

SOLUTIONS ARCHITECTING ON CLOUD

(20CS3235AA) Labs-4

Name: K. VENKATA SREE SAI

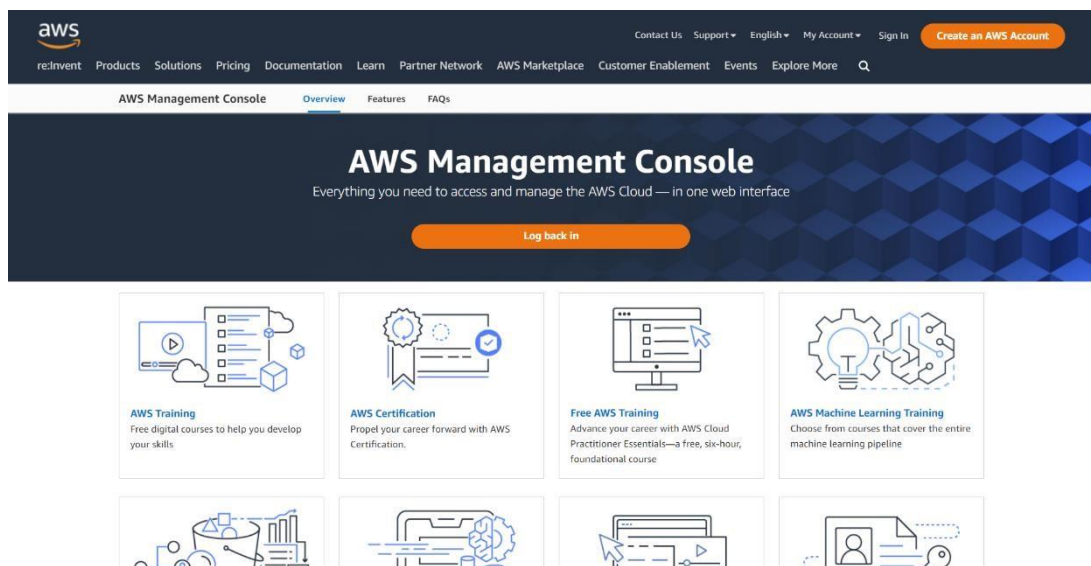
ID:2000030439

Scripting with user data in ec2 Linux, versioning in s3, Static website hosting.

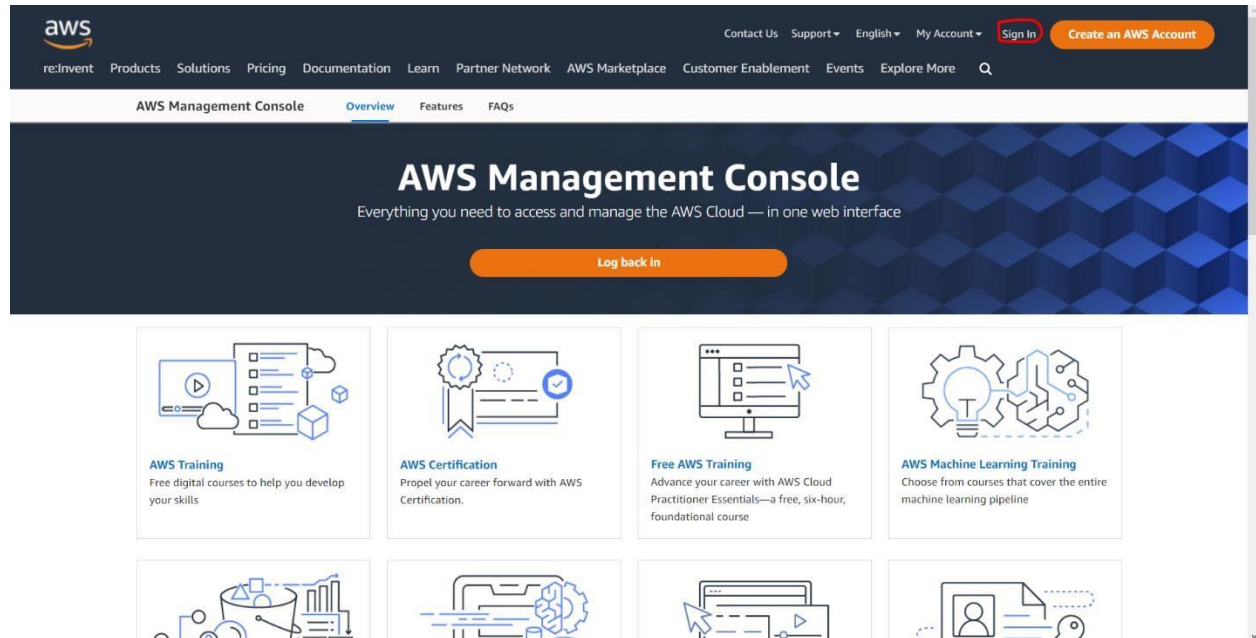
PART-1

Scripting with user data in ec2 Linux

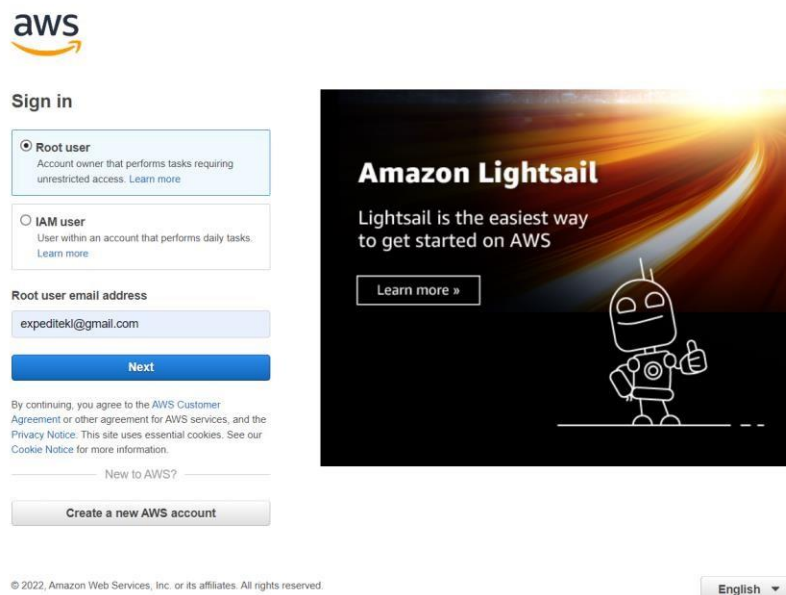
Step-1: Go to Google Browser and type [AWS Management Console](https://aws.amazon.com/console/).



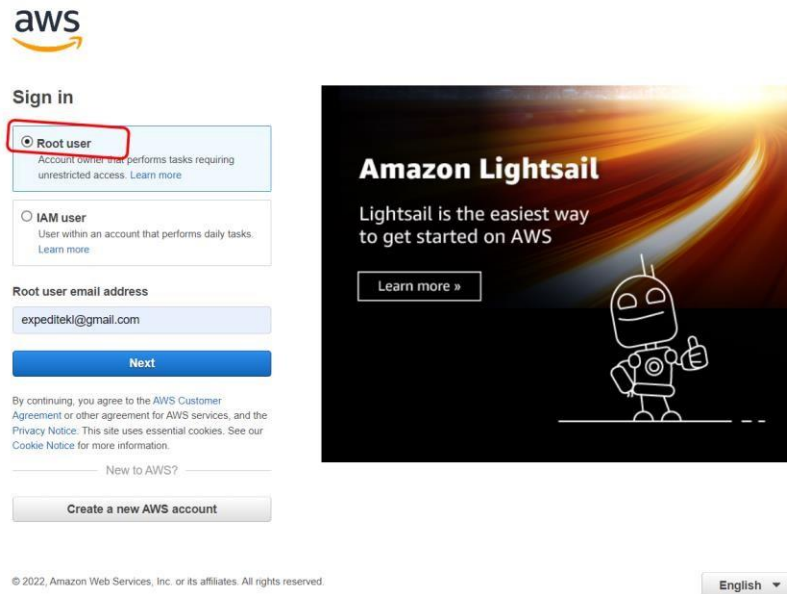
Step-2: After That If you having an account in [Aws management console](#) then click on [Sign-in](#) option.



Step-3: After It will redirect to [aws sign-in](#) portal.



Step-4: Sign-in with your root account only



The image shows the AWS sign-in page. On the left, there is a 'Sign in' section with two options: 'Root user' (selected and highlighted with a red box) and 'IAM user'. Below these is a field for 'Root user email address' containing 'expeditel@gmail.com' and a 'Next' button. At the bottom of this section is a link to 'Create a new AWS account'. On the right, there is a large banner for 'Amazon Lightsail' with the text 'Lightsail is the easiest way to get started on AWS' and a 'Learn more »' button. The banner features a cartoon robot character.

aws

Sign in

☒ Root user
Account owner user performs tasks requiring unrestricted access. [Learn more](#)

☐ IAM user
User within an account that performs daily tasks. [Learn more](#)

Root user email address

expeditel@gmail.com

Next

By continuing, you agree to the [AWS Customer Agreement](#) or other agreement for AWS services, and the [Privacy Notice](#). This site uses essential cookies. See our [Cookie Notice](#) for more information.

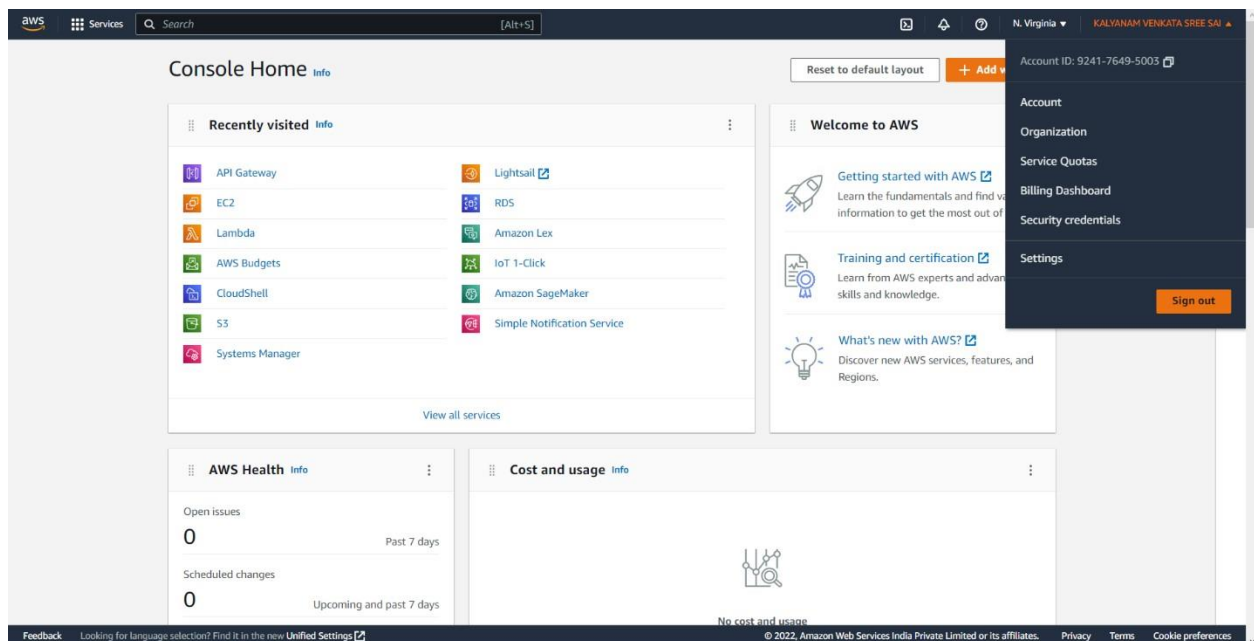
[New to AWS?](#)

[Create a new AWS account](#)

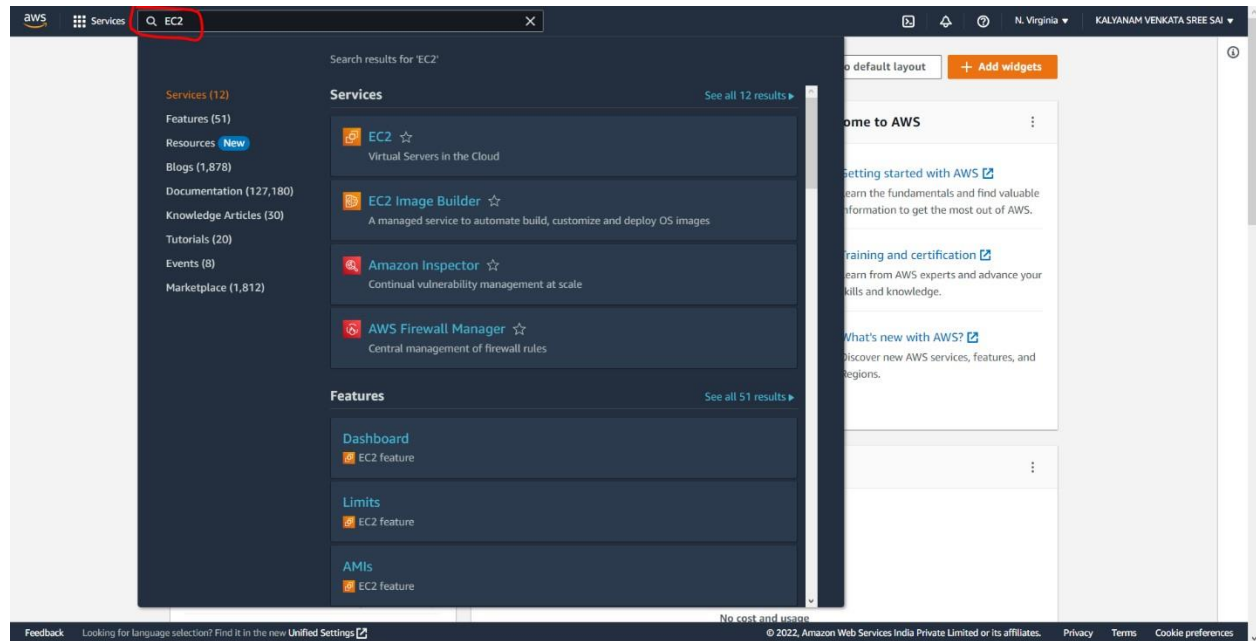
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English

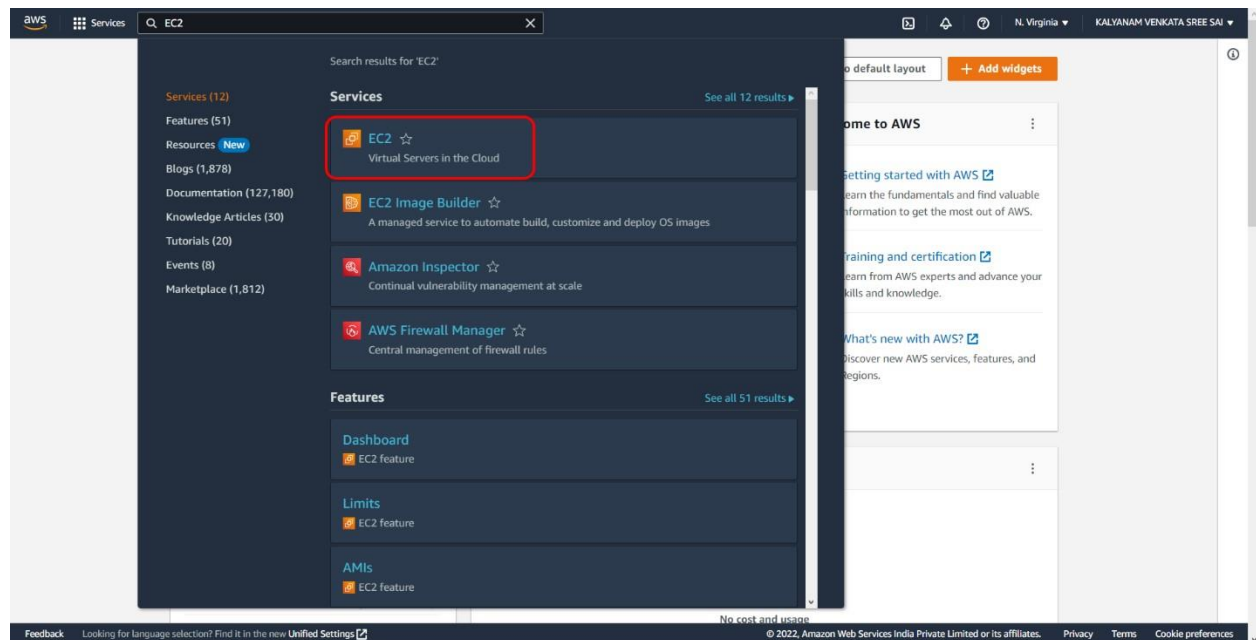
Step-5: After Sign-in the aws management console look like the below image.



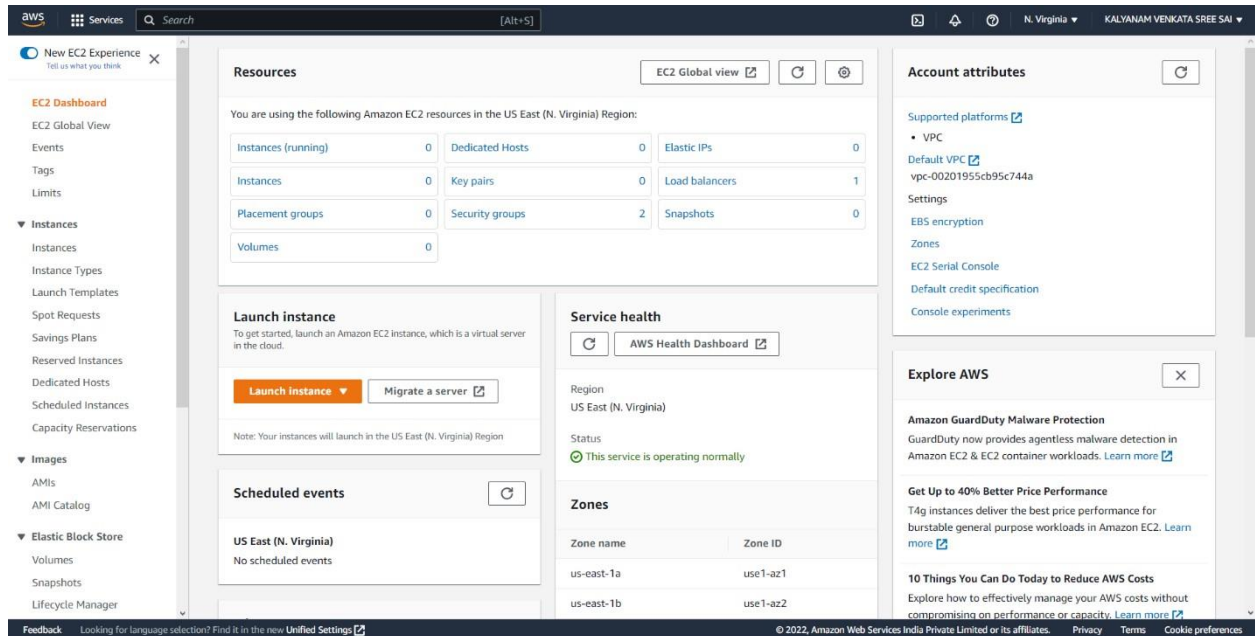
Step-6: Go through the search bar and type “EC2”.



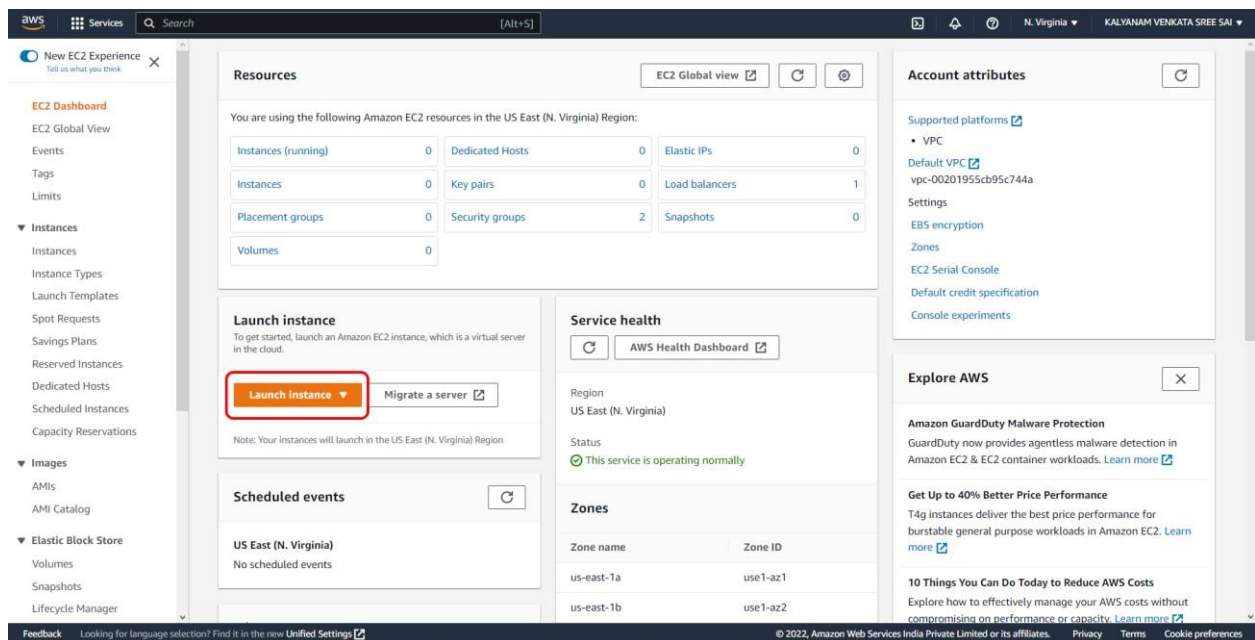
Step-7: Select the First service from the listed below.



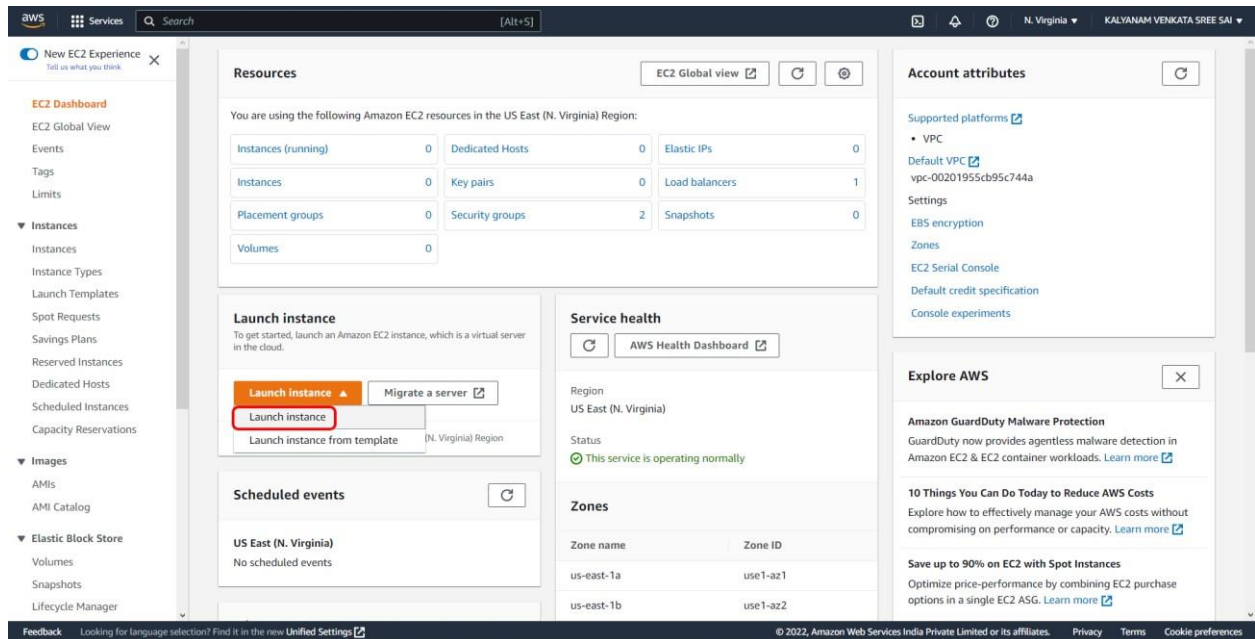
Step-8: After clicking the First Service The console will look like.



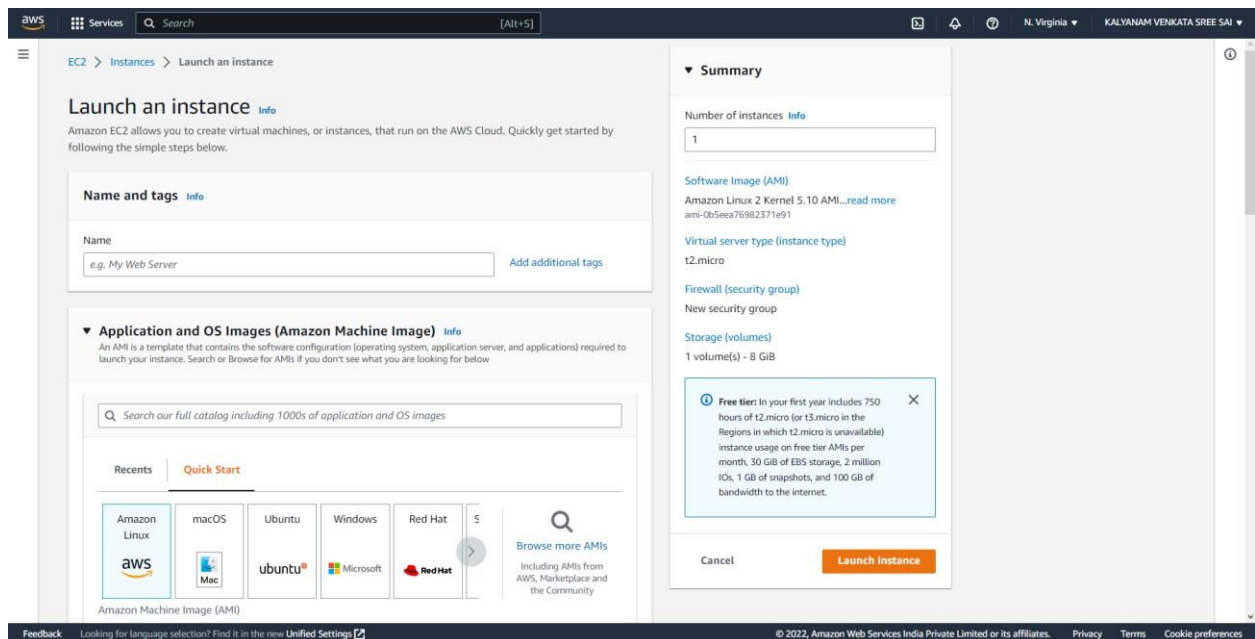
Step-9: Click on the “Launch Instance” in the EC2 console.



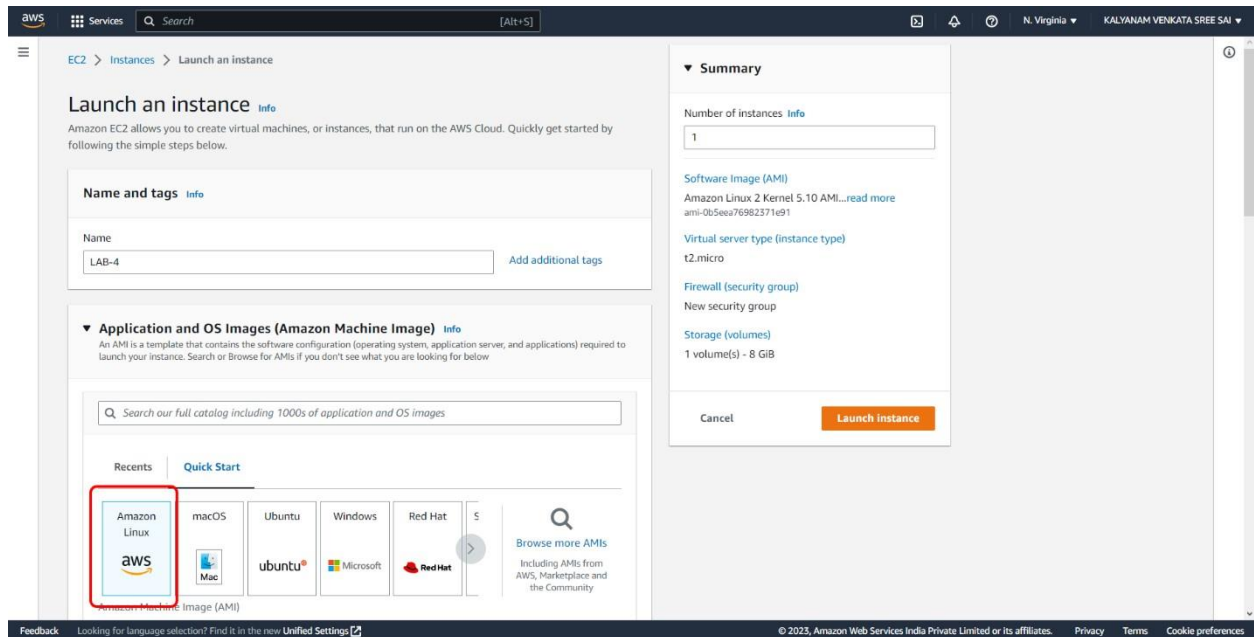
Step-10: Click on the “Launch Instance” from the drop down menu.



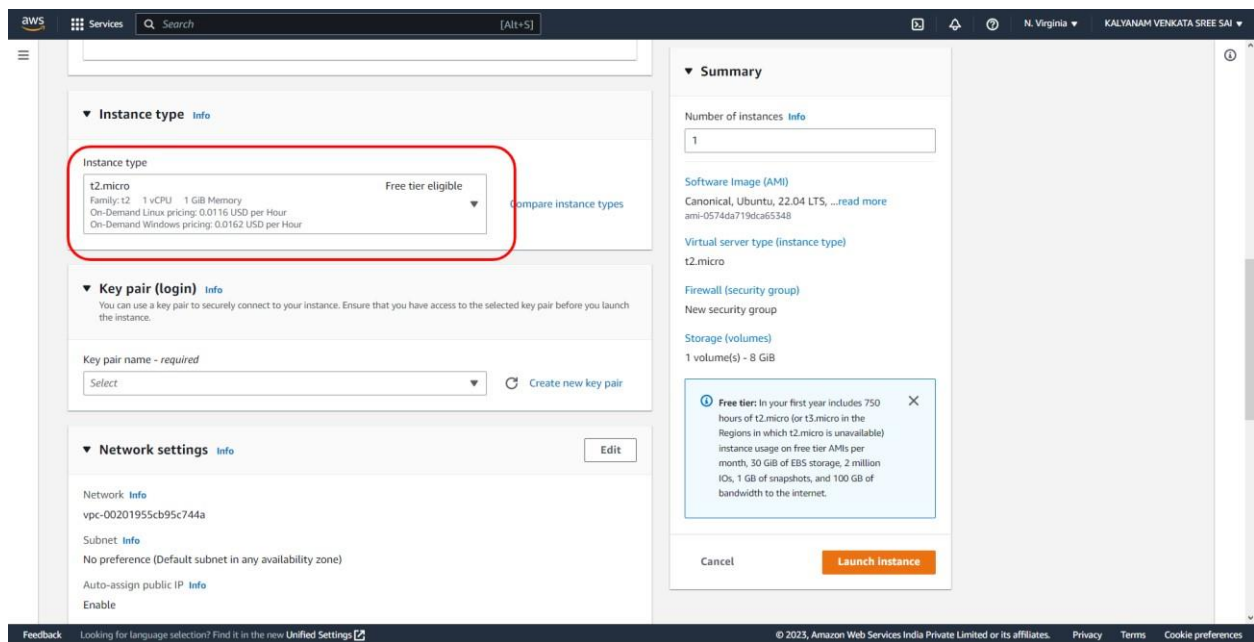
Step-11: After Clicking on the Launch Instance It will look like.



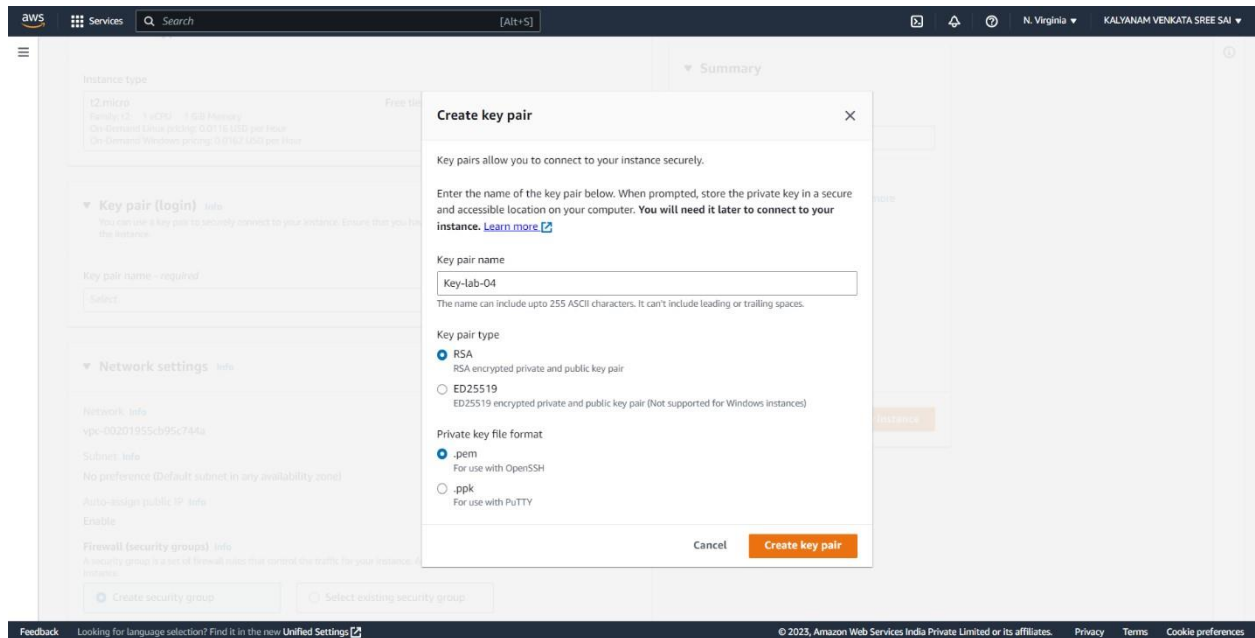
Step-12: In the AMI Section Select the “Amazon Linux”.



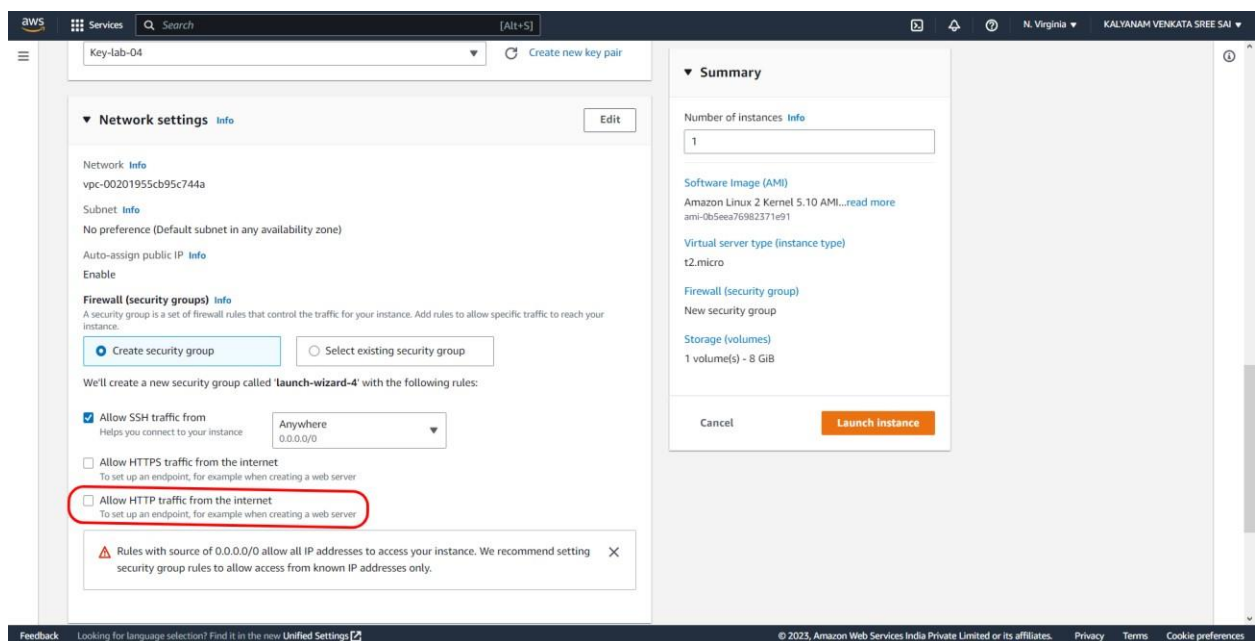
Step-13 :After select The Instance Type “t2.micro” which is under free tier eligible.



Step-14: Now “**Create the new key pair**” with extension .pem which will be useful for connecting The EC2 Instance through “SSH” .



Step-15: Check the “Allow HTTP traffic from the internet”.



Step-16: Click on the “Additional Details” and “Scroll down” add the Custom data in the “User Data”.

The image displays two screenshots of the AWS Management Console, specifically the 'Additional Details' step of the 'Launch Instance' wizard. The top screenshot shows the 'User data' field empty, while the bottom screenshot shows it populated with a script to install and start the httpd service.

Top Screenshot (Empty User Data):

- Metadata accessible:** Enabled
- Metadata version:** V1 and V2 (token optional)
- Metadata response hop limit:** 1
- Allow tags in metadata:** Disable
- User data:** (Empty text area)
- Summary:**
 - Number of instances: 1
 - Software Image (AMI): Amazon Linux 2 Kernel 5.10 AMI...read more
 - Virtual server type (instance type): t2.micro
 - Firewall (security group): New security group
 - Storage (volumes): 1 volume(s) - 8 GiB
- Buttons:** Cancel, Launch Instance

Bottom Screenshot (Populated User Data):

- Metadata accessible:** Enabled
- Metadata version:** V1 and V2 (token optional)
- Metadata response hop limit:** 1
- Allow tags in metadata:** Disable
- User data:** (Populated with the following script)

```
#!/bin/bash
# install httpd (Linux 2 version)
yum update -y
yum install -y httpd
systemctl start httpd
systemctl enable httpd
echo ~h1>Hello World from $(hostname -f)</h1>" > /var/www/html/index.html
```
- Summary:** (Same as top screenshot)
- Buttons:** Cancel, Launch Instance

Step-17: After That Launch The Instance

The screenshot shows the AWS Management Console 'Launch instance' wizard. The 'Summary' tab is active, displaying the following configuration:

- Number of instances: 1
- Software image (AMI): Amazon Linux 2 Kernel 5.10 AMI...read more (ami-0b5ea76982371e91)
- Virtual server type (instance type): t2.micro
- Firewall (security group): New security group
- Storage (volumes): 1 volume(s) - 8 GiB

The 'Launch instance' button is highlighted with a red rectangle. The 'User data' field contains the following script:

```
#!/bin/bash
# install httpd (Linux 2 version)
yum update -y
yum install -y httpd
systemctl start httpd
systemctl enable httpd
echo "ch1>Hello World from $(hostname -f)</h1>" > /var/www/html/index.html
```

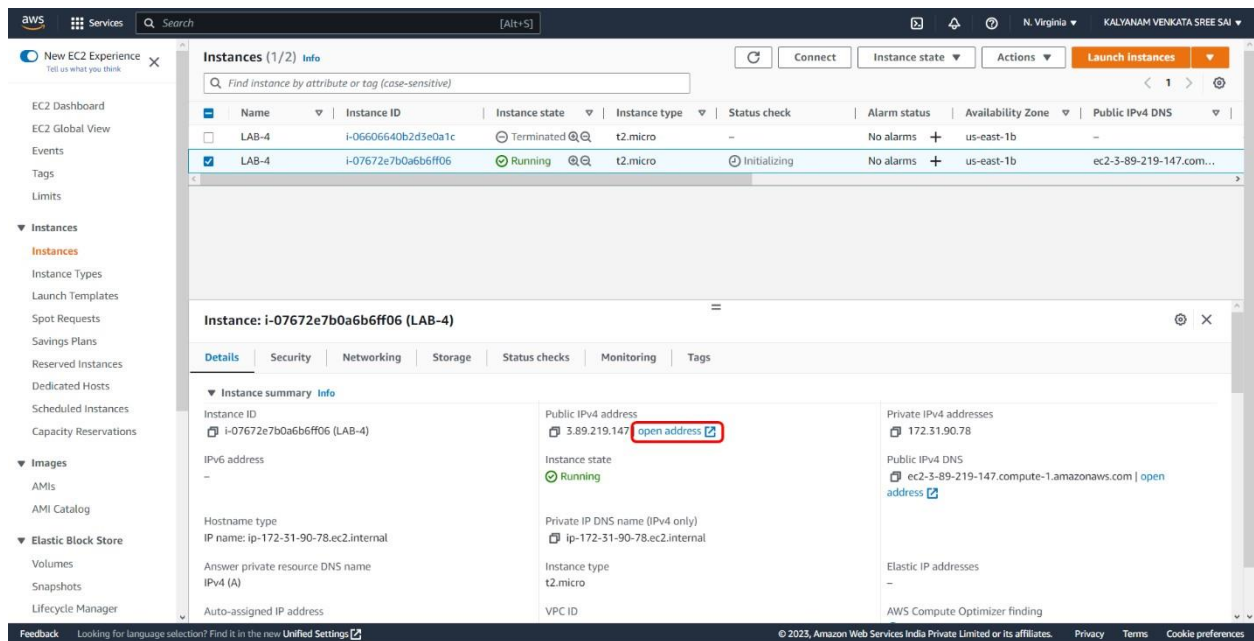
The 'Metadata accessible' dropdown is set to 'Enabled', 'Metadata version' is 'V1 and V2 (token optional)', 'Metadata response hop limit' is '1', and 'Allow tags in metadata' is 'Disable'.

Step-18: Check The Status which is “2/2 Check Passed”

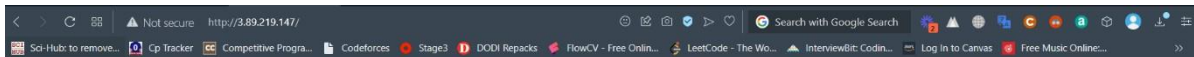
The screenshot shows the AWS Management Console 'Instances' page. The instance 'LAB-4' is in the 'Running' state. The 'Status check' column shows '2/2 checks passed', which is circled in red.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
LAB-4	i-06606640b2d5e0a1c	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b	ec2-44-201-185-145.co...

Step-19: Go back to Step-18 and Select the Instance and then open the link under “Public IPv4 address”.



Step-20: Finally it display the data which is pasted under user data.

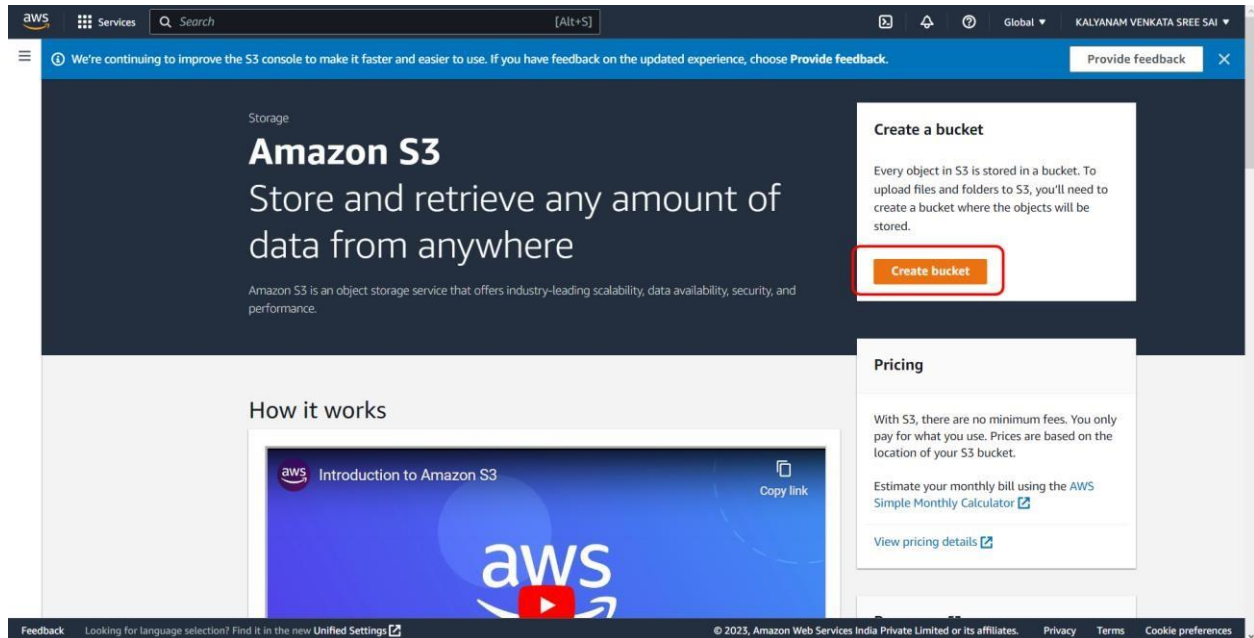


Hello World from ip-172-31-90-78.ec2.internal

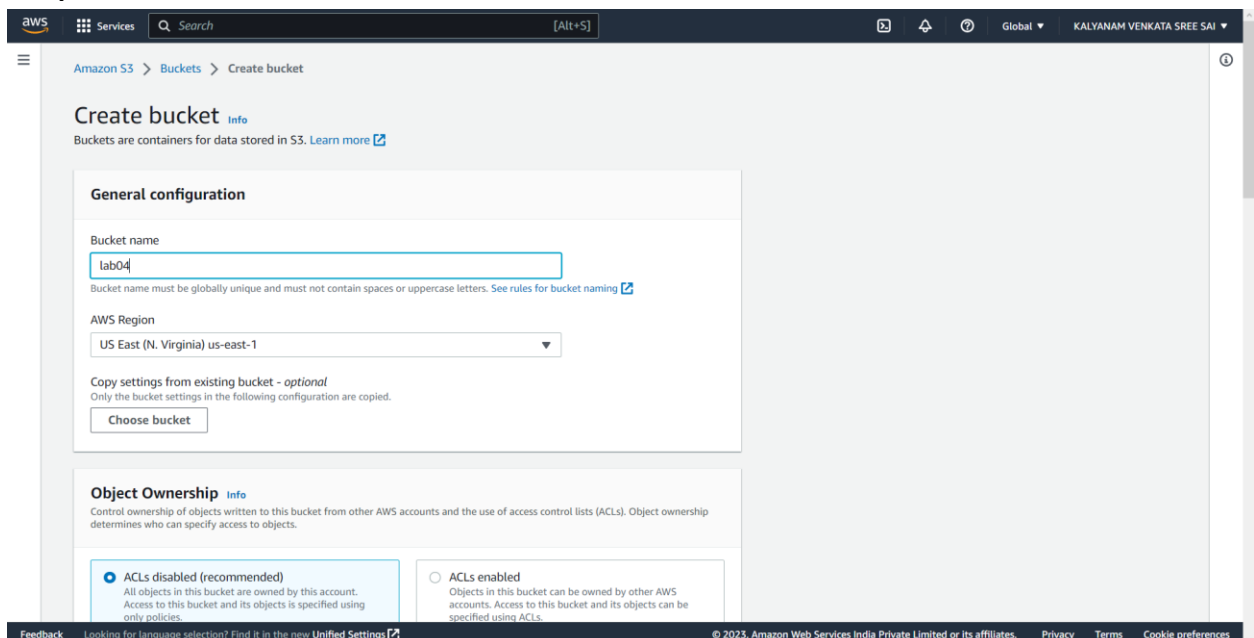
PART-2

versioning in s3

Step-1: Open the Amazon S3 Console and create the bucket
<https://console.aws.amazon.com/s3/>



Step-2: Create The Bucket With Name “lab-04”



Step-3: Go to the S3 bucket you want to enable S3 versioning for

The screenshot displays the AWS Management Console interface for an Amazon S3 bucket named 'lab04'. The top navigation bar includes the AWS logo, 'Services', a search bar, and the user's name 'KALYANAM VENKATA SREE SAI'. The left sidebar shows the 'Amazon S3' console with various options like Buckets, Access Points, and Storage Lens. The main content area shows the bucket 'lab04' with tabs for Objects, Properties, Permissions, Metrics, Management, and Access Points. The 'Objects' tab is active, showing 'Objects (0)' and a message: 'Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)'. Below this, there are buttons for 'Copy S3 URI', 'Copy URL', 'Download', 'Open', 'Delete', 'Actions', and 'Create folder'. An 'Upload' button is also present. A search bar with the placeholder 'Find objects by prefix' is shown. Below the search bar, a table header is visible with columns: Name, Type, Last modified, Size, and Storage class. The table content area displays 'No objects' and the message 'You don't have any objects in this bucket.' with an 'Upload' button.

Amazon S3

Amazon S3 > Buckets > lab04

lab04 Info

Objects Properties Permissions Metrics Management Access Points

Objects (0)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

[Refresh](#) [Copy S3 URI](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions](#) [Create folder](#)

[Upload](#)

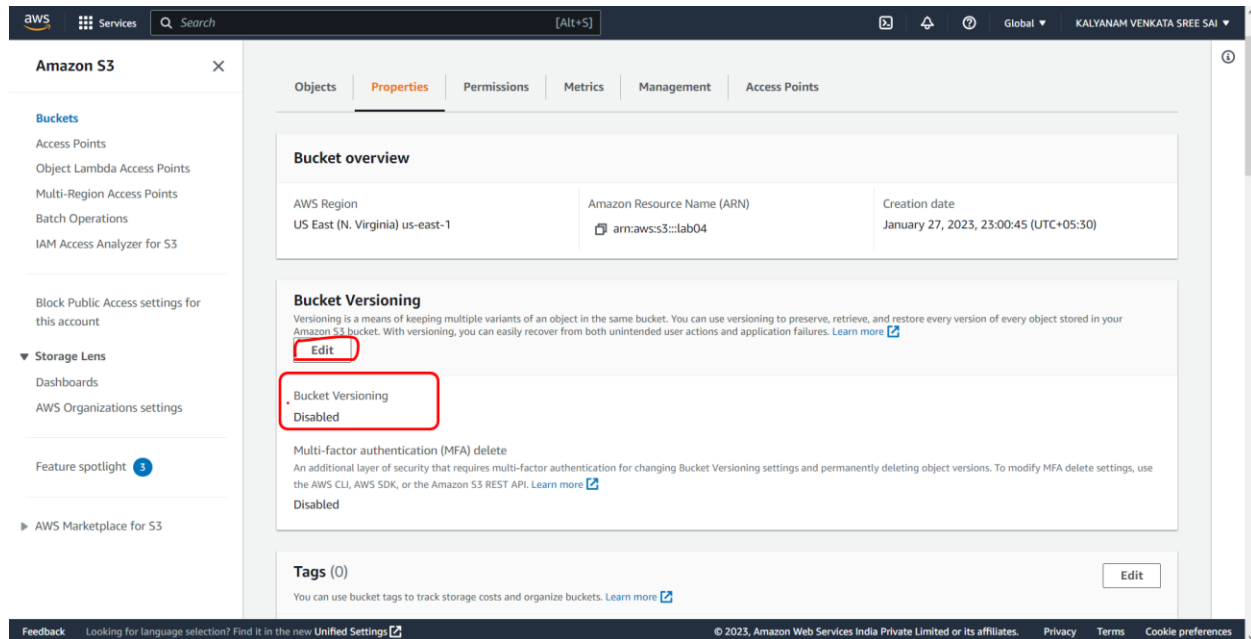
Name	Type	Last modified	Size	Storage class
No objects				
You don't have any objects in this bucket.				

[Upload](#)

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Step-4: From the page, go to the Properties tab Scroll down to the Bucket Versioning section and click on the Edit button to edit the versioning status of the S3 bucket. It will also show the current status of the S3 bucket versioning feature



The screenshot displays the AWS Management Console interface for an Amazon S3 bucket. The left sidebar shows the navigation menu with options like Buckets, Access Points, and Storage Lens. The main content area is divided into tabs: Objects, Properties (selected), Permissions, Metrics, Management, and Access Points. The 'Properties' tab is active, showing the 'Bucket overview' section with details like AWS Region (US East (N. Virginia) us-east-1), Amazon Resource Name (ARN) (arn:aws:s3:::lab04), and Creation date (January 27, 2023, 23:00:45 (UTC+05:30)). Below this, the 'Bucket Versioning' section is highlighted with a red box. It shows the status as 'Disabled' and includes an 'Edit' button, which is also highlighted with a red box. The 'Tags' section at the bottom shows 0 tags.

Amazon S3

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

▼ **Storage Lens**

- Dashboards
- AWS Organizations settings

Feature spotlight 3

► AWS Marketplace for S3

Properties

Bucket overview

AWS Region	Amazon Resource Name (ARN)	Creation date
US East (N. Virginia) us-east-1	arn:aws:s3:::lab04	January 27, 2023, 23:00:45 (UTC+05:30)

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Edit

Bucket Versioning
Disabled

Multi-factor authentication (MFA) delete

An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

Disabled

Tags (0)

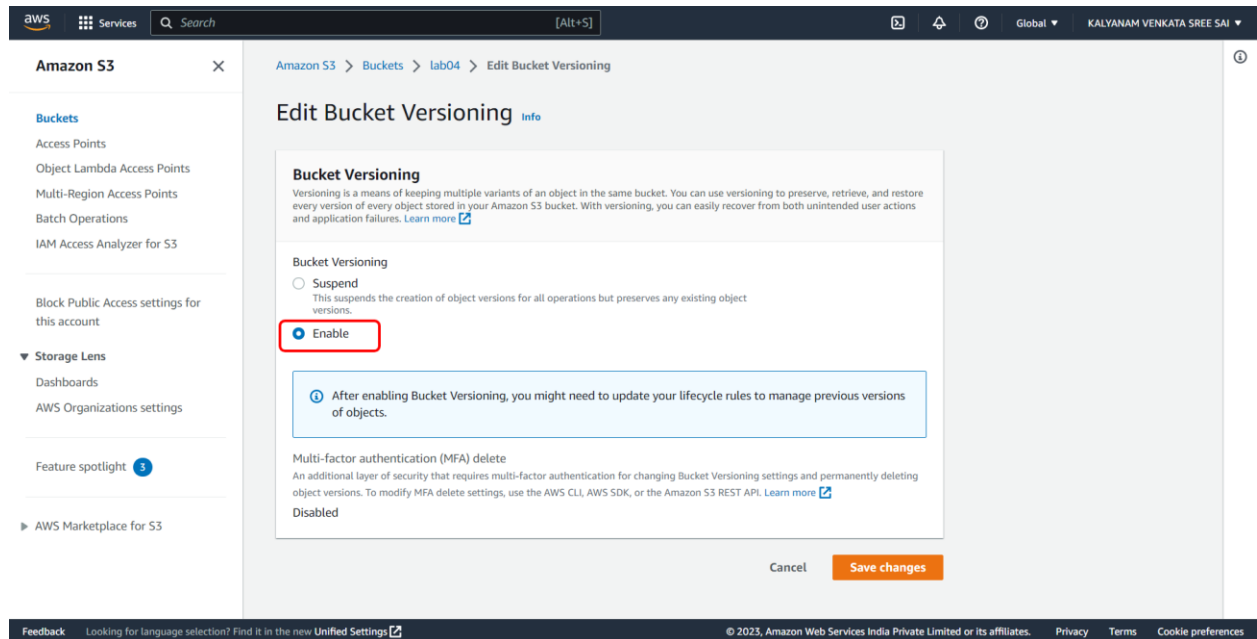
You can use bucket tags to track storage costs and organize buckets. [Learn more](#)

Edit

Feedback Looking for language selection? Find it in the new Unified Settings

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Step-5: When you click on the Edit button, it will ask to enable the bucket versioning. Select the Enable option and click on the Save changes button to enable the bucket versioning.



Step-6: Enabling S3 bucket versioning will display a toggle button in the S3 console that, when enabled, shows the version ID of all objects, including those uploaded before versioning was enabled, which will have a null version ID.

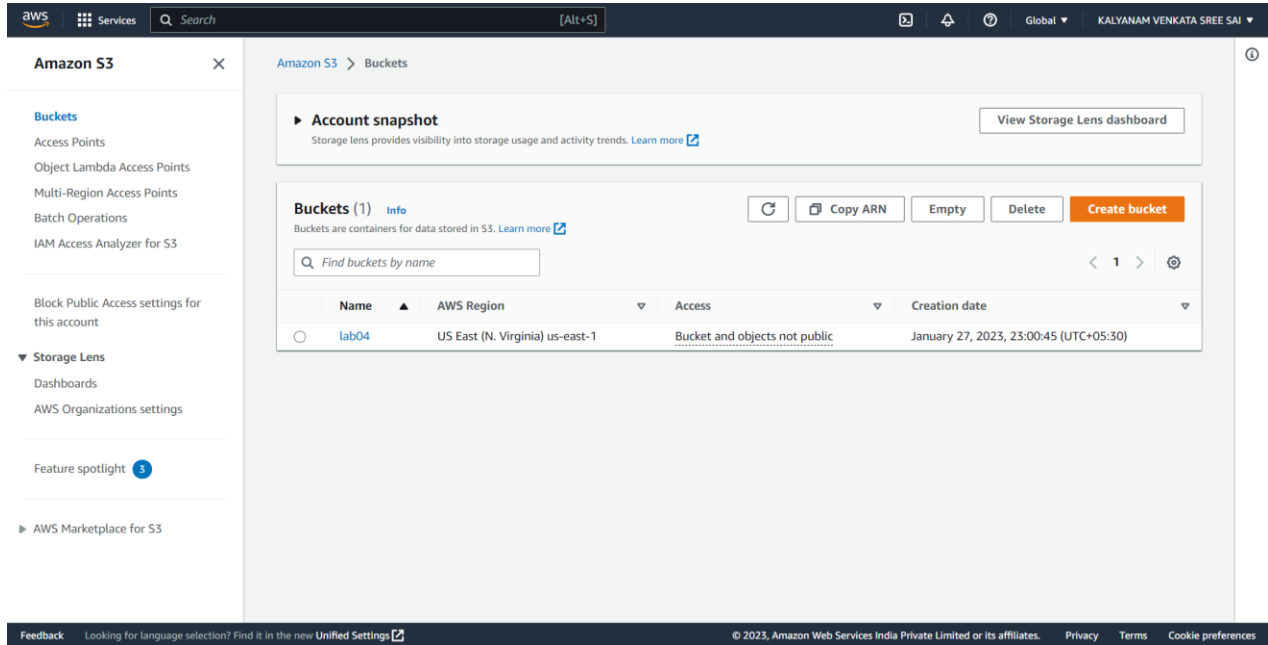
The screenshot shows the AWS S3 console interface for a bucket named 'lab04'. The 'Objects' tab is selected, displaying a list of objects. The 'Show versions' toggle is enabled, showing version IDs for each object. The table below lists the objects:

<input type="checkbox"/>	Name	Type	Version ID	Last modified	Size	Storage class
<input type="checkbox"/>	sample.txt	txt	LsAu0mLoki.Tl2BxN6iqoAp5v3vAN98U	January 28, 2023, 12:50:47 (UTC+05:30)	95.0 B	Standard
<input type="checkbox"/>	sample.txt	txt	sSAfe5nVhPTc_kX4bXkdz8p5.HKDTaGT	January 28, 2023, 12:49:48 (UTC+05:30)	50.0 B	Standard

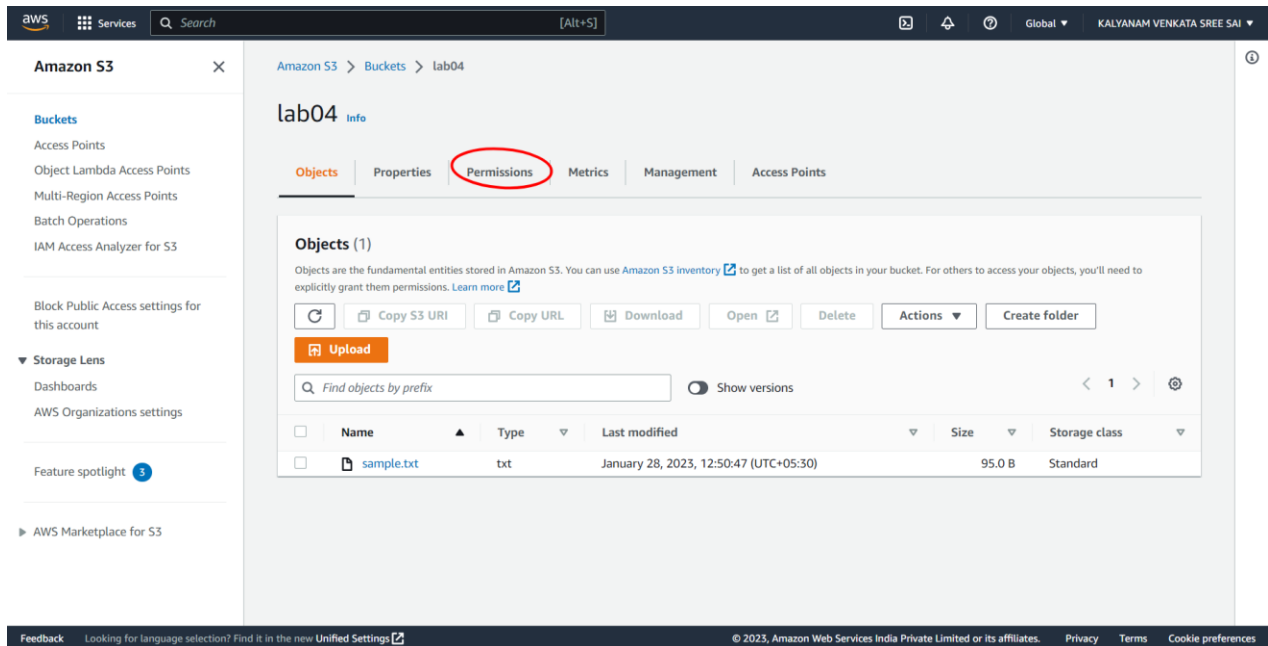
Part-3

Static website hosting.

Step-1: Go the S3 Bucket



Step-2: Go the bucket and then click on the “Permission tab.”



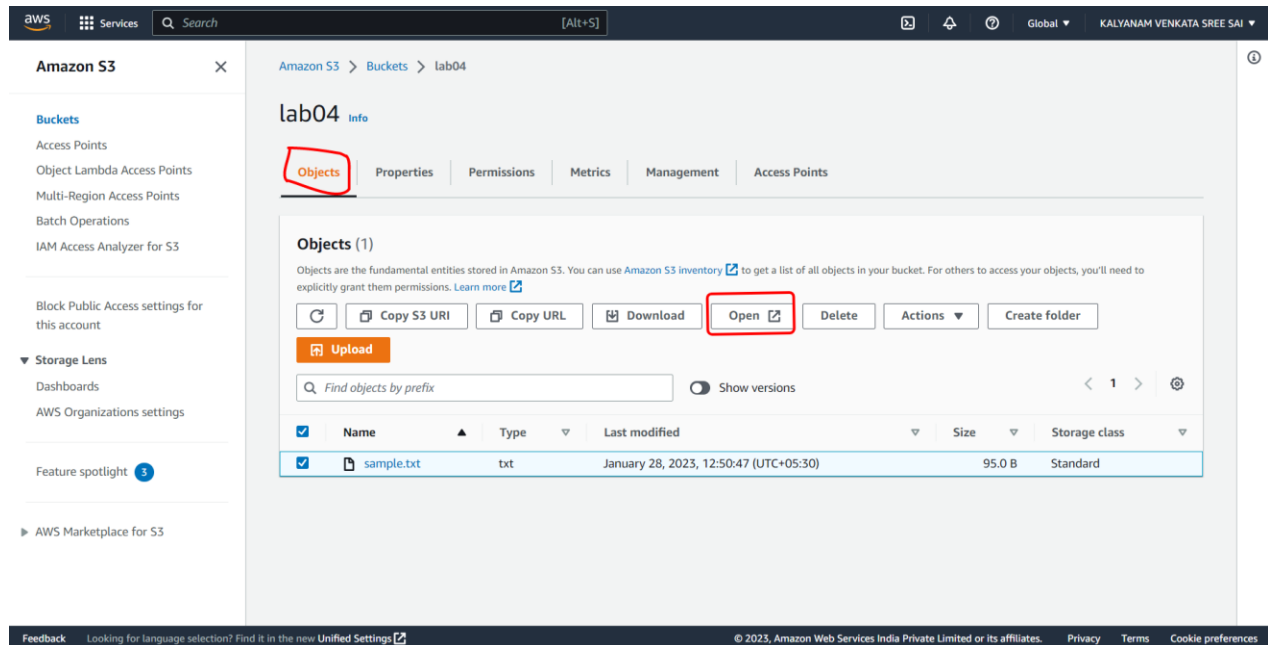
Step-3:click on edit button.

The screenshot shows the AWS S3 console interface. On the left is a navigation pane with 'Amazon S3' selected. The main content area shows the 'lab04' bucket details under the 'Permissions' tab. In the 'Block public access (bucket settings)' section, the 'Block all public access' toggle is currently 'On'. A red circle highlights the 'Edit' button, and another red circle highlights the 'Block all public access' toggle.

Step-4: Disable block all public access.

The screenshot shows the AWS S3 console interface after editing the bucket settings. A green success message at the top states 'Successfully edited Block Public Access settings for this bucket.' The 'Block public access (bucket settings)' section now shows 'Block all public access' is 'Off'.

Step-5:Go back to the objects and select the file then click on the open button.



Step-6:Finally we have Completed the task “Static website hosting”.

