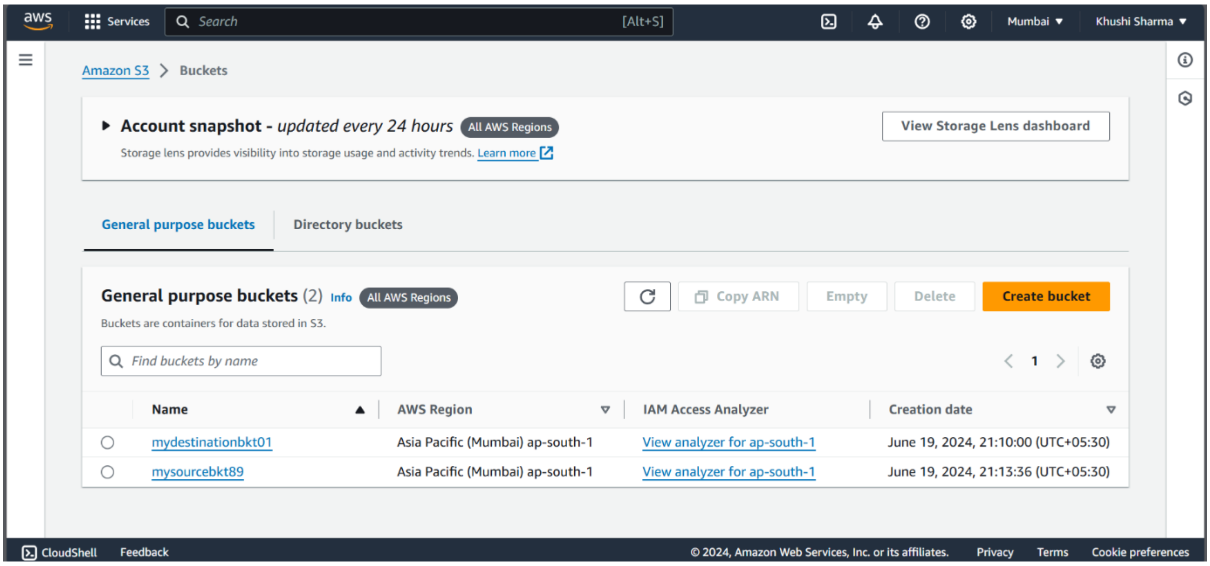
PROJECT 1

STEP 1: CREATE TWO BUCKETS.

1. Source Bucket
2. Destination Bucket



▸ **Account snapshot - *updated every 24 hours*** All AWS Regions

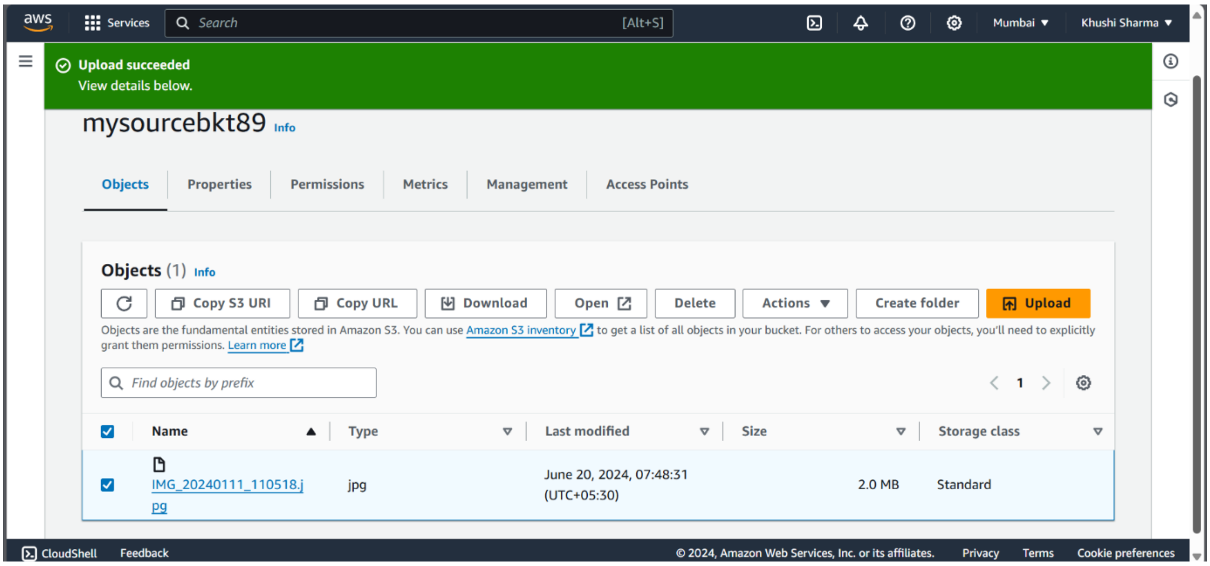
Storage lens provides visibility into storage usage and activity trends. Learn more

General purpose buckets (2) Info All AWS Regions

Buckets are containers for data stored in S3.

	Name ▲	AWS Region ▽	IAM Access Analyzer	Creation date ▽
○	mydestinationbkt01	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 19, 2024, 21:10:00 (UTC+05:30)
○	mysourcebkt89	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 19, 2024, 21:13:36 (UTC+05:30)

Upload the image in the source bucket.



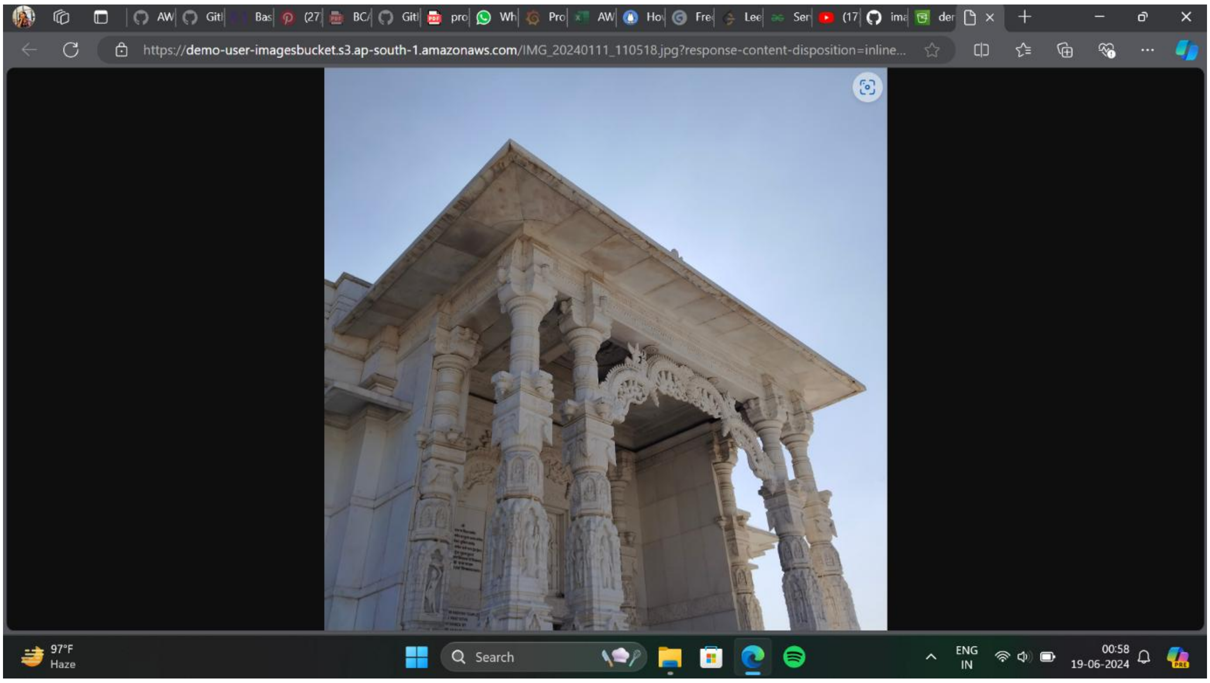
Upload succeeded
View details below.

mysourcebkt89 Info

Objects (1) Info

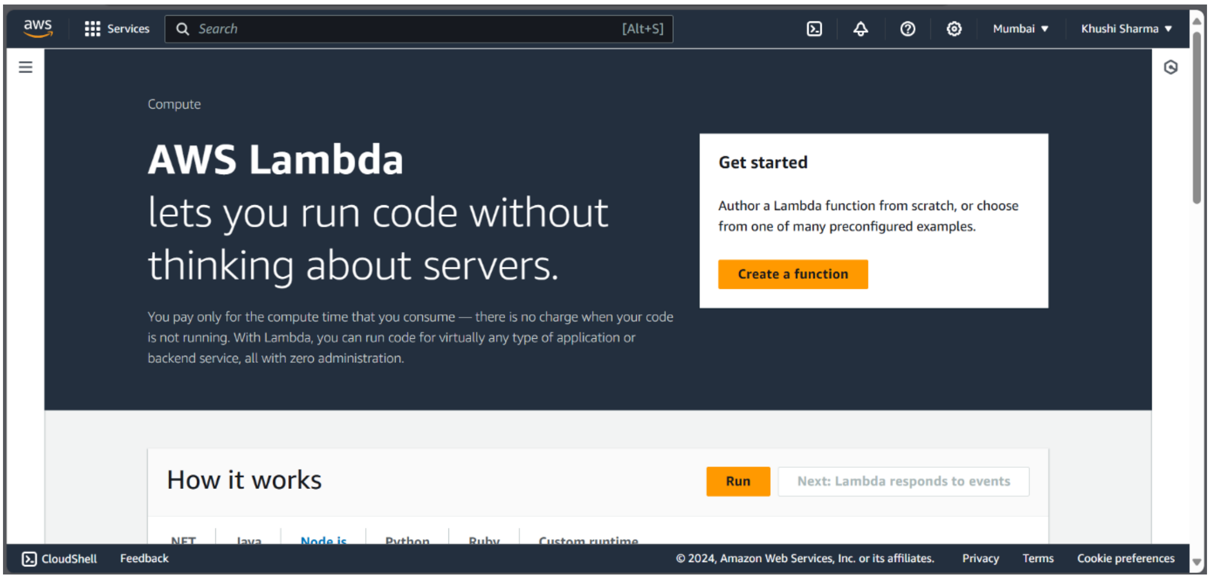
Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more

☑	Name ▲	Type ▽	Last modified ▽	Size ▽	Storage class ▽
☑	IMG_20240111_110518.jpg	jpg	June 20, 2024, 07:48:31 (UTC+05:30)	2.0 MB	Standard



https://demo-user-imagesbucket.s3.ap-south-1.amazonaws.com/IMG_20240111_110518.jpg?response-content-disposition=inline...

STEP 2: CREATE LAMBDA FUNCTION



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

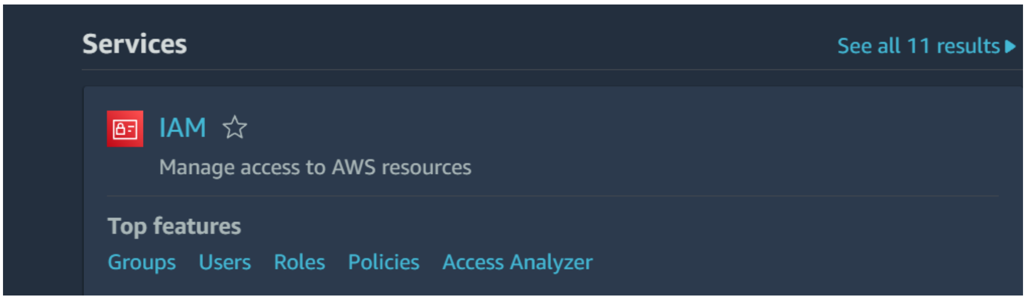
Author a Lambda function from scratch, or choose from one of many preconfigured examples.

Create a function

How it works

Option: author from scratch
Function Name : khushifunction
Runtime: Node.js 18.x
Architecture: x86_64

Go to IAM console.
Search IAM



Services

See all 11 results ▶

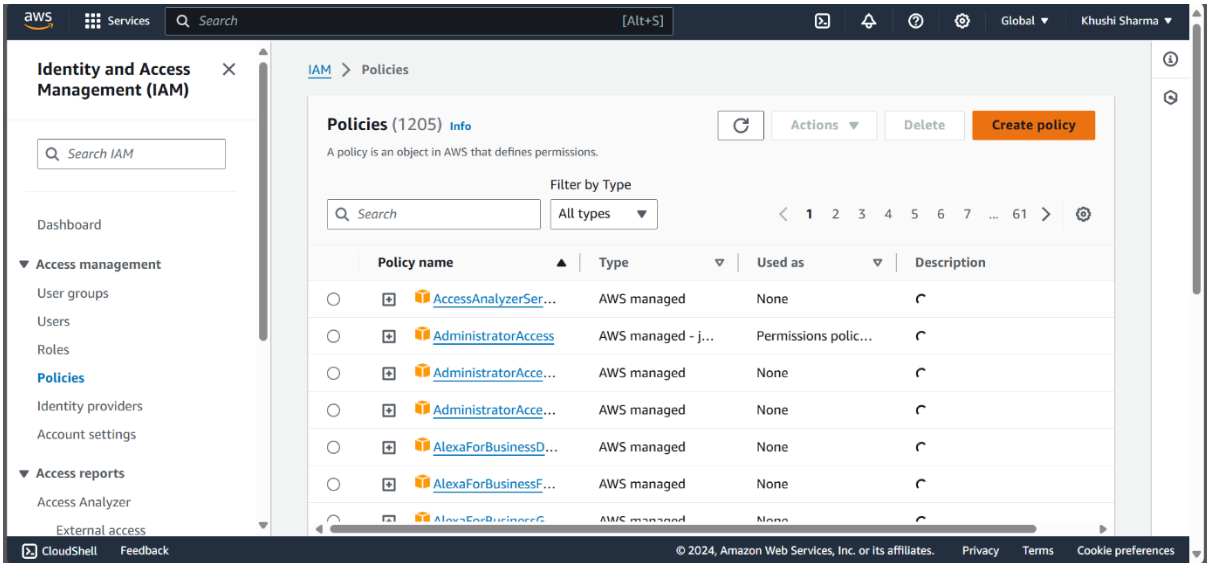
IAM ☆

Manage access to AWS resources

Top features

Groups Users Roles Policies Access Analyzer

Then go to policies.



Identity and Access Management (IAM) ✕

Search IAM

Dashboard

▼ Access management

User groups

Users

Roles

Policies

Identity providers

Account settings

▼ Access reports

Access Analyzer

External access

IAM > Policies

Policies (1205) Info

A policy is an object in AWS that defines permissions.

Actions ▼ Delete **Create policy**

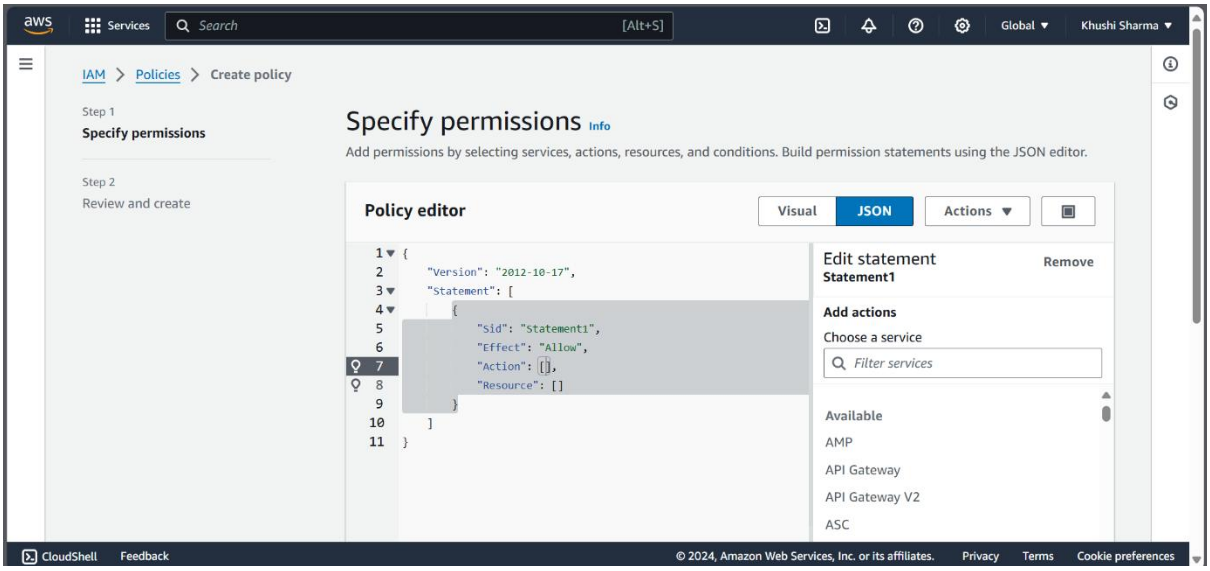
Filter by Type

Search | All types ▼

< 1 2 3 4 5 6 7 ... 61 >

		Policy name ▲	Type	Used as	Description
○	⊞	AccessAnalyzerSer...	AWS managed	None	
○	⊞	AdministratorAccess	AWS managed - j...	Permissions polic...	
○	⊞	AdministratorAcce...	AWS managed	None	
○	⊞	AdministratorAcce...	AWS managed	None	
○	⊞	AlexaForBusinessD...	AWS managed	None	
○	⊞	AlexaForBusinessF...	AWS managed	None	
○	⊞	AlexaForBusinessG...	AWS managed	None	

And create the policy.



IAM > Policies > Create policy

Step 1

Specify permissions

Step 2

Review and create

Specify permissions Info

Add permissions by selecting services, actions, resources, and conditions. Build permission statements using the JSON editor.

Policy editor

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "Statement1",
            "Effect": "Allow",
            "Action": [],
            "Resource": []
        }
    ]
}
```

Edit statement Remove

Statement1

Add actions

Choose a service

Filter services

Available

AMP

API Gateway

API Gateway V2

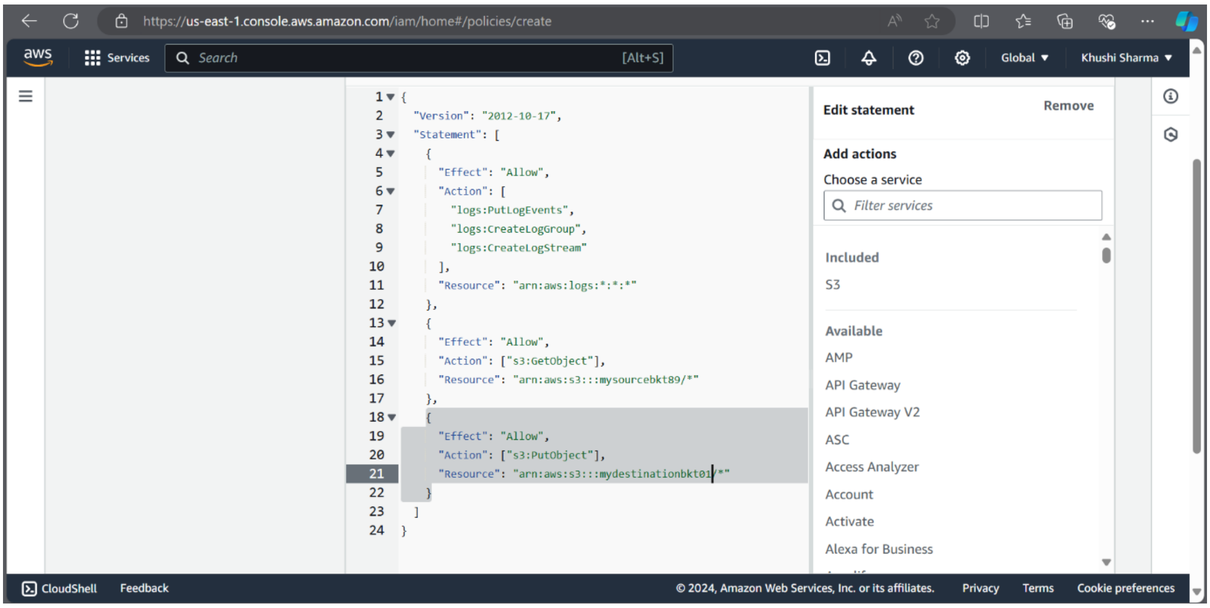
ASC

Click on JSON

And replace the original code with the new one that you have created.

```
{
 "Version": "2012-10-17",
 "Statement": [
   {
    "Effect": "Allow",
    "Action": [
      "logs:PutLogEvents",
      "logs:CreateLogGroup",
      "logs:CreateLogStream"
    ],
    "Resource": "arn:aws:logs:*:*:*"
   },
   {
    "Effect": "Allow",
    "Action": ["s3:GetObject"],
    "Resource": "arn:aws:s3:::BUCKET_NAME/*"
   },
   {
    "Effect": "Allow",
    "Action": ["s3:PutObject"],
    "Resource": "arn:aws:s3:::DEST_BUCKET/*"
   }
 ]
}
```

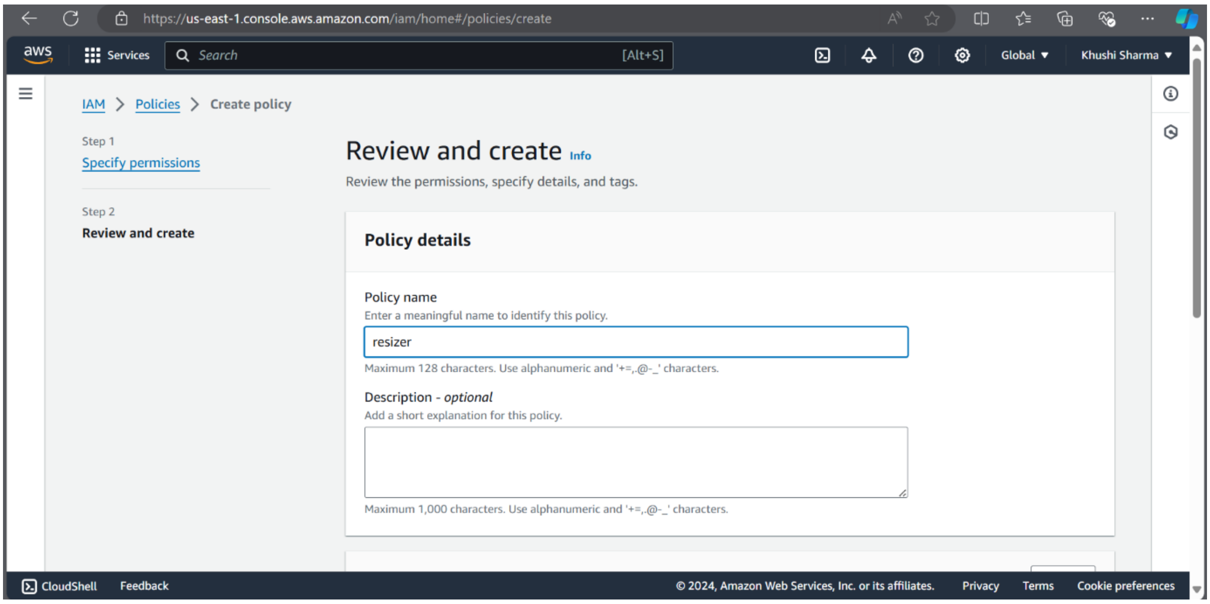
Edit the resources with the buckets you have created.



```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "logs:PutLogEvents",
        "logs:CreateLogGroup",
        "logs:CreateLogStream"
      ],
      "Resource": "arn:aws:logs:*:*:*"
    },
    {
      "Effect": "Allow",
      "Action": ["s3:GetObject"],
      "Resource": "arn:aws:s3:::mysourcebkt89/*"
    },
    {
      "Effect": "Allow",
      "Action": ["s3:PutObject"],
      "Resource": "arn:aws:s3:::mydestinationbkt01/*"
    }
  ]
}
```

Then click next.

Policy details :
. policy name : resizer



https://us-east-1.console.aws.amazon.com/iam/home#/policies/create
aws
Services
Search
[Alt+S]
Global ▾
Khushi Sharma ▾
CloudShell
Feedback
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Cookie preferences

IAM > Policies > Create policy

Step 1
Specify permissions

Step 2
Review and create

Review and create Info

Review the permissions, specify details, and tags.

Policy details

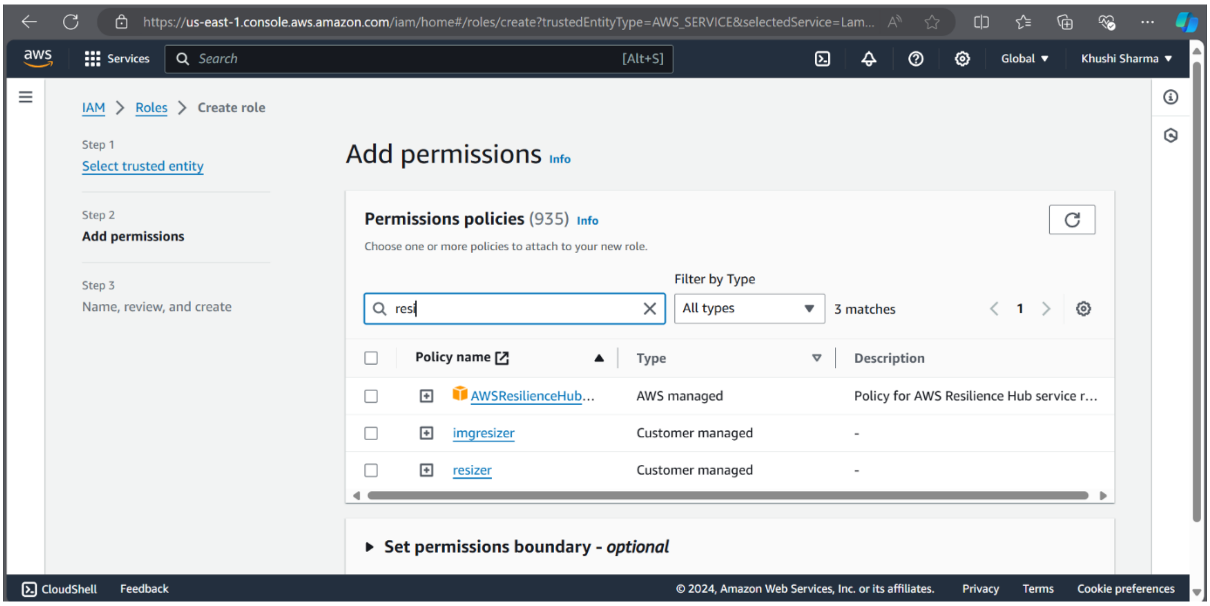
Policy name
Enter a meaningful name to identify this policy.
resizer
Maximum 128 characters. Use alphanumeric and '+=,.@-_' characters.

Description - *optional*
Add a short explanation for this policy.

Maximum 1,000 characters. Use alphanumeric and '+=,.@-_' characters.

Create policy.

Create role.
And choose case : Lambda.
In add permissions search your policy that you have created.



https://us-east-1.console.aws.amazon.com/iam/home#/roles/create?trustedEntityType=AWS_SERVICE&selectedService=Lam...
aws
Services
Search
[Alt+S]
Global ▾
Khushi Sharma ▾
CloudShell
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IAM > Roles > Create role

Step 1
Select trusted entity

Step 2
Add permissions

Step 3
Name, review, and create

Add permissions Info

Permissions policies (935) Info

Choose one or more policies to attach to your new role.

Filter by Type

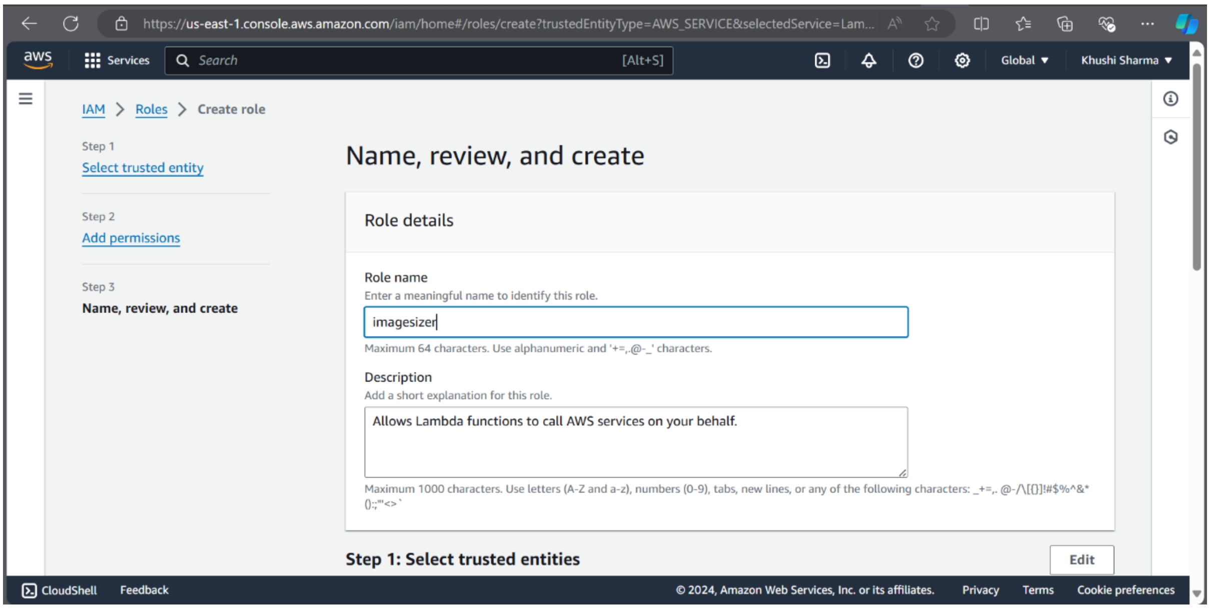
resi | All types ▾ | 3 matches | < 1 >

□		Policy name ▲	Type	Description
□	⊞	AWSResilienceHub...	AWS managed	Policy for AWS Resilience Hub service r...
□	⊞	imgresizer	Customer managed	-
□	⊞	resizer	Customer managed	-

▶ Set permissions boundary - *optional*

Then click next.

Role details –
Role name : imagesizer.



https://us-east-1.console.aws.amazon.com/iam/home#/roles/create?trustedEntityType=AWS_SERVICE&selectedService=Lam...

IAM > Roles > Create role

Step 1
Select trusted entity

Step 2
Add permissions

Step 3
Name, review, and create

Name, review, and create

Role details

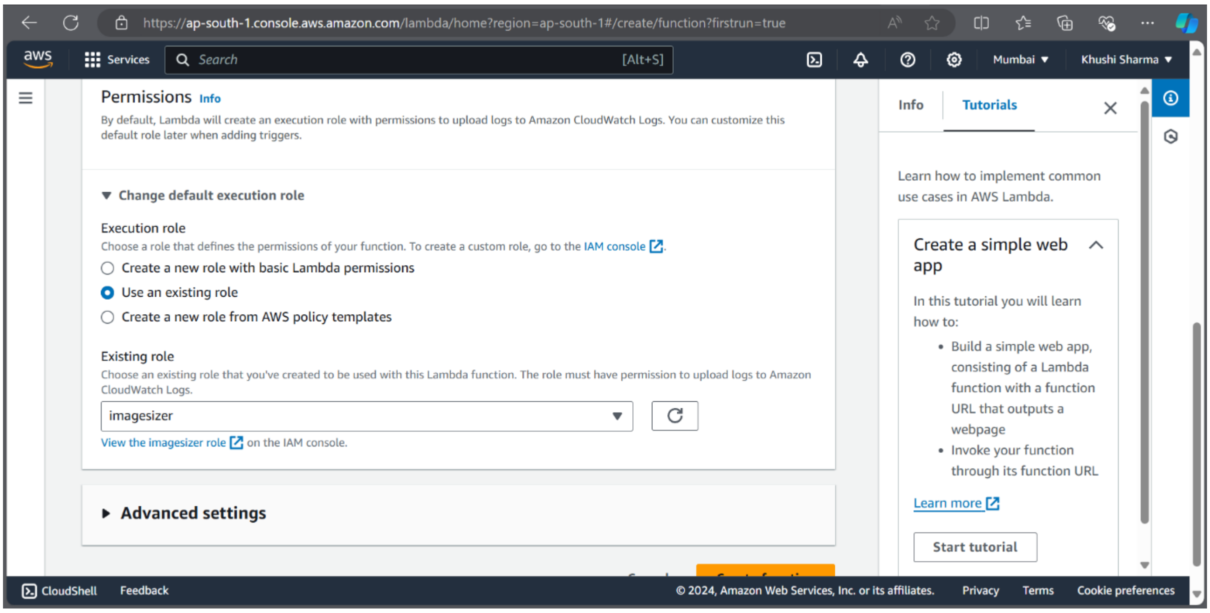
Role name
Enter a meaningful name to identify this role.
imagesizer
Maximum 64 characters. Use alphanumeric and '+=,.@-_' characters.

Description
Add a short explanation for this role.
Allows Lambda functions to call AWS services on your behalf.
Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=,. @-/\[{}]!#$%^&*()`;:'"<>`

Step 1: Select trusted entities

Click on create role .

Then go to lambda function.
The use an existing role.



https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/create/function?firstrun=true

Permissions Info
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ Change default execution role

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

Existing role
Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.
imagesizer
View the imagesizer role on the IAM console.

▶ Advanced settings

Learn how to implement common use cases in AWS Lambda.

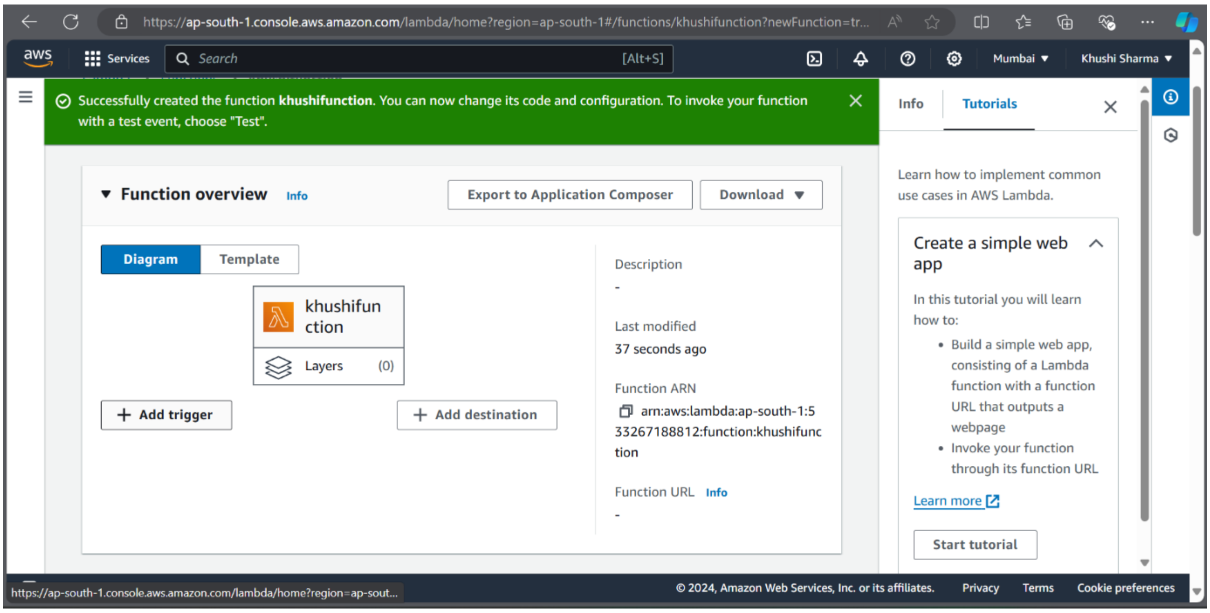
Create a simple web app

In this tutorial you will learn how to:
- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

Learn more

Then click on create function.

Then go to add trigger.


https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/khushifunction?newFunction=tr...
aws
Services
Search
[Alt+S]
Mumbai
Khushi Sharma
Info
Tutorials
Export to Application Composer
Download
Diagram
Template
Add trigger
Add destination
Start tutorial
https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-sout...
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Cookie preferences

Successfully created the function **khushifunction**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Function overview Info

khushifunction

Layers (0)

Description
-

Last modified
37 seconds ago

Function ARN
arn:aws:lambda:ap-south-1:533267188812:function:khushifunction

Function URL Info
-

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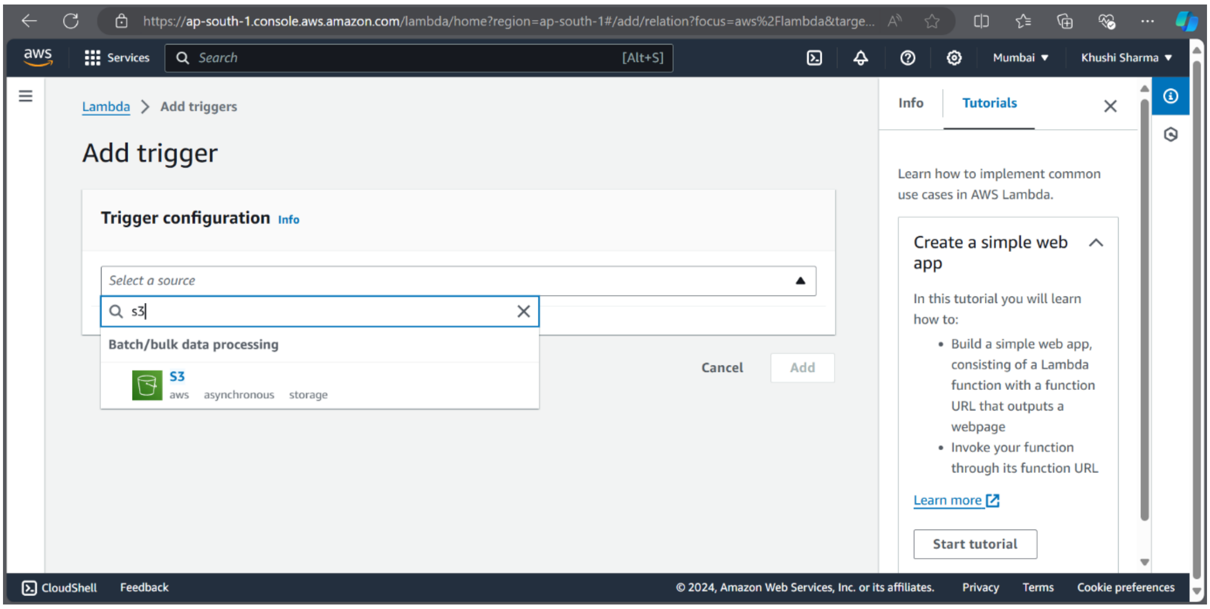
Learn more

Then select the source : S3


https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/add/relation?focus=aws%2Flambda&targe...
aws
Services
Search
[Alt+S]
Mumbai
Khushi Sharma
Lambda
Add triggers
Info
Tutorials
Cancel
Add
Start tutorial
CloudShell
Feedback
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Add trigger

Trigger configuration Info

Select a source

s3

Batch/bulk data processing

S3
aws asynchronous storage

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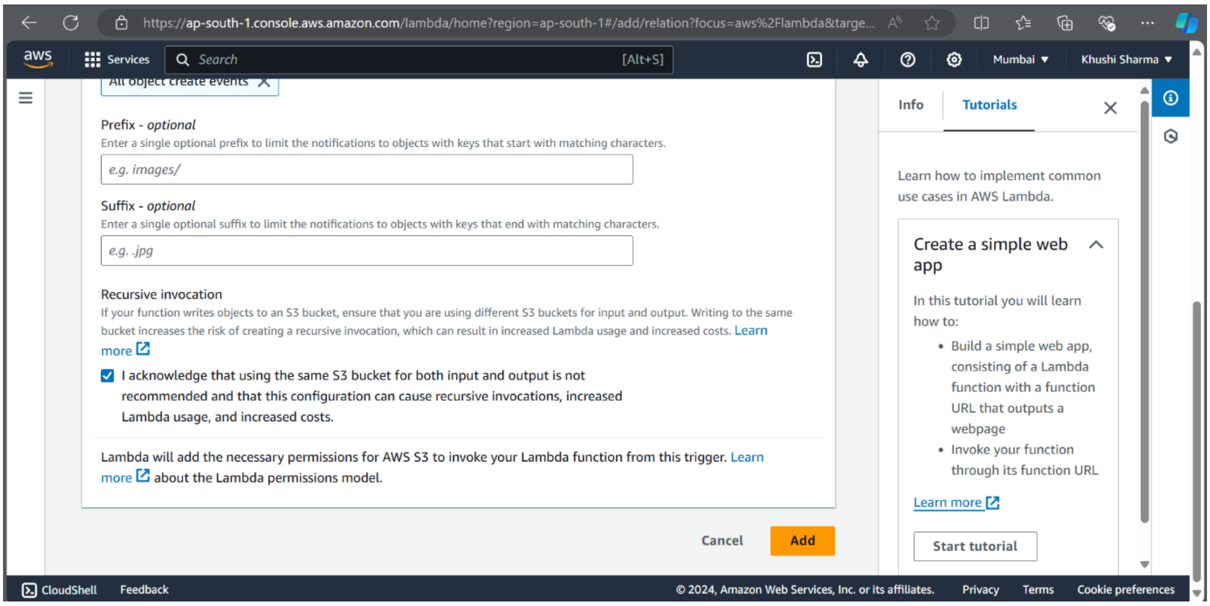
Learn more

Select your source bucket.



Prefix - *optional*

Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.

e.g. images/

Suffix - *optional*

Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.

e.g. .jpg

Recursive invocation

If your function writes objects to an S3 bucket, ensure that you are using different S3 buckets for input and output. Writing to the same bucket increases the risk of creating a recursive invocation, which can result in increased Lambda usage and increased costs. Learn more

☑ 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.

Lambda will add the necessary permissions for AWS S3 to invoke your Lambda function from this trigger. Learn more about the Lambda permissions model.

https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/add/relation?focus=aws%2Flambda&targe...
Services
Search
[Alt+S]
Mumbai
Khushi Sharma
All object create events
Cancel
Add
Info
Tutorials
Learn how to implement common use cases in AWS Lambda.
Create a simple web app
In this tutorial you will learn how to:
Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
Invoke your function through its function URL
Learn more
Start tutorial
CloudShell
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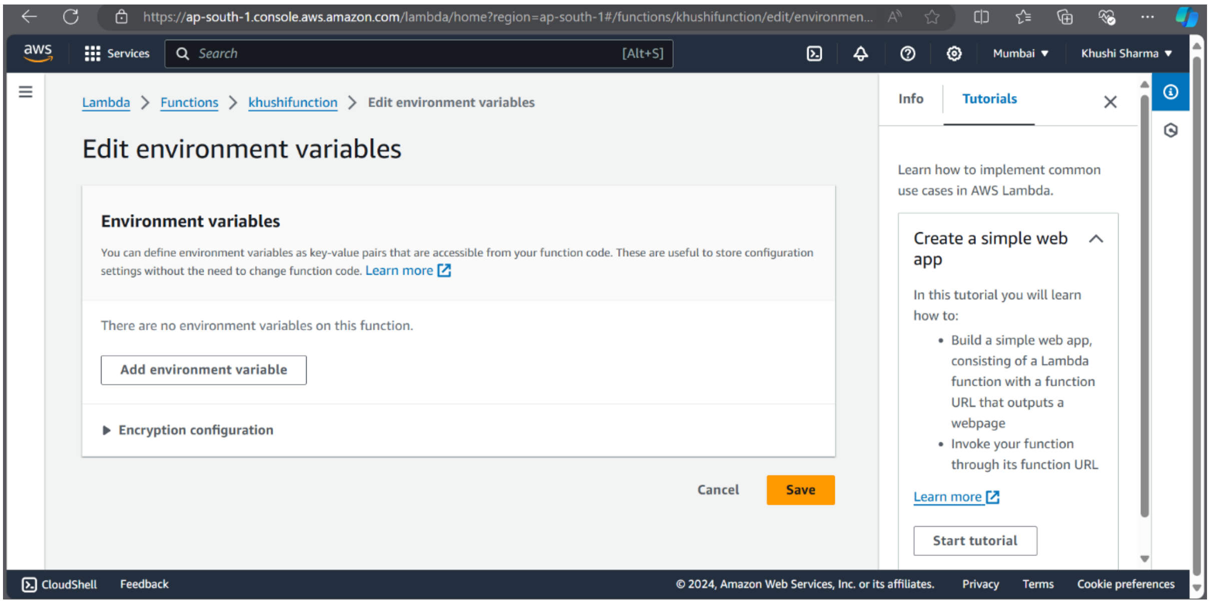
Then add.

Go to environmental variables.



Lambda > Functions > khushifunction > Edit environment variables

Edit environment variables

Environment variables

You can define environment variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. Learn more

There are no environment variables on this function.

https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/khushifunction/edit/environmen...
Services
Search
[Alt+S]
Mumbai
Khushi Sharma
Add environment variable
Encryption configuration
Cancel
Save
Info
Tutorials
Learn how to implement common use cases in AWS Lambda.
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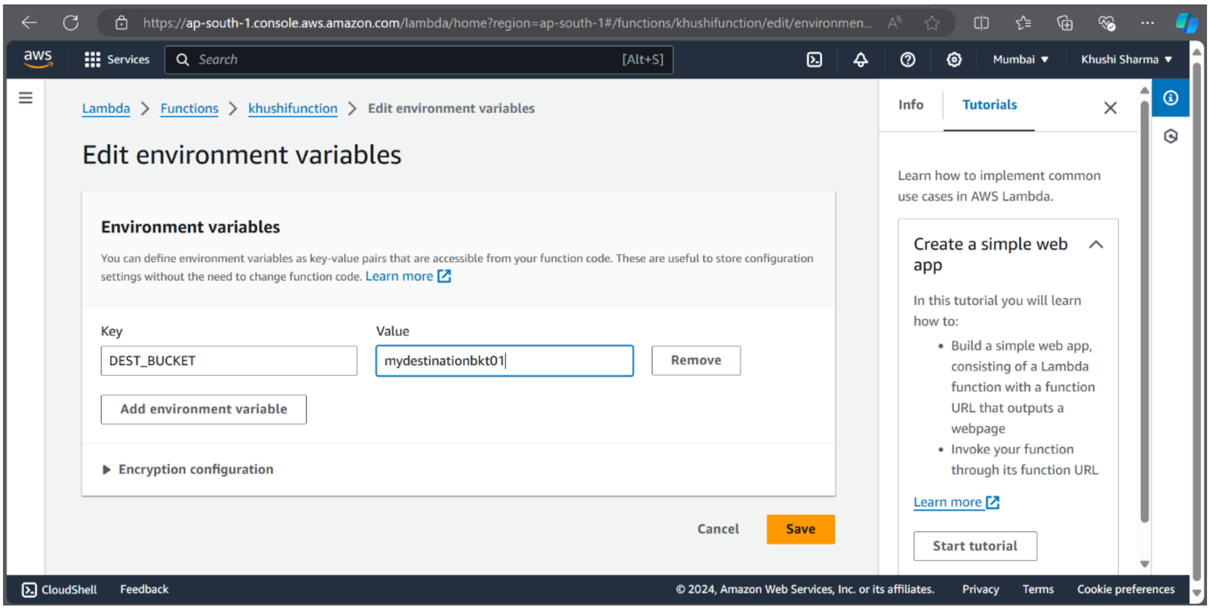
KEY: DEST_NAME

VALUE: mydestinationbkt01



https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/khushifunction/edit/environmen...

Lambda > Functions > khushifunction > Edit environment variables

Edit environment variables

Environment variables

You can define environment variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. Learn more

Key	Value
DEST_BUCKET	mydestinationbkt01

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Create a simple web app

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- Invoke your function through its function URL

Learn more

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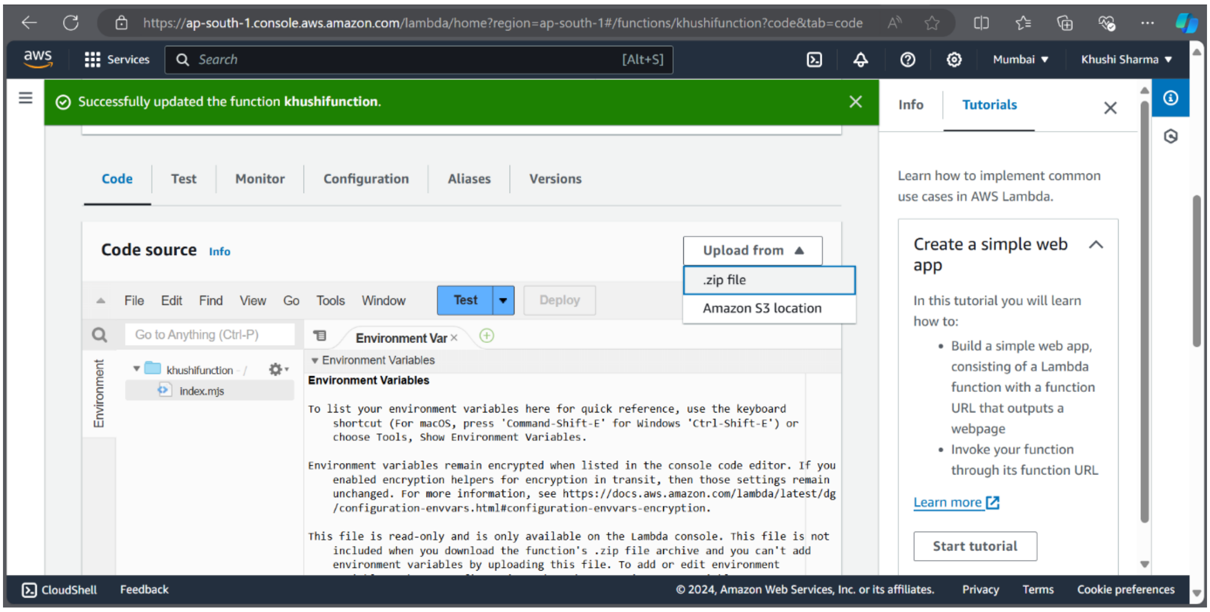
Go to code and upload your downloaded zip file.



https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/khushifunction?code&tab=code

Successfully updated the function **khushifunction**.

Code source Info

Upload from: .zip file | Amazon S3 location

Environment Variables

Environment Variables

```
To list your environment variables here for quick reference, use the keyboard
    shortcut (For macOS, press 'Command-Shift-E' for Windows 'Ctrl-Shift-E') or
    choose Tools, Show Environment Variables.

Environment variables remain encrypted when listed in the console code editor. If you
    enabled encryption helpers for encryption in transit, then those settings remain
    unchanged. For more information, see https://docs.aws.amazon.com/lambda/latest/dg
    /configuration-envvars.html#configuration-envvars-encryption.

This file is read-only and is only available on the Lambda console. This file is not
    included when you download the function's .zip file archive and you can't add
    environment variables by uploading this file. To add or edit environment
```

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Learn more

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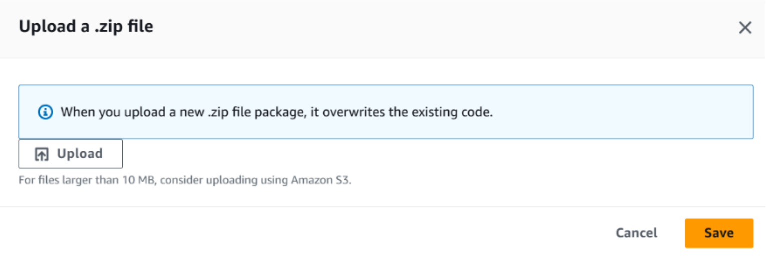
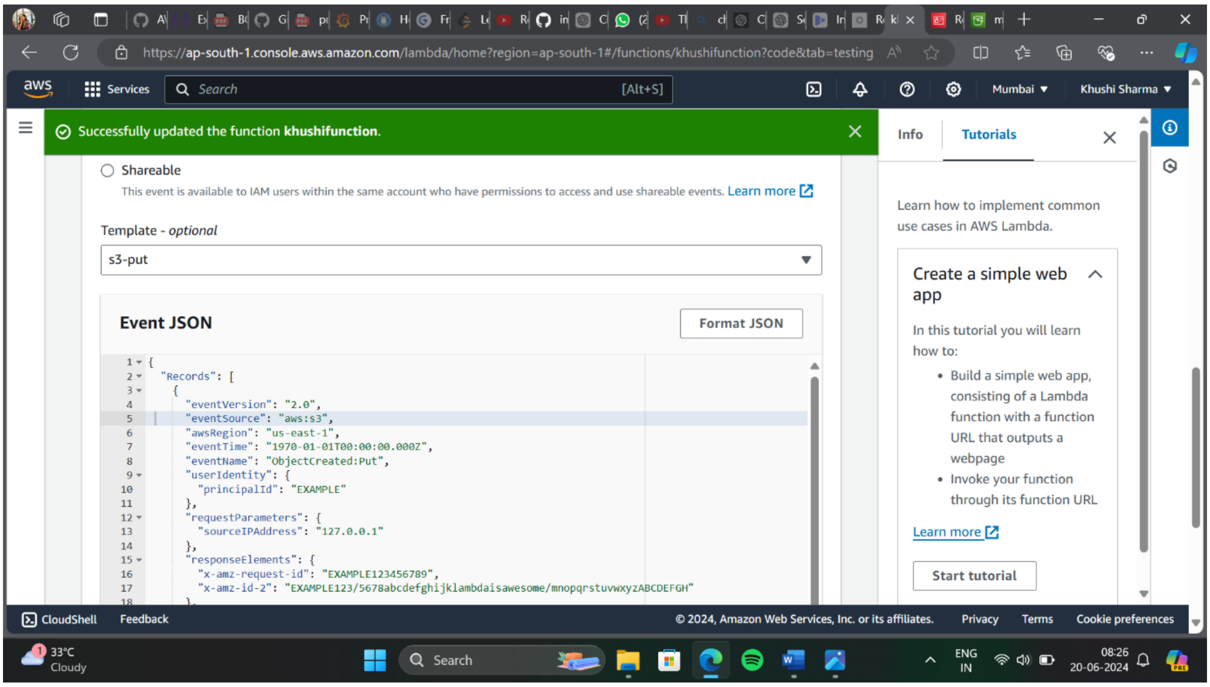


Upload a .zip file

When you upload a new .zip file package, it overwrites the existing code.

For files larger than 10 MB, consider uploading using Amazon S3.

Go to test.
Select s3put in template


https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/khushifunction?code&tab=testing
aws
Services
Search
[Alt+S]
Mumbai
Khushi Sharma

Successfully updated the function **khushifunction**.

○ Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. Learn more

Template - *optional*

s3-put

Event JSON

```
{
  "Records": [
    {
      "eventVersion": "2.0",
      "eventSource": "aws:s3",
      "awsRegion": "us-east-1",
      "eventTime": "1970-01-01T00:00:00.000Z",
      "eventName": "ObjectCreated:Put",
      "userIdentity": {
        "principalId": "EXAMPLE"
      },
      "requestParameters": {
        "sourceIPAddress": "127.0.0.1"
      },
      "responseElements": {
        "x-amz-request-id": "EXAMPLE123456789",
        "x-amz-id-2": "EXAMPLE123/5678abcdefghijklambdaisawesome/mnopqrstuvwxyzABCDEFGH"
```

Learn how to implement common use cases in AWS Lambda.

Create a simple web app

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

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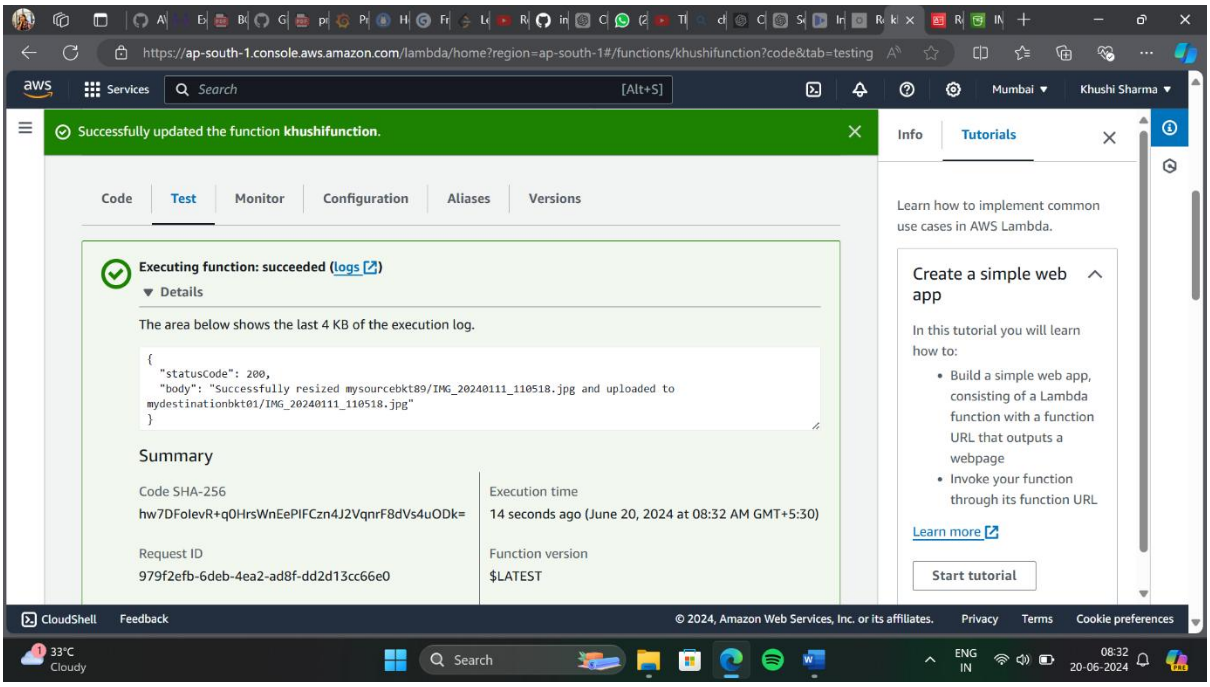
```
{
  "Records": [
    {
      "eventVersion": "2.0",
      "eventSource": "aws:s3",
      "awsRegion": "us-east-1",
      "eventTime": "1970-01-01T00:00:00.000Z",
      "eventName": "ObjectCreated:Put",
      "userIdentity": {
        "principalId": "EXAMPLE"
      },
      "requestParameters": {
        "sourceIPAddress": "127.0.0.1"
      },
      "responseElements": {
        "x-amz-request-id": "EXAMPLE123456789",
        "x-amz-id-2": "EXAMPLE123/5678abcdefghijklambdaisawesome/mnopqrstuvwxyzABCDEFGH"
      },
      "s3": {
        "s3SchemaVersion": "1.0",
        "configurationId": "testConfigRule",
        "bucket": {
          "name": "mysourcebkt89",
          "ownerIdentity": {
            "principalId": "EXAMPLE"
          },
          "arn": "arn:aws:s3:::mysourcebkt89"
        },
        "object": {
          "key": "IMG_20240111_110518.jpg",
          "size": 1024,
          "eTag": "0123456789abcdef0123456789abcdef",
          "sequencer": "0A1B2C3D4E5F678901"
        }
      }
    }
  ]
}
```

Click on test.



Successfully updated the function **khushifunction**.

Executing function: succeeded (logs)

▼ Details

The area below shows the last 4 KB of the execution log.

```
{
  "statusCode": 200,
  "body": "Successfully resized mysourcebkt89/IMG_20240111_110518.jpg and uploaded to mydestinationbkt01/IMG_20240111_110518.jpg"
}
```

Summary

Code SHA-256
hw7DFolevR+q0HrsWnEePIFCzn4J2VqnrF8dVs4uODk=

Execution time
14 seconds ago (June 20, 2024 at 08:32 AM GMT+5:30)

Request ID
979f2efb-6deb-4ea2-ad8f-dd2d13cc66e0

Function version
$LATEST

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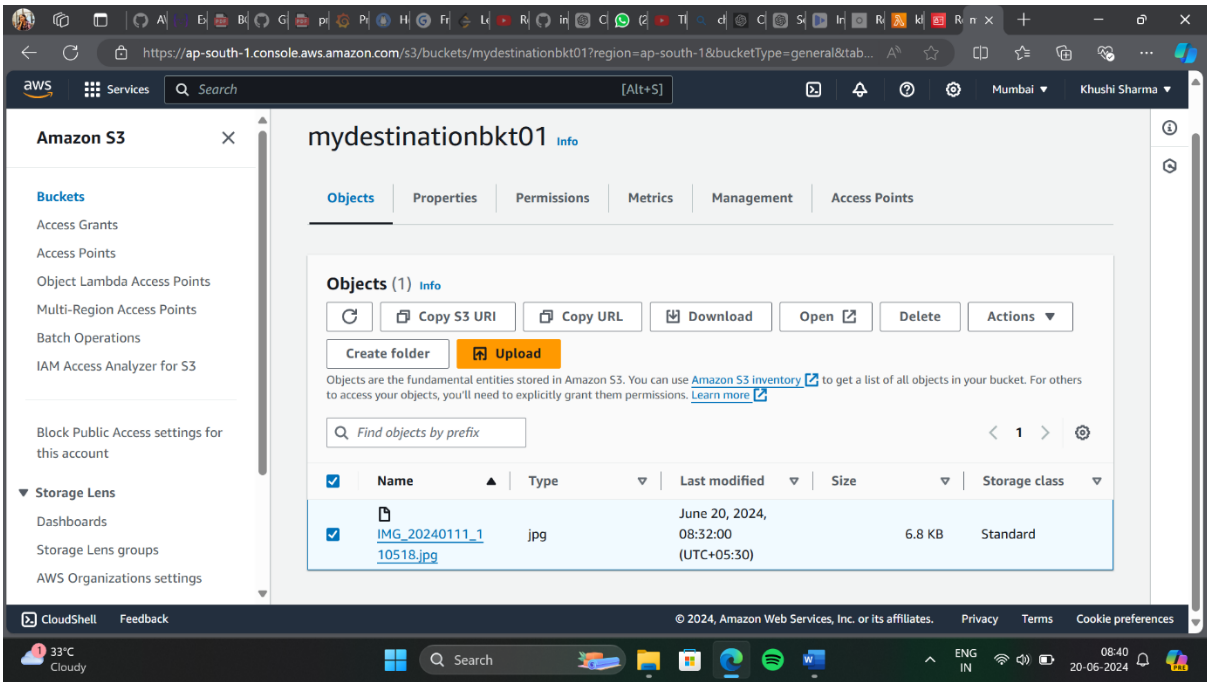
Learn more

Then go to your destination bucket. See there will be an resized image will be there.



https://ap-south-1.console.aws.amazon.com/s3/buckets/mydestinationbkt01?region=ap-south-1&bucketType=general&tab...

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
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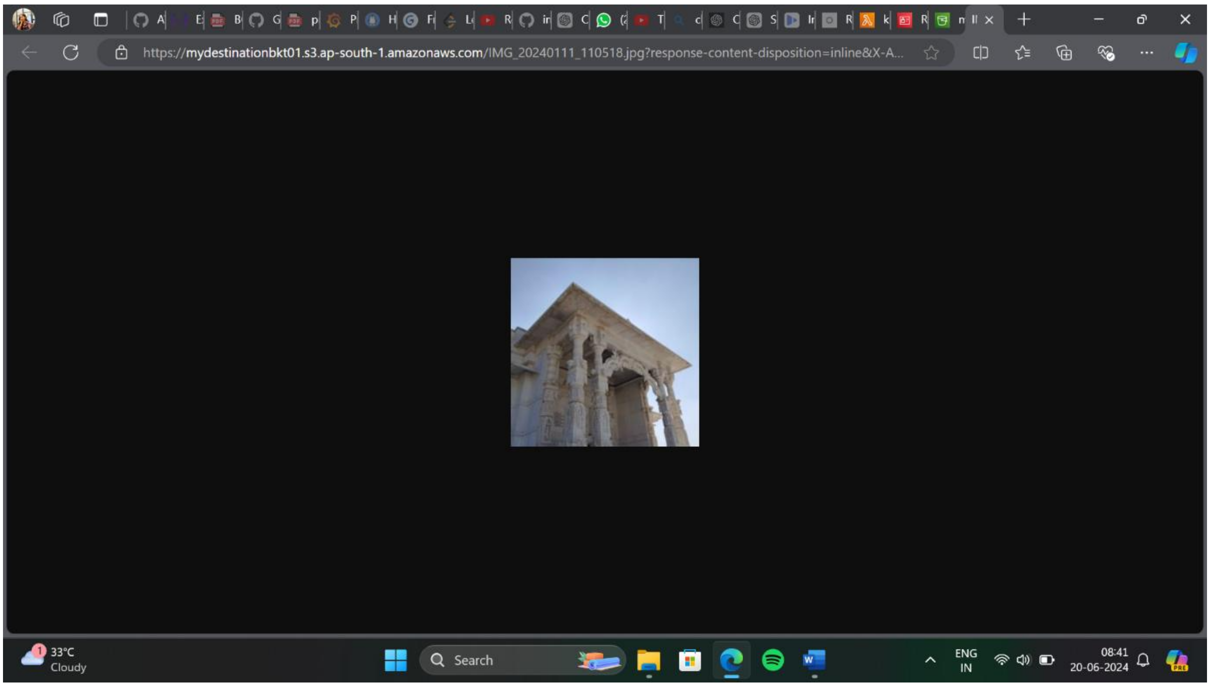
mydestinationbkt01 Info

Objects (1) Info

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

☑	Name ▲	Type	Last modified	Size	Storage class
☑	IMG_20240111_110518.jpg	jpg	June 20, 2024, 08:32:00 (UTC+05:30)	6.8 KB	Standard



https://mydestinationbkt01.s3.ap-south-1.amazonaws.com/IMG_20240111_110518.jpg?response-content-disposition=inline&X-A...