

# Serverless Image Processing

## 1. Create S3 Buckets

Login to AWS Console → S3.

Click Create Bucket.

Bucket Name: **upload-buck-01**

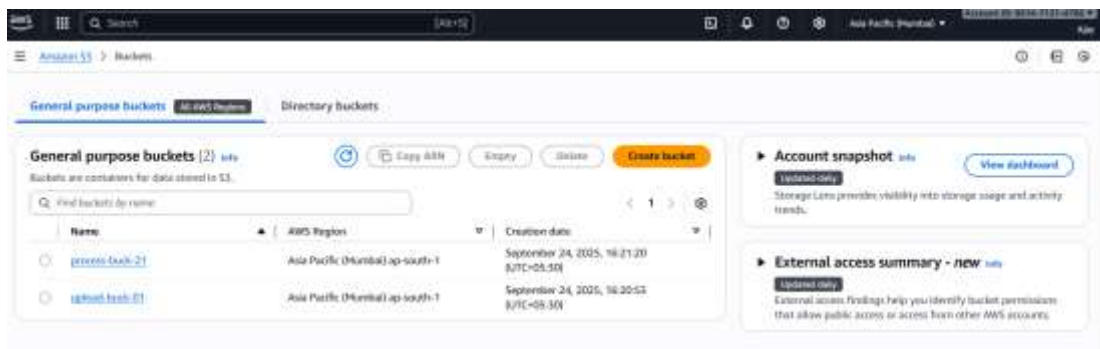
Region: ap-south-1

Enable Block Public Access.

Click Create.

Repeat to create processed bucket:

Bucket Name: **process-buck-21**



## 2. Create IAM Role for Lambda

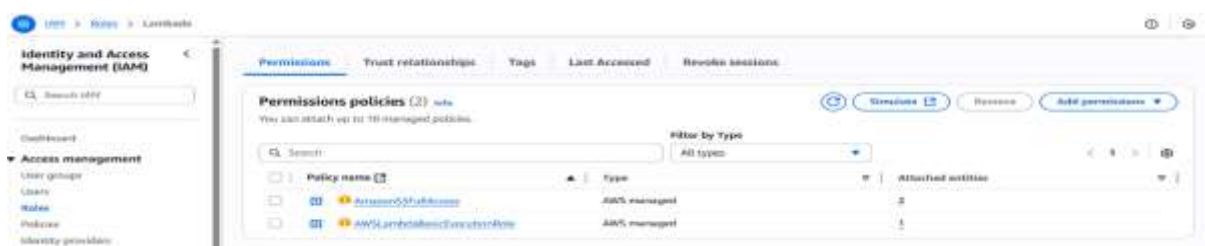
Go to IAM → Roles → Create Role.

Select Trusted Entity: AWS Service → Lambda.

Permissions: Attach policies:

**AmazonS3FullAccess**

**AWSLambdaBasicExecutionRole** (for CloudWatch logs)



Name: **Lambda** → Create Role

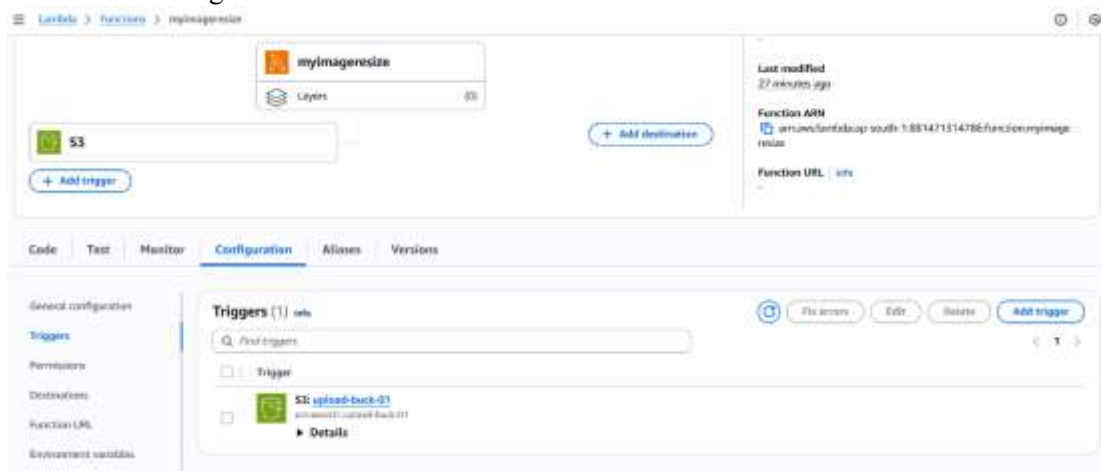
### 3. Create Lambda Function

Go to AWS Lambda → Create Function → Author from Scratch.

Function Name: **myimageresize**

Runtime: **python 3.12**

Role: Use existing role → **Lambda**



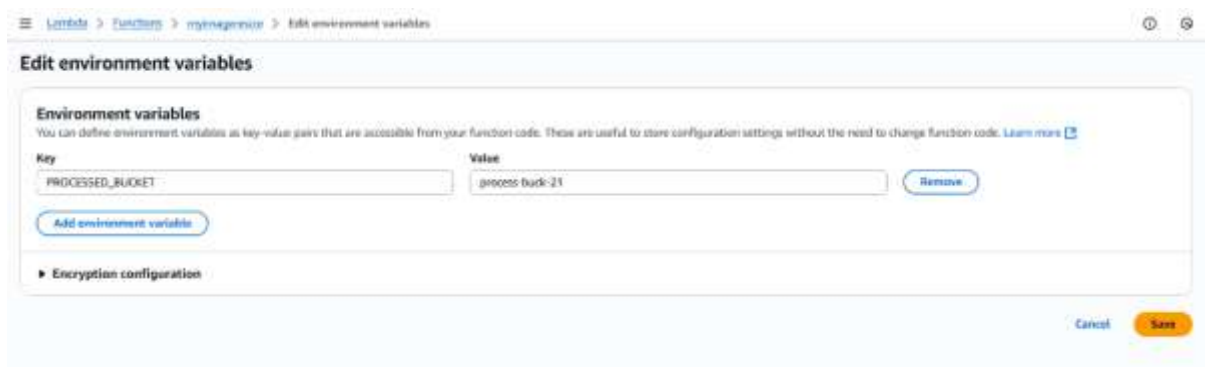
### 4. Add Environment Variables

In Lambda, go to Configuration → Environment Variables → Edit.

Add a variable:

Key: **PROCESSED\_BUCKET**

Value: **process-buck-21**



### 5. Add S3 Trigger

Go to Configuration → Triggers → Add Trigger → S3

Select upload bucket: **process-buck-21**

Event Type: PUT (object created)

Enable trigger → Add

**Edit trigger**

**Trigger configuration**

**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.

**Event types**  
Select the events that you want to have trigger this Lambda function. You can optionally set up a prefix or suffix for an event. However, for event bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could result in the same object being triggered.

**Prefix - optional**  
Enter a single optional prefix to limit the notifications to objects with keys that start with a matching character. Any special characters must be fully encoded.

**Suffix - optional**  
Enter a single optional suffix to limit the notifications to objects with keys that end with a matching character. Any special characters must be fully encoded.

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

Now Lambda will automatically run whenever an image is uploaded to my-image-uploads.

## 6. Test trigger

Uploads → original images uploaded by users.

**upload-buck-01**

**Objects (1)**

Name	Type	Last modified	Size	Storage class
sig.jpg	jpg	September 24, 2025, 16:53:47 (UTC+05:30)	13.9 KB	Standard

Processed → resized/compressed images saved by Lambda.

**process-buck-21**

**Objects (1)**

Name	Type	Last modified	Size	Storage class
sig.jpg	jpg	September 24, 2025, 16:53:48 (UTC+05:30)	34.4 KB	Standard

Original Image:



Resize image:



## 7. Monitor with CloudWatch

Go to CloudWatch → Logs → Log Groups → /aws/lambda/ myimageresize

The screenshot displays the AWS CloudWatch Logs console. The left sidebar shows the navigation menu with 'Logs' selected. The main panel, titled 'Log events', shows a list of log entries for the log group '/aws/lambda/myimageresize'. The log entries are as follows:

Timestamp	Message
2025-09-24T10:00:00.000	[ERROR] Subprocess: An error occurred (NoSuchKey) when calling the GetObject operation: The specified key does not exist. Truncated...
2025-09-24T10:00:00.000	END RequestId: 78d8d2-932f-4ef4-b89a-947954454053
2025-09-24T10:00:00.000	REPORT RequestId: 78d8d2-932f-4ef4-b89a-947954454053 Duration: 250.75 ms Billed Duration: 250 ms Memory Size: 128 MB Max Memory...
2025-09-24T10:00:00.000	START RequestId: a3480908-265c-4325-b104-e4c325b0f73e Version: \$LATEST
2025-09-24T10:00:00.000	START RequestId: a3480908-265c-4325-b104-e4c325b0f73e Version: \$LATEST
2025-09-24T10:00:00.000	Processed image sig.jpg saved to process-back-20
2025-09-24T10:00:00.000	END RequestId: a3480908-265c-4325-b104-e4c325b0f73e
2025-09-24T10:00:00.000	REPORT RequestId: a3480908-265c-4325-b104-e4c325b0f73e Duration: 1891.57 ms Billed Duration: 1892 ms Memory Size: 128 MB Max Memory...
2025-09-24T10:00:00.000	REPORT RequestId: a3480908-265c-4325-b104-e4c325b0f73e Duration: 1891.57 ms Billed Duration: 1892 ms Memory Size: 128 MB Max Memory...

At the bottom of the log events list, it says 'No newer events at this moment. Auto retrying...' with a 'Pause' button.