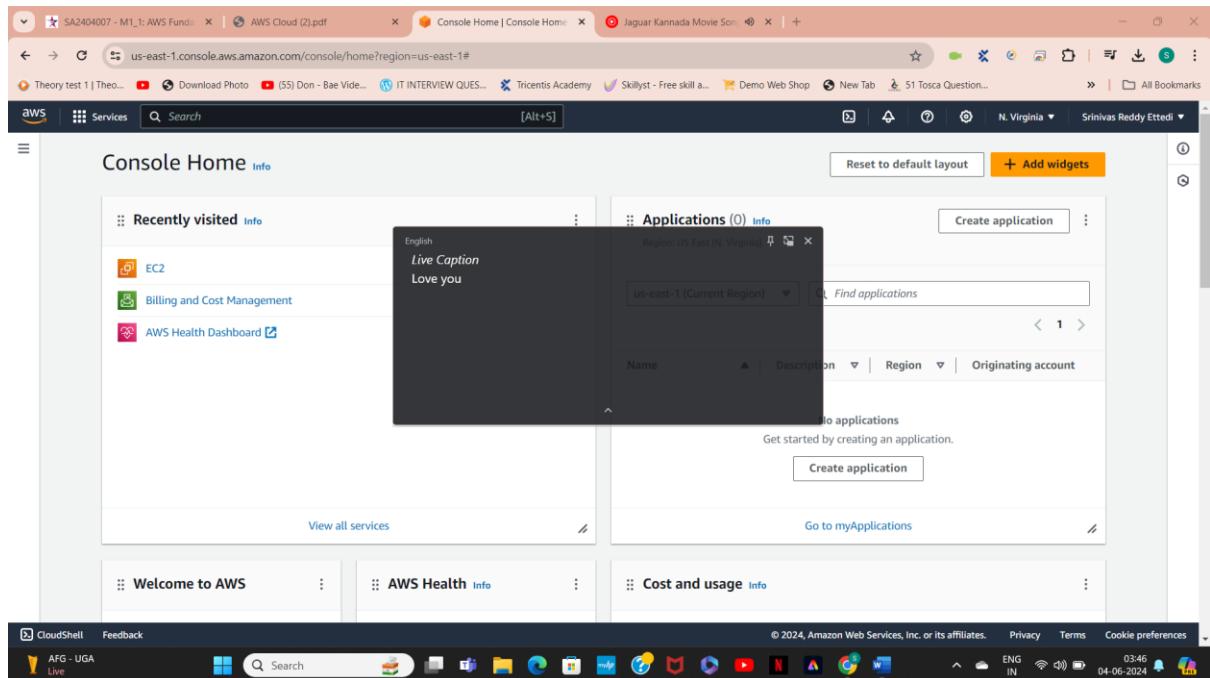


# Demonstrate the AWS EC2 Ubuntu Instance Creation steps and connect to EC2 Instance using Mobaxterm/putty agent?

**Sol:**

Step1. Open the Amazon console and click on ec2 as shown in the below figure.



2. Here click on Launch instance as shown in the figure

**Resources**

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Instances (running)	0	Auto Scaling Groups	0	Dedicated Hosts	0
Elastic IPs	0	Instances	5	Key pairs	2
Load balancers	0	Placement groups	0	Security groups	1
Snapshots	0	Volumes	0		

**Launch instance**  
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

**Service health**  
AWS Health Dashboard

Region: US East (N. Virginia)  
Status: This service is operating normally.

**Zones**

**Offer usage (monthly)**

Linux EC2 Instances: 745.336666 hours remaining (1%)  
Storage space on EBS: 29.33 GB remaining (2%)

[View all AWS Free Tier offers](#)

**Instances**

Info

Find Instance by attribute or tag (case-sensitive)

Instance state = running

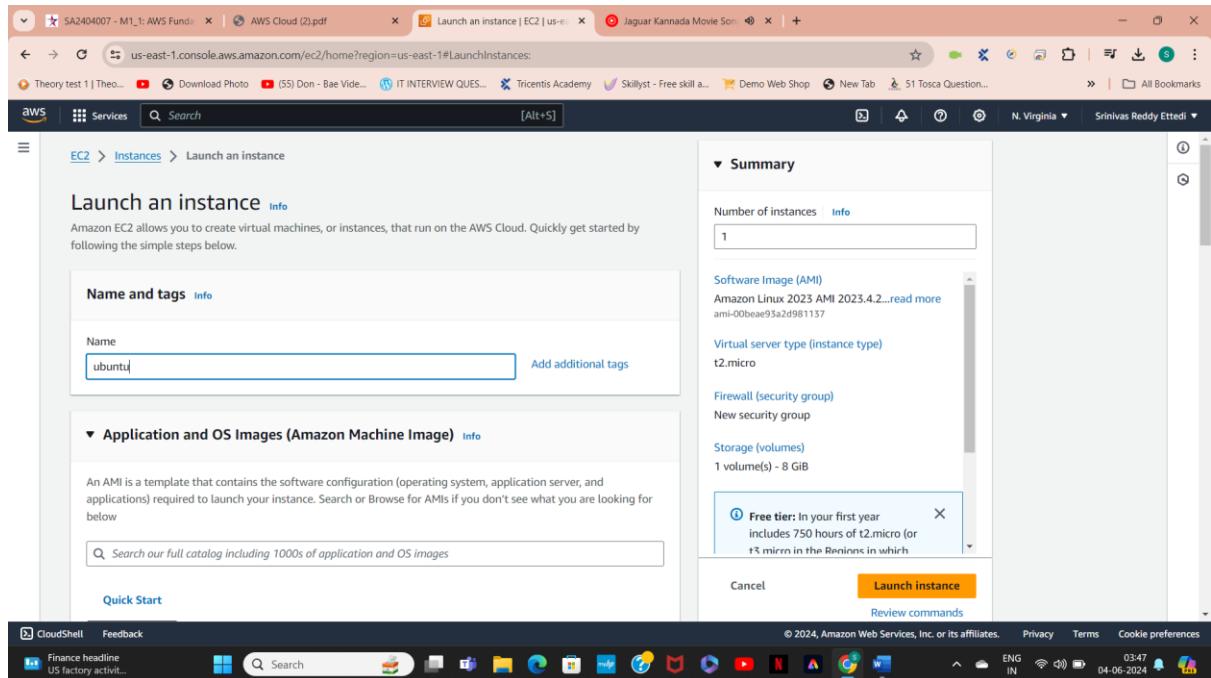
Clear filters

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
No matching instances found							

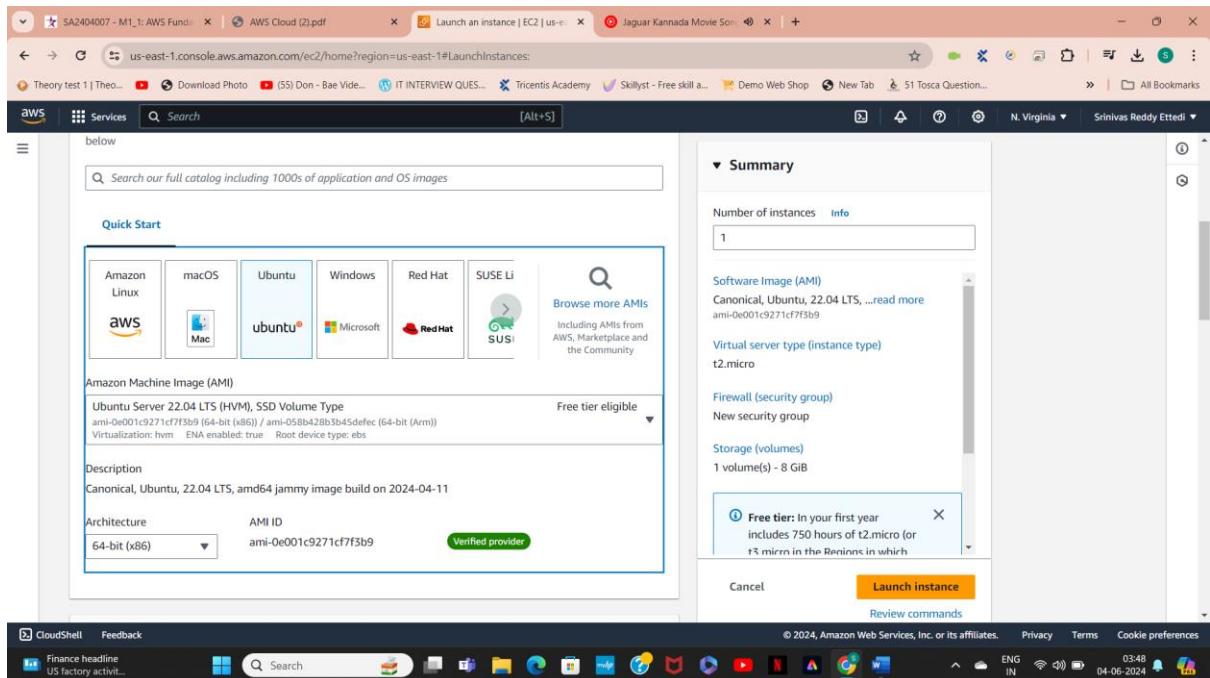
**Select an instance**

**CloudShell** **Feedback**

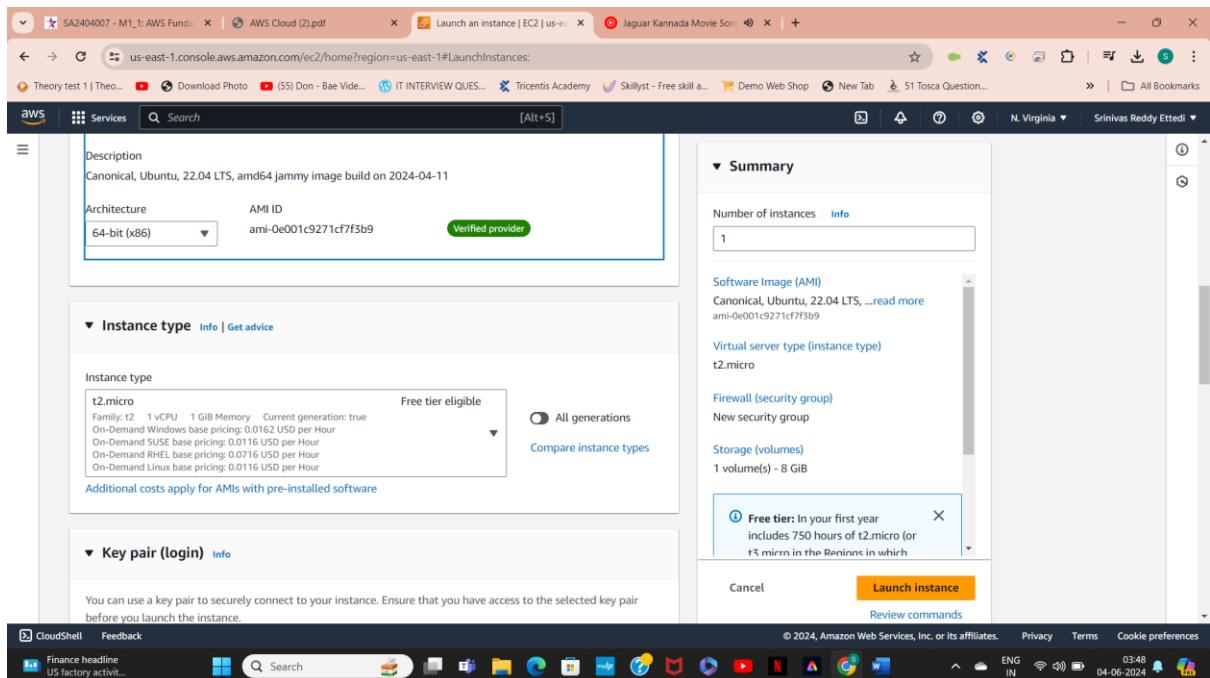
3. Here I'm giving the name of the instance as shown in the figure



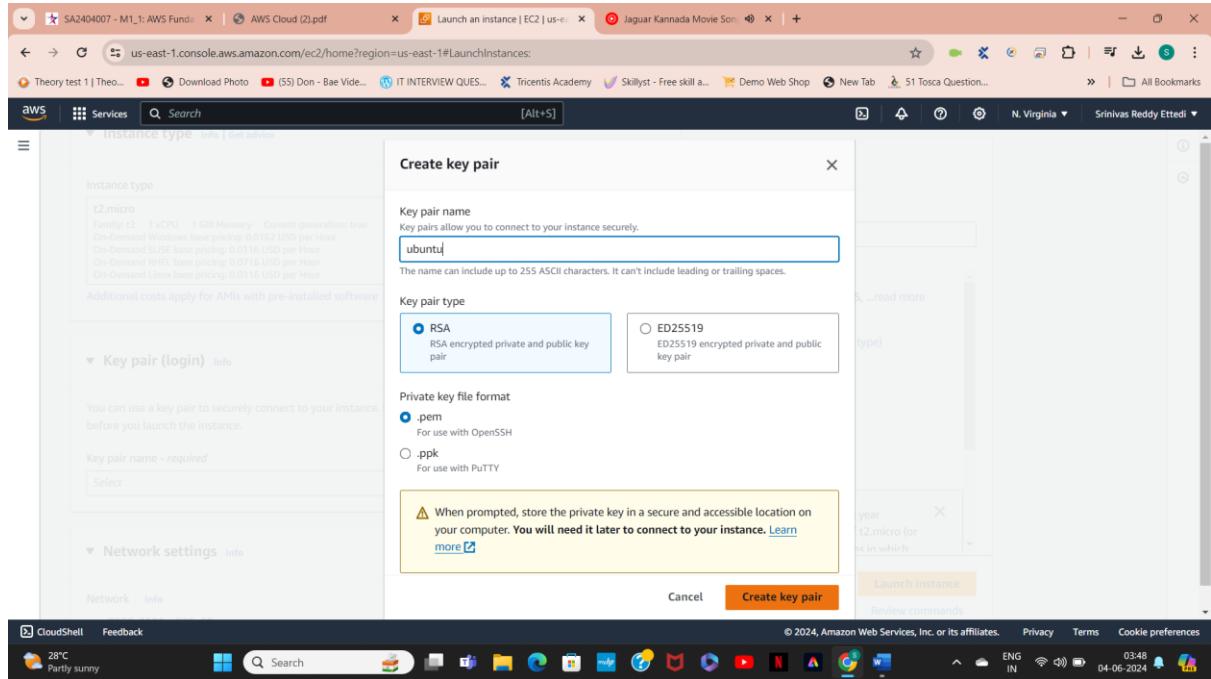
4. Here I'm selecting the Ami as ubuntu as shown in the figure

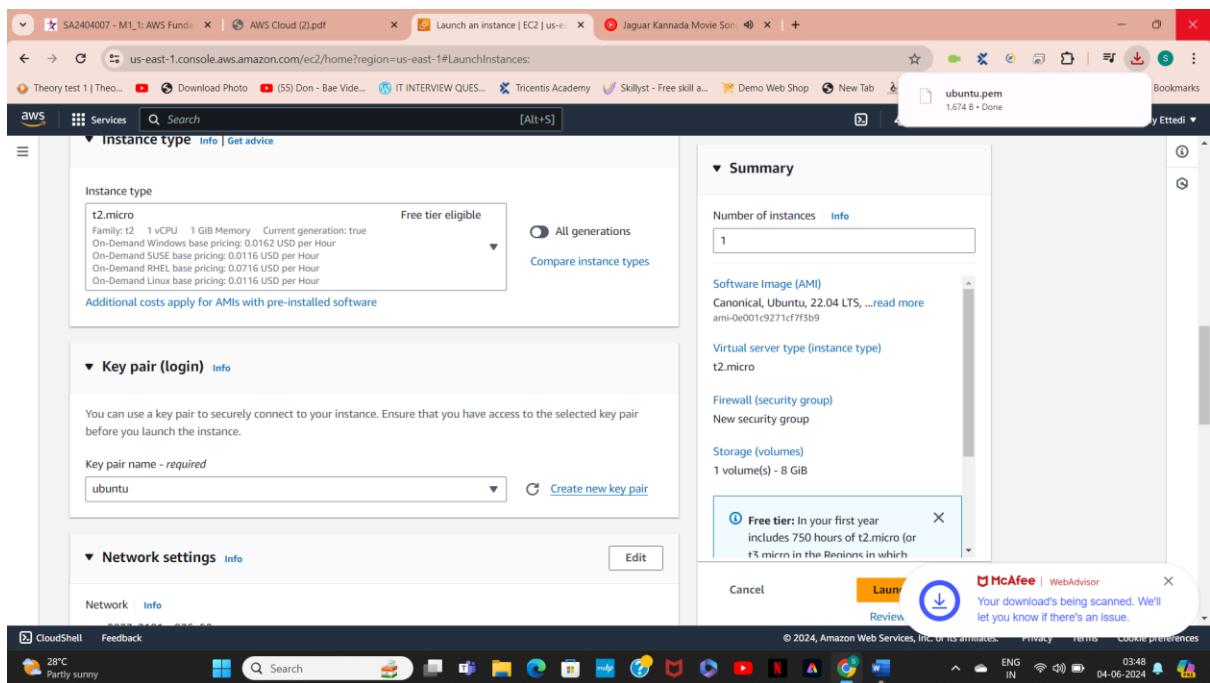
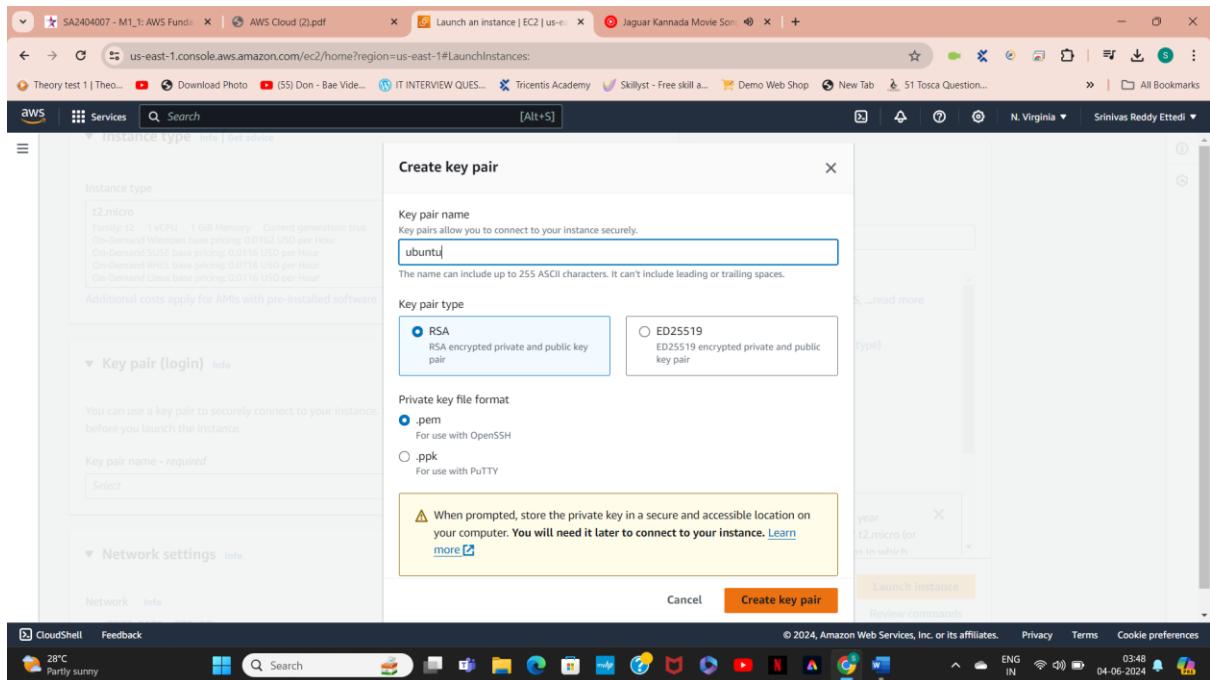


5. Here the architecture is X86

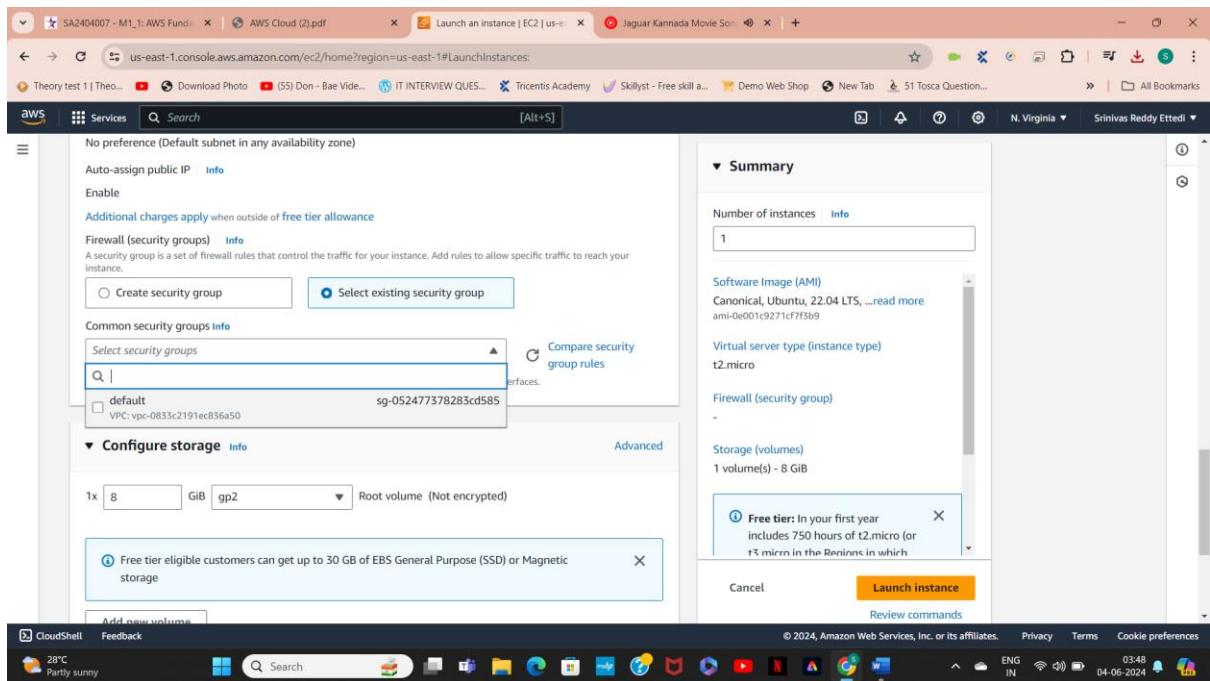


6. Here you need to generate a Key pair. I'm giving the name as ubuntu and the extension is .pem and click on create Key pair as shown below

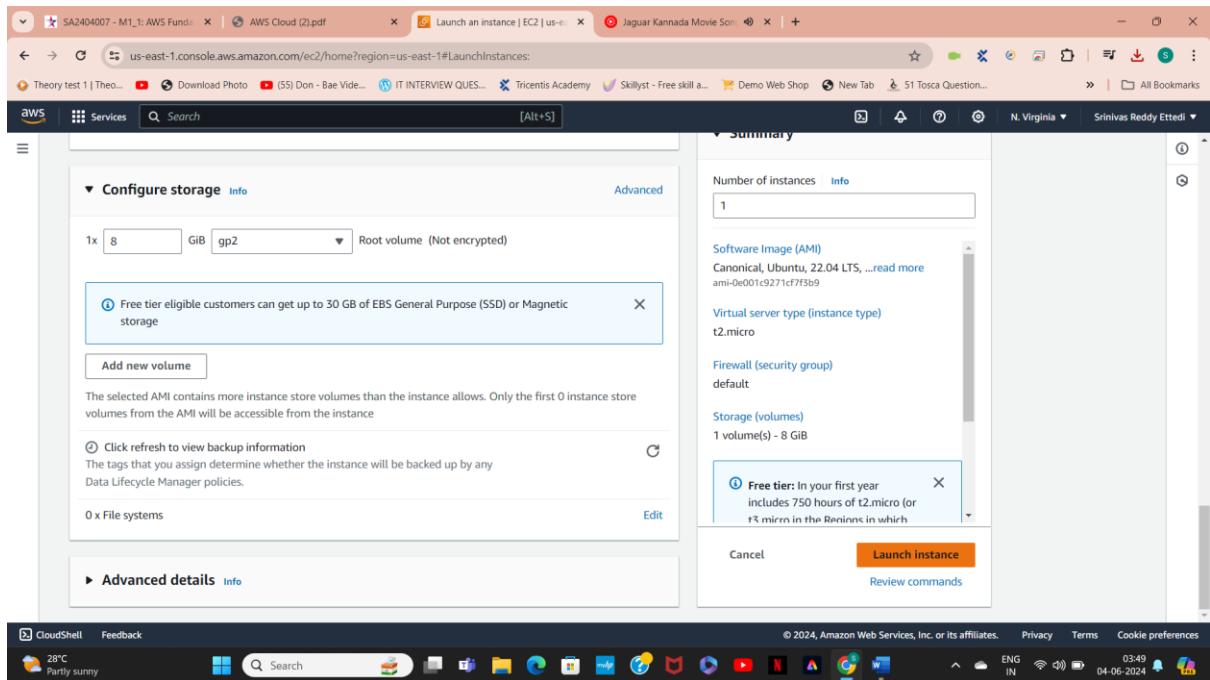


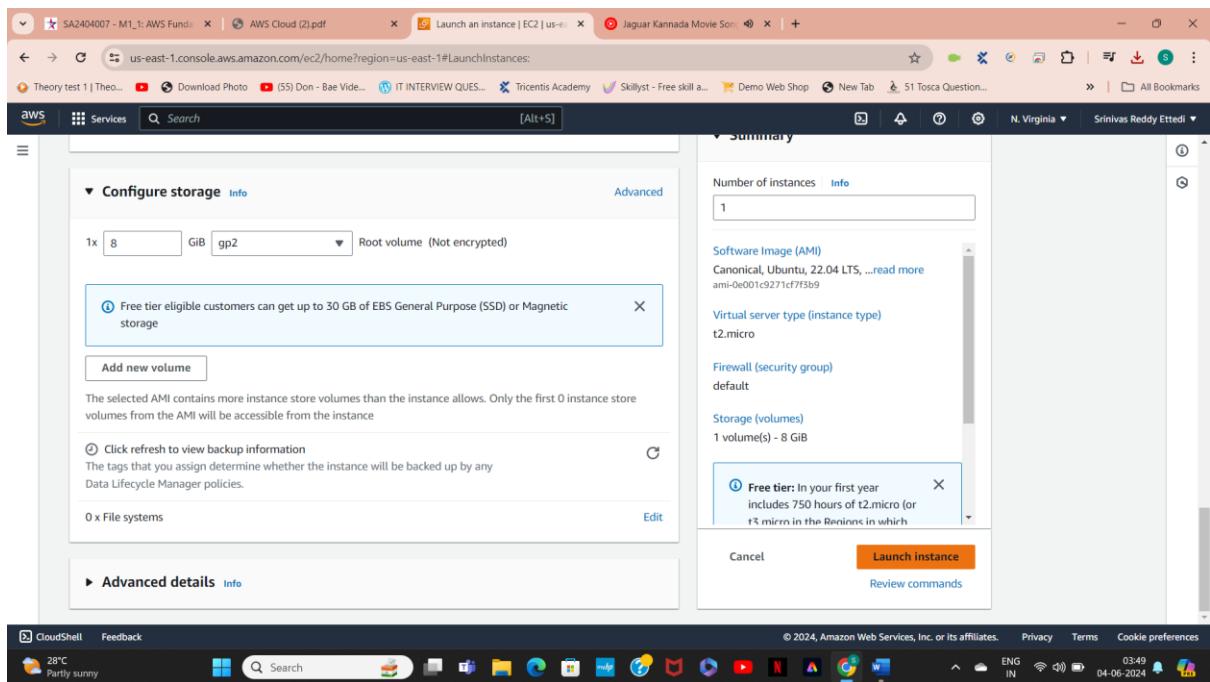


## 7. Here select the default security Group

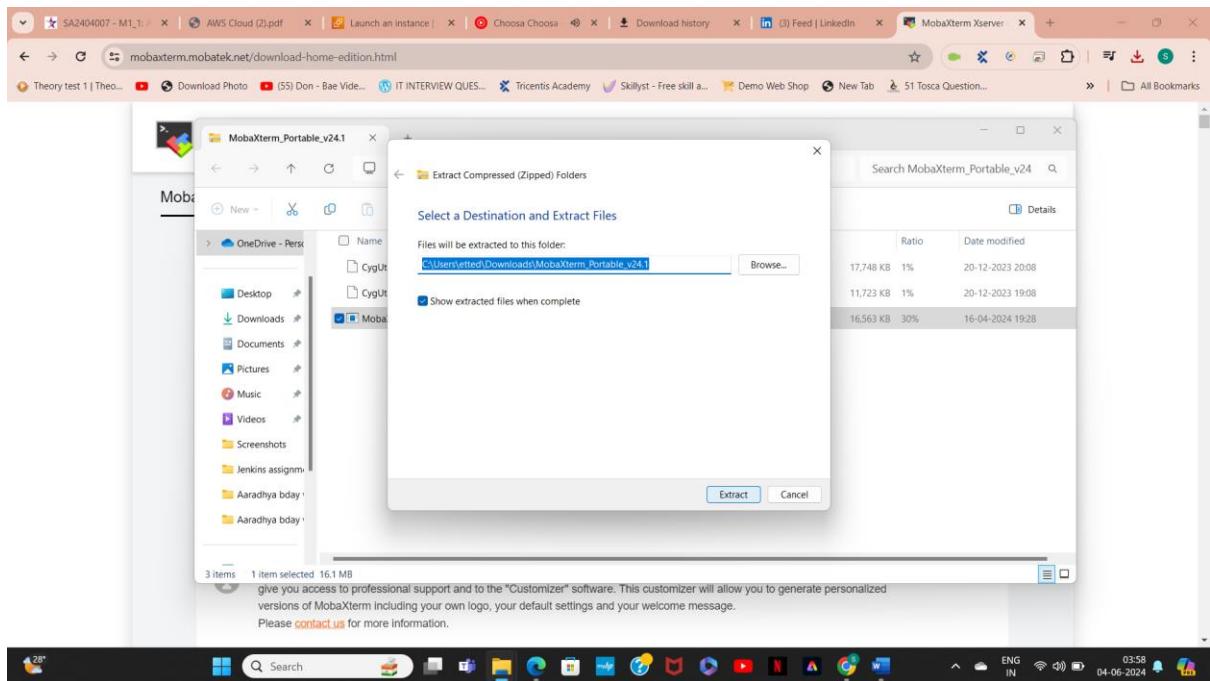


## 8. It is using the 8gb storage and click on Launch instance

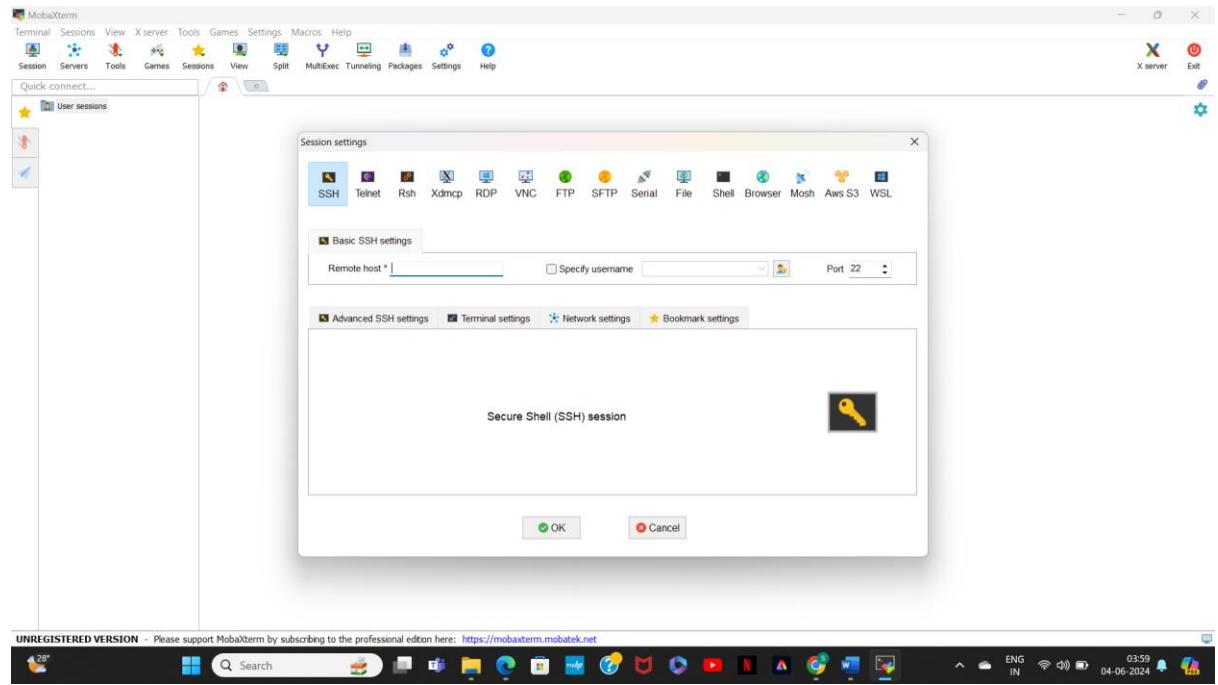




## 10. After downloading the mobaxterm click on extract from it



11. Here click on the session and ssh In the Remote host paste the ip address of the instance



Screenshot of the AWS Cloud Console showing the Instance details page for an EC2 instance.

The instance ID is i-0fdece97372cb7adc (ubuntu). The public IPv4 address is 54.242.104.46, and the private IPv4 address is 172.31.23.92. The instance state is Running. The VPC ID is vpc-0833c2191ec836a50. The subnet ID is subnet-09b7741b756d96105. The instance ARN is arn:aws:ec2:us-east-1:891377359114:instance/i-0fdece97372cb7adc.

The instance type is t2.micro, and the IAM Role is Required. The instance has an Auto-assigned IP address (54.242.104.46) and an IMDSv2 role.

Other tabs visible include Status and alarms, Monitoring, Security, Networking, Storage, and Tags.

Screenshot of the AWS Cloud Console showing the Instance details page for an EC2 instance.

The instance ID is i-0fdece97372cb7adc (ubuntu). The public IPv4 address is 54.242.104.46, and the private IPv4 address is 172.31.23.92. The instance state is Running. The VPC ID is vpc-0833c2191ec836a50. The subnet ID is subnet-09b7741b756d96105. The instance ARN is arn:aws:ec2:us-east-1:891377359114:instance/i-0fdece97372cb7adc.

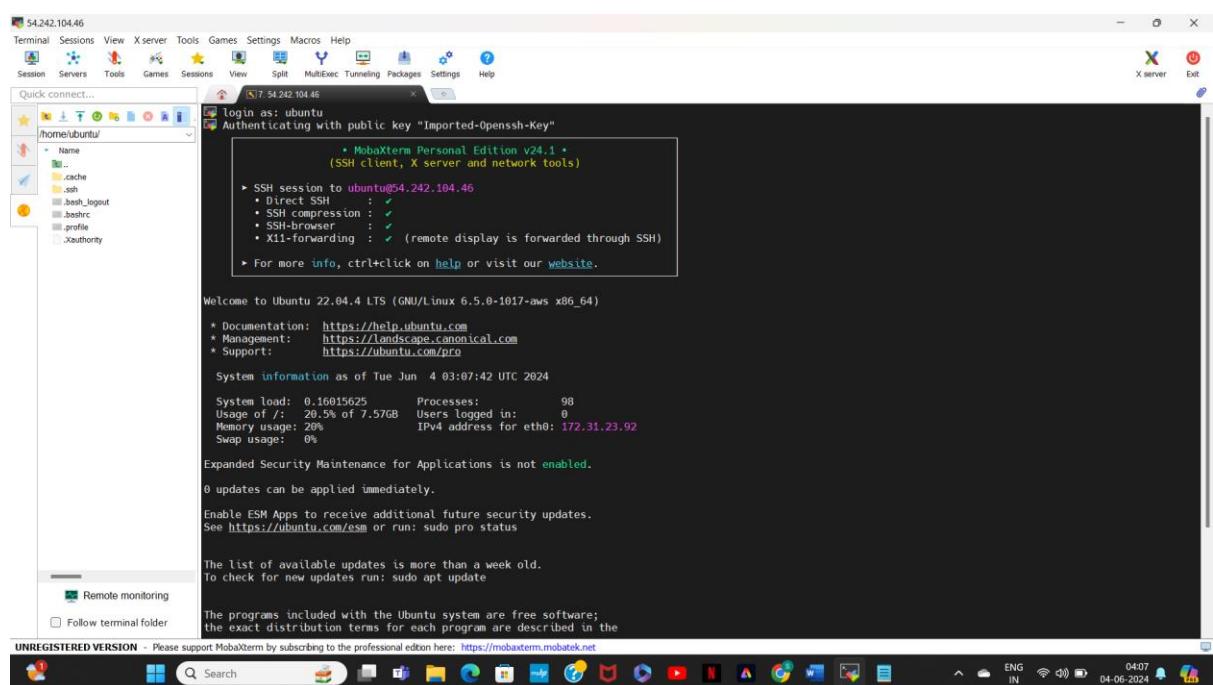
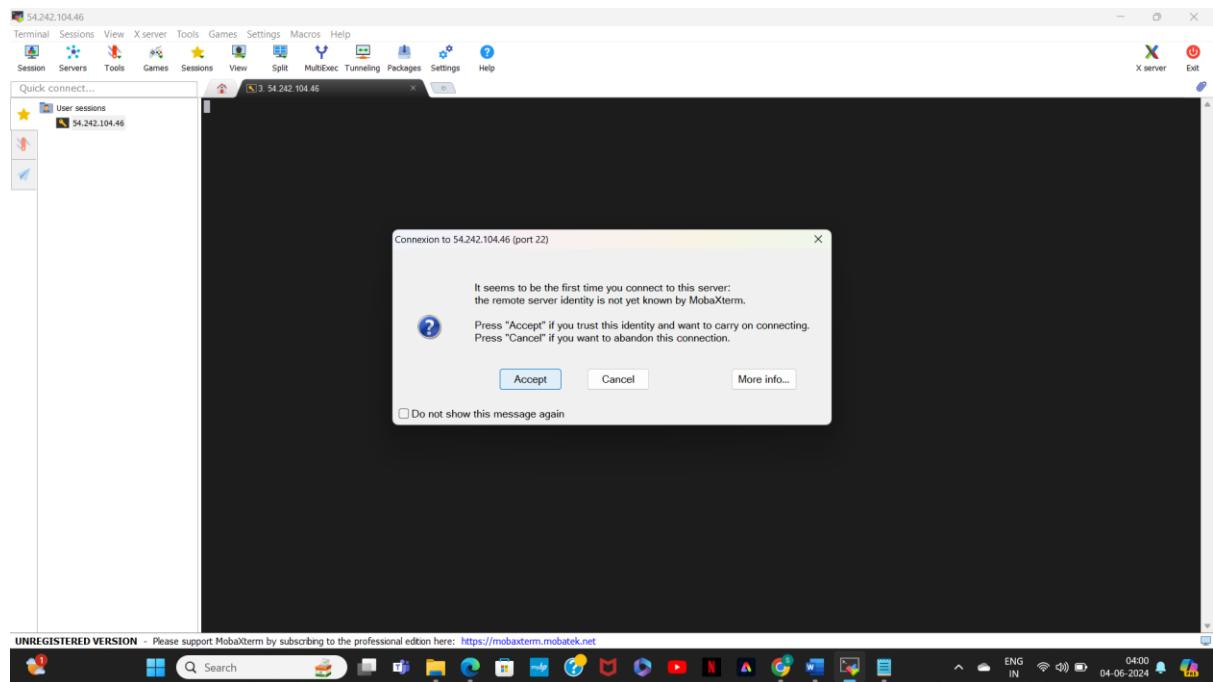
The instance type is t2.micro, and the IAM Role is Required. The instance has an Auto-assigned IP address (54.242.104.46) and an IMDSv2 role.

Other tabs visible include Status and alarms, Monitoring, Security, Networking, Storage, and Tags.

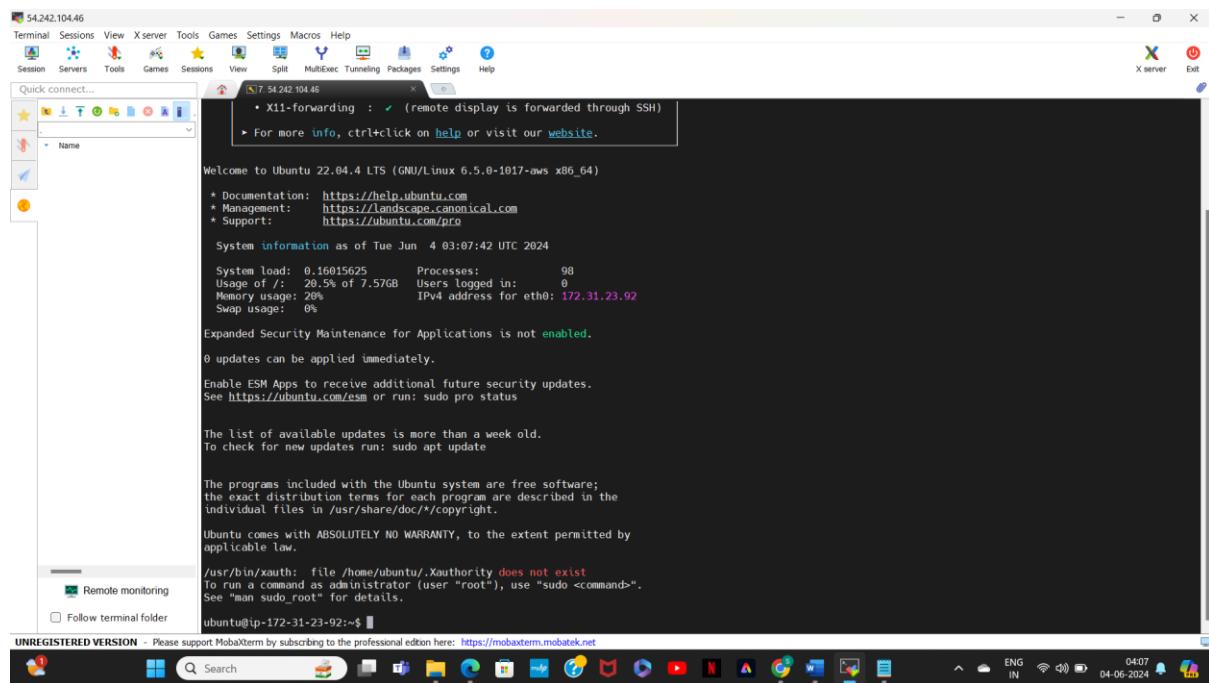


12.And in the advanced Settings paste the pem key and click on it

13.After entering click on ok .Accept it and Login as user: ubuntu



14.In the below figure the instance is connected via the mobaxterm

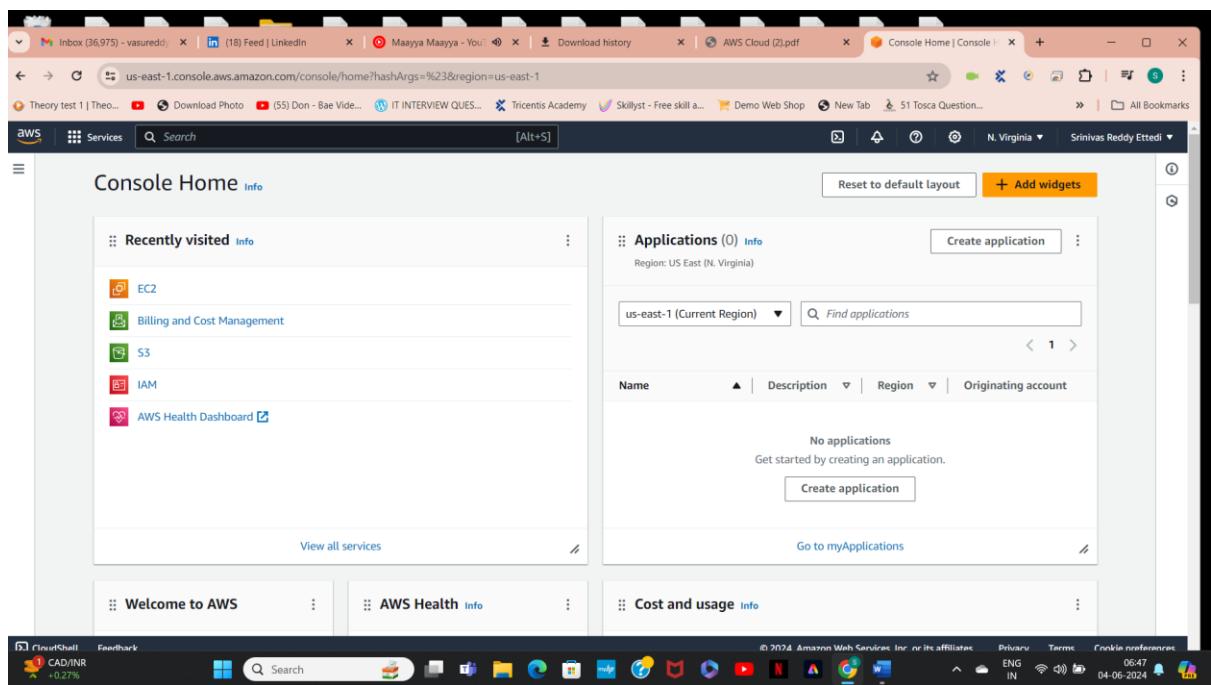


## L2 - Login to AWS Console and Create IAM User, Role, and Group.

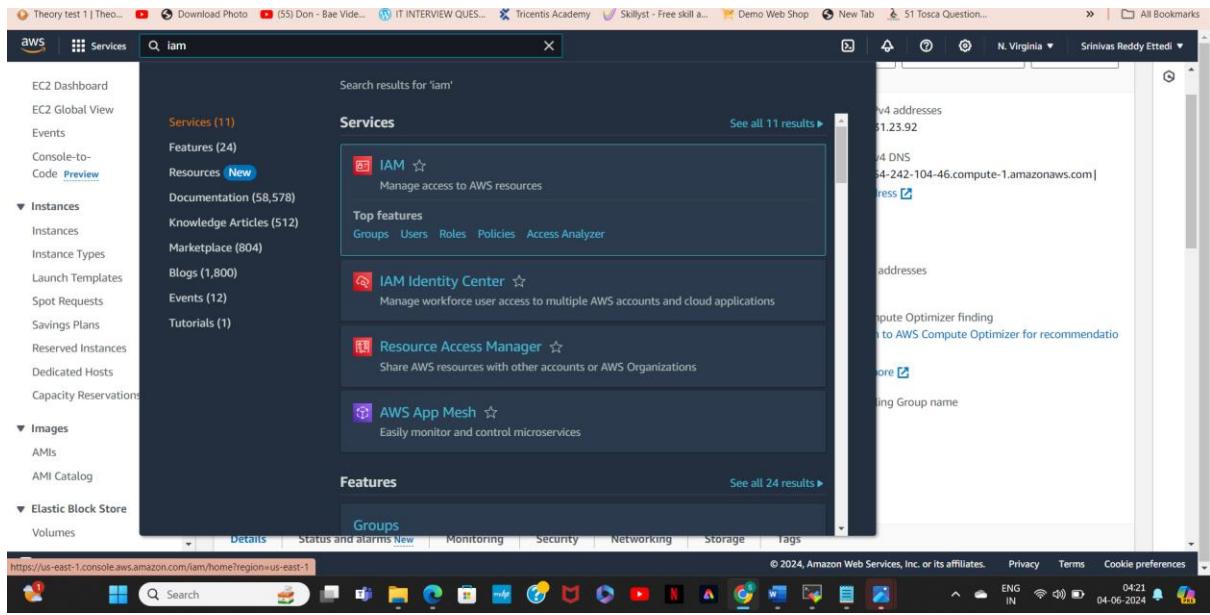
**Sol:**

## Steps:

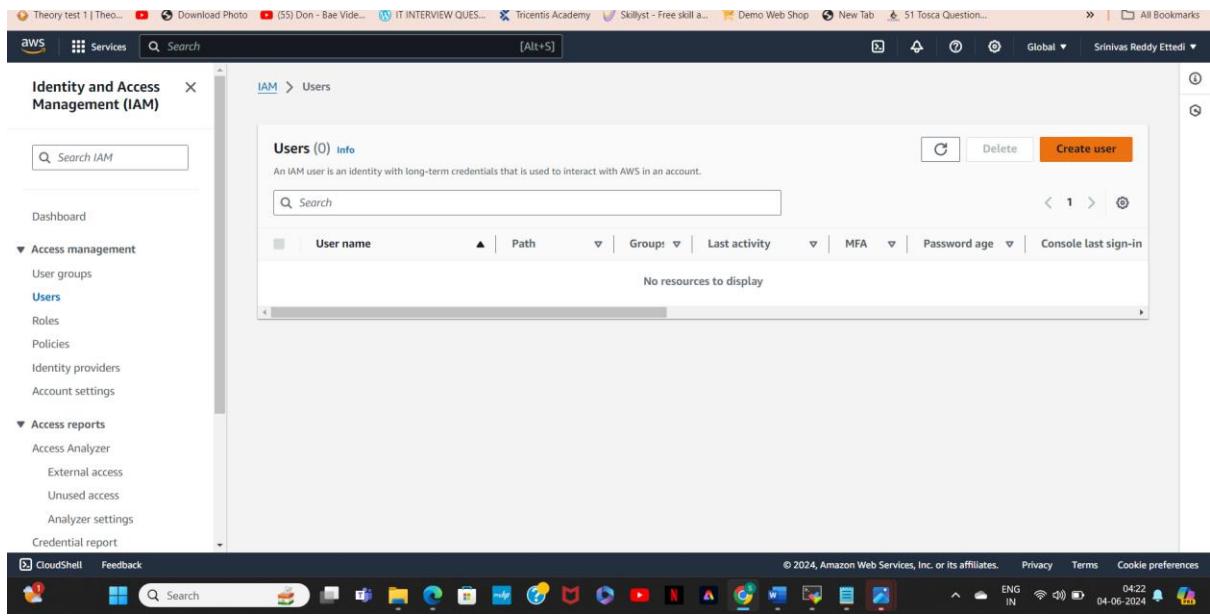
### 1. Login to the Amazon console as shown below



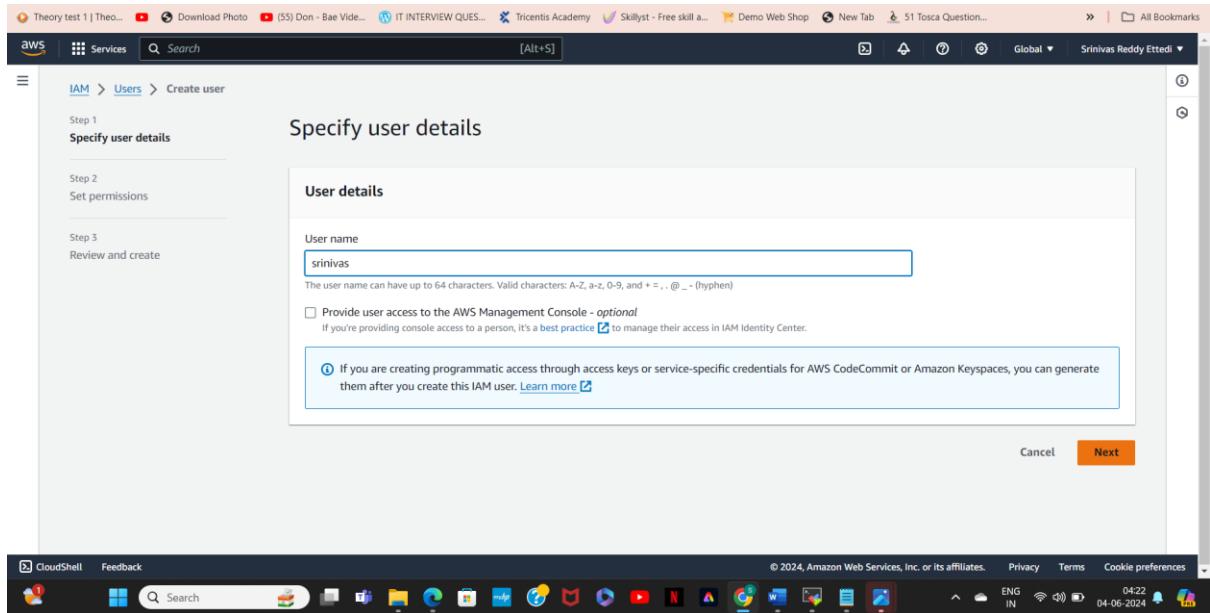
### 2. In the search bar IAM



### 3. Here click on create user



## 4. Here I'm naming the user as srinivas and click on next



## 3.click on add user to group and select the set permissions

The screenshot shows the AWS IAM 'Create user' wizard. The current step is 'Set permissions'. The 'Add user to group' option is selected. A callout box titled 'Get started with groups' provides instructions on creating a group and selecting policies to attach to it. Buttons for 'Cancel', 'Previous', and 'Next' are at the bottom.

This screenshot is identical to the one above, showing the 'Set permissions' step of the AWS IAM 'Create user' wizard. It includes the 'Add user to group' selection, the 'Get started with groups' callout, and the navigation buttons at the bottom.

## 5. Here click on create user

The screenshot shows the 'User details' section with the user name 'srinivas'. Under 'Console password type', 'None' is selected, and 'Require password reset' is set to 'No'. Below this is the 'Permissions summary' table, which is currently empty, showing 'No resources'. At the bottom, there is a 'Tags - optional' section with a note about key-value pairs for identification. A 'Add new tag' button is available, with a limit of 50 tags mentioned. Navigation buttons include 'Cancel', 'Previous', and a prominent orange 'Create user' button.

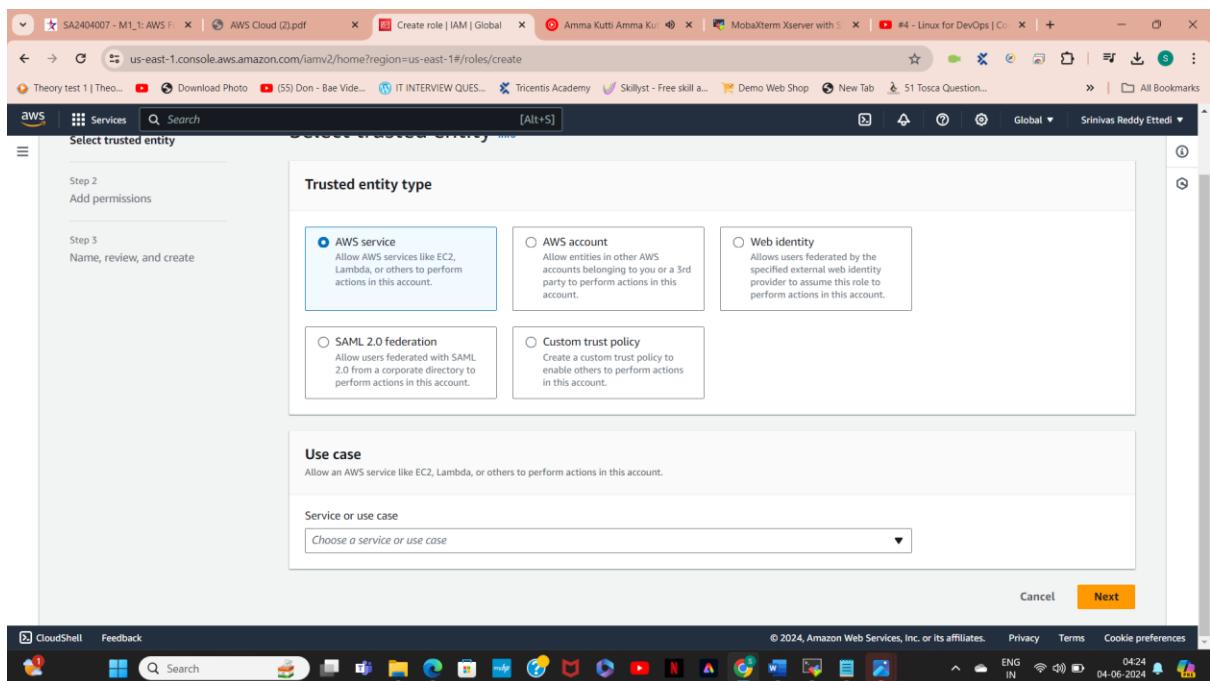
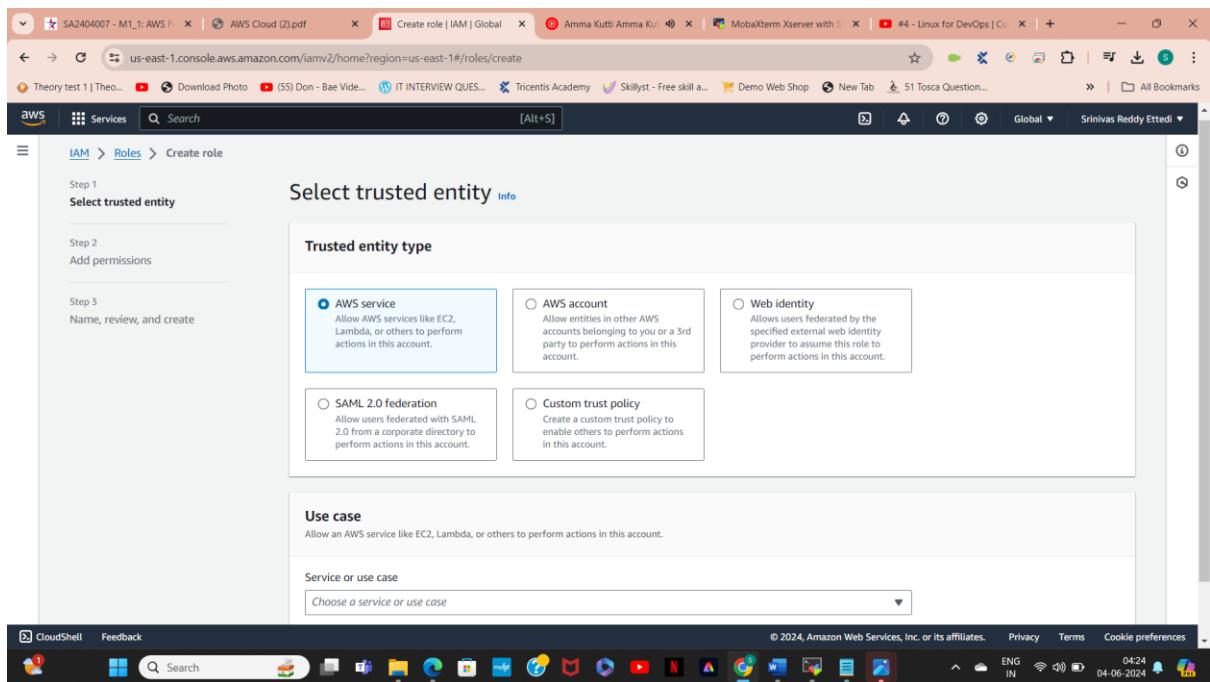
## 6. Here you can see the user created successfully

The screenshot shows the 'User created successfully' message at the top, indicating the user 'srinivas' was created. The main view displays the 'Users (1) Info' section, which includes a table with one row for 'srinivas'. The table columns are: User name, Path, Groups, Last activity, MFA, Password age, and Console last sign-in. The 'srinivas' row shows a path of '/' and 0 groups. Navigation buttons 'Search', '< 1 >', and a refresh icon are visible above the table. The left sidebar shows the 'Identity and Access Management (IAM)' navigation menu with sections like Dashboard, Access management, Access reports, and Credential report. The 'Users' section is currently selected. The bottom of the screen shows the Windows taskbar with various pinned icons and system status.

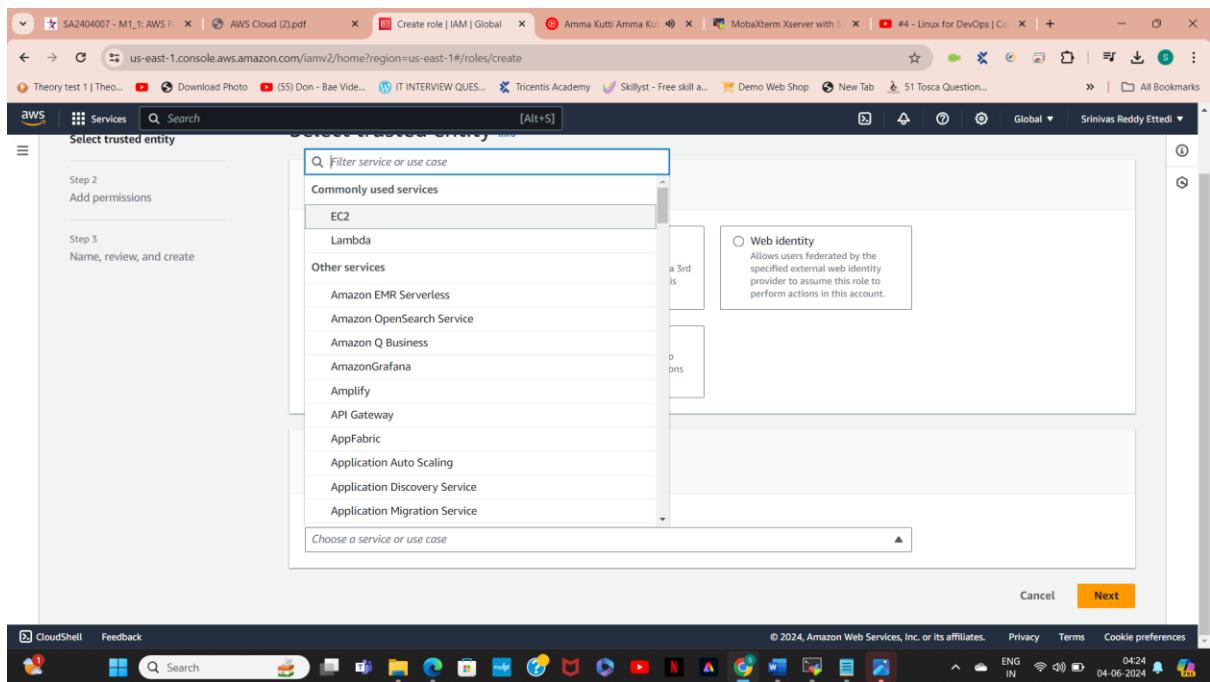
## 7. Here click on create role

The screenshot shows the AWS IAM Roles page. On the left, there's a sidebar with navigation links like Dashboard, Access management, Roles, Policies, Identity providers, Account settings, Access reports, and Credential report. The main area has a heading 'Roles (2) Info'. It lists two roles: 'AWSRoleForSupport' and 'AWSRoleForTrustedAdvisor'. Both roles are associated with the 'AWS Service: support (Service-Linker)' and 'AWS Service: trustedadvisor (Service-Linker)'. Below this, there's a section titled 'Roles Anywhere' with three options: 'Access AWS from your non AWS workloads', 'X.509 Standard', and 'Temporary credentials'. At the top right of the main area, there's a 'Create role' button. The browser address bar shows the URL: <https://us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-1#/roles>.

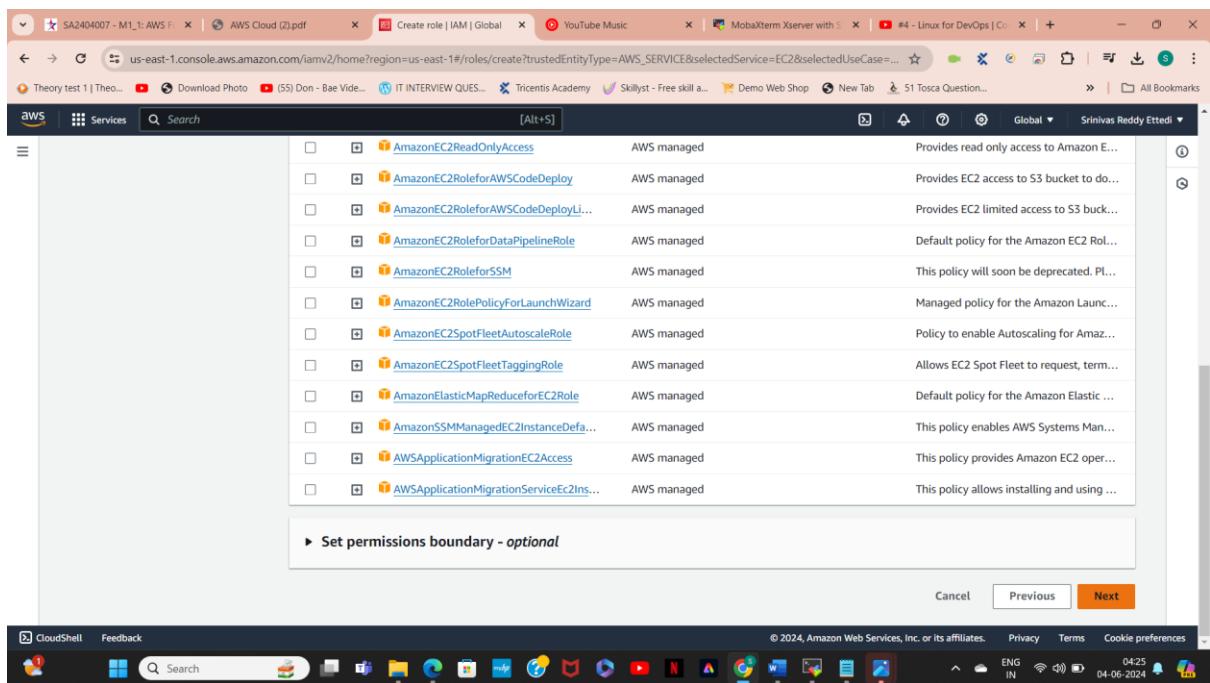
## 8. I'm selecting the service



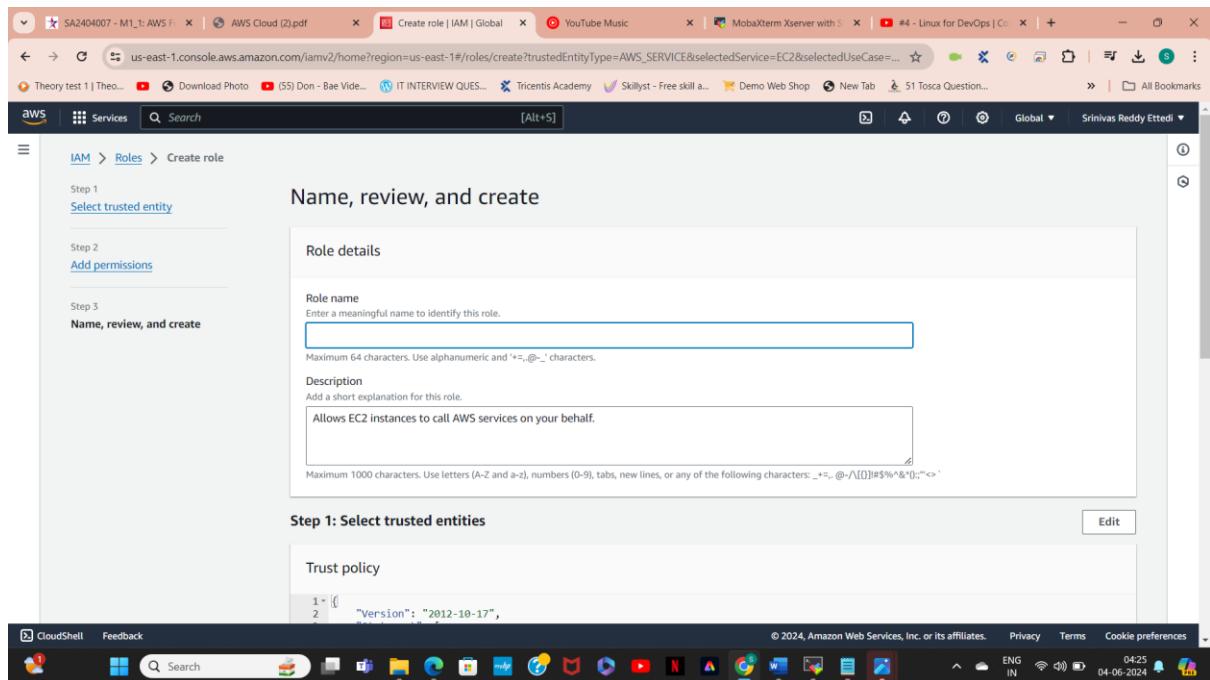
## 9.Im using the ec2



## 10.click on next



## 11. Here you need to select the name im giving name as the sri nivas reddy



The screenshot shows the AWS IAM 'Create role' wizard. The current step is 'Step 1: Select trusted entities'. The 'Role details' section has the 'Role name' field set to 'srinivasreddy' and the 'Description' field containing 'Allows EC2 instances to call AWS services on your behalf.'. The 'Trust policy' section displays a JSON policy document:

```
1 - [ {  
2 -   "Version": "2012-10-17",  
3 -     "Statement": [ {  
4 -       "Effect": "Allow",  
5 -         "Principal": "*",  
6 -           "Action": "sts:AssumeRole"  
7 -     } ]  
8 - } ]  
9 - ]
```

## 12.click on create role

The screenshot shows the 'Create role' wizard at Step 2: 'Add permissions'. The 'Permissions policy summary' table is empty. The 'Step 3: Add tags' section contains an optional info message about tags and a button to 'Add new tag'.

Add tags - optional Info  
Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.  
No tags associated with the resource.  
Add new tag  
You can add up to 50 more tags.

Cancel Previous Create role

## 13.the role has created successfully

The screenshot shows the AWS IAM Roles page. At the top, a green banner displays the message "Role srinivasreddy created." Below this, the "Roles (3) Info" section shows a table with one row for the "srinivasreddy" role. The table columns are "Role name" (with "srinivasreddy" selected), "Trusted entities" (empty), and "Last activity" (empty). A note states: "An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust." Below the table, the "Roles Anywhere" section provides options for non-AWS workload access: "Access AWS from your non AWS workloads" (using X.509 Standard or Certificate Manager Private Certificate Authority), and "Temporary credentials" (using temporary credentials for enhanced security).

## 14.here select the user srinivas

The screenshot shows the AWS Identity and Access Management (IAM) console. The left sidebar is titled 'Identity and Access Management (IAM)' and includes a search bar and a dashboard link. Under 'Access management', the 'Users' link is selected, which is highlighted in blue. Other options include 'User groups', 'Roles', 'Policies', 'Identity providers', and 'Account settings'. The main content area is titled 'Users (1) Info' and contains a table with one row for 'srinivas'. The table columns are 'User name', 'Path', 'Groups', 'Last activity', 'MFA', 'Password age', and 'Console last sign-in'. A 'Create user' button is located at the top right of the table. The browser address bar shows the URL: <https://us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/users>. The bottom status bar shows the date and time as 20-06-2024 11:25.

## 15.Click on user group and click on create group

The screenshot shows the AWS IAM console again. The left sidebar is identical to the previous one, with 'User groups' being the active link under 'Access management'. The main content area is titled 'User groups (0) Info' and contains a table with no data. The table columns are 'Group name', 'Users', 'Permissions', and 'Creation time'. A 'Create group' button is located at the top right of the table. The browser address bar shows the URL: <https://us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/groups>. The bottom status bar shows the date and time as 20-06-2024 11:25.

## 16.Im giving the name as the srinivas reddy

The screenshot shows the 'Create user group' page in the AWS IAM console. The 'User group name' field is filled with 'srinivasreddy'. In the 'Add users to the group' section, there is one user listed: 'srinivas'. The 'Attach permissions policies' section is currently empty.

## 17.Click on create user group

The screenshot shows the 'Create user group' page with a list of managed policies on the right side. The 'Create user group' button is highlighted in orange at the bottom right.

Policy Name	Type	Last updated	Description
AlexaForBusinessLife...	AWS managed	None	Provide access to Lifesize AVS devices
AlexaForBusinessPoly...	AWS managed	None	Provide access to Poly AVS devices
AlexaForBusinessRead...	AWS managed	None	Provide read only access to AlexaForB...
AmazonAPIGatewayA...	AWS managed	None	Provides full access to create/edit/delete...
AmazonAPIGatewayIn...	AWS managed	None	Provides full access to invoke APIs in A...
AmazonAPIGatewayP...	AWS managed	None	Allows API Gateway to push logs to us...
AmazonAppFlowFullA...	AWS managed	None	Provides full access to Amazon AppFlo...
AmazonAppFlowRead...	AWS managed	None	Provides read only access to Amazon A...
AmazonAppStreamFu...	AWS managed	None	Provides full access to Amazon AppStr...
AmazonAppStreamPC...	AWS managed	None	Amazon AppStream 2.0 access to AWS...
AmazonAppStreamRe...	AWS managed	None	Provides read only access to Amazon A...
AmazonAppStreamSe...	AWS managed	None	Default policy for Amazon AppStream ...
AmazonAthenaFullAcc...	AWS managed	None	Provide full access to Amazon Athena ...
AmazonAugmentedAI...	AWS managed	None	Provides access to perform all operati...

## 18.here you can see the user group has created

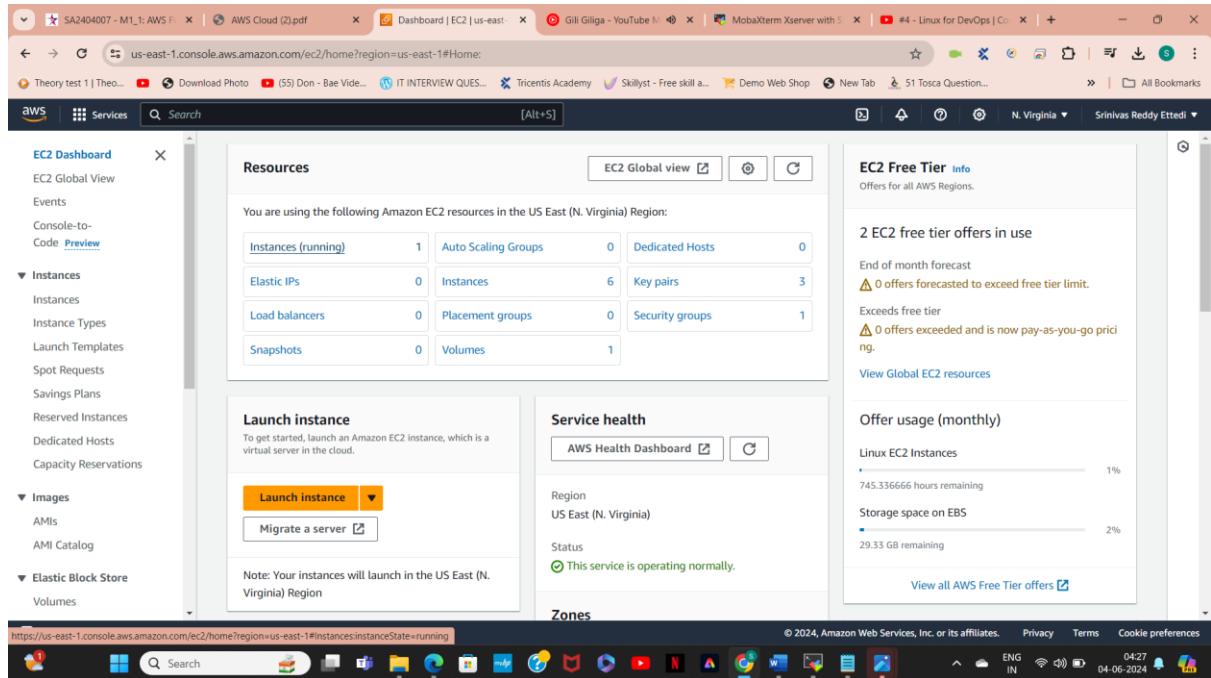
The screenshot shows the AWS Identity and Access Management (IAM) console. The left sidebar is titled 'Identity and Access Management (IAM)' and includes sections for Dashboard, Access management (User groups, Users, Roles, Policies, Identity providers, Account settings), and Access reports (Access Analyzer, External access, Unused access, Analyzer settings, Credential report). The main content area is titled 'User groups (1) Info' and displays a table with one row:

Group name	Users	Permissions	Creation time
srinivasreddy	1	Not defined	Now

A green banner at the top of the main content area says 'srinivasreddy user group created.' There is a 'Create group' button in the top right corner of the table header. A tooltip for the 'srinivasreddy' group shows its ARN: `arn:aws:iam::123456789012:group/srinivasreddy`. The bottom right corner of the screen shows a WhatsApp window with a message from 'Akka' containing a link to a job posting.

# L3s- Launch AWS EC2 Ubuntu Instance and configure the Security Group - Inbound Rule: 8080. Justify the usage of Inbound Rules

1in the aws console click on launch instance



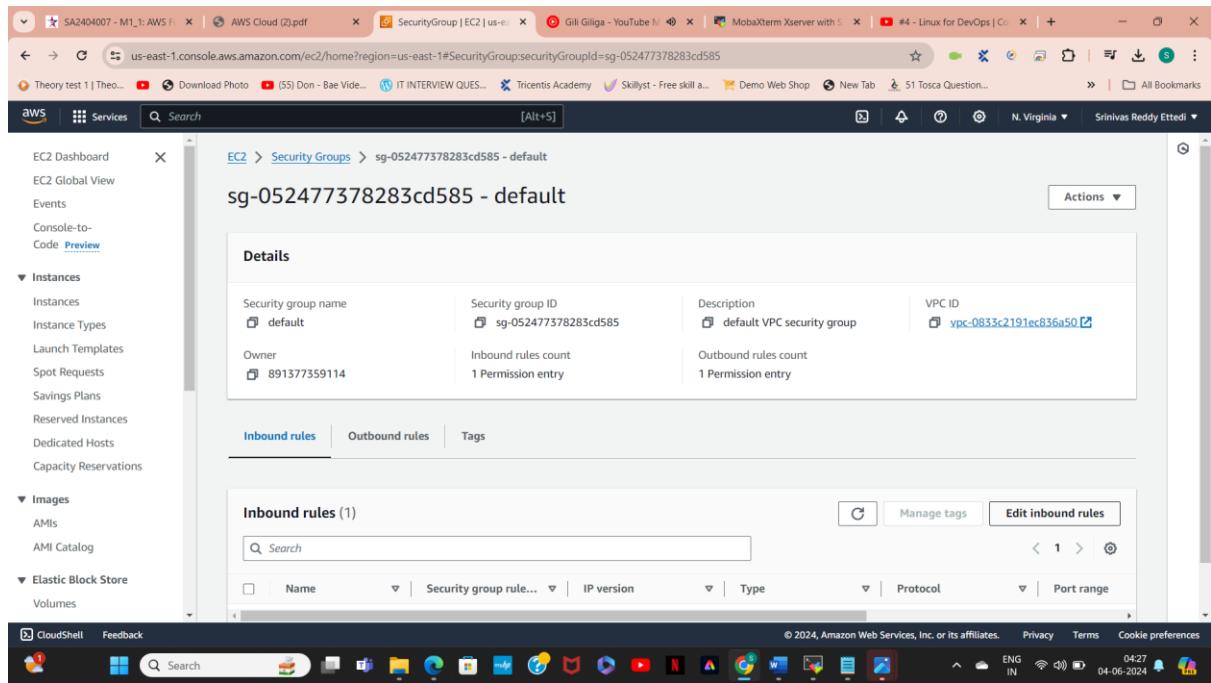
2.After the instance is running as shown in the below figure

The screenshot shows the AWS EC2 Instances page. On the left, a sidebar lists various EC2-related options like Dashboard, Global View, Events, Instances, Images, and Elastic Block Store. The main content area displays a table titled 'Instances (1) Info' with one row for an 'ubuntu' instance. The instance details are: Name: ubuntu, Instance ID: i-0fdece97372cb7adc, Instance state: Running, Instance type: t2.micro, Status check: 2/2 checks passed, Alarm status: View alarms, Availability Zone: us-east-1b, and Public IPv4 DNS: ec2-54-242-104. Below the table, a modal window titled 'Select an instance' is open, showing the same 'ubuntu' entry. The browser's address bar shows the URL: https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstancesinstanceState=running.

### 3. Here you need to change the security to allow the traffic

The screenshot shows the AWS Instance Details page for the 'ubuntu' instance. The left sidebar is identical to the previous screenshot. The main content area has tabs for Details, Status and alarms, Monitoring, Security, Networking, Storage, and Tags. The Security tab is selected. Under the Security tab, there are sections for Auto-assigned IP address (54.242.104.46 [Public IP]), VPC ID (vpc-0833c2191ec836a50), IAM Role (None), Subnet ID (subnet-09b7741b756d96105), and Auto Scaling Group name (None). The Details tab is selected, showing instance metadata such as Platform (Ubuntu (Inferred)), Platform details (Linux/UNIX), Stop protection (Disabled), AMI ID (ami-0e001c9271cf7f3b9), AMI name (ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20240411), Launch time (Tue Jun 04 2024 03:49:12 GMT+0100 (British Summer Time) (38 minutes)), and AMI location (amazon/ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20240411). The browser's address bar shows the URL: https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstanceDetailsinstanceId=i-0fdece97372cb7adc.

## 4.click on edit inbound roles



## 5.select the custom t cp and allow the port 80 to allow the traffic

Screenshot of the AWS Cloud Console showing the 'Edit inbound rules' page for a security group. The page displays an 'Inbound rules' table with two rows:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0a407a33bc0276f11	HTTP	TCP	0	Custom	0.0.0.0/0

A sidebar on the left lists various inbound rule types: All ICMP - IPv4, All ICMP - IPv6, All traffic, SSH, SMTP, DNS (UDP), DNS (TCP), HTTP, POP3, and Custom TCP. A search bar at the top is set to 'Inbound'. A warning message at the bottom states: '⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.' Buttons for 'Cancel', 'Preview changes', and 'Save rules' are at the bottom right.

Screenshot of the AWS Cloud Console showing the 'Edit inbound rules' page for a security group. The page displays an 'Inbound rules' table with one row:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-00c76c60b551959e8	HTTP	TCP	80	Custom	0.0.0.0/0

A sidebar on the left lists various inbound rule types: All ICMP - IPv4, All ICMP - IPv6, All traffic, SSH, SMTP, DNS (UDP), DNS (TCP), HTTP, POP3, and Custom TCP. A search bar at the top is set to 'Inbound'. A warning message at the bottom states: '⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.' Buttons for 'Cancel', 'Preview changes', and 'Save rules' are at the bottom right.

The screenshot shows the AWS CloudShell interface with the Lambda function configuration page open. The Lambda function name is 'HelloWorld'. The configuration tab is selected, showing the code in the Handler field:

```
function handler(event, context) {
```

The Lambda function is triggered by an S3 event, and the role is 'Lambda execution role'.

The screenshot shows the AWS CloudShell interface with the Lambda function configuration page open. The Lambda function name is 'HelloWorld'. The configuration tab is selected, showing the code in the Handler field:

```
function handler(event, context) {
```

The Lambda function is triggered by an S3 event, and the role is 'Lambda execution role'.

## 8.here you can see the inbound security group rules success

The screenshot shows the AWS EC2 Security Groups interface. A green success message at the top states: "Inbound security group rules successfully modified on security group (sg-052477378283cd585 | default)". Below this, the "Details" section for the security group "sg-052477378283cd585 - default" is displayed. The "Inbound rules" tab is selected, showing two entries:

Source IP Range	Protocol	Port Range	Action
0.0.0.0/0	TCP	22	Allow
0.0.0.0/0	TCP	80	Allow

The "Outbound rules" and "Tags" tabs are also visible. The left sidebar lists various AWS services like EC2 Dashboard, Instances, Images, and Elastic Block Store.

## **L4.Connect to the AWS EC2 Ubuntu Instance and Update default packages, install JDK, Maven, Git, and validate the versions**

### **Steps**

The screenshot shows the AWS Cloud console interface. The main content area displays the 'Instance summary for i-0fdece97372cb7adc (ubuntu)' page. The instance is currently running. Key details shown include:

- Instance ID:** i-0fdece97372cb7adc (ubuntu)
- Public IPv4 address:** 54.242.104.46
- Private IPv4 address:** 172.31.23.92
- Public IP DNS:** ec2-54-242-104-46.compute-1.amazonaws.com
- Hostname type:** IP name: ip-172-31-23-92.ec2.internal
- Instance type:** t2.micro
- VPC ID:** vpc-0833c2191ec836a50
- Subnet ID:** subnet-09b7741b756d96105
- Auto Scaling Group name:** -

The left sidebar shows navigation links for EC2 Dashboard, EC2 Global View, Events, Console-to-Code Preview, Instances (selected), Images, AMIs, AMI Catalog, and Elastic Block Store Volumes.

## Steps:

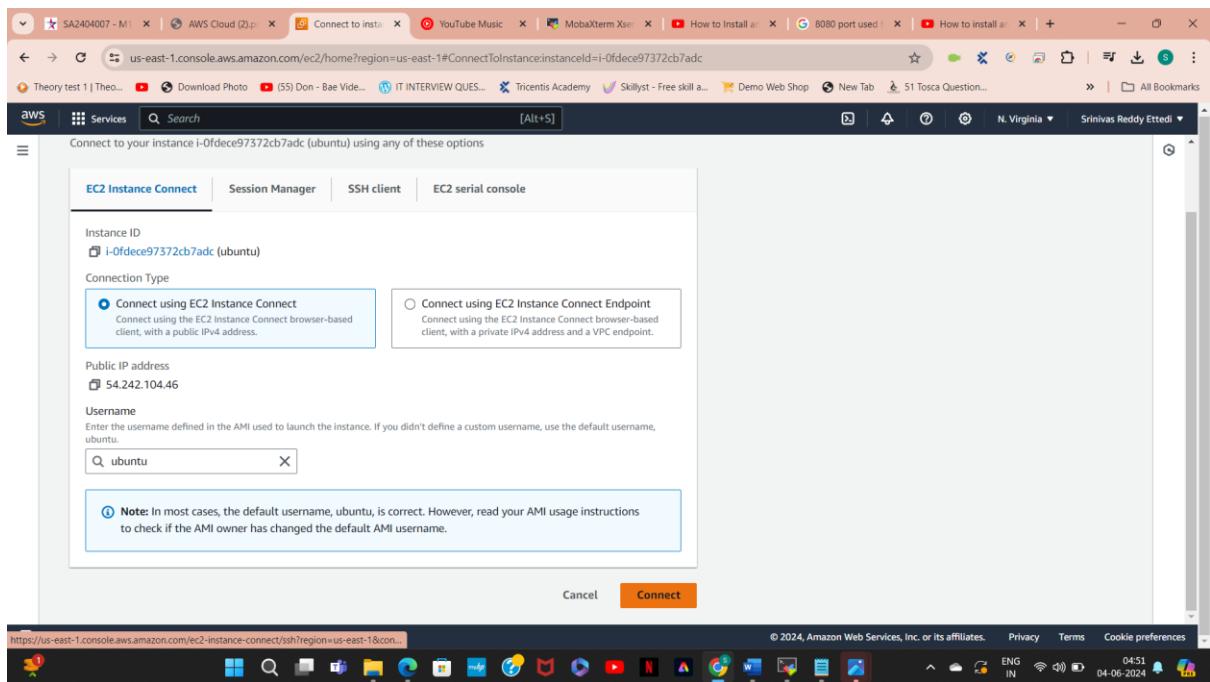
1. After Launching the instances u can see the instance

The screenshot shows the AWS Cloud console interface. The left sidebar is collapsed. The main content area is titled "Instance summary for i-0fdece97372cb7adc (ubuntu)" and includes a "Info" link. The table contains the following data:

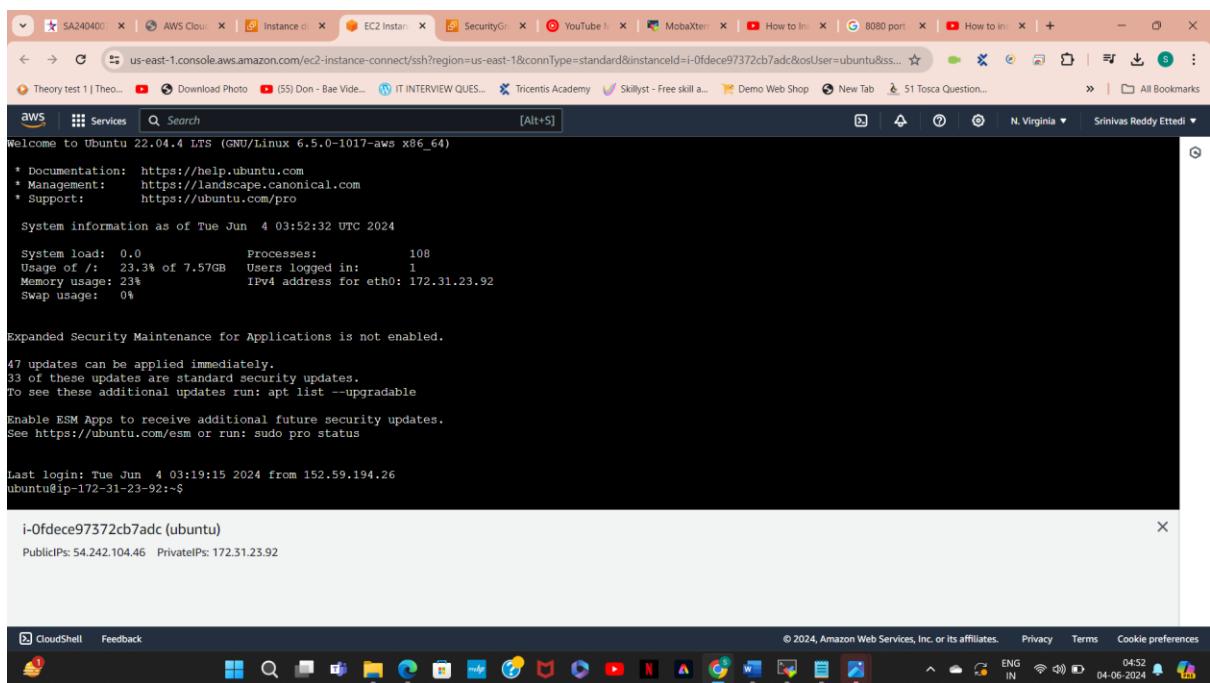
Attribute	Value
Instance ID	i-0fdece97372cb7adc (ubuntu)
IPv6 address	-
Hostname type	IP name: ip-172-31-23-92.ec2.internal
Answer private resource DNS name (IPv4 (A))	ip-172-31-23-92.ec2.internal
Auto-assigned IP address	54.242.104.46 [Public IP]
IAM Role	-
IMDSv2 Required	-
Public IP4 address	54.242.104.46   open address
Instance state	Running
Private IP4 DNS name (IPv4 only)	ip-172-31-23-92.ec2.internal
Instance type	t2.micro
VPC ID	vpc-0833c2191ec836a50
Subnet ID	subnet-09b7741b756d96105
Instance ARN	arn:aws:ec2:us-east-1:891377359114:instance/i-0fdece97372cb7adc
Private IPv4 addresses	172.31.23.92
Public IPv4 DNS	ec2-54-242-104-46.compute-1.amazonaws.com   open address
Elastic IP addresses	-
AWS Compute Optimizer finding	<a href="#">Opt-in to AWS Compute Optimizer for recommendations.</a>
Auto Scaling Group name	-

At the bottom of the page, there are links for "Privacy", "Terms", and "Cookie preferences". The status bar shows the URL as "https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance\$instanceId=i-0fdece97372cb7adc", the date "04-06-2024", and the time "04:51".

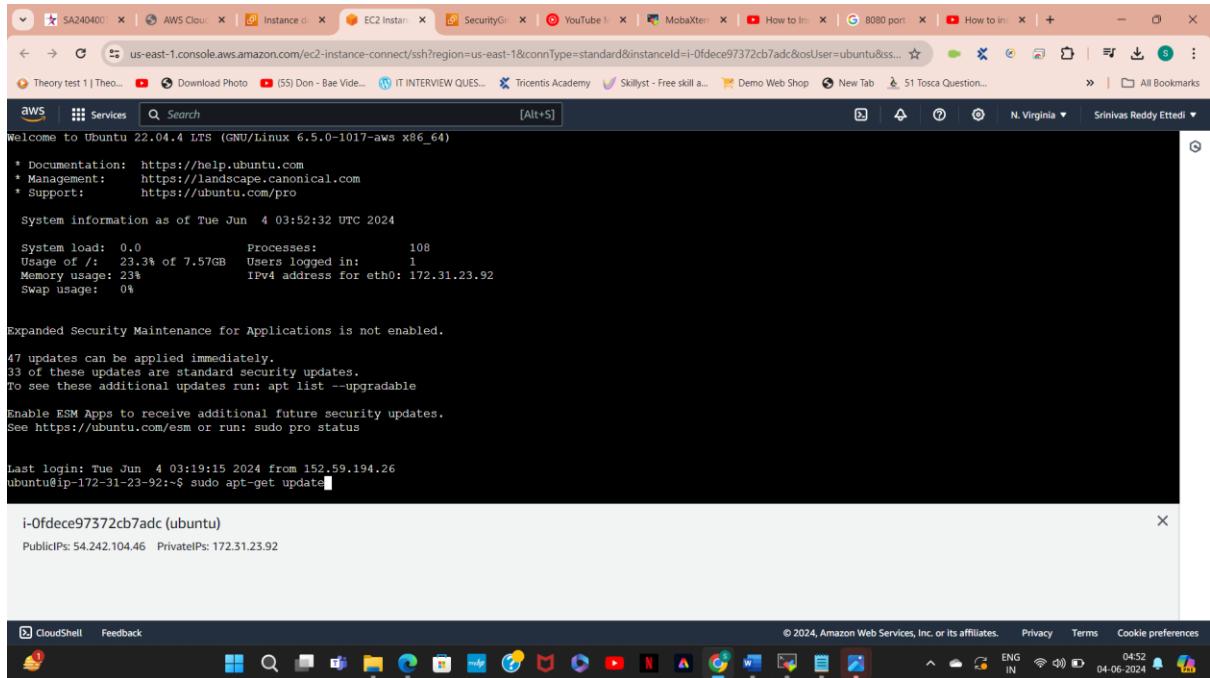
2.Then go the connect instance and click on connect



### 3. Here u can see the instance has been connected



## 4.Then update the system by using the sudo apt-get update



```
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.5.0-1017-aws x86_64)

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

System information as of Tue Jun 4 03:52:32 UTC 2024
System load: 0.0 Processes: 108
Usage of '/': 23.3% of 7.57GB Users logged in: 1
Memory usage: 23% IPv4 address for eth0: 172.31.23.92
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

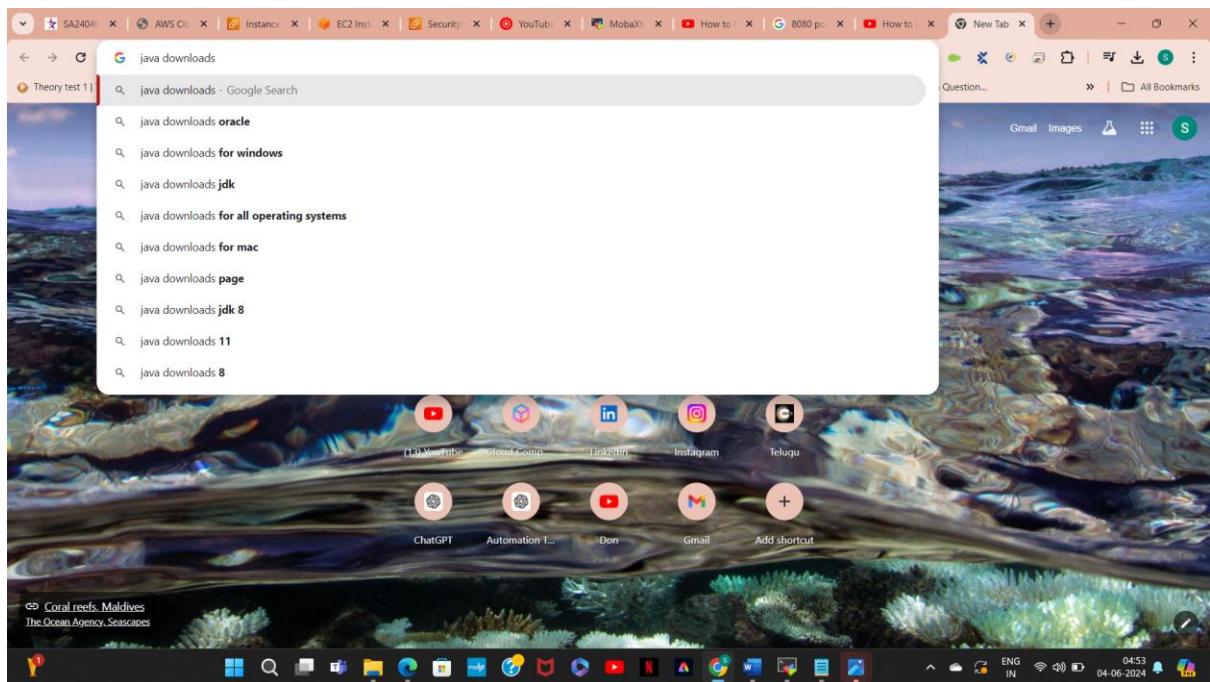
47 updates can be applied immediately.
33 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

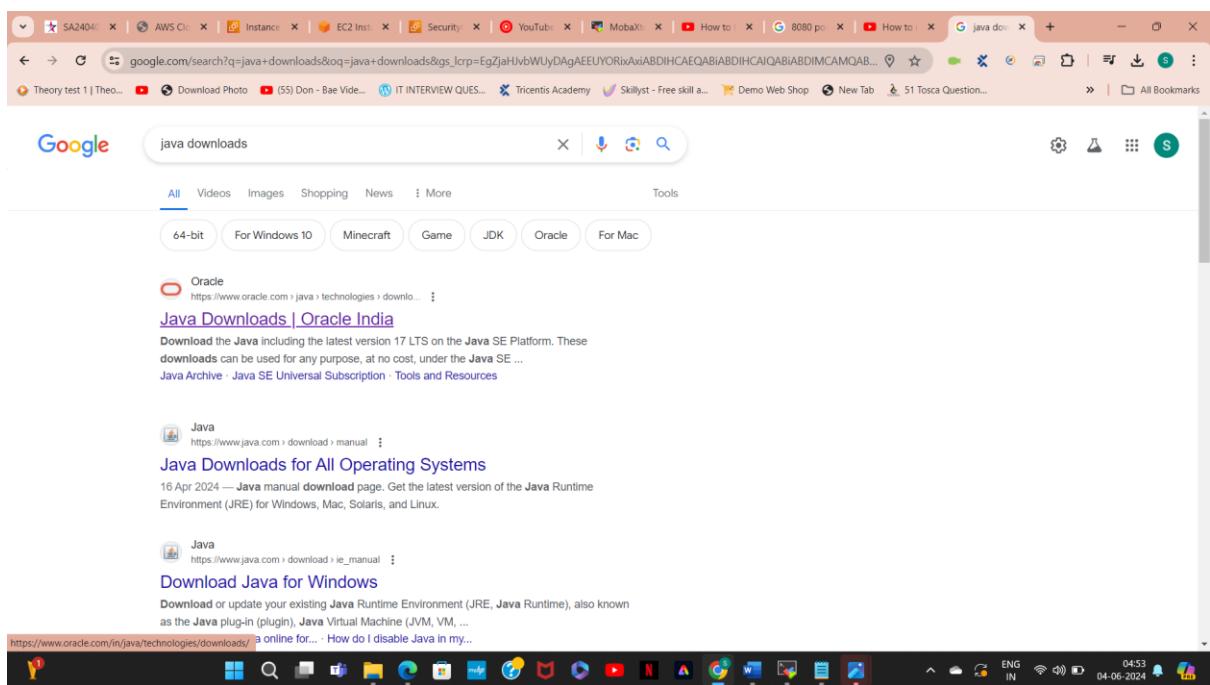
Last login: Tue Jun 4 03:19:15 2024 from 152.59.194.26
ubuntu@ip-172-31-23-92:~$ sudo apt-get update

i-Ofdece97372cb7adc (ubuntu)
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92
```

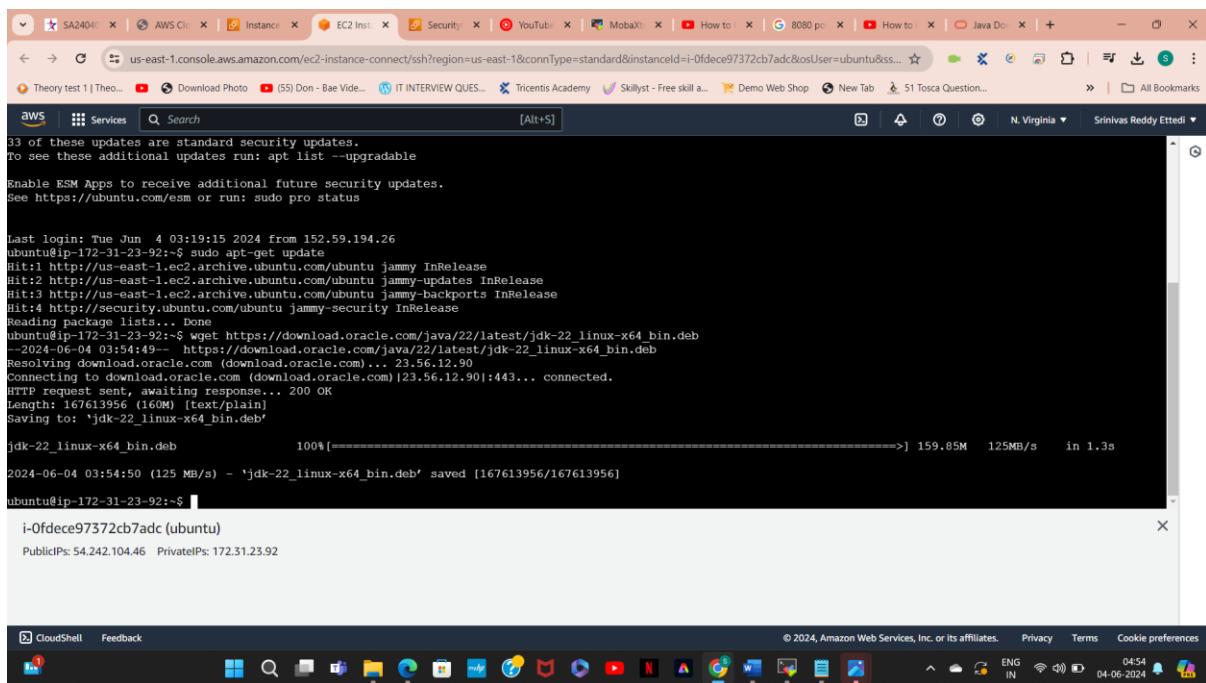
## 5.Then go the java downloads as shown in the below figure



6.Then click on the oracle java downloads as shown in the figure



## 7.U can see the java has installed



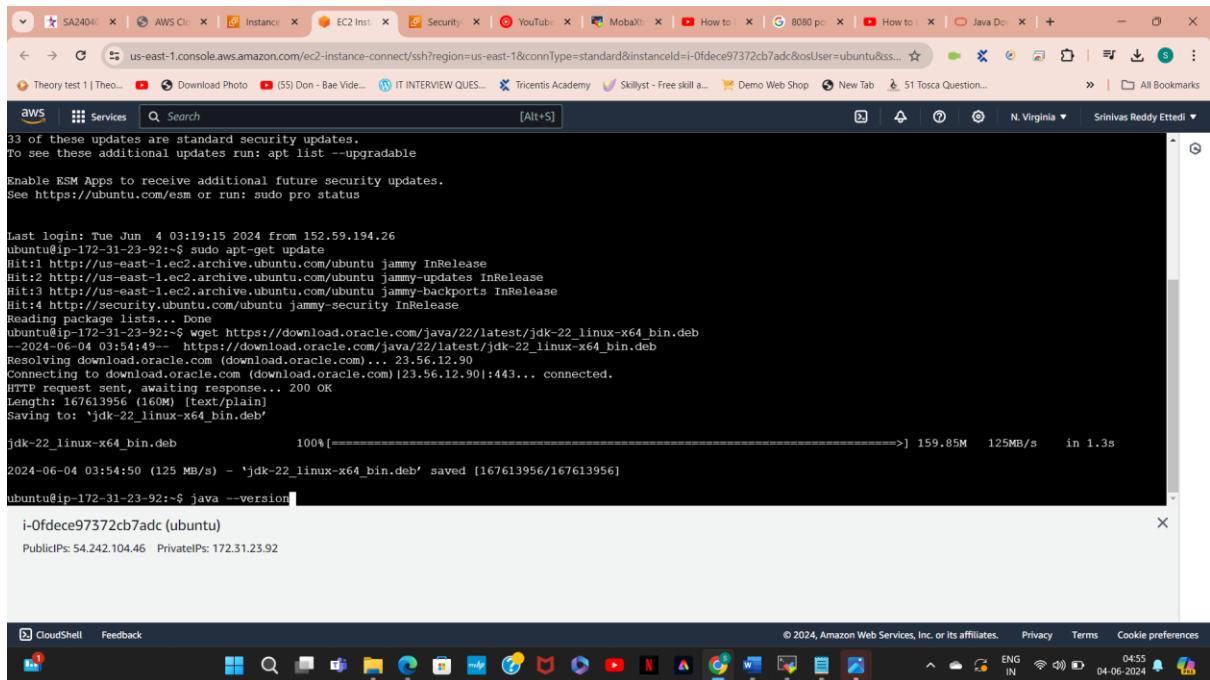
A screenshot of a Linux terminal window titled "aws" showing the process of installing Java. The terminal output includes:

```
Last login: Tue Jun  4 03:19:15 2024 from 152.59.194.26
ubuntu@ip-172-31-23-92:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... done
ubuntu@ip-172-31-23-92:~$ wget https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb
--2024-06-04 03:54:49-- https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb
Resolving download.oracle.com (download.oracle.com)... 23.56.12.90
Connecting to download.oracle.com (download.oracle.com)|23.56.12.90|:443...
HTTP request sent, awaiting response... 200 OK
Length: 167613956 (160M) [text/plain]
Saving to: 'jdk-22_linux-x64_bin.deb'

[jdk-22_linux-x64_bin.deb] 100%[=====] 159.85M  125MB/s   in 1.3s
2024-06-04 03:54:50 (125 MB/s) - 'jdk-22_linux-x64_bin.deb' saved [167613956/167613956]
ubuntu@ip-172-31-23-92:~$ i-0fdece97372cb7adc (ubuntu)
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92
```

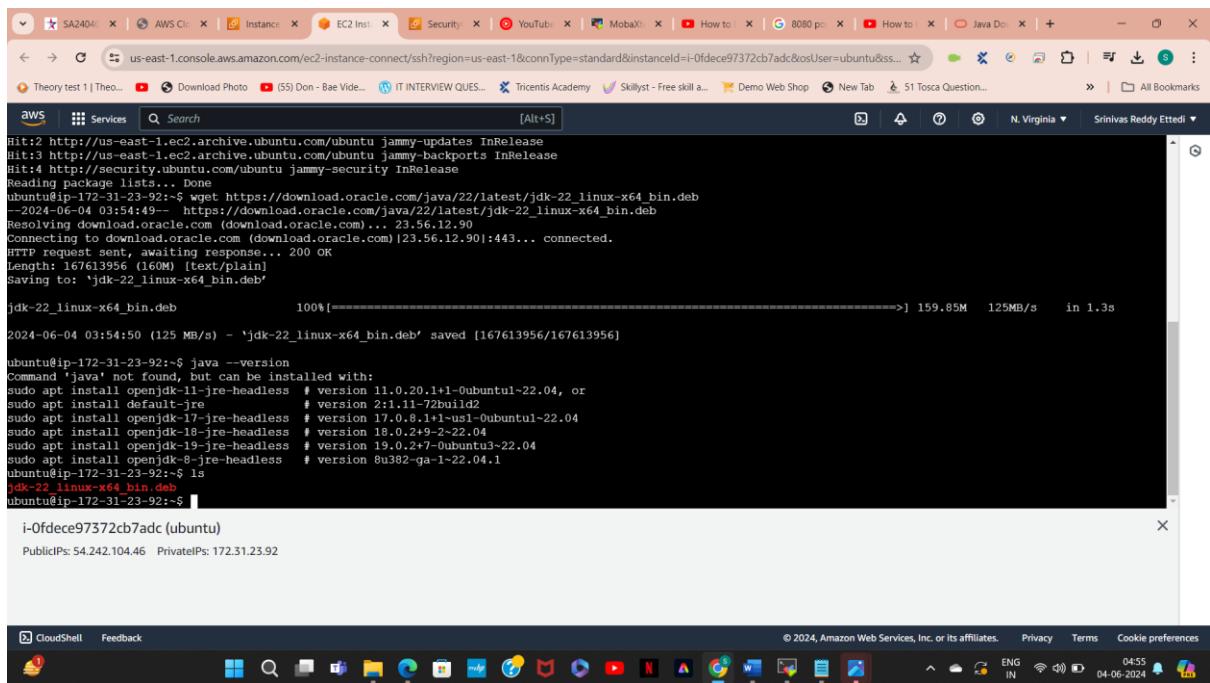
The terminal window is part of an AWS CloudShell interface, as indicated by the AWS logo and the "CloudShell" tab at the bottom.

## 8.Here u can check the java version



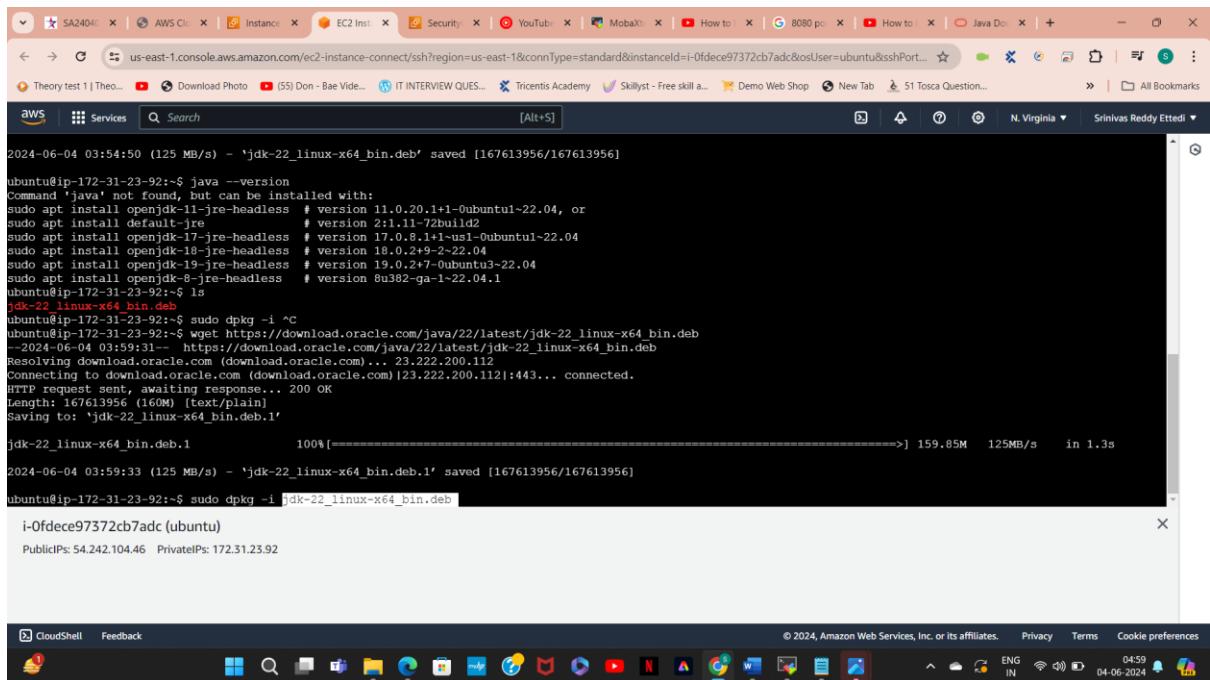
```
33 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Tue Jun 4 03:19:15 2024 from 152.59.194.26  
ubuntu@ip-172-31-23-92:~$ sudo apt-get update  
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Reading package lists... Done  
ubuntu@ip-172-31-23-92:~$ wget https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb  
--2024-06-04 03:54:49-- https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb  
Resolving download.oracle.com (download.oracle.com)... 23.56.12.90  
Connecting to download.oracle.com (download.oracle.com)|23.56.12.90|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 167613956 (160M) [text/plain]  
Saving to: 'jdk-22_linux-x64_bin.deb'  
  
jdk-22_linux-x64_bin.deb          100%[=====] 159.85M  125MB/s   in 1.3s  
2024-06-04 03:54:50 (125 MB/s) - 'jdk-22_linux-x64_bin.deb' saved [167613956/167613956]  
ubuntu@ip-172-31-23-92:~$ java --version  
i-0fdece97372cb7adc (ubuntu)  
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92
```

## 9.u can see the java version as shown



```
2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Reading package lists... Done  
ubuntu@ip-172-31-23-92:~$ wget https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb  
--2024-06-04 03:54:49-- https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb  
Resolving download.oracle.com (download.oracle.com)... 23.56.12.90  
Connecting to download.oracle.com (download.oracle.com)|23.56.12.90|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 167613956 (160M) [text/plain]  
Saving to: 'jdk-22_linux-x64_bin.deb'  
  
jdk-22_linux-x64_bin.deb          100%[=====] 159.85M  125MB/s   in 1.3s  
2024-06-04 03:54:50 (125 MB/s) - 'jdk-22_linux-x64_bin.deb' saved [167613956/167613956]  
  
ubuntu@ip-172-31-23-92:~$ java --version  
Command 'java' not found, but can be installed with:  
sudo apt install openjdk-11-jre-headless # version 11.0.20.1+1-Ubuntu-22.04, or  
sudo apt install default-jre           # version 2:1.11-72build2  
sudo apt install openjdk-17-jre-headless # version 17.0.8.1+1-Ubuntu-22.04  
sudo apt install openjdk-18-jre-headless # version 18.0.2+9-2-22.04  
sudo apt install openjdk-19-jre-headless # version 19.0.2+7-Ubuntu3-22.04  
sudo apt install openjdk-8-jre-headless # version 8u382-ga-1-22.04.1  
ubuntu@ip-172-31-23-92:~$ ls  
jdk-22_linux-x64_bin.deb  
ubuntu@ip-172-31-23-92:~$  
i-0fdece97372cb7adc (ubuntu)  
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92
```

## 10.Then unpackage it



2024-06-04 03:54:50 (125 MB/s) - 'jdk-22\_linux-x64\_bin.deb' saved [167613956/167613956]

```
ubuntu@ip-172-31-23-92:~$ java --version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-11-jre-headless # version 11.0.20.1+1~Ubuntu1~22.04, or
sudo apt install default-jre           # version 21.11~7~build2
sudo apt install openjdk-17-jre-headless # version 17.0.8.1+1~us1~Ubuntu1~22.04
sudo apt install openjdk-18-jre-headless # version 18.0.2+9~2~22.04
sudo apt install openjdk-19-jre-headless # version 19.0.2+7~Ubuntu13~22.04
sudo apt install openjdk-8-jre-headless # version 8u382~ga-1~22.04.1
ubuntu@ip-172-31-23-92:~$ ls
jdk-22_linux-x64_bin.deb
ubuntu@ip-172-31-23-92:~$ sudo dpkg -i ~c
ubuntu@ip-172-31-23-92:~$ wget https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb
--2024-06-04 03:59:31-- https://download.oracle.com/java/22/latest/jdk-22_linux-x64_bin.deb
Resolving download.oracle.com (download.oracle.com)... 23.222.200.112
Connecting to download.oracle.com (download.oracle.com)|23.222.200.112|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 167613956 (160M) [text/plain]
Saving to: 'jdk-22_linux-x64_bin.deb.1'

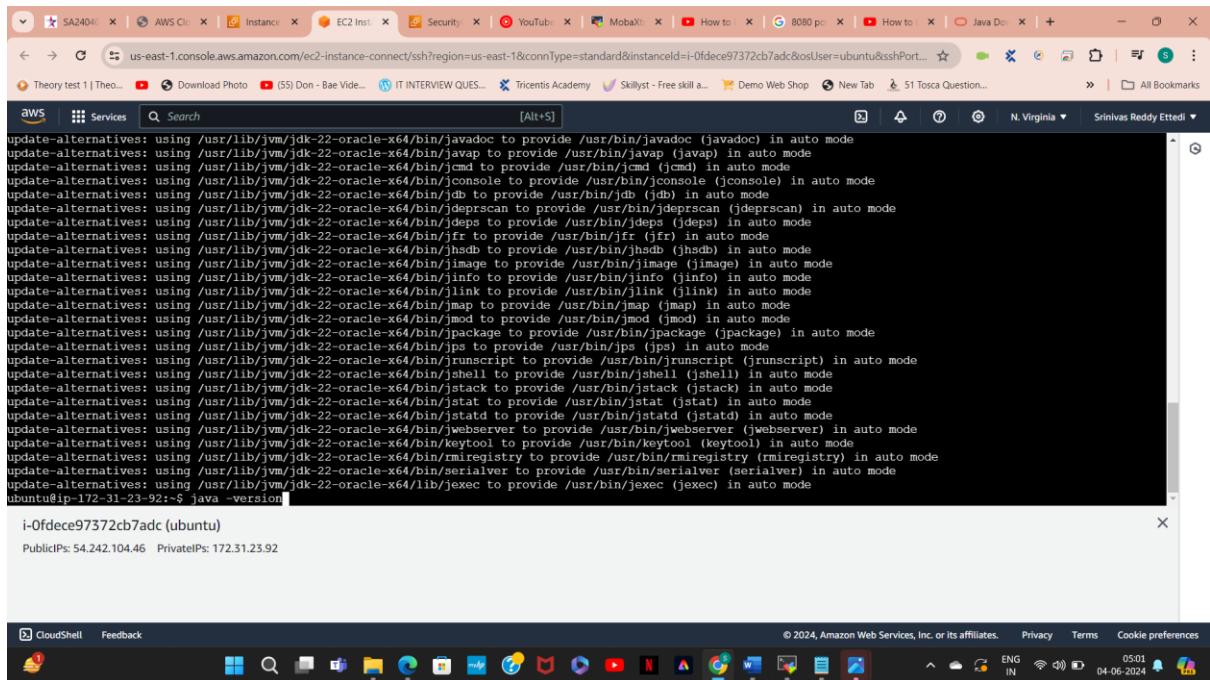
[jdk-22_linux-x64_bin.deb.1] 100%[=====] 159.85M  125MB/s   in 1.3s
2024-06-04 03:59:33 (125 MB/s) - 'jdk-22_linux-x64_bin.deb.1' saved [167613956/167613956]
```

ubuntu@ip-172-31-23-92:~\$ sudo dpkg -i jdk-22\_linux-x64\_bin.deb

i-Ofdece97372cb7adc (ubuntu)

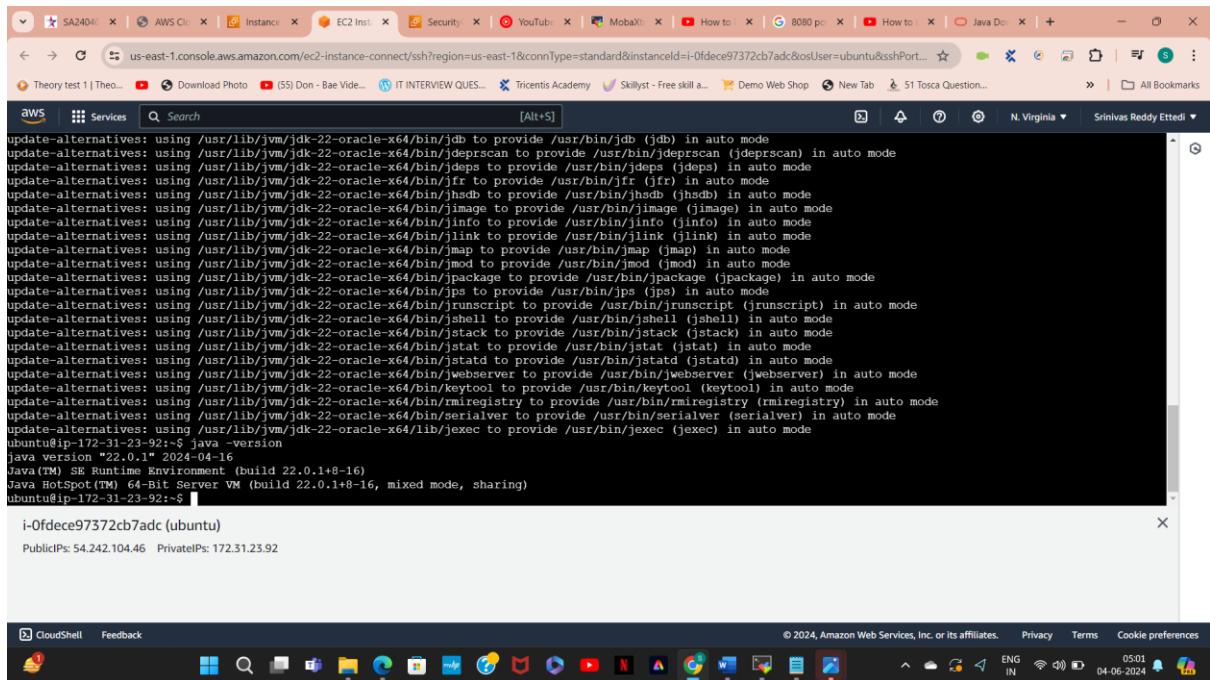
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences ENG IN 04:59 04-06-2024



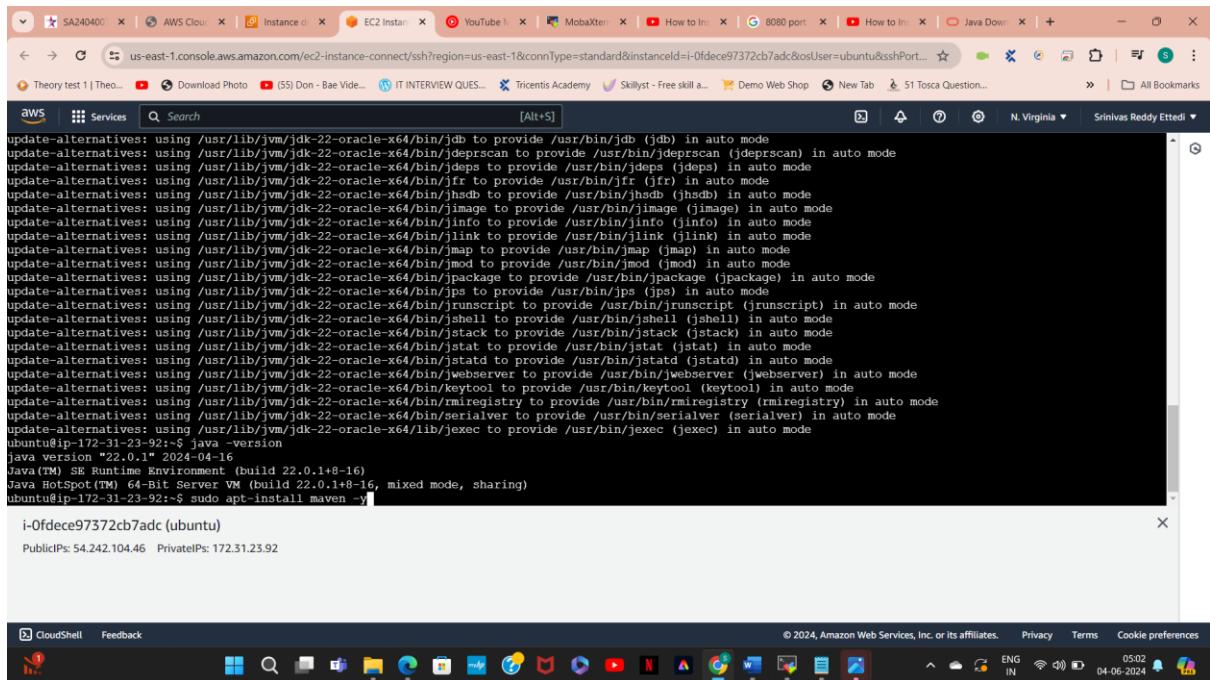
```
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/javadoc to provide /usr/bin/javadoc (javadoc) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/javap to provide /usr/bin/javap (javap) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jcmd to provide /usr/bin/jcmd (jcmd) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jconsole to provide /usr/bin/jconsole (jconsole) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdb to provide /usr/bin/jdb (jdb) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdeprscan to provide /usr/bin/jdeprscan (jdeprscan) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdeps to provide /usr/bin/jdeps (jdeps) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jfr to provide /usr/bin/jfr (jfr) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jhsdb to provide /usr/bin/jhsdb (jhsdb) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jimage to provide /usr/bin/jimage (jimage) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jinfo to provide /usr/bin/jinfo (jinfo) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jlink to provide /usr/bin/jlink (jlink) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jmap to provide /usr/bin/jmap (jmap) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jmod to provide /usr/bin/jmod (jmod) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jpackage to provide /usr/bin/jpackage (jpackage) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jrscript to provide /usr/bin/jrscript (jrscript) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jshell to provide /usr/bin/jshell (jshell) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstack to provide /usr/bin/jstack (jstack) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstat to provide /usr/bin/jstat (jstat) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstatd to provide /usr/bin/jstatd (jstatd) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jwebserver to provide /usr/bin/jwebserver (jwebserver) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/keytool to provide /usr/bin/keytool (keytool) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/rmiregistry to provide /usr/bin/rmiregistry (rmiregistry) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/serialver to provide /usr/bin/serialver (serialver) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/lib/jexec to provide /usr/bin/jexec (jexec) in auto mode
ubuntu@ip-172-31-23-92:~$ java -version
java version "17.0.8" 2024-02-13 LTS
Java(TM) SE Runtime Environment (build 17.0.8+12-Ubuntu-0ubuntu1)
Java HotSpot(TM) 64-Bit Server VM (build 17.0.8+12-Ubuntu-0ubuntu1, mixed mode, sharing)
```

i-0fdece97372cb7adc (ubuntu)  
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92



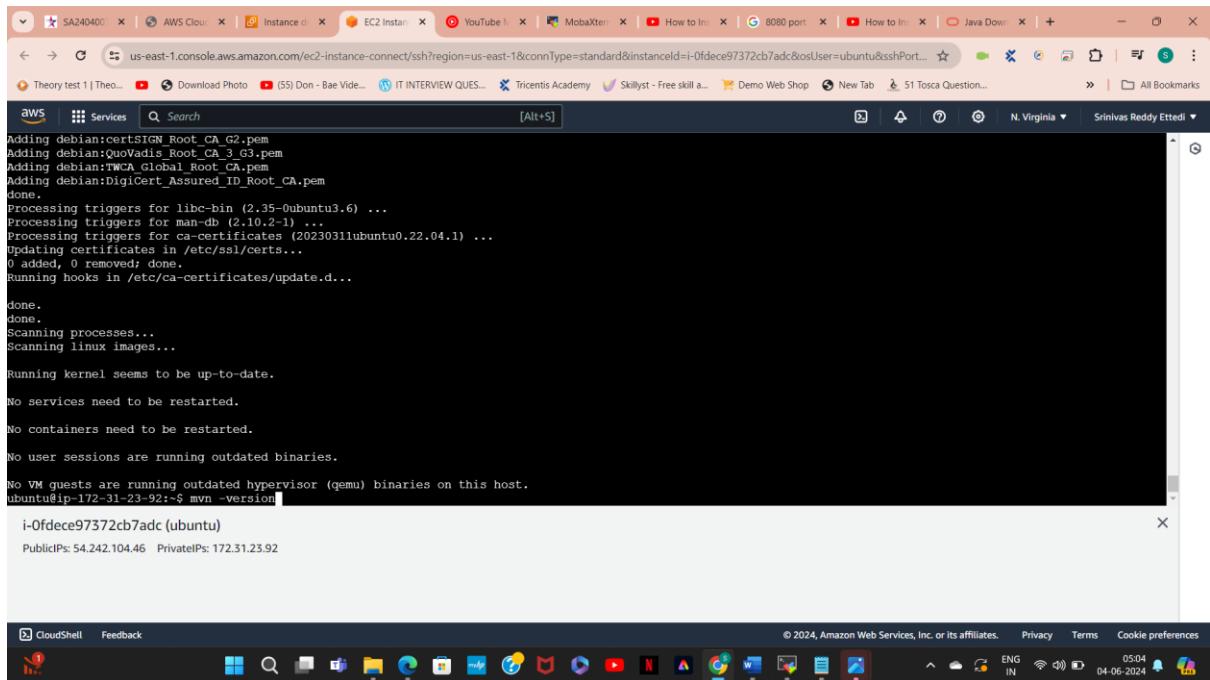
```
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdb to provide /usr/bin/jdb (jdb) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdeprscan to provide /usr/bin/jdeprscan (jdeprscan) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdeps to provide /usr/bin/jdeps (jdeps) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jfr to provide /usr/bin/jfr (jfr) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jhsdb to provide /usr/bin/jhsdb (jhsdb) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jimage to provide /usr/bin/jimage (jimage) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jinfo to provide /usr/bin/jinfo (jinfo) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jlink to provide /usr/bin/jlink (jlink) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jmap to provide /usr/bin/jmap (jmap) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jmod to provide /usr/bin/jmod (jmod) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jpackage to provide /usr/bin/jpackage (jpackage) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jps to provide /usr/bin/jps (jps) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jrungscript to provide /usr/bin/jrungscript (jrungscript) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jshell to provide /usr/bin/jshell (jshell) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstack to provide /usr/bin/jstack (jstack) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstat to provide /usr/bin/jstat (jstat) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstata to provide /usr/bin/jstata (jstata) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jwebserver to provide /usr/bin/jwebserver (jwebserver) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/keytool to provide /usr/bin/keytool (keytool) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/rmiregistry to provide /usr/bin/rmiregistry (rmiregistry) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/serialver to provide /usr/bin/serialver (serialver) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/lib/jexec to provide /usr/bin/jexec (jexec) in auto mode
ubuntu@ip-172-31-23-92:~$ java -version
java version "22.0.1" 2024-04-16
Java(TM) SE Runtime Environment (build 22.0.1+8-16)
Java HotSpot(TM) 64-Bit Server VM (build 22.0.1+8-16, mixed mode, sharing)
ubuntu@ip-172-31-23-92:~$
```

11.Then type the following command



```
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdb to provide /usr/bin/jdb (jdb) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdeprscan to provide /usr/bin/jdeprscan (jdeprscan) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jdeps to provide /usr/bin/jdeps (jdeps) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jfr to provide /usr/bin/jfr (jfr) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jhsdb to provide /usr/bin/jhsdb (jhsdb) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jimage to provide /usr/bin/jimage (jimage) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jinfo to provide /usr/bin/jinfo (jinfo) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jlink to provide /usr/bin/jlink (jlink) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jmap to provide /usr/bin/jmap (jmap) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jmod to provide /usr/bin/jmod (jmod) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jpackage to provide /usr/bin/jpackage (jpackage) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jps to provide /usr/bin/jps (jps) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jrunscript to provide /usr/bin/jrunscript (jrunscript) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jshell to provide /usr/bin/jshell (jshell) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstack to provide /usr/bin/jstack (jstack) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstat to provide /usr/bin/jstat (jstat) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstati to provide /usr/bin/jstati (jstati) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jstard to provide /usr/bin/jstard (jstard) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/jwebserver to provide /usr/bin/jwebserver (jwebserver) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/keytool to provide /usr/bin/keytool (keytool) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/rmiregistry to provide /usr/bin/rmiregistry (rmiregistry) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/bin/serialver to provide /usr/bin/serialver (serialver) in auto mode
update-alternatives: using /usr/lib/jvm/jdk-22-oracle-x64/lib/jexec to provide /usr/bin/jexec (jexec) in auto mode
ubuntu@ip-172-31-23-92:~$ java -version
java version "22.0.1" 2024-04-16
Java(TM) SE Runtime Environment (build 22.0.1+8-16)
Java HotSpot(TM) 64-Bit Server VM (build 22.0.1+8-16, mixed mode, sharing)
ubuntu@ip-172-31-23-92:~$ sudo apt install maven -y
i-0fdece97372cb7adc (ubuntu)
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92
```

11.After typing the command check the maven version



```
Adding debian:certSIGN_Root_CA_G2.pem
Adding debian:Quovadis_Root_CA_3_G3.pem
Adding debian:TWCAGlobal_Root_CA.pem
Adding debian:DigiCert_Assured_ID_Root_CA.pem
done.
Processing triggers for libc-bin (2.35-0ubuntu3.6) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for ca-certificates (20230311ubuntu0.22.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...

done.
done.
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

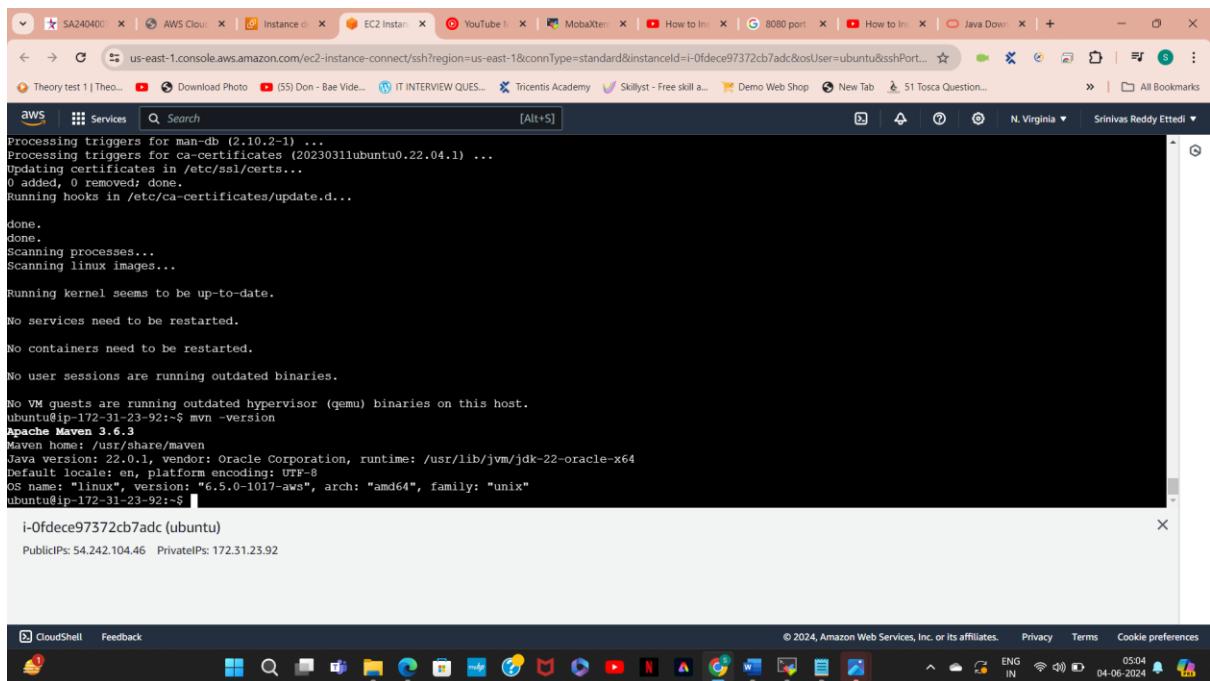
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.

ubuntu@ip-172-31-23-92:~$ mvn -version
Apache Maven 3.6.3
Maven home: /usr/share/maven
Java version: 23.0.1, vendor: Oracle Corporation, runtime: /usr/lib/jvm/jdk-22-oracle-x64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "6.5.0-1017-aws", arch: "amd64", family: "unix"
ubuntu@ip-172-31-23-92:~$
```

## 12.U can see the maven version.



```
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for ca-certificates (20230311ubuntu0.22.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...

done.
done.
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

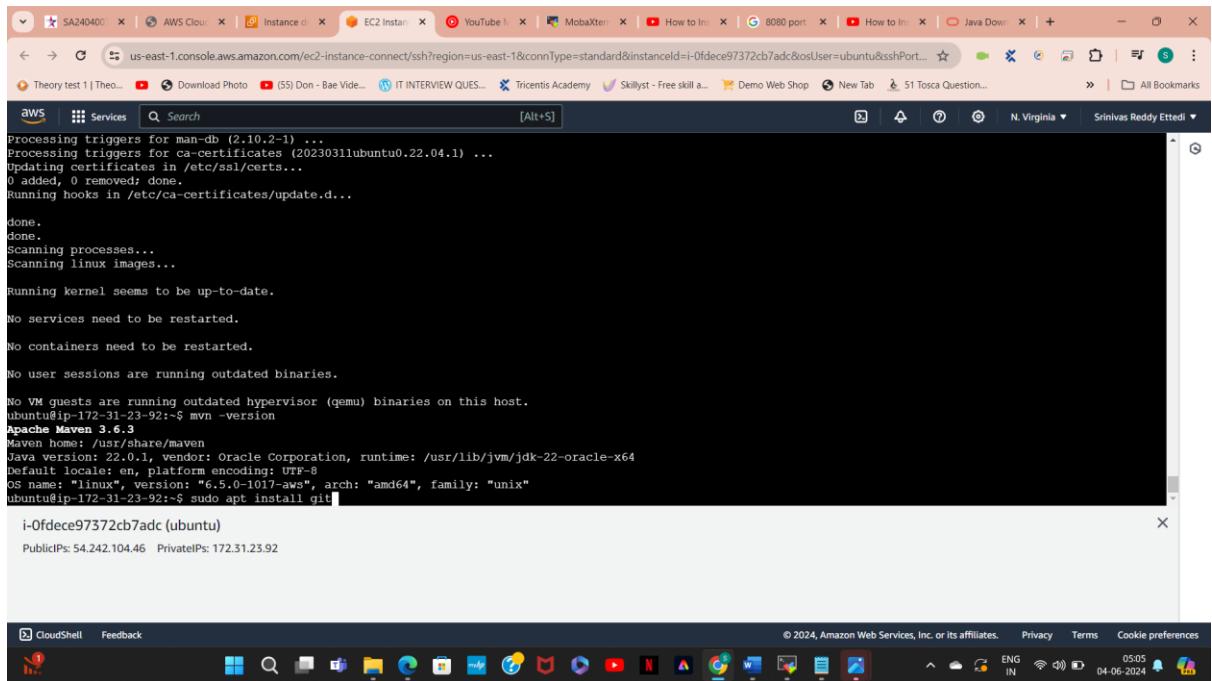
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.

ubuntu@ip-172-31-23-92:~$ mvn -version
Apache Maven 3.6.3
Maven home: /usr/share/maven
Java version: 23.0.1, vendor: Oracle Corporation, runtime: /usr/lib/jvm/jdk-22-oracle-x64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "6.5.0-1017-aws", arch: "amd64", family: "unix"
ubuntu@ip-172-31-23-92:~$
```

## 13. Here u need to install git as shown in the figure

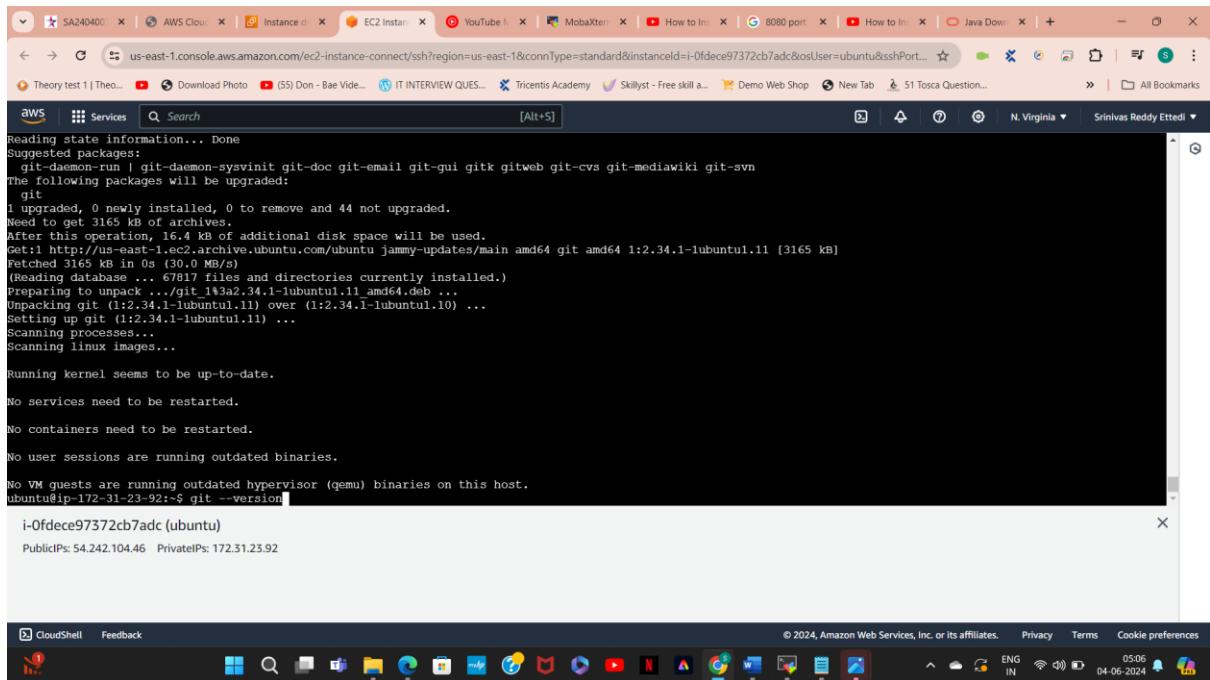


```
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for ca-certificates (20230311ubuntu0.22.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...

done.
done.
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.

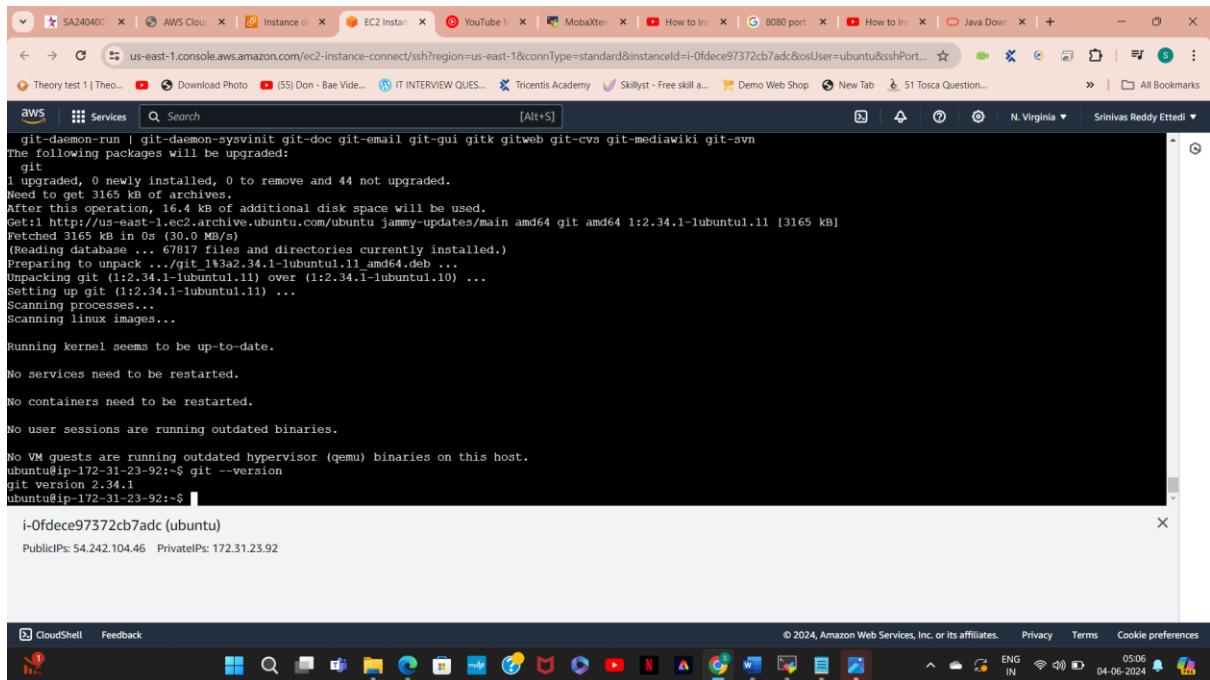
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-23-92:~$ mvn -version
Apache Maven 3.6.3
Maven home: /usr/share/maven
Java version: 22.0.1, vendor: Oracle Corporation, runtime: /usr/lib/jvm/jdk-22-oracle-x64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "6.5.0-1017-aws", arch: "amd64", family: "unix"
ubuntu@ip-172-31-23-92:~$ sudo apt install git
i-0fdece97372cb7adc (ubuntu)
Public IPs: 54.242.104.46 Private IPs: 172.31.23.92
```

## 14. Then check the version of git by using the command



```
Reading state information... Done
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following packages will be upgraded:
  git
1 upgraded, 0 newly installed, 0 to remove and 44 not upgraded.
Need to get 3165 kB of archives.
After this operation, 16.4 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 git amd64 1:2.34.1-1ubuntu1.11 [3165 kB]
Fetched 3165 kB in 0s (30.0 MB/s)
(Reading database ... 67817 files and directories currently installed.)
Preparing to unpack .../git_1%3a2.34.1-1ubuntu1.11_amd64.deb ...
Unpacking git (1:2.34.1-1ubuntu1.11) over (1:2.34.1-1ubuntu1.10) ...
Setting up git (1:2.34.1-1ubuntu1.11) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-23-92:~$ git --version
git: command not found
PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92
```

## 15.U can see the version of Git



The screenshot shows a terminal window within an AWS CloudShell interface. The terminal is executing a series of commands to update packages on an Ubuntu instance. The output of the commands is as follows:

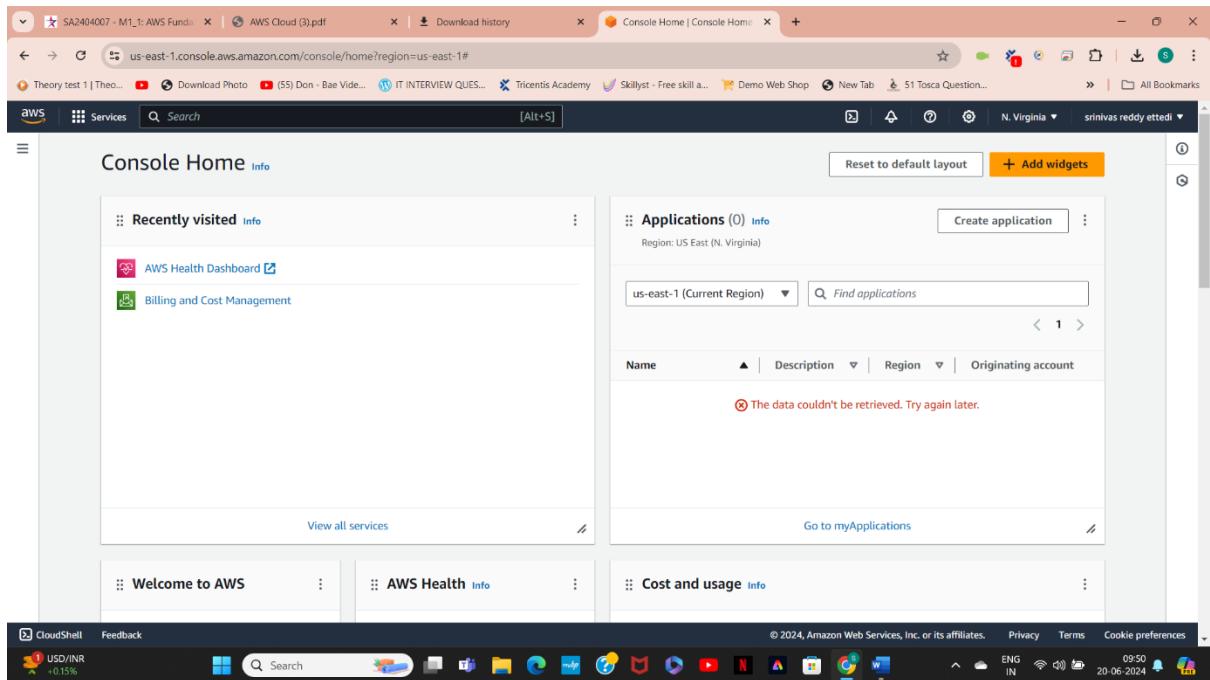
```
git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn  
The following packages will be upgraded:  
  git  
  0 newly installed, 0 to remove and 44 not upgraded.  
Need to get 3165 kB of additional disk space will be used.  
After this operation, 16.4 kB of additional disk space will be used.  
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 git amd64 1:2.34.1-1ubuntu1.11 [3165 kB]  
Fetched 3165 kB in 0s (30.0 MB/s)  
(Reading database ... 6781 files and directories currently installed.)  
Preparing to unpack ..., ./git_1:2.34.1-1ubuntu1.11_amd64.deb ...  
Unpacking git (1:2.34.1-1ubuntu1.11) over (1:2.34.1-1ubuntu1.10) ...  
Setting up git (1:2.34.1-1ubuntu1.11) ...  
Scanning processes...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
No services need to be restarted.  
No containers need to be restarted.  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-23-92:~$ git --version  
git version 2.34.1  
ubuntu@ip-172-31-23-92:~$
```

The terminal prompt shows the instance ID and IP address: `i-0fdece97372cb7adc (ubuntu)` and `PublicIPs: 54.242.104.46 PrivateIPs: 172.31.23.92`.

# L5 - Install Tomcat web application server in AWS EC2 Ubuntu Instance and access Tomcat using a web browser

## Step

1. After opening the aws console



2.Then search for ec2

The screenshot shows the AWS Cloud Home console with a search bar at the top containing 'ec2'. The search results are displayed under two main categories: Services and Features.

**Services** (13 results):

- EC2** ★ Virtual Servers in the Cloud
- EC2 Image Builder** ★ A managed service to automate build, customize and deploy OS images
- Recycle Bin** Protect resources from accidental deletion
- Amazon Inspector** ★ Continual vulnerability management at scale

**Features** (59 results):

- Dashboard**
- EC2 feature**

On the right side, there is a sidebar titled 'Create application' with options for 'Applications', 'Region', and 'Originating account'. Below the sidebar, a message says 'No applications found. Try again later.' At the bottom of the sidebar, there is a 'Create application' button.

The screenshot shows the AWS Cloud Home console with a search bar at the top containing 'Search'.

**Recently visited** (Info):

- EC2
- Billing and Cost Management
- S3
- IAM
- AWS Health Dashboard

**Applications (0) Info**: Region: US East (N. Virginia)

No applications  
Get started by creating an application.  
Create application

**Welcome to AWS**, **AWS Health**, **Cost and usage**

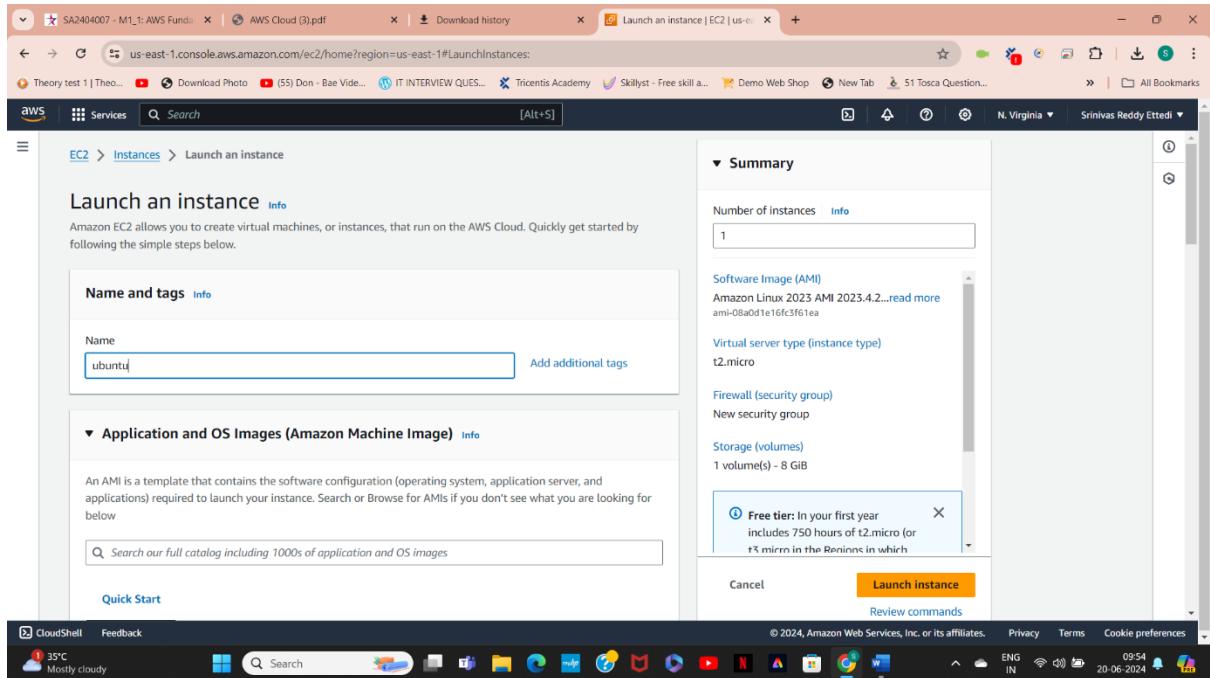
At the bottom, there is a navigation bar with icons for CloudShell, Feedback, Search, and various browser tabs. The system status shows '35°C Mostly cloudy' and the date/time as '20-06-2024 09:54'.

### 3.Click on launch instance

The screenshot shows the AWS EC2 Home page for the US East (N. Virginia) Region. The left sidebar includes links for EC2 Dashboard, Events, Instances, Images, and Elastic Block Store. The main content area displays a summary of resources: 0 Instances (running), 0 Auto Scaling Groups, 0 Dedicated Hosts, 0 Elastic IPs, 6 Instances, 5 Key pairs, 0 Load balancers, 0 Placement groups, 1 Security groups, 0 Snapshots, and 4 Volumes. To the right, the 'EC2 Free Tier' section shows 2 offers in use, with details about end-of-month forecasts and free tier exceedances. Below this, the 'Offer usage (monthly)' section tracks Linux EC2 Instances and Storage space on EBS usage.

The screenshot shows the AWS Instances page for the US East (N. Virginia) Region. The left sidebar is identical to the previous screenshot. The main content area shows a search bar with 'Instance state = running' and a 'Clear filters' button. A table header includes columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4 DNS. A message at the top states 'No matching instances found'. A modal window titled 'Select an instance' is open, indicating no results were found.

## 4. Here I'm naming as the instance as the ubuntu



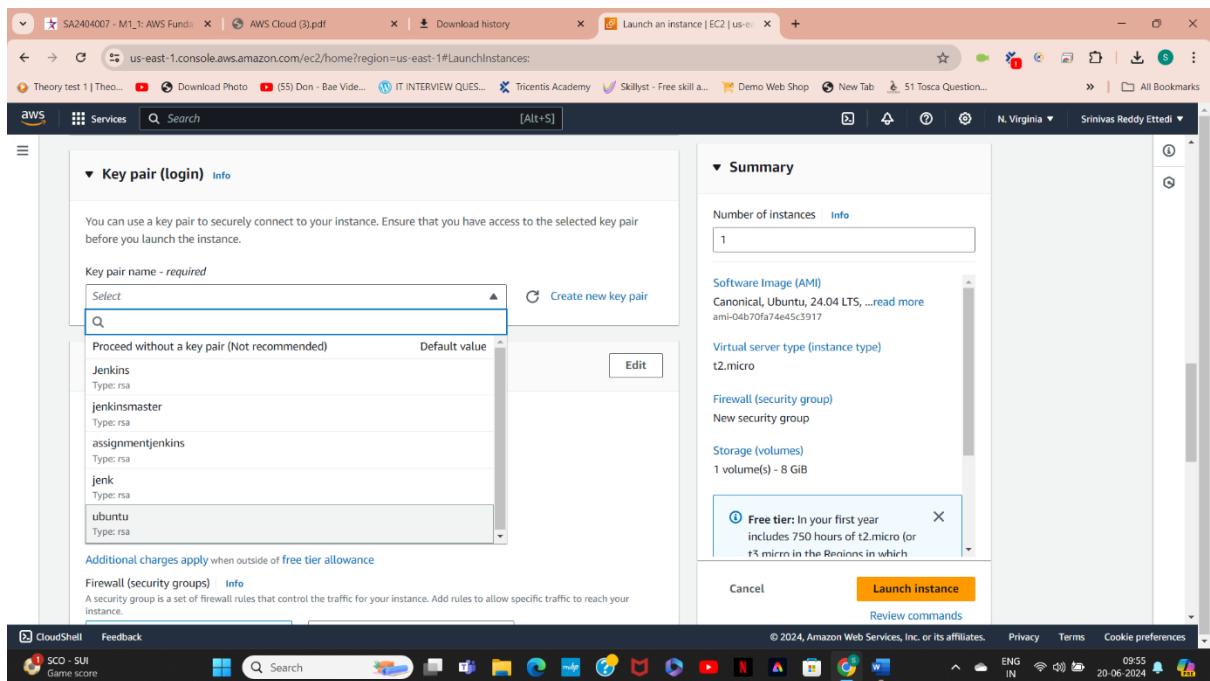
## 5. Here I'm using the Ami as the ubuntu

The screenshot shows the AWS Cloud console with the 'Launch an instance' wizard open. The 'Summary' step is selected, showing the configuration for launching 1 instance of the 'Amazon Linux 2023 AMI'. The tooltip for the 'Launch instance' button states: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro) in the Region in which you launch the instance.'

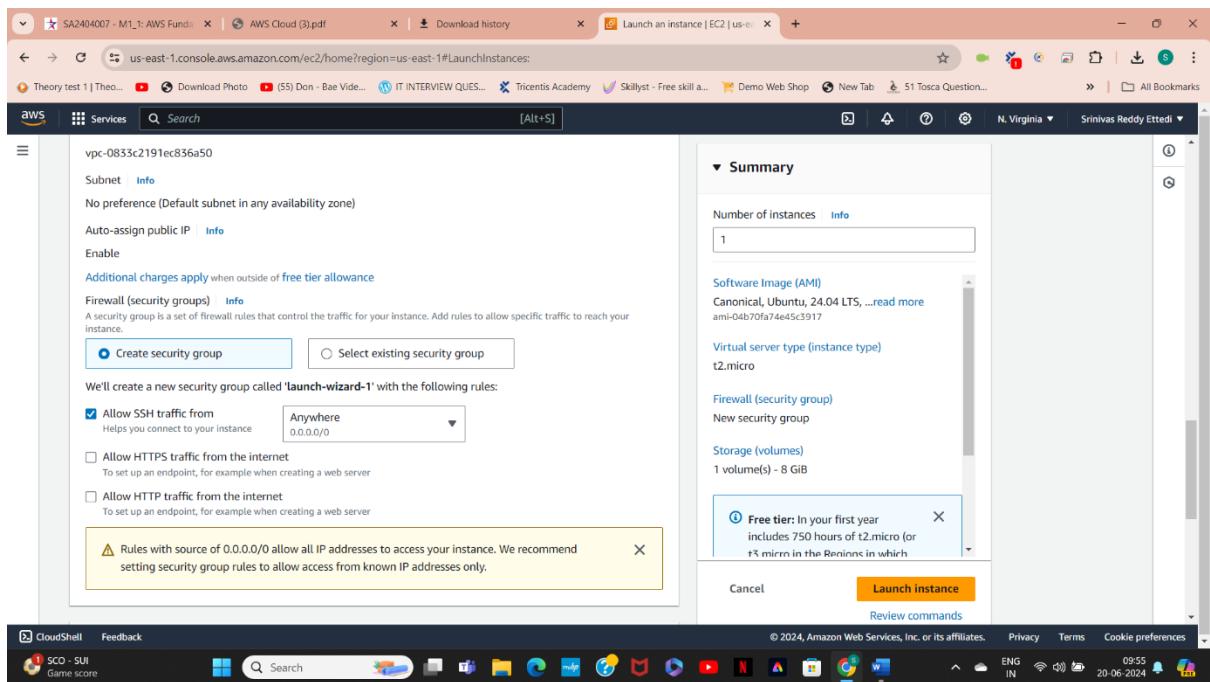
## 6. Here im using the architecture 64 bit and t2.micro

The screenshot shows the AWS Cloud console with the 'Launch an instance' wizard open. The 'Summary' step is selected, showing the configuration for launching 1 instance of the 'Ubuntu Server 24.04 LTS (HVM), SSD Volume Type' AMI. The tooltip for the 'Launch instance' button states: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro) in the Region in which you launch the instance.'

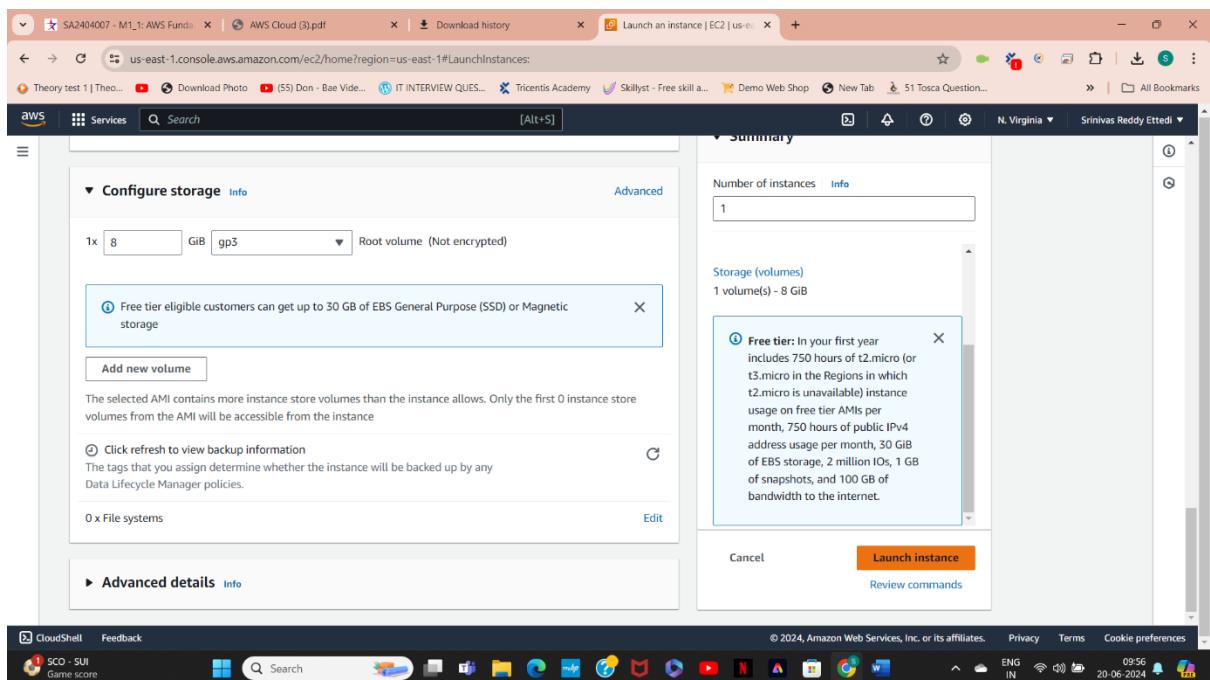
## 7.im using the key pair which is the previous one



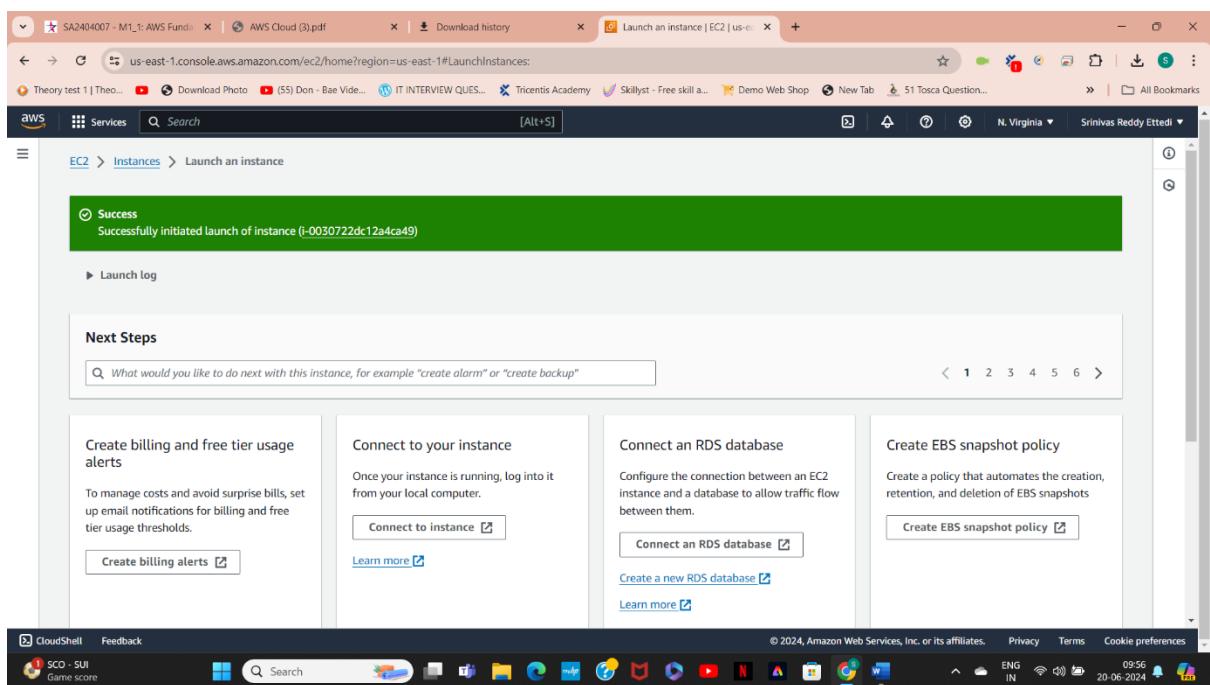
## 8.Here I'm selecting the default security group



## 9.Click on launch instance



## 10. Here you can see the success of the instance



## 11. Here you can see the instance is running

The screenshot shows the AWS Cloud console interface. On the left, there's a sidebar with various services like EC2 Dashboard, EC2 Global View, Events, and Instances. The Instances section is expanded, showing options for Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, and Capacity Reservations. Below that is the Images section with AMIs and AMI Catalog, and the Elastic Block Store section with Volumes. The main content area is titled 'Instances (1) Info' and shows a table with one row for an instance named 'ubuntu'. The instance details include its ID (i-0030722dc12a4ca49), state (Running), type (t2.micro), and status (2/2 checks passed). It also shows the Availability Zone (us-east-1b) and Public IP (ec2-54-91-179-162). At the bottom, a modal window titled 'Select an instance' is open. The browser's address bar at the top displays the URL https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstancesinstancesId=i-0030722dc12a4ca49. The status bar at the bottom right shows the date and time as 20-06-2024.

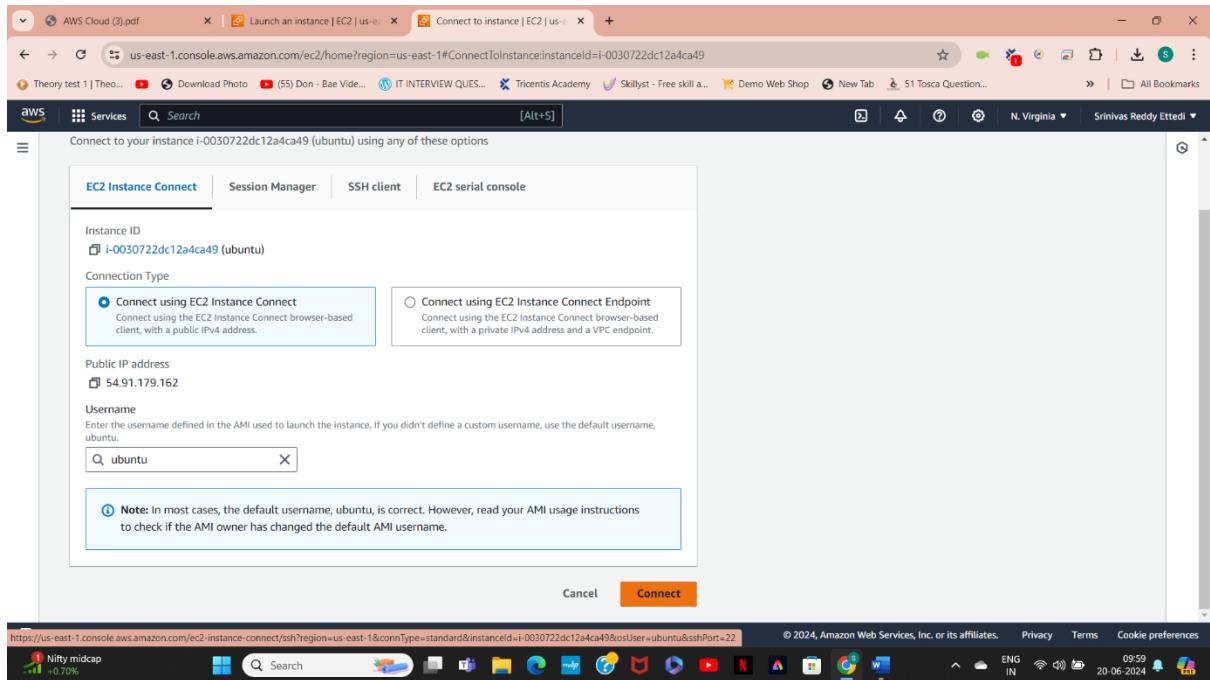
12. Here you can see the instance which has the public ip and private ip

The screenshot shows the AWS Cloud console interface, specifically the 'Instance details' page for the instance i-0030722dc12a4ca49. The left sidebar is identical to the previous screenshot. The main content area is titled 'Instance summary for i-0030722dc12a4ca49 (ubuntu) Info' and contains a table with various instance details. Key entries include:

- Instance ID: i-0030722dc12a4ca49 (ubuntu)
- Public IPv4 address: 54.91.179.162 | [open address](#)
- Private IPv4 addresses: 172.31.29.133
- Public IPv4 DNS: ec2-54-91-179-162.compute-1.amazonaws.com | [open address](#)
- Instance state: Running
- Private IP DNS name (IPv4 only): ip-172-31-29-133.ec2.internal
- Instance type: t2.micro
- VPC ID: vpc-0833c2191ec836a50 | [open address](#)
- Elastic IP addresses: -
- AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. | [Learn more](#)
- Auto Scaling Group name: -

The browser's address bar at the top displays the URL https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstancein... The status bar at the bottom right shows the date and time as 20-06-2024.

## 13. Here click on ec2 instance connect



## 14. Here you can see the ubuntu is running

The screenshot shows a Windows desktop environment. At the top, there is a taskbar with several open tabs: "AWS Cloud (3).pdf", "Launch an instance | EC2 | us-east-1", "Instance details | EC2 | us-east-1", and "EC2 Instance Connect | us-east-1". Below the taskbar is a browser window displaying the AWS CloudWatch Metrics interface for an EC2 instance. The interface shows system usage statistics like CPU, Memory, and Swap usage, along with security and update information. At the bottom of the screen is the CloudShell interface, which includes a terminal window showing the user's session on the EC2 instance, and a navigation bar with icons for various AWS services.

## 15.Im updating the package

```

AWS Cloud (3).pdf | Launch an instance | EC2 | us-east-1 | Instance details | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | + | 
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0030722dc12a4ca49&osUser=ubuntu&region=us-east-1&sshPort=22 | 
Theory test 1 | Theo... | Download Photo | (55) Don - Bae Vide... | IT INTERVIEW QUES... | Tricentis Academy | Skilyst - Free skill a... | Demo Web Shop | New Tab | 51 Tosc... | 
All Bookmarks | N. Virginia | Srinivas Reddy Ettedi | 
AWS Services Search [Alt+S] 
Usage of /: 23.2% of 6.71GB Users logged in: 0 
Memory usage: 20% IPv4 address for enx0: 172.31.29.133 
Swap usage: 0% 

Expanded Security Maintenance for Applications is not enabled. 
0 updates can be applied immediately. 
Enable ESM Apps to receive additional future security updates. 
See https://ubuntu.com/esm or run: sudo pro status 

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*. 

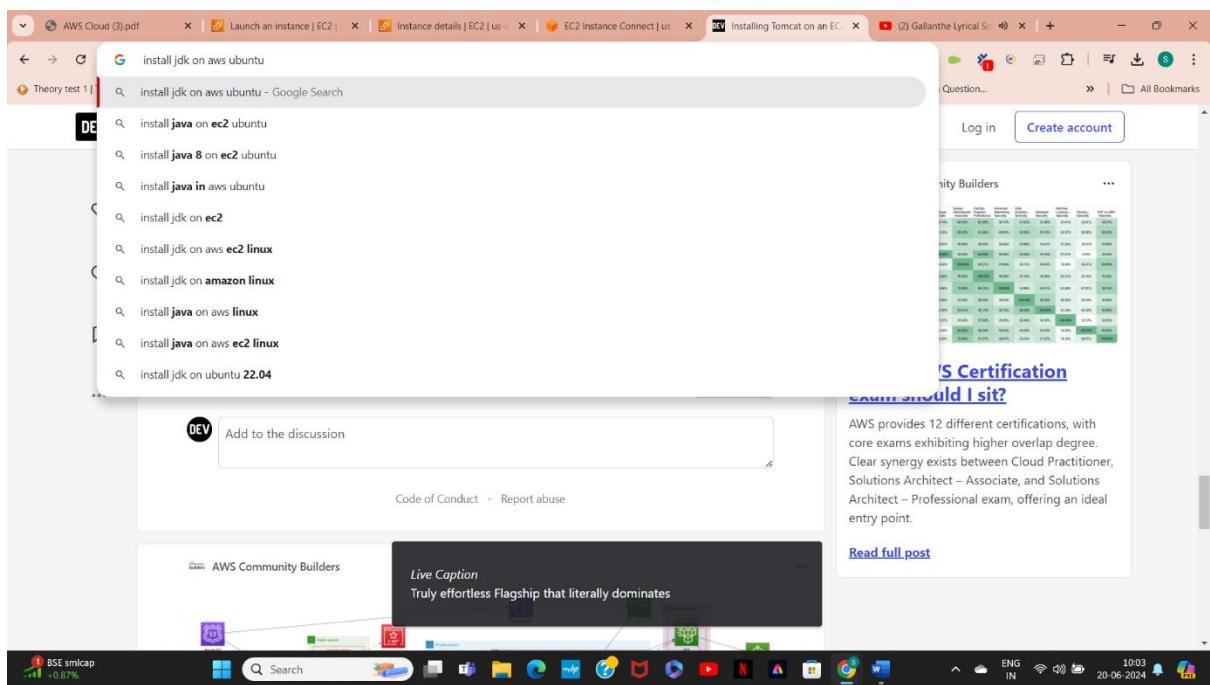
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by 
applicable law. 

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

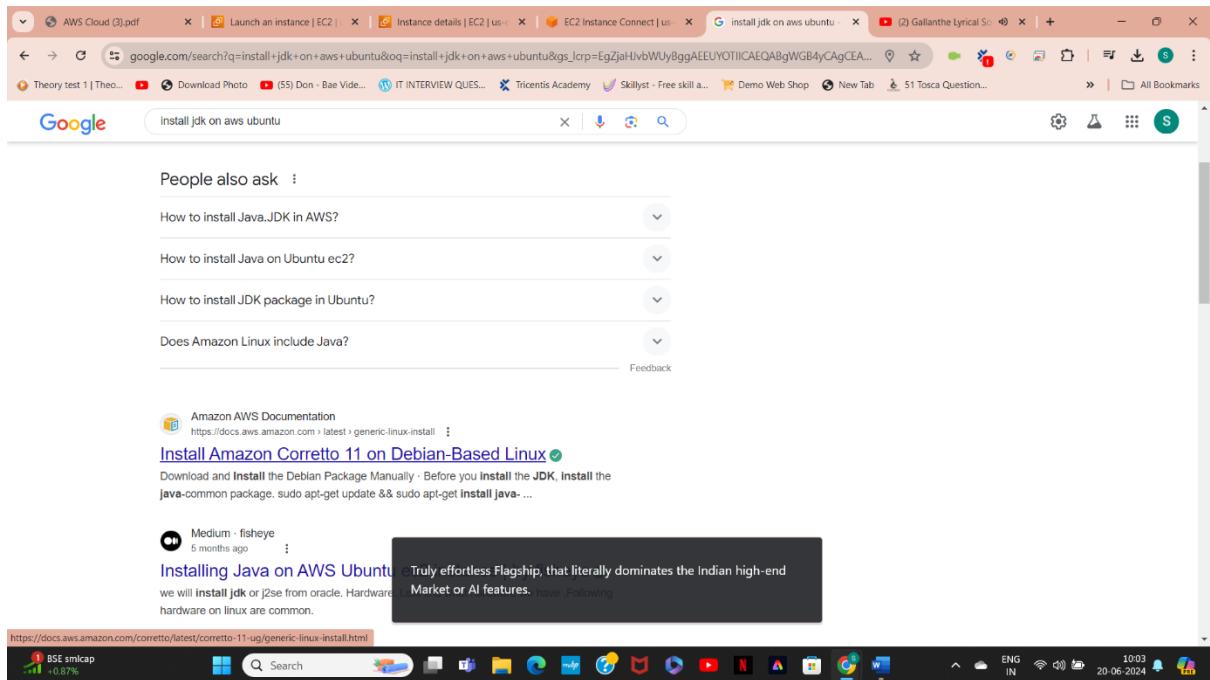
ubuntu@ip-172-31-29-133:~$ sudo apt get update 
i-0030722dc12a4ca49 (ubuntu) 
PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133 

```

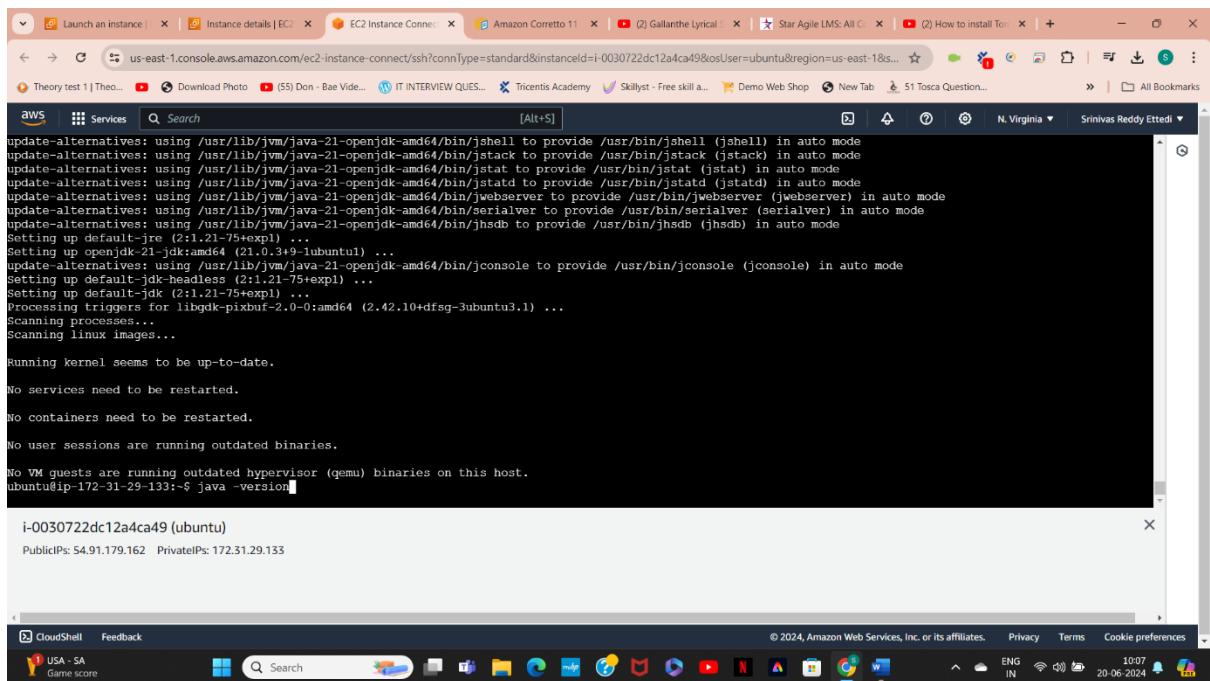
## 16. search for the jdk on aws ubuntu



## 17. Here use from it



## 18. Here you need to check the version



## 19. You can see the version

```

update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jstatd to provide /usr/bin/jstatd (jstatd) in auto mode
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jwebserver to provide /usr/bin/jwebserver (jwebserver) in auto mode
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/serialver to provide /usr/bin/serialver (serialver) in auto mode
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jhsdb to provide /usr/bin/jhsdb (jhsdb) in auto mode
Setting up default-jre (2:1.21~75+exp1) ...
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jconsole to provide /usr/bin/jconsole (jconsole) in auto mode
Setting up default-jre-headless (2:1.21~75+exp1) ...
Setting up default-jdk (2:1.21~75+exp1) ...
Processing triggers for libgdk-pixbuf2.0-0:amd64 (2.42.10+dfsg-3ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No container(s) need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.

ubuntu@ip-172-31-29-133:~$ java -version
openjdk version "21.0.3" 2024-04-16
OpenJDK Runtime Environment (build 21.0.3+9-Ubuntu-1ubuntul)
OpenJDK 64-Bit Server VM (build 21.0.3+9-Ubuntu-1ubuntul, mixed mode, sharing)

ubuntu@ip-172-31-29-133:~$ i-0030722dc12a4ca49 (ubuntu)
PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133

```

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## 20.After searching for the tomcat download you can see the below page click on 9.0.90

The screenshot shows the Apache Tomcat 9 Software Downloads page. The page features the Apache logo and navigation links for Tomcat 9.0.90. It includes sections for Release Integrity, Mirrors, and Binary Distributions. A sidebar on the left provides links to Home, Taglibs, Maven Plugin, Download, Documentation, and Community Over Code.

**Tomcat 9 Software Downloads**

Welcome to the Apache Tomcat® 9.x software download page. This page provides download links for obtaining the latest version of Tomcat 9.0.x software, as well as links to the archives of older releases.

Unsure which version you need? Specification versions implemented, minimum Java version required and lots more useful information may be found on the [which version?](#) page.

**Quick Navigation**

[KEYS | 9.0.90 | Browse | Archives](#)

**Release Integrity**

You must verify the integrity of the downloaded files. We provide OpenPGP signatures for every release file. This signature should be matched against the [KEYS](#) file which contains the OpenPGP keys of Tomcat's Release Managers. We also provide [SHA-512](#) checksums for every release file. After you download the file, you should calculate a checksum for your download, and make sure it is the same as ours.

**Mirrors**

You are currently using <https://dlcdn.apache.org/>. If you encounter a problem with this mirror, please select another mirror. If all mirrors are failing, there are backup mirrors (at the end of the mirrors list) that should be available.

Other mirrors: <https://dlcdn.apache.org/>

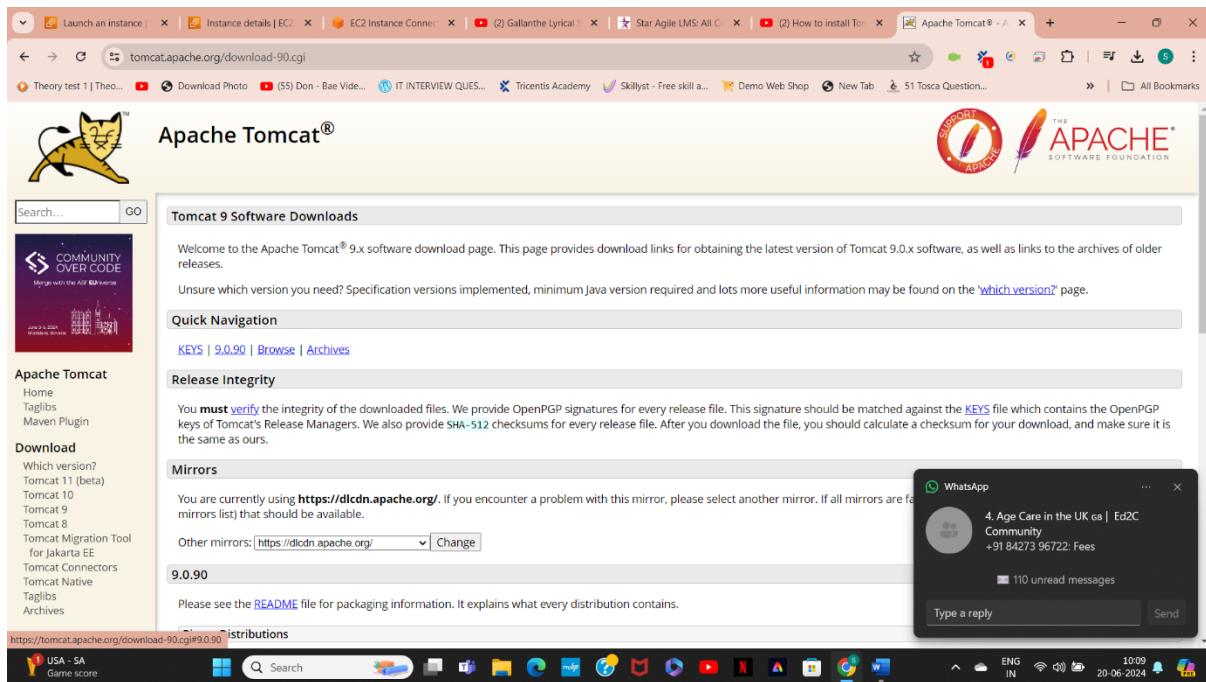
**9.0.90**

Please see the [README](#) file for packaging information. It explains what every distribution contains.

**Binary Distributions**

Apache Tomcat Home Taglibs Maven Plugin Download Which version? Tomcat 11 (beta) Tomcat 10 Tomcat 9 Tomcat 8 Tomcat Migration Tool for Jakarta EE Tomcat Connectors Tomcat Native Taglibs Archives Documentation

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21.select the 9.0.90 we are using the wget and copy the link address

```

update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jstatd to provide /usr/bin/jstatd (jstatd) in auto mode
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jwebserver to provide /usr/bin/jwebserver (jwebserver) in auto mode
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/serialver to provide /usr/bin/serialver (serialver) in auto mode
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jhsdb to provide /usr/bin/jhsdb (jhsdb) in auto mode
Setting up default-jre (2:1.21~75+exp1) ...
Setting up openjdk-21-jdk:amd64 (2:1.0.3+9~ubuntut1) ...
update-alternatives: using /usr/lib/jvm/java-21-openjdk-amd64/bin/jconsole to provide /usr/bin/jconsole (jconsole) in auto mode
Setting up default-jre-headless (2:1.21~75+exp1) ...
Setting up default-jdk (2:1.21~75+exp1) ...
Processing triggers for libgd-pixbuf2.0-0:amd64 (2.42.10+dfsg-3ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No container(s) need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.

ubuntu@ip-172-31-29-133:~$ java -version
openjdk version "21.0.3" 2024-04-16
OpenJDK Runtime Environment (build 21.0.3+9-Ubuntu-1ubuntut1)
OpenJDK 64-Bit Server VM (build 21.0.3+9~ubuntut1, mixed mode, sharing)

ubuntu@ip-172-31-29-133:~$ wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.90/bin/apache-tomcat-9.0.90.tar.gz
-i-0030722dc12a4ca49 (ubuntu)

Public IPs: 54.91.179.162 Private IPs: 172.31.29.133

```

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**9.0.90**

Please see the [README](#) file for packaging information. It explains what every distribution contains.

**Binary Distributions**

- Core:
  - [zip \(pgp, sha512\)](#)
  - [tar.gz \(pgp, sha512\)](#)
  - [32-bit Windows zip \(pgp, sha512\)](#)
  - [64-bit Windows zip \(pgp, sha512\)](#)
  - [32-bit/64-bit Windows Service Installer \(pgp, sha512\)](#)
- Full documentation:
  - [tar.gz \(pgp, sha512\)](#)
- Deployer:
  - [zip \(pgp, sha512\)](#)
  - [tar.gz \(pgp, sha512\)](#)
- Embedded:
  - [tar.gz \(pgp, sha512\)](#)
  - [zip \(pgp, sha512\)](#)

**Source Code Distributions**

- [tar.gz \(pgp, sha512\)](#)
- [zip \(pgp, sha512\)](#)

Overview Source code Buildbot Translations Tools Media Twitter YouTube https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.90/bin/apache-tomcat-9.0.90.tar.gz

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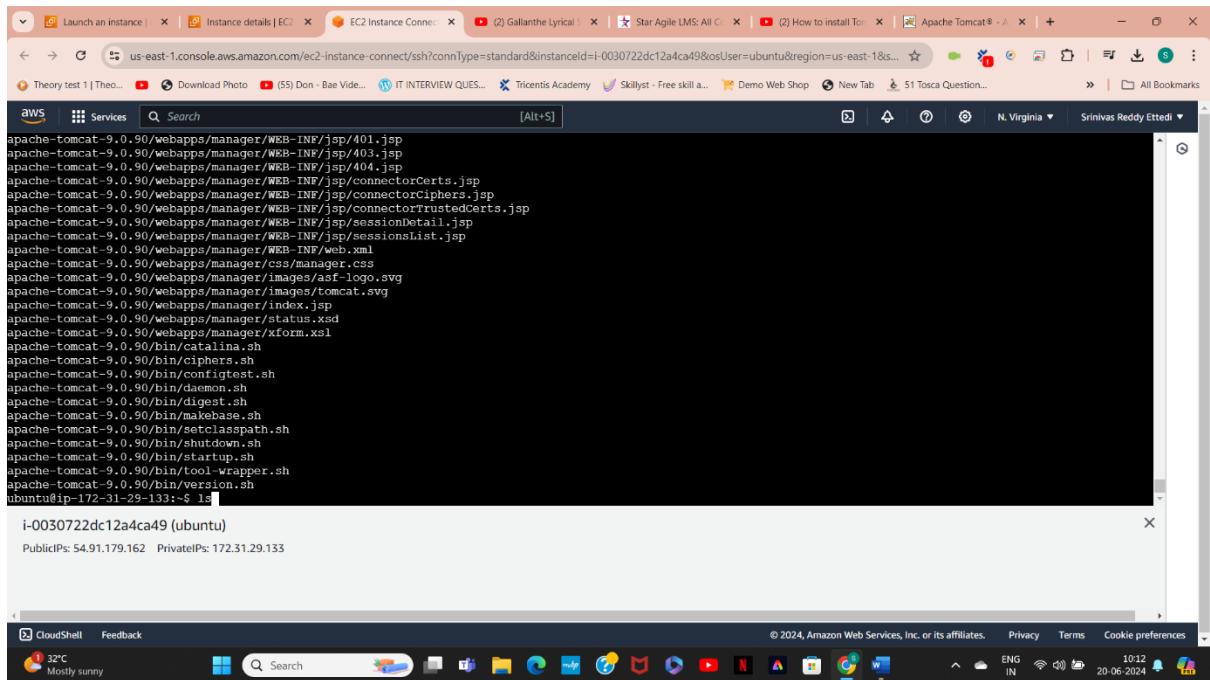
## 22. Here you need to unzip by using the below command

The screenshot shows a terminal window within an AWS CloudShell interface. The terminal output is as follows:

```
No services need to be restarted.  
No containers need to be restarted.  
No user sessions are running outdated binaries.  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-29-133:~$ java -version  
openjdk version "21.0.3" 2024-04-16  
openJDK Runtime Environment (build 21.0.3+9-Ubuntu-1ubuntu1)  
openJDK 64-Bit Server VM (build 21.0.3+9-Ubuntu-1ubuntu1, mixed mode, sharing)  
ubuntu@ip-172-31-29-133:~$ wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.90/bin/apache-tomcat-9.0.90.tar.gz  
--2024-06-20 09:10:02-- https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.90/bin/apache-tomcat-9.0.90.tar.gz  
Resolving dlcdn.apache.org (dlcdn.apache.org)... 151.101.2.132, 2a04:4e42::644  
Connecting to dlcdn.apache.org (dlcdn.apache.org)|151.101.2.132|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 11768699 (11M) [application/x-gzip]  
Saving to: 'apache-tomcat-9.0.90.tar.gz'  
  
apache-tomcat-9.0.90.tar.gz          100%[=====]   11.22M  --.-KB/s  in 0.07s  
2024-06-20 09:10:02 (152 MB/s) - 'apache-tomcat-9.0.90.tar.gz' saved [11768699/11768699]  
  
ubuntu@ip-172-31-29-133:~$ tar -xzvf ^  
ubuntu@ip-172-31-29-133:~$ tar -xzvf apache-tomcat-9.0.90.tar.gz
```

The terminal window has a title bar showing multiple tabs and a status bar at the bottom indicating the date and time.

## 23. After entering the above command



```
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/401.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/403.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/404.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xsl
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ ls
```

j-0030722dc12a4ca49 (ubuntu)  
PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133

27. Here you need to move the apache tomat file to the tomcat folder

```
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/401.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/403.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/404.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xls
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
i-0030722dc12a4ca49 (ubuntu)
PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133
```

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## 28. then type the ls

```
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/401.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/403.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/404.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xls
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ ls
i-0030722dc12a4ca49 (ubuntu)
PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133
```

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29. Here you can see the tomcat folder and cd which is used to change the directory

```
Launch an Instance | Instance details | EC2 Instance Connect | (2) Gallant Lyrical | SA240407 P-1: Dev | (2) How to install Tomcat | Apache Tomcat | + Theory test 1 | Theo... | Download Photo | (55) Don - Bae Vide... | IT INTERVIEW QUES... | Tridents Academy | Skillyst - Free skill a... | Demo Web Shop | New Tab | 51 Tosca Question... | All Bookmarks

aws Services Search [Alt+S] N. Virginia Srinivas Reddy Ettevi

apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/ast-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xml
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/conftest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
ubuntu@ip-172-31-29-133:~$ ls
apache-tomcat-9.0.90.tar.gz tomcat
ubuntu@ip-172-31-29-133:~$ cd tomcat/
i-0030722dc12a4ca49 (ubuntu)
PublicIP: 54.91.179.162 PrivateIP: 172.31.29.133
```

30. Here im using the bin to start the tomcat

The screenshot shows a web browser with multiple tabs open. The active tab is titled "Instance details | EC2" and displays the URL "us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0030722dc12a4ca49&osUser=ubuntu&region=us-east-1&s...". Below the browser is a terminal window with the following session:

```
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/af-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xml
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
ubuntu@ip-172-31-29-133:~$ ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
ubuntu@ip-172-31-29-133:~/tomcat$ cd bin
```

At the bottom of the terminal window, it says "i-0030722dc12a4ca49 (ubuntu)". Below the terminal, the status bar indicates "PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133".

The screenshot shows a web browser with multiple tabs open. The active tab is titled "Instance details | EC2" and displays the URL "us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0030722dc12a4ca49&osUser=ubuntu&region=us-east-1&s...". Below the browser is a terminal window with the following session:

```
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/af-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xml
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
ubuntu@ip-172-31-29-133:~$ ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
ubuntu@ip-172-31-29-133:~/tomcat$ cd bin
```

At the bottom of the terminal window, it says "i-0030722dc12a4ca49 (ubuntu)". Below the terminal, the status bar indicates "PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133".

```

apache-tomcat-9.0.90/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.90/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.90/webapps/manager/css/manager.css
apache-tomcat-9.0.90/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xsl
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
ubuntu@ip-172-31-29-133:~$ ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
ubuntu@ip-172-31-29-133:~/tomcat$ cd bin
ubuntu@ip-172-31-29-133:~/tomcat/bin$ ls

```

i-0030722dc12a4ca49 (ubuntu)

PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133

### 31.Then use the below command to start the tomcat

```

apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xsl
apache-tomcat-9.0.90/bin/catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
ubuntu@ip-172-31-29-133:~$ ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
ubuntu@ip-172-31-29-133:~/tomcat$ cd bin
ubuntu@ip-172-31-29-133:~/tomcat/bin$ ls
bootstrap.jar catalina.sh commons-daemon-native.tar.gz configtest.sh digest.sh setclasspath.bat shutdown.sh tomcat-juli.jar tool-wrapper.sh
catalina-tasks.xml ciphers.bat commons-daemon.jar daemon.sh makebase.bat setclasspath.sh startup.bat tomcat-native.tar.gz version.bat
catalina.bat ciphers.sh configtest.bat digest.bat makebase.sh shutdown.bat startup.sh tool-wrapper.bat version.sh
ubuntu@ip-172-31-29-133:~/tomcat/bin$ ./startup.sh

```

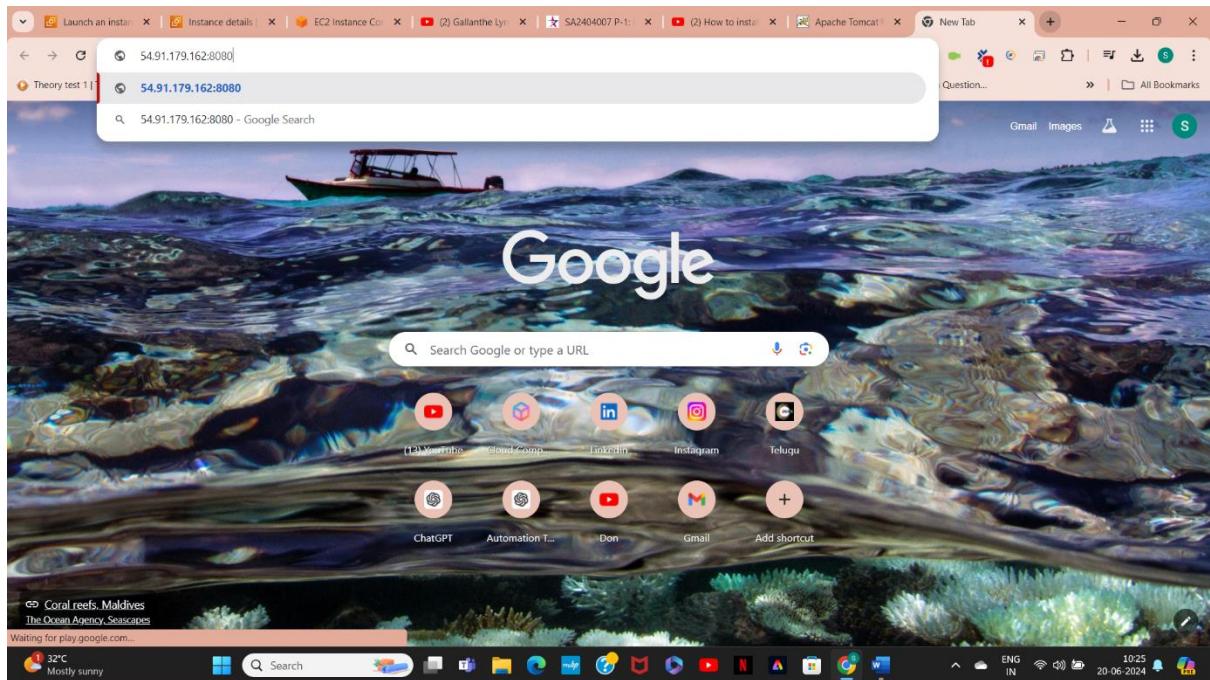
i-0030722dc12a4ca49 (ubuntu)

PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133

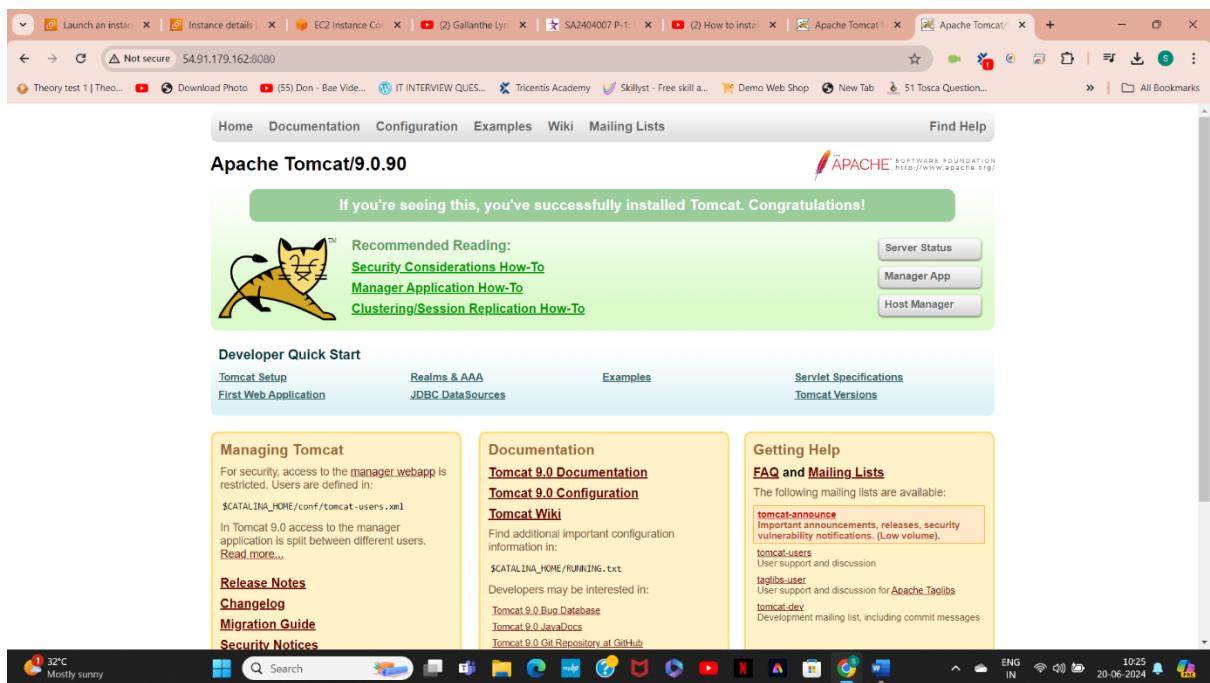
```
apache-tomcat-9.0.90/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.90/webapps/manager/index.jsp
apache-tomcat-9.0.90/webapps/manager/status.xsd
apache-tomcat-9.0.90/webapps/manager/xform.xsl
apache-tomcat-9.0.90/bin/Catalina.sh
apache-tomcat-9.0.90/bin/ciphers.sh
apache-tomcat-9.0.90/bin/configtest.sh
apache-tomcat-9.0.90/bin/daemon.sh
apache-tomcat-9.0.90/bin/digest.sh
apache-tomcat-9.0.90/bin/makebase.sh
apache-tomcat-9.0.90/bin/setclasspath.sh
apache-tomcat-9.0.90/bin/shutdown.sh
apache-tomcat-9.0.90/bin/startup.sh
apache-tomcat-9.0.90/bin/tool-wrapper.sh
apache-tomcat-9.0.90/bin/version.sh
ubuntu@ip-172-31-29-133:~$ mv apache-tomcat-9.0.90 tomcat
ubuntu@ip-172-31-29-133:~$ ls
apache-tomcat-9.0.90.tar.gz tomcat
ubuntu@ip-172-31-29-133:~$ cd tomcat/
ubuntu@ip-172-31-29-133:~/tomcat$ ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
ubuntu@ip-172-31-29-133:~/tomcat$ cd bin
ubuntu@ip-172-31-29-133:~/tomcat/bin$ ls
bootstrap.jar catalina.sh commons-daemon-native.tar.gz configtest.sh digest.sh setclasspath.bat shutdown.sh tomcat-juli.jar tool-wrapper.sh
catalina-tasks.xml ciphers.bat commons-daemon.jar daemon.sh makebase.bat setclasspath.sh startup.bat tomcat-native.tar.gz version.bat
catalina.bat ciphers.sh configtest.bat digest.bat makebase.sh shutdown.bat startup.sh tool-wrapper.bat version.sh
ubuntu@ip-172-31-29-133:~/tomcat/bin$ ./startup.sh
```

i-0030722dc12a4ca49 (ubuntu)  
PublicIPs: 54.91.179.162 PrivateIPs: 172.31.29.133

32.then use the public ip of the instance :8080 as shown in the figure



33. In the below figure you can see the ubuntu and accessed tomcat using the webserver





## **L6 - Create S3 Bucket and add folders and files**

Sol:

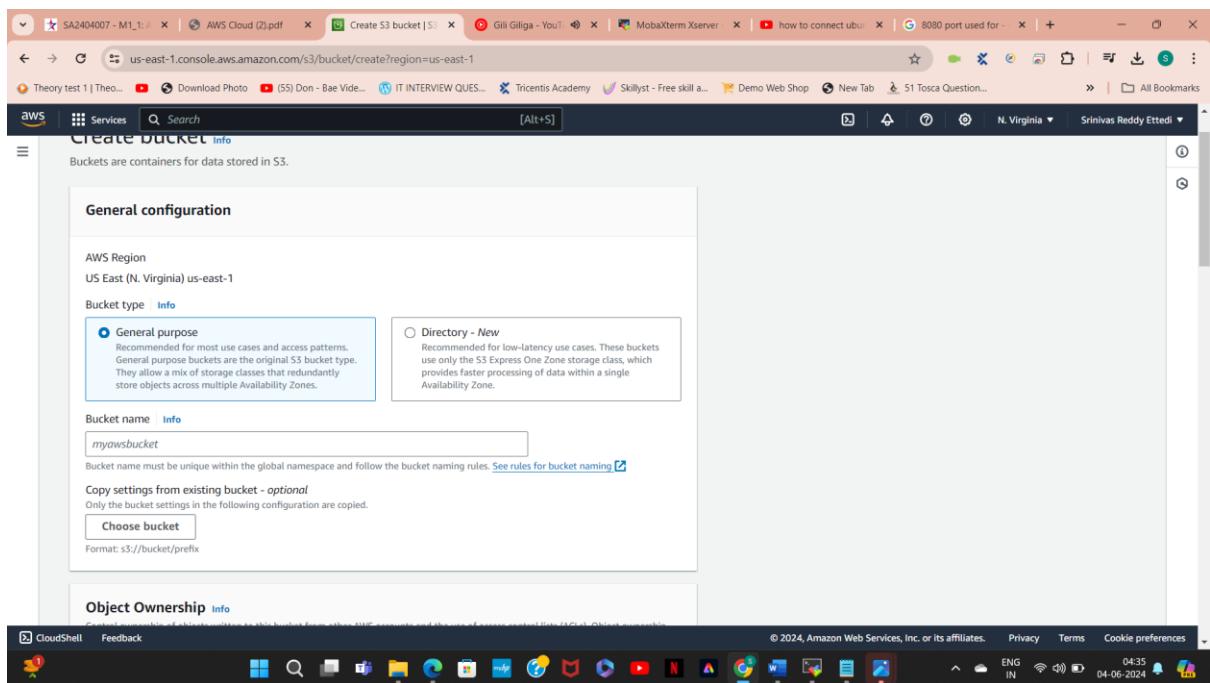
Step1. Click on s3 as shown in the figure below.

The screenshot shows the AWS Cloud Services search results for the query 's3'. The search bar at the top contains 's3'. On the left, a sidebar menu is open under 'Services', showing categories like EC2 Dashboard, EC2 Global View, Events, and Instances. The 'Instances' section is expanded, listing various instance types and options. The main search results are displayed in two columns: 'Services' and 'Features'. The 'Services' column includes links for S3 (Scalable Storage in the Cloud), S3 Glacier (Archive Storage in the Cloud), AWS Snow Family (Large Scale Data Transport), and Storage Gateway (Hybrid Storage Integration). The 'Features' column includes 'Imports from S3' and 'DynamoDB feature'. A modal window titled 'Create security group' is open on the right side of the screen.

2. After clicking on s3 click on create a bucket.

The screenshot shows the 'Get Started' page for Amazon S3. The title 'Amazon S3' is prominently displayed, followed by the tagline 'Store and retrieve any amount of data from anywhere'. Below the title, a brief description states: 'Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance.' To the right, there is a 'Create a bucket' button with a tooltip explaining that every object in S3 is stored in a bucket. Below this, a 'Pricing' section notes that there are no minimum fees and provides a link to the Simple Monthly Calculator. At the bottom, there is a 'How it works' section featuring a video thumbnail titled 'Introduction to Amazon S3'.

### 3. Here select the general purpose bucket



### 4. I'm giving the name as srinivasreddy

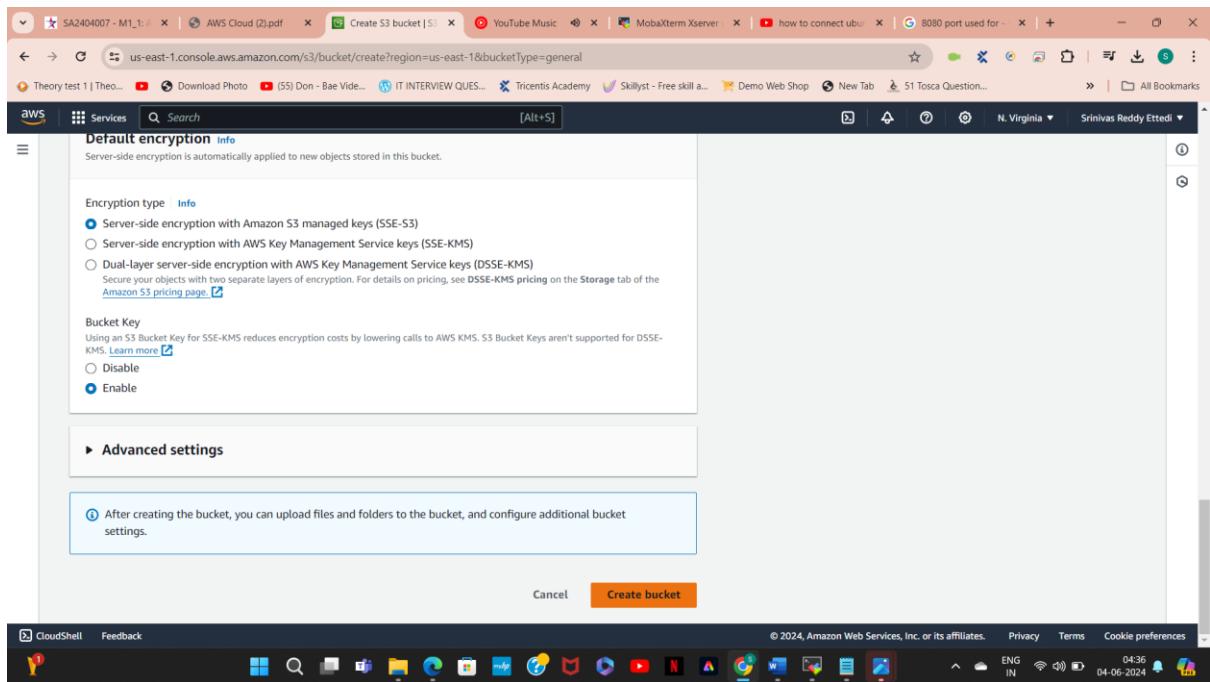
The screenshot shows the 'Create S3 bucket' wizard on the AWS CloudFront interface. The current step is 'Object Ownership'. The 'Bucket name' field contains 'srinivasreddy'. A note states: 'Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming.' Below this, there's a section titled 'Copy settings from existing bucket - optional' with a 'Choose bucket' button and a note: 'Only the bucket settings in the following configuration are copied.' Under 'Object Ownership', the 'ACLs disabled (recommended)' option is selected, with a note: 'All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.' The 'Object Ownership' status is 'Bucket owner enforced'. At the bottom, there's a section titled 'Block Public Access settings for this bucket' with a note: 'Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more'.

The screenshot shows the 'Create S3 bucket' wizard on the AWS CloudFront interface. The current step is 'Block Public Access settings for this bucket'. The 'Block all public access' checkbox is checked. A note explains: 'Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.' Below are four sub-options, each with a checkbox:

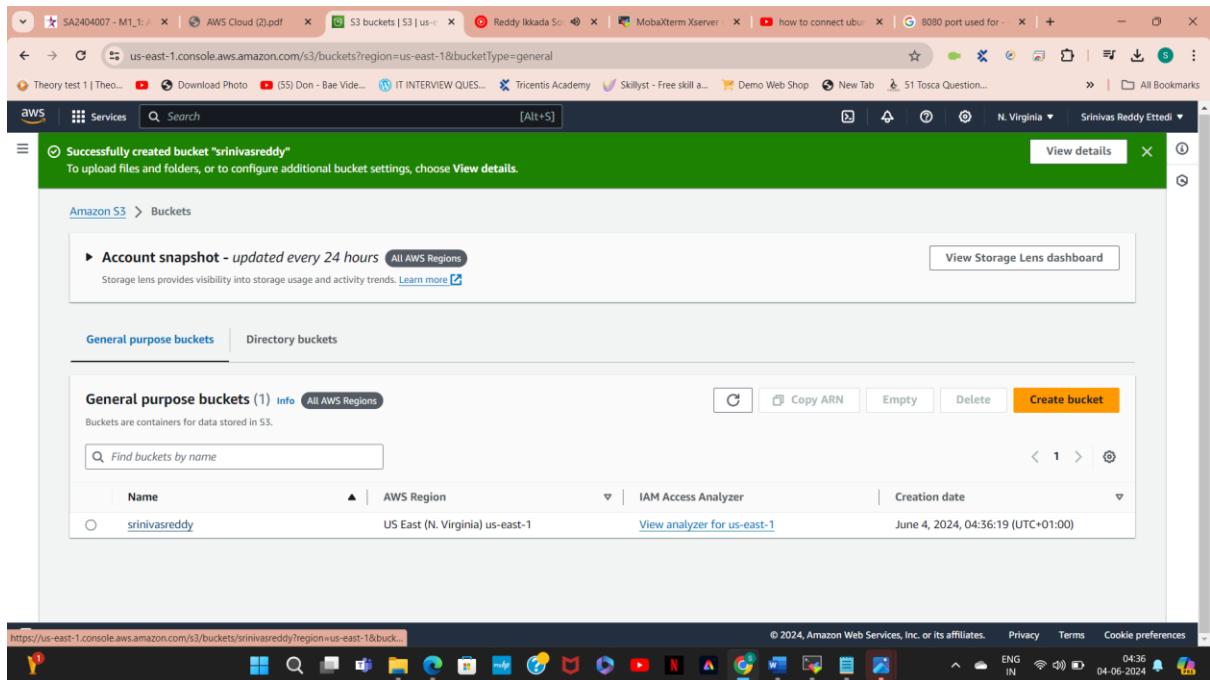
- Block public access to buckets and objects granted through new access control lists (ACLs)**  
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources.
- Block public access to buckets and objects granted through any access control lists (ACLs)**  
S3 will ignore all ACLs that grant public access to buckets and objects.
- Block public access to buckets and objects granted through new public bucket or access point policies**  
S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.
- Block public and cross-account access to buckets and objects through any public bucket or access point policies**  
S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

At the bottom, there's a section titled 'Bucket Versioning' with a note: 'Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore versions of objects in your bucket. Learn more'.

## 6.After giving the name click on create bucket



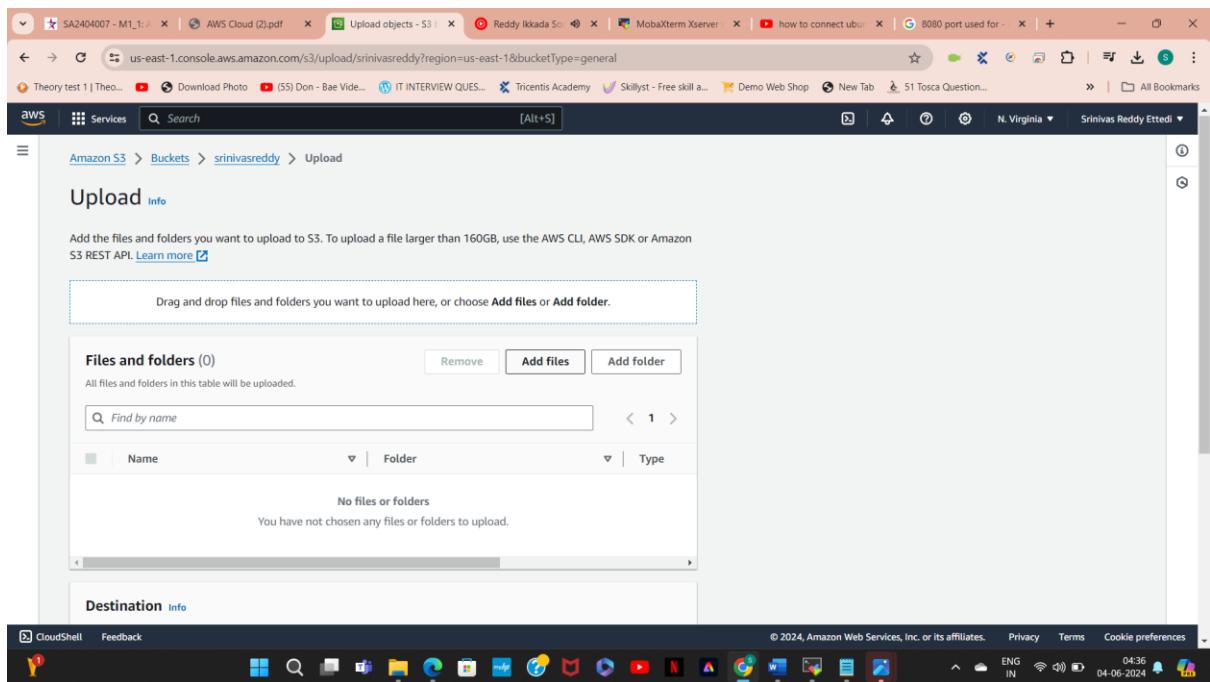
## 7.U can see the bucket has been created successfully



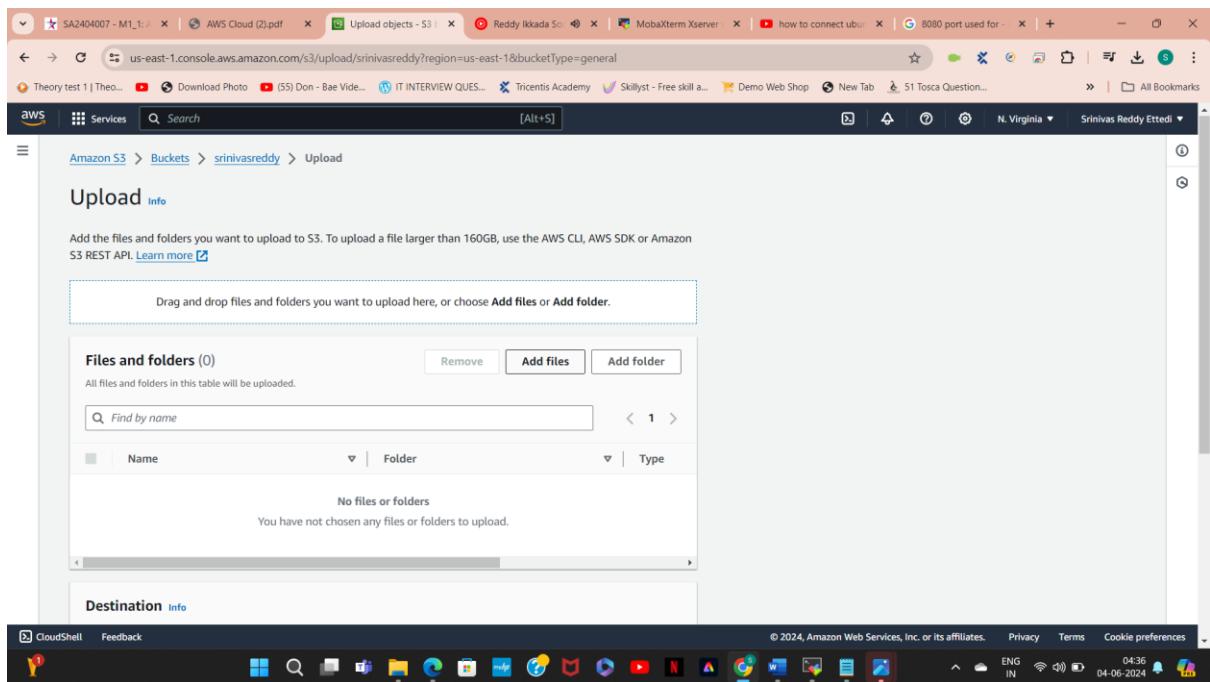
12.Then click on upload as shown in the figure below

The screenshot shows the AWS S3 console interface. At the top, there are several tabs and browser bookmarks. Below the header, the URL is `us-east-1.console.aws.amazon.com/s3/buckets/srinivasreddy?region=us-east-1&bucketType=general&tbar=objects`. The main content area shows the 'srinivasreddy' bucket. The 'Objects' tab is selected, showing 0 objects. There is a prominent orange 'Upload' button at the top of the object list. A search bar and filter options ('Name', 'Type', 'Last modified', 'Size', 'Storage class') are also visible. The bottom of the screen shows the Windows taskbar with various pinned icons.

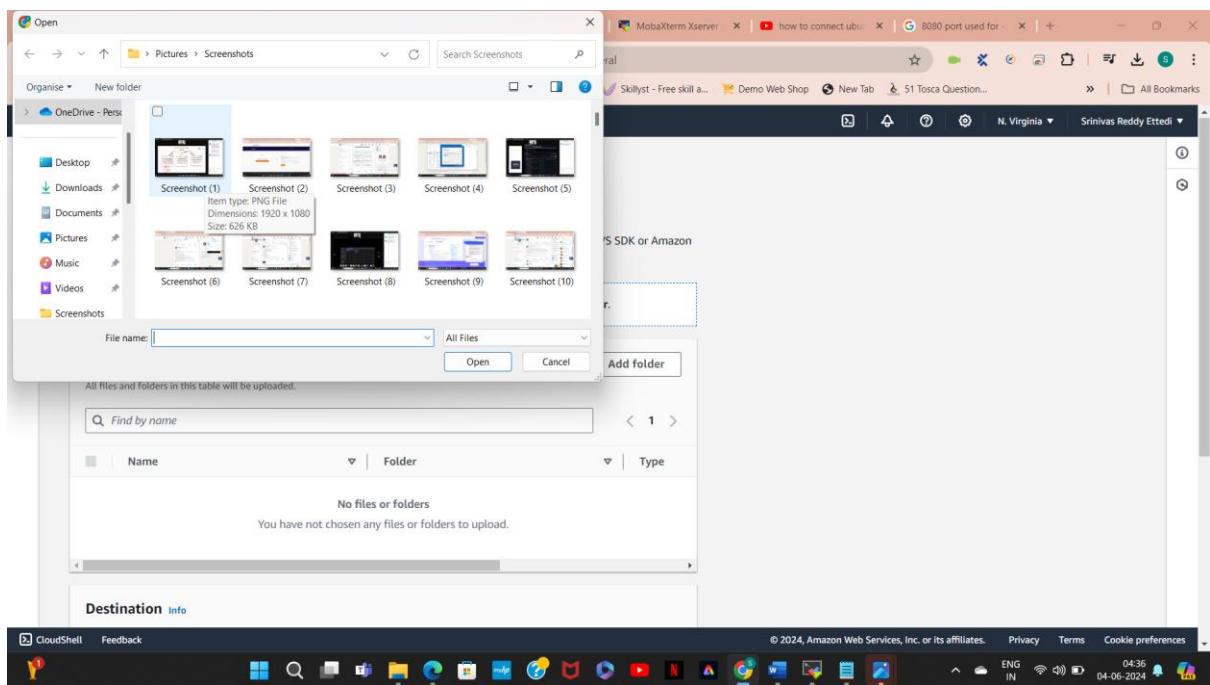
13. Here click on upload as shown in the figure below



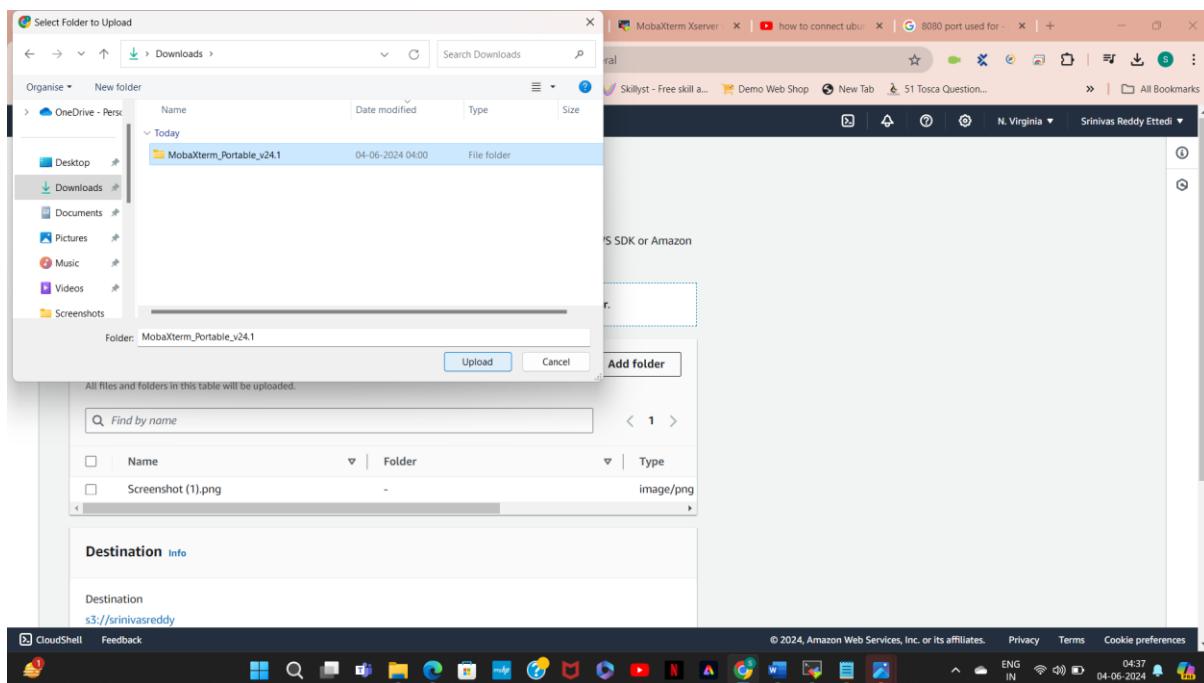
14.Click on Add files here



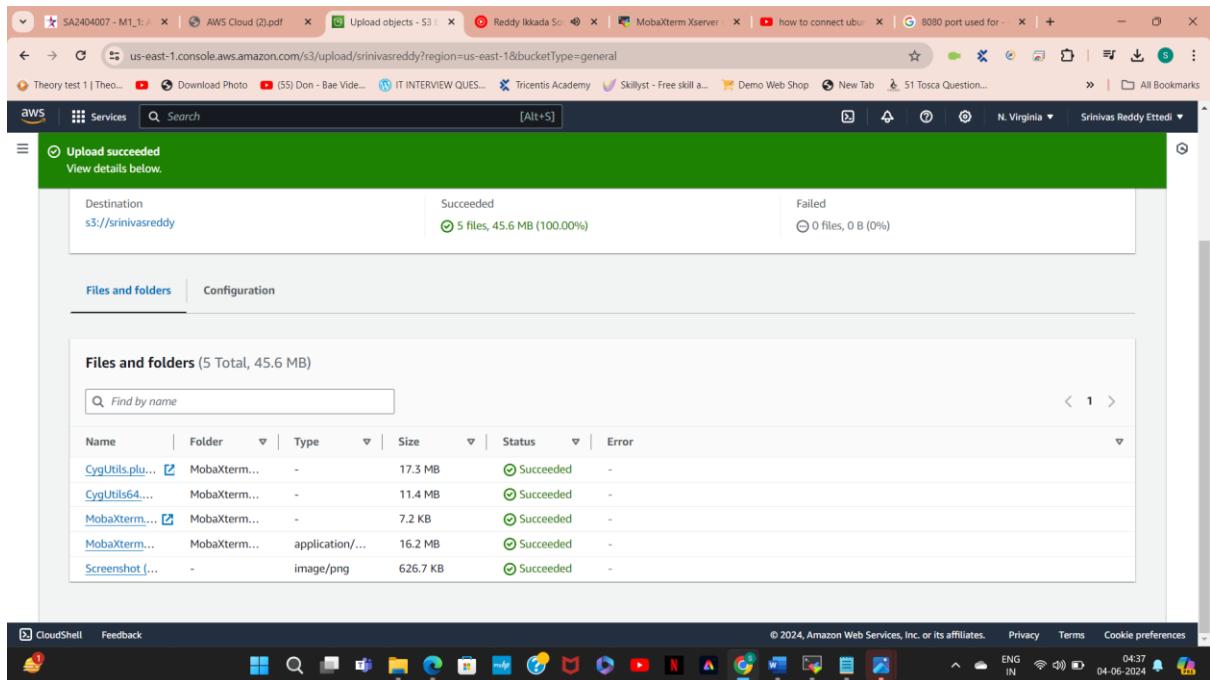
15. Here select the file u want to upload and click on open



16.similarly click on the folder and upload by selecting the folder u want to upload in to the bucket



17.Here u can see the upload succeded as shown in the figure below.



18.U can see the folders and files has been uploaded into the bucket as shown in the below figure

The screenshot displays the AWS S3 console interface. The URL in the address bar is `us-east-1.console.aws.amazon.com/s3/buckets/srinivasreddy?region=us-east-1&bucketType=general&tab=objects`. The page shows a list of objects in the 'srinivasreddy' bucket:

Name	Type	Last modified	Size	Storage class
<a href="#">MobaXterm_Portable_v24.1/</a>	Folder	-	-	-
<a href="#">Screenshot (1).png</a>	png	June 4, 2024, 04:37:49 (UTC+01:00)	626.7 KB	Standard

The browser's address bar and various tabs are visible at the top of the screen.







































Create s3 bucket and add files and folders.

