Experiment 9

Aim:-

To understand AWS lambda functions and create a lambda function using python to log “an image has been added” message , once the file has been added in S3 bucket

Theory:-

AWS Lambda is a serverless computing service provided by Amazon Web Services (AWS) that allows you to run code without provisioning or managing servers. With AWS Lambda, you can upload your code and the service will automatically run and scale your code based on the incoming requests or events. Here are some key features and aspects of AWS Lambda:

Event-Driven Computing: AWS Lambda allows you to execute your code in response to events such as changes to data in an Amazon S3 bucket, updates to a DynamoDB table, HTTP requests via Amazon API Gateway, or custom events from various AWS services.

Serverless Architecture: It enables you to build applications and services without the need to manage infrastructure. You are charged only for the compute time you consume, with no charge when your code is not running.

Support for Multiple Languages: AWS Lambda supports multiple programming languages including Node.js, Python, Java, Go, Ruby, and .NET Core, allowing you to choose the language that best suits your application.

Automatic Scaling: Lambda automatically scales your application by running code in response to each trigger. It can handle a few requests per day or thousands of requests per second.

Microservices and Backend Services: Lambda is often used to build scalable and cost-effective back-end services for mobile, web, and other applications. It is also commonly used in the development of microservices-based architectures.

Integration with Other AWS Services: Lambda seamlessly integrates with other AWS services, enabling you to create powerful applications using a combination of AWS services without managing servers.

Security and Access Control: AWS Lambda provides built-in security features, allowing you to control the execution role and access permissions for your Lambda functions through AWS Identity and Access Management (IAM).

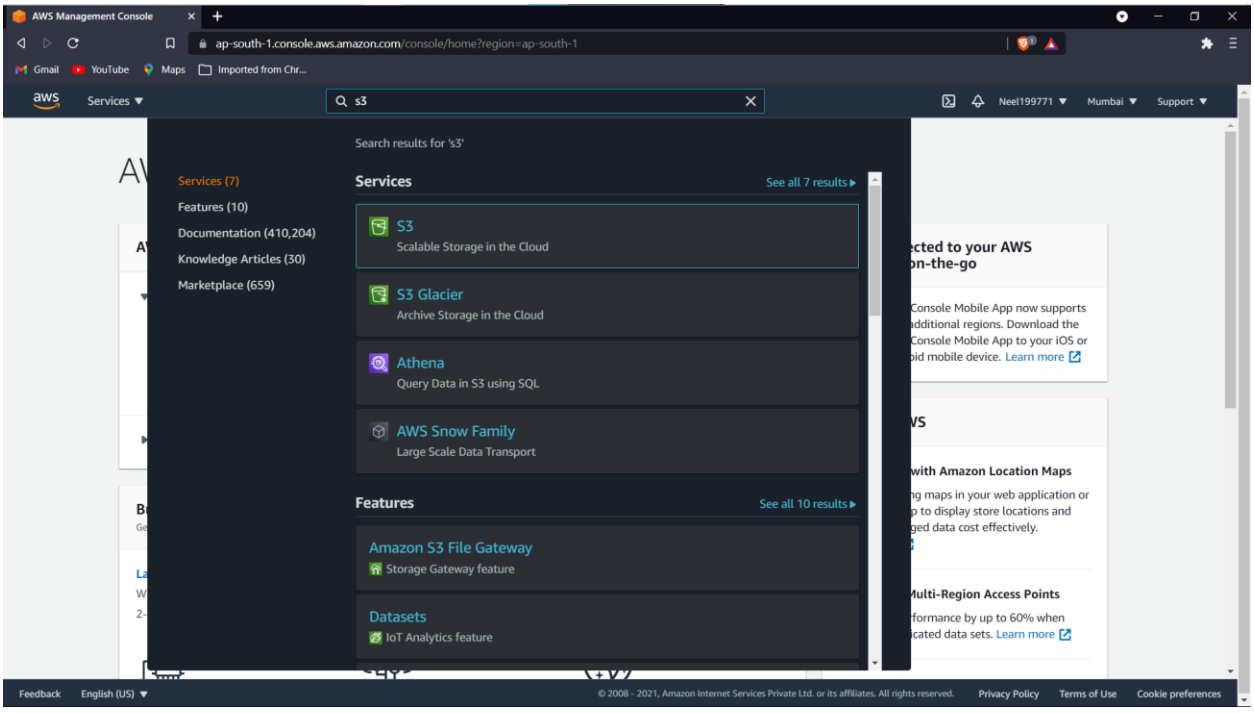
Easy Deployment and Management: Lambda makes it easy to deploy and manage your code. You can update your code without downtime, and the service handles all the operational and administrative activities, such as capacity provisioning, monitoring, and logging.

High Availability and Fault Tolerance: AWS Lambda automatically replicates your code across multiple availability zones to ensure high availability and fault tolerance.

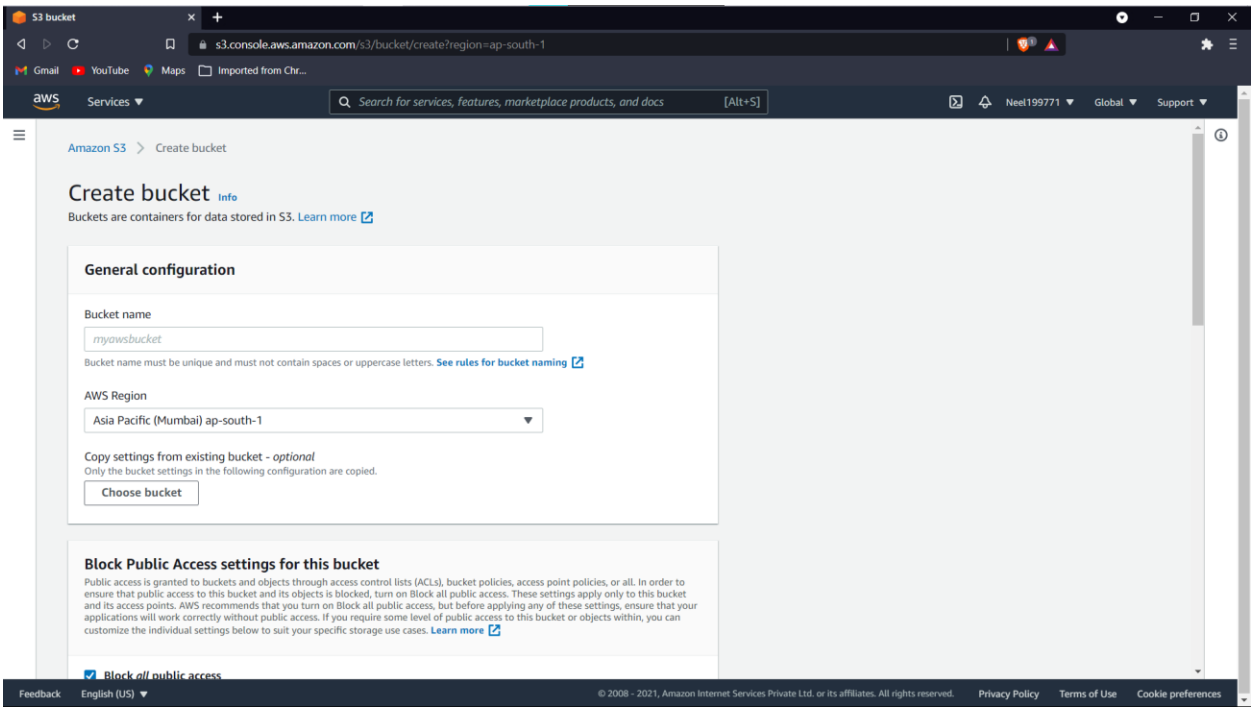
Monitoring and Logging: Lambda provides detailed monitoring and logging through Amazon CloudWatch, allowing you to monitor performance metrics, set alarms, and troubleshoot issues for your Lambda functions.

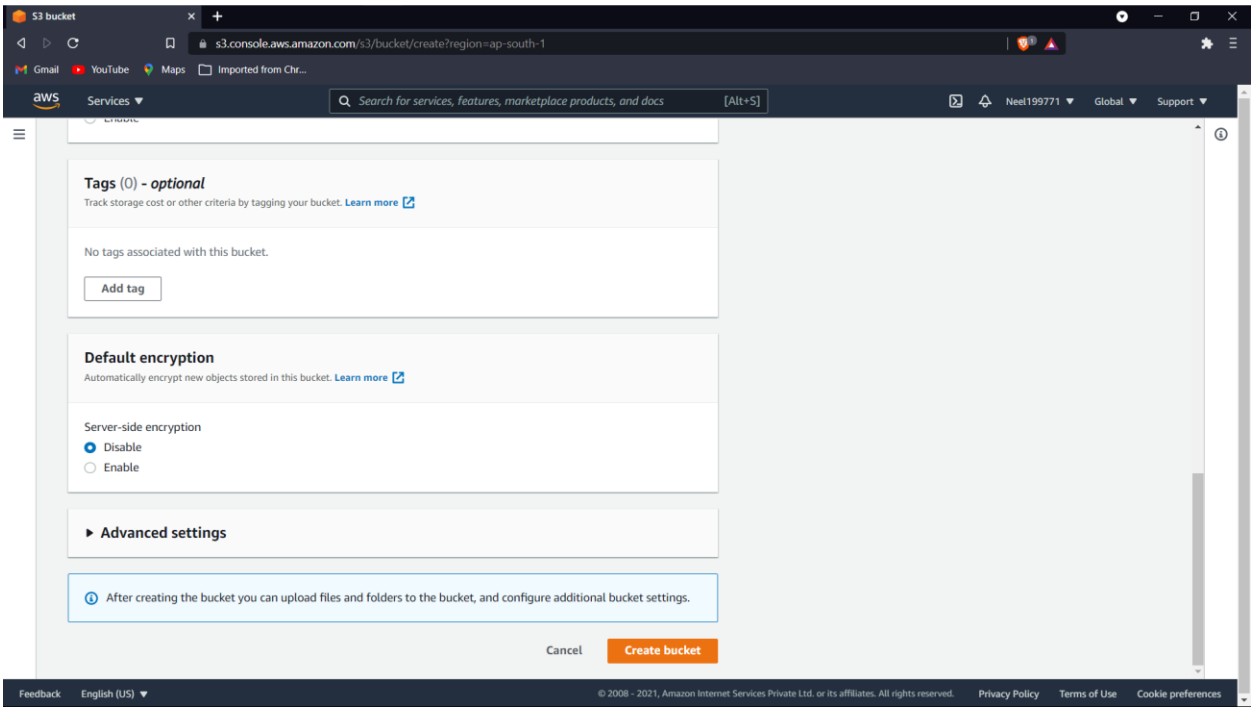
Steps :-

1) Login to AWS account then Search S3 ,click on the option below shown-

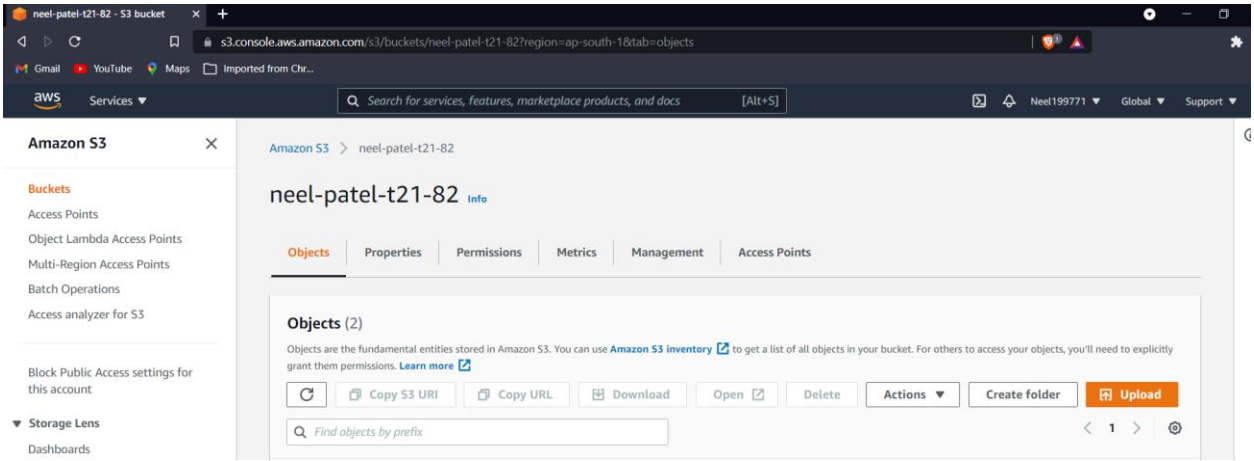


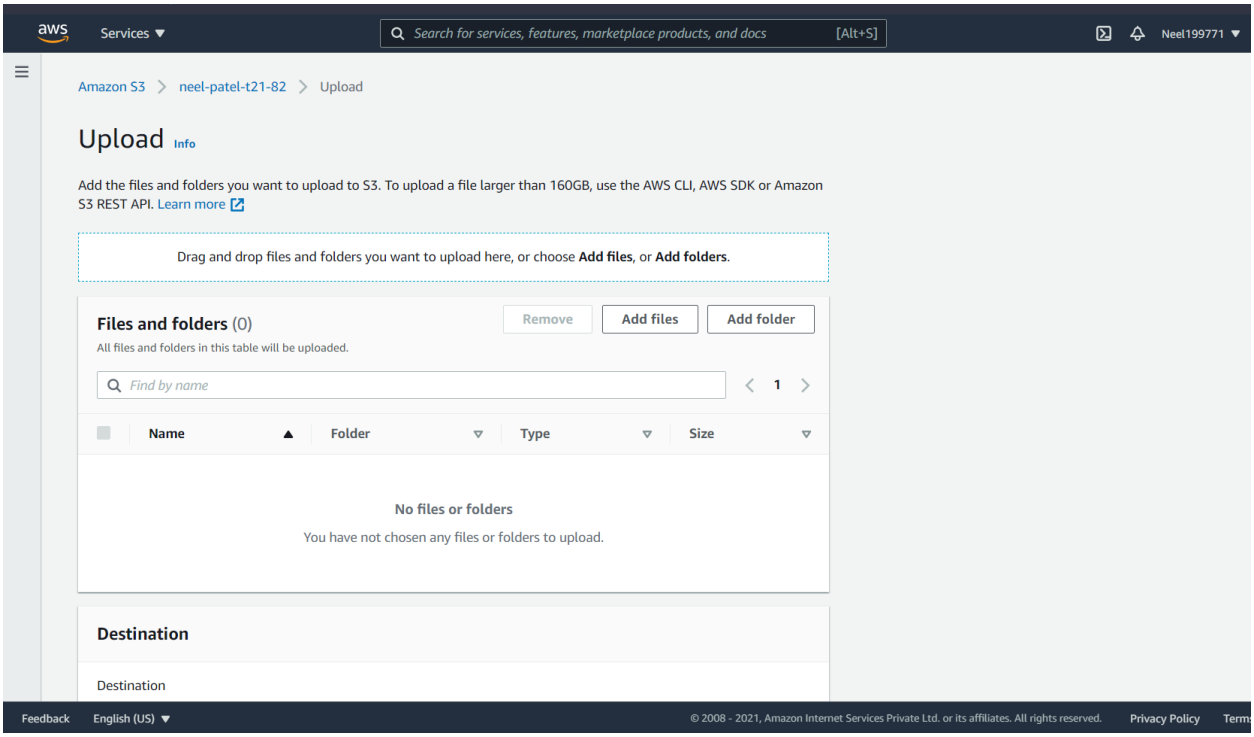
2) Create an S3 bucket by giving it a name



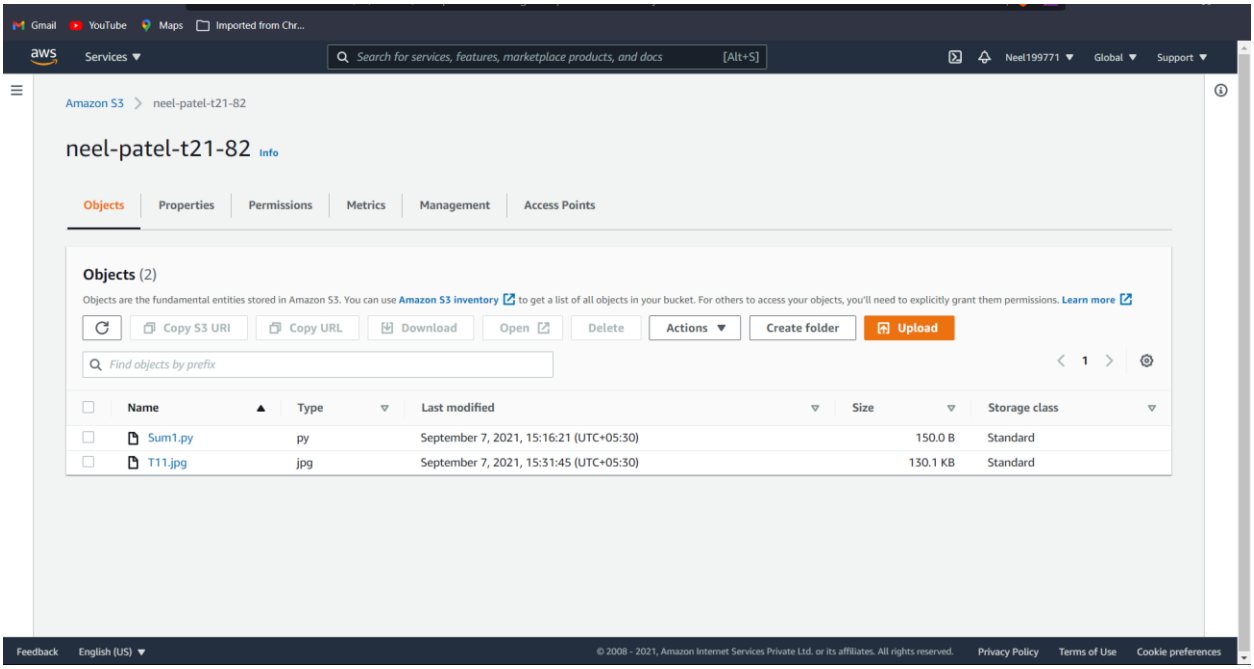


3) Click on upload button after the s3 bucket is created in the object section

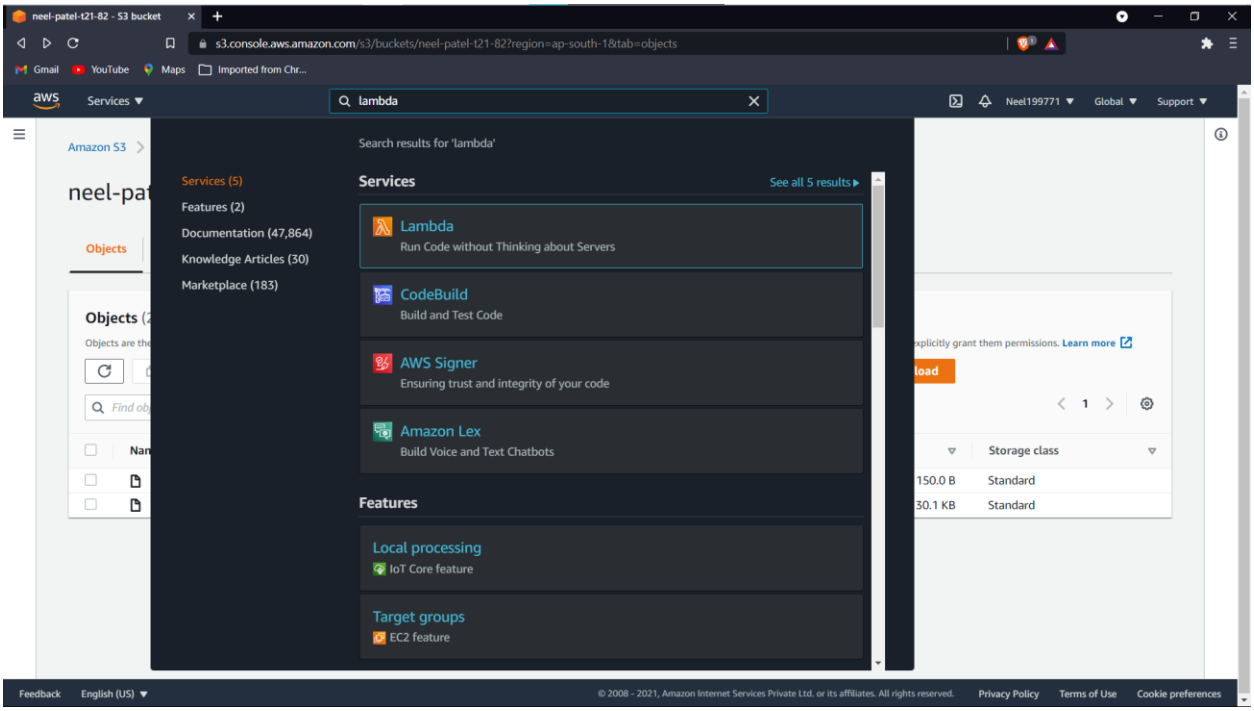




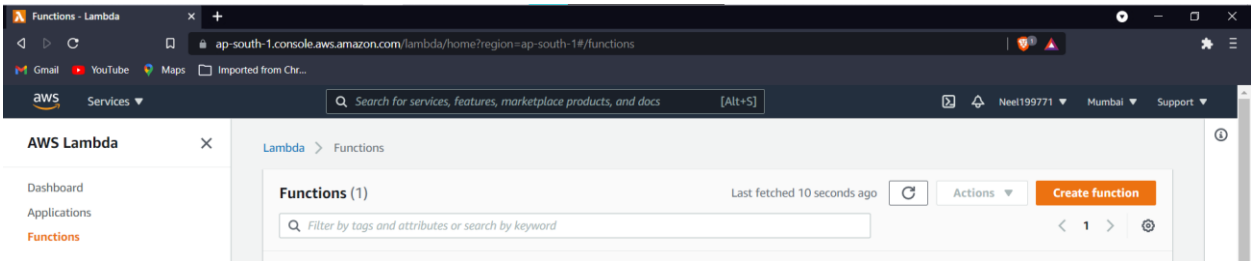
4) Add any .py or .java extenstion file and click on upload



5) Now search lambda



6)Click create function , click on below options and click on configure


Functions - Lambda
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions
Gmail
YouTube
Maps
Imported from Chr...
aws
Services
Search for services, features, marketplace products, and docs [Alt+S]
Neel199771
Mumbai
Support
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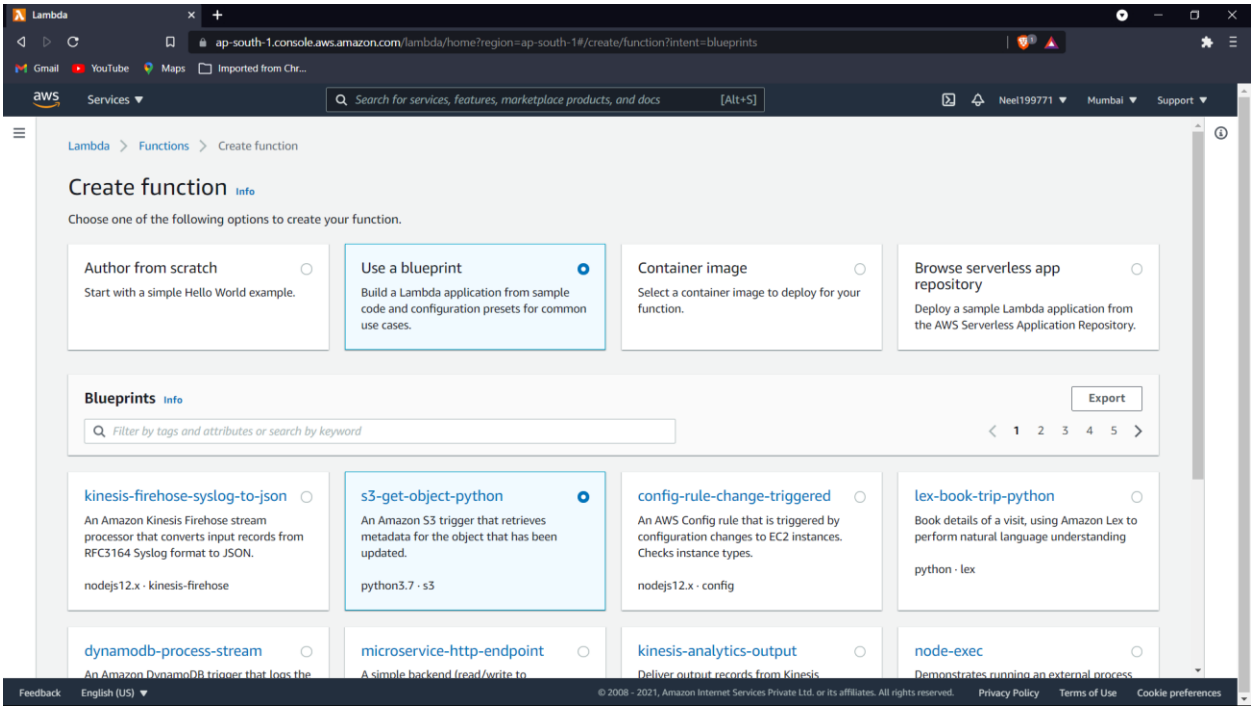
Applications
Functions
Lambda > Functions
Functions (1)
Last fetched 10 seconds ago
Actions
Create function
Filter by tags and attributes or search by keyword
1


Lambda
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/create/function?intent=blueprints
Gmail
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Maps
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Services
Search for services, features, marketplace products, and docs [Alt+S]
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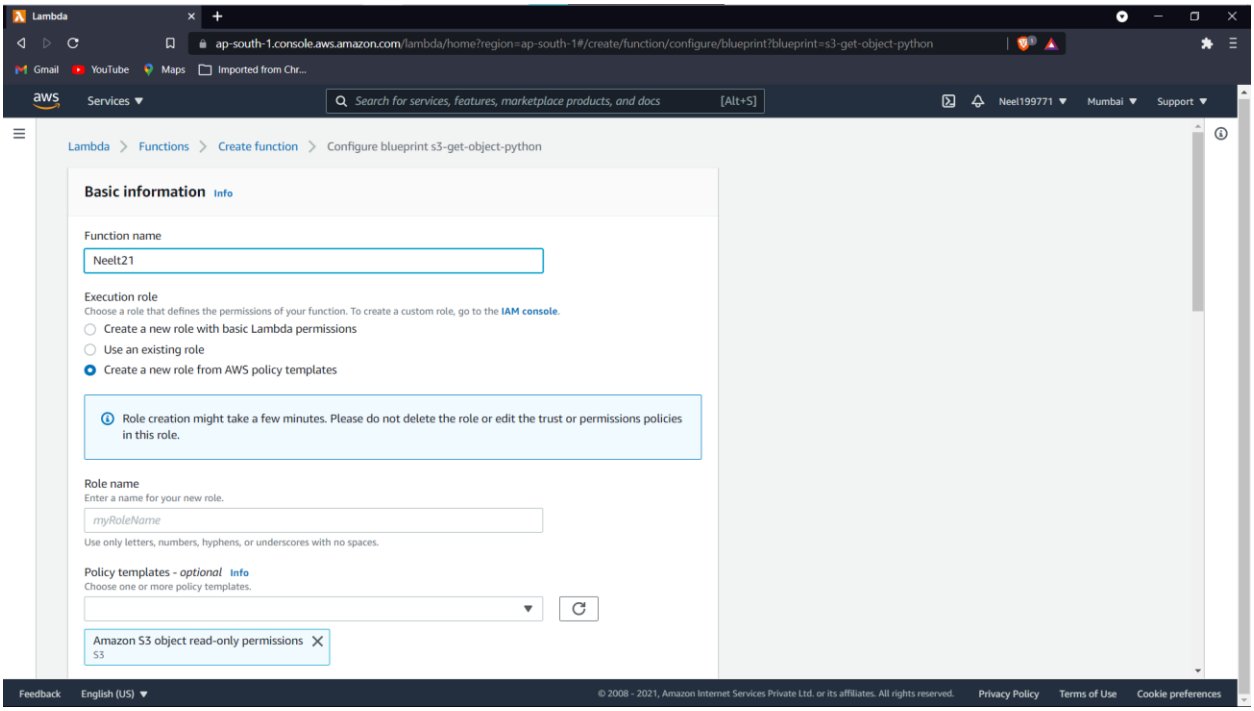
Mumbai
Support
Lambda > Functions > Create function
Create function Info
Choose one of the following options to create your function.
Author from scratch
Start with a simple Hello World example.
Use a blueprint
Build a Lambda application from sample code and configuration presets for common use cases.
Container image
Select a container image to deploy for your function.
Browse serverless app repository
Deploy a sample Lambda application from the AWS Serverless Application Repository.
Blueprints Info
Export
Filter by tags and attributes or search by keyword
1 2 3 4 5
kinesis-firehose-syslog-to-json
An Amazon Kinesis Firehose stream processor that converts input records from RFC3164 Syslog format to JSON.
nodejs12.x · kinesis-firehose
s3-get-object-python
An Amazon S3 trigger that retrieves metadata for the object that has been updated.
python3.7 · s3
config-rule-change-triggered
An AWS Config rule that is triggered by configuration changes to EC2 instances. Checks instance types.
nodejs12.x · config
lex-book-trip-python
Book details of a visit, using Amazon Lex to perform natural language understanding
python · lex
dynamodb-process-stream
microservice-http-endpoint
kinesis-analytics-output
node-exec
Feedback
English (US)
© 2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use
Cookie preferences


Lambda
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/create/function/configure/blueprint?blueprint=s3-get-object-python
Gmail
YouTube
Maps
Imported from Chr...
aws
Services
Search for services, features, marketplace products, and docs [Alt+S]
Neel199771
Mumbai
Support
Lambda > Functions > Create function > Configure blueprint s3-get-object-python
Basic information Info
Function name
Neelt21
Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the IAM console.
Create a new role with basic Lambda permissions
Use an existing role
Create a new role from AWS policy templates
Role creation might take a few minutes. Please do not delete the role or edit the trust or permissions policies in this role.
Role name
Enter a name for your new role.
myRoleName
Use only letters, numbers, hyphens, or underscores with no spaces.
Policy templates - optional Info
Choose one or more policy templates.
Amazon S3 object read-only permissions
S3
Feedback
English (US)
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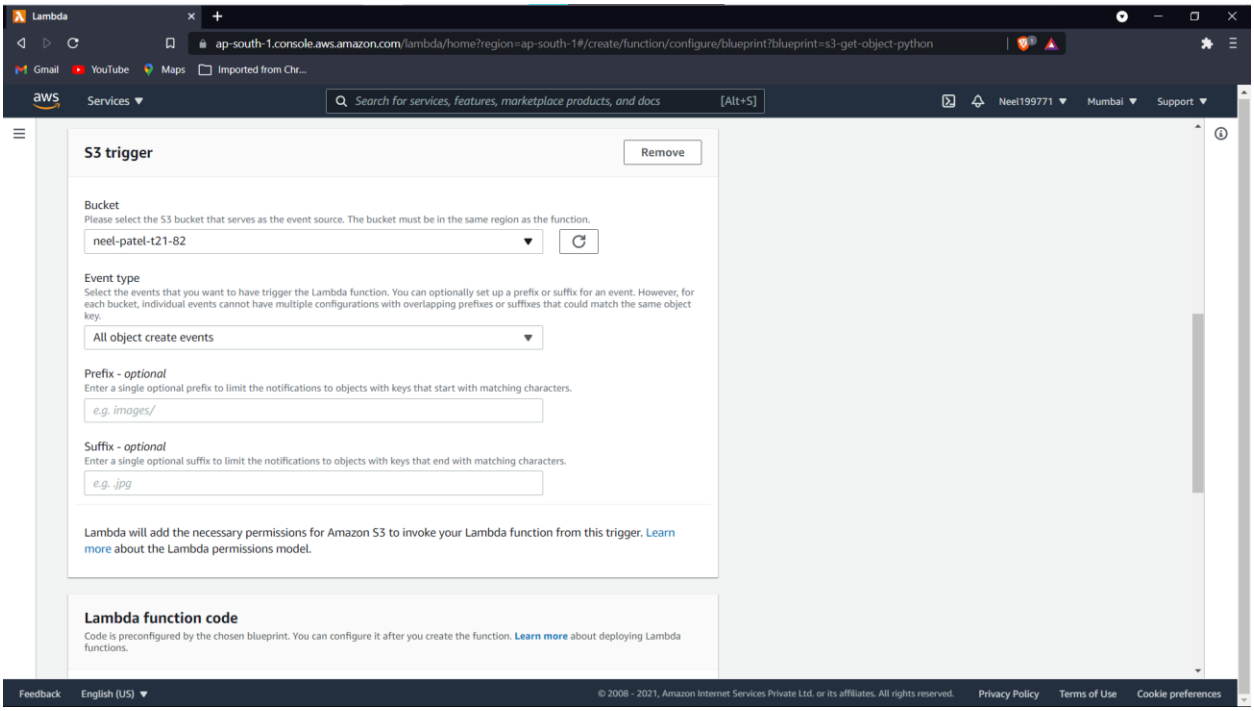
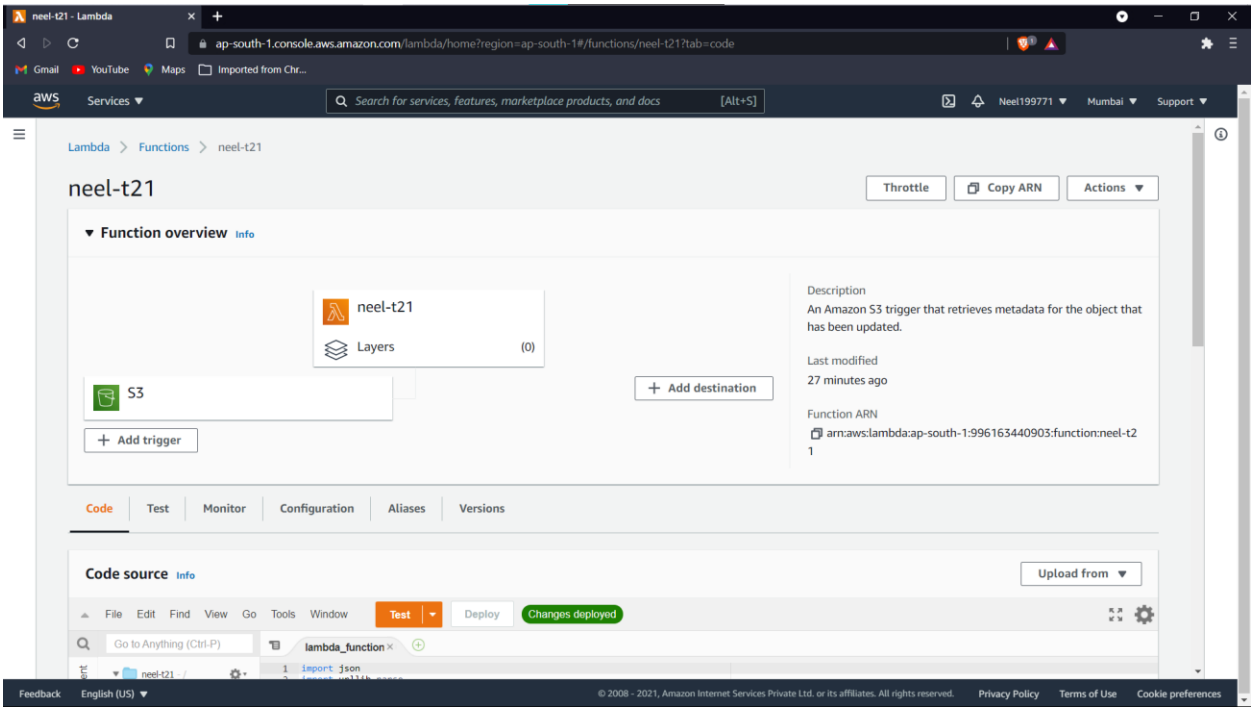
Privacy Policy
Terms of Use
Cookie preferences

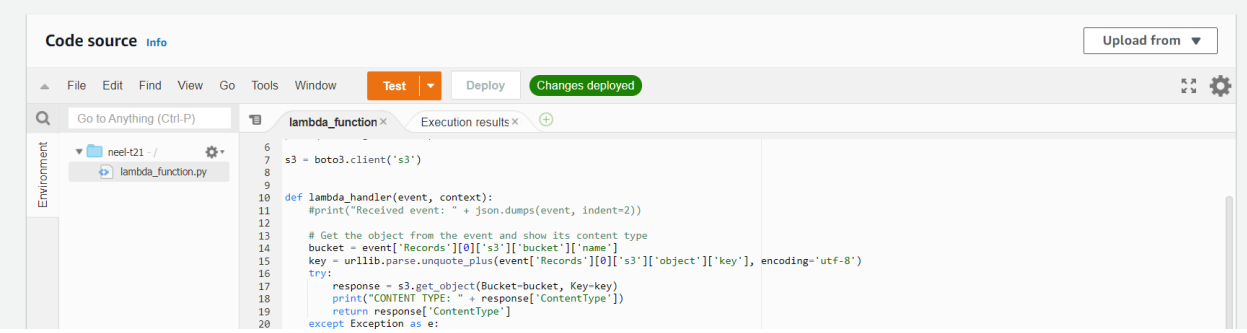
7)Select the bucket created and create trigger ,click on create function

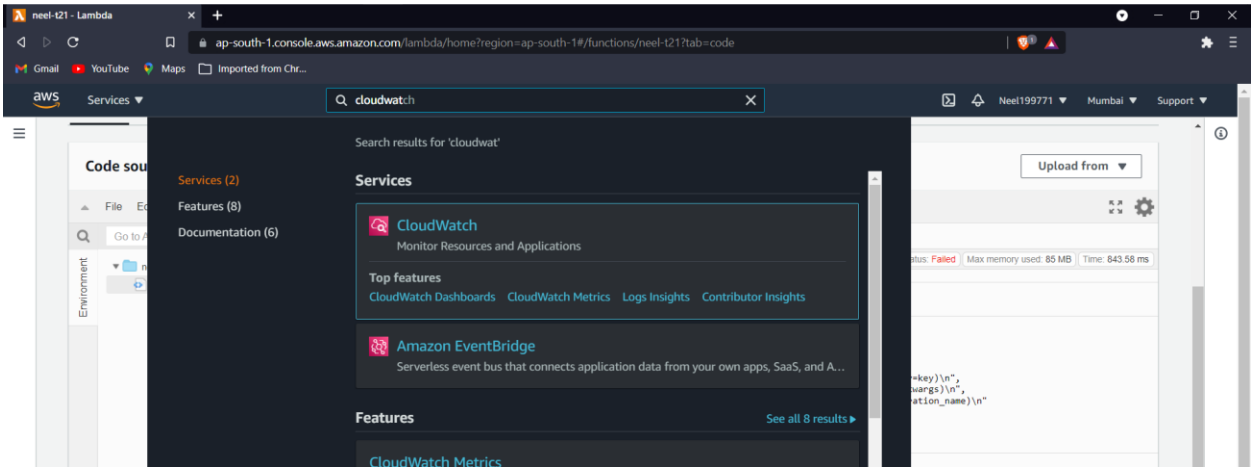


8) Check the given trigger is created

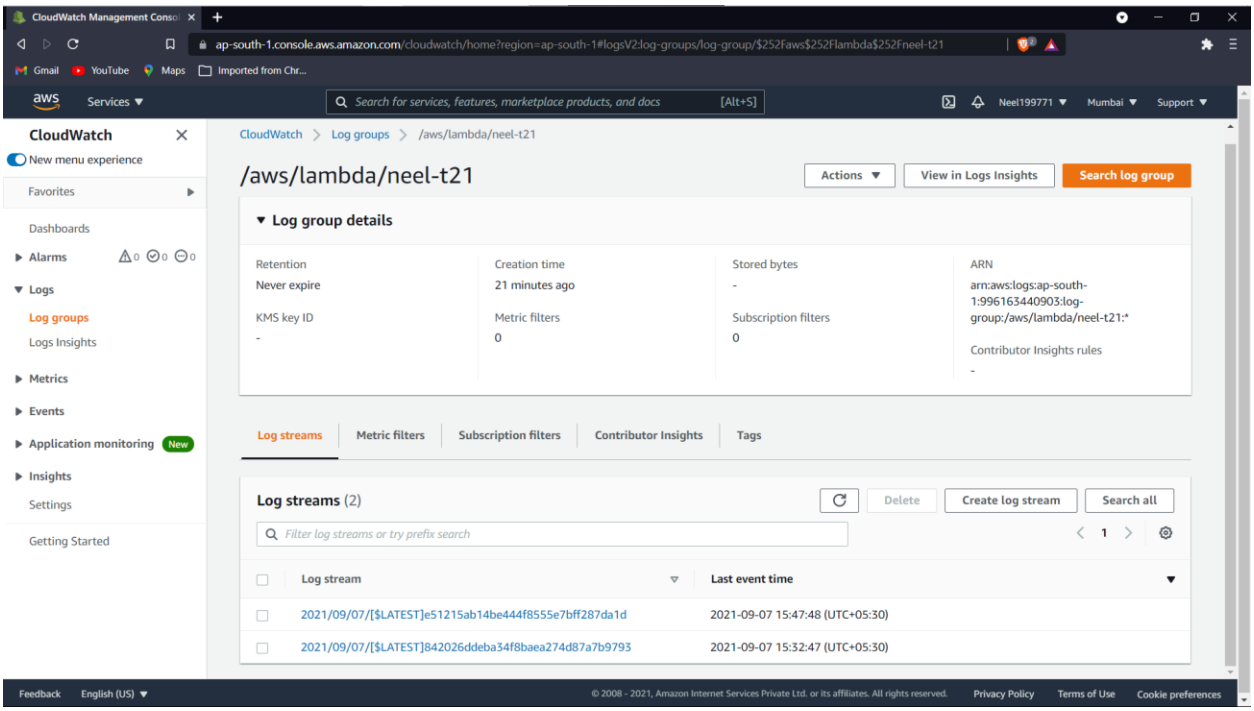


9) Click on the orange test button

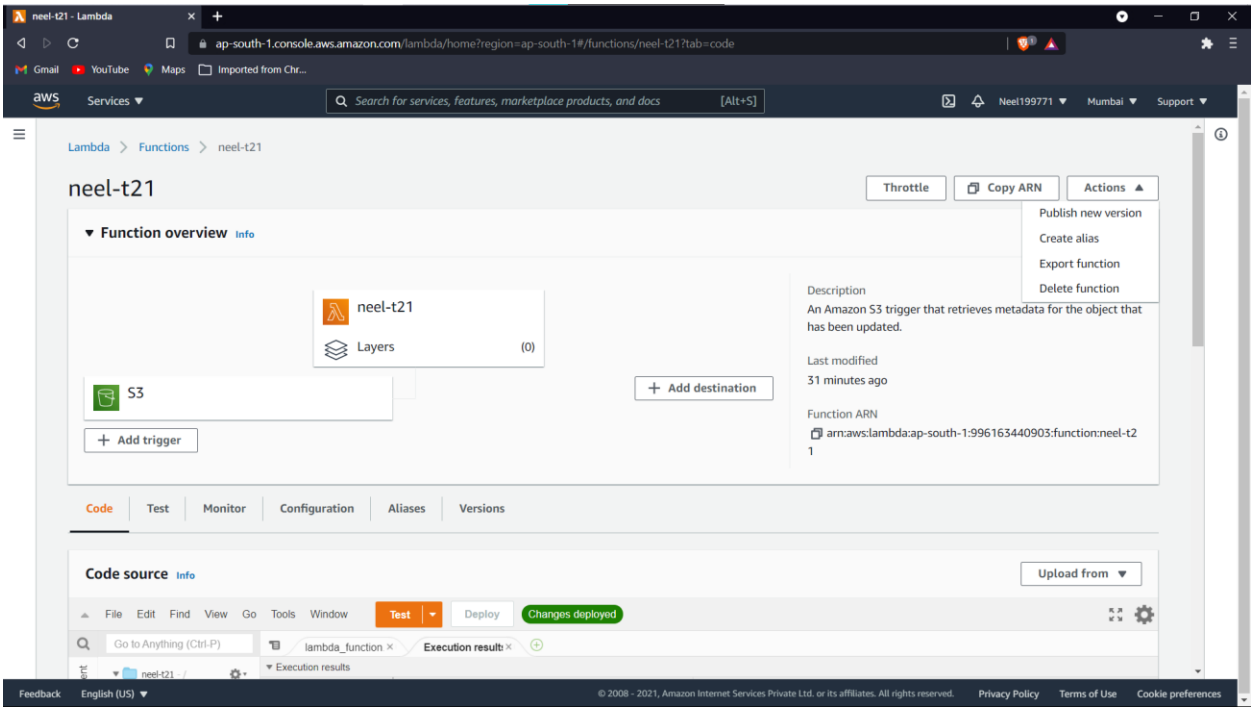


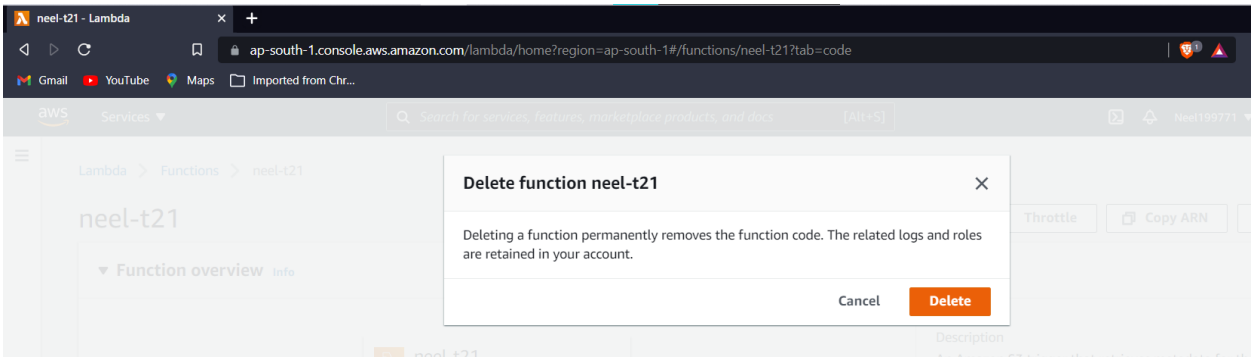


10) Check the logs , “an image has been added” message will be printed in logs

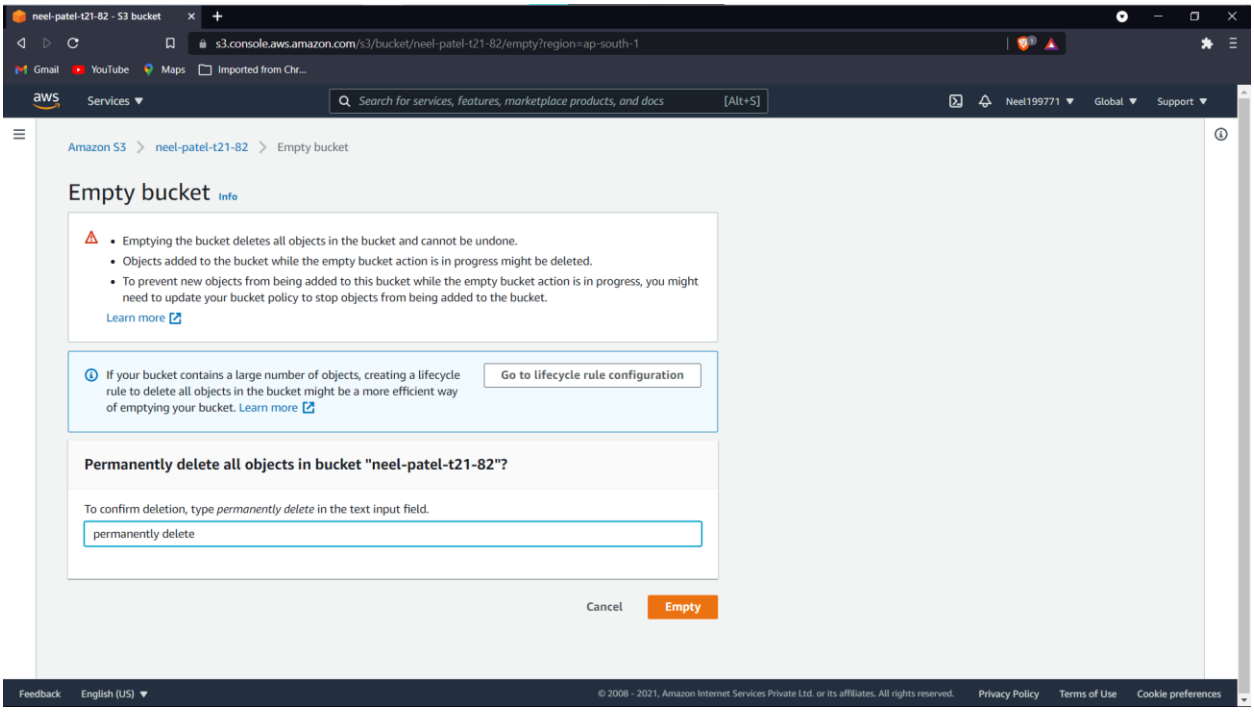


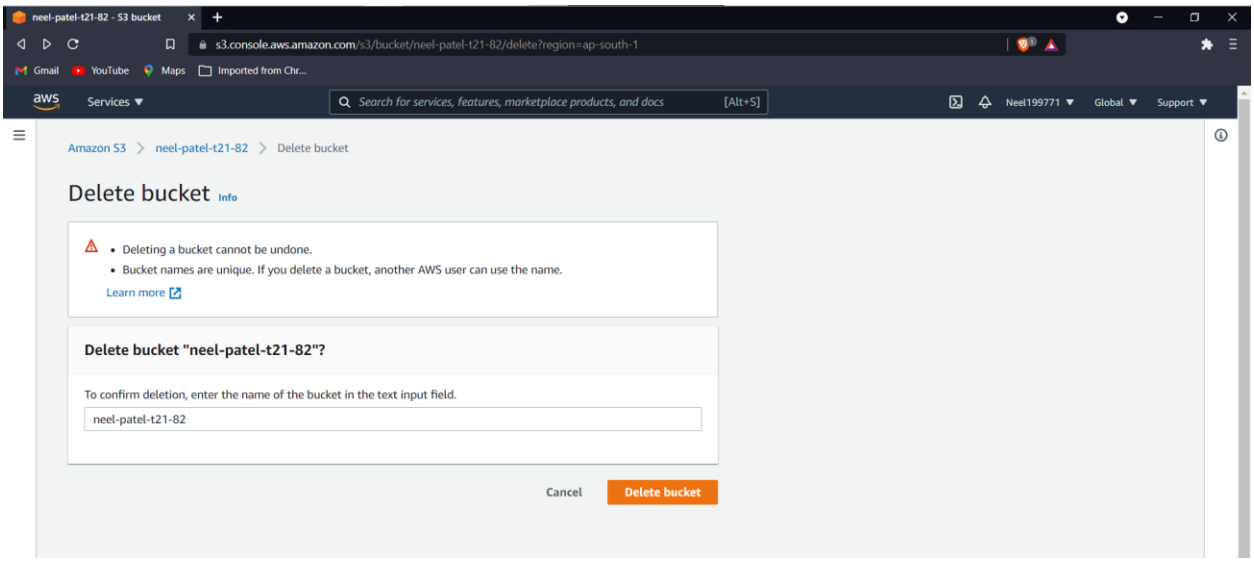
11) terminate by clicking on delete function





12) Empty and delete the bucket





Conclusion:-

Learnt about AWS Lambda function their applications in software industry and created a Lambda function using python to add image in a S3 bucket and verified if image is added or not by printing message after message is added