

Task 1 – Download/Upload a file from S3 in EC2

S3 Bucket

The screenshot displays the AWS Management Console interface for an S3 upload operation. At the top, a green notification bar states "Upload succeeded" with a link to the "Files and folders table". Below this, the "Upload: status" section shows a warning that information may be lost if the user navigates away. The "Summary" section provides details on the upload: the destination is "s3://hoangtin-s3-bucket-2", 1 file (290.7 KB) was successfully uploaded (100.00%), and there were 0 failed uploads (0%). The "Files and folders" tab is active, showing a table with one entry: "Assignment 3 - S3 specs.pdf" (application/pdf, 290.7 KB) with a status of "Succeeded". The bottom of the image shows a Windows taskbar with various application icons and a system tray indicating the time as 11:45 AM on 7/13/2025.

Upload succeeded
For more information, see the [Files and folders table](#).

Upload: status Close

ⓘ After you navigate away from this page, the following information is no longer available.

Summary

Destination s3://hoangtin-s3-bucket-2	Succeeded ✔ 1 file, 290.7 KB (100.00%)	Failed ⊘ 0 files, 0 B (0%)
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Files and folders | Configuration

Files and folders (1 total, 290.7 KB)

Find by name

Name	Folder	Type	Size	Status	Error
Assignment 3 - S3 specs.pdf	-	application/pdf	290.7 KB	✔ Succeeded	-

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Very humid Now Search 11:45 AM 7/13/2025

Rename file

us-east-1.console.aws.amazon.com/s3/buckets/hoangtin-s3-bucket-2?region=us-east-1&bucketType=general&tab=objects

Amazon S3 > Buckets > hoangtin-s3-bucket-2

hoangtin-s3-bucket-2 Info

Objects | Metadata | 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](#)

Find objects by prefix

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Assignment3.pdf	pdf	July 13, 2025, 11:52:13 (UTC-05:00)	290.7 KB	Standard

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77°F Mostly cloudy

Search

11:52 AM 7/13/2025

EC2

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

EC2 > Instances > Launch an instance

Success

Successfully initiated launch of instance (i-0a6e8e2c64aace467)

► Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

Create billing usage alerts

To manage costs and avoid surprise bills, set up email notifications for billing usage thresholds.

[Create billing alerts](#)

Connect to your instance

Once your instance is running, log into it from your local computer.

[Connect to instance](#)

[Learn more](#)

Connect an RDS database

Configure the connection between an EC2 instance and a database to allow traffic flow between them.

[Connect an RDS database](#)

[Create a new RDS database](#)

[Learn more](#)

Create EBS snapshot policy

Create a policy that automates the creation, retention, and deletion of EBS snapshots

[Create EBS snapshot policy](#)

Manage detailed monitoring

Enable or disable detailed monitoring for the instance.

[Manage detailed monitoring](#)

Create Load Balancer

Create an application, network gateway or classic Load Balancer.

[Create Load Balancer](#)

Create AWS budget

AWS Budgets allows you to create budgets, set alerts, and view spending history.

[Create AWS budget](#)

Manage CloudWatch alarms

Create or update Amazon CloudWatch alarms for your EC2 instances.

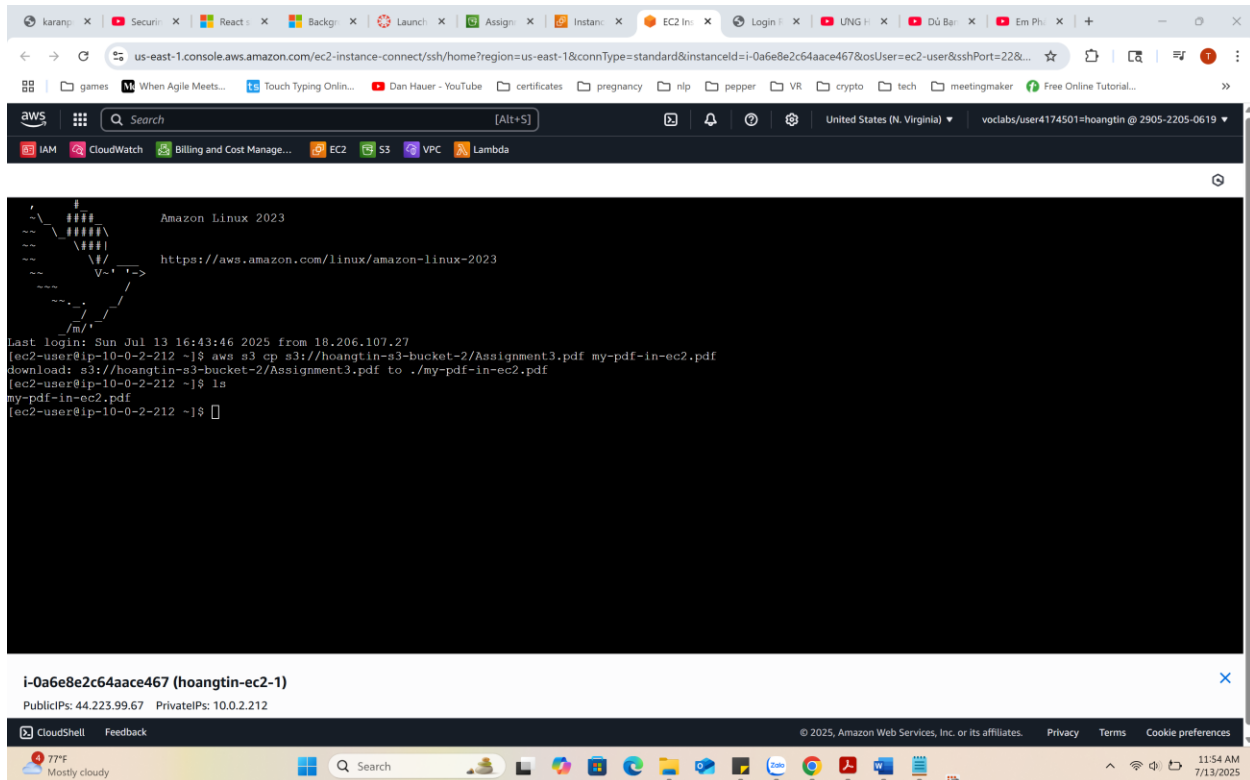
[Manage CloudWatch alarms](#)

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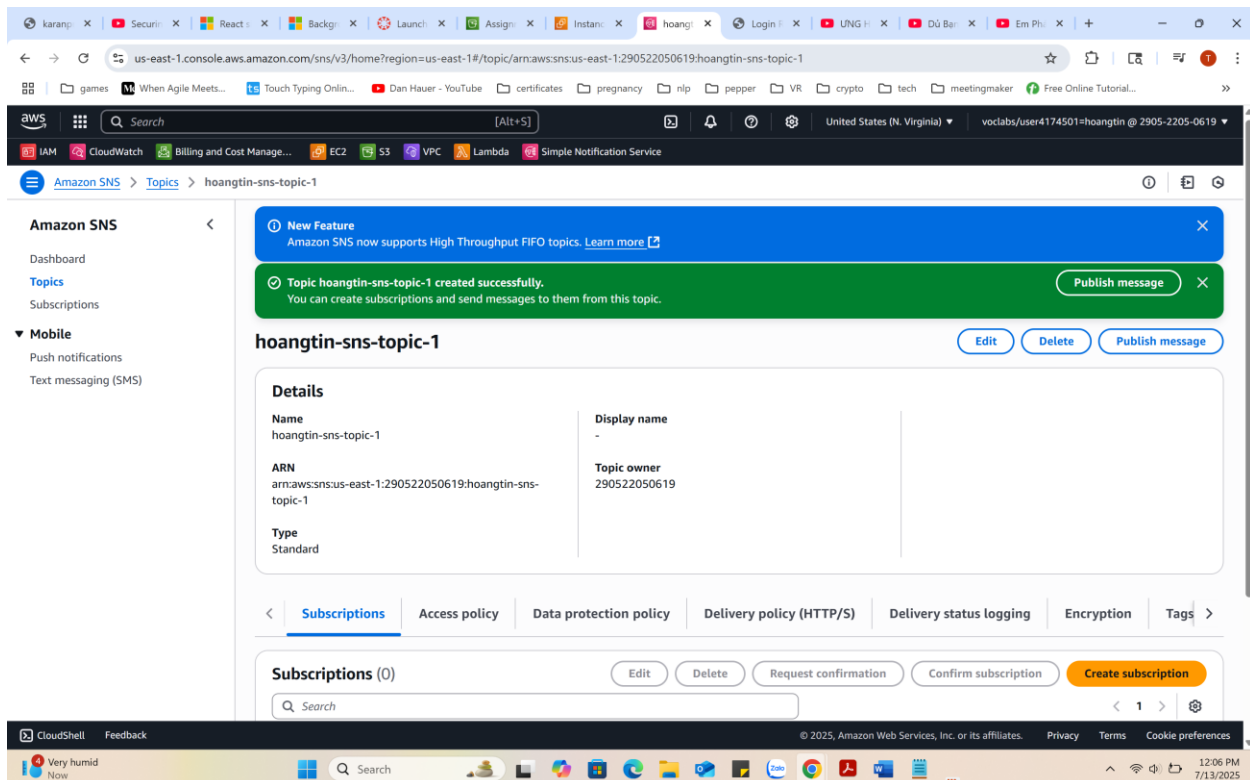
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11:39 AM 7/13/2025



Task 2 – S3 Event Notification

Create a SNS topic



Create a subscription (Email protocol) for the topic

The screenshot shows the Amazon SNS console in a web browser. The URL is `us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/subscription/am:aws:sns:us-east-1:290522050619:hoangtin-sns-topic-1:74aa20d5-d068-4489-9656-747bd7bde44c`. The left sidebar shows the navigation menu with 'Amazon SNS' selected. The main content area displays a 'New Feature' banner, a green success message 'Subscription to hoangtin-sns-topic-1 created successfully. The ARN of the subscription is am:aws:sns:us-east-1:290522050619:hoangtin-sns-topic-1:74aa20d5-d068-4489-9656-747bd7bde44c.', and the details for the subscription 'Subscription: 74aa20d5-d068-4489-9656-747bd7bde44c'. The details include the ARN, Endpoint (hoangtin.nguyen@miu.edu), Topic (hoangtin-sns-topic-1), Subscription Principal (am:aws:iam::290522050619:role/voclabs), Status (Pending confirmation), and Protocol (EMAIL). There are 'Edit' and 'Delete' buttons for the subscription. Below the details, there is a 'Subscription filter policy' section with a 'Redrive policy (dead-letter queue)' link.

Amazon SNS

Dashboard

Topics

Subscriptions

Mobile

Push notifications

Text messaging (SMS)

New Feature
Amazon SNS now supports High Throughput FIFO topics. [Learn more](#)

Subscription to hoangtin-sns-topic-1 created successfully.
The ARN of the subscription is am:aws:sns:us-east-1:290522050619:hoangtin-sns-topic-1:74aa20d5-d068-4489-9656-747bd7bde44c.

Subscription: 74aa20d5-d068-4489-9656-747bd7bde44c

Edit Delete

Details

ARN
am:aws:sns:us-east-1:290522050619:hoangtin-sns-topic-1:74aa20d5-d068-4489-9656-747bd7bde44c

Endpoint
hoangtin.nguyen@miu.edu

Topic
[hoangtin-sns-topic-1](#)

Subscription Principal
am:aws:iam::290522050619:role/voclabs

Status
Pending confirmation

Protocol
EMAIL

Subscription filter policy Redrive policy (dead-letter queue)

Subscription filter policy [Info](#)

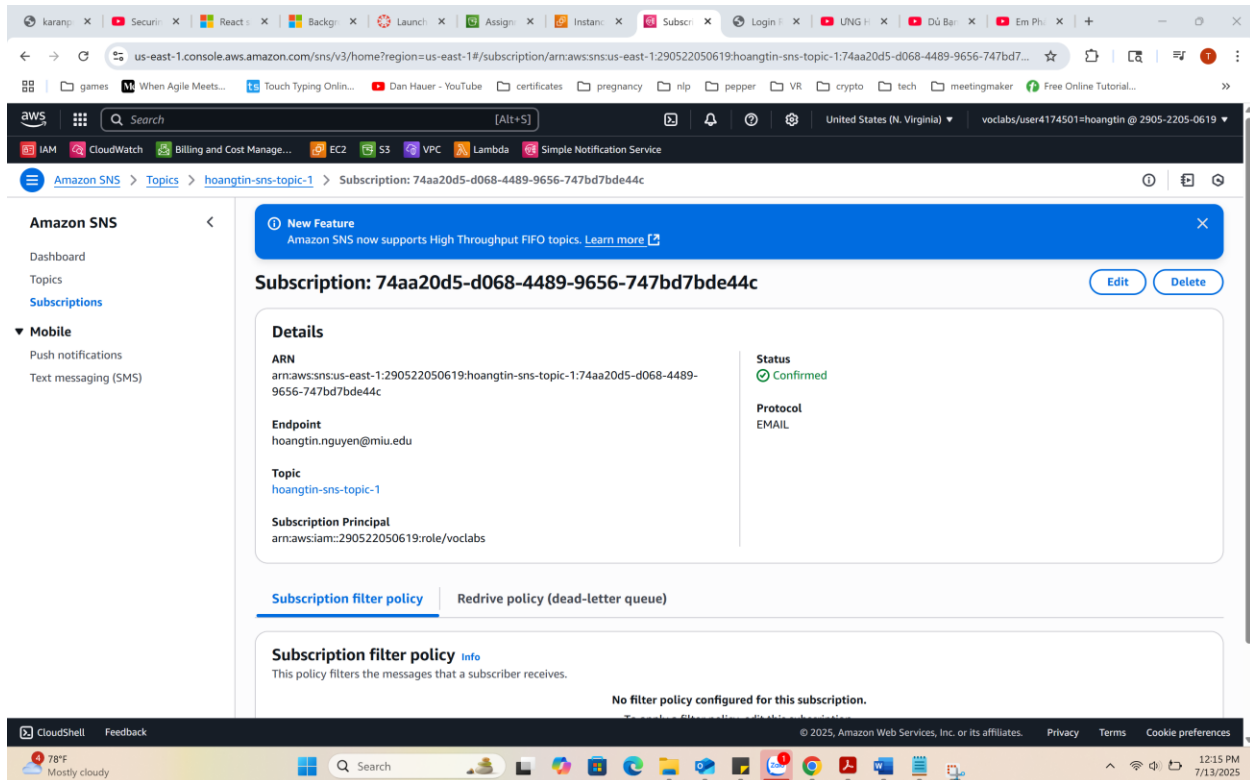
Check email & confirm the subscription

The screenshot shows a web browser displaying the Amazon SNS subscription confirmation page. The URL is `https://sns.us-east-1.amazonaws.com/confirmation.html?TopicArn=arn:aws:sns:us-east-1:290522050619:hoangtin-sns-topic-1&Token=2336412f37fb687f5d51e6e2425a8a58770f1a03c98ab2f510b83...`. The page features the AWS logo and the text 'Simple Notification Service'. A green box contains the message 'Subscription confirmed! You have successfully subscribed. Your subscription's id is: arn:sns:us-east-1:290522050619:hoangtin-sns-topic-1:74aa20d5-d068-4489-9656-747bd7bde44c. If it was not your intention to subscribe, [click here to unsubscribe](#).' The browser's address bar and the Windows taskbar are visible at the top and bottom of the page.

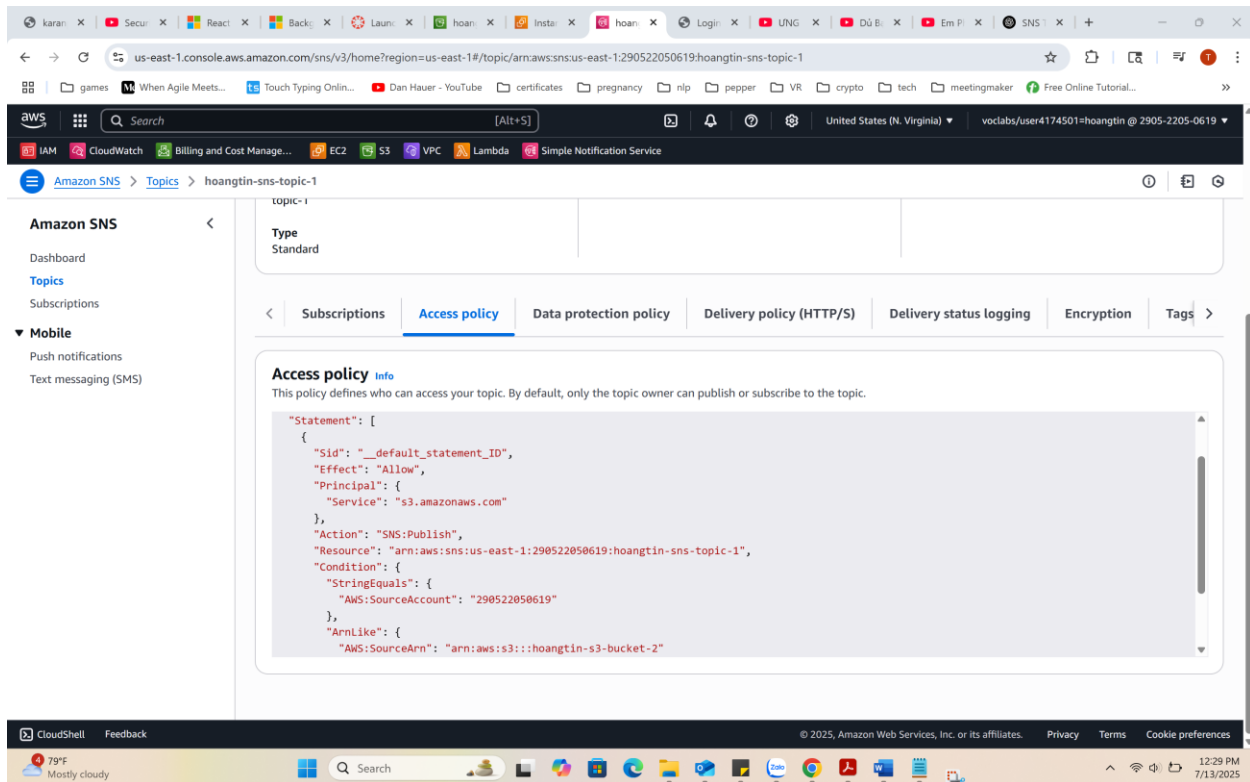
Subscription confirm

aws Simple Notification Service

Subscription confirmed!
You have successfully subscribed.
Your subscription's id is:
arn:sns:us-east-1:290522050619:hoangtin-sns-topic-1:74aa20d5-d068-4489-9656-747bd7bde44c
If it was not your intention to subscribe, [click here to unsubscribe](#).

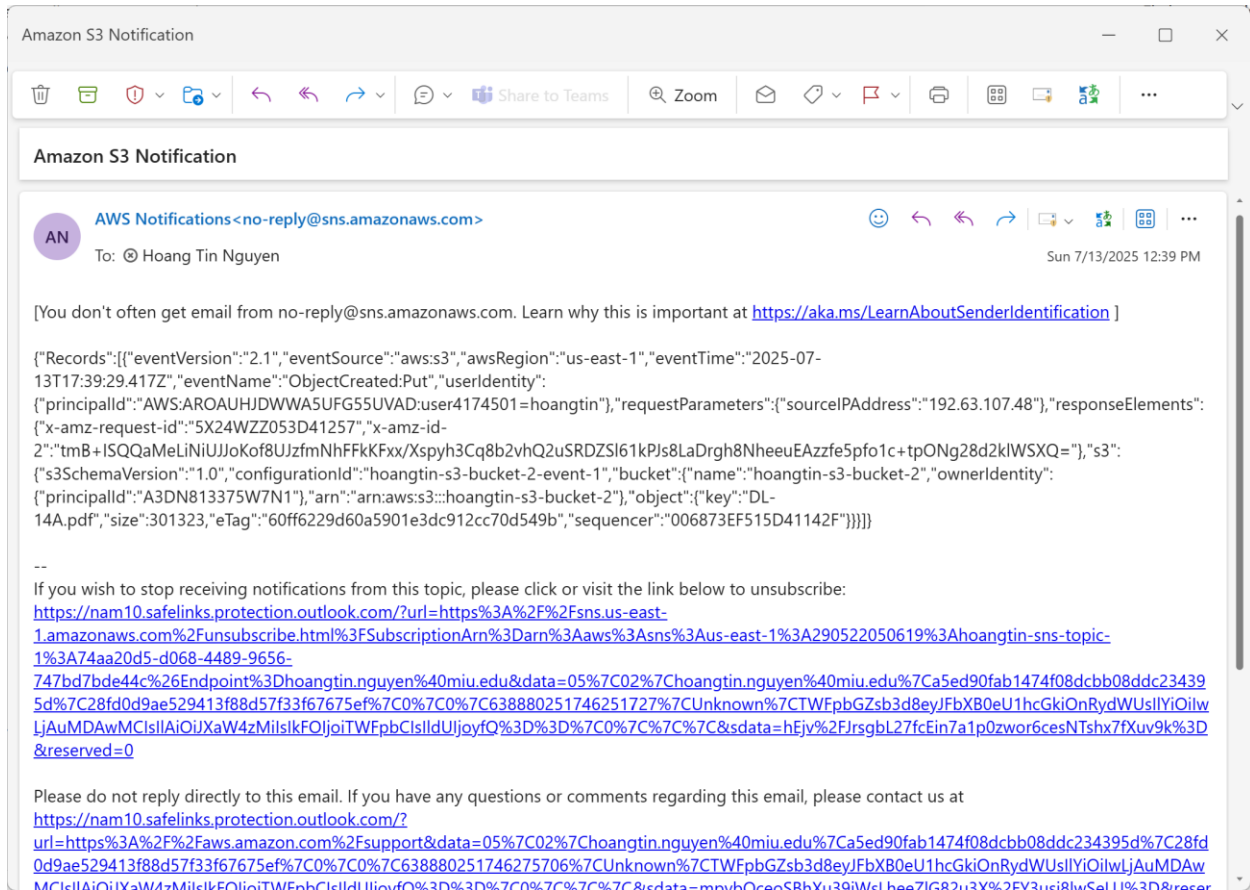


Edit the topic, update the Access Policy



In the S3 bucket, Properties tab, Create event notification.

Upload a new file to S3 bucket, get a notification email.



Task 3 – S3 Signed URL

Create a lambda

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/hoangtin-lambda-func-2?newFunction=true&tab=code

Successfully created the function **hoangtin-lambda-func-2**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

hoangtin-lambda-func-2

Throttle Copy ARN Actions

Export to Infrastructure Composer Download

Function overview Info

Diagram Template

hoangtin-lambda-func-2

Layers (0)

+ Add trigger + Add destination

Description

Last modified 12 seconds ago

Function ARN
arn:aws:lambda:us-east-1:290522050619:function:hoangtin-lambda-func-2

Function URL Info
<https://fj6qcr6atnc6gjn7i6kfi0qsfw.lambda-url-us-east-1.on.aws/>

Code Test Monitor Configuration Aliases Versions

Code source Info Upload from

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Code & deploy

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/hoangtin-lambda-func-2?newFunction=true&tab=code

Successfully created the function **hoangtin-lambda-func-2**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Function URL Info
<https://fj6qcr6atnc6gjn7i6kfi0qsfw.lambda-url-us-east-1.on.aws/>

Code Test Monitor Configuration Aliases Versions

Code source Info Upload from

HOANGTIN-LAMBDA-FUNC-2

index.mjs

```
1 import { S3Client, GetObjectCommand } from "@aws-sdk/client-s3";
2 import { getSignedUrl } from "@aws-sdk/s3-request-presigner";
3
4 const s3 = new S3Client({ region: "us-east-1" });
5
6 export const handler = async (event) => {
7   const params = { Bucket: "hoangtin-s3-bucket-2", Key: "Assignment3.pdf" };
8   const command = new GetObjectCommand(params);
9   const url = await getSignedUrl(s3, command, { expiresIn: 3600 });
10  return url;
11};
```

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Flood watch In effect 12:51 PM 7/13/2025

Test, create a test event

karar... Security... React... Backgr... Launch... hoangi... hoangi... Login f... Em Phi... SNS To... As... +

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hoangtin-s3-... / Assignment3

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Assignment 3 – S3

Updated demo recording: [S3S_EC2_S3.mp4](#)

ACCEPTANCE CRITERIA – Include the following in the PDF:

- Upload/download success in the EC2 terminal.
- SNS topic policy, the new event notification in the S3 bucket, and the email.
- Presigned URL generated by the lambda.

The goal of assignment 3: Practice some S3 features.

1. The first task is connecting an EC2 server with an S3 bucket that allows upload and download between S3 and EC2. Once you have that setup, any app on the EC2 can access S3. Another main thing in this task is to understand the usage of IAM. You always have to write IAM policies to integrate two distinct services in AWS. In the AWS Academy account, you just associate all services with the LabRole that already has preconfigured policies in place. If you do it in a regular AWS account, you must define the policy.
2. Task 2 offers insight into the workings of modern event-driven applications. What it does is, when you upload an object, that triggers a new-object-created event and sends that event to SNS (you used SNS in lab 2). Then SNS captures the event and sends you an email. Notice, that it is all event-driven.
3. A signed URL is the most commonly used S3 feature in practice. It facilitates the temporary downloading and uploading of files for a specified duration, addressing the requirements of the majority of real-world applications.

Task 1 – Download/Upload a file from S3 in EC2

- a. Create an S3 bucket and put a file in it.
- b. Go to the EC2 console. Create an EC2 instance. While launching, expand the "Advanced details" and select the LabInstanceProfile (it is the LabRole). Or in a regular AWS account, create an IAM role for the EC2 with S3 permissions.

Advanced details

Instance profile: [LabInstanceProfile](#)

Subnet: [subnet-01234567](#)

Key pair: [key-pair-01234567](#)

Launch template: [Launch template-01234567](#)

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