Advance Devops Lab 12

Aim: To create a Lambda function which will log “An Image has been added” once you add an object to a specific bucket in S3

Theory:

Objective: To create a serverless Lambda function that triggers whenever an object is added to a specific S3 bucket and logs a message indicating that an image has been added.

Prerequisites:

- An AWS account with necessary permissions to create Lambda functions and access S3 buckets.
- An S3 bucket created and configured.

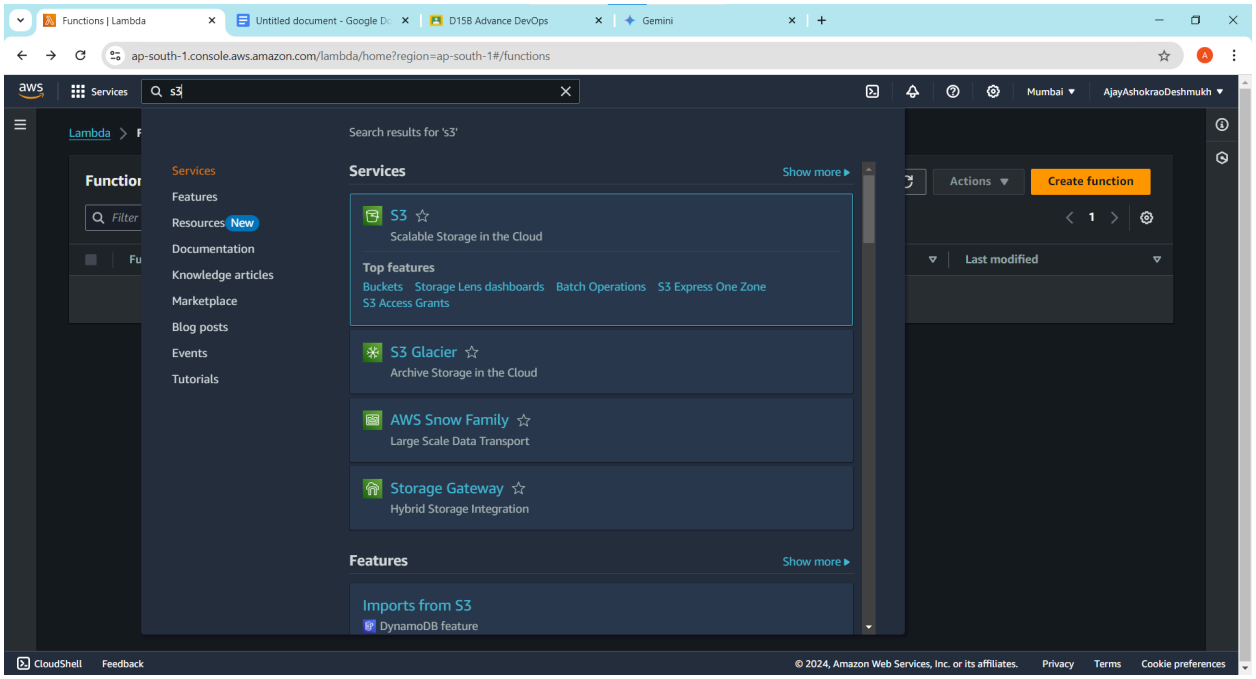
Steps:

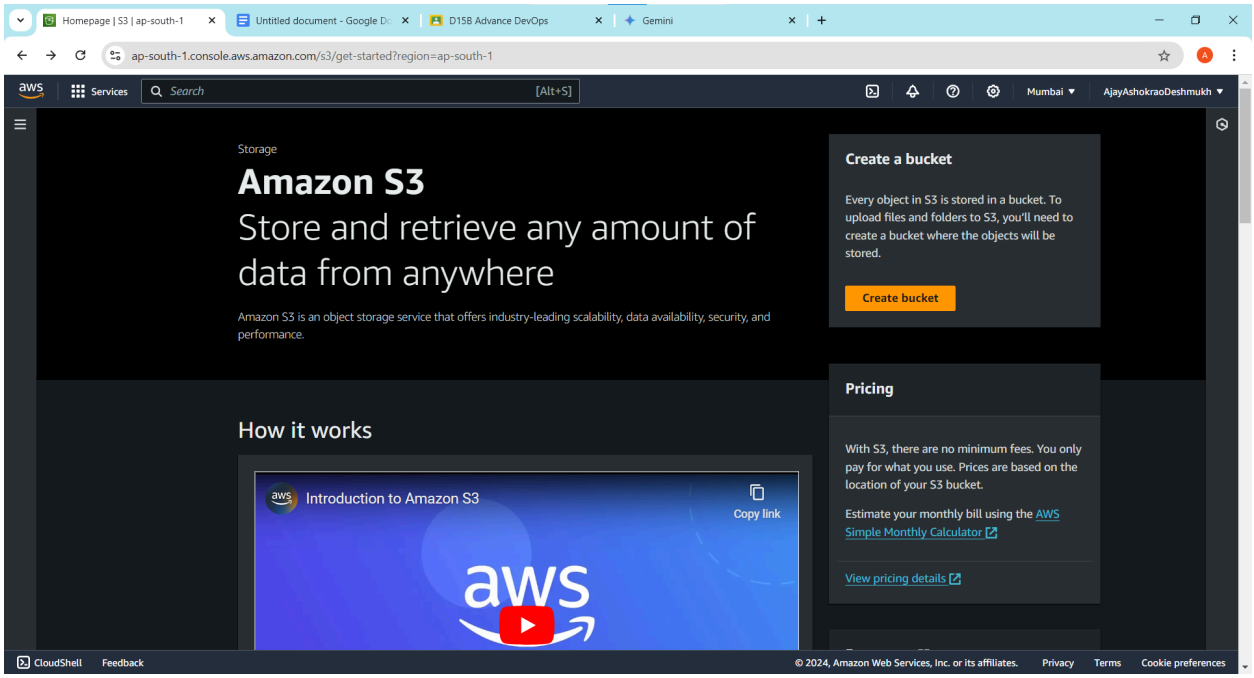
1. **Create an S3 Bucket:**
    - Log in to your AWS Management Console.
    - Navigate to the S3 service.
    - Click on "Create bucket".
    - Provide a unique bucket name and select your desired region.
    - Configure any necessary permissions or tags.
    - Click "Create bucket".
2. **Create a Lambda Function:**
    - Navigate to the Lambda service.
    - Click "Create function".
    - Choose "Author from scratch".
    - Provide a function name and select your desired runtime (e.g., Python 3.9).
    - Click "Create function".

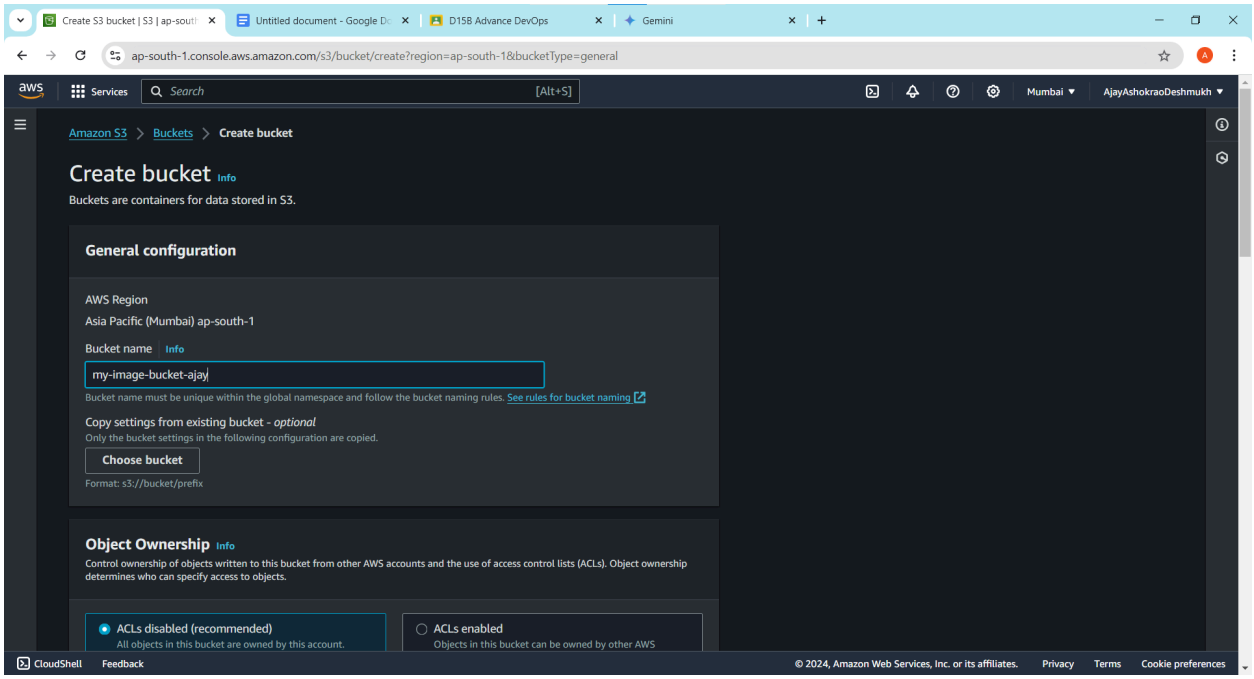
3. **Configure Trigger:**

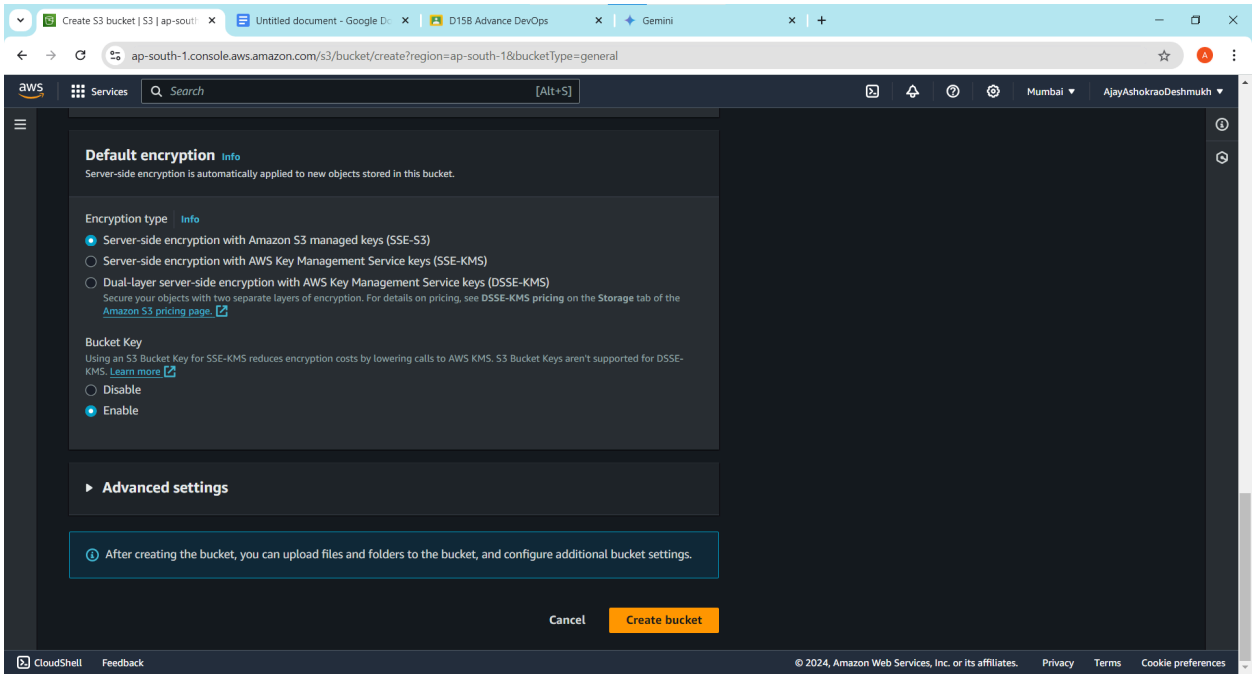
   - In the "Triggers" tab, click "Add trigger".
   - Select "S3" as the event source.
   - Choose the S3 bucket you created earlier.
   - Select the desired event type (e.g., "Object Created").
   - Click "Add".

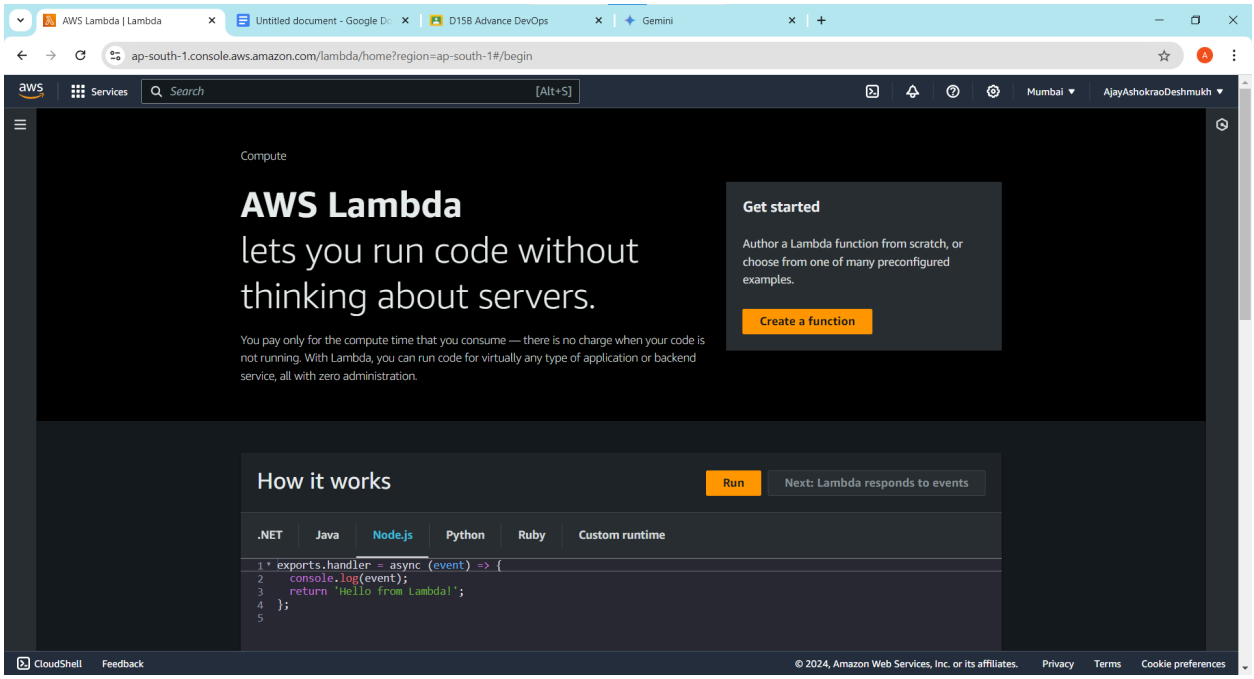
Steps:

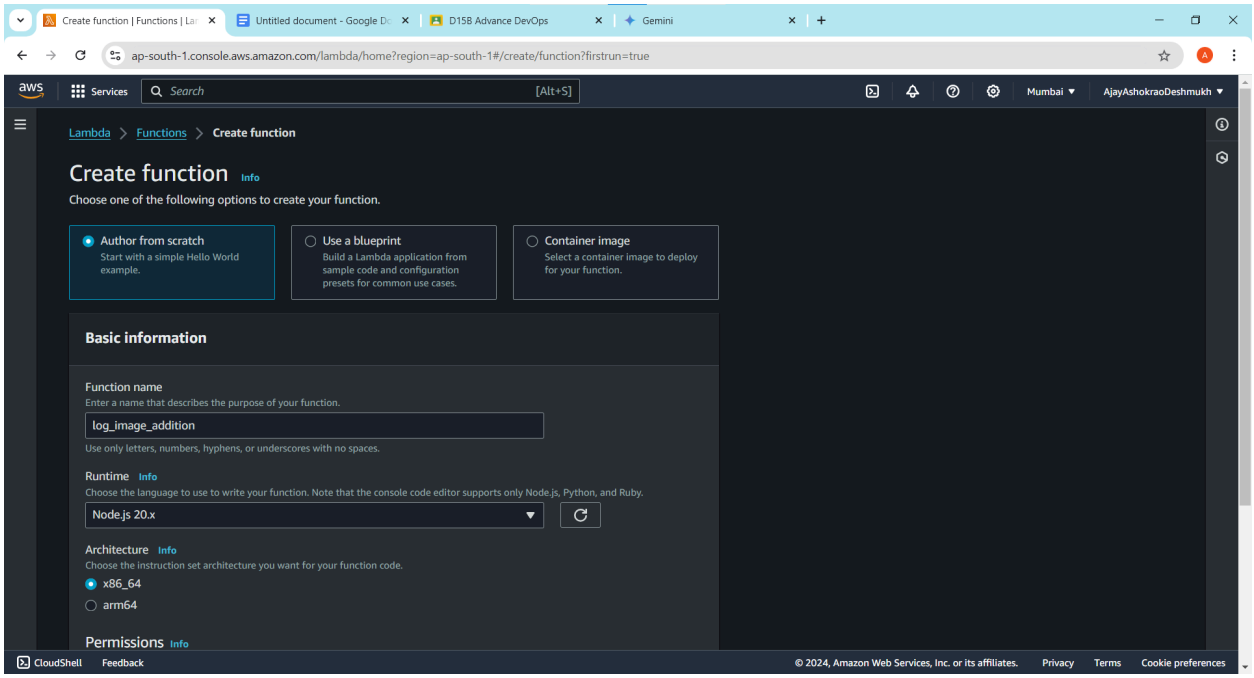


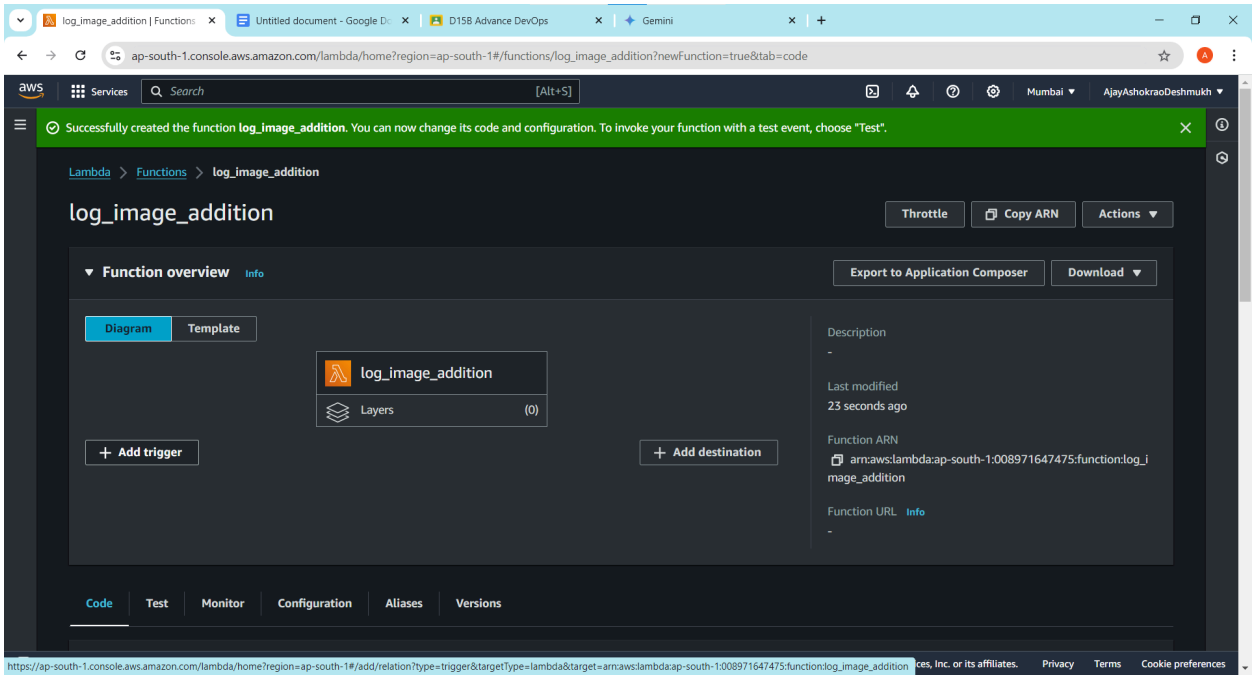

Homepage | S3 | ap-south-1
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/s3/get-started?region=ap-south-1
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Storage
Amazon S3
Store and retrieve any amount of data from anywhere
Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance.
Create a bucket
Every object in S3 is stored in a bucket. To upload files and folders to S3, you'll need to create a bucket where the objects will be stored.
Create bucket
Pricing
With S3, there are no minimum fees. You only pay for what you use. Prices are based on the location of your S3 bucket.
Estimate your monthly bill using the AWS Simple Monthly Calculator
View pricing details
How it works
Introduction to Amazon S3
Copy link
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

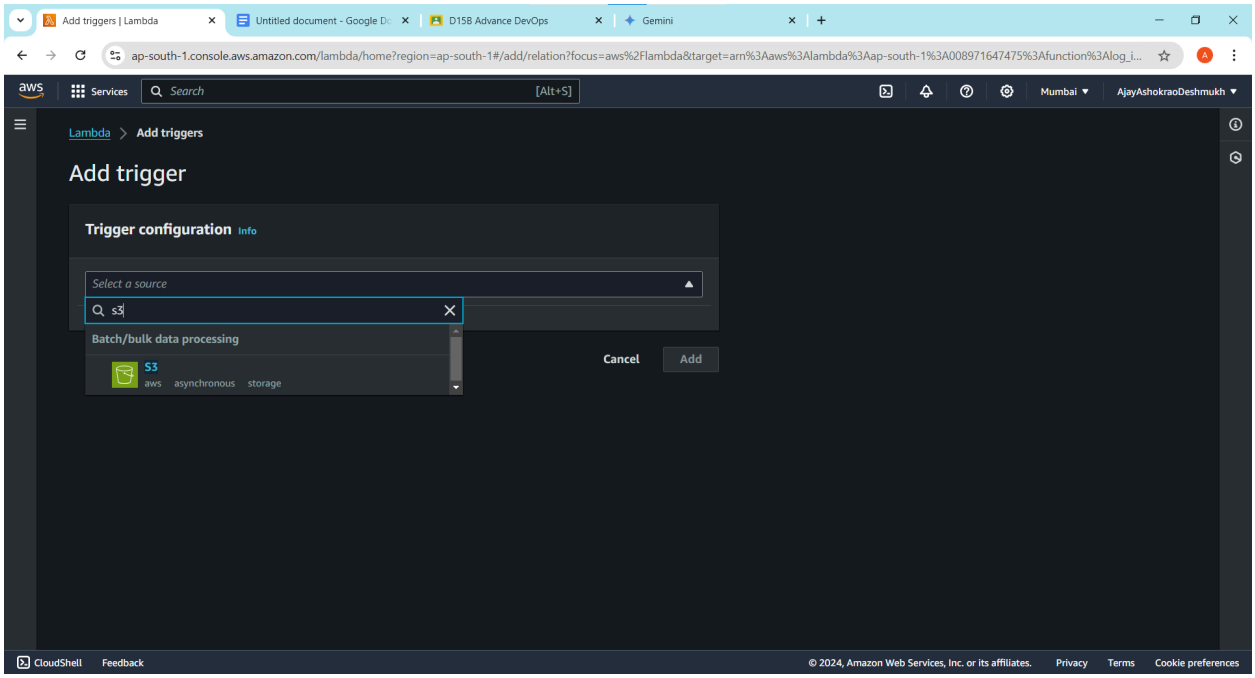

Create S3 bucket | S3 | ap-south
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/s3/bucket/create?region=ap-south-1&bucketType=general
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Amazon S3 > Buckets > Create bucket
Create bucket Info
Buckets are containers for data stored in S3.
General configuration
AWS Region
Asia Pacific (Mumbai) ap-south-1
Bucket name Info
my-image-bucket-ajay
Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming
Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.
Choose bucket
Format: s3://bucket/prefix
Object Ownership Info
Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.
ACLs disabled (recommended)
All objects in this bucket are owned by this account.
ACLs enabled
Objects in this bucket can be owned by other AWS
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

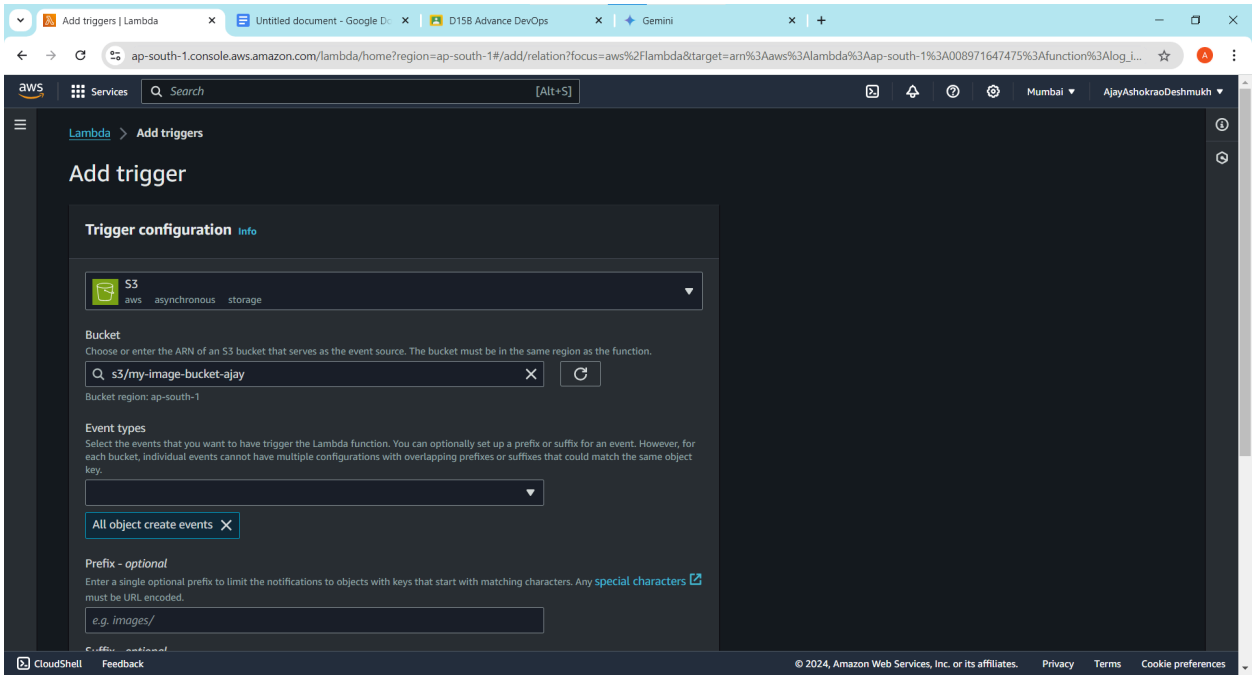

Create S3 bucket | S3 | ap-south
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/s3/bucket/create?region=ap-south-1&bucketType=general
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Default encryption Info
Server-side encryption is automatically applied to new objects stored in this bucket.
Encryption type Info
Server-side encryption with Amazon S3 managed keys (SSE-S3)
Server-side encryption with AWS Key Management Service keys (SSE-KMS)
Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)
Secure your objects with two separate layers of encryption. For details on pricing, see DSSE-KMS pricing on the Storage tab of the Amazon S3 pricing page.
Bucket Key
Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. Learn more
Disable
Enable
Advanced settings
After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.
Cancel
Create bucket
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

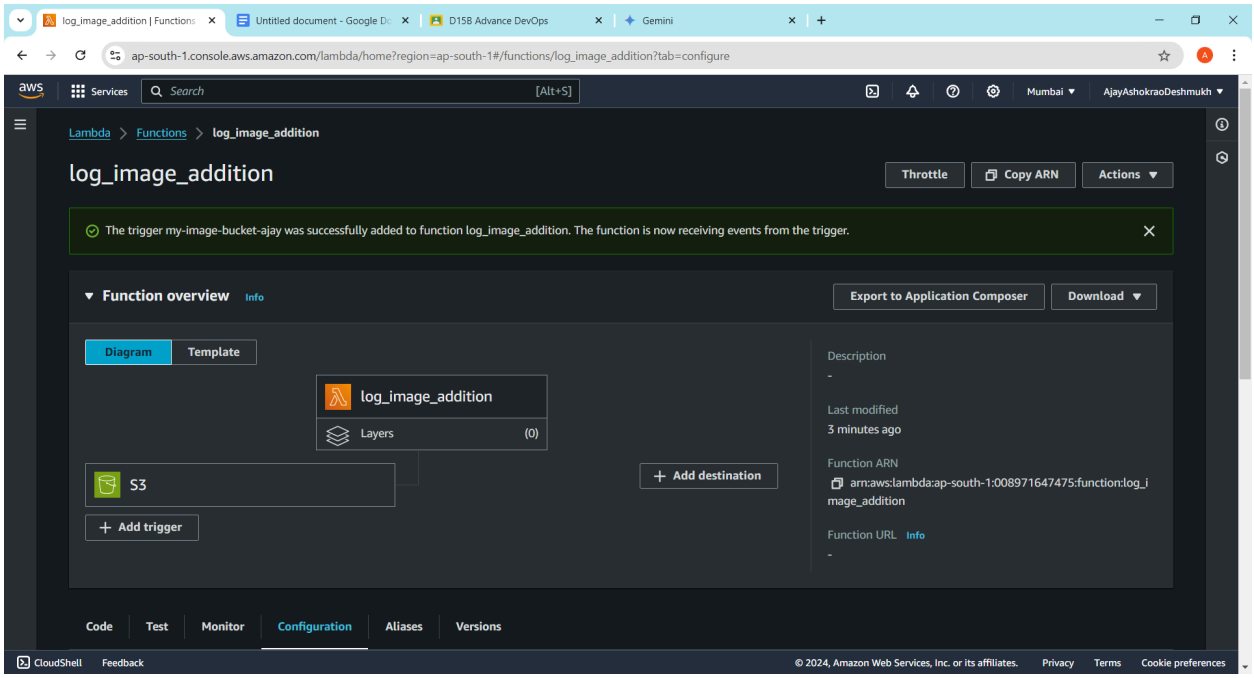

AWS Lambda | Lambda
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/begin
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Compute
AWS Lambda
lets you run code without thinking about servers.
You pay only for the compute time that you consume — there is no charge when your code is not running. With Lambda, you can run code for virtually any type of application or backend service, all with zero administration.
Get started
Author a Lambda function from scratch, or choose from one of many preconfigured examples.
Create a function
How it works
Run
Next: Lambda responds to events
.NET
Java
Node.js
Python
Ruby
Custom runtime
exports.handler = async (event) => {
console.log(event);
return 'Hello from Lambda!';
};
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Create function | Functions | La
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/create/function?firstrun=true
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
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.
Basic information
Function name
Enter a name that describes the purpose of your function.
log_image_addition
Use only letters, numbers, hyphens, or underscores with no spaces.
Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.
Node.js 20.x
Architecture Info
Choose the instruction set architecture you want for your function code.
x86_64
arm64
Permissions Info
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


log_image_addition | Functions
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/log_image_addition?newFunction=true&tab=code
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Successfully created the function log_image_addition. You can now change its code and configuration. To invoke your function with a test event, choose "Test".
Lambda > Functions > log_image_addition
log_image_addition
Throttle
Copy ARN
Actions
Function overview Info
Export to Application Composer
Download
Diagram
Template
log_image_addition
Layers
(0)
+ Add trigger
+ Add destination
Description
-
Last modified
23 seconds ago
Function ARN
arn:aws:lambda:ap-south-1:008971647475:function:log_image_addition
Function URL Info
-
Code
Test
Monitor
Configuration
Aliases
Versions
https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/add/relation?type=trigger&targetType=lambda&target=arn:aws:lambda:ap-south-1:008971647475:function:log_image_addition
ces, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

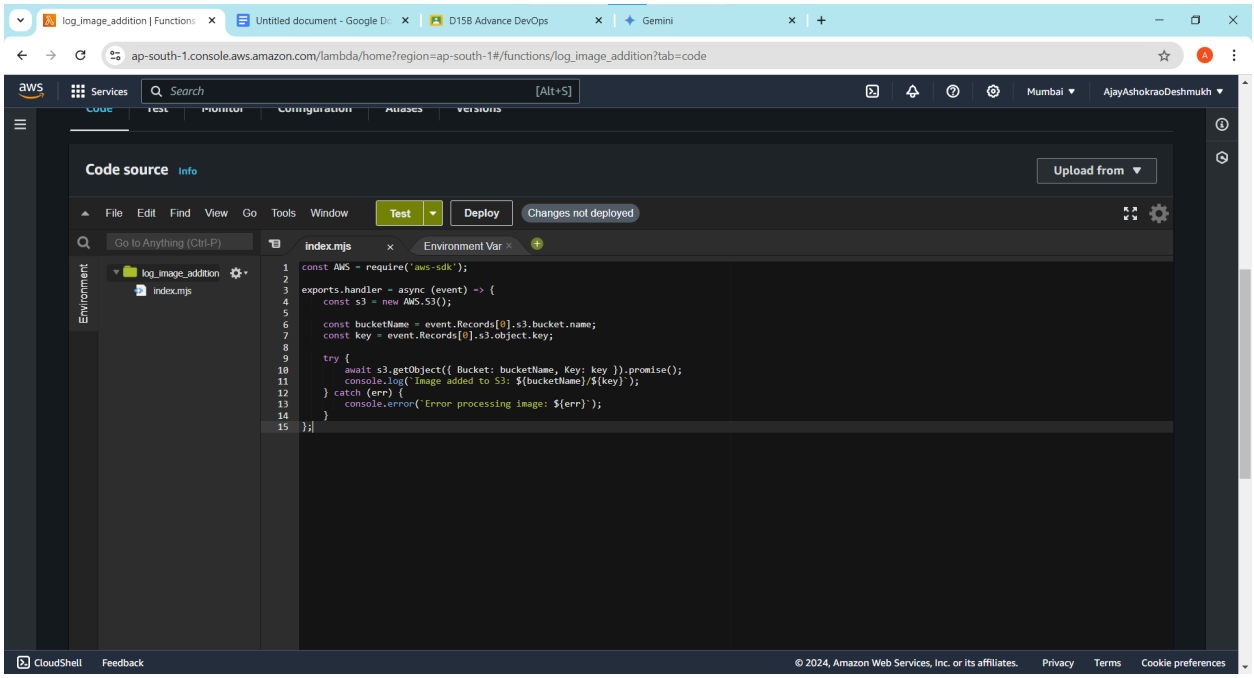

Add triggers | Lambda
Untitled document - Google D
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/add/relation?focus=aws%2Flambda&target=arn%3Aaws%3Alambda%3Aap-south-1%3A008971647475%3Afunction%3Alog_i...
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Lambda
Add triggers
Add trigger
Trigger configuration Info
Select a source
s3
Batch/bulk data processing
S3
aws asynchronous storage
Cancel
Add
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Add triggers | Lambda
Untitled document - Google D
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/add/relation?focus=aws%2Flambda&target=arn%3Aaws%3Alambda%3Aap-south-1%3A008971647475%3Afunction%3Alog_i...
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Lambda
Add triggers
Add trigger
Trigger configuration Info
S3
aws asynchronous storage
Bucket
Choose or enter the ARN of an S3 bucket that serves as the event source. The bucket must be in the same region as the function.
s3/my-image-bucket-ajay
Bucket region: ap-south-1
Event types
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.
All object create events
Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters. Any special characters must be URL encoded.
e.g. images/
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

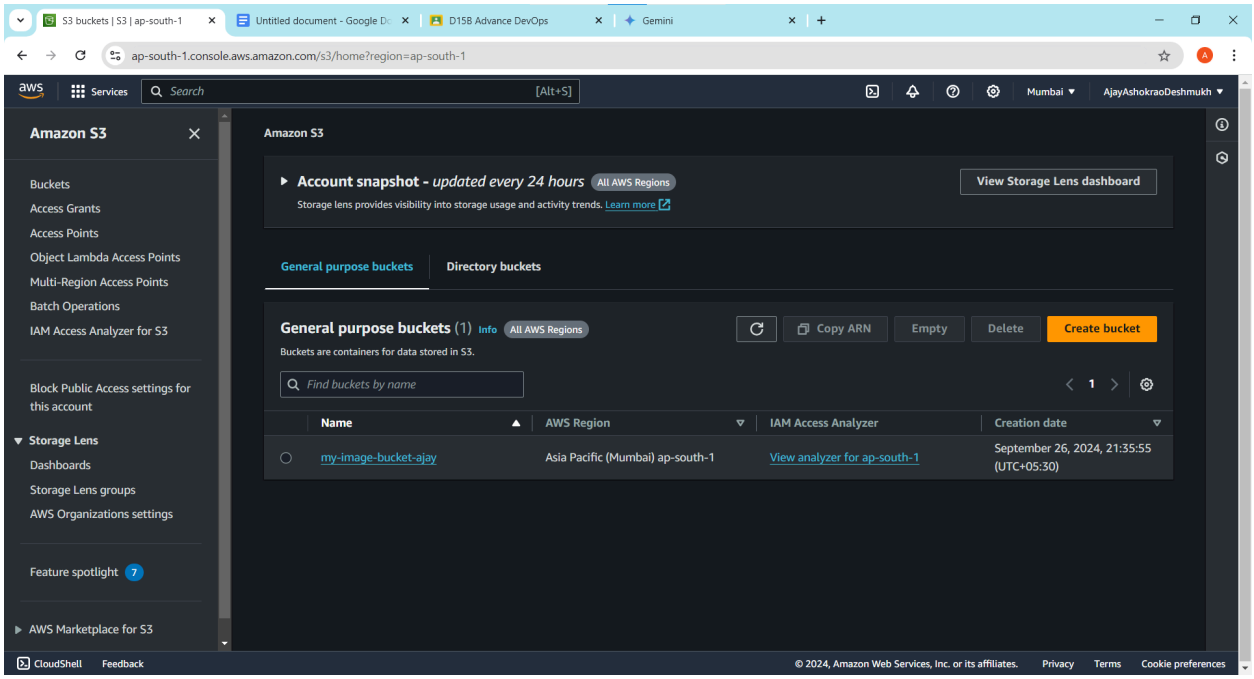


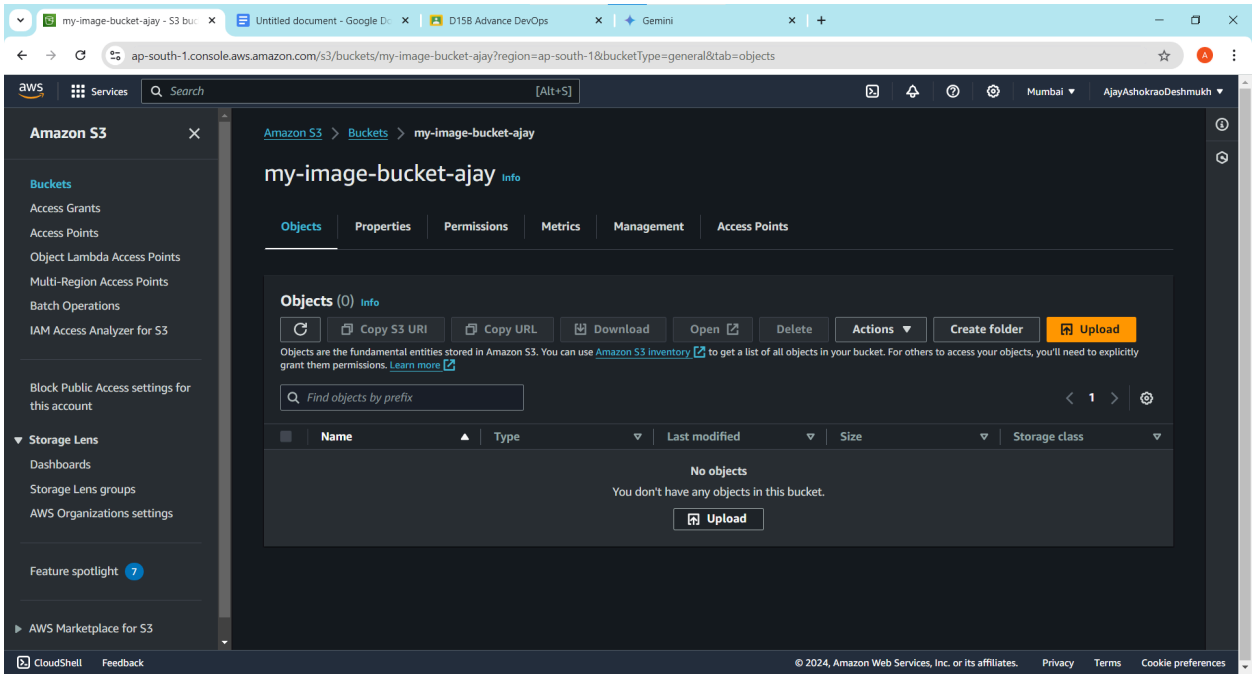
Write Lambda Function Code:

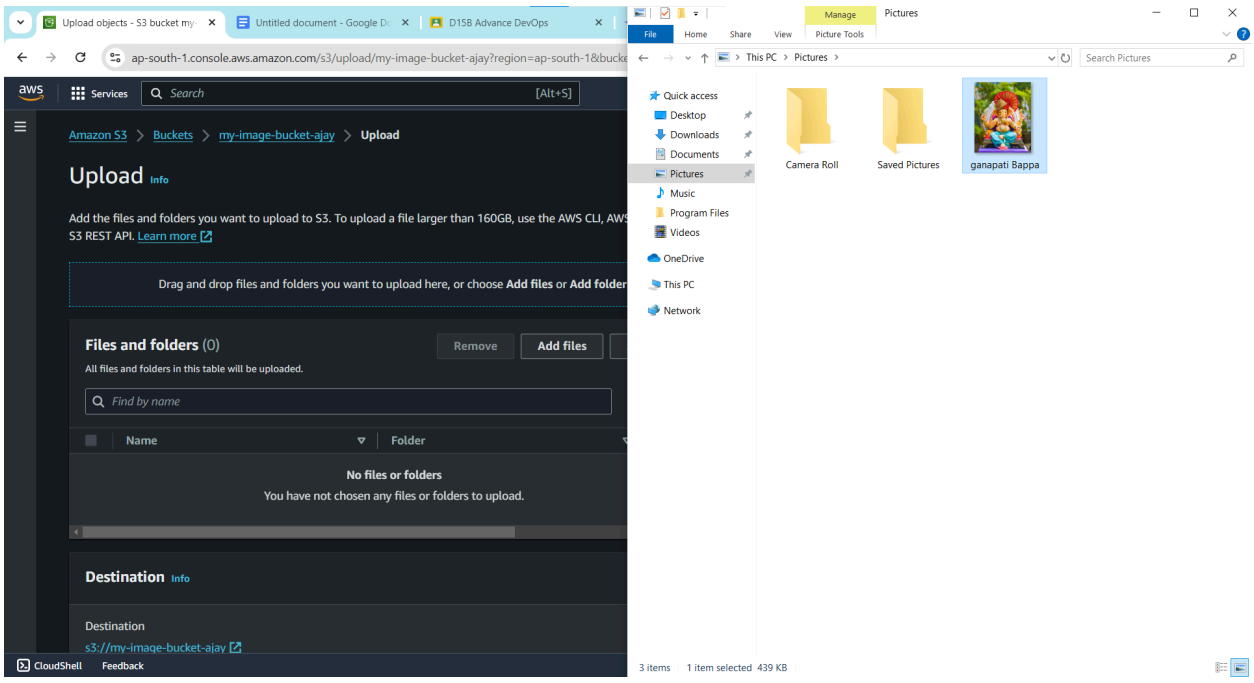
```
 const AWS = require('aws-sdk');

exports.handler = async (event) => {
    const s3 = new AWS.S3();

    const bucketName = event.Records[0].s3.bucket.name;
    const key = event.Records[0].s3.object.key;

    try {
        await s3.getObject({ Bucket: bucketName, Key: key }).promise();
        console.log(`Image added to S3: ${bucketName}/${key}`);
    } catch (err) {
        console.error(`Error processing image: ${err}`);
    }
};
```

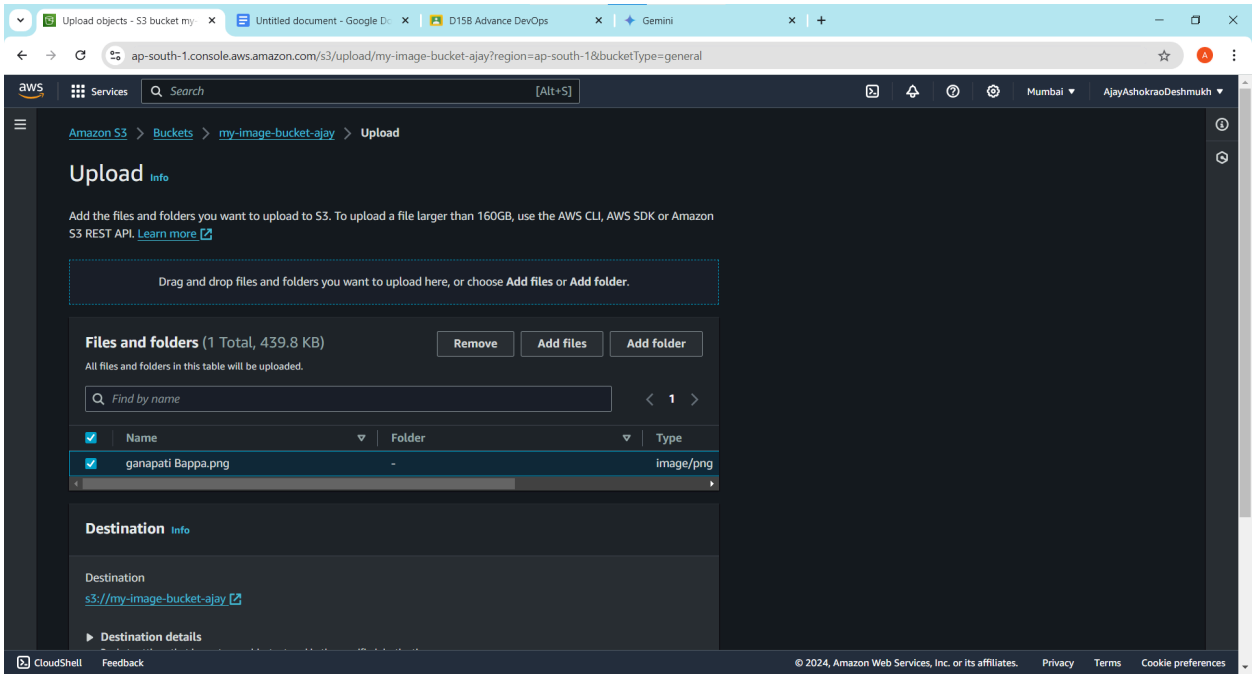


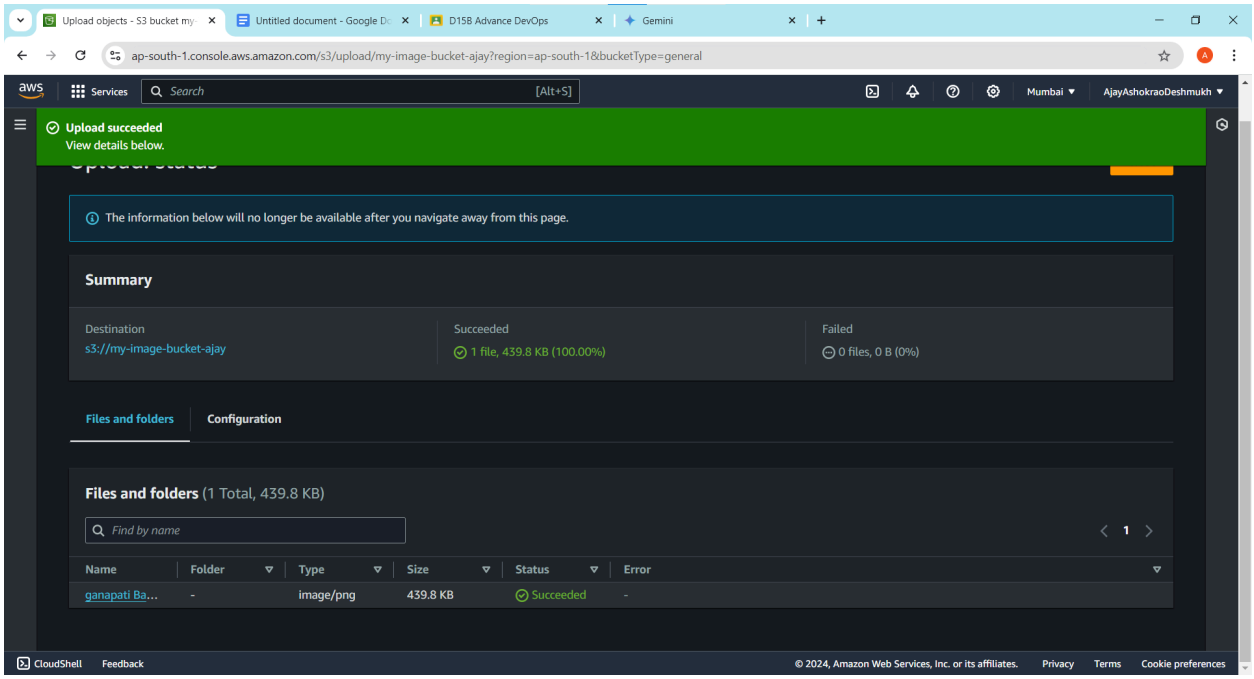
Test the Function:

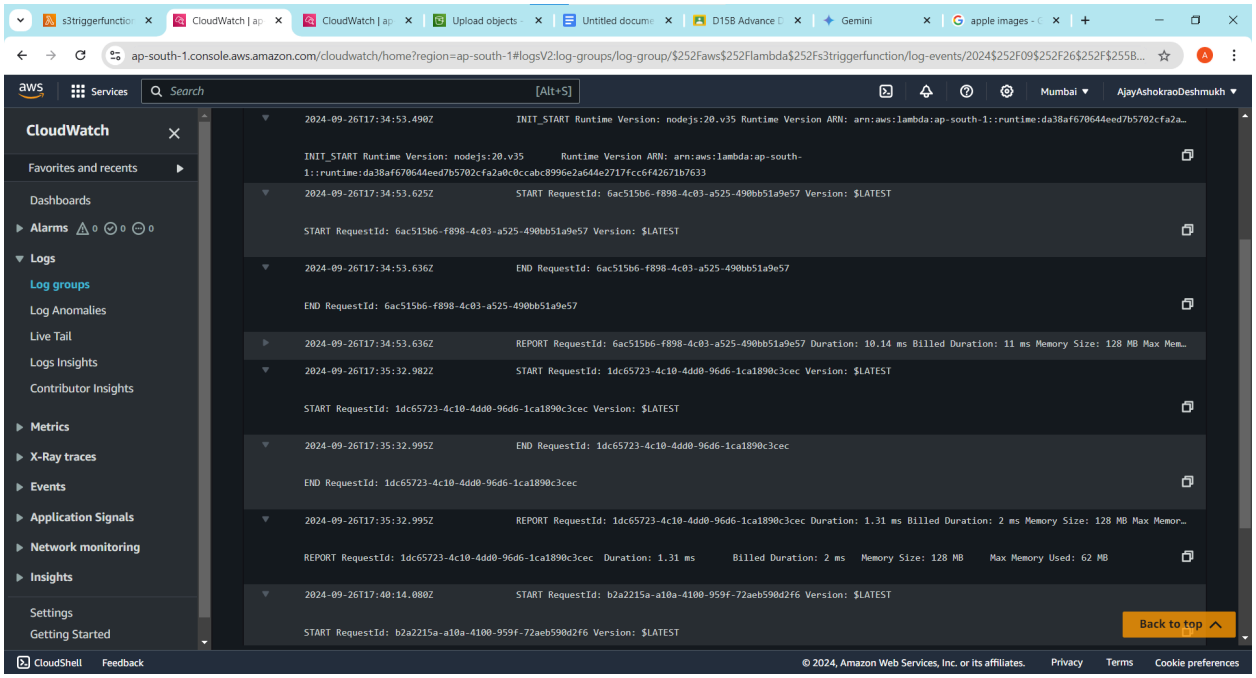



my-image-bucket-ajay - S3 buc
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/s3/buckets/my-image-bucket-ajay?region=ap-south-1&bucketType=general&tab=objects
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Amazon S3
Buckets
Access Grants
Access Points
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
Storage Lens groups
AWS Organizations settings
Feature spotlight
AWS Marketplace for S3
Amazon S3 > Buckets > my-image-bucket-ajay
my-image-bucket-ajay Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Objects (0) Info
Copy S3 URI
Copy URL
Download
Open
Delete
Actions
Create folder
Upload
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
Find objects by prefix
Name
Type
Last modified
Size
Storage class
No objects
You don't have any objects in this bucket.
Upload
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Upload objects - S3 bucket my
Untitled document - Google Do
D15B Advance DevOps
ap-south-1.console.aws.amazon.com/s3/upload/my-image-bucket-ajay?region=ap-south-1&bucke
aws
Services
Search
[Alt+S]
Amazon S3 > Buckets > my-image-bucket-ajay > 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 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 (0)
Remove
Add files
All files and folders in this table will be uploaded.
Find by name
Name
Folder
No files or folders
You have not chosen any files or folders to upload.
Destination Info
Destination
s3://my-image-bucket-ajay
CloudShell
Feedback
Manage
Pictures
File
Home
Share
View
Picture Tools
This PC > Pictures >
Search Pictures
Quick access
Desktop
Downloads
Documents
Pictures
Music
Program Files
Videos
OneDrive
This PC
Network
Camera Roll
Saved Pictures
ganapati Bappa
3 items
1 item selected 439 KB


Upload objects - S3 bucket my
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/s3/upload/my-image-bucket-ajay?region=ap-south-1&bucketType=general
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Amazon S3 > Buckets > my-image-bucket-ajay > 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, 439.8 KB)
Remove
Add files
Add folder
All files and folders in this table will be uploaded.
Find by name
1
Name
Folder
Type
ganapati Bappa.png
-
image/png
Destination Info
Destination
s3://my-image-bucket-ajay
Destination details
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Upload objects - S3 bucket my
Untitled document - Google Do
D15B Advance DevOps
Gemini
ap-south-1.console.aws.amazon.com/s3/upload/my-image-bucket-ajay?region=ap-south-1&bucketType=general
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
Upload succeeded
View details below.
The information below will no longer be available after you navigate away from this page.
Summary
Destination
s3://my-image-bucket-ajay
Succeeded
1 file, 439.8 KB (100.00%)
Failed
0 files, 0 B (0%)
Files and folders
Configuration
Files and folders (1 Total, 439.8 KB)
Find by name
1
Name
Folder
Type
Size
Status
Error
ganapati Ba...
-
image/png
439.8 KB
Succeeded
-
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


s3triggerfunction
CloudWatch | ap
CloudWatch | ap
Upload objects -
Untitled docume
D15B Advance D
Gemini
apple images - C
ap-south-1.console.aws.amazon.com/cloudwatch/home?region=ap-south-1#logsV2:log-groups/log-group/$252Faws$252Flambda$252Fs3triggerfunction/log-events/2024$252F09$252F26$252F$255B...
aws
Services
Search
[Alt+S]
Mumbai
AjayAshokraoDeshmukh
CloudWatch
Favorites and recents
Dashboards
Alarms 0 0 0
Logs
Log groups
Log Anomalies
Live Tail
Logs Insights
Contributor Insights
Metrics
X-Ray traces
Events
Application Signals
Network monitoring
Insights
Settings
Getting Started
2024-09-26T17:34:53.490Z INIT_START Runtime Version: nodejs:20.v35 Runtime Version ARN: arn:aws:lambda:ap-south-1::runtime:da38af670644eed7b5702cfa2a...
INIT_START Runtime Version: nodejs:20.v35 Runtime Version ARN: arn:aws:lambda:ap-south-1::runtime:da38af670644eed7b5702cfa2a0c0ccabc8996e2a644e2717fcc6f42671b7633
2024-09-26T17:34:53.625Z START RequestId: 6ac515b6-f898-4c03-a525-490bb51a9e57 Version: $LATEST
START RequestId: 6ac515b6-f898-4c03-a525-490bb51a9e57 Version: $LATEST
2024-09-26T17:34:53.636Z END RequestId: 6ac515b6-f898-4c03-a525-490bb51a9e57
END RequestId: 6ac515b6-f898-4c03-a525-490bb51a9e57
2024-09-26T17:34:53.636Z REPORT RequestId: 6ac515b6-f898-4c03-a525-490bb51a9e57 Duration: 10.14 ms Billed Duration: 11 ms Memory Size: 128 MB Max Mem...
2024-09-26T17:35:32.982Z START RequestId: 1dc65723-4c10-4dd0-96d6-1ca1890c3cec Version: $LATEST
START RequestId: 1dc65723-4c10-4dd0-96d6-1ca1890c3cec Version: $LATEST
2024-09-26T17:35:32.995Z END RequestId: 1dc65723-4c10-4dd0-96d6-1ca1890c3cec
END RequestId: 1dc65723-4c10-4dd0-96d6-1ca1890c3cec
2024-09-26T17:35:32.995Z REPORT RequestId: 1dc65723-4c10-4dd0-96d6-1ca1890c3cec Duration: 1.31 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memor...
REPORT RequestId: 1dc65723-4c10-4dd0-96d6-1ca1890c3cec Duration: 1.31 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memory Used: 62 MB
2024-09-26T17:40:14.080Z START RequestId: b2a2215a-a10a-4100-959f-72aeb590d2f6 Version: $LATEST
START RequestId: b2a2215a-a10a-4100-959f-72aeb590d2f6 Version: $LATEST
Back to top
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences