

SOLUTIONS ARCHITECTING ON CLOUD

(20CS3235AA)

Labs-6

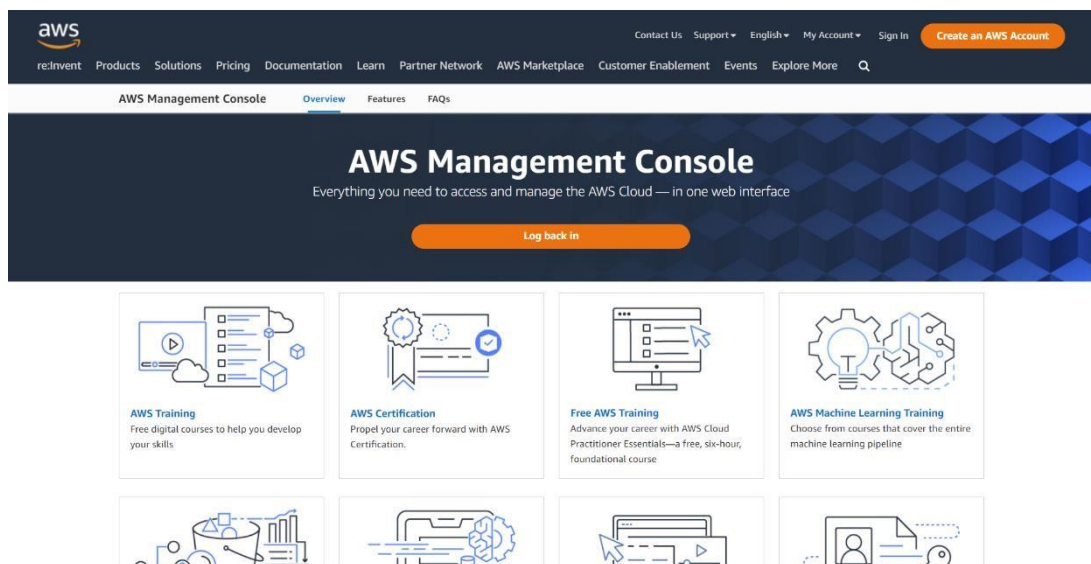
Name: K. VENKATA SREE SAI

ID:2000030439

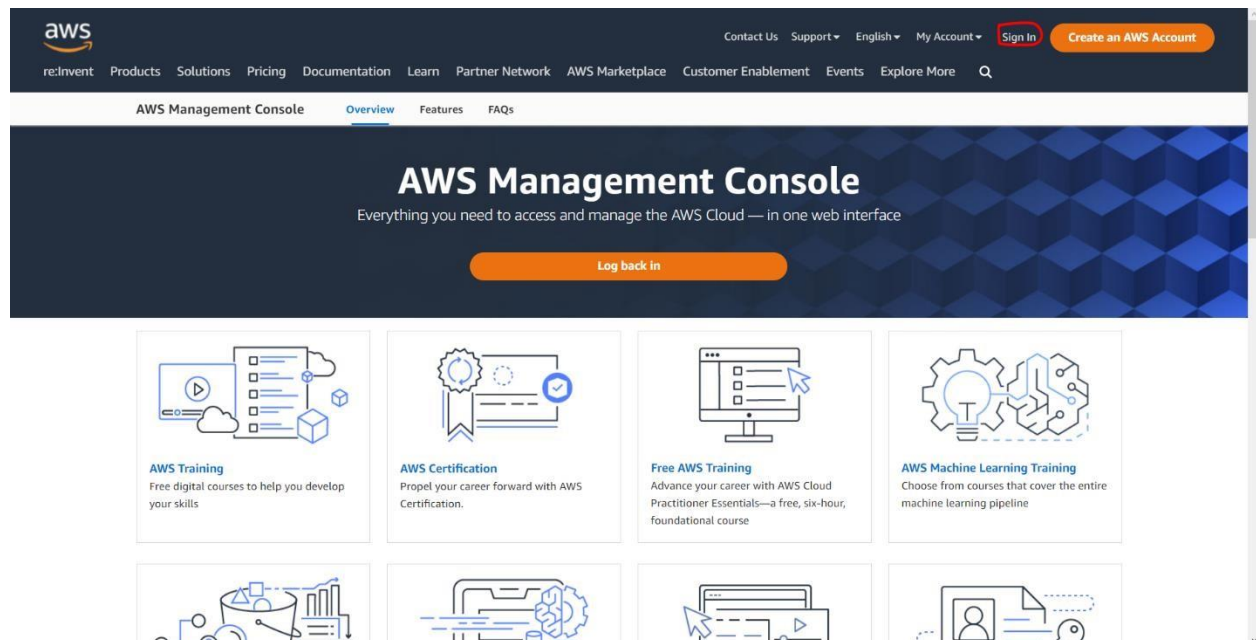
Part-1

Create and mount an Amazon EFS file system using Amazon
EC2 Launch Instance Wizard

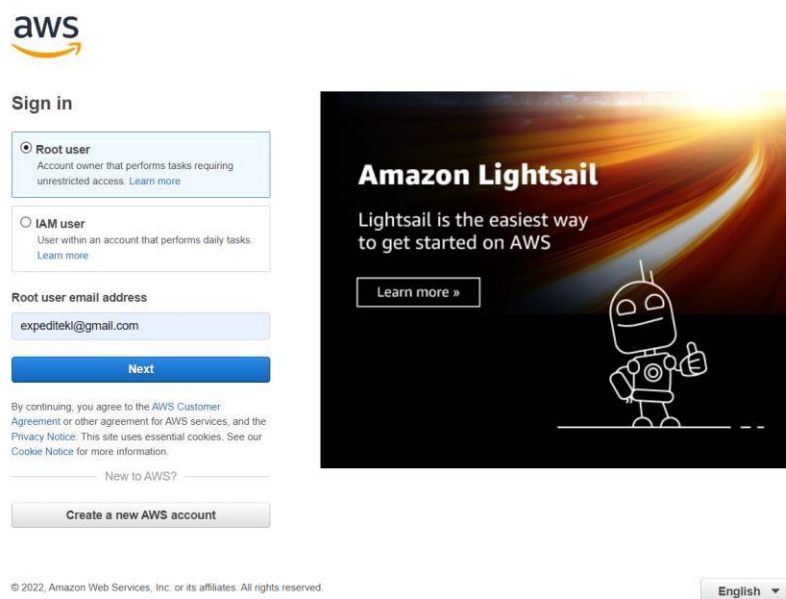
Step-1: Go to Google Browser and type [AWS \(Amazon Web Services\) Management Console](https://aws.amazon.com/console/).



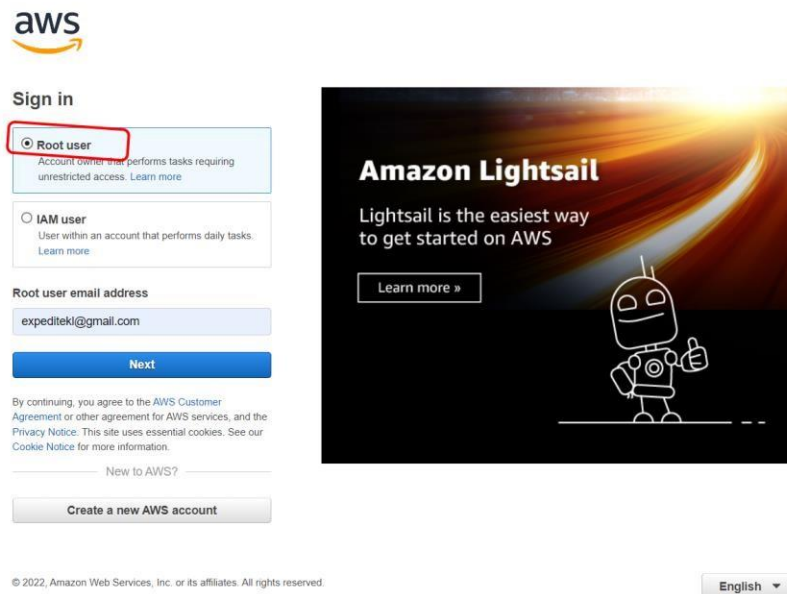
Step-2: After That If you having an account in [Aws management console](#) then click on [Sign-in](#) option.



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, the 'Sign in' section has two options: 'Root user' (selected and highlighted with a red box) and 'IAM user'. Below these is a text field for the 'Root user email address' containing 'expediteki@gmail.com' and a 'Next' button. At the bottom of the sign-in section is a link for 'New to AWS?' and a button to 'Create a new AWS account'. On the right, there is a promotional 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 robot character and a glowing light effect.

aws

Sign in

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

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

Root user email address

expediteki@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.

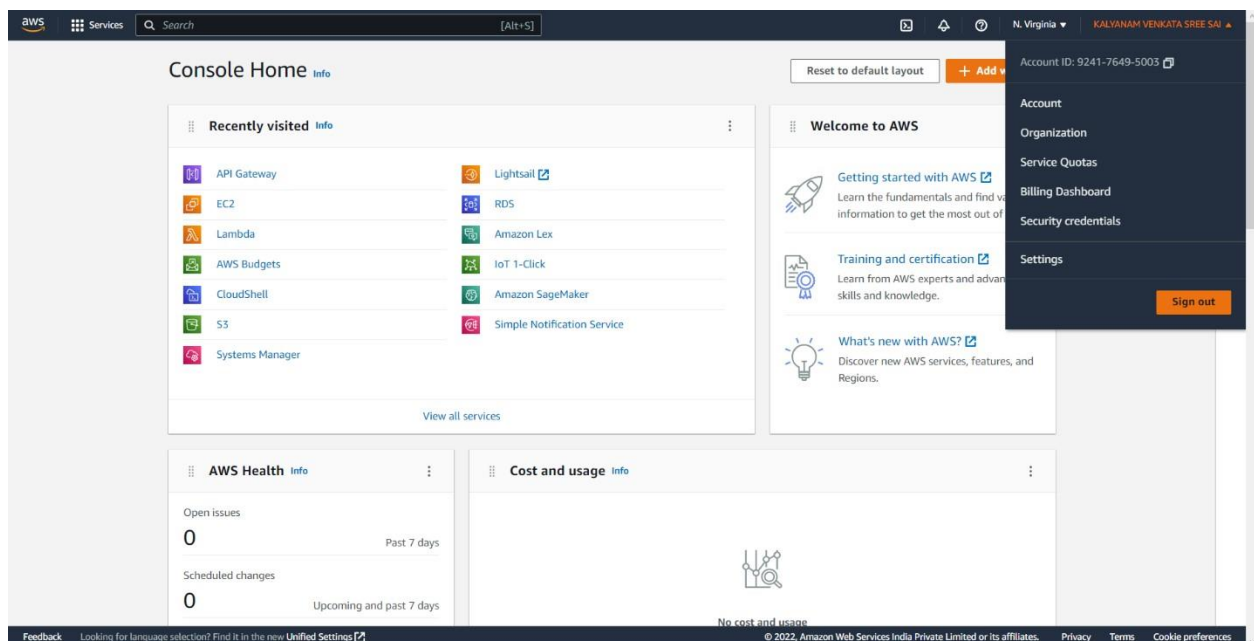
[New to AWS?](#)

Create a new AWS account

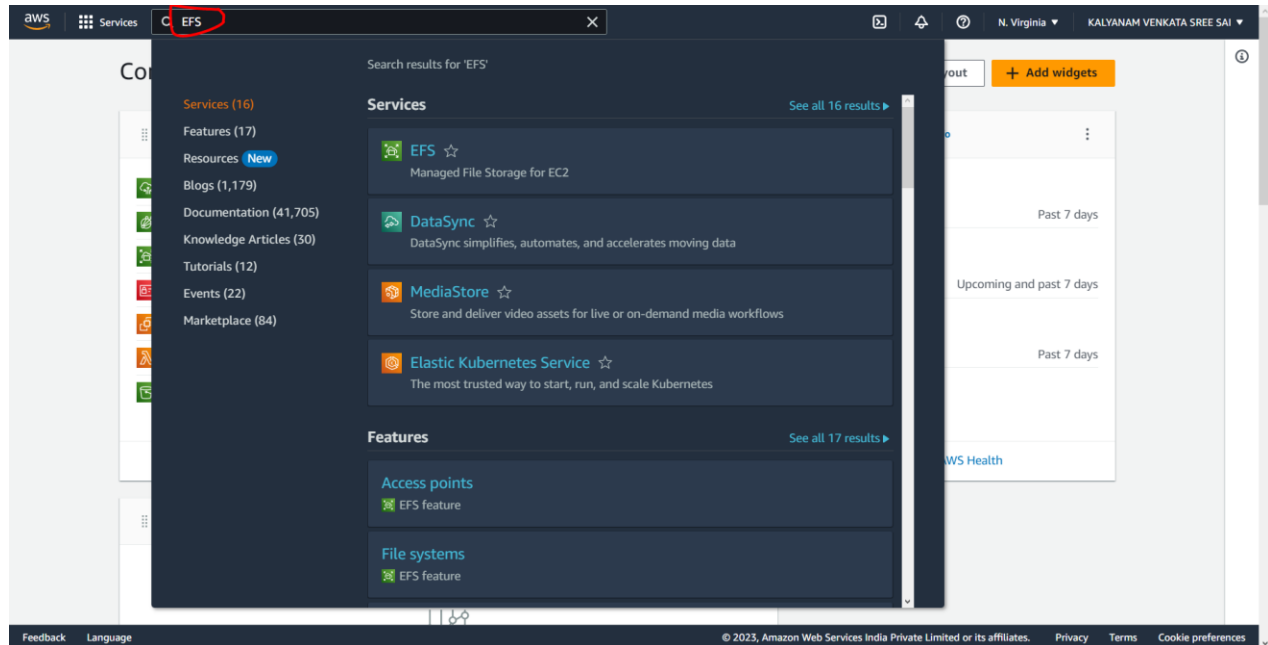
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English

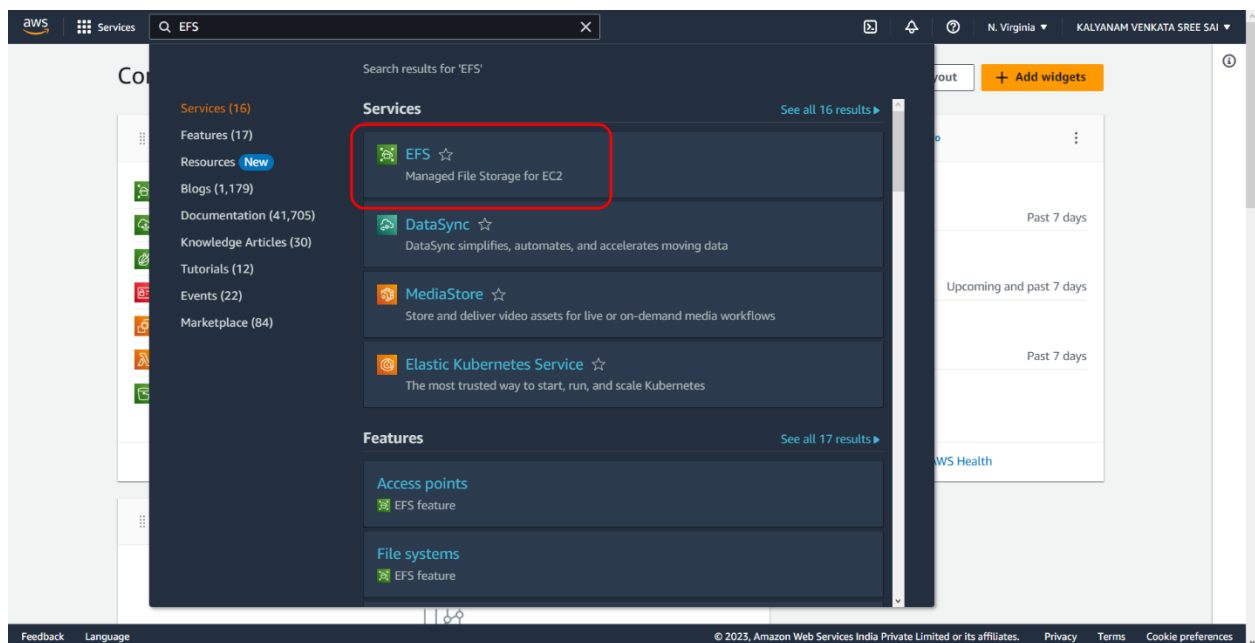
Step-5: After Sign-in the aws management console look like the below image.



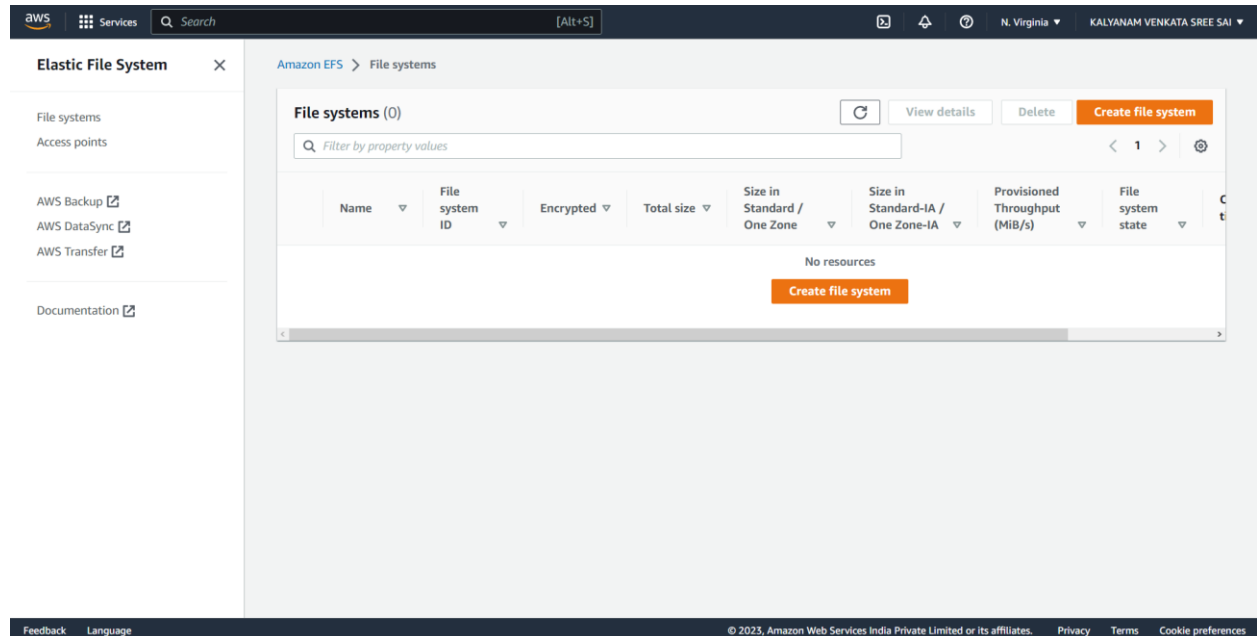
Step-6: Go through the search bar and type “EFS”.



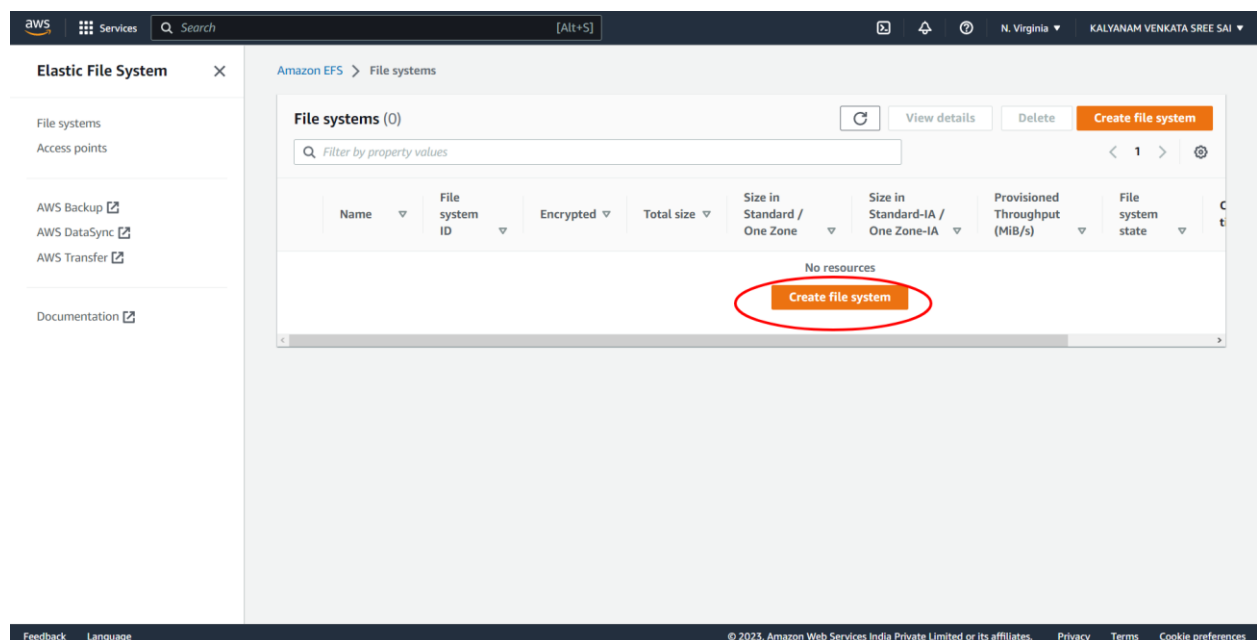
Step-7: Select the First service from the listed below.



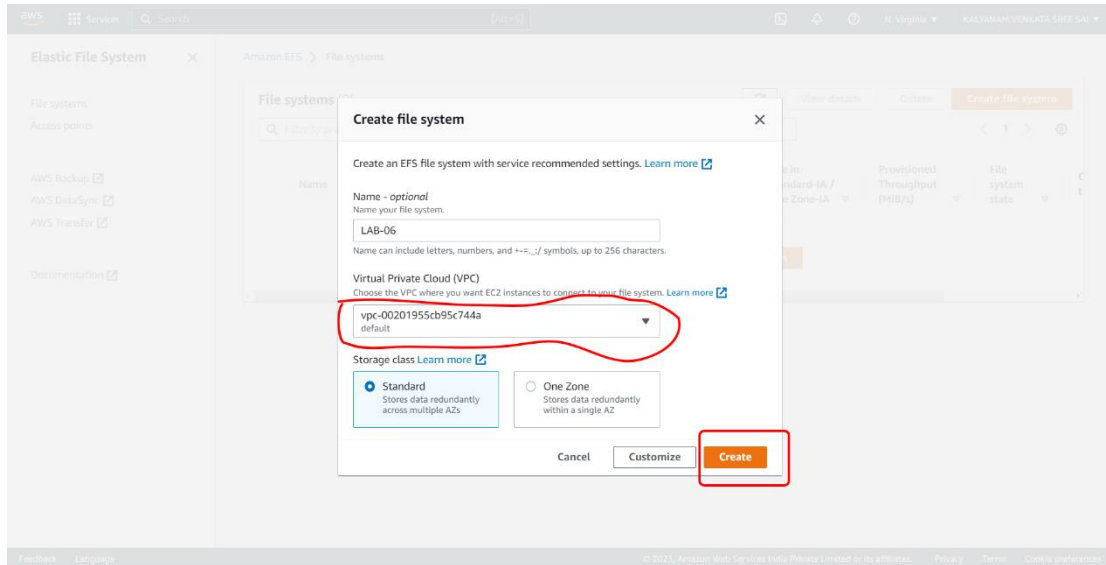
Step-8: After clicking the First Service The console will look like.



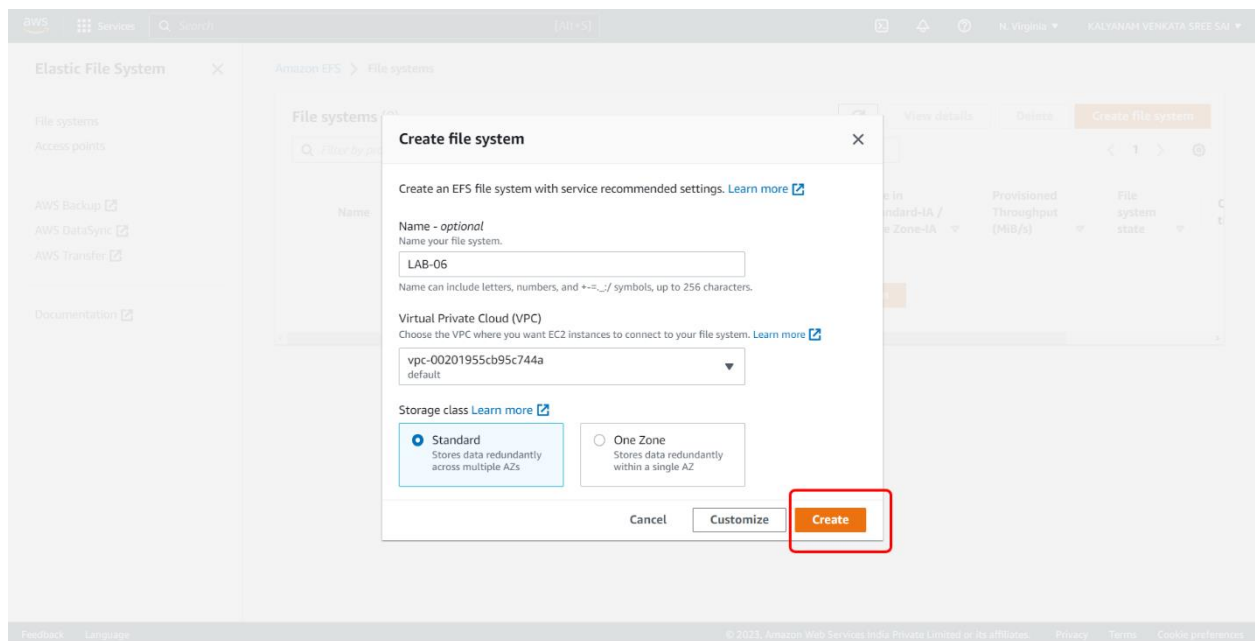
Step-9: Click on the “Create File Systems” in the EFS console.



Step-10: Click on the “Create File Systems” Name the File System “LAB-06” and Select the VPC as Default.



Step-11: After that Clicking on the “Create”, it will look like.



Step-12: When clicking on your file system ID or file system name, it takes you to the details page of your EFS.

The screenshot shows the AWS Elastic File System (EFS) console. The top navigation bar includes the AWS logo, a search bar, and the user's name (KALYANAM VENKATA SREE SAI) in the N. Virginia region. The left sidebar shows the 'Elastic File System' menu with options for 'File systems', 'Access points', 'AWS Backup', 'AWS DataSync', 'AWS Transfer', and 'Documentation'. The main content area displays the details for file system 'LAB-06 (fs-06c9bbd26b8e1641f)'. The 'General' tab is selected, showing the following information:

- Performance mode:** General Purpose
- Throughput mode:** Bursting
- Lifecycle management:** Transition into IA: 30 day(s) since last access, Transition out of IA: None
- Availability zone:** Standard
- Automatic backups:** Enabled
- Encrypted:** 3bb1be4c-63aa-46f3-8698-45e78b33ec33 (aws/elasticfilesystem)
- File system state:** Available
- DNS name:** fs-06c9bbd26b8e1641f.efs.us-east-1.amazonaws.com

Below the 'General' tab, there are tabs for 'Metered size', 'Monitoring', 'Tags', 'File system policy', 'Access points', 'Network', and 'Replication'. The 'Metered size' section is currently empty, showing only a 'Total size' label.

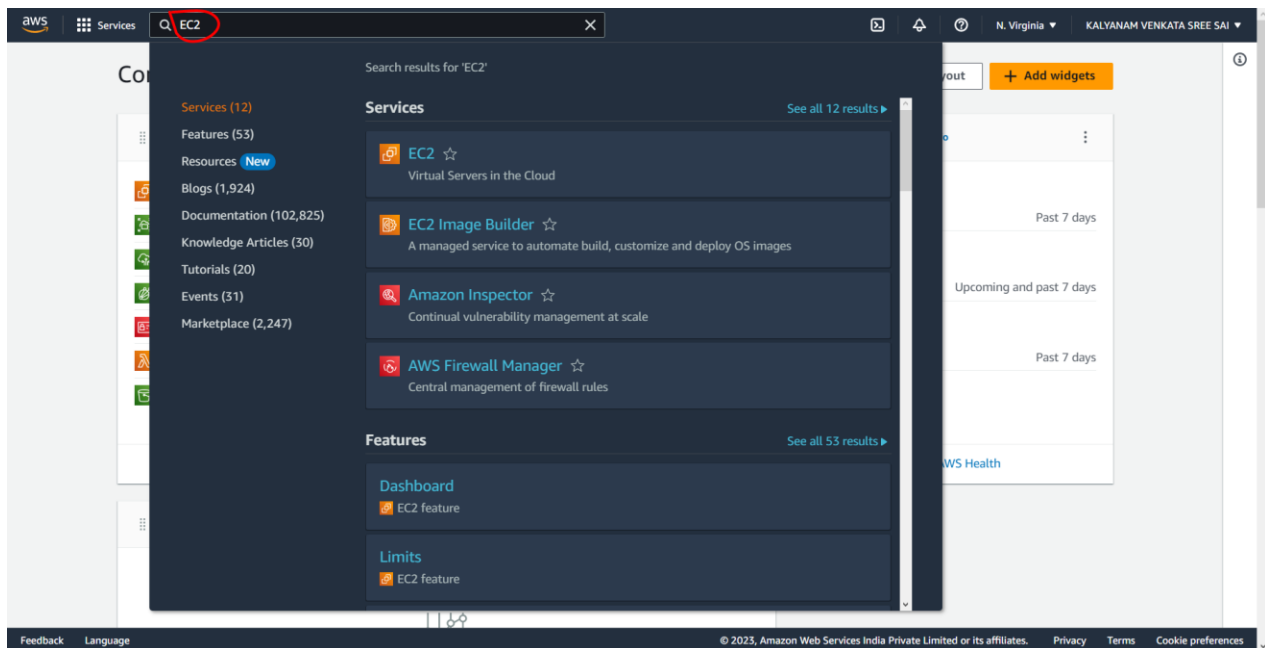
Attaching an EFS to an EC2 Instance.

You have two ways to mount the EFS:

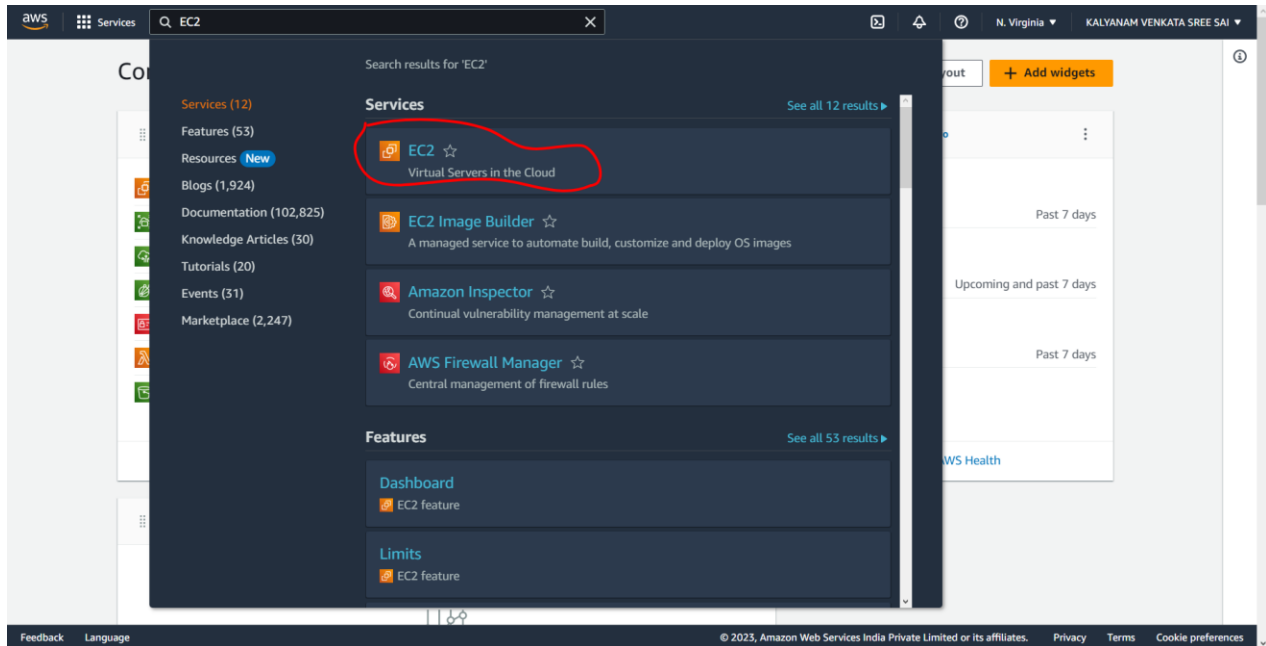
- 1) At the moment of launching a new instance
- 2) On a running instance, using bash commands with the help of the amazon-efs-utils library.

In this we are using 1st step i.e. new instance creation.

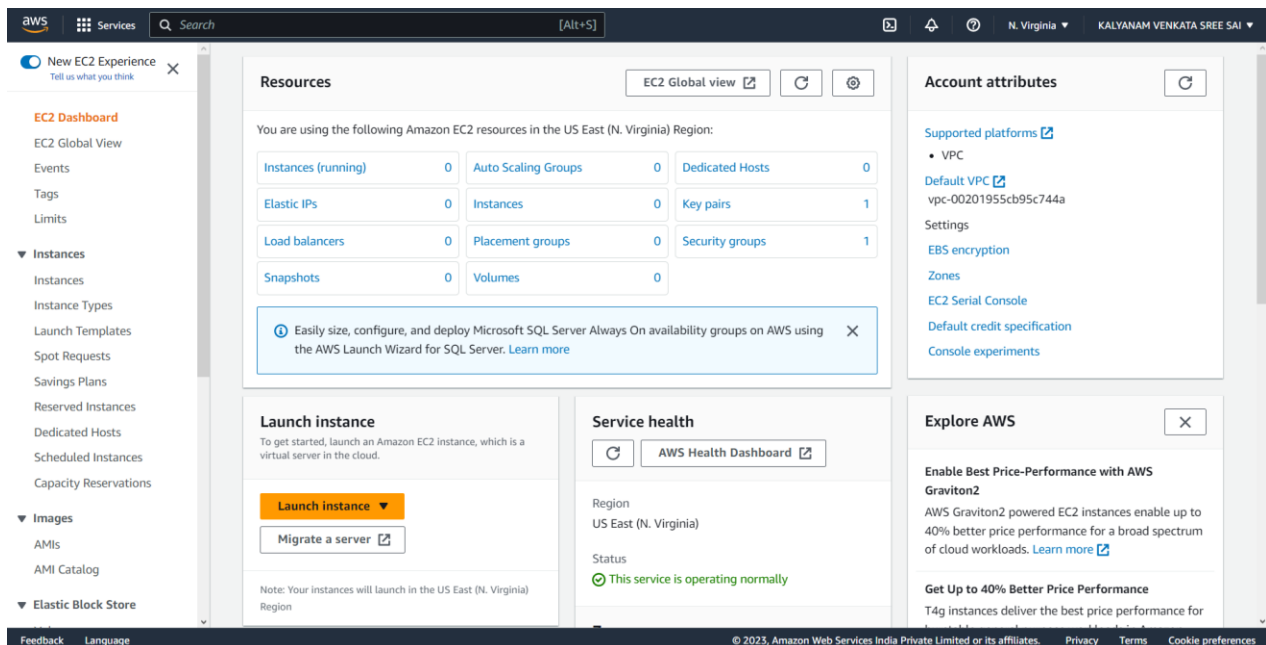
Step-1: Go through the search bar and type “EC2”.



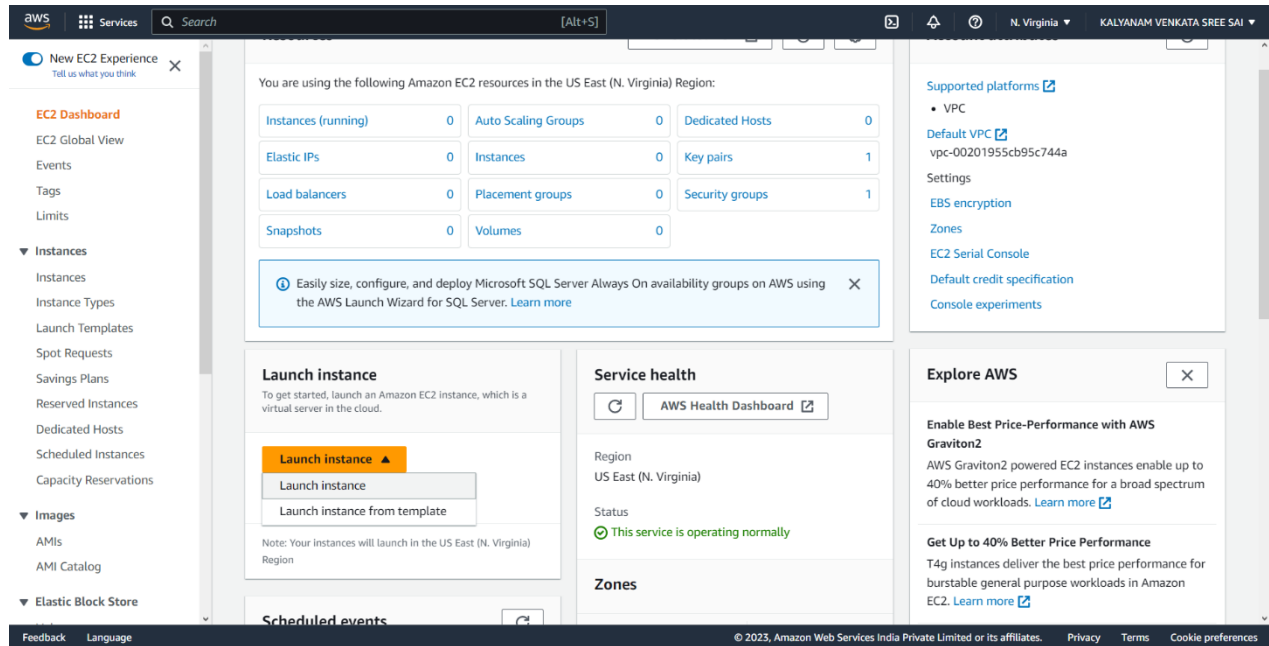
Step-2: Select the First service from the listed below.



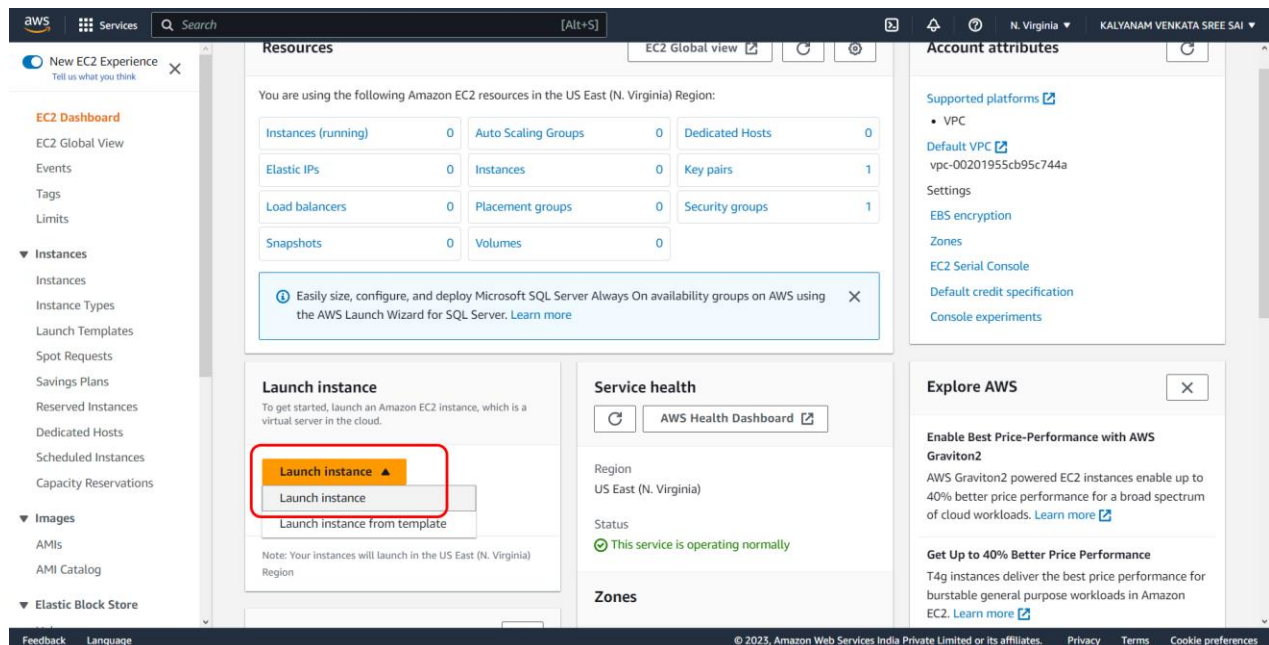
Step-3: After clicking the First Service The console will look like.



Step-4: Click on the “Launch Instance” in the EC2 Console.



Step-5: Click on the “Launch Instance” from the drop-down menu.



Step-6: After Clicking on the Launch Instance, it will look like.

The screenshot shows the 'Launch an instance' page in the AWS Management Console. The breadcrumb navigation is 'EC2 > Instances > Launch an instance'. The page title is 'Launch an instance' with an 'Info' link. Below the title is a brief description of Amazon EC2. The main content area is divided into two sections: 'Name and tags' and 'Application and OS Images (Amazon Machine Image)'. The 'Name and tags' section has a text input field for 'Name' with the placeholder 'e.g. My Web Server' and an 'Add additional tags' link. The 'Application and OS Images' section has a search bar and a 'Quick Start' tab. Below the search bar, there are several image cards for 'Amazon Linux', 'macOS', 'Ubuntu', 'Windows', and 'Red Hat'. The right sidebar contains a 'Summary' section with the following details: 'Number of instances' (1), 'Software Image (AMI)' (Amazon Linux 2023.0.2...), 'Virtual server type (instance type)' (-), 'Firewall (security group)' (New security group), and 'Storage (volumes)' (1 volume(s) - 8 GiB). At the bottom of the sidebar are 'Cancel' and 'Launch instance' buttons. A 'Free tier' notification is also visible in the sidebar.

Step-7: In the Network settings Click the Edit option.

The screenshot shows the 'Launch an instance' page with the 'Network settings' section expanded. The 'Key pair (login)' section has a dropdown for 'Key pair name - required' with 'key-lab-06' selected and a 'Create new key pair' link. The 'Network settings' section has an 'Edit' button highlighted with a red box. Below the 'Edit' button, the 'Network' section shows 'vpc-00201955cb95c744a'. The 'Subnet' section shows 'No preference (Default subnet in any availability zone)'. The 'Auto-assign public IP' section is set to 'Enable'. The 'Firewall (security groups)' section has a 'Create security group' button and a 'Select existing security group' button. Below this, it says 'We'll create a new security group called 'launch-wizard-1' with the following rules:'. There are two rules: 'Allow SSH traffic from' (checked) with 'Anywhere' as the source, and 'Allow HTTPS traffic from the internet' (unchecked). The right sidebar is the same as in the previous screenshot, showing the 'Summary' section with 'Number of instances' (1), 'Software Image (AMI)' (Amazon Linux 2023.0.2...), 'Virtual server type (instance type)' (t2.micro), 'Firewall (security group)' (New security group), and 'Storage (volumes)' (1 volume(s) - 8 GiB). At the bottom of the sidebar are 'Cancel' and 'Launch instance' buttons. A 'Free tier' notification is also visible in the sidebar.

Step-8: Select the Subnet Region which is same to EFS region.

Key pair (login) info

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

Key pair name - required

key-lab-06 [Create new key pair](#)

Network settings info

VPC - required info

vpc-00201955cb95c744a (default) [Refresh](#)

Subnet info

subnet-038fb427befd46877 [Create new subnet](#)

VPC: vpc-00201955cb95c744a Owner: 924176495003
Availability Zone: us-east-1b IP addresses available: 4090 CIDR: 172.31.0.0/20

Auto-assign public IP info

Enable

Firewall (security groups) info

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

☒ Create security group ☐ Select existing security group

Security group name - required

Summary

Number of instances info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...[read more](#)
ami-02f3f602d23f1659d

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of

[Cancel](#) [Launch instance](#)

Step-9: click the edit option in Configuration storage.

Source type info

Anywhere

Source info

[Add CIDR, prefix list or security](#)

0.0.0.0/0 [X](#)

Description - optional info

e.g. SSH for admin desktop

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only. [X](#)

[Add security group rule](#)

Configure storage info [Advanced](#)

1x 8 GiB gp3 Root volume (Not encrypted)

[Add new volume](#)

0 x File systems [Edit](#)

Summary

Number of instances info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...[read more](#)
ami-02f3f602d23f1659d

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of

[Cancel](#) [Launch instance](#)

Step-10: Select the “EFS”.

The screenshot shows the AWS Management Console interface for configuring an instance. The 'Storage (volumes)' section is expanded, showing 'EBS Volumes' and 'File systems'. Under 'File systems', the 'EFS' option is selected and highlighted with a red circle. The 'Add shared file system' button is also visible. The 'Summary' panel on the right shows the instance configuration, including the number of instances (1), software image (Amazon Linux 2023 AMI), virtual server type (t2.micro), and storage (1 volume(s) - 8 GiB). A 'Free tier' notification is displayed, indicating that the first year includes 750 hours of t2.micro (or t3.micro) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of storage.

Step-11: Click the “Add shared file system”.

The screenshot shows the same AWS Management Console interface as Step 10. The 'Add shared file system' button is now highlighted with a red circle. The 'File systems' section shows that there are currently no file systems on this instance. The 'Summary' panel on the right remains the same, showing the instance configuration and the 'Free tier' notification.

Step-12: Automatic it will select the available file system.

Volume 1 (AMI Root) (8 GiB, EBS, General purpose SSD (gp3))

Add new volume

File systems [Hide details](#)

☒ EFS ☐ FSx

Shared file system 1 [Remove](#)

File system [Info](#) Mount point [Info](#)

fs-06c9bbd26b8e1641f [Info](#) /mnt/efs/fs1

Name: LAB-06 Availability: Regional

Add shared file system [Create new shared file system](#)

4 remaining (Up to 5 file systems maximum).

☒ Automatically create and attach security groups
To enable access to the file system, the required security groups will be automatically created and attached to this instance and the selected file system. To manually manage the security groups, clear the checkbox. [Learn more](#).

☒ Automatically mount shared file system by attaching required user data script
Automatically mount your file system by updating your user data to install efs-utils. If you would like to manually mount your file system, clear the checkbox.

Summary

Number of instances [Info](#)

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...[read more](#)
ami-02f3f602d23f1659d

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of

[Cancel](#) [Launch instance](#)

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Step-13: click the launch instance.

EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-0dc0e4945e399fb5d)
[Launch log](#)

Next Steps

Create billing and free tier usage alerts
To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.
[Create billing alerts](#)

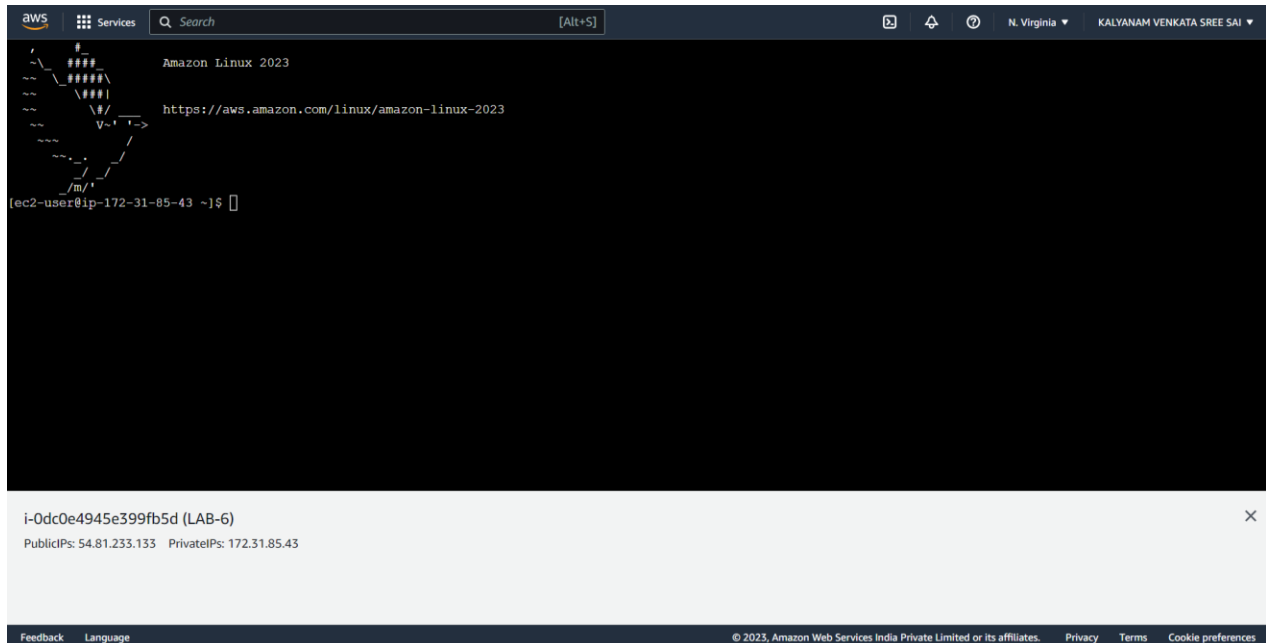
Connect to your instance
Once your instance is running, log into it from your local computer.
[Connect to instance](#) [Learn more](#)

Connect an RDS database
Configure the connection between an EC2 instance and a database to allow traffic flow between them.
[Connect an RDS database](#) [Create a new RDS database](#) [Learn more](#)

[View all instances](#)

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Step-14: Now Connect the instance.



Step-15: Finally we have sucessful mounted the EFS.

