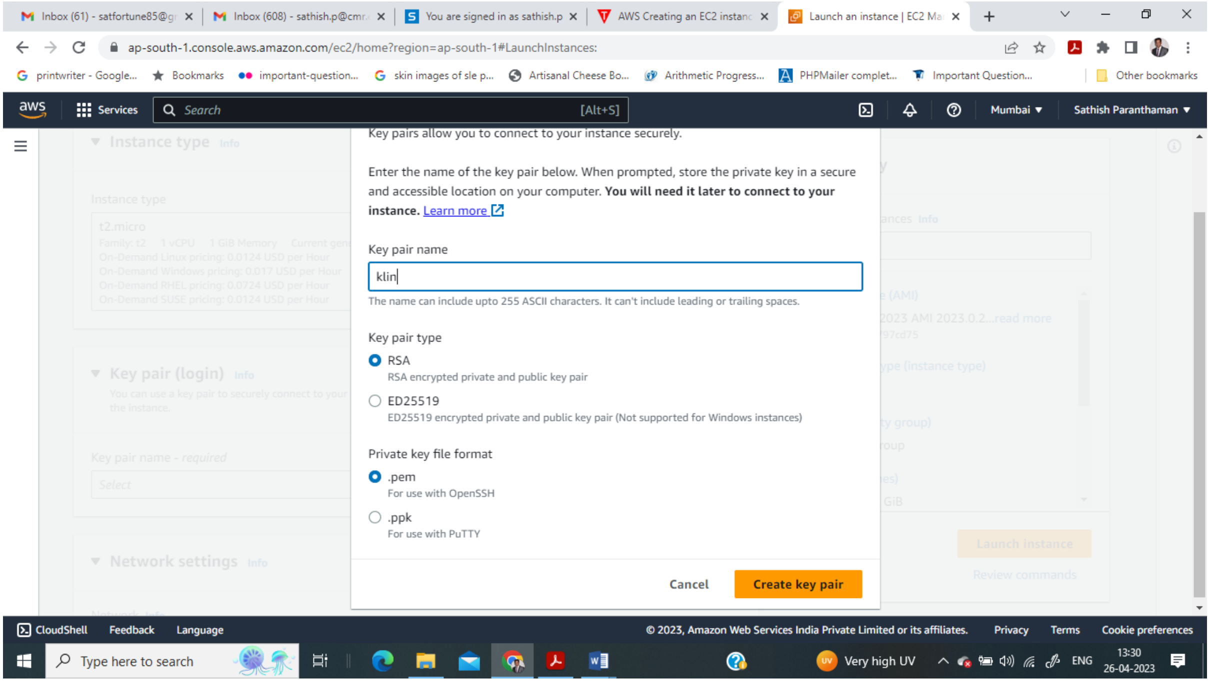
Software Image (AMI)
Amazon Linux 2023 AMI 2023.0.2...read more
ami-0c768662cc797cd75

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Step 6: Enter the name of the key pair and click create key pair. Now .pem file is created and downloaded to the local computer.


ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:
Services
Search [Alt+S]
Mumbai
Sathish Paranthaman
Instance type
Key pair (login)
Network settings
Launch instance
Review commands
CloudShell Feedback Language
© 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences
Type here to search
Very high UV
ENG 13:30 26-04-2023

Key pairs allow you to connect to your instance securely.

Enter the name of the key pair below. When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

Key pair name

klin

The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

● RSA
RSA encrypted private and public key pair

○ ED25519
ED25519 encrypted private and public key pair (Not supported for Windows instances)

Private key file format

● .pem
For use with OpenSSH

○ .ppk
For use with PuTTY

Cancel | **Create key pair**

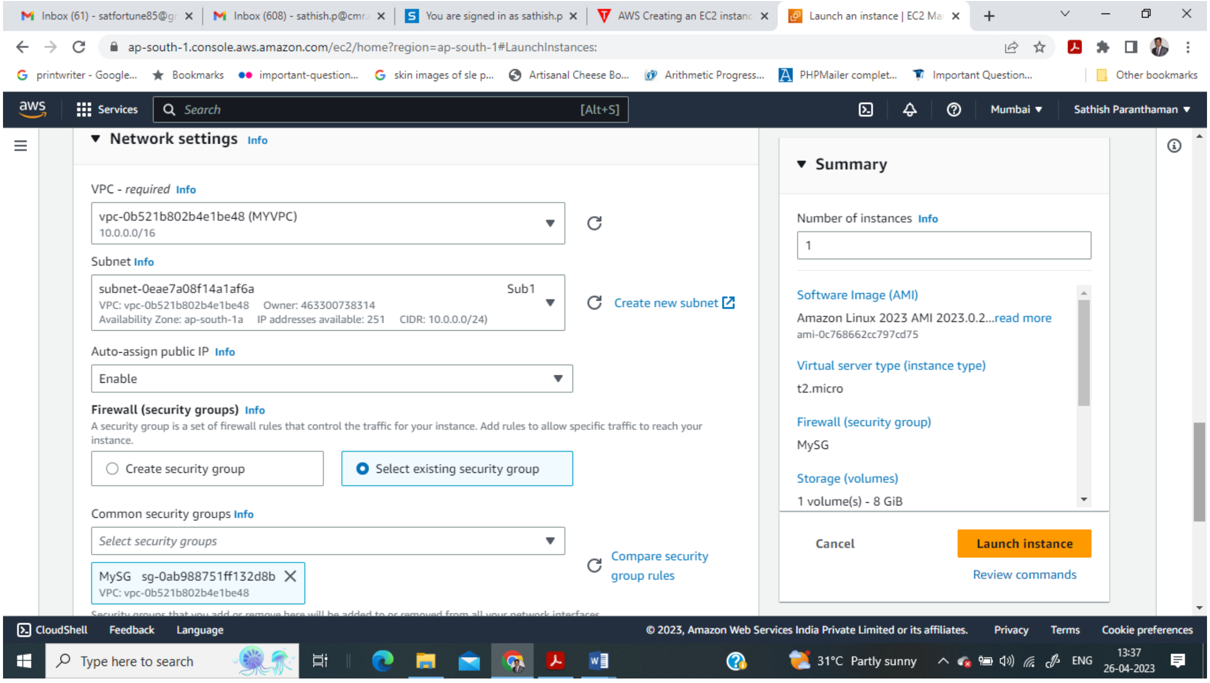
Step 7: Network settings

Click on edit button to edit the network details as follows

Select the custom VPC which was created

Select the appropriate subnet

Select the security group which was assigned to VPC


ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:
Services
Search [Alt+S]
Mumbai
Sathish Paranthaman
Create new subnet
Compare security group rules
CloudShell Feedback Language
© 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences
Type here to search
31°C Partly sunny
ENG 13:37 26-04-2023

Network settings Info

VPC - *required* Info

vpc-0b521b802b4e1be48 (MYVPC)
10.0.0.0/16

Subnet Info

subnet-0eae7a08f14a1af6a Sub1
VPC: vpc-0b521b802b4e1be48 Owner: 463300738314
Availability Zone: ap-south-1a IP addresses available: 251 CIDR: 10.0.0.0/24)

Auto-assign public IP Info

Enable

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

○ Create security group ● Select existing security group

Common security groups Info

Select security groups

MySG sg-0ab988751ff132d8b
VPC: vpc-0b521b802b4e1be48

Summary

Number of instances Info

1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.0.2...read more
ami-0c768662cc797cd75

Virtual server type (instance type)
t2.micro

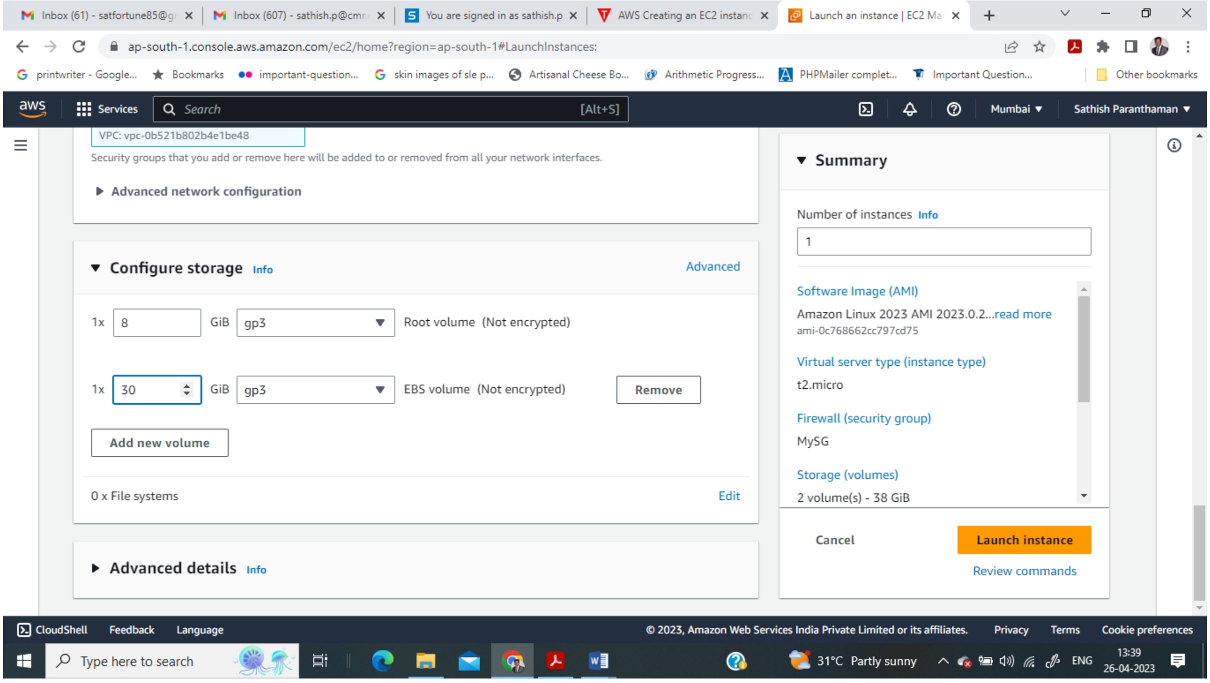
Firewall (security group)
MySG

Storage (volumes)
1 volume(s) - 8 GiB

Cancel | **Launch instance**

Review commands

Step 8: Add required elastic block storages(EBS) under Configure storage section. Click on Launch Instance



VPC: vpc-0b521b802b4e1be48

Security groups that you add or remove here will be added to or removed from all your network interfaces.

▶ Advanced network configuration

▼ Configure storage Info — Advanced

1x	8	GiB	gp3	Root volume (Not encrypted)	
1x	30	GiB	gp3	EBS volume (Not encrypted)	Remove

Add new volume

0 x File systems — Edit

▶ Advanced details Info

▼ Summary

Number of instances Info: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.0.2...read more ami-0c768662cc797cd75

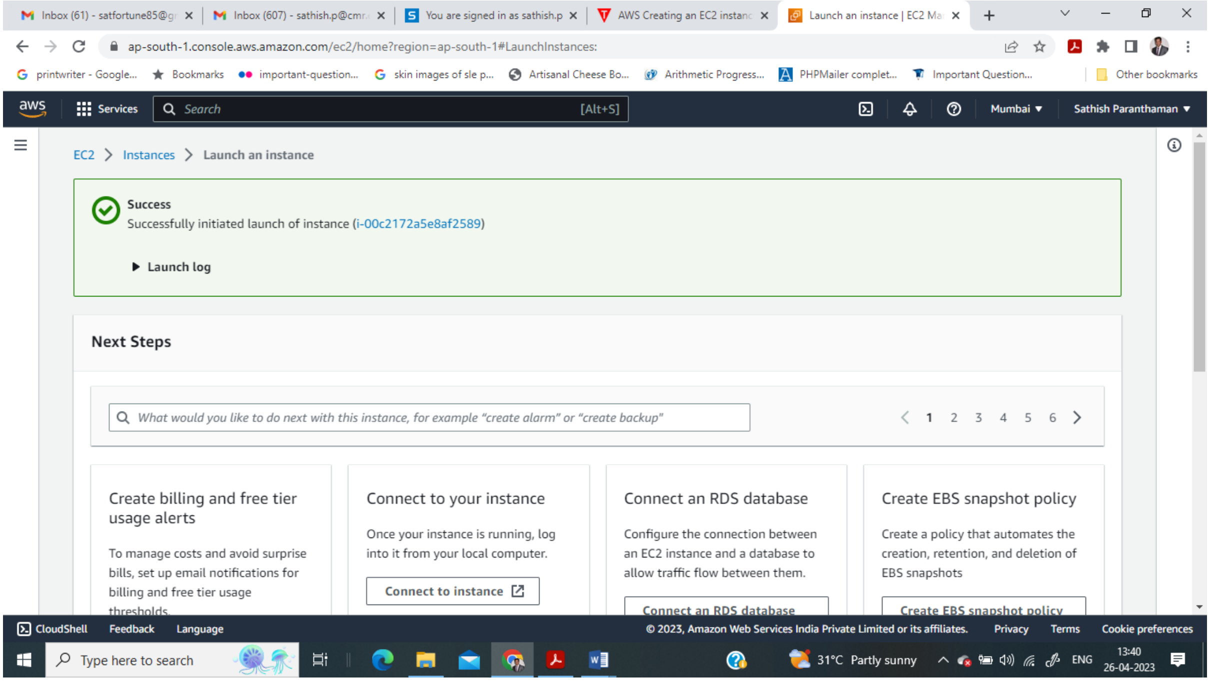
Virtual server type (instance type): t2.micro

Firewall (security group): MySG

Storage (volumes): 2 volume(s) - 38 GiB

Cancel — Launch instance — Review commands

Step 9: Now instance has been created successfully



EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-00c2172a5e8af2589)

▶ Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

Create billing and free tier usage alerts — To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

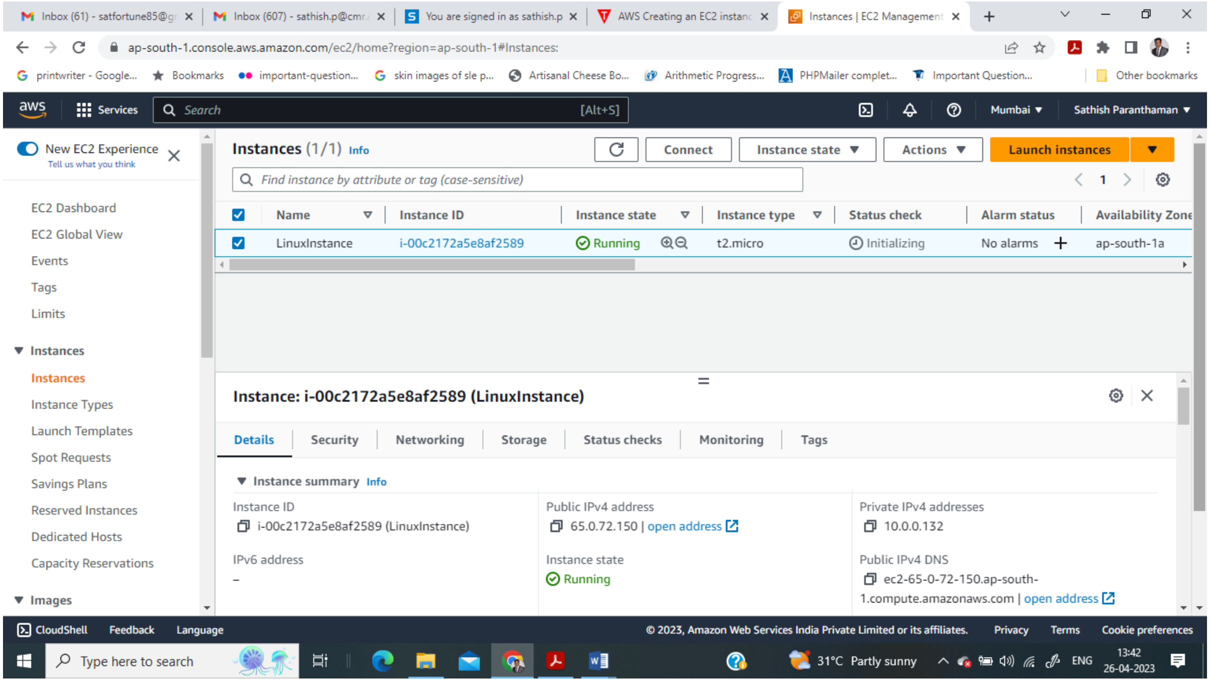
Connect to your instance — Once your instance is running, log into it from your local computer. — Connect to instance

Connect an RDS database — Configure the connection between an EC2 instance and a database to allow traffic flow between them. — Connect an RDS database

Create EBS snapshot policy — Create a policy that automates the creation, retention, and deletion of EBS snapshots — Create EBS snapshot policy

Step 10: Click on instances to view active instances.

Select the instance created previously and copy the public IPv4 DNS



ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:

Instances (1/1)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
LinuxInstance	i-00c2172a5e8af2589	Running	t2.micro	Initializing	No alarms	ap-south-1a

Instance: i-00c2172a5e8af2589 (LinuxInstance)

Instance summary

Instance ID: i-00c2172a5e8af2589 (LinuxInstance)

Public IPv4 address: 65.0.72.150 | open address

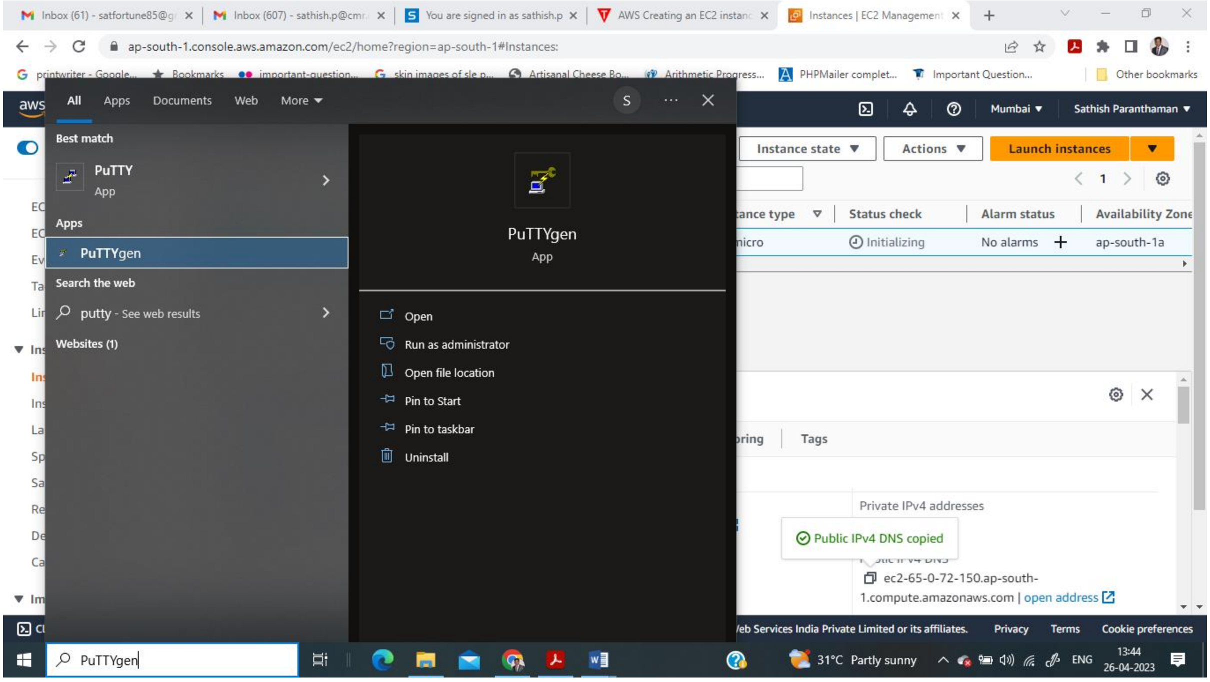
Private IPv4 addresses: 10.0.0.132

IPv6 address: –

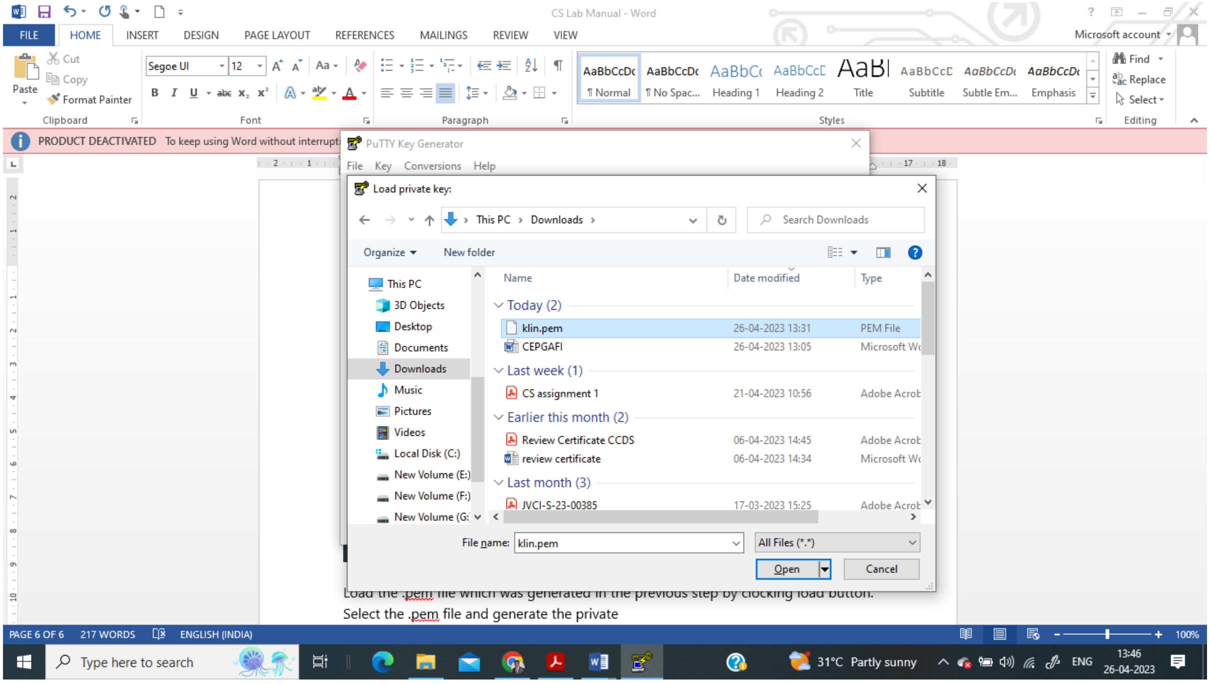
Instance state: Running

Public IPv4 DNS: ec2-65-0-72-150.ap-south-1.compute.amazonaws.com | open address

Step 11: Start puttygen from local computer to convert .pem file to .ppk file as follows



Step 12: Load the .pem file which was generated in the previous step by clocking load button. Select the .pem file and generate .ppk file by clicking save private key



PuTTY Key Generator

Load private key:

This PC › Downloads ›

Name	Date modified	Type
Today (2)		
klin.pem	26-04-2023 13:31	PEM File
CEPGAFI	26-04-2023 13:05	Microsoft Wo
Last week (1)		
CS assignment 1	21-04-2023 10:56	Adobe Acrob
Earlier this month (2)		
Review Certificate CCDS	06-04-2023 14:45	Adobe Acrob
review certificate	06-04-2023 14:34	Microsoft Wo
Last month (3)		
JVCI-S-23-00385	17-03-2023 15:25	Adobe Acrob

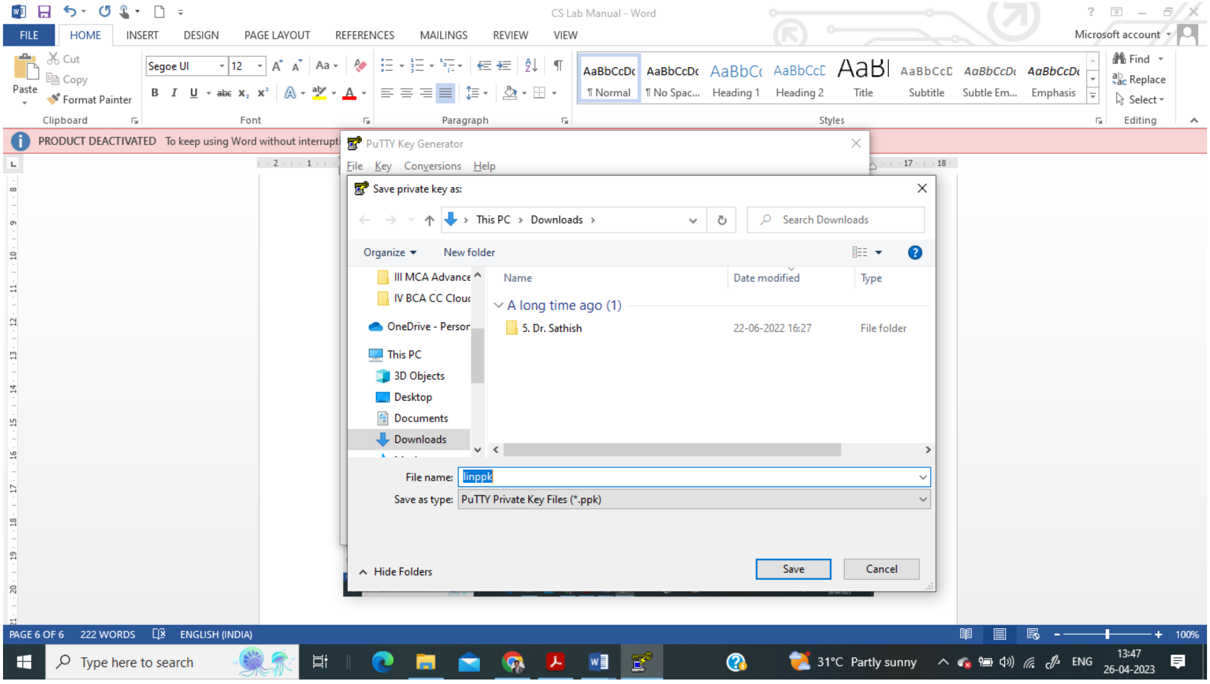
File name: klin.pem

All Files (*.*)

Load the .pem file which was generated in the previous step by clicking load button.
Select the .pem file and generate the private

CS Lab Manual - Word
FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS REVIEW VIEW
PRODUCT DEACTIVATED To keep using Word without interrupt
File Key Conversions Help
Organize New folder
Open
Cancel
PAGE 6 OF 6 217 WORDS ENGLISH (INDIA)
Type here to search
31°C Partly sunny
13:46
26-04-2023

Step 13: Click on save button to save .ppk file in local computer as follows. Now .ppk file created.



PuTTY Key Generator

Save private key as:

This PC › Downloads ›

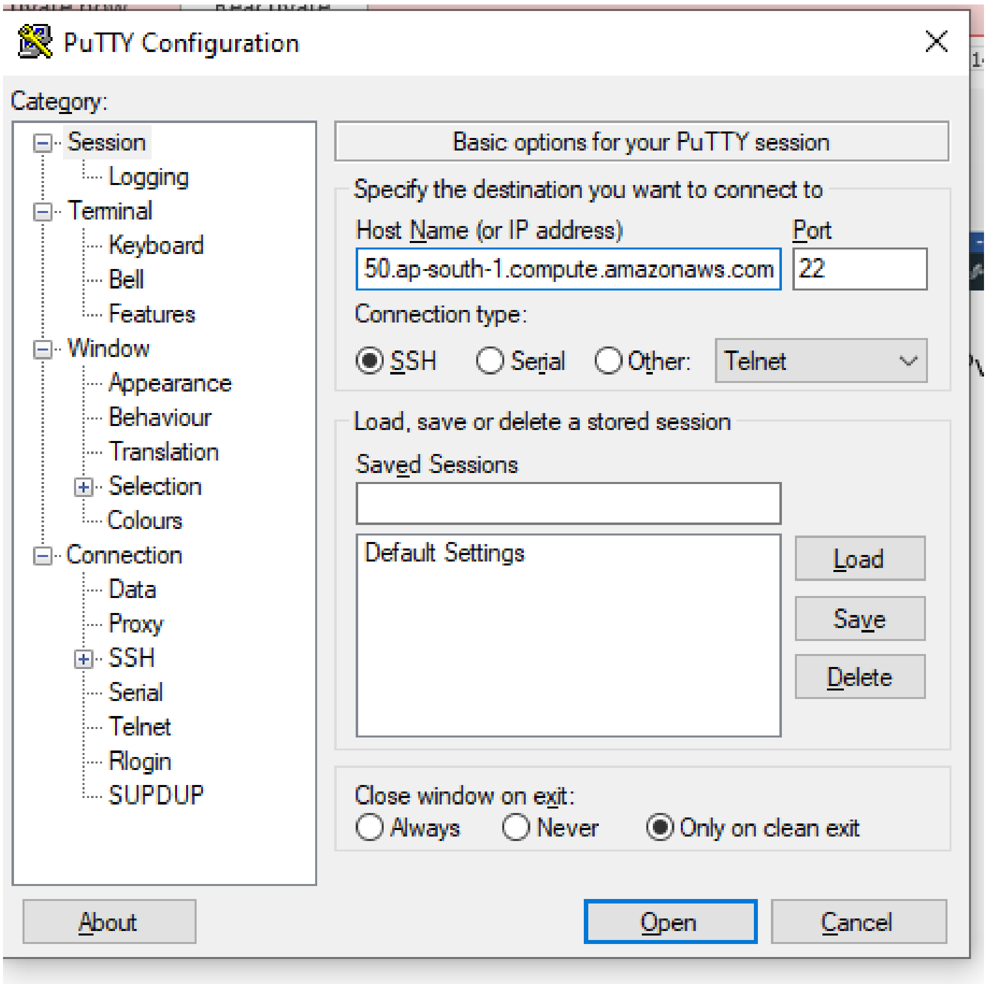
Name	Date modified	Type
A long time ago (1)		
5. Dr. Sathish	22-06-2022 16:27	File folder

File name: linppk

Save as type: PuTTY Private Key Files (*.ppk)

CS Lab Manual - Word
FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS REVIEW VIEW
PRODUCT DEACTIVATED To keep using Word without interrupt
File Key Conversions Help
Organize New folder
Hide Folders
Save
Cancel
PAGE 6 OF 6 222 WORDS ENGLISH (INDIA)
Type here to search
31°C Partly sunny
13:47
26-04-2023

Step 14: Launch PuTTY software from the computer and paste the public DNS IPv4 address copied from the instance as follows



PuTTY Configuration

Category:

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address): 50.ap-south-1.compute.amazonaws.com

Port: 22

Connection type: ● SSH ○ Serial ○ Other: Telnet

Load, save or delete a stored session

Saved Sessions

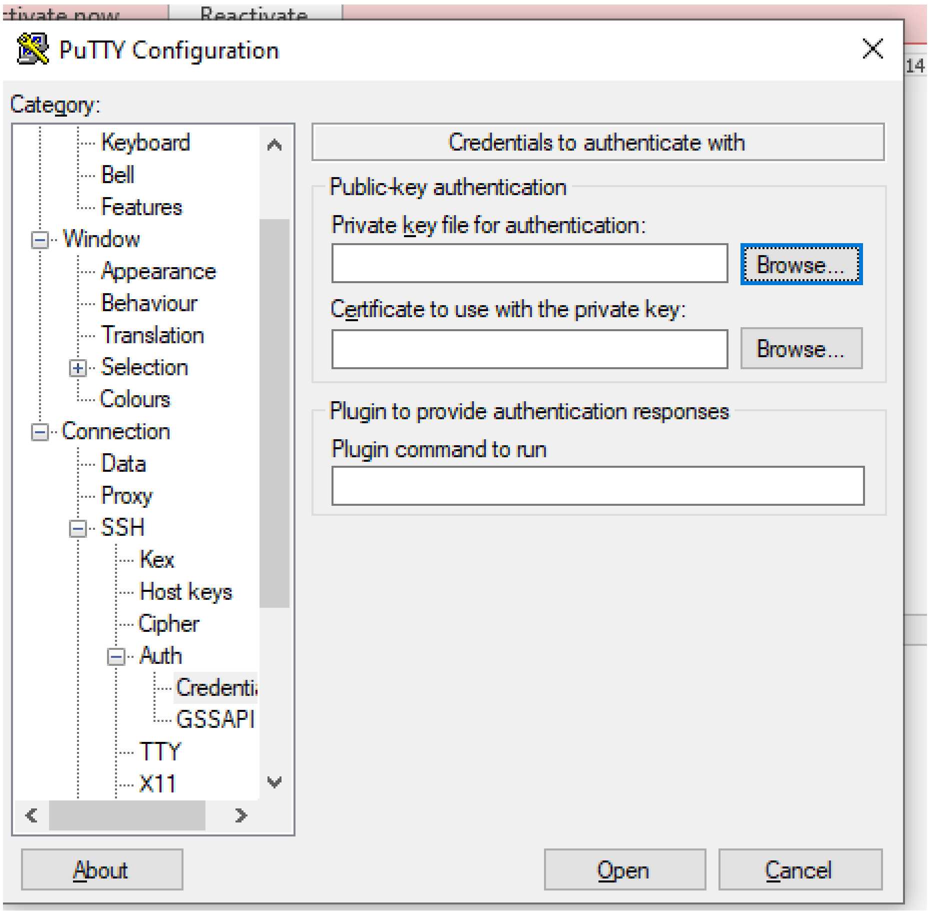
Default Settings

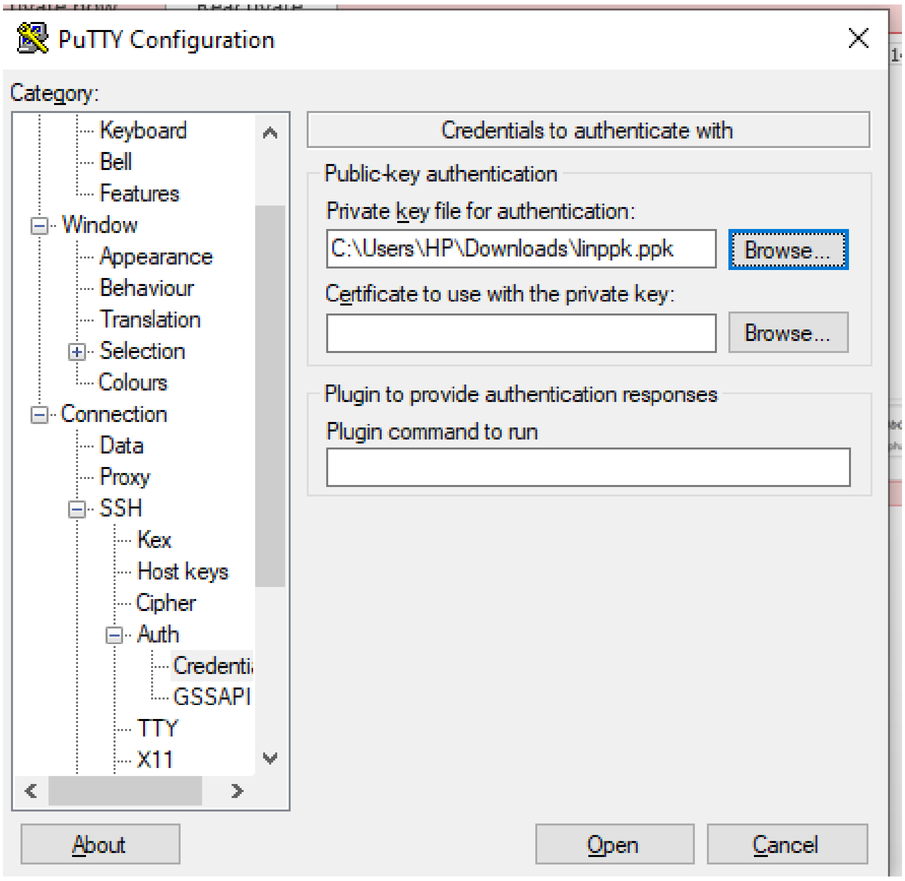
Close window on exit: ○ Always ○ Never ● Only on clean exit

Step 15: Follow the steps under connection, Expand as follows

Connection -> SSH->Auth->Credentials

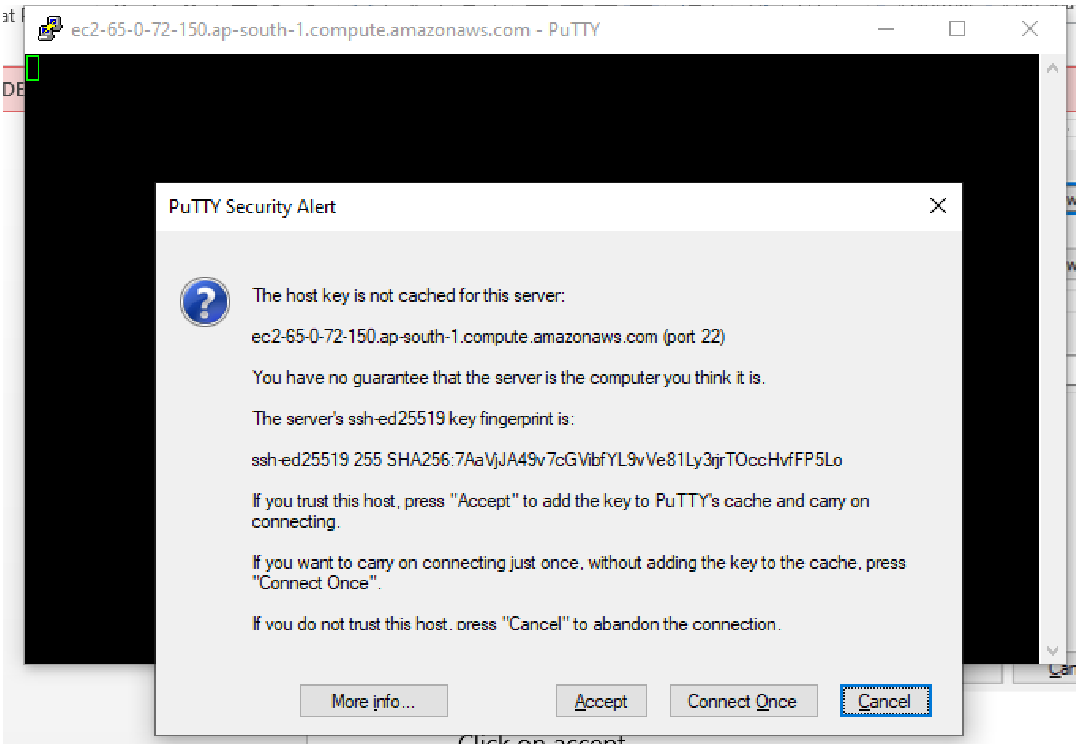
Browse for the .ppk file under private key file for authentication and click open.





Private key file for authentication: C:\Users\HP\Downloads\linppk.ppk

Step 16: Click on accept and enter the login name **ec2-user**



The host key is not cached for this server:

ec2-65-0-72-150.ap-south-1.compute.amazonaws.com (port 22)

You have no guarantee that the server is the computer you think it is.

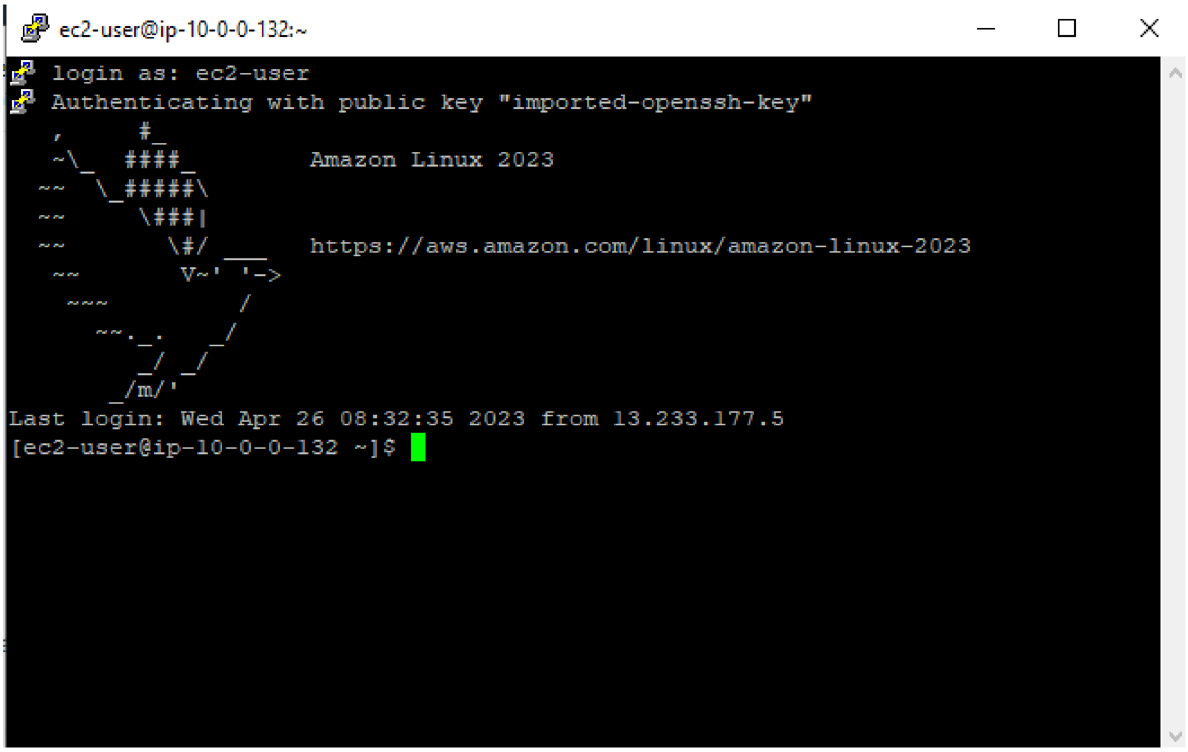
The server's ssh-ed25519 key fingerprint is:

ssh-ed25519 255 SHA256:7AaVjJA49v7cGVibfYL9vVe81Ly3rjrTOccHvfFP5Lo

If you trust this host, press "Accept" to add the key to PuTTY's cache and carry on connecting.

If you want to carry on connecting just once, without adding the key to the cache, press "Connect Once".

If vou do not trust this host. press "Cancel" to abandon the connection.



```
login as: ec2-user
Authenticating with public key "imported-openssh-key"
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Wed Apr 26 08:32:35 2023 from 13.233.177.5
[ec2-user@ip-10-0-0-132 ~]$
```

Linux instance is created and launched successfully.

Step 17: Install Required Software

- Once logged into the instance, become the root user using the command "sudo -i."
- Update the instance with "yum update -y."
- Install the Apache service with "yum install httpd -y."
- Change to the HTML directory with "cd /var/www/html."
- Download your desired HTML template using "wget <download link>."
    - Replace the download link with similar ones like "https://htmlcodex.com/template/business/"
- Unzip the downloaded folder with "unzip <folder name>."

eg:

```
sudo -i

yum update -y

yum install httpd -y

cd /var/www/html

wget https://www.toolplate.com/zip-templates/2135_mini_finance.zip

or https://www.html5webtemplates.co.uk/wp-content/uploads/2020/05/Elements.zip


unzip 2135_mini_finance.zip

or

unzip Elements.zip
```

Step 18: Move Files to the HTML Directory

- Copy the unzipped web files to the HTML directory with "cp -r <folder name>/* /var/www/html."
- Verify the copied files using the "ls" command.
- Delete the zipped and unzipped folders with "rm -rf <folder name> <folder name>.zip."

eg:

```
cp -r 2135_mini_finance/* /var/www/html
ls
rm -rf 2135_mini_finance 2135_mini_finance.zip
```

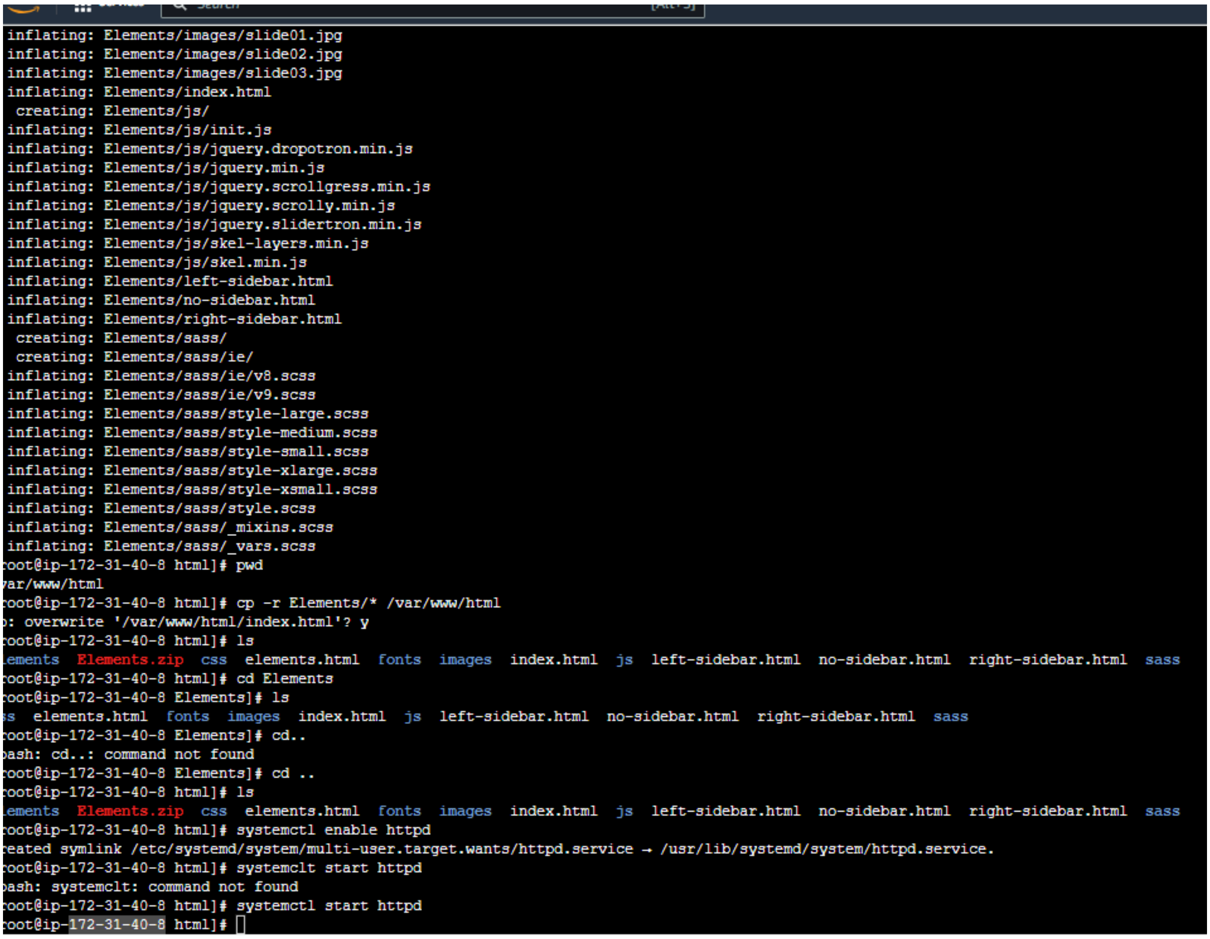
Step 19: Enable and Start the Apache Service

- Enable the Apache service with “systemctl enable httpd.”
- Start the service with “systemctl start httpd.”

eg:

```
systemctl enable httpd
```

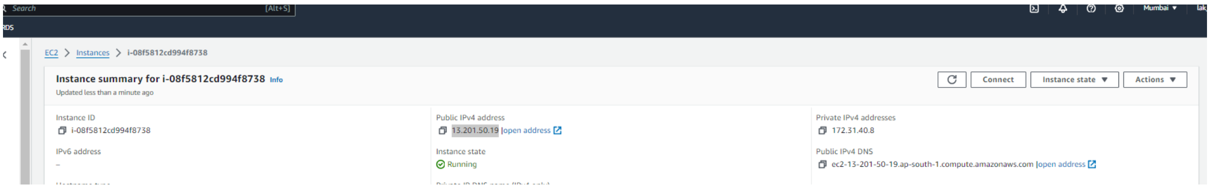
```
systemctl start httpd
```



```
inflating: Elements/images/slide01.jpg
inflating: Elements/images/slide02.jpg
inflating: Elements/images/slide03.jpg
inflating: Elements/index.html
 creating: Elements/js/
inflating: Elements/js/init.js
inflating: Elements/js/jquery.dropotron.min.js
inflating: Elements/js/jquery.min.js
inflating: Elements/js/jquery.scrollgress.min.js
inflating: Elements/js/jquery.scrolly.min.js
inflating: Elements/js/jquery.slidertron.min.js
inflating: Elements/js/skel-layers.min.js
inflating: Elements/js/skel.min.js
inflating: Elements/left-sidebar.html
inflating: Elements/no-sidebar.html
inflating: Elements/right-sidebar.html
 creating: Elements/sass/
 creating: Elements/sass/ie/
inflating: Elements/sass/ie/v8.scss
inflating: Elements/sass/ie/v9.scss
inflating: Elements/sass/style-large.scss
inflating: Elements/sass/style-medium.scss
inflating: Elements/sass/style-small.scss
inflating: Elements/sass/style-xlarge.scss
inflating: Elements/sass/style-xsmall.scss
inflating: Elements/sass/style.scss
inflating: Elements/sass/_mixins.scss
inflating: Elements/sass/_vars.scss
oot@ip-172-31-40-8 html]# pwd
ar/www/html
oot@ip-172-31-40-8 html]# cp -r Elements/* /var/www/html
: overwrite '/var/www/html/index.html'? y
oot@ip-172-31-40-8 html]# ls
ements  Elements.zip  css  elements.html  fonts  images  index.html  js  left-sidebar.html  no-sidebar.html  right-sidebar.html  sass
oot@ip-172-31-40-8 html]# cd Elements
oot@ip-172-31-40-8 Elements]# ls
s  elements.html  fonts  images  index.html  js  left-sidebar.html  no-sidebar.html  right-sidebar.html  sass
oot@ip-172-31-40-8 Elements]# cd..
ash: cd..: command not found
oot@ip-172-31-40-8 Elements]# cd ..
oot@ip-172-31-40-8 html]# ls
ements  Elements.zip  css  elements.html  fonts  images  index.html  js  left-sidebar.html  no-sidebar.html  right-sidebar.html  sass
oot@ip-172-31-40-8 html]# systemctl enable httpd
eated symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
oot@ip-172-31-40-8 html]# systemclt start httpd
ash: systemclt: command not found
oot@ip-172-31-40-8 html]# systemctl start httpd
oot@ip-172-31-40-8 html]# 
```

Final Step 20 : Access Your Static Website

- Copy the public IPv4 address of the instance.



EC2 > Instances > i-08f5812cd994f8738

Instance summary for i-08f5812cd994f8738 Info

Updated less than a minute ago

Instance ID
i-08f5812cd994f8738

IPv6 address
–

Public IPv4 address
13.201.50.19 |open address

Instance state
Running

Private IPv4 addresses
172.31.40.8

Public IPv4 DNS
ec2-13-201-50-19.ap-south-1.compute.amazonaws.com |open address

- Paste the address in your browser’s new tab.

- Ex 13.201.50.19
- Get the picture of the website launched here.
- Your static website is now live and accessible!

Additional readings

medium blog
or
linkedin blog
or
aws tip tutorial