

Experiment No 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

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Amazon S3 > Buckets > Create bucket

Create bucket info

Buckets are containers for data stored in S3.

General configuration

AWS Region
US East (N. Virginia) us-east-1

Bucket type Info

☒ **General purpose**
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

☐ **Directory**
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name Info

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.

Format: s3://bucket/prefix

1. Create an AWS S3 bucket and save it.

Successfully created bucket "mahvishlamdbucket"
To upload files and folders, or to configure additional bucket settings, choose [View details](#).

Amazon S3 > Buckets

Account snapshot - updated every 24 hours All AWS Regions [View Storage Lens dashboard](#)
Storage lens provides visibility into storage usage and activity trends. [Learn more](#)

[General purpose buckets](#) [Directory buckets](#)

General purpose buckets (4) Info All AWS Regions

< 1 >

	Name	AWS Region	IAM Access Analyzer	Creation date
<input type="radio"/>	demo-bucket-676tyr4571dst	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 24, 2024, 14:22:45 (UTC+05:30)
<input type="radio"/>	elasticbeanstalk-us-east-1-938457417220	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 13, 2024, 14:23:15 (UTC+05:30)
<input checked="" type="radio"/>	mahvishlamdbucket	US East (N. Virginia) us-east-1	View analyzer for us-east-1	October 7, 2024, 20:03:23 (UTC+05:30)
<input type="radio"/>	test-mahvish	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 12, 2024, 20:04:18 (UTC+05:30)

<https://us-east-1.console.aws.amazon.com/s3/buckets/mahvishlamdbucket?region=us-east-1&bucketType=general> © 2024, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

2. Create an AWS Lambda Function, use python 3.11

The screenshot shows the 'Create function' page in the AWS Lambda console. The page has a dark header with the AWS logo, 'Services' menu, a search bar, and navigation icons. The main content area is titled 'Create function' with an 'Info' link. Below the title, it says 'Choose one of the following options to create your function.' There are three radio button options: 'Author from scratch' (selected), 'Use a blueprint', and 'Container image'. The 'Author from scratch' option has a sub-description: 'Start with a simple Hello World example.' Below these options is a 'Basic information' section. It contains a 'Function name' field with the value 'mahvishimageloader', a 'Runtime' dropdown menu set to 'Python 3.11', and an 'Architecture' section with 'x86_64' selected. The footer of the console shows 'CloudShell', 'Feedback', and copyright information for Amazon Web Services, Inc.

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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.

Function name must be 1 to 64 characters, must be unique to the Region, and can't include spaces. Valid characters are a-z, A-Z, 0-9, hyphens (-), and underscores (_).

Runtime [Info](#)
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Architecture [Info](#)
Choose the instruction set architecture you want for your function code.
☒ **x86_64**
☐ arm64

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The screenshot shows the 'mahvishimageloader' function page in the AWS Lambda console. A green banner at the top states: 'Successfully created the function mahvishimageloader. You can now change its code and configuration. To invoke your function with a test event, choose "Test".' The page has a dark header with the AWS logo, 'Services' menu, a search bar, and navigation icons. The main content area is titled 'mahvishimageloader' with buttons for 'Throttle', 'Copy ARN', and 'Actions'. Below the title is a 'Function overview' section with tabs for 'Diagram' and 'Template'. The 'Diagram' tab shows a visual representation of the function with a trigger icon and a destination icon. To the right of the diagram is a 'Description' section with fields for 'Description', 'Last modified' (10 seconds ago), 'Function ARN' (arn:aws:lambda:us-east-1:938457417220:function:mahvishimageloader), and 'Function URL' (Info). The footer of the console shows 'CloudShell', 'Feedback', and copyright information for Amazon Web Services, Inc.

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

Lambda > Functions > mahvishimageloader

mahvishimageloader

Throttle Copy ARN Actions

Function overview [Info](#)

Export to Application Composer Download

Diagram Template

mahvishimageloader

Layers (0)

+ Add trigger + Add destination

Description

-

Last modified 10 seconds ago

Function ARN
arn:aws:lambda:us-east-1:938457417220:function:mahvishimageloader

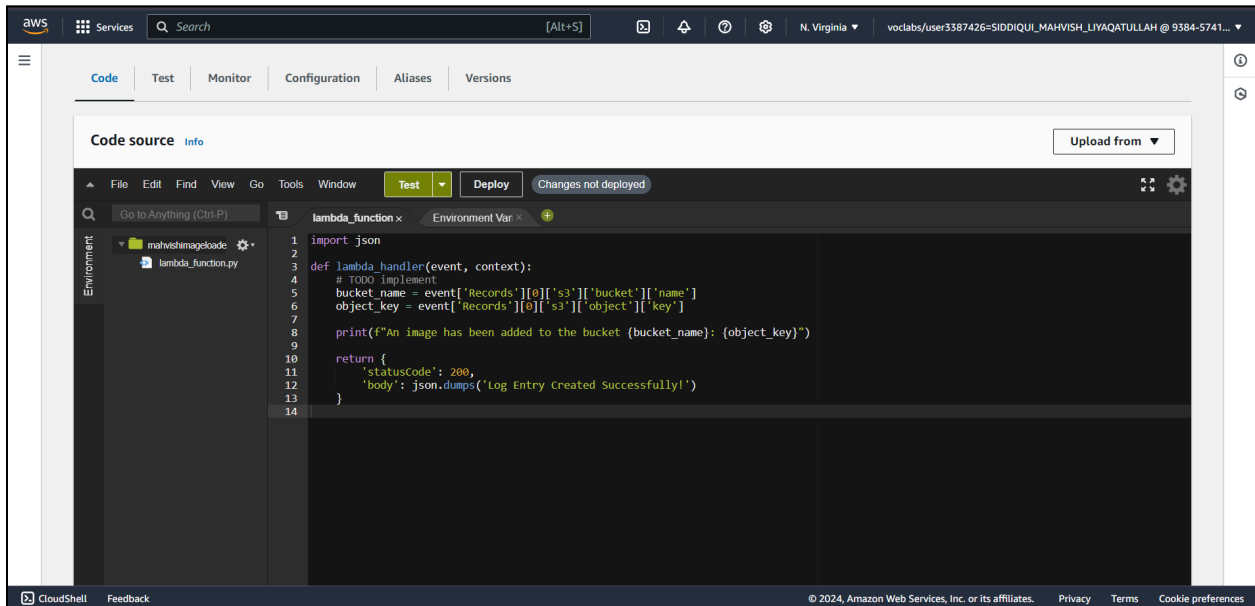
Function URL [Info](#)

-

Code Test Monitor Configuration Aliases Versions

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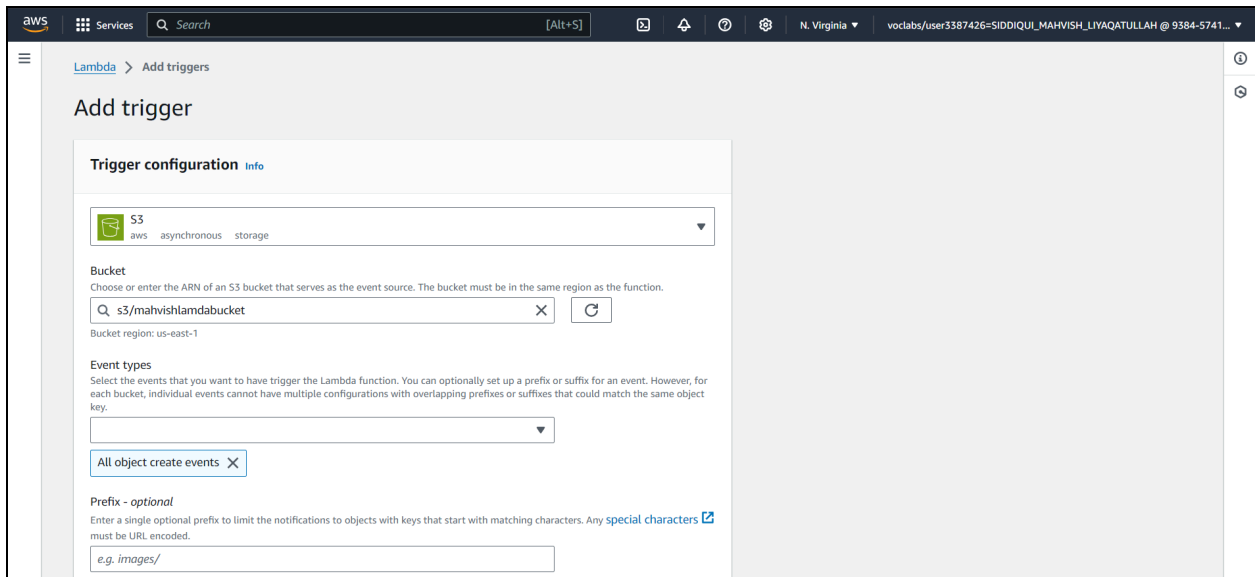
3. Change the code such that it prints “An image has been added to the bucket” when triggered.



The screenshot shows the AWS Lambda console's 'Code source' tab. The code is a Python lambda handler that prints a message when triggered. The code is as follows:

```
1 import json
2
3 def lambda_handler(event, context):
4     # TODO implement
5     bucket_name = event['Records'][0]['s3']['bucket']['name']
6     object_key = event['Records'][0]['s3']['object']['key']
7
8     print(f"An image has been added to the bucket {bucket_name}: {object_key}")
9
10    return {
11        'statusCode': 200,
12        'body': json.dumps('Log Entry Created Successfully!')
13    }
14
```

4. Add S3 bucket in your triggers and select the name of your S3 bucket.



The screenshot shows the 'Add trigger' configuration page in the AWS Lambda console. The configuration is for an S3 bucket trigger. The bucket name is 's3/mahvishlamdabucket'. The event types are 'All object create events'. The prefix is optional and set to 'e.g. images/'.

Trigger configuration

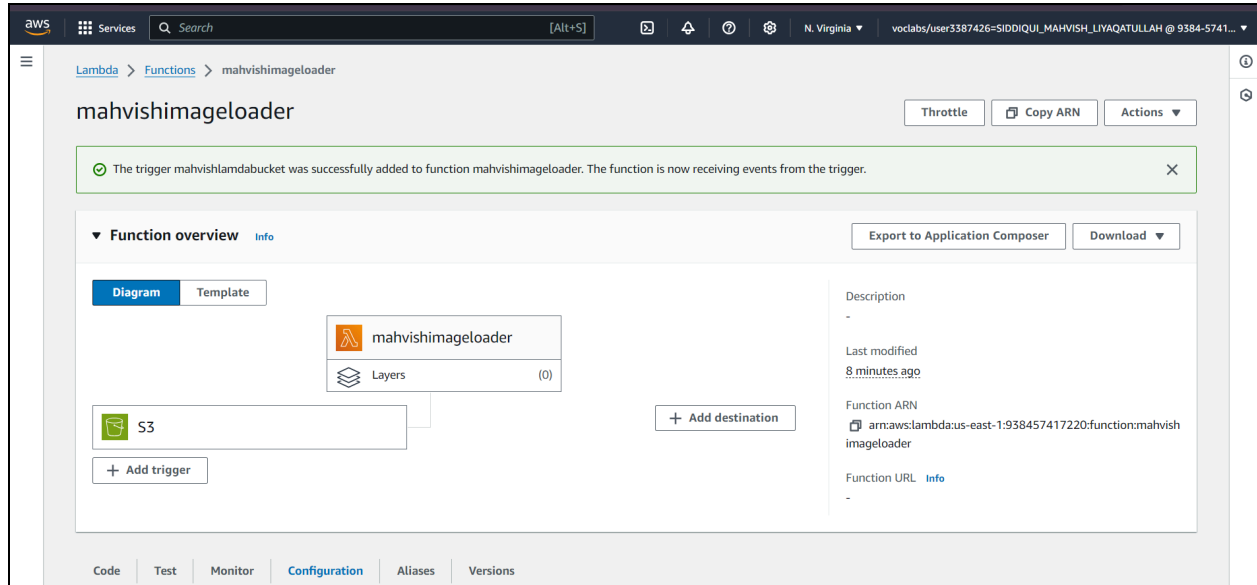
S3 aws asynchronous storage

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.

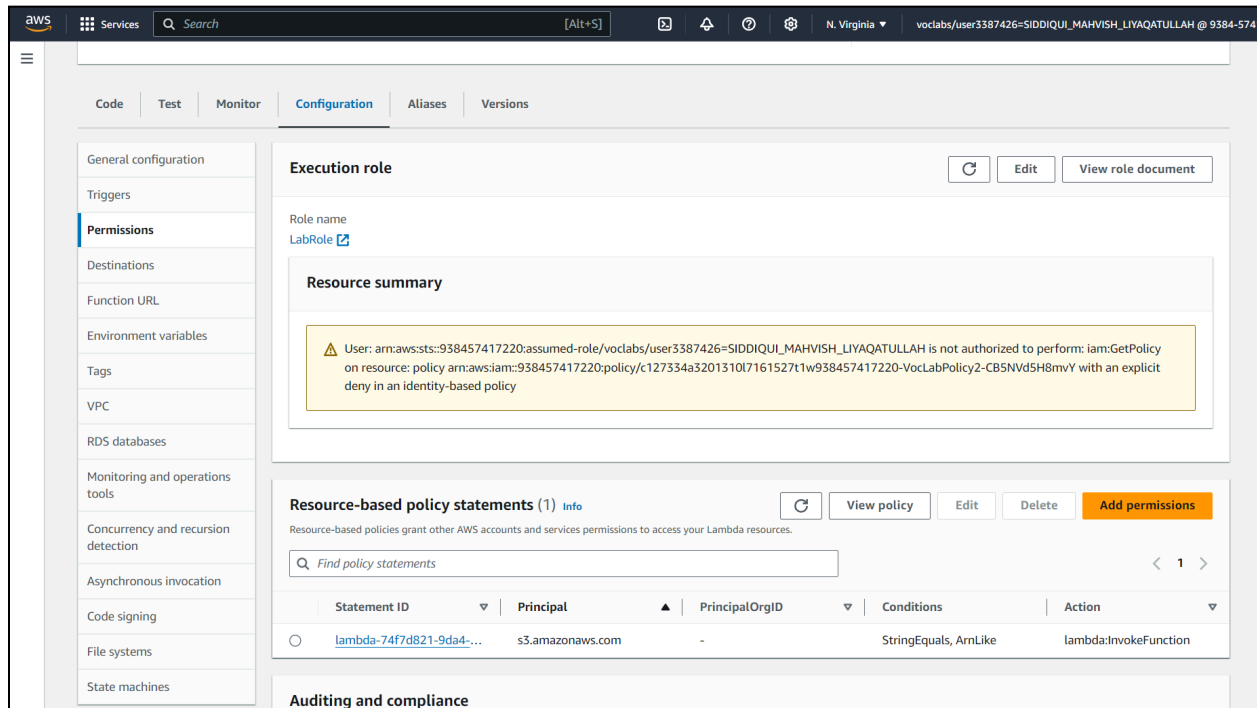
Bucket region: us-east-1

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.

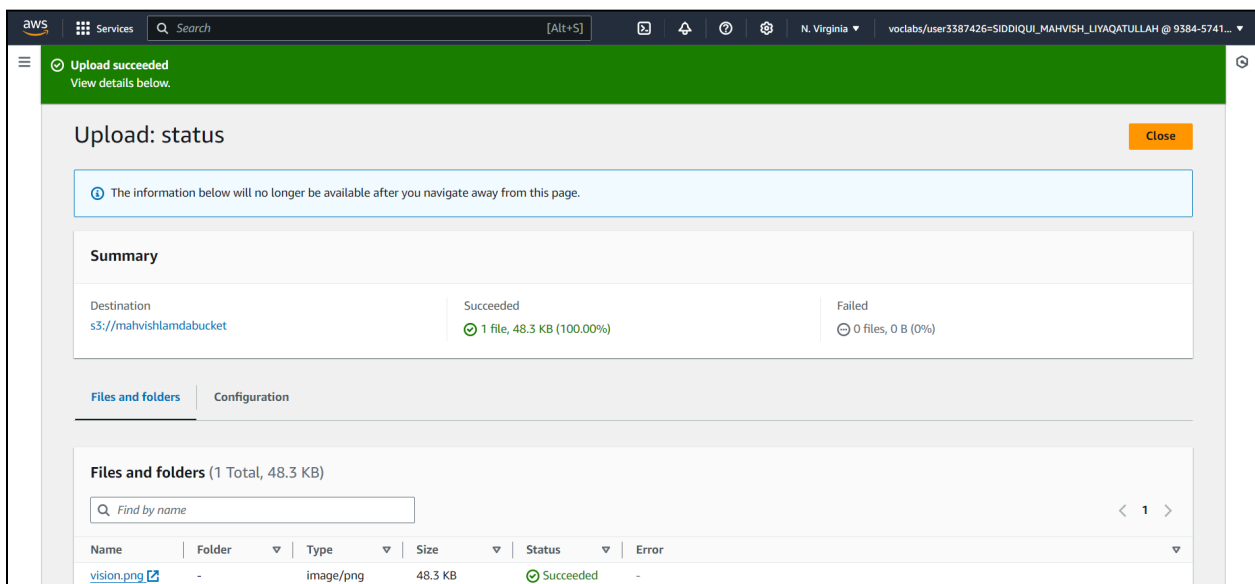
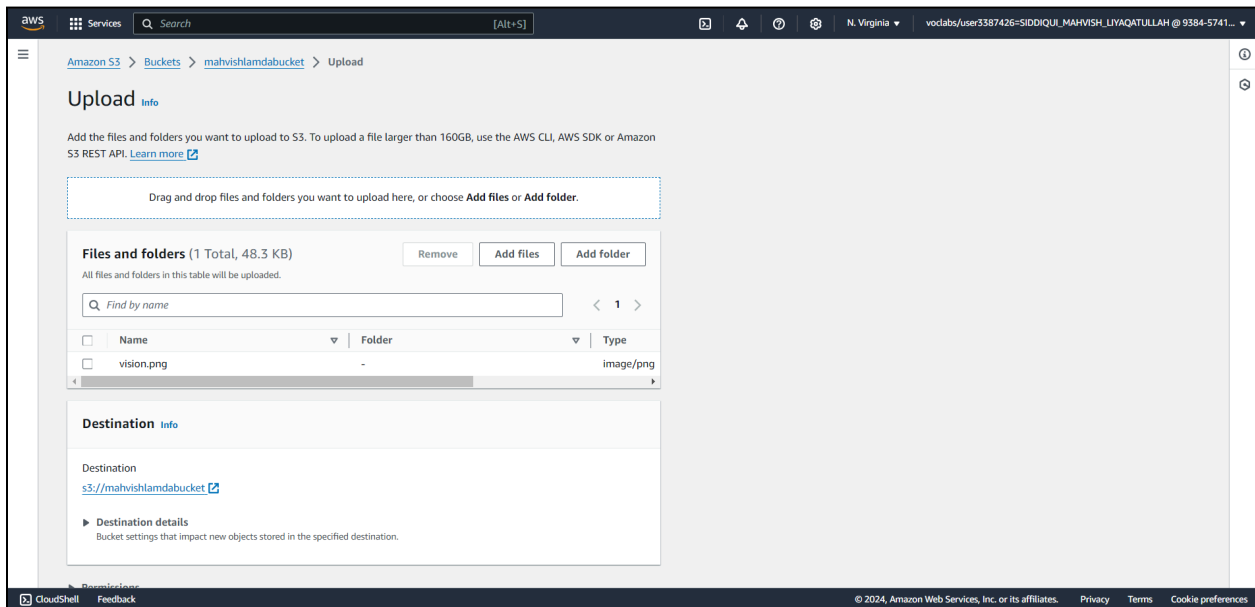
Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters. Any special characters must be URL encoded.



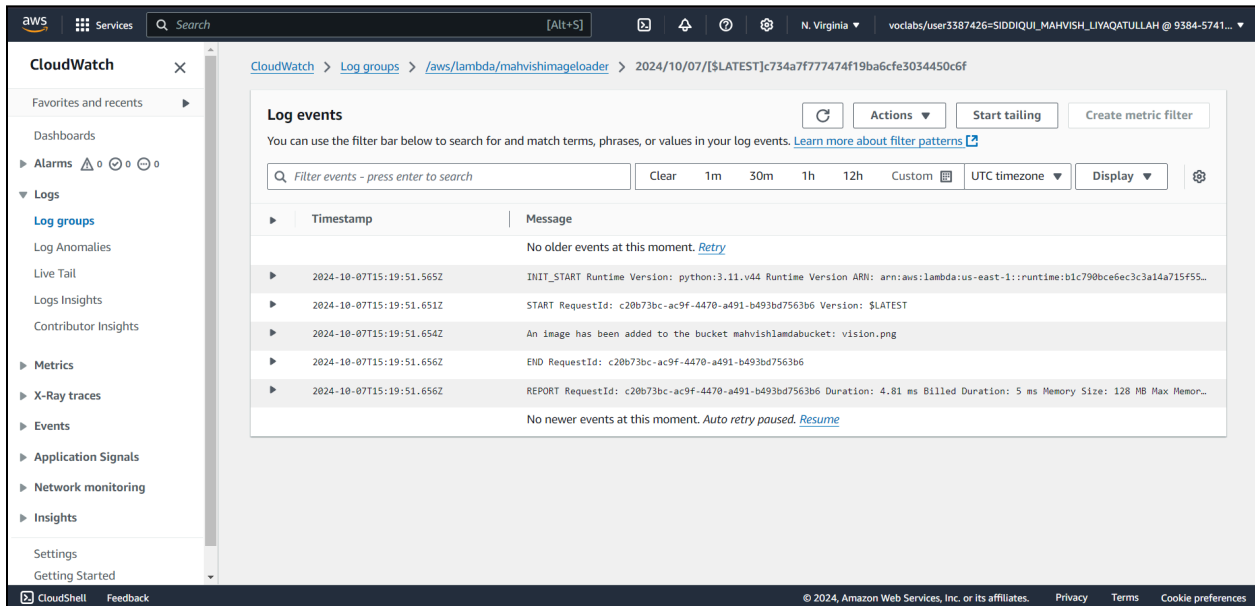
5. Go to your S3 bucket



6. Upload an image inside the s3 bucket



- Go back to your Lambda function and under monitor select 'open cloudwatch logs'
Here you can see the message: An image has been added to the bucket.



The screenshot shows the AWS CloudWatch console interface. The left sidebar contains navigation options: CloudWatch, Favorites and recents, Dashboards, Alarms, Logs, Metrics, X-Ray traces, Events, Application Signals, Network monitoring, Insights, Settings, and Getting Started. The main content area displays the 'Log events' page for the log group `/aws/lambda/mahvishimageloader` at the timestamp `2024/10/07/[LATEST]c734a7f77474f19ba6cfe3034450c6f`. The page includes a search bar, filters (Clear, 1m, 30m, 1h, 12h, Custom, UTC timezone), and a 'Display' dropdown. The log events table shows the following entries:

Timestamp	Message
No older events at this moment. Retry	
2024-10-07T15:19:51.565Z	INIT_START Runtime Version: python:3.11.v44 Runtime Version ARN: arn:aws:lambda:us-east-1::runtime:b1c790bce6ec3c3a14a715f55...
2024-10-07T15:19:51.651Z	START RequestId: c20b73bc-ac9f-4470-a491-b493bd7563b6 Version: \$LATEST
2024-10-07T15:19:51.654Z	An image has been added to the bucket mahvishlambabucket: vision.png
2024-10-07T15:19:51.656Z	END RequestId: c20b73bc-ac9f-4470-a491-b493bd7563b6
2024-10-07T15:19:51.656Z	REPORT RequestId: c20b73bc-ac9f-4470-a491-b493bd7563b6 Duration: 4.81 ms Billed Duration: 5 ms Memory Size: 128 MB Max Memon...
No newer events at this moment. Auto retry paused. Resume	

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