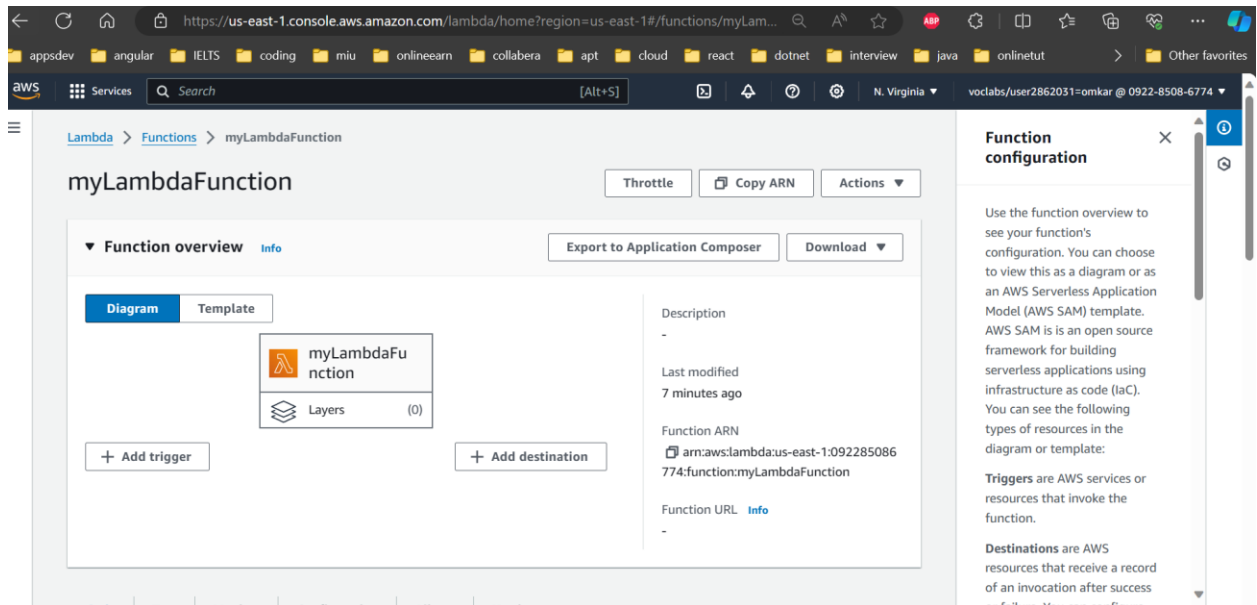


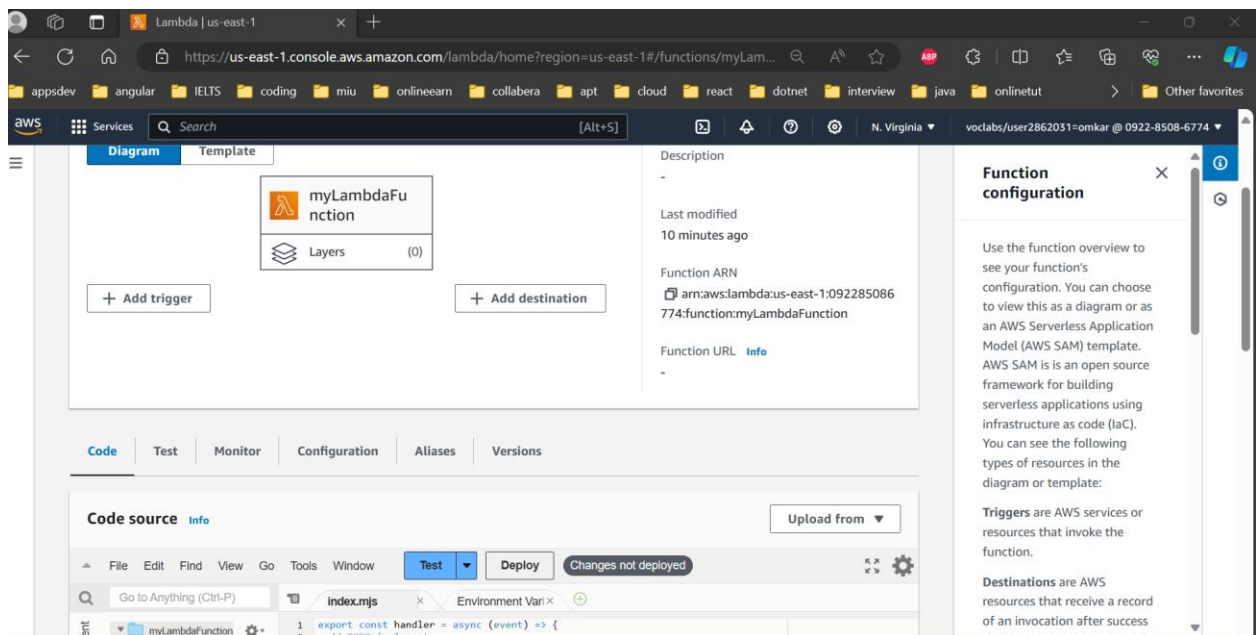
Lab7

Task 1: Practice version, alias, and weighted (canary) deployment

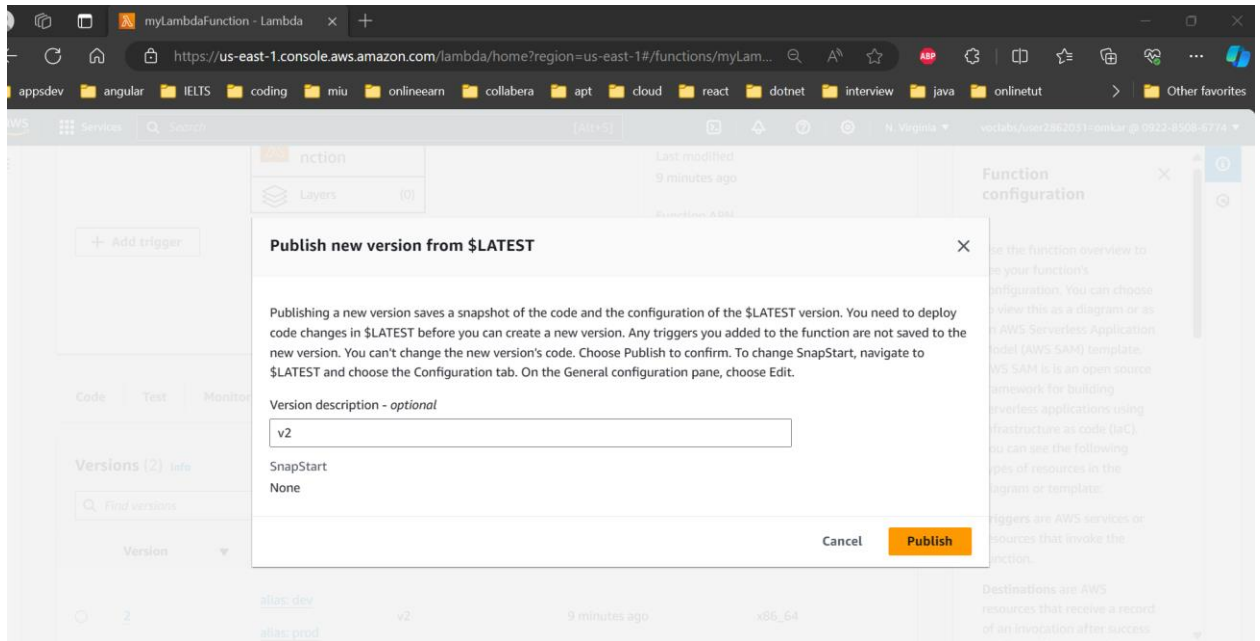
Step1: Create Lambda function



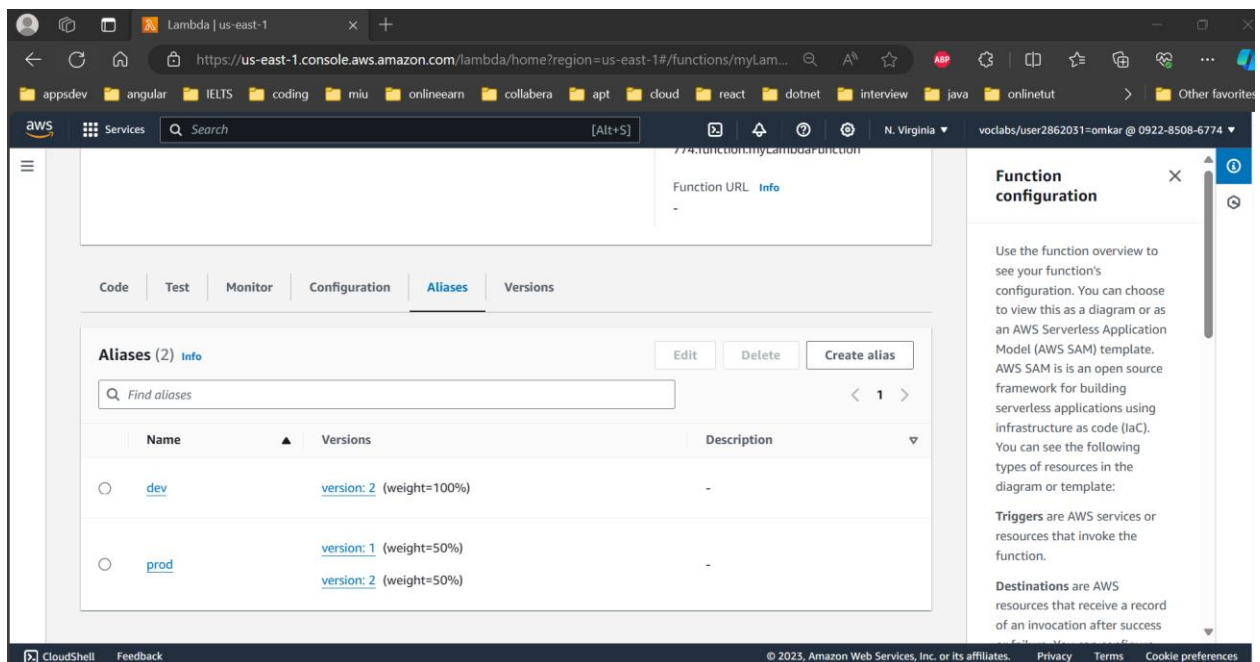
Step 2. Write the code and deploy.



Step 3: After that publish the version



Step 4: create Aliases(Dev and Prod) and assigned the weightage to the version.



Step5: Test with event, we can see version 1 and version 2 based on weightage assigned.

The screenshot shows the AWS Lambda console for a function named 'myLambdaFunction'. The 'Details' tab is selected, displaying the execution log and summary for the last 4 KB of the execution log. The log shows a successful execution with a status code of 200 and a body of '\Lambda Function\''.

Summary

Code SHA-256	Execution time
2xUFWwQ6aGdPp4TaYLAavCtq1dXGRXINUX9+wQsOSO4=	1 second ago (December 21, 2023 at 12:02 PM PST)

Request ID	Function version
55633f6a-5241-4d9a-9e87-4ec8bb74a8ee	1

Init duration	Duration
163.71 ms	35.40 ms

Billed duration	Resources configured
36 ms	128 MB

Max memory used
63 MB

Test your function

You must deploy code changes before you can test them.

An event is an input to your Lambda function. You can create up to 10 test events per function. Saved events are stored in Lambda and are preserved if you switch browsers or machines. Unsaved events are available when switching to **Code**, but will be lost if the session ends. If your function doesn't require input, the event can be an empty document (`{}`).

When you run a test event in the console, Lambda synchronously invokes your function with the test event. The function runtime converts the JSON document into the appropriate environment.

The screenshot shows the AWS Lambda console for the same function 'myLambdaFunction'. The 'Details' tab is selected, displaying the execution log and summary for the last 4 KB of the execution log. The log shows a successful execution with a status code of 200 and a body of '\Lambda Function Version 2\''.

Summary

Code SHA-256	Execution time
2xUFWwQ6aGdPp4TaYLAavCtq1dXGRXINUX9+wQsOSO4=	40 seconds ago (December 21, 2023 at 12:02 PM PST)

Request ID	Function version
3e78d637-5d82-4f2a-a24c-02362a903ca1	2

Init duration	Duration
136.27 ms	26.83 ms

Billed duration	Resources configured
27 ms	128 MB

Max memory used
63 MB

Test your function

You must deploy code changes before you can test them.

An event is an input to your Lambda function. You can create up to 10 test events per function. Saved events are stored in Lambda and are preserved if you switch browsers or machines. Unsaved events are available when switching to **Code**, but will be lost if the session ends. If your function doesn't require input, the event can be an empty document (`{}`).

When you run a test event in the console, Lambda synchronously invokes your function with the test event. The function runtime converts the JSON document into the appropriate environment.

Task 1: Create a DynamoDB table, Lambda, and implement the Save functionality

Step1: create dynamo db

Create table | Amazon DynamoDB

us-east-1.console.aws.amazon.com/dynamodbv2/home?region=us-east-1#create-table

Services Search [Alt+S]

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DynamoDB is a schemaless database that requires only a table name and a primary key when you create the table.

Table name
This will be used to identify your table.

Between 3 and 255 characters, containing only letters, numbers, underscores (_), hyphens (-), and periods (.).

Partition key
The partition key is part of the table's primary key. It is a hash value that is used to retrieve items from your table and allocate data across hosts for scalability and availability.
 String
1 to 255 characters and case sensitive.

Sort key - optional
You can use a sort key as the second part of a table's primary key. The sort key allows you to sort or search among all items sharing the same partition key.
 String
1 to 255 characters and case sensitive.

Table settings

Step2: Create Lambda function:

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions

Services Search [Alt+S]

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AWS Lambda

Dashboard
Applications
Functions

▼ Additional resources
Code signing configurations
Layers
Replicas

▼ Related AWS resources
Step Functions state machines

Functions (0) Last fetched 1 second ago Actions

<input type="checkbox"/>	Function name	Description	Package type	Runtime	Last modified
There is no data to display.					

Step2: Create IAM role from personal Account. Select the AmazonDynamoDbFullAccess and AmazonLambdaExecutionRule

Step 2

Add permissions

Step 3

Name, review, and create

Trusted entity type

☒ **AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.

☐ **AWS account**
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

☐ **Web identity**
Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

☐ **SAML 2.0 federation**
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

☐ **Custom trust policy**
Create a custom trust policy to enable others to perform actions in this account.

Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case
Lambda

Choose a use case for the specified service.

Use case

☒ **Lambda**
Allows Lambda functions to call AWS services on your behalf.

Cancel

Next

Step 1

[Select trusted entity](#)

Step 2

Add permissions

Step 3

Name, review, and create

Add permissions Info

Permissions policies (2/904) Info

Choose one or more policies to attach to your new role.

Filter by Type
dy All types 4 matches

<input checked="" type="checkbox"/>	Policy name	Type	Description
<input checked="" type="checkbox"/>	AmazonDynamoDBFullAccess	AWS managed	Provides full access to Amazon DynamoD...
<input type="checkbox"/>	AmazonDynamoDBReadOnlyAccess	AWS managed	Provides read only access to Amazon Dyn...
<input type="checkbox"/>	AWSLambdaDynamoDBExecutionRole	AWS managed	Provides list and read access to DynamoD...
<input type="checkbox"/>	AWSLambdaInvocation-DynamoDB	AWS managed	Provides read access to DynamoDB Streams.

Set permissions boundary - optional

Cancel

Previous

Next

us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/roles/create?selectedUseCase=Lambda&trustedEntityType=AWS_SERVICE...

aws Services Search [Alt+S]

iam > Roles > Create role

Step 1
[Select trusted entity](#)

Step 2
[Add permissions](#)

Step 3
Name, review, and create

Name, review, and create

Role details

Role name
Enter a meaningful name to identify this role.

Maximum 64 characters. Use alphanumeric and "+, @, _" characters.

Description
Add a short explanation for this role.

Maximum 1000 characters. Use alphanumeric and "+, @, _" characters.

Step 1: Select trusted entities Edit

Trust policy

```
1 {  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Effect": "Allow",  
6       "Action": [  
7         "sts:AssumeRole"  
8     ]  
9   ]  
10 }
```

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/create/function

aws Services Search [Alt+S]

Permissions info

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ Change default execution role

Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☐ Create a new role with basic Lambda permissions

☒ Use an existing role

☐ Create a new role from AWS policy templates

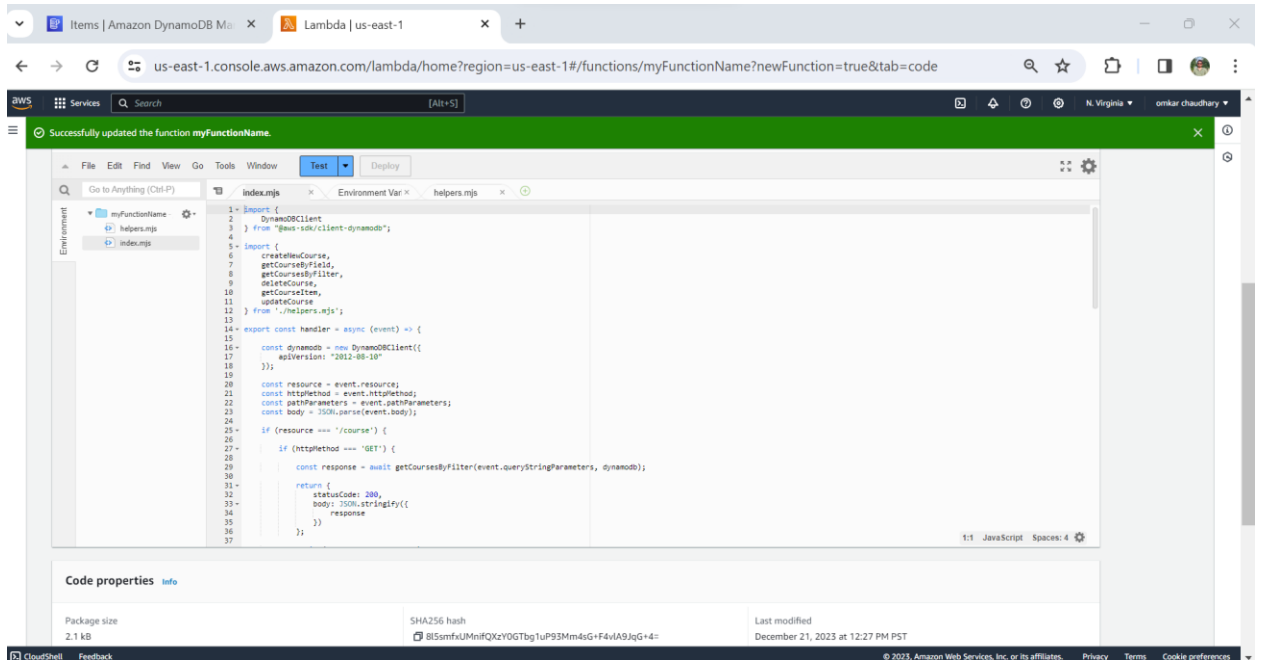
Existing role
Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

[View the crudeAPIRole role](#) on the IAM console.

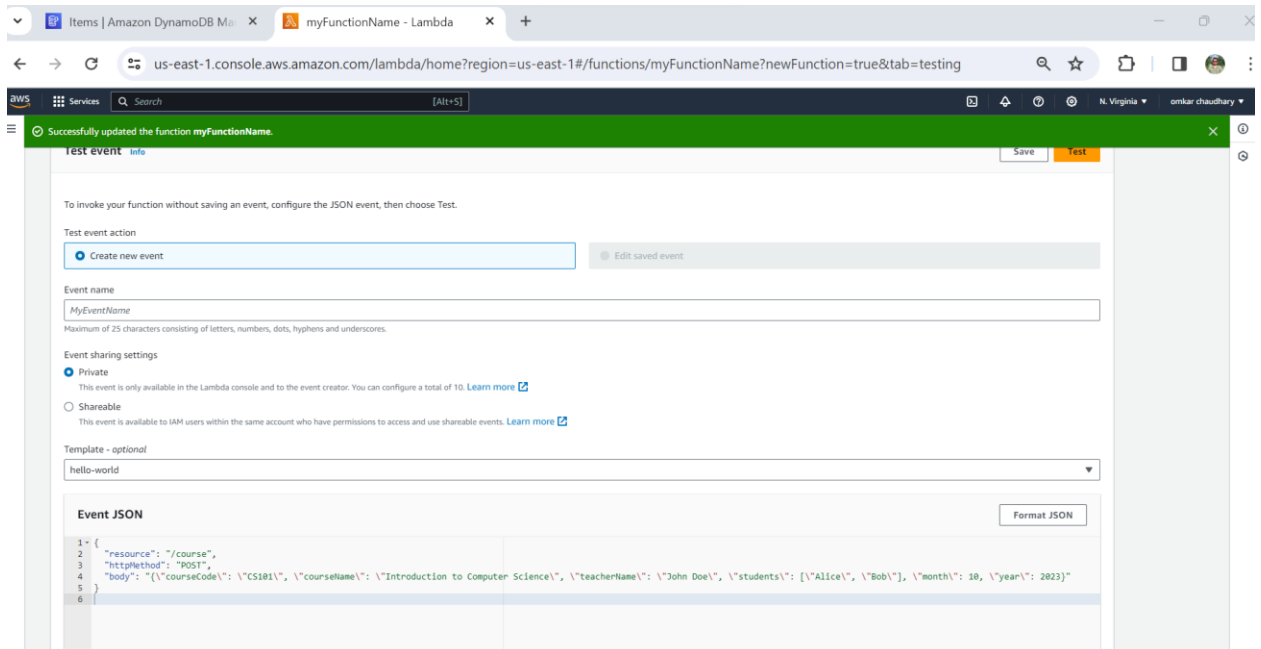
► Advanced settings

Cancel Create function

Step3: Copy the code(provide by professor or write your own) in the code tab.



Step 4: Test Lambda function to Save Course.



Step 5: Verify DynamoDb table.

us-east-1.console.aws.amazon.com/dynamodbv2/home?region=us-east-1#item-explorer?maximize=true&operation=SCAN&table=CourseTable

aws Services Search [Alt+S] N. Virginia omkar.chaudhary

DynamoDB

- Dashboard
- Tables
 - Update settings
 - Explore items**
- PartiQL editor
- Backups
- Exports to S3
- Imports from S3
- Integrations **New**
- Reserved capacity
- Settings

▼ DAX

Clusters

Table - CourseTable All attributes

► Filters

Run Reset

✔ Completed. Read capacity units consumed: 0.5

Items returned (1) Actions Create item

< 1 > ⚙

<input type="checkbox"/>	courseCode (String)	teacherName (String)	courseNa...	month	student
<input type="checkbox"/>	CS101	John Doe	Introduction...	10	{ "Alice",

Task 2: Implement the rest of the CRUD operations

Update:

Items | Amazon DynamoDB Ma

myFunctionName - Lambda

+

← → ↺

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

☆

aws

Services

Search

[Alt+S]

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☰

✔ Successfully updated the function **myFunctionName**.

To invoke your function without saving an event, configure the JSON event, then choose Test.

Test event action

☒ Create new event

☐ Edit saved event

Event name

MyEventName

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

Event sharing settings

☒ Private

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

☐ Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

Template - optional

hello-world

Event JSON

Format JSON

```
1 {
2   "resource": "/course",
3   "httpMethod": "PATCH",
4   "body": "{\"courseCode\": \"CS101\", \"teacherName\": \"John Doe\", \"courseName\": \"CC\", \"students\": [\"Alice\", \"Bob\", \"C
5 }
6
7
```

Delete:

Items | Amazon DynamoDB Ma | myFunctionName - Lambda

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

aws Services Search [Alt+S] N. Virginia omkar chaudh

Code Test Monitor Configuration Aliases Versions

Executing function: succeeded (logs)

Details

Test event Info

Save Test

To invoke your function without saving an event, configure the JSON event, then choose Test.

Test event action

Create new event Edit saved event

Event name

MyEventName

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

Event sharing settings

Private

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. Learn more

Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. Learn more

Template - optional

hello-world

Event JSON

Format JSON

```
1 {
2   "resource": "/course",
3   "httpMethod": "DELETE",
4   "body": "{\"courseCode\": \"CS103\", \"teacherName\": \"John Doe\"}"
5 }
```

GET:

Items | Amazon DynamoDB Mail | myFunctionName - Lambda

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

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Executing function: succeeded (logs)

Details

The area below shows the last 4 KB of the execution log.

```
{
  "statusCode": 200,
  "body": "{\\\"response\\\":{\\\"$metadata\\\":{\\\"httpStatusCode\\\":200,\\\"requestId\\\":\\\"EPFPI99PIN2AGFLNP2QTCLGN403VV4KQNS05AEWJF66Q9ASUAAJG\\\",\\\"attempts\\\":1,\\\"totalRetryDelay\\\":0},\\\"Item\\\":{\\\"month\\\":{\\\"N\\\":\\\"11\\\"},\\\"teacherName\\\":{\\\"S\\\":\\\"John Doe\\\"},\\\"year\\\":{\\\"N\\\":\\\"2023\\\"},\\\"courseCode\\\":{\\\"S\\\":\\\"CS101\\\"},\\\"courseName\\\":{\\\"S\\\":\\\"CC\\\"},\\\"students\\\":{\\\"SS\\\":{\\\"A\\\":\\\"Alice\\\",\\\"Bob\\\",\\\"Charlie\\\"}}}}}"
}
```

Summary

Code SHA-256 8l5smfxUMnifQXzYOGTbg1uP93Mm4sG+F4vIA9JqG+4=	Execution time 1 minute ago (December 21, 2023 at 01:50 PM PST)
Request ID 55c387a6-f00d-4ba8-a1fb-6e75e5b3b670	Function version \$LATEST
Init duration 556.38 ms	Duration 1769.25 ms
Billed duration 1770 ms	Resources configured 128 MB
Max memory used 102 MB	

Log output

The section below shows the logging calls in your code. [Click here](#) to view the corresponding CloudWatch log group.

```
START RequestId: 55c387a6-f00d-4ba8-a1fb-6e75e5b3b670 Version: $LATEST
END RequestId: 55c387a6-f00d-4ba8-a1fb-6e75e5b3b670
REPORT RequestId: 55c387a6-f00d-4ba8-a1fb-6e75e5b3b670  Duration: 1769.25 ms    Billed Duration: 1770 ms    Memory Size: 128 MB    Max Memory Used: 102 MB    Init Duration: 556.38 ms
```

Event sharing settings

Private

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

Template - optional

hello-world

Event JSON

Format JSON

```
1 {
2   "resource": "/course/item",
3   "httpMethod": "GET",
4   "body": "{\\\"courseCode\\\": \\\"CS101\\\", \\\"teacherName\\\": \\\"John Doe\\\", \\\"courseName\\\": \\\"Updated Course Name\\\", \\\"students\\\": [\\\"Alice\\\", \\\"Bob\\\", \\\"Charlie\\\"]}"
5   "queryStringParameters": {\\\"courseCode\\\": \"CS101\", \"teacherName\": \"John Doe\"}
6 }
```