2100031098

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CLOUD AND SERVERLESS COMPUTING PROJECT

EXTRACT TEXT FROM IMAGE

AIM: To extract text from the images using lambda and s3.

Description:
In a typical setup for extracting text from images using AWS Lambda and S3, an S3 bucket acts as the repository for the images. Whenever an image is uploaded to this bucket, it triggers an AWS Lambda function. This Lambda function, configured with appropriate permissions, retrieves the uploaded image from the S3 bucket. Utilizing AWS Rekognition or Textract, the Lambda function then analyzes the image to extract the text present within it. This extracted text can be further processed as needed, such as storing it in a database or integrating it with other services. The integration of AWS Lambda with S3 and Rekognition/Textract streamlines the extraction process, enabling automated text extraction from uploaded images with ease and efficiency.

Services Used:

S3(bucket)
Lambda

1.S3:

Amazon Simple Storage Service (S3) is a scalable cloud storage service offered by Amazon Web Services (AWS). S3 provides developers and IT teams with secure, durable, and highly available object storage. It is designed to store and retrieve any amount of data from anywhere on the web. In essence, S3 operates as a large, globally distributed storage facility where users can store and retrieve data objects such as documents, images, videos, and application backups.

2.Lambda:

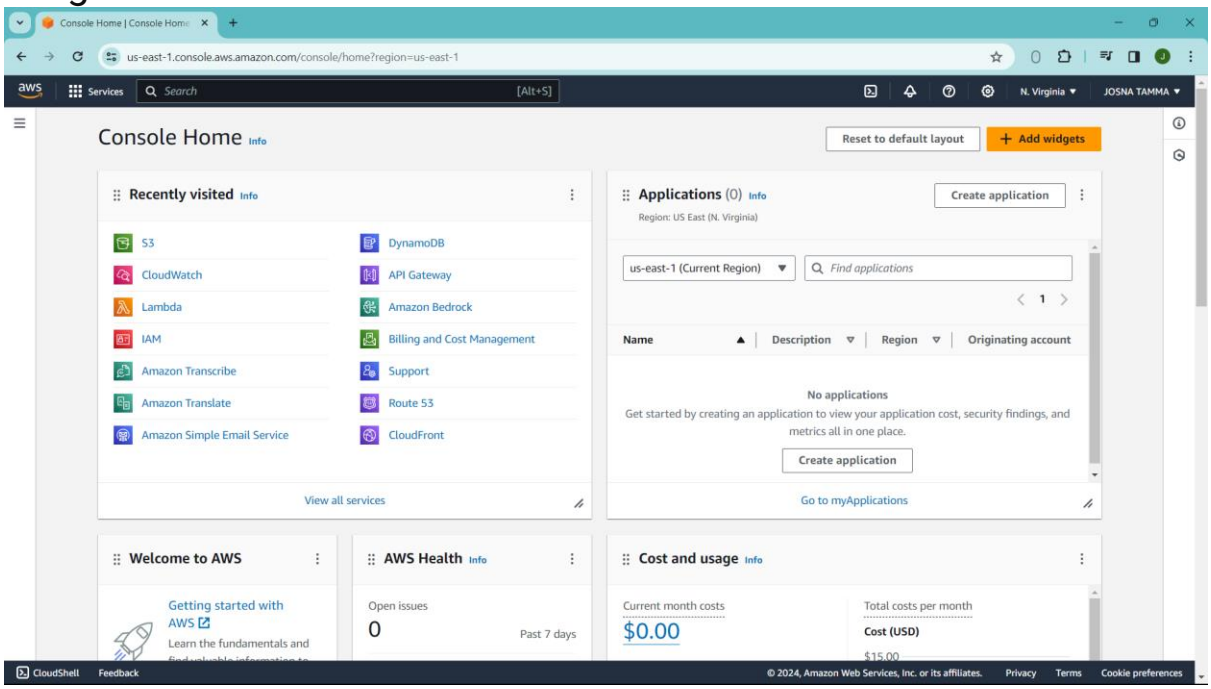
AWS Lambda is a serverless compute service provided by Amazon Web Services (AWS) that enables developers to run code without provisioning or managing servers. With Lambda, you can execute code in response to events such as changes to data in Amazon S3 buckets, updates to Amazon DynamoDB tables, HTTP requests via Amazon API Gateway, or custom events generated by your applications.

AWS Lambda simplifies the process of building scalable, event-driven applications and services by providing a serverless compute platform that eliminates the need for infrastructure management and allows developers to focus on writing code that meets their business requirements.

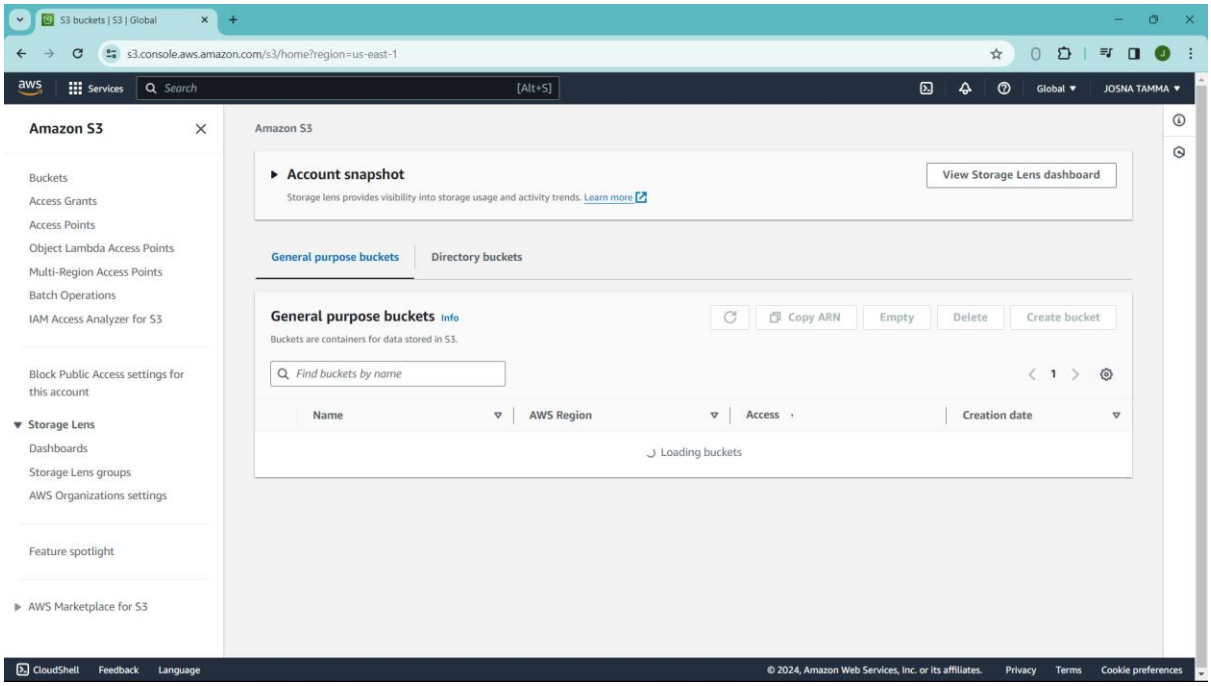
ARCHITECTURE:

Step-By-Step Procedure:

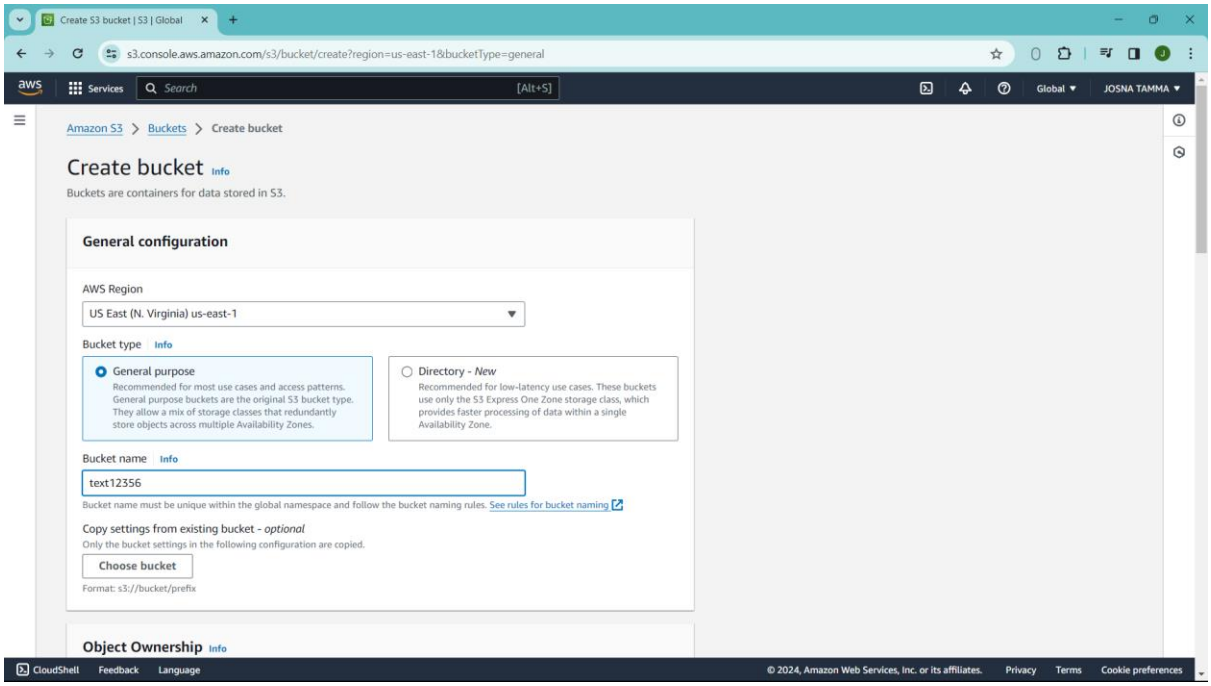
Sign in to AWS Console

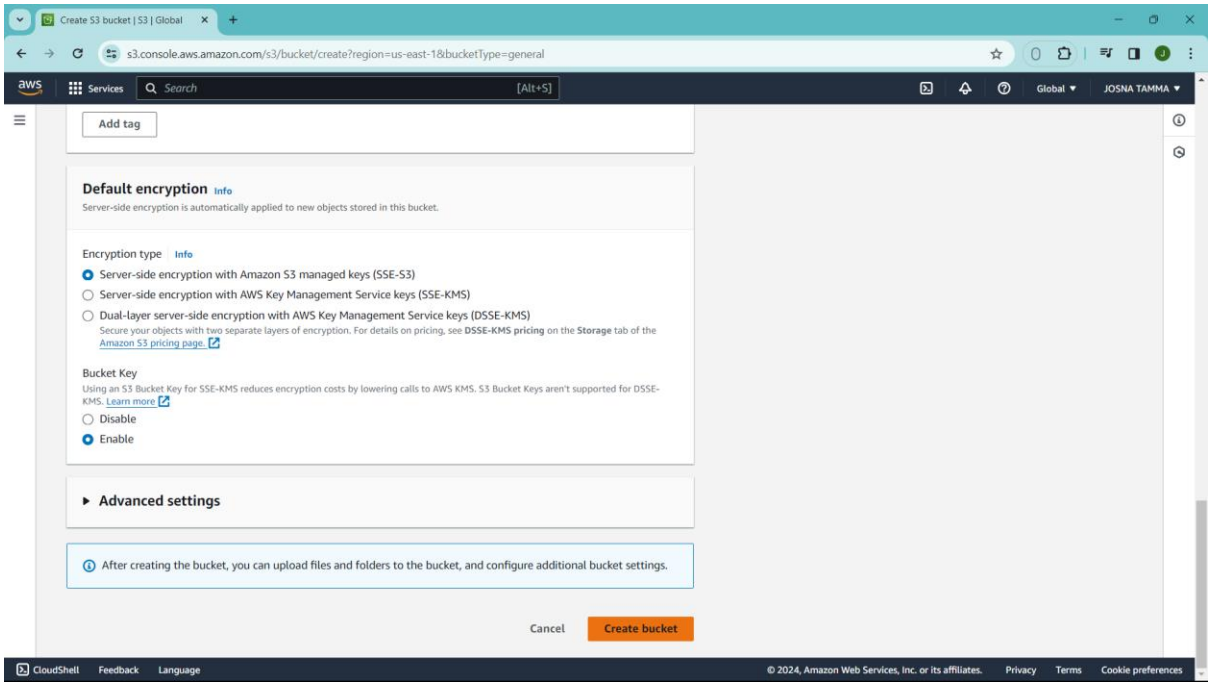


Search for s3 in the services

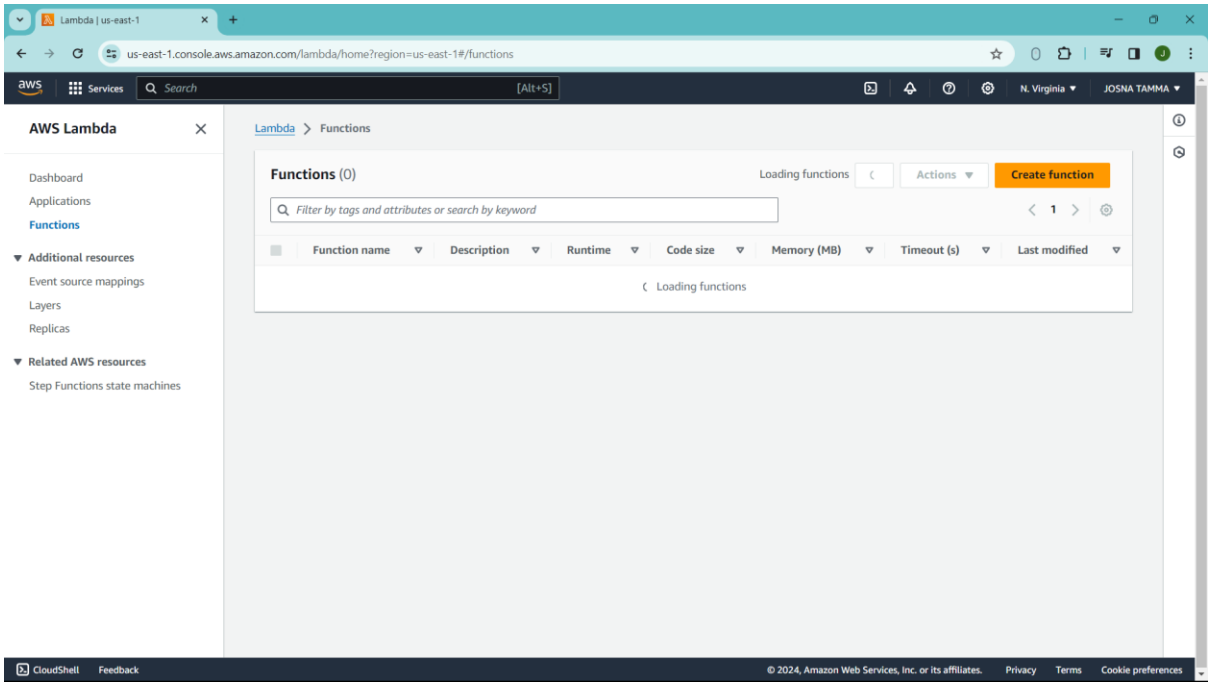


Create a bucket

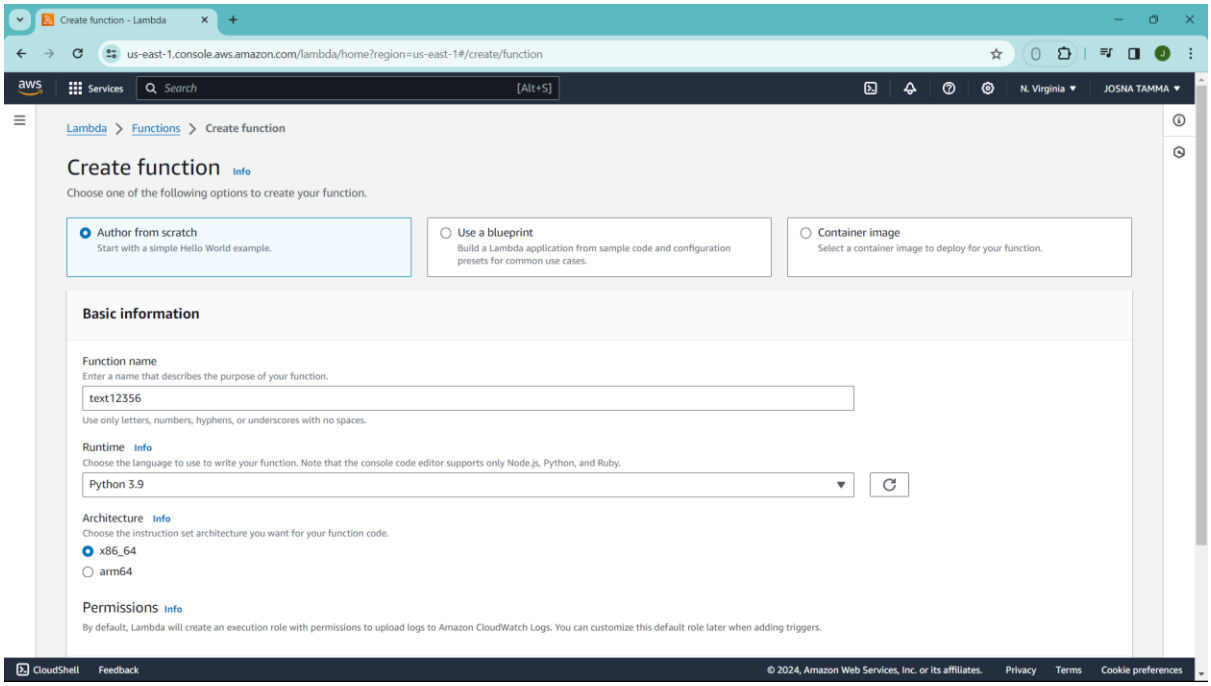


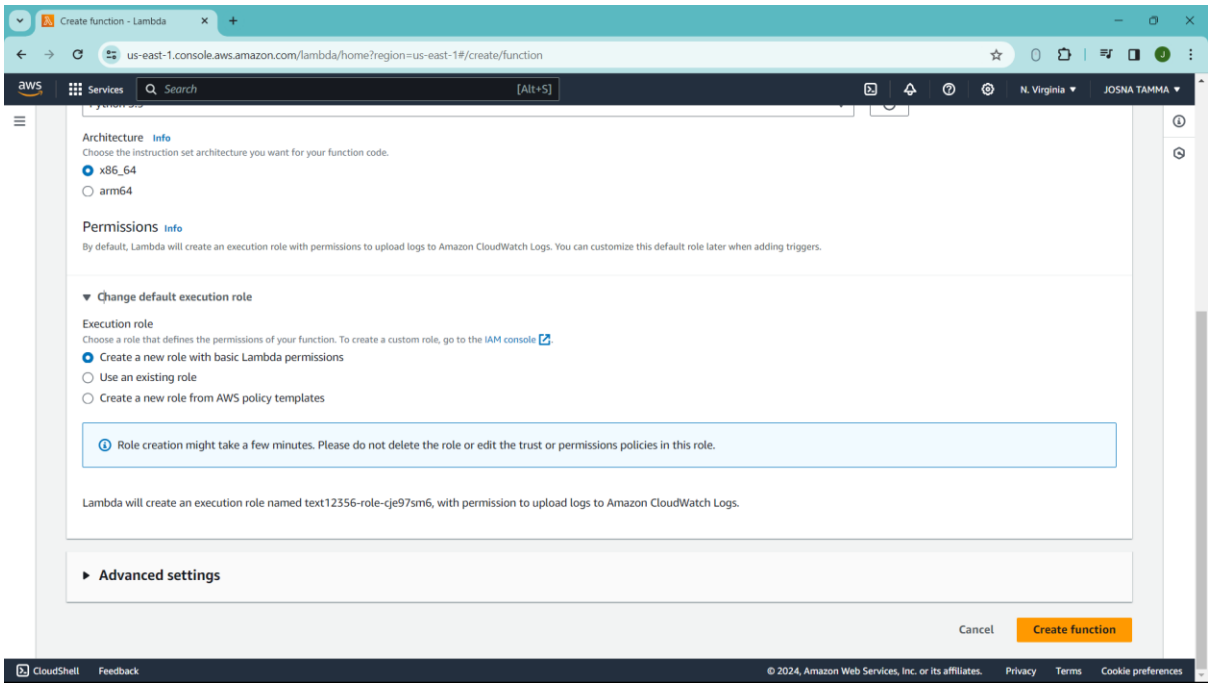


Search for lambda in the services.

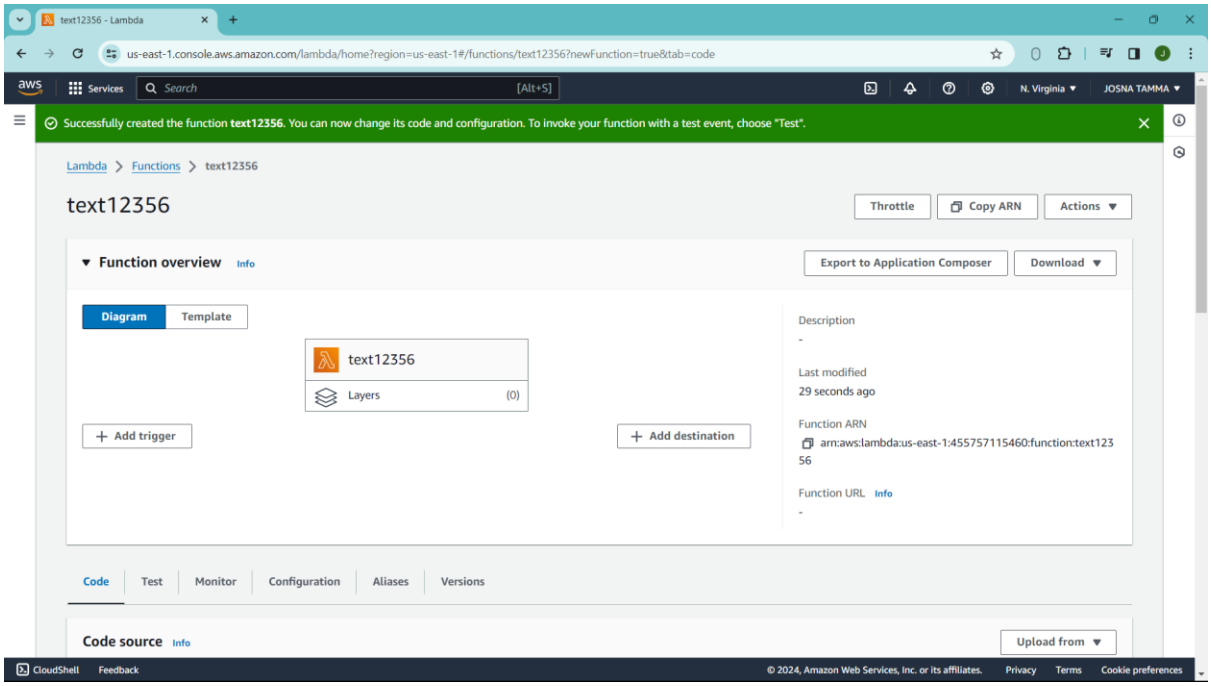


Create a lambda function
Select python 3.9

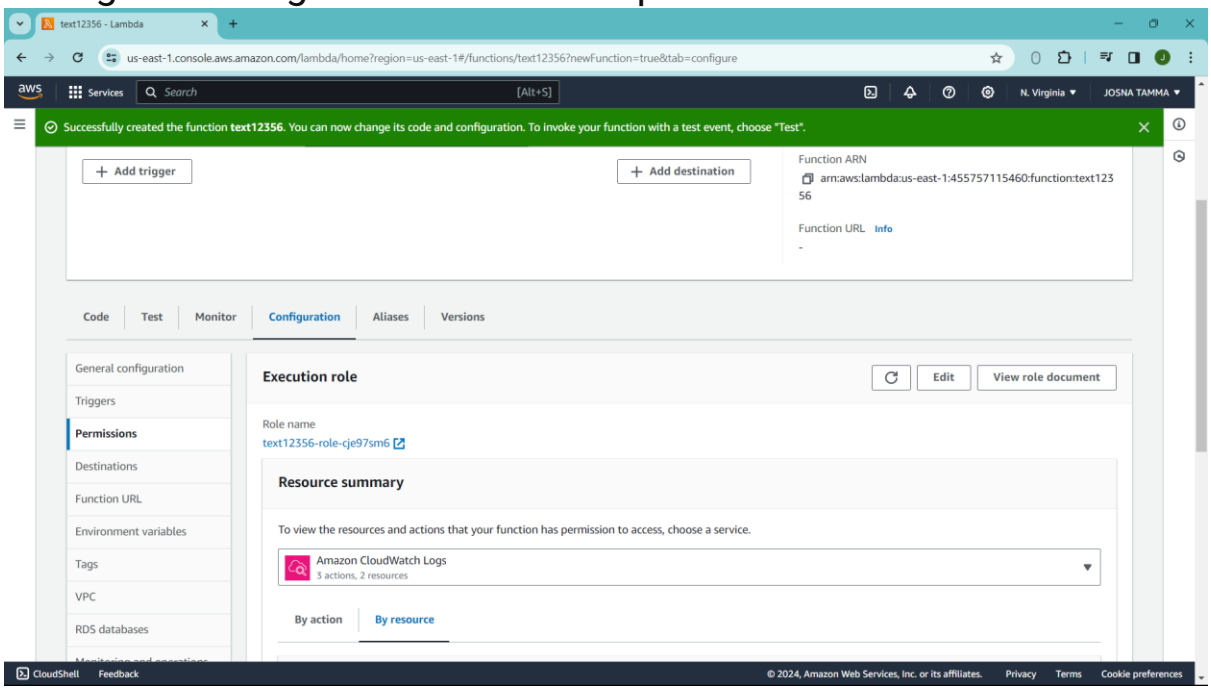




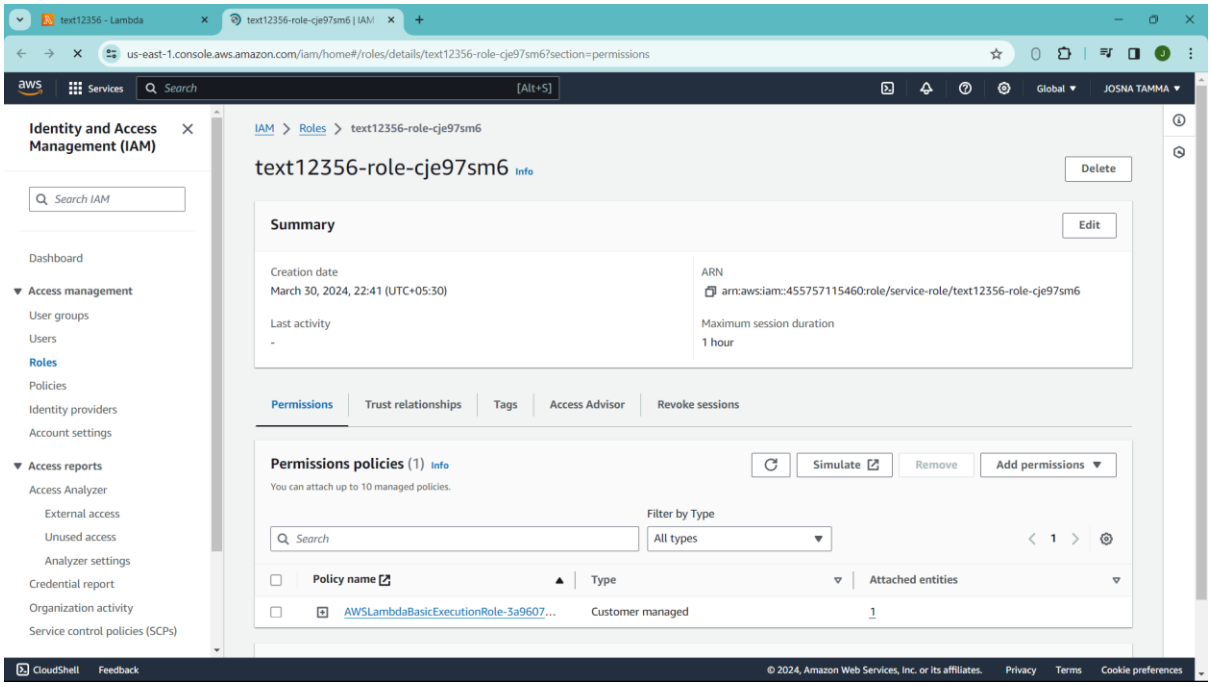
Click on create function.



Now go to configuration and select permissions.



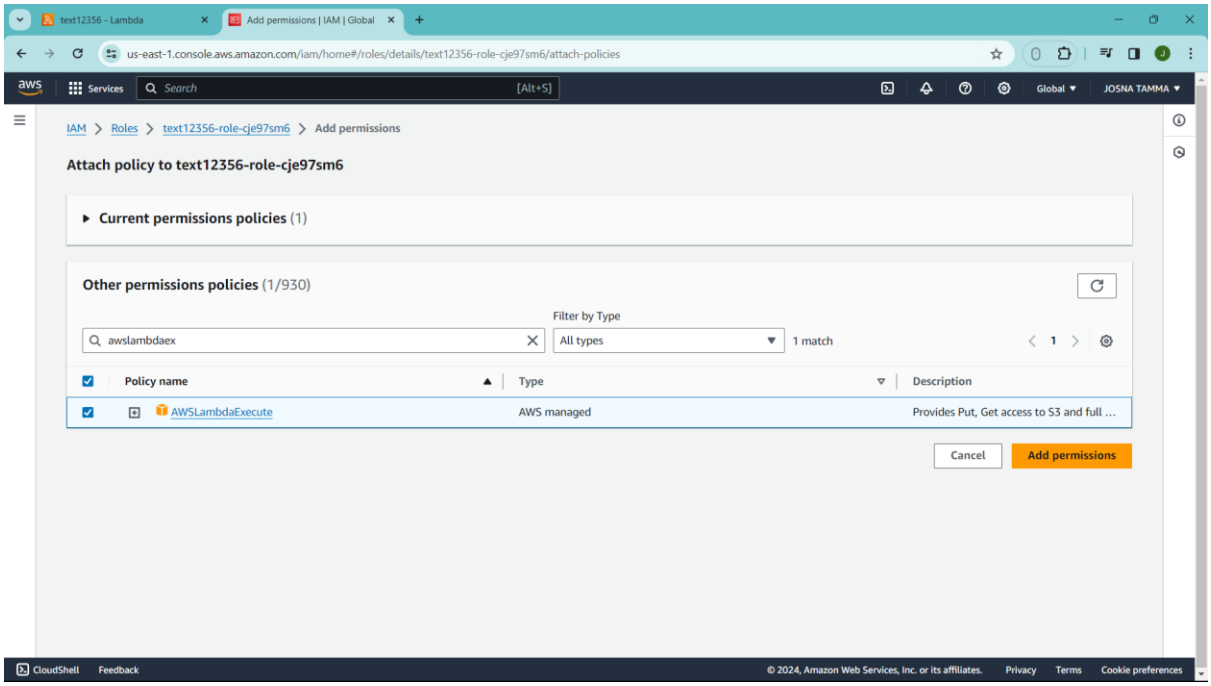
Click on the link

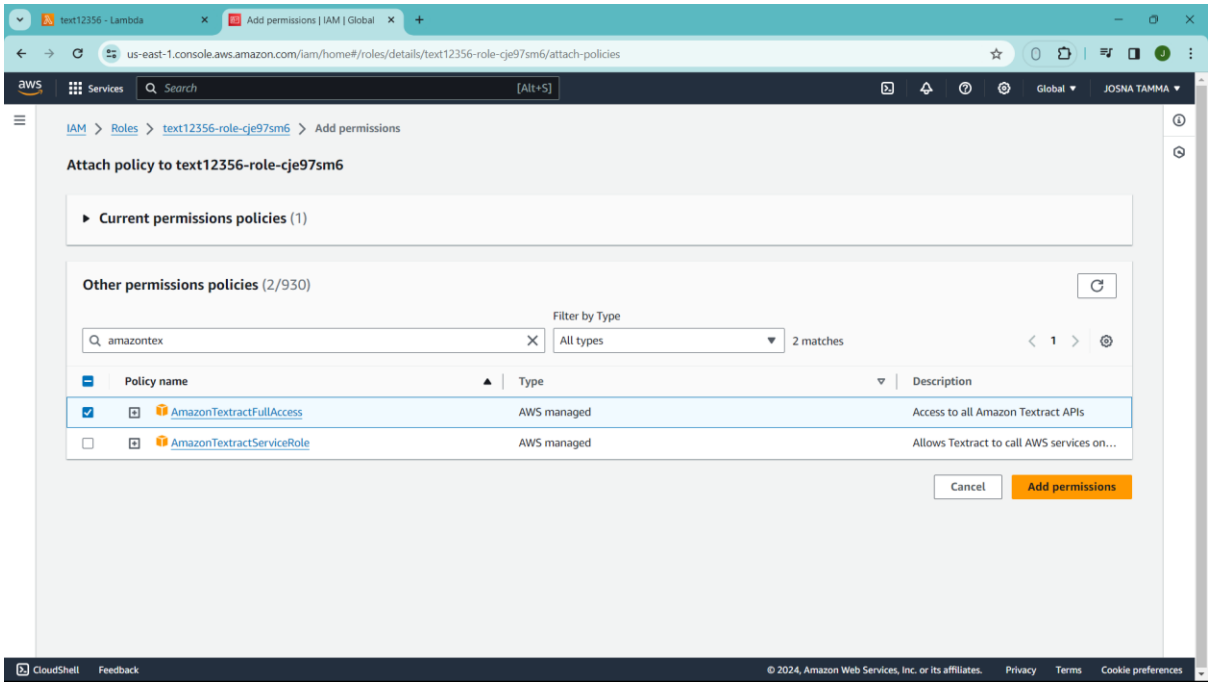


Now attach policies

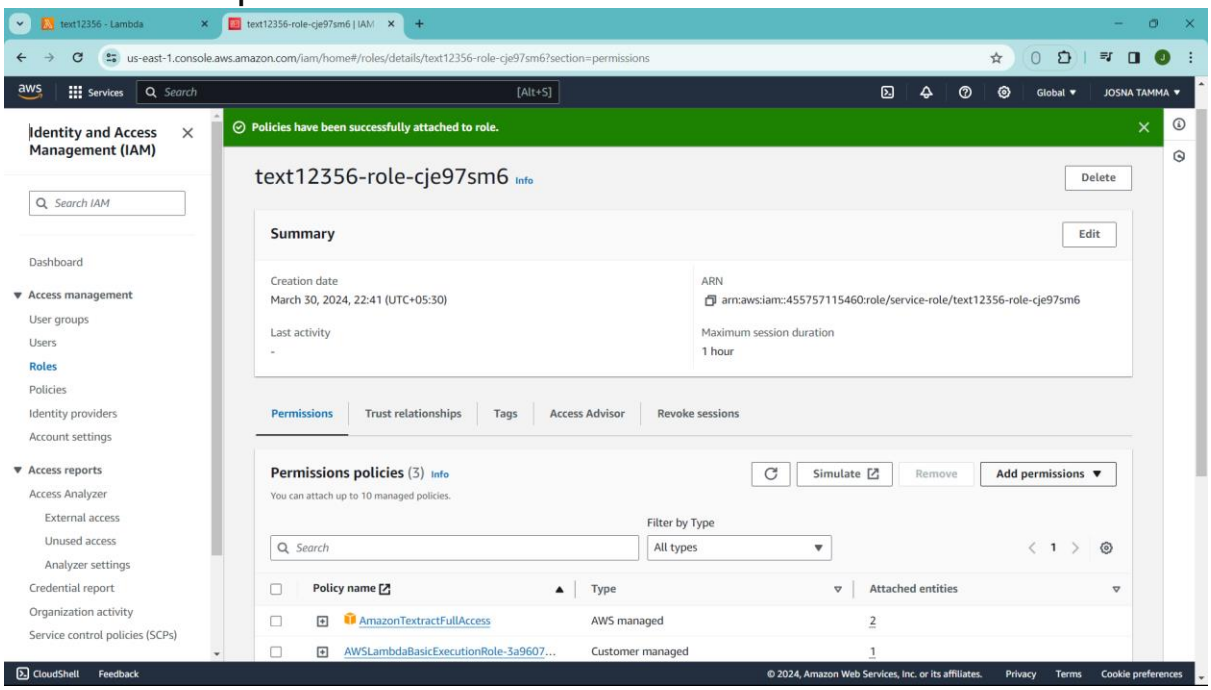
AWSLambdaExecute

AmazonTextractFullAccess

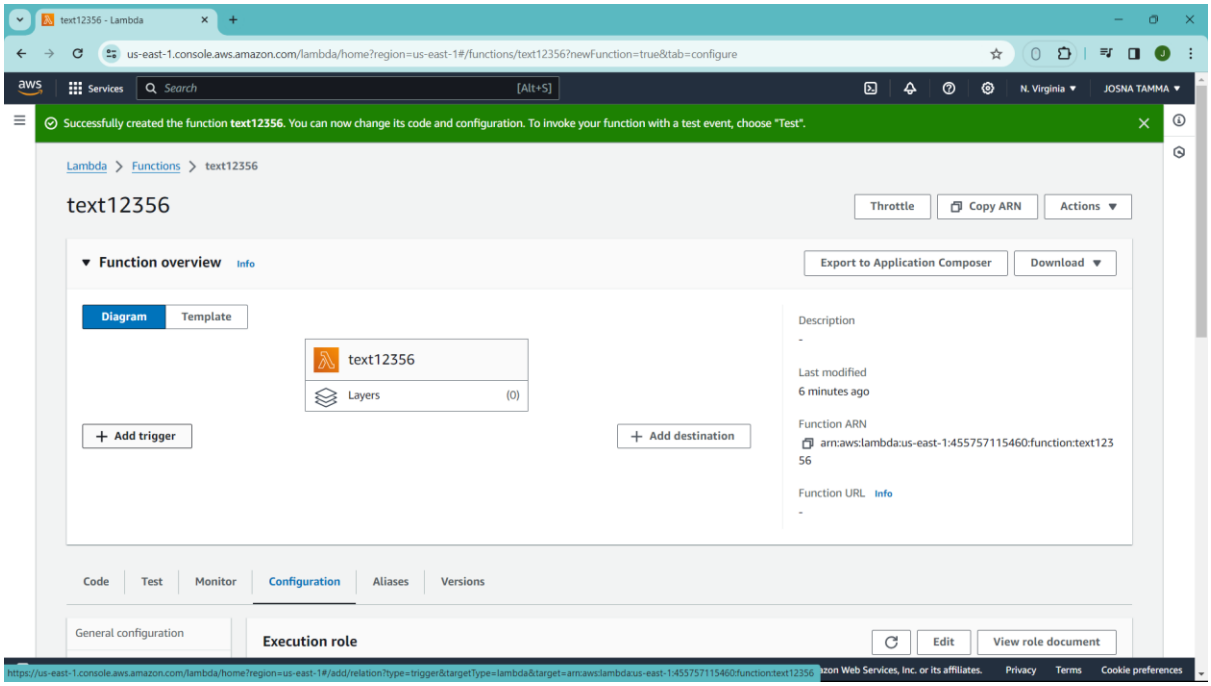




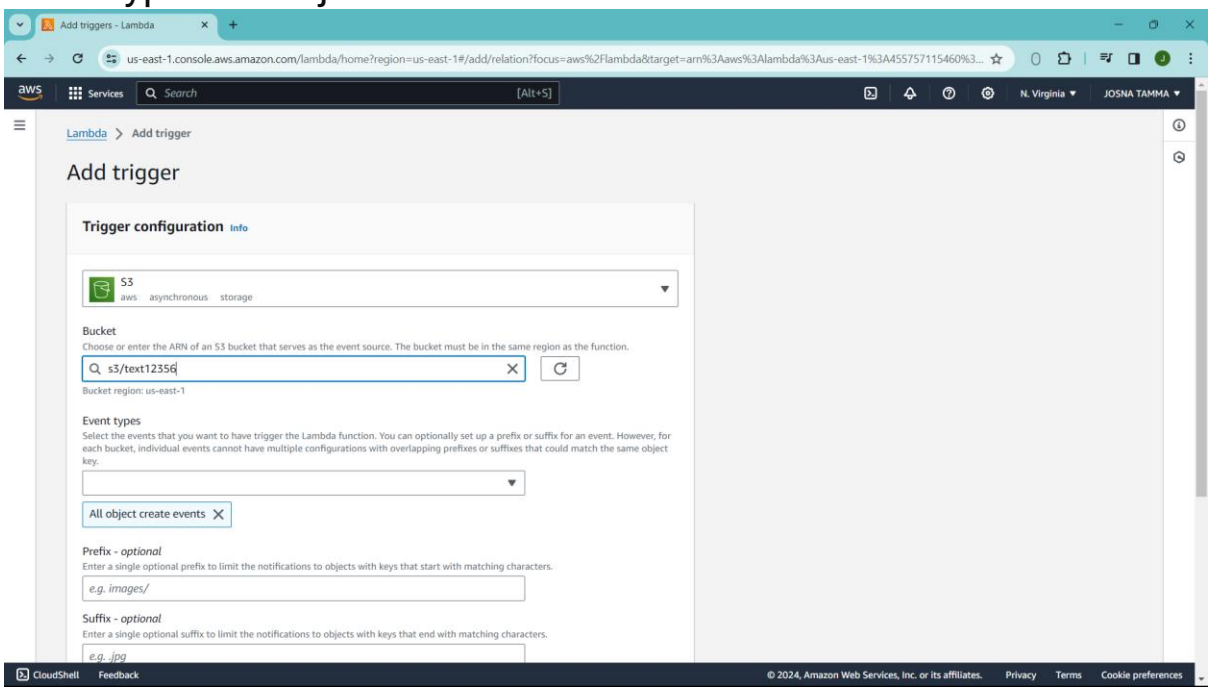
Click on Add permissions



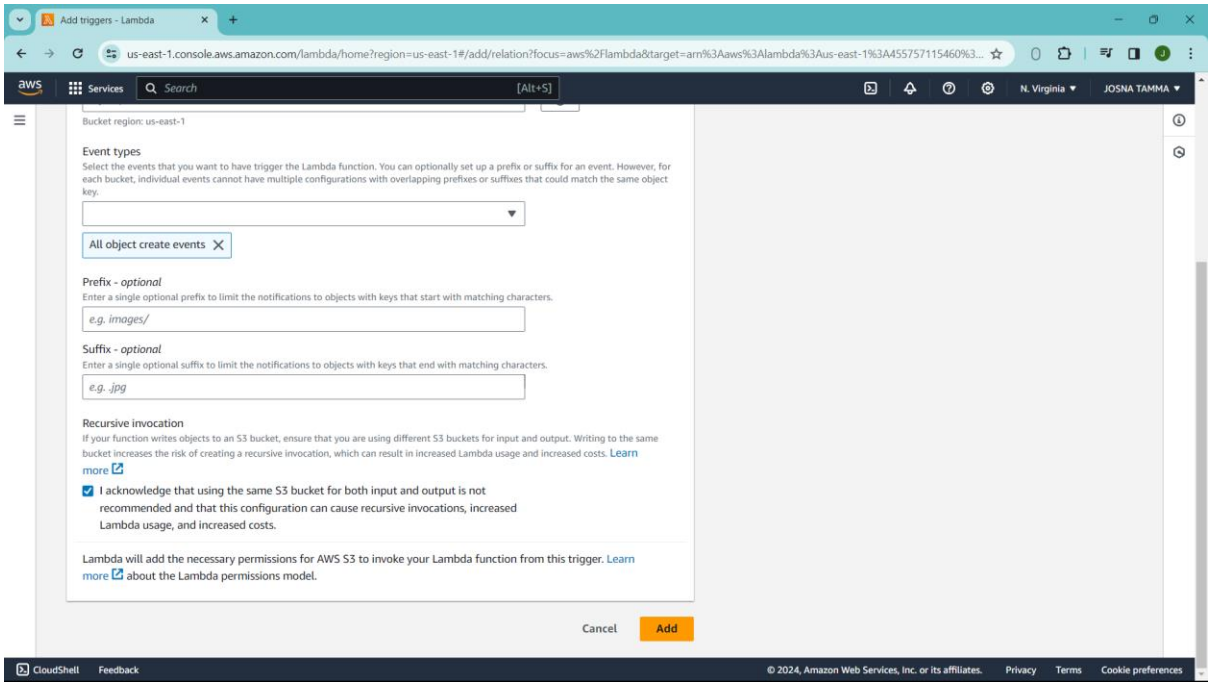
Click on Add trigger



Select s3 and bucket which was create before for this project and event types-All object create events

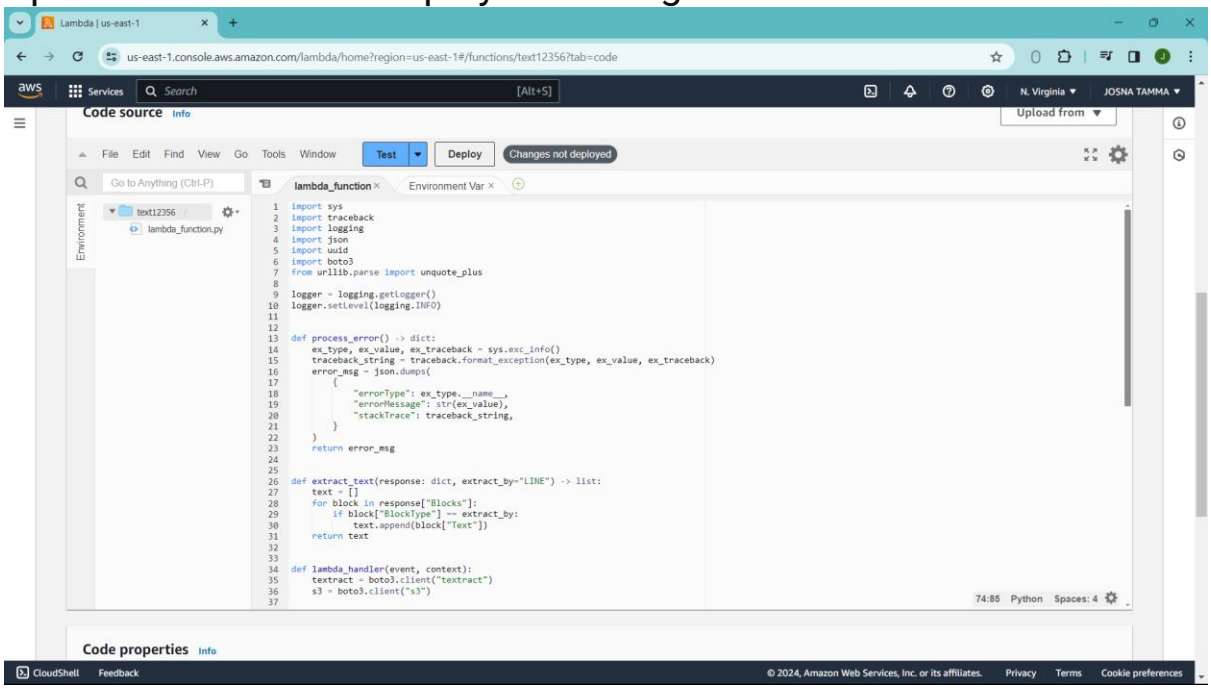


Click on I acknowledge that using the same S3 bucket for both input and output is not recommended and that this configuration can cause recursive invocations, increased Lambda usage, and increased costs.

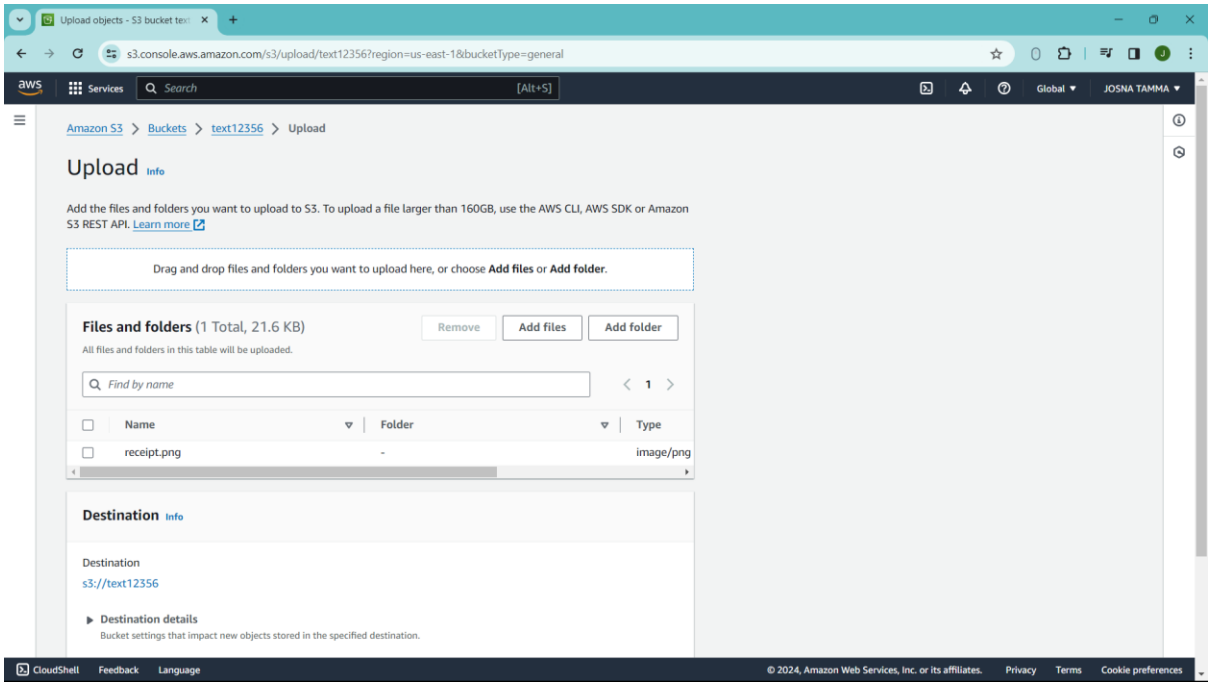


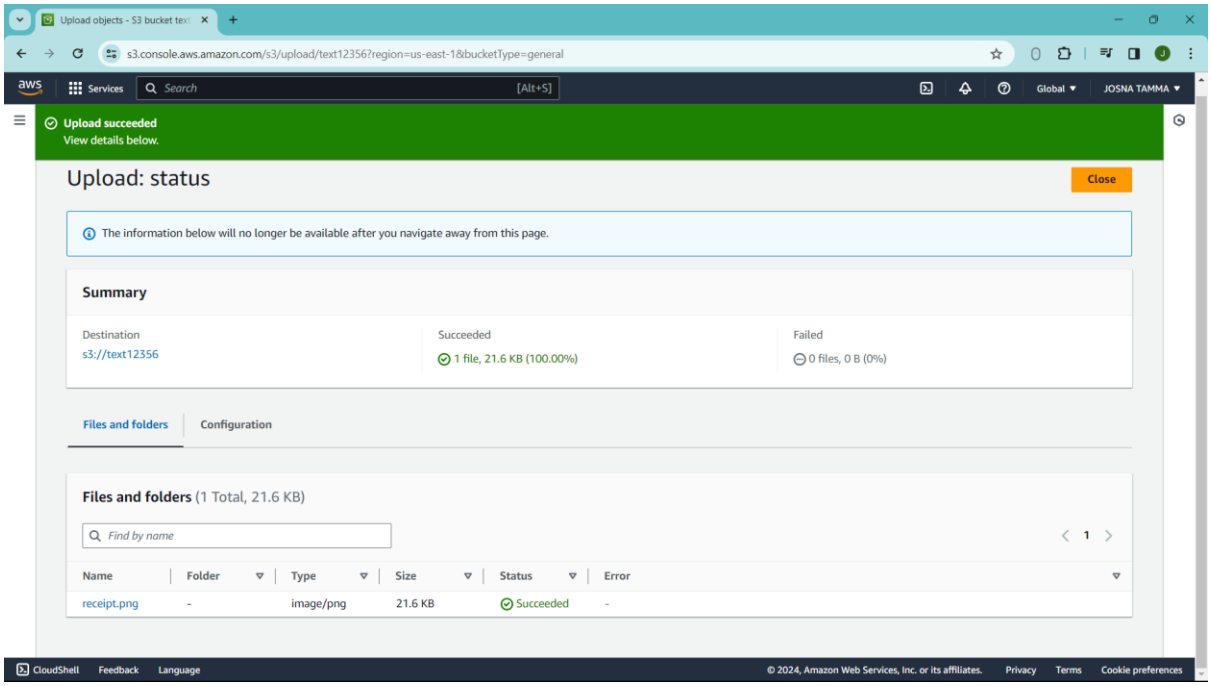
Click on add

Upload the code and deploy the changes

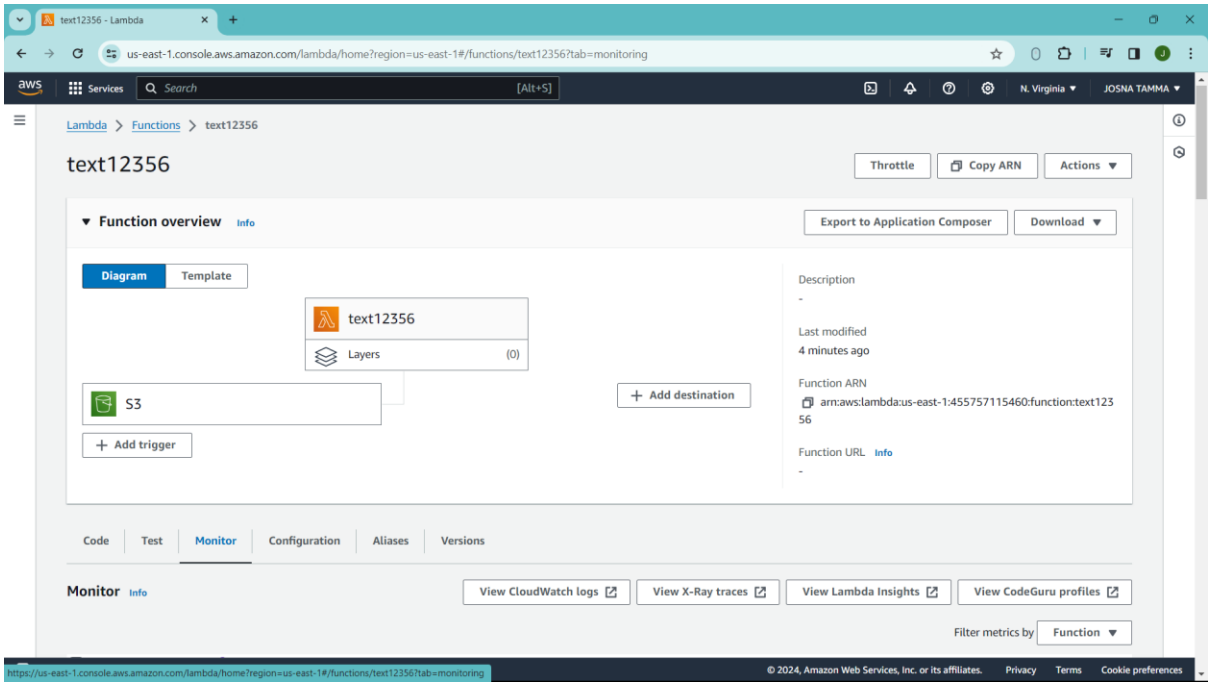


Now go to the created bucket and upload the image

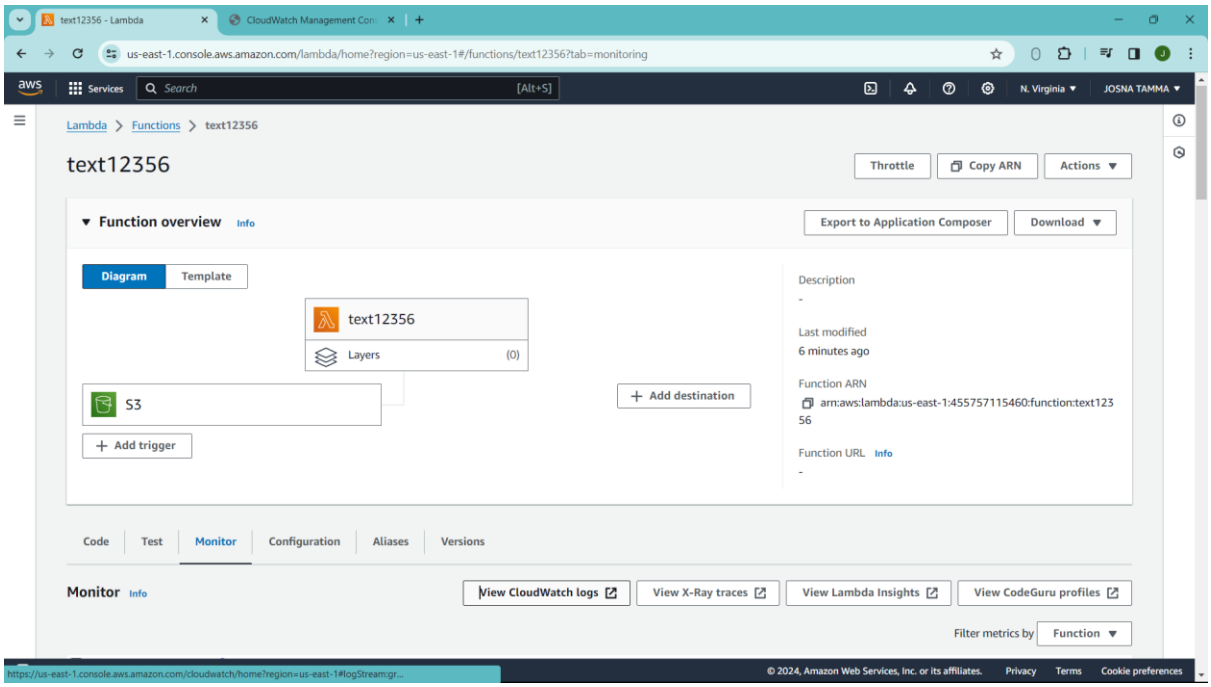

Upload objects - S3 bucket text
s3.console.aws.amazon.com/s3/upload/text12356?region=us-east-1&bucketType=general
Services
Search
[Alt+S]
Global
JOSNA TAMMA
Amazon S3 > Buckets > text12356 > Upload
Upload Info
Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. Learn more
Drag and drop files and folders you want to upload here, or choose Add files or Add folder.
Files and folders (1 Total, 21.6 KB)
Remove
Add files
Add folder
All files and folders in this table will be uploaded.
Find by name
1
Name
Folder
Type
receipt.png
-
image/png
Destination Info
Destination
s3://text12356
Destination details
Bucket settings that impact new objects stored in the specified destination.
CloudShell
Feedback
Language
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Upload objects - S3 bucket text
s3.console.aws.amazon.com/s3/upload/text12356?region=us-east-1&bucketType=general
Services
Search
[Alt+S]
Global
JOSNA TAMMA
Upload succeeded
View details below.
Upload: status
Close
The information below will no longer be available after you navigate away from this page.
Summary
Destination
s3://text12356
Succeeded
1 file, 21.6 KB (100.00%)
Failed
0 files, 0 B (0%)
Files and folders
Configuration
Files and folders (1 Total, 21.6 KB)
Find by name
1
Name
Folder
Type
Size
Status
Error
receipt.png
-
image/png
21.6 KB
Succeeded
-
CloudShell
Feedback
Language
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

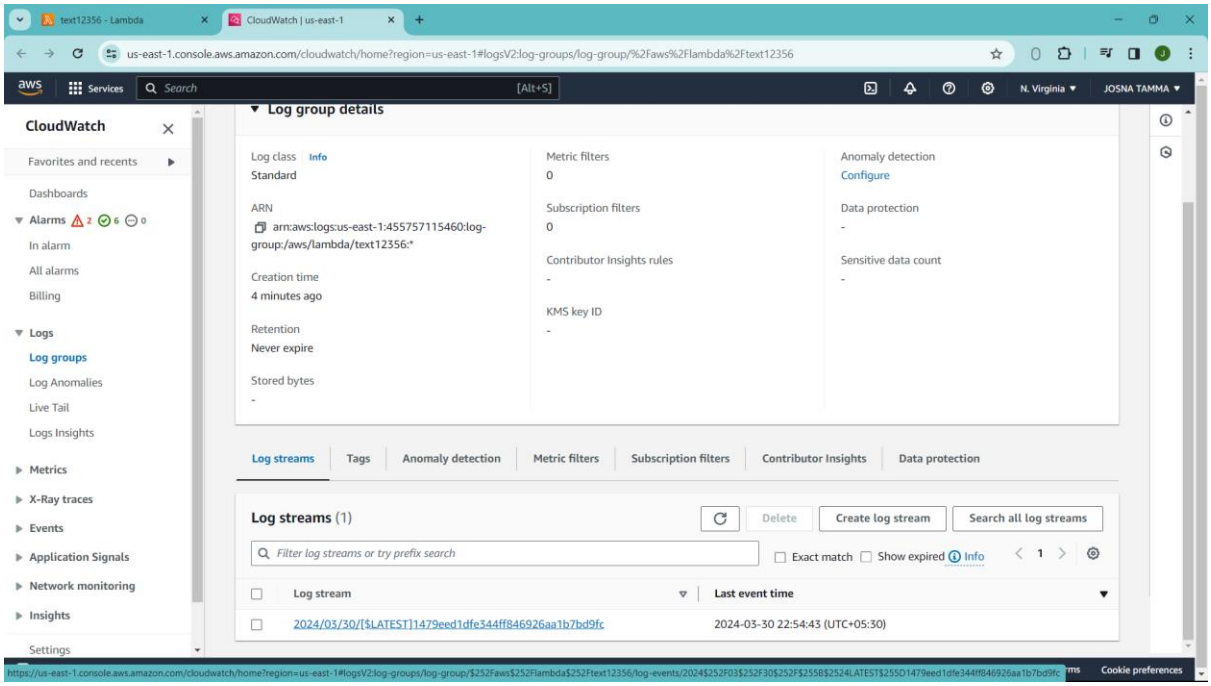
Now go to lambda function which was created click on monitor



Click on view CloudWatch logs



Click on the link



We get the output.