

Task 0. Practice version, alias, and weighted (canary) deployment

The screenshot shows the AWS Lambda console interface. A green success message at the top states "Successfully created version 1 of function MyLambdaFunction." Below this, the "Version: 1" page is displayed. The "Function overview" section shows a diagram of the function, which consists of a single layer named "MyLambdaFunction:1". The "Configuration" tab is selected, showing the "Destinations" section. A "Find destinations" search bar is present. On the right side of the configuration panel, there is a sidebar titled "Create a simple web app" with a "Start tutorial" button.

The screenshot shows the AWS Lambda console interface. A green success message at the top states "The test event test was successfully saved." Below this, the "Code" tab is selected in the main navigation bar. The "Code source (preview)" section contains a note: "You can only edit your function code or upload a new .zip or .jar file from the unpublished function page." To the right of this note is a "Update code" button. Below this, the "Test" tab is selected in the sub-navigation bar. The "Execution results" section shows a successful test event named "test" with the response: {"statusCode": 200, "body": "Version 1"}. The "Function Logs" section displays log entries for the request, including RequestId, Start RequestId, End RequestId, REPORT RequestId, Duration, Billed Duration, Memory Size, and Request ID. The bottom of the screen shows the URL "https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/MyLambdaFunction/versions/1?tab=code" and the standard AWS footer with links for Privacy, Terms, and Cookie preferences.

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Version: 2 (MyLambdaFunction) +

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/MyLambdaFunction/versions/2?tab=code

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AWS Services Search [Option+S]

Successfully created version 2 of function MyLambdaFunction.

Lambda > Functions > MyLambdaFunction > Version: 2

Version: 2

Function overview Info

Diagram Template

MyLambdaFunction:2

Layers (0)

+ Add trigger + Add destination

Description

Last modified 22 seconds ago

Function ARN arn:aws:lambda:us-east-1:851725257835:function:MyLambdaFunction:2

Export to Application Composer Download

Code Test Monitor Configuration

Code source (preview) Info

You can only edit your function code or upload a new .zip or .jar file from the unpublished function page.

Upload from Update code

CloudShell Feedback

Mon Apr 22 2:00PM

Learn how to implement common use cases in AWS Lambda.

Create a simple web app

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

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MyLambdaFunction - Lambda + aws white papers canary dep... Canary deployment - Intro... +

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

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AWS Services Search [Option+S]

MyLambdaFunction

Layers (0)

+ Add trigger + Add destination

Description

Last modified 8 minutes ago

Function ARN arn:aws:lambda:us-east-1:851725257835:function:MyLambdaFunction

Function URL Info

Code Test Monitor Configuration Aliases Versions

Aliases (2) Info

Find aliases

Edit Delete Create alias

Name	Versions	Description
dev	version: 2 (weight=100%)	-
prod	version: 1 (weight=50%) version: 2 (weight=50%)	-

Mon Apr 22 2:08PM

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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/MyLambdaFunction?tab=aliases

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MyLambdaFunction - Lambda | aws white papers canary dep... | Canary deployment - Intro... | +

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

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AWS Services Search [Option+S]

Diagram Template MyLambdaFunction Layers (0) + Add trigger + Add destination

Description
Last modified 8 minutes ago

Function ARN arn:aws:lambda:us-east-1:851725257835:function:MyLambdaFunction

Function URL Info

Code Test Monitor Configuration Aliases Versions

Versions (2) Info Delete Publish new version

Find versions < 1 >

Version	Aliases	Description	Last modified	Architecture
2	alias: dev alias: prod	-	8 minutes ago	x86_64
1	alias: prod	-	10 minutes ago	x86_64

Create a simple web app

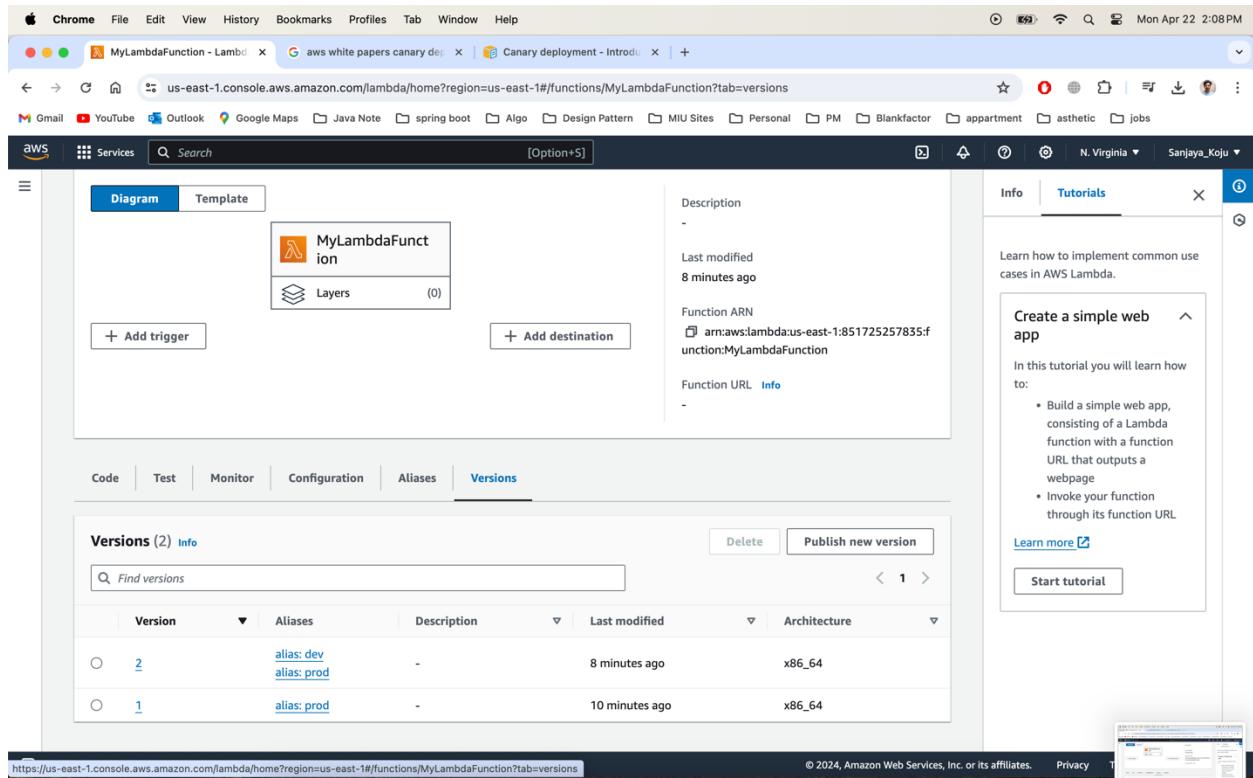
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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/MyLambdaFunction?tab=versions

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

The screenshot shows the 'Create table' wizard in the AWS DynamoDB console. The 'Table details' step is active, showing fields for 'Table name' (set to 'courseTable'), 'Partition key' (set to 'courseCode' of type 'String'), and 'Sort key - optional' (set to 'teacherName' of type 'String'). The 'Table settings' step is partially visible below.

The screenshot shows the 'Specify permissions' step of the IAM policy creation wizard. It displays a 'Policy editor' interface with a 'DynamoDB' section containing 5 actions. Under 'Actions allowed', there is a search bar and a list of actions including 'List (6)', 'Read (Selected 3/27)', and 'All read actions'. The 'Effect' dropdown is set to 'Allow'. Buttons for 'Visual', 'JSON', 'Actions', and other controls are visible at the top right of the editor.

CloudShell Feedback

Mon Apr 22 2:32PM

List tables | Amazon Dynamo | Create policy | IAM | Global | aws white papers canary de... | Canary deployment - Intro... | +

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Services Search [Option+S] Global Sanjaya_Koju ▾

DescribeTable Info
GetItem Info
GetShardIterator Info
PartiQLSelect Info
DescribeTableReplicaAutoScaling Info
GetRecords Info
ListStreams Info
Query Info
DescribeTimeToLive Info
GetResourcePolicy Info
ListTagsOfResource Info
Scan Info

Write (Selected 2/32)

All write actions

BatchWriteItem Info
CreateTable Info
DeleteItem Info
DisableKinesisStreamingDestination Info
ImportTable Info
PartiQLUpdate Info
RestoreTableFromAwsBackup Info
StartAwsBackupJob Info
UpdateGlobalTable Info
UpdateItem Info
UpdateTableReplicaAutoScaling Info
CreateBackup Info
CreateTableReplica Info
DeleteTable Info
EnableKinesisStreamingDestination Info
PartiQLDelete Info
PurchaseReservedCapacityOfferings Info
RestoreTableFromBackup Info
UpdateContinuousBackups Info
UpdateGlobalTableSettings Info
UpdateKinesisStreamingDestination Info
UpdateTimeToLive Info
CreateGlobalTable Info
DeleteBackup Info
DeleteTableReplica Info
ExportTableToPointInTime Info
PartiQLInsert Info
PutItem Info
RestoreTableToPointInTime Info
UpdateContributorInsights Info
UpdateGlobalTableVersion Info
UpdateTable Info

▶ Permissions management (2)

▶ Tagging (2)

The screenshot shows the AWS Lambda console with the URL <https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/courseLambda?newFunction=true&tab=code>. The main area displays the 'Configure test event' dialog. The dialog includes a description of what a test event is, instructions to invoke the function without saving an event, and a 'Test event action' section with a 'Create new event' button (which is highlighted with a blue border) and an 'Edit saved event' button. Below this, there's an 'Event name' input field containing 'test', a note about character limits, and 'Event sharing settings' with 'Private' selected. A note states that this is only available in the Lambda console and the event creator, with a link to learn more. There's also a 'Shareable' option. Further down, there's a 'Template - optional' dropdown set to 'apigateway-aws-proxy'. At the bottom, there's an 'Event JSON' section with a code editor containing the following JSON:

```
1 ~ [{}]
2 "body": "eyJ0ZXN0IjoiYm9keSJ9",
3 "resource": "/{proxy+}"
```

With 'Format JSON' and 'Cancel', 'Invoke', and 'Save' buttons at the bottom.

Chrome File Edit View History Bookmarks Profiles Tab Window Help

View table | Amazon Dynamo courseLambda - Lambda Create role | IAM | Global

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

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AWS Services Search [Option+S]

IAM Roles Create role

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 Name, review, and create

Select trusted entity Info

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

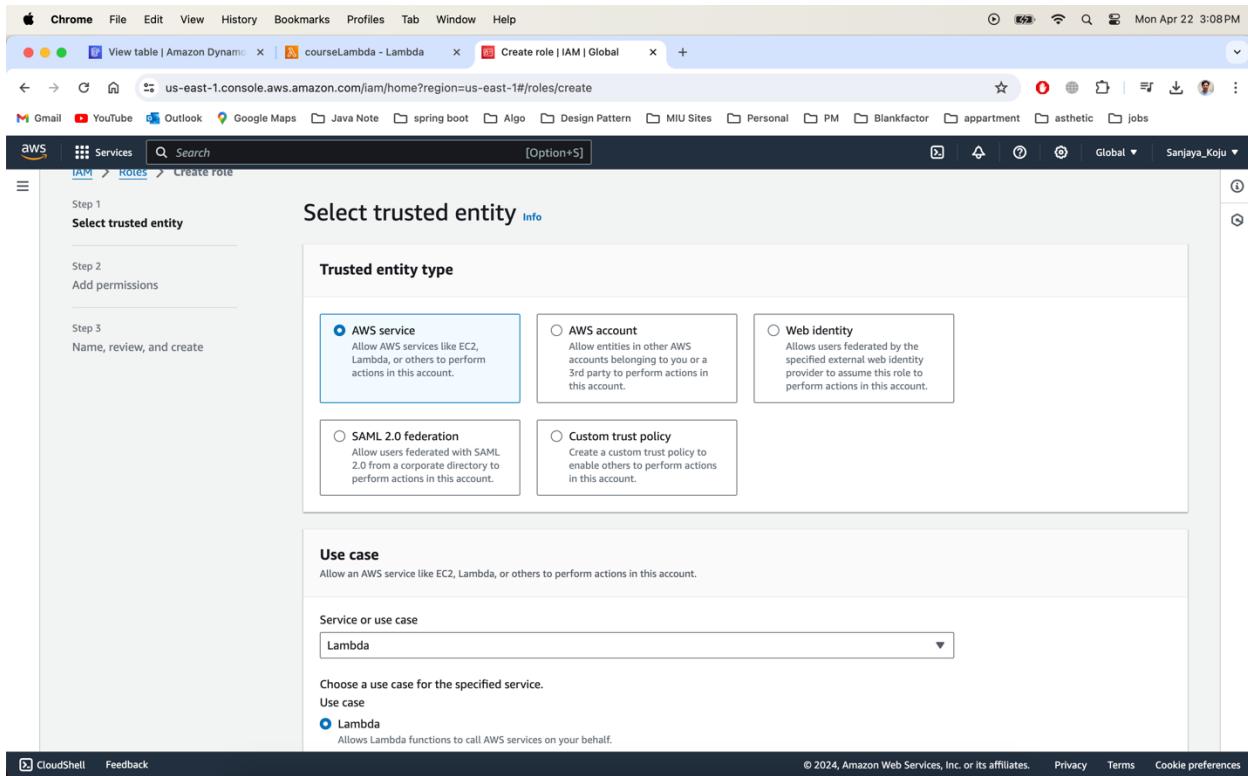
Choose a use case for the specified service.

Use case

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

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View table | Amazon Dynamo courseLambda - Lambda Roles | IAM | Global

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

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AWS Services Search [Option+S]

The test event test was successfully saved.

Code Test Monitor Configuration Aliases Versions

Code source Info

Upload from

File Edit Find View Go Tools Window

Test Deploy

index.js Environment

Execution results

Test Event Name test

Response

```
{ "statusCode": 200, "body": "\u201cAn Item is Saved.\u201d" }
```

Function Logs

```
START RequestId: b2edf969-e3cf-43c5-b54a-432335aacfb3 Version: $LATEST
2024-04-22T20:10:56.717Z b2edf969-e3cf-43c5-b54a-432335aacfb3 INFO Request received: {"body": "eyJ0ZXN0Ijoi
END RequestId: b2edf969-e3cf-43c5-b54a-432335aacfb3
REPORT RequestId: b2edf969-e3cf-43c5-b54a-432335aacfb3 Duration: 790.36 ms Billed Duration: 791 ms Memory Size: 1
Request ID
b2edf969-e3cf-43c5-b54a-432335aacfb3
```

Info Tutorials

Learn how to implement common use cases in AWS Lambda.

Create a simple web app

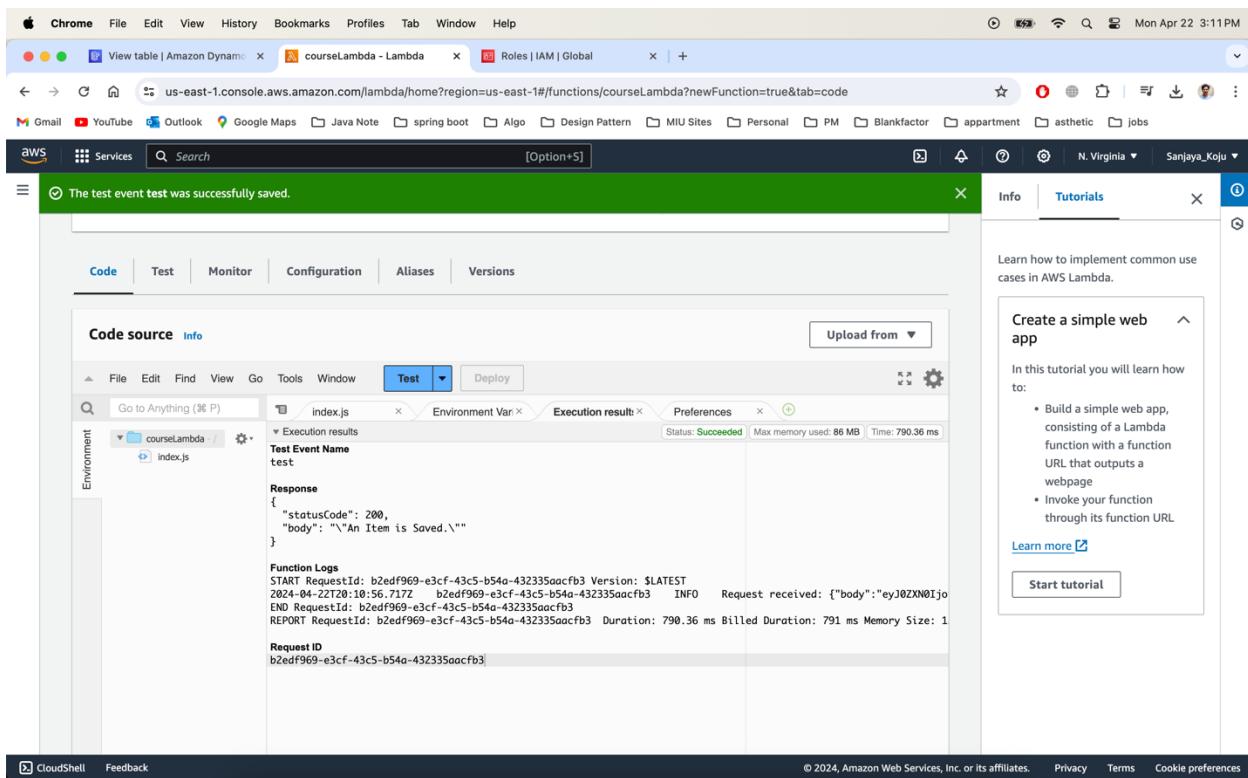
In this tutorial you will learn how to:

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View table | Amazon DynamoDB courseLambda - Lambda Roles | IAM | Global Items | Amazon DynamoDB

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

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aws Services Search [Option+S] Autopreview View table details N. Virginia Sanjaya_Koju

DynamoDB

Dashboard Tables **Explore items** PartQL editor Backups Exports to S3 Imports from S3 Integrations Reserved capacity Settings

DAX Clusters Subnet groups Parameter groups Events

courseTable

Scan or query items

Scan Query

Select a table or index Table - courseTable Select attribute projection All attributes

Filters

Run Reset

Completed. Read capacity units consumed: 0.5

Items returned (1)

courseCode (String)	teacherName (String)	courseNa...	month	students	year
CS516	Unubold	Cloud Comp...	7	{"Dina", "Sa...	2024

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courseCode (String)	teacherName (String)	courseNa...	month	students	year
CS516	Unubold	Cloud Comp...	7	{"Dina", "Sa..."}	2024

Task 2 – Implement the rest of the CRUD operations

The screenshot shows the AWS Lambda console with the 'courseLambda - Lambda' function selected. A modal window titled 'Configure test event' is open. In the 'Test event action' section, 'Edit saved event' is selected. The 'Event name' is set to 'getTest'. The 'Event JSON' field contains the following code:

```
1- {
2-   "resource": "/course",
3-   "httpMethod": "DELETE",
4-   "body": "{\"courseCode\": \"CS516\", \"teacherName\": \"Unbold\"}"
5 }
```

At the bottom right of the modal are 'Cancel', 'Invoke', and 'Save' buttons.

The screenshot shows the AWS Lambda console with the 'courseLambda - Lambda' function selected. A modal window titled 'Execution result' is open, showing the results of a test event named 'getTest'. The response body is:

```
{
  "statusCode": 200,
  "body": "{\"response\":{\"$metadata\":{\"httpStatusCode\":200,\"requestId\":\"BA2MFH852481NGA6H13FT2VN13VV4KQNS0\"}}
}
```

The 'Function Logs' section shows the following log entries:

```
START RequestId: 98931a3b-23ee-4aab-8c63-bbf1bbc9da56 Version: $LATEST
2024-04-22T21:34:45.398Z 98931a3b-23ee-4aab-8c63-bbf1bbc9da56 INFO Event: [object Object]
END RequestId: 98931a3b-23ee-4aab-8c63-bbf1bbc9da56
REPORT RequestId: 98931a3b-23ee-4aab-8c63-bbf1bbc9da56 Duration: 1125.11 ms Billed Duration: 1126 ms Memory
```

At the bottom right of the modal are 'Cancel', 'Invoke', and 'Save' buttons. The background shows the AWS Lambda service dashboard with other functions listed.

Chrome File Edit View History Bookmarks Profiles Tab Window Help

View table | Amazon DynamoDB courseLambda - Lambda Items | Amazon DynamoDB Facebook ChatGPT

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

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aws Services Search [Option+S] Autopreview View table details

DynamoDB

Dashboard Tables Explore items PartQL editor Backups Exports to S3 Imports from S3 Integrations Reserved capacity Settings

DAX Clusters Subnet groups Parameter groups Events

courseTable

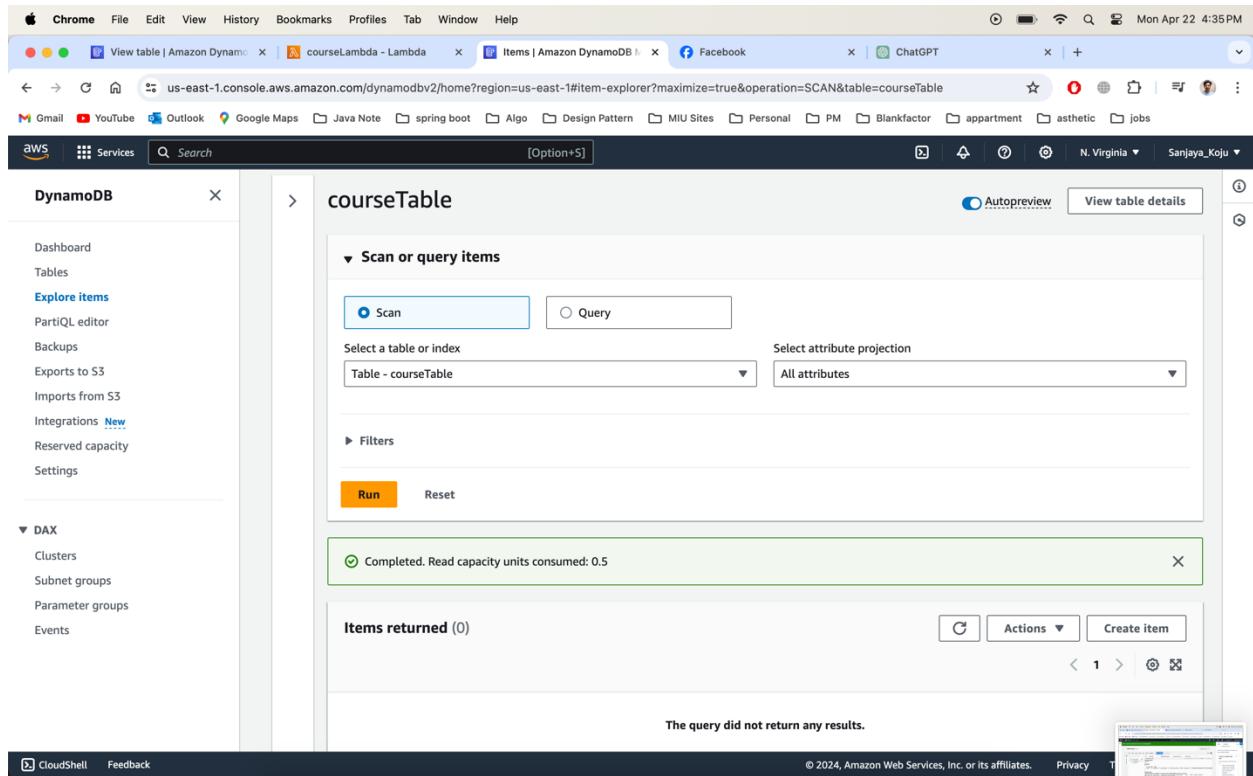
Scan or query items Scan Query Select a table or index Table - courseTable Select attribute projection All attributes Filters Run Reset

Completed. Read capacity units consumed: 0.5

Items returned (0) Actions Create item

The query did not return any results.

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View table | Amazon DynamoDB courseLambda - Lambda createCourse - Lambda Items | Amazon DynamoDB Facebook ChatGPT

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

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aws Services lambda

The test event update was successfully saved

Code source Info Environment Go To

File Edit Find View Go To

Go to Anything (M-P)

courseLambda helpers.mjs index.mjs

Configure test event

A test event is a JSON object that mocks the structure of requests emitted by AWS services to invoke a Lambda function. Use it to see the function's invocation result.

To invoke your function without saving an event, modify the event, then choose Test. Lambda uses the modified event to invoke your function, but does not overwrite the original event until you choose Save changes.

Test event action Create new event Edit saved event

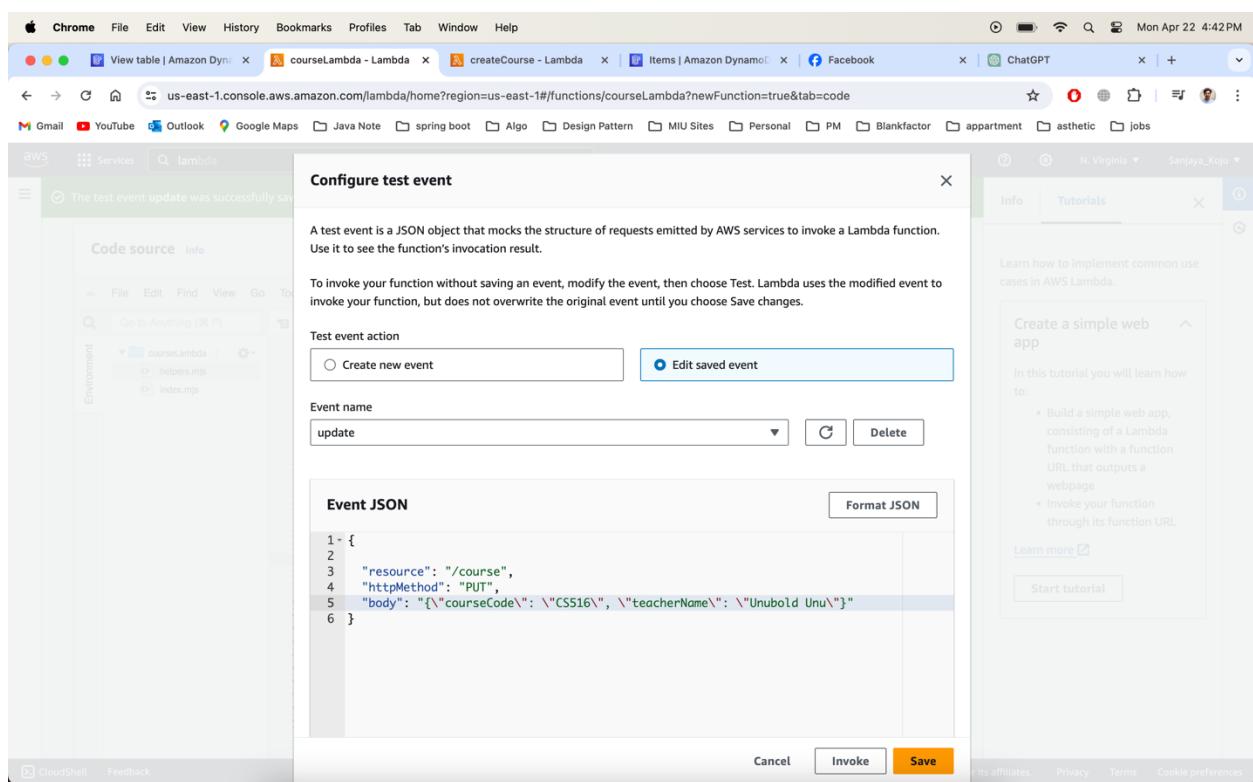
Event name update

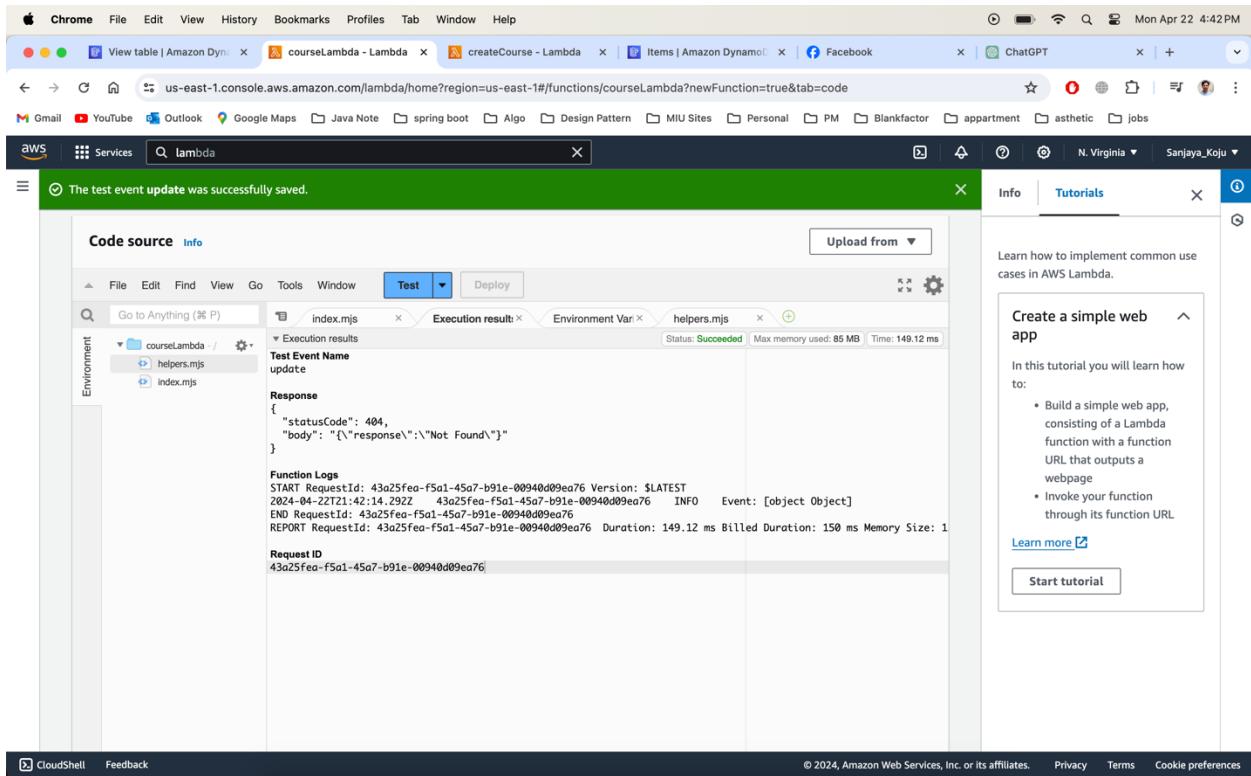
Event JSON Format JSON

```
1- {
2
3   "resource": "/course",
4   "httpMethod": "PUT",
5   "body": "{\"courseCode\": \"CS516\", \"teacherName\": \"Unbold Unu\"}"
6 }
```

Cancel Invoke Save

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Ignored this part

Codes for future references:

Task 1:

```
const AWS = require("aws-sdk");
const dynamodb = new AWS.DynamoDB({
  apiVersion: "2012-08-10"
});
const tableName = "courseTable";

exports.handler = async(event) => {
  console.log("Request received: " + JSON.stringify(event));

  const saveParameters = {
    TableName: tableName,
    Item: {
      "courseCode": {
        S: 'CS516'
      },
      "courseName": {
        S: 'Cloud Computing'
      },
      "teacherName": {
        S: 'Unubold'
      }
    }
  };

  const params = {
    TableName: tableName,
    Item: saveParameters.Item
  };

  const result = await dynamodb.putItem(params).promise();
  console.log(result);
}
```

```
        },
        "students": {
            SS: [
                "Sanjaya",
                "Susan",
                "Dina"
            ]
        },
        "month": {
            N: "7"
        },
        "year": {
            N: "2024"
        }
    }
};

await dynamodb.putItem(saveParameters).promise();

const response = {
    statusCode: 200,
    body: JSON.stringify('An Item is Saved.')
};
return response;
};
```