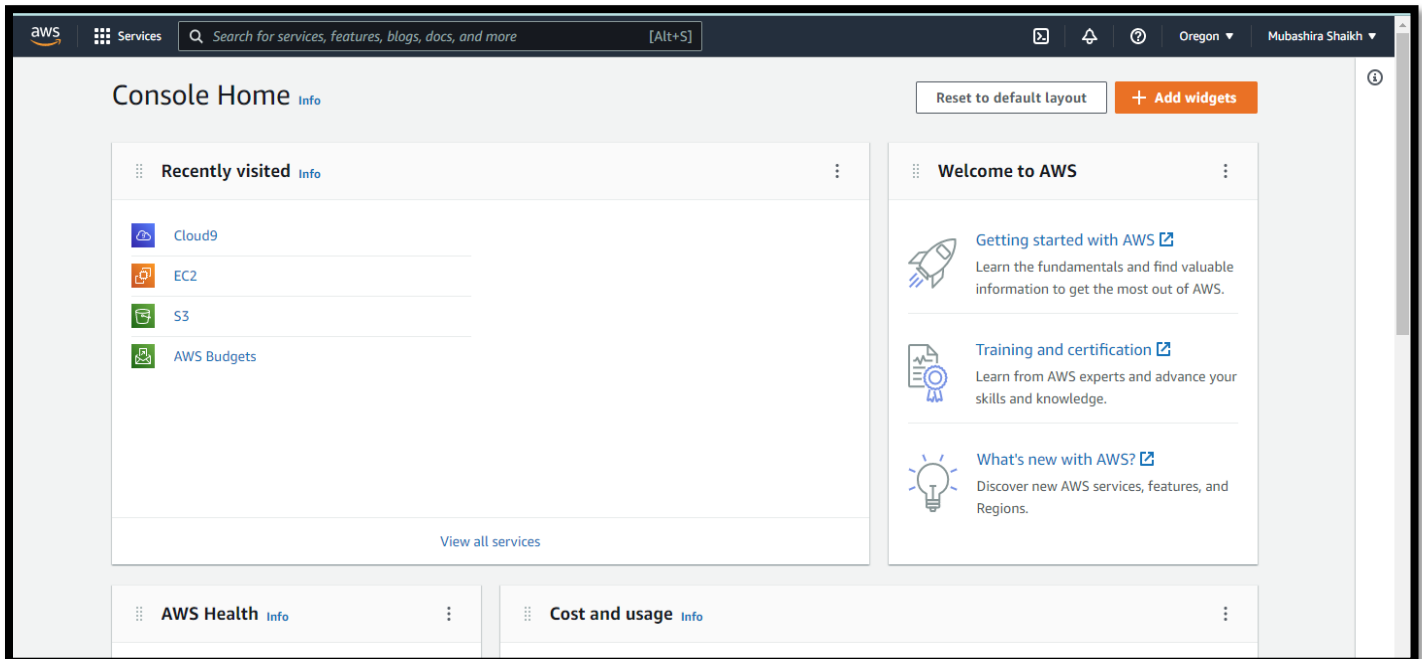


EXPERIMENT-6

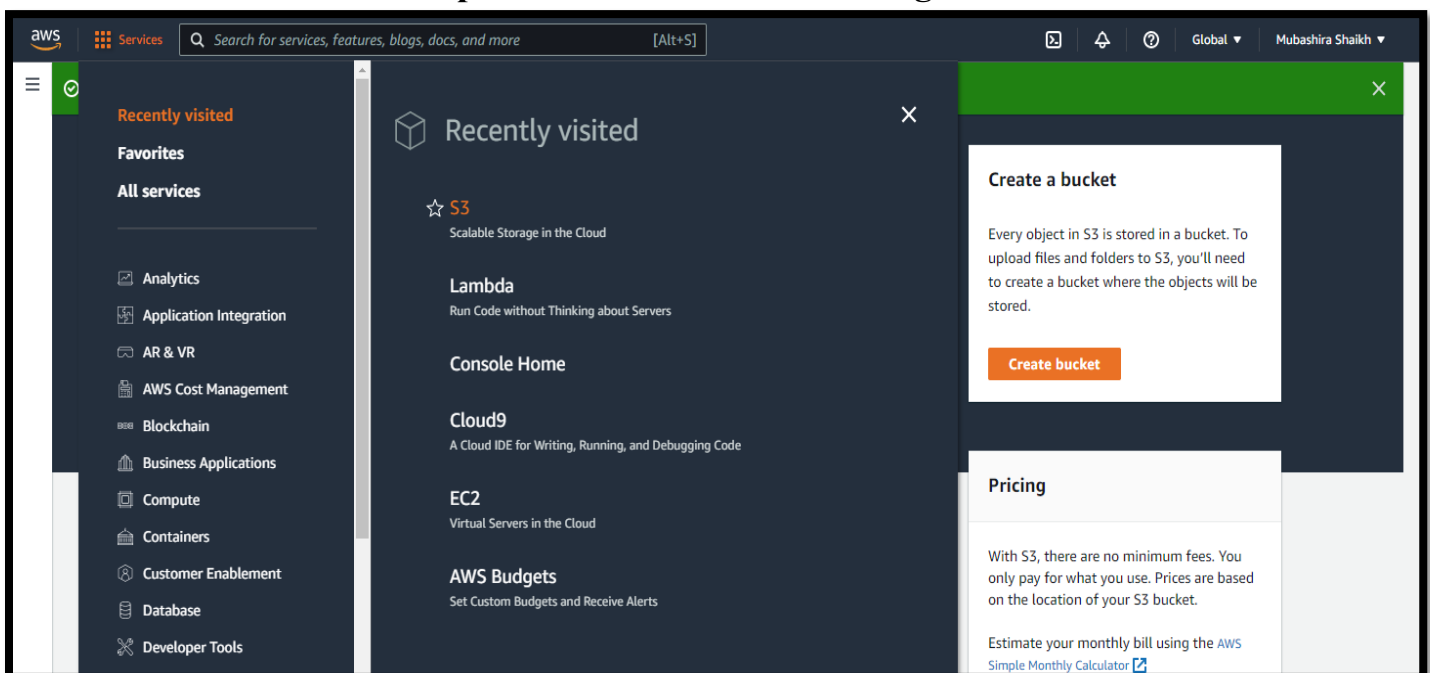
NAME: SHAIKH MUBASHIRA TUFEL AHMED
ROLL NO: 612055 **COURSE:** ADVANCE DEVOPS(ITL504)
BRANCH: T.E. INFORMATION TECHNOLOGY (SEM 5)

1. To create a Lambda function which will log “An Image has been added” once you add an object to a specific bucket in S3. Use AWS Lambda blueprint.

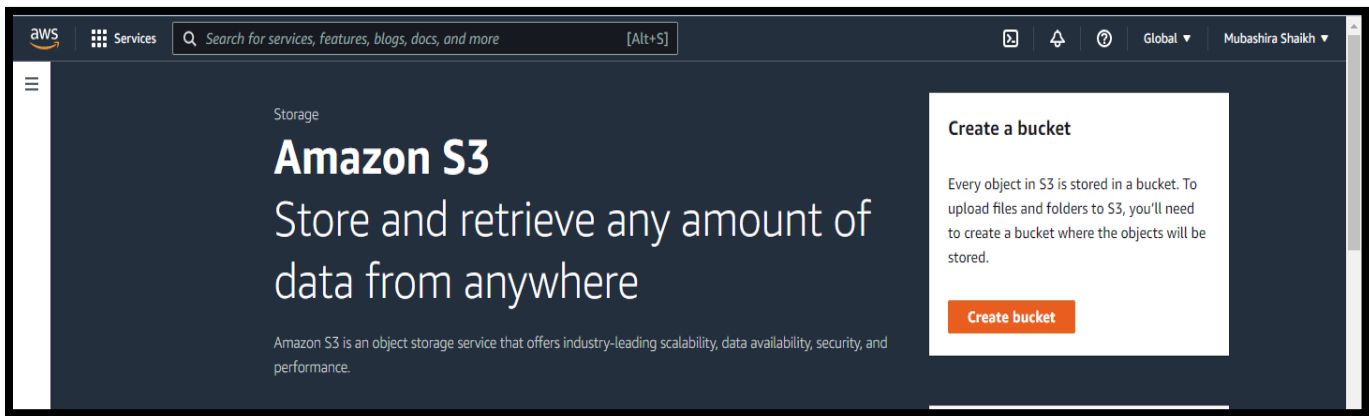
Step 1: AWS Management Console Dashboard.



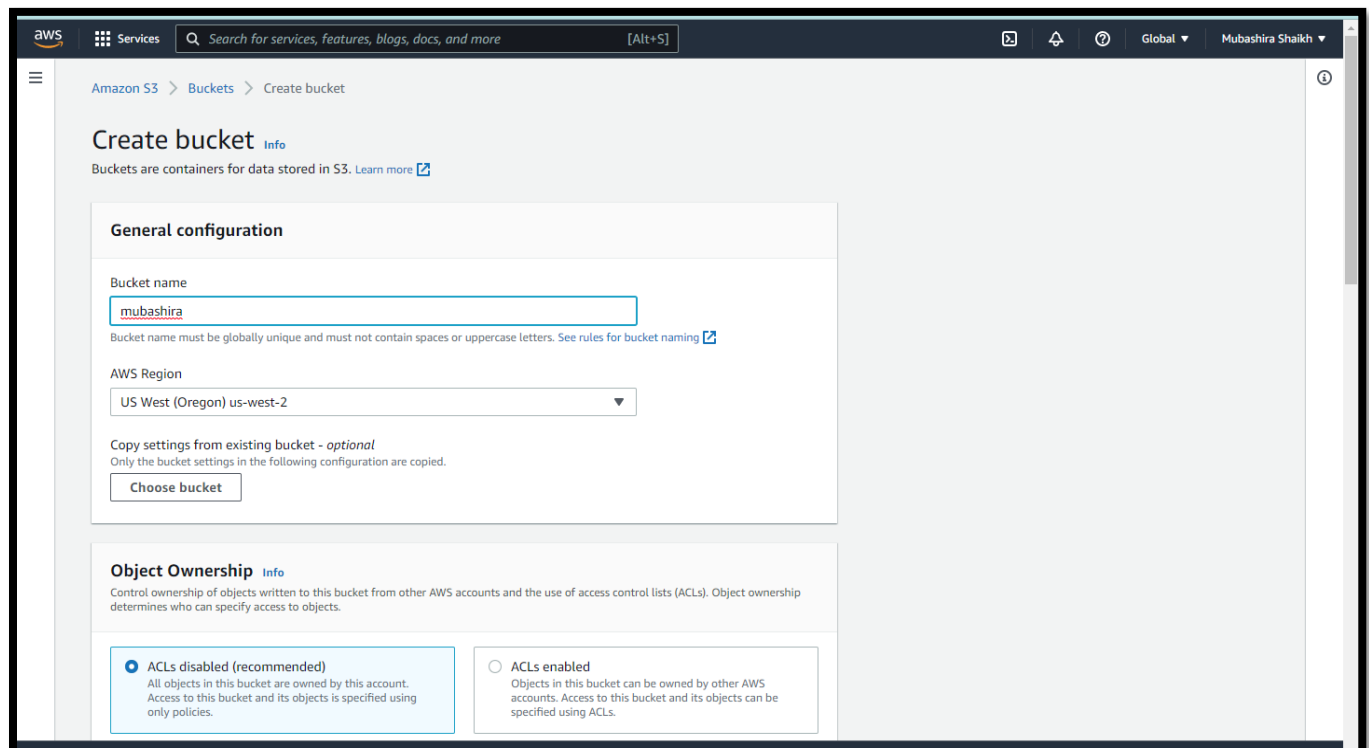
Step 2: Click on Services → Storage → S3



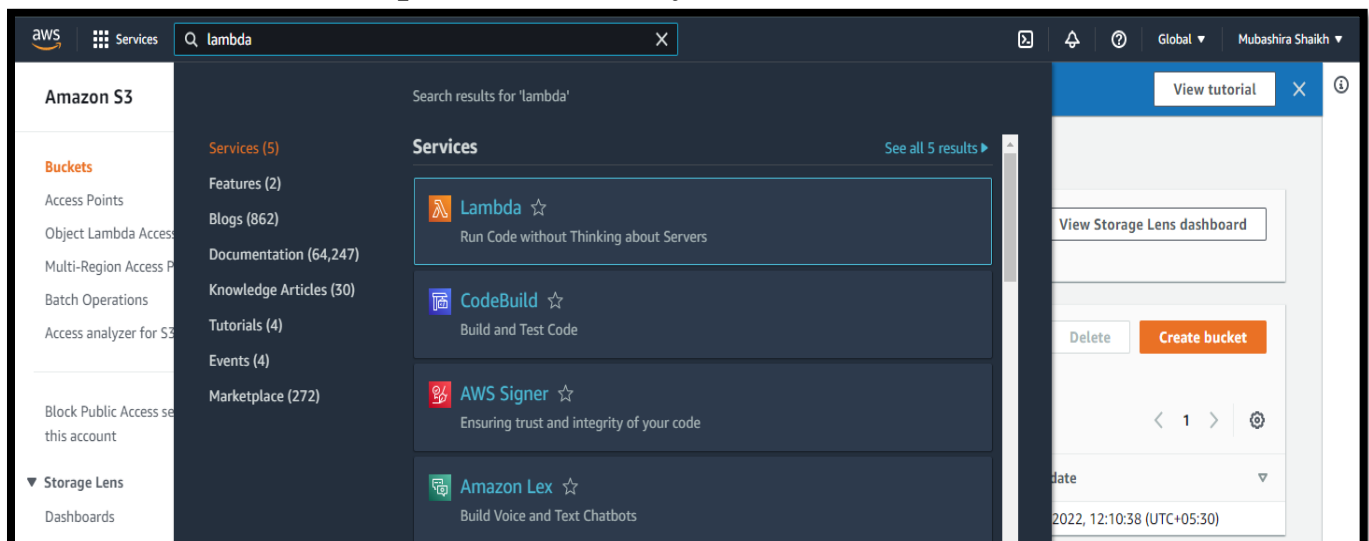
Step 3: Click on 'Create bucket'



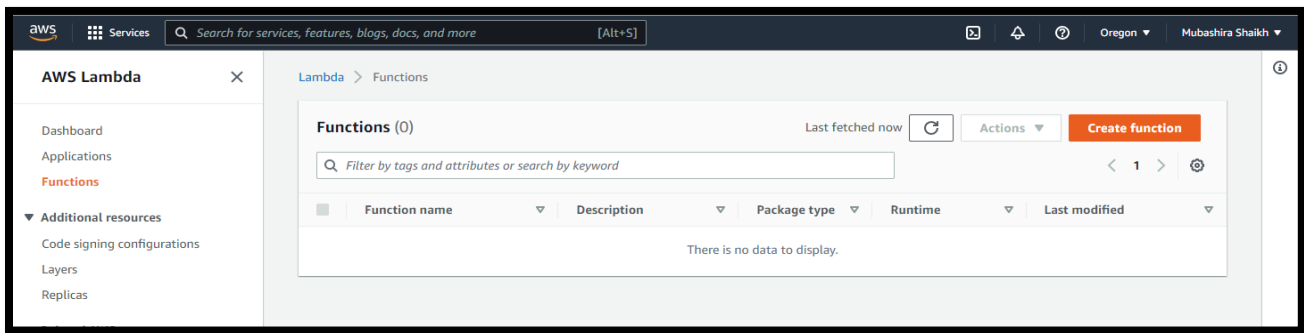
Step 4: Give your bucket a name → Click on Create bucket.



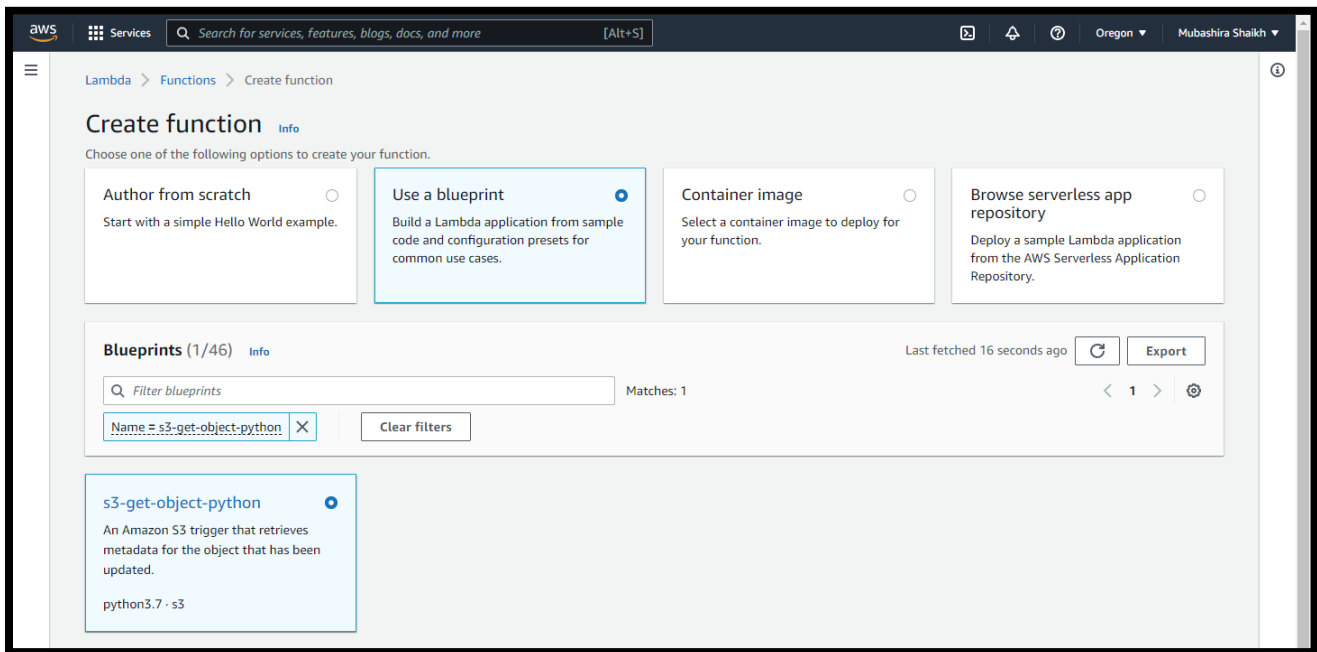
Step 5: Search for DynamoDB and select it.



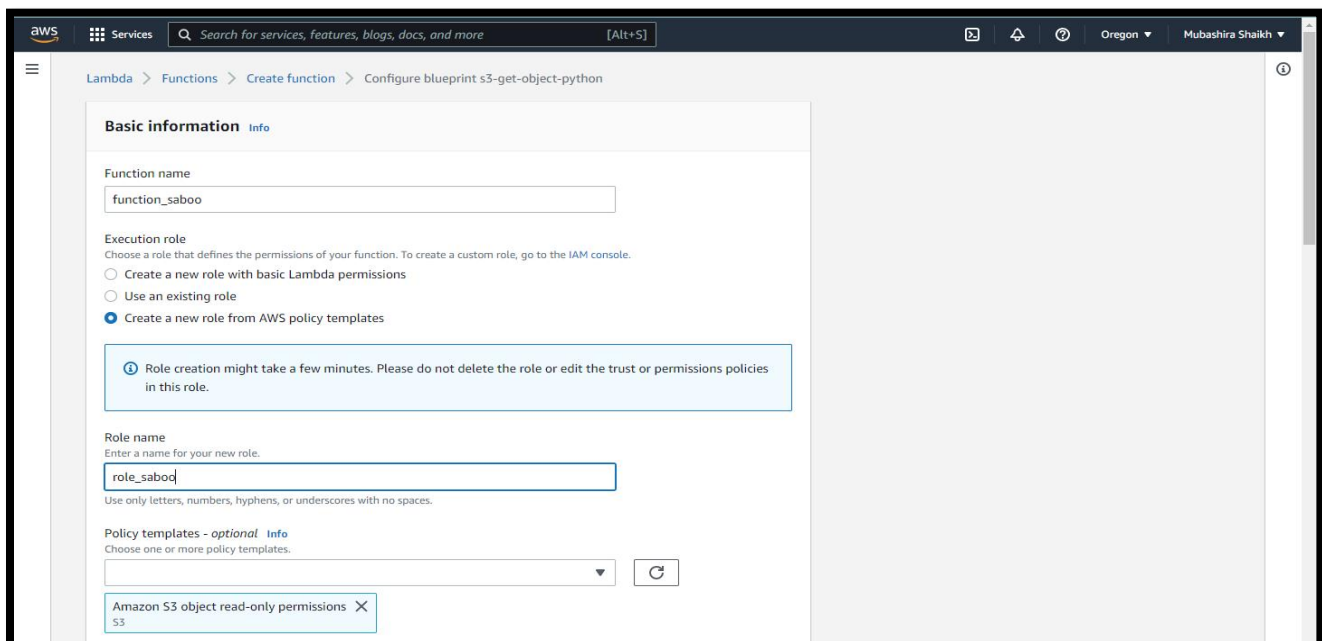
Step 6: Click on Create Function.



Step 7: Choose “Use a blueprint” → Search s3 in “Blueprints” → Select “s3-get-object-python”



Step 8: Name the Function & Role → Select your S3 bucket as trigger → Click on Create Function.



S3 trigger

Remove

S3

aws storage

Bucket

Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.

×

↻

Event type

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

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Code is preconfigured by the chosen blueprint. You can configure it after you create the function. [Learn more](#) about deploying Lambda functions.

Runtime

Python 3.7

Architecture

x86_64

```

1 import json
2 import urllib.parse
3 import boto3
4
5 print('Loading function')
6
7 s3 = boto3.client('s3')
8
9
10 def lambda_handler(event, context):
11     #print("Received event: " + json.dumps(event, indent=2))
12
13     # Get the object from the event and show its content type
14     bucket = event['Records'][0]['s3']['bucket']['name']
15     key = urllib.parse.unquote_plus(event['Records'][0]['s3']['object']['key'], encoding='utf-8')
16     try:
17         response = s3.get_object(Bucket=bucket, Key=key)
18         print("CONTENT TYPE: " + response['ContentType'])
19         return response['ContentType']
20     except Exception as e:
21         print(e)
22         print('Error getting object {} from bucket {}. Make sure they exist and your bucket name is correct')
23         raise e
24

```

Cancel

Create function

Step 9: Click on your function → Go to code → Add a print statement in code → Save the code and deploy it.

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Lambda > Functions > function_saboo

function_saboo

Throttle

Copy ARN

Actions

▼ Function overview

Info

function_saboo

Layers (0)

S3

+ Add trigger

+ Add destination

Description

An Amazon S3 trigger that retrieves metadata for the object that has been updated.

Last modified

8 minutes ago

Function ARN

arn:aws:lambda:us-west-2:746116160774:function:funcion_saboo

Function URL

Info

Code

Test

Monitor

Configuration

Aliases

Versions

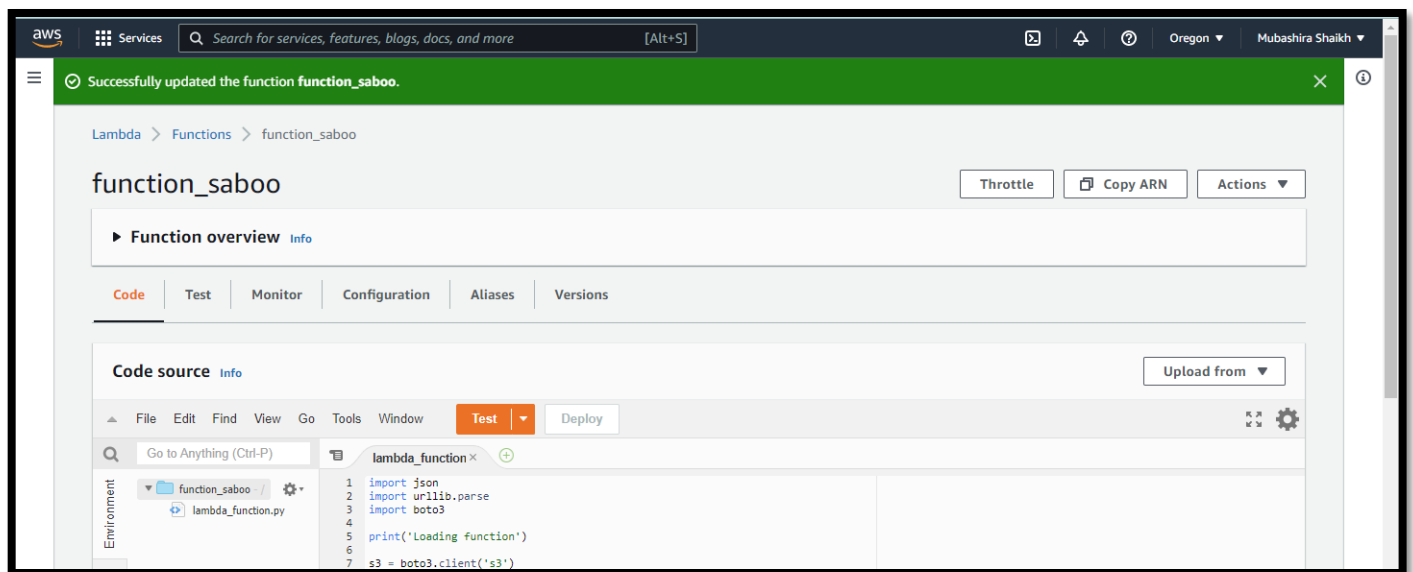
Code source

Info

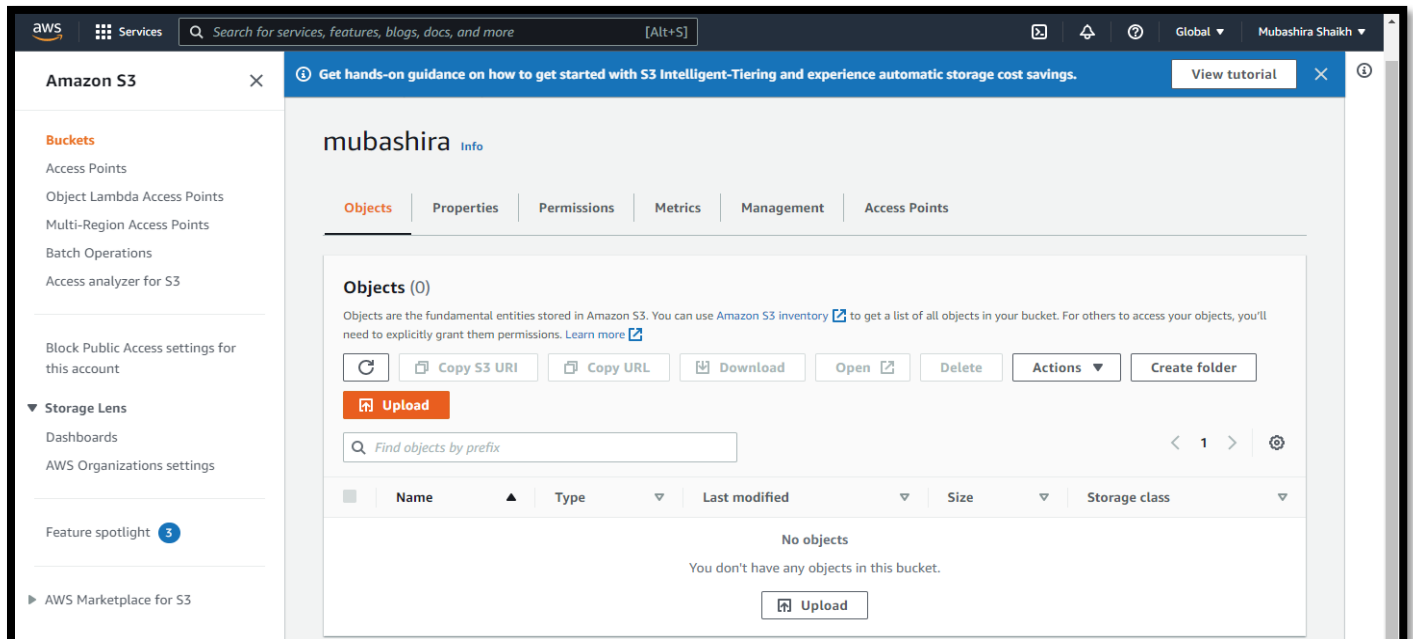
Upload from

The screenshot shows the AWS Lambda console's code editor for a function named 'function_saboo'. The code is written in Python and uses the boto3 library to interact with Amazon S3. A red circle highlights the line `print("Image file uploaded")` within the `lambda_handler` function, which is triggered when an S3 object is uploaded to a specific bucket and key.

```
1 import json
2 import urllib.parse
3 import boto3
4
5 print('Loading function')
6
7 s3 = boto3.client('s3')
8
9
10 def lambda_handler(event, context):
11     #print("Received event: " + json.dumps(event, indent=2))
12
13     # Get the object from the event and show its content type
14     bucket = event['Records'][0]['s3']['bucket']['name']
15     key = urllib.parse.unquote_plus(event['Records'][0]['s3']['object']['key'], encoding='utf-8')
16     try:
17         response = s3.get_object(Bucket=bucket, Key=key)
18         #print(response['Content-Type'])
19         print("Image file uploaded")
20     except Exception as e:
21         print(e)
22         print("Error getting object {} from bucket {}. Make sure they exist and your bucket is in the same region as this function.".format(key, bucket))
23         raise e
24
25
```



Step 10: Go to your bucket → Upload an image as object in your bucket → Click on upload.



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Amazon S3 > Buckets > mubashira > 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 folders**.

Files and folders (1 Total, 1.6 MB) Remove Add files Add folder

All files and folders in this table will be uploaded.

Find by name

<input checked="" type="checkbox"/>	Name	Folder	Type	Size
<input checked="" type="checkbox"/>	oskar-smethurst-B1GtwanCbiw-unsplash.jpg	-	image/jpeg	1.6 MB

Destination

Destination
s3://mubashira

[Destination details](#)

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Upload succeeded
View details below.

Upload: status Close

The information below will no longer be available after you navigate away from this page.

Summary

Destination	Succeeded	Failed
s3://mubashira	1 file, 1.6 MB (100.00%)	0 files, 0 B (0%)

Files and folders | Configuration

Files and folders (1 Total, 1.6 MB)

Find by name

Name	Folder	Type	Size	Status	Error
oskar-smethurst-B1GtwanCbiw-unsplash.jpg	-	image/jpeg	1.6 MB	Succeeded	-

Step 11: Click on your lambda function → Monitor → View logs in CloudWatch.

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Lambda > Functions

Functions (1) Last fetched 7 seconds ago Actions Create function

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Function name	Description	Package type	Runtime	Last modified
<input type="checkbox"/>	function_saboo	An Amazon S3 trigger that retrieves metadata for the object that has been updated.	Zip	Python 3.7	4 minutes ago

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Lambda > Functions > function_saboo

function_saboo

Throttle Copy ARN Actions

Function overview Info

Code Test **Monitor** Configuration Aliases Versions

Metrics Logs Traces **View logs in CloudWatch** View X-Ray traces in ServiceLens View Lambda Insights View profiles in CodeGuru

CloudWatch metrics Info Filter by Function

Lambda sends runtime metrics for your functions to Amazon CloudWatch. The metrics shown are an aggregate view of all function runtime activity. To view metrics for the unqualified or \$LATEST resource, choose **Filter by**. To view metrics for a specific function version or alias, choose **Aliases** or **Versions**, select the alias or version, and then choose **Monitor**.

Step 12: Click the blue link in Log stream → Check the message “Image file uploaded”

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CloudWatch

CloudWatch > Log groups > /aws/lambda/function_saboo

/aws/lambda/function_saboo

Actions View in Logs Insights Search log group

Log group details

Retention	Creation time	Stored bytes	ARN
Never expire	1 minute ago	-	arn:aws:logs:us-west-2:746116160774:log-group:/aws/lambda/function_saboo:
KMS key ID	Metric filters	Subscription filters	Contributor Insights rules
-	0	0	-

Log streams Metric filters Subscription filters Contributor Insights Tags

Log streams (1) Filter log streams or try prefix search Exact match 1

Log stream	Last event time
2022/08/04/[\$LATEST]2f054b04d803482d876776bce9edc76a	2022-08-04 12:18:18 (UTC+05:30)

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CloudWatch

CloudWatch > Log groups > /aws/lambda/function_saboo > 2022/08/04/[\$LATEST]2f054b04d803482d876776bce9edc76a

Log events

You can use the filter bar below to search for and match terms, phrases, or values in your log events. [Learn more about filter patterns](#)

View as text Actions Create metric filter

Filter events Clear 1m 30m 1h 12h Custom

Timestamp	Message
No older events at this moment. Retry	
2022-08-04T12:18:18.494+05:30	Loading function
2022-08-04T12:18:18.619+05:30	START RequestId: 766647c2-b5cb-4aa7-bea4-df7a5e2bf24d Version: \$LATEST
2022-08-04T12:18:18.823+05:30	CONTENT_TYPE: image/jpeg
2022-08-04T12:18:18.823+05:30	Image file uploaded
2022-08-04T12:18:18.848+05:30	END RequestId: 766647c2-b5cb-4aa7-bea4-df7a5e2bf24d
2022-08-04T12:18:18.848+05:30	REPORT RequestId: 766647c2-b5cb-4aa7-bea4-df7a5e2bf24d Duration: 227.28 ms Billed Duration: 228 ms Memory Si...
No newer events at this moment. Auto retry paused . Resume	

Copy

Step 13: Delete your lambda function

The screenshot shows the AWS Lambda console. On the left, the 'Functions' tab is selected. The main area displays a table with one function, 'function_saboo'. The 'Actions' menu is open, showing options: 'View details', 'Test', and 'Delete'. The 'Delete' option is highlighted.

Function name	Description	Package type	Runtime	Last modified
function_saboo	An Amazon S3 trigger that retrieves metadata for the object that has been updated.	Zip	Python 3.7	10 minutes ago

The screenshot shows the 'Delete 1 functions' dialog box. It contains a warning message: 'Deleting a function permanently removes the function code. The related logs, roles, test event schemas, and triggers are retained in your account.' Below the warning, the function name 'function_saboo' is listed. A confirmation field is present with the text 'delete' entered. The 'Delete' button is highlighted.

Deleting a function permanently removes the function code. The related logs, roles, test event schemas, and triggers are retained in your account.

function_saboo

To confirm deletion, type **delete** in the field.

delete

Cancel Delete

The screenshot shows the 'Delete 1 functions' dialog box after successful deletion. The function name 'function_saboo' is now preceded by a green checkmark. The 'Delete' button has been replaced by a 'Close' button.

Deleting a function permanently removes the function code. The related logs, roles, test event schemas, and triggers are retained in your account.

function_saboo

To confirm deletion, type **delete** in the field.

delete

Cancel Close

Step 14: Empty your bucket → Delete the bucket.

The screenshot shows the Amazon S3 console. On the left, the 'Buckets' tab is selected. The main area displays a table with one bucket, 'mubashira'. The 'Empty' button is highlighted.

Name	AWS Region	Access	Creation date
mubashira	US West (Oregon) us-west-2	Bucket and objects not public	August 4, 2022, 12:10:38 (UTC+05:30)

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Amazon S3 > Buckets > mubashira > Empty bucket

Empty bucket Info

⚠

- Emptying the bucket deletes all objects in the bucket and cannot be undone.
- Objects added to the bucket while the empty bucket action is in progress might be deleted.
- To prevent new objects from being added to this bucket while the empty bucket action is in progress, you might need to update your bucket policy to stop objects from being added to the bucket.

[Learn more](#)

ℹ

If your bucket contains a large number of objects, creating a lifecycle rule to delete all objects in the bucket might be a more efficient way of emptying your bucket. [Learn more](#)

[Go to lifecycle rule configuration](#)

Permanently delete all objects in bucket "mubashira"?

To confirm deletion, type *permanently delete* in the text input field.

Cancel

Empty

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Successfully emptied bucket "mubashira"

View details below. If you want to delete this bucket, use the [delete bucket](#) configuration.

Cancel

Exit

Empty bucket: status

ℹ

The details below are no longer available after you navigate away from this page.

Summary

Source	Successfully deleted	Failed to delete
s3://mubashira	✔ 1 object, 1.6 MB	0 objects

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Amazon S3

Buckets

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

Access analyzer for S3

Block Public Access settings for this account

Storage Lens

Amazon S3 > Buckets

Account snapshot

Storage lens provides visibility into storage usage and activity trends. [Learn more](#)

[View Storage Lens dashboard](#)

Buckets (1) Info

🔄

Copy ARN

Empty

Delete

Create bucket

Find buckets by name

< 1 > ⚙

Name	AWS Region	Access	Creation date
mubashira	US West (Oregon) us-west-2	Bucket and objects not public	August 4, 2022, 12:10:38 (UTC+05:30)

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Amazon S3 > Buckets > mubashira > Delete bucket

Delete bucket Info

⚠

- Deleting a bucket cannot be undone.
- Bucket names are unique. If you delete a bucket, another AWS user can use the name.

[Learn more](#)

Delete bucket "mubashira"?

To confirm deletion, enter the name of the bucket in the text input field.

Cancel

Delete bucket