

Assignment 3- S3

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Table of Contents

CREATE A BUCKET FOR ASSETS OF THE WEB APP HOSTED ON EC2. PUT AN IMAGE INTO THE BUCKET. .2

SEND AN EMAIL TO YOURSELF WHEN THE OBJECT IS CREATED IN THE BUCKET. YOU NEED TO CREATE AN SNS TOPIC. MODIFY THE POLICY. SUBSCRIBE IT.9

WRITE A LAMBDA THAT RETURNS A SIGNED URL OF THE OBJECT. MAKE SURE THE LABROLE HAS AN INLINE POLICY THAT ALLOWS GETTING OBJECTS FROM THE BUCKET.16

Create a bucket for assets of the web app hosted on EC2. Put an image into the bucket.

- a. Create an inline IAM policy in the LabRole that allows the instance to get objects from the bucket.
- b. Download the image: `aws s3 cp s3://<bucket>/< image_name> <image_name>`
- c. Update the index.html and read the image from the `/var/www/html` folder

① We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

① Replicate data within and between AWS Regions using Amazon S3 Replication.

View tutorial

Amazon S3 > Buckets > 615206-lab3-1

615206-lab3-1 [Info](#)

Objects

Properties

Permissions

Metrics

Management

Access Points

Objects (1)

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](#)

🔄

Copy S3 URI

Copy URL

Download

Open

Delete


Actions

Create folder

Upload

🔍 Find objects by prefix

< 1 > ⚙️

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	 266309003_10224164495212928_6585531895695517141_n.jpg	jpg	November 3, 2022, 17:22:42 (UTC-05:00)	148.6 KB	Standard

Feedback

Looking for language selection? Find it in the new [Unified Settings](#)

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Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings

Access reports

- Access analyzer
- Archive rules
- Analzers
- Settings
- Credential report
- Organization activity
- Service control policies (SCPs)

LabRole

Summary

Creation date	October 31, 2022, 11:55 (UTC-05:00)	ARN	arn:aws:iam::871818405897:role/LabRole	Instance profile ARN	arn:aws:iam::871818405897:instance-profile/LabInstanceProfile
Last activity	23 minutes ago	Maximum session duration	1 hour		

Permissions Trust relationships Tags (1) Access Advisor Revoke sessions

Permissions policies (7)

You can attach up to 10 managed policies.

Filter policies by property or policy name and press enter.

Policy name	Type	Description
c64911a125031430059291w871818405897-VocLabPolicy1-1KHAD3B53HSTA	Customer managed	

Create policy

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor JSON

Expand all Collapse all

Select a service

Service Choose a service

Actions Choose a service before defining actions

Resources Choose actions before applying resources

Request conditions Choose actions before specifying conditions

Add additional permissions

Character count: 39 of 10,240. The current character count includes character for all inline policies in the role: LabRole.

Cancel Review policy

Create policy

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor JSON

[Import managed policy](#)

[Expand all](#) [Collapse all](#)

▼ S3 [Clone](#) [Remove](#)

► Service S3

▼ Actions Specify the actions allowed in S3 [Switch to deny permissions](#)

[close](#)

Filter actions

Manual actions [\(add actions\)](#)

☐ All S3 actions (s3:*)

Access level

☐ List

☐ Read

☐ Tagging

☐ Write

☐ Permissions management

[Expand all](#) [Collapse all](#)

Resources Choose actions before applying resources

► ☐ List

▼ ☐ Read (1 selected)

<input type="checkbox"/> DescribeJob	<input type="checkbox"/> GetBucketOwnershipControls	<input type="checkbox"/> GetObjectAcl
<input type="checkbox"/> DescribeMultiRegionAccessPoint...	<input type="checkbox"/> GetBucketPolicy	<input type="checkbox"/> GetObjectAttributes
<input type="checkbox"/> GetAccelerateConfiguration	<input type="checkbox"/> GetBucketPolicyStatus	<input type="checkbox"/> GetObjectLegalHold
<input type="checkbox"/> GetAccessPoint	<input type="checkbox"/> GetBucketPublicAccessBlock	<input type="checkbox"/> GetObjectRetention
<input type="checkbox"/> GetAccessPointConfigurationFor...	<input type="checkbox"/> GetBucketRequestPayment	<input type="checkbox"/> GetObjectTagging
<input type="checkbox"/> GetAccessPointForObjectLambda	<input type="checkbox"/> GetBucketTagging	<input type="checkbox"/> GetObjectTorrent
<input type="checkbox"/> GetAccessPointPolicy	<input type="checkbox"/> GetBucketVersioning	<input type="checkbox"/> GetObjectVersion
<input type="checkbox"/> GetAccessPointPolicyForObjectL...	<input type="checkbox"/> GetBucketWebsite	<input type="checkbox"/> GetObjectVersionAcl
<input type="checkbox"/> GetAccessPointPolicyStatus	<input type="checkbox"/> GetEncryptionConfiguration	<input type="checkbox"/> GetObjectVersionAttributes
<input type="checkbox"/> GetAccessPointPolicyStatusForO...	<input type="checkbox"/> GetIntelligentTieringConfiguration	<input type="checkbox"/> GetObjectVersionForReplication
<input type="checkbox"/> GetAccountPublicAccessBlock	<input type="checkbox"/> GetInventoryConfiguration	<input type="checkbox"/> GetObjectVersionTagging
<input type="checkbox"/> GetAnalyticsConfiguration	<input type="checkbox"/> GetJobTagging	<input type="checkbox"/> GetObjectVersionTorrent
<input type="checkbox"/> GetBucketAcl	<input type="checkbox"/> GetLifecycleConfiguration	<input type="checkbox"/> GetReplicationConfiguration
<input type="checkbox"/> GetBucketCORS	<input type="checkbox"/> GetMetricsConfiguration	<input type="checkbox"/> GetStorageLensConfiguration
<input type="checkbox"/> GetBucketLocation	<input type="checkbox"/> GetMultiRegionAccessPoint	<input type="checkbox"/> GetStorageLensConfigurationTag...
<input type="checkbox"/> GetBucketLogging	<input type="checkbox"/> GetMultiRegionAccessPointPolicy	<input type="checkbox"/> GetStorageLensDashboard
<input type="checkbox"/> GetBucketNotification	<input type="checkbox"/> GetMultiRegionAccessPointPolic...	
<input type="checkbox"/> GetBucketObjectLockConfiguration	<input checked="" type="checkbox"/> GetObject	

☐ Tarnish

us-east-1.console.aws.amazon.com/iam/home#/roles/LabRole\$createPolicy?step=edit

Visual editor JSON Import managed policy

Expand all Collapse all

S3 (1 action) 1 warning Clone Remove

Service S3

Actions Read
GetObject

Resources Specific
close All resources

object Specify object resource ARN for the GetObject action.
Add ARN to restrict access

Request conditions Specify request conditions (optional)

Add additional permissions

Character count: 39 of 10,240.
The current character count includes character for all inline policies in the role: LabRole.

Cancel Review policy

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us-east-1.console.aws.amazon.com/iam/home#/roles/LabRole\$createPolicy?step=edit

Visual editor JSON Import managed policy

Expand all Collapse all

S3 (1 action) 1 warning Clone Remove

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Character count: 39 of 10,240.
The current character count includes character for all inline policies in the role: LabRole.

Cancel Review policy

Add ARN(s)

Amazon Resource Names (ARNs) uniquely identify AWS resources. Resources are unique to each service. Learn more

Specify ARN for object List ARNs manually

arn:aws:s3:::615206-lab3-1/*

Bucket name * 615206-lab3-1 Any

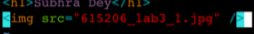
Object name * * Any

Cancel Add

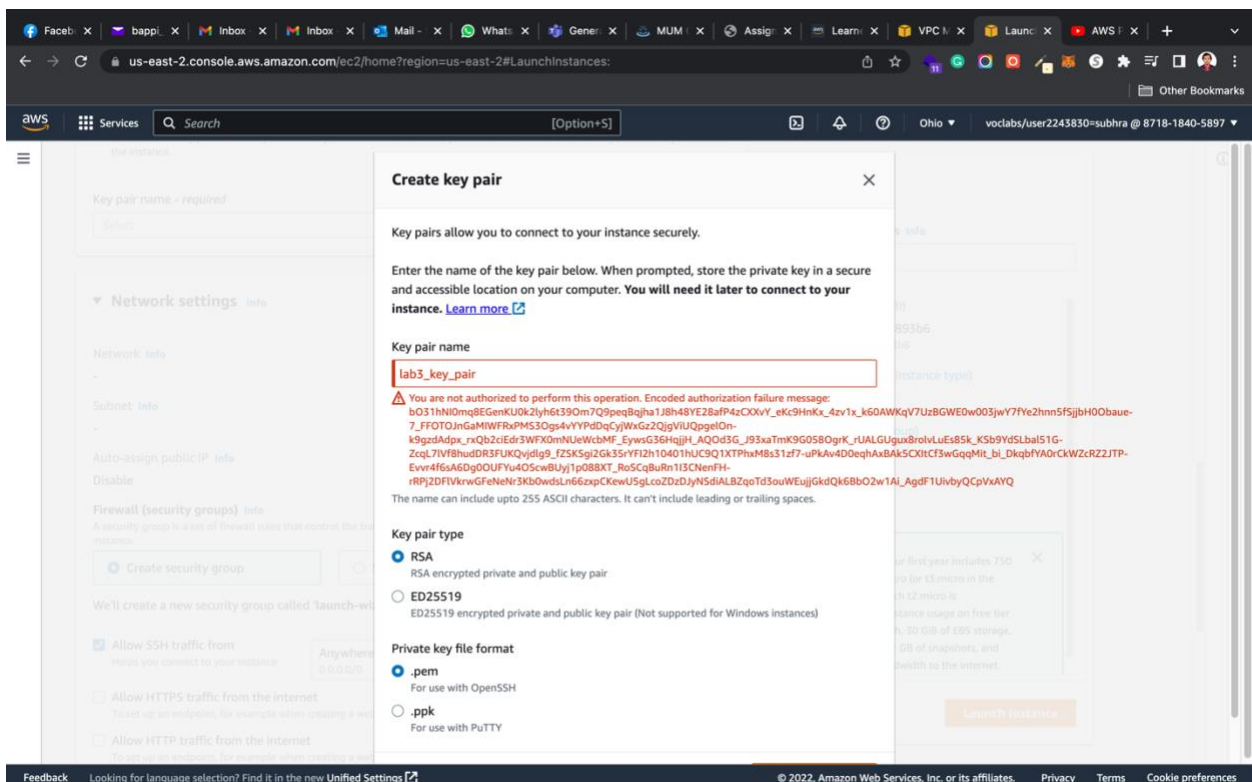
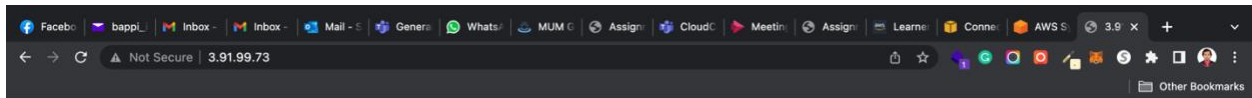
Session ID: user2243830=subhra- Instance ID: i-0624726a923edd8da Terminate

```
sh-4.2$ sudo -s
[root@ip-172-31-90-128 bin]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-90-128 bin]# aws s3 cp s3://615206-lab3-1/266309003_10224164495212928_6585531895695517141_n.jpg 615206_lab3_1.jpg
download: s3://615206-lab3-1/266309003_10224164495212928_6585531895695517141_n.jpg to ./615206_lab3_1.jpg
[root@ip-172-31-90-128 bin]#
```

Session ID: user2243830=subhra- Instance ID: i-0624726a923edd8da Terminate

```
<h1>Subhra Dey</h1>

--
-- INSERT --
```

2,32 All



Send an email to yourself when the object is created in the bucket. You need to create an SNS topic. Modify the policy. Subscribe it.

The screenshot displays the AWS Management Console interface for creating an Amazon SNS topic. The browser address bar shows the URL `us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/create-topic`. The console header includes the AWS logo, a search bar, and navigation links for Services, Regions, and Account. The main content area is titled 'Create topic' and is divided into two main sections: 'Details' and 'JSON editor'.

Details Section:

- Type:** Standard (selected). The description states: 'Topic type cannot be modified after topic is created'. The 'Standard' type is highlighted with a blue border. It lists the following characteristics:
 - Best-effort message ordering
 - At-least once message delivery
 - Highest throughput in publishes/second
 - Subscription protocols: SQS, Lambda, HTTP, SMS, email, mobile application endpoints
- FIFO (first-in, first-out):** This option is not selected. It lists the following characteristics:
 - Strictly-preserved message ordering
 - Exactly-once message delivery
 - High throughput, up to 300 publishes/second
 - Subscription protocols: SQS
- Name:** 615206_bucket_alert. The description states: 'Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_)'.
- Display name - optional:** My Topic. The description states: 'To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message. Info'. The maximum length is 100 characters.
- Encryption - optional:** Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

JSON editor Section:

```
1 {
2   "Version": "2008-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Principal": {
7         "Service": "s3.amazonaws.com"
8       },
9       "Action": "SNS:Publish",
10      "Resource": "arn:aws:sns:us-east-1:475249589989:615206_bucket_email_alert",
11      "Condition": {
12        "StringEquals": {
13          "AWS:SourceAccount": "475249589989"
14        },
15        "ArnLike": {
16          "AWS:SourceArn": "arn:aws:s3:::615206-lab3-1"
17        }
18      }
19    }
20  ]
21 }
```

Optional Policies Section:

- Data protection policy - optional:** This policy defines which sensitive data to monitor and to prevent from being exchanged via your topic.
- Delivery retry policy (HTTP/S) - optional:** The policy defines how Amazon SNS retries failed deliveries to HTTP/S endpoints. To modify the default settings, expand this section.
- Delivery status logging - optional:**

The footer of the console includes a feedback link, a language selection prompt, and copyright information for Amazon Web Services, Inc. or its affiliates.

Amazon SNS

DashboardTopicsSubscriptionsMobilePush notificationsText messaging (SMS)Origination numbers

Topic 615206_bucket_email_alert created successfully.
You can create subscriptions and send messages to them from this topic.

615206_bucket_email_alert

EditDeletePublish message

Details

Name615206_bucket_email_alert

ARNarn:aws:sns:us-east-1:871818405897:615206_bucket_email_alert

TypeStandard

Display name-

Topic owner871818405897

Subscriptions

Access policyData protection policyDelivery retry policy (HTTP/S)Delivery status loggingEncrypt

Subscriptions (0)

EditDeleteRequest confirmationConfirm subscriptionCreate subscription

Search

< 1 >

ID

Endpoint

Status

Protocol

us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/create-subscription © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Details

Topic ARN

arn:aws:sns:us-east-1:871818405897:615206_bucket_email_alert

Protocol

The type of endpoint to subscribe

Email

Endpoint

An email address that can receive notifications from Amazon SNS.

subhra.dey@miu.edu

After your subscription is created, you must confirm it. Info

Subscription filter policy - optional Info

This policy filters the messages that a subscriber receives.

Redrive policy (dead-letter queue) - optional Info

Send undeliverable messages to a dead-letter queue.

Cancel

Create subscription

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Outlook interface showing an email from AWS Notifications. The email subject is "AWS Notification - Subscription Confirmation" and the sender is "AWS Notifications <no-reply@sns.amazonaws.com>". The email content states: "You have chosen to subscribe to the topic: **arn:aws:sns:us-east-1:871818405897:615206_bucket_email_alert**". It includes a link to "Confirm subscription" and a warning not to reply directly. The Outlook interface also shows a list of emails in the inbox, including one from Microsoft Viva and another from Formsite.



Simple Notification Service

Subscription confirmed!

You have successfully subscribed.

Your subscription's id is:

arn:aws:sns:us-east-1:871818405897:615206_bucket_email_alert:ba210b0d-3d0f-4fea-b46a-30589e7c7bad

If it was not your intention to subscribe, [click here to unsubscribe](#).

Amazon S3 > Buckets > 615206-lab3-1 > 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, 476.0 KB)

RemoveAdd filesAdd folder

All files and folders in this table will be uploaded.

Find by name

< 1 >

<input type="checkbox"/>	Name	Folder	Type	Size
<input type="checkbox"/>	Screenshot 2022-11-03 at 5.45.26 PM.png	-	image/png	476.0 KB

Destination

Destination

s3://615206-lab3-1

► Destination details

Bucket settings that impact new objects stored in the specified destination.

Feedback

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Faci X bap: X Inbc X Inbc X Mail X Ger X Wh: X MU: X Ass X wlc X wlc X Mer X Ass X Lea X SS X +

s3.console.aws.amazon.com/s3/upload/615206-lab3-1?region=us-east-1

Other Bookmarks

aws

Services

Search

[Option+S]

Global

voclabs/user2243830=subhra @ 8718-1840-5897

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

Upload succeeded

View details below.

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

Summary

Destination

s3://615206-lab3-1

Succeeded

1 file, 476.0 KB (100.00%)

Failed

0 files, 0 B (0%)

Files and folders

Configuration

Files and folders (1 Total, 476.0 KB)

Find by name

< 1 >

Name	Folder	Type	Size	Status	Error
Screenshot 2022-11-03 at 5.45.26 PM.png	-	image/png	476.0 KB	Succeeded	-

Facebook | bapli | Inbox | Mail | General | WhatsApp | MUM | Assign | w1d3 | Meeting | Assign | Learn | Simple | 61E | +

s3.console.aws.amazon.com/s3/buckets/615206-lab3-1?region=us-east-1&tab=properties

Services Search [Option+S] Global voclabs/user2243830=subhra @ 8718-1840-5897

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No data events
No data events to display.
[Configure in CloudTrail](#)

Event notifications (0) [Edit](#) [Delete](#) [Create event notification](#)
Send a notification when specific events occur in your bucket. [Learn more](#)

Name	Event types	Filters	Destination type	Destination
No event notifications Choose Create event notification to be notified when a specific event occurs. Create event notification				

Amazon EventBridge [Edit](#)
For additional capabilities, use Amazon EventBridge to build event-driven applications at scale using S3 event notifications. [Learn more](#) or see [EventBridge pricing](#)

Send notifications to Amazon EventBridge for all events in this bucket
Off

Transfer acceleration [Edit](#)

Feedback Looking for language selection? Find it in the new [Unified Settings](#)

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Facebook | bapli | Inbox | Mail | General | WhatsApp | MUM | Assign | w1d3 | Meeting | Assign | Learn | Simple | 61E | +

s3.console.aws.amazon.com/s3/bucket/615206-lab3-1/property/notification/create?region=us-east-1

Services Search [Option+S] Global voclabs/user2243830=subhra @ 8718-1840-5897

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

General configuration

Event name
615206_bucket_email_notification_event
Event name can contain up to 255 characters.

Prefix - optional
Limit the notifications to objects with key starting with specified characters.
images/

Suffix - optional
Limit the notifications to objects with key ending with specified characters.
.jpg

Event types
Specify at least one event for which you want to receive notifications. For each group, you can choose an event type for all events, or you can choose one or more individual events.

Object creation

☐ All object create events
s3:ObjectCreated:*

☒ Put
s3:ObjectCreated:Put

☒ Post
s3:ObjectCreated:Post

☐ Copy

Facebookbapli_Inbox - Inbo - Mail - sGeneraWhatsAppMUM GAssignwld3 - wld3 - MeetingAssignLearnSimple61E x +

s3.console.aws.amazon.com/s3/bucket/615206-lab3-1/property/notification/create?region=us-east-1

Other Bookmarks

awsServicesSearch[Option+S]

Globalvoclabs/user2243830=subhra @ 8718-1840-5897

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

Destination

Before Amazon S3 can publish messages to a destination, you must grant the Amazon S3 principal the necessary permissions to call the relevant API to publish messages to an SNS topic, an SQS queue, or a Lambda function. [Learn more](#)

Destination

Choose a destination to publish the event. [Learn more](#)

☐ Lambda function

Run a Lambda function script based on S3 events.

☒ SNS topic

Fanout messages to systems for parallel processing or directly to people.

☐ SQS queue

Send notifications to an SQS queue to be read by a server.

Specify SNS topic

☒ Choose from your SNS topics

☐ Enter SNS topic ARN

SNS topic

615206_bucket_email_alert

Cancel

Save changes

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Facebookbapli_Inbox - Inbo - Mail - sGeneraWhatsAppMUM GAssignwld3 - wld3 - MeetingAssignLearnSimple61E x +

s3.console.aws.amazon.com/s3/buckets/615206-lab3-1?region=us-east-1&tab=properties

Other Bookmarks

awsServicesSearch[Option+S]

Globalvoclabs/user2243830=subhra @ 8718-1840-5897

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

Successfully created event notification "615206_bucket_email_notification_event".
Operation successfully completed.

Earn an AWS Learning Badge to showcase your knowledge of S3. [Start now](#)

Amazon S3 > Buckets > 615206-lab3-1

615206-lab3-1 [Info](#)

Objects

Properties

Permissions

Metrics

Management

Access Points

Bucket overview

AWS Region

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

Amazon Resource Name (ARN)

arn:aws:s3::615206-lab3-1

Creation date

November 3, 2022, 17:20:43 (UTC-05:00)

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Edit

Bucket Versioning

Disabled

FeedbackLooking for language selection? Find it in the new [Unified Settings](#)

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Write a lambda that returns a Signed URL of the object. Make sure the LabRole has an inline policy that allows getting objects from the bucket.

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/615206_lab3_3?newFunction=true&tab=code

Successfully created the function 615206_lab3_3. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

+ Add trigger + Add destination

Function ARN
arn:aws:lambda:us-east-1:871818405897:function:615206_lab3_3

Function URL [Info](https://od5gcix2y32og72ucdxsfhgyrn0aphcf.lambda-url.us-east-1.on.aws/)
<https://od5gcix2y32og72ucdxsfhgyrn0aphcf.lambda-url.us-east-1.on.aws/>

Code Test Monitor Configuration Aliases Versions

Code source [Info](#) Upload from

File Edit Find View Go Tools Window Test Deploy Changes not deployed

Go to Anything (96 P)

Environment

615206_lab3_3

index.js

```
1 const AWS = require("aws-sdk");
2 const s3 = new AWS.S3({apiVersion: '2006-03-01'});
3 exports.handler = async (event) => {
4   const params = { Bucket: '615206-lab3-1', Key: '266309003_10224164495212928_6585531895695517141_n.jpg' };
5   return s3.getSignedUrl('getObject', params);
6 };
```

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/615206_lab3_3?newFunction=true&tab=code

The test event 625106_test_event was successfully saved.

Code Test Monitor Configuration Aliases Versions

Code source [Info](#) Upload from

File Edit Find View Go Tools Window Test Deploy

Go to Anything (96 P)

Environment

615206_lab3_3

index.js

Execution results

Status: Succeeded Max memory used: 81 MB Time: 307.80 ms

Test Event Name
625106_test_event

Response
"https://615206-lab3-1.s3.amazonaws.com/266309003_10224164495212928_6585531895695517141_n.jpg?AWSAccessKeyId=ASTA4V7DNFAE25X7UPJ4&Expires=1667"

Function Logs
START RequestId: 2e18e96f-c176-4480-969c-f526b7c41ee0 Version: \$LATEST
END RequestId: 2e18e96f-c176-4480-969c-f526b7c41ee0
REPORT RequestId: 2e18e96f-c176-4480-969c-f526b7c41ee0 Duration: 307.80 ms Billed Duration: 308 ms Memory Size: 128 MB Max Memory Used: 81 MB

Request ID
2e18e96f-c176-4480-969c-f526b7c41ee0

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