

## Lesson 08 Demo 01

### Lambda Function and CloudWatch

**Objective:** To create an AWS Lambda function, deploy code to it, test the function, and view its CloudWatch logs

**Tools:** AWS Lambda, AWS S3, and AWS CloudWatch

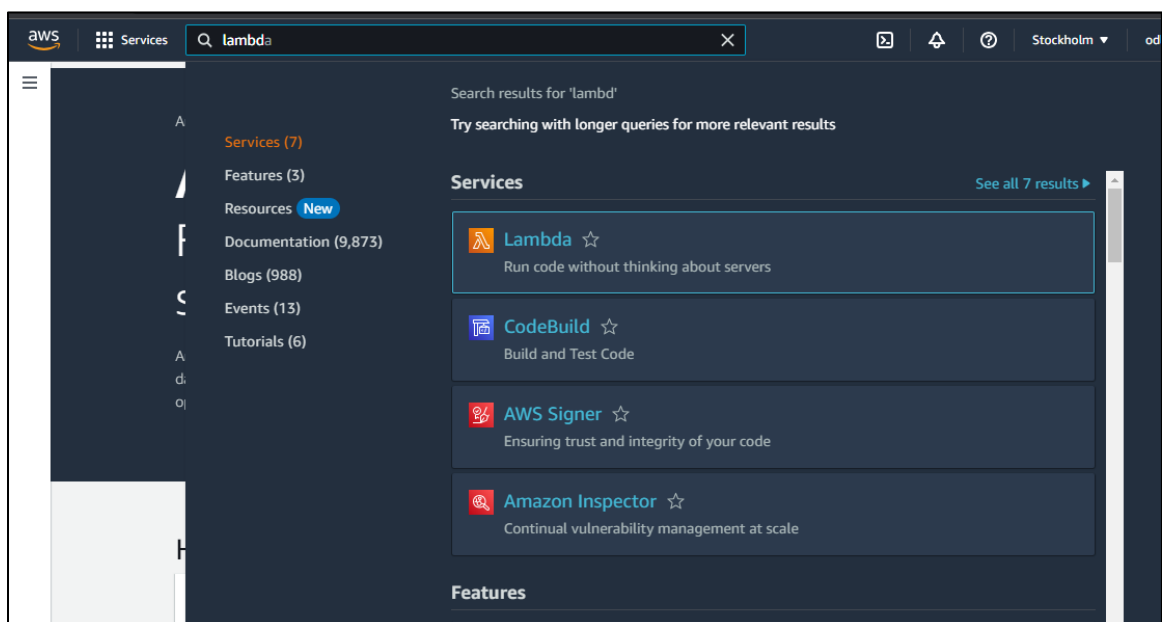
**Prerequisites:** An AWS account with access to its lab

Steps to be followed:

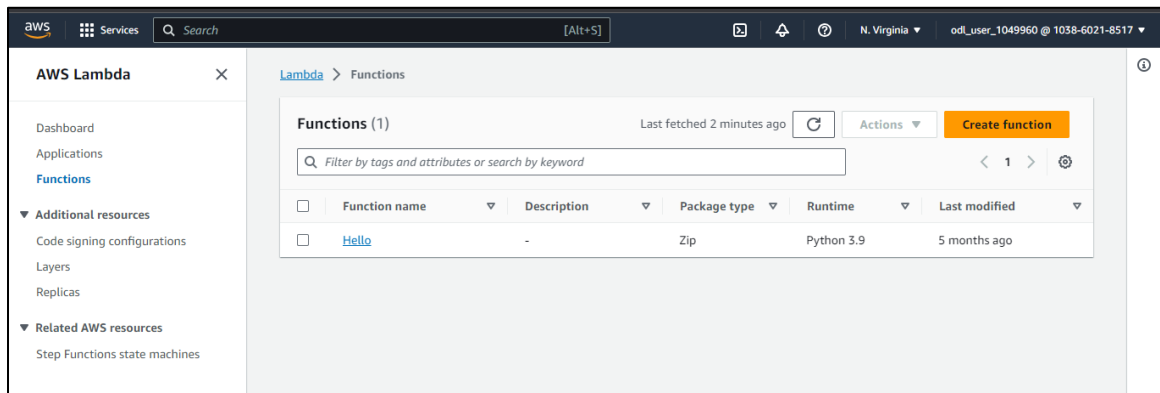
1. Create a Lambda service
2. Deploy code to Lambda function
3. Test the Lambda function
4. View CloudWatch logs

#### Step 1: Create a Lambda service

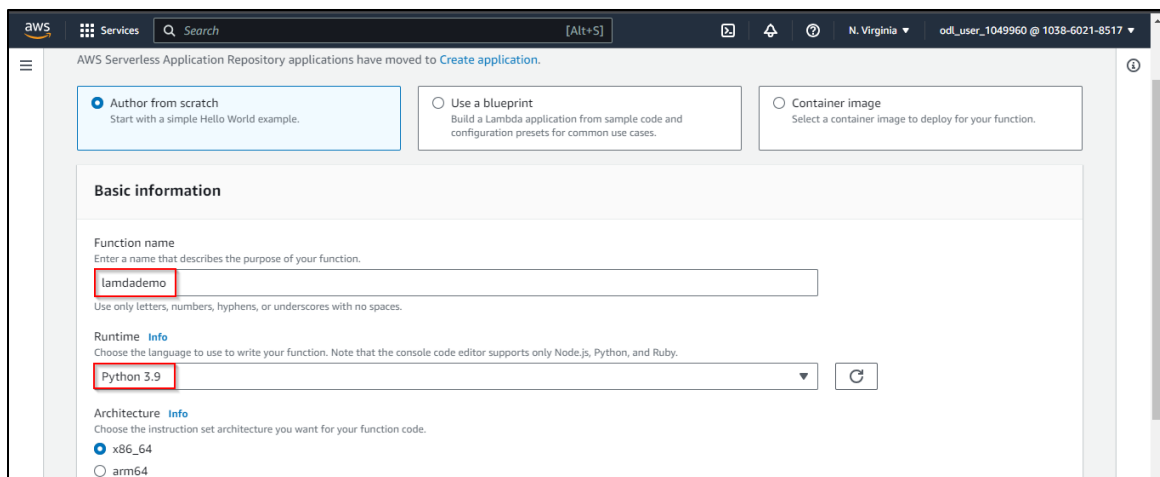
1.1 On the AWS Management Console, search for and click **Lambda**



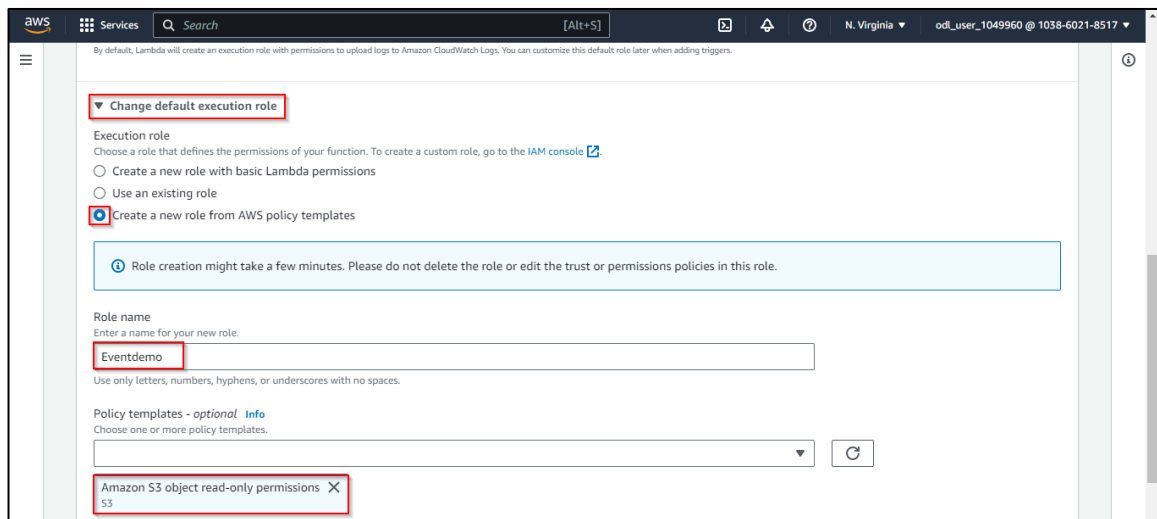
1.2 Click on the **Create function**



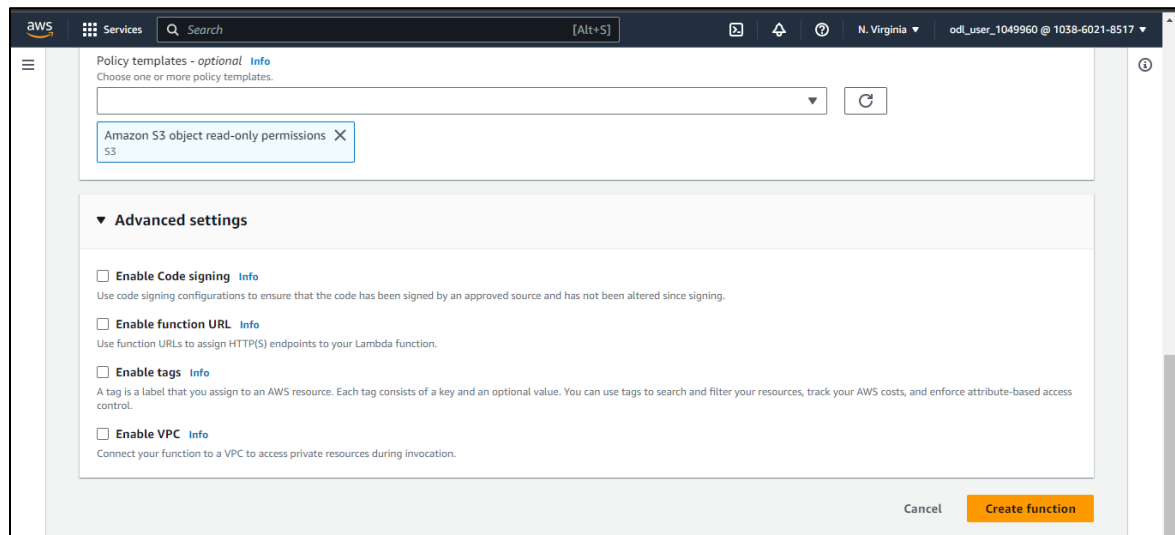
### 1.3 Enter the **Function name** as **lamdademo** and choose the **Runtime** as **Python 3.9**



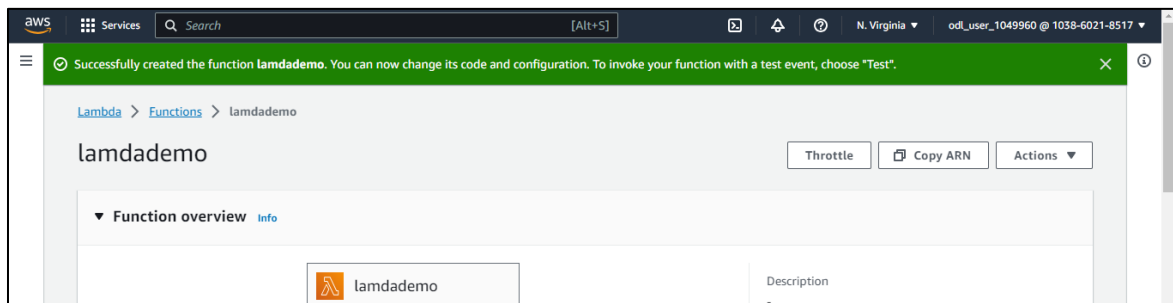
1.4 Click on **Change default execution role**, select **Create a new role from AWS policy templates**, enter the Role name as **Eventdemo**, and choose the **Amazon S3 object** as the Policy templates.



1.5 Click on the **Create function**

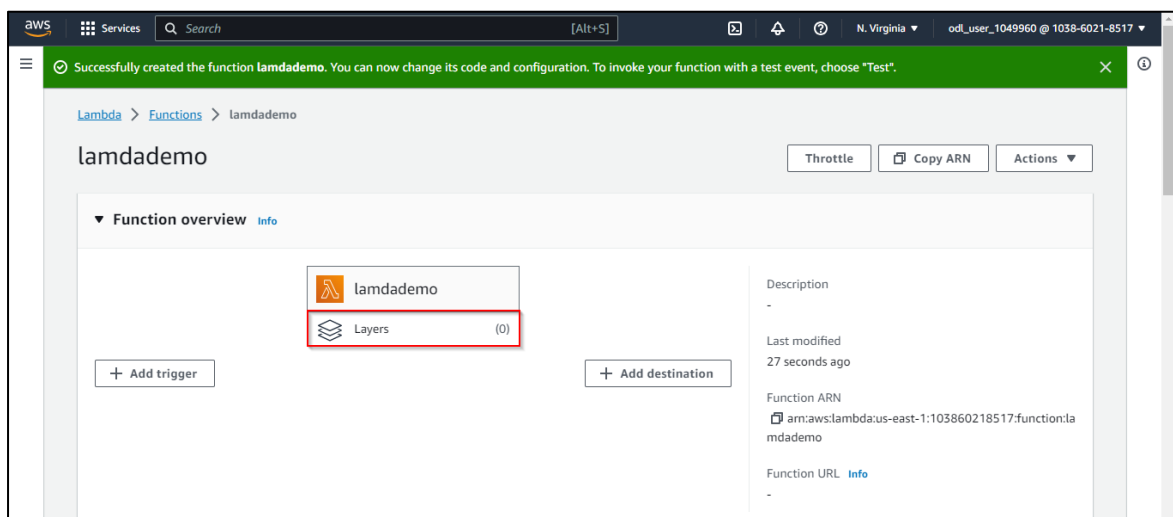


The Lambda function has been successfully created.



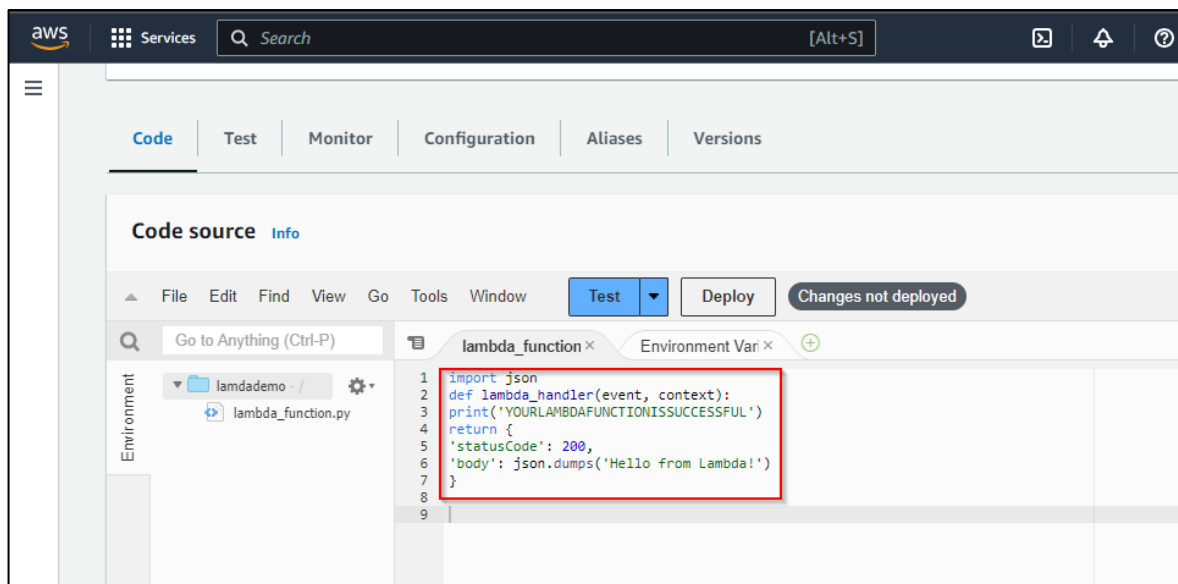
## Step 2: Deploy code to Lambda Function

### 2.1 Click on the Layers

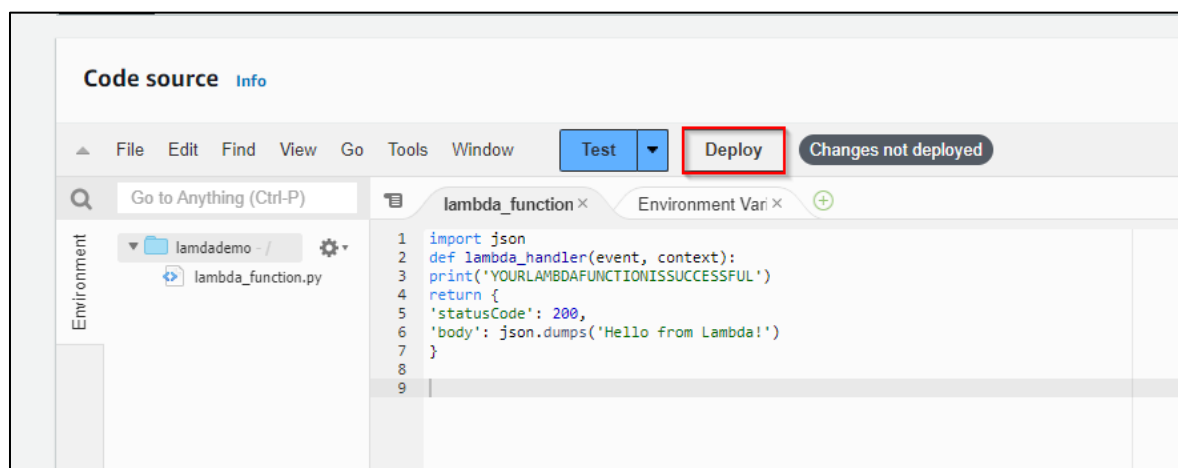


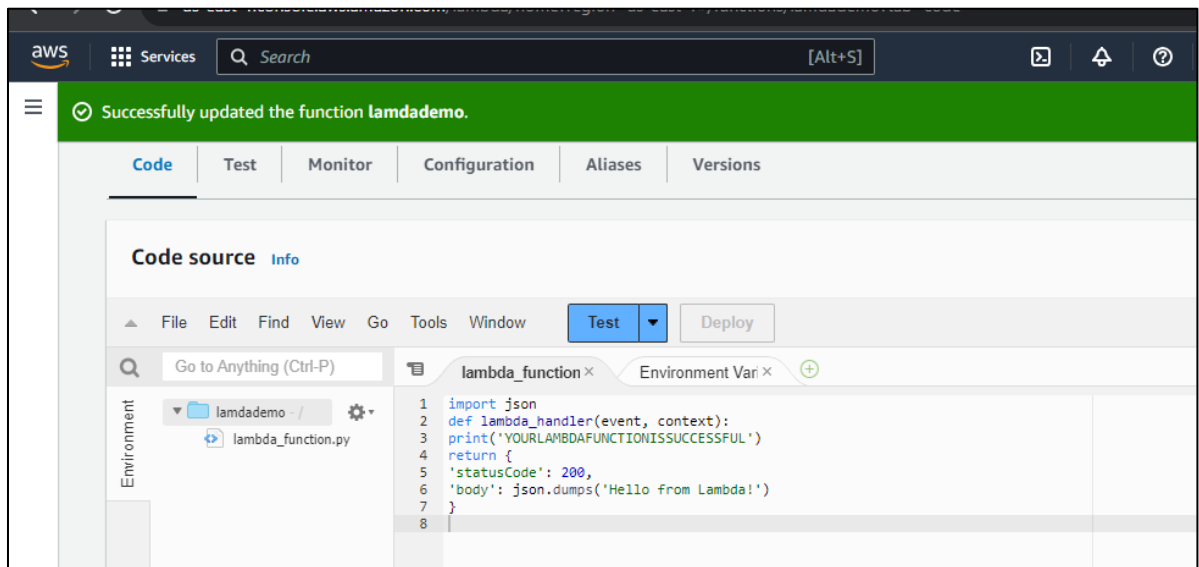
2.2 Enter the following code into the **lambda\_function** editor:

```
import json
def lambda_handler(event, context):
    print('Your Lambda Function is successful')
    return {
        'statusCode': 200,
        'body': json.dumps('Hello from Lambda!')
    }
```



2.3 Click on the **Deploy** option

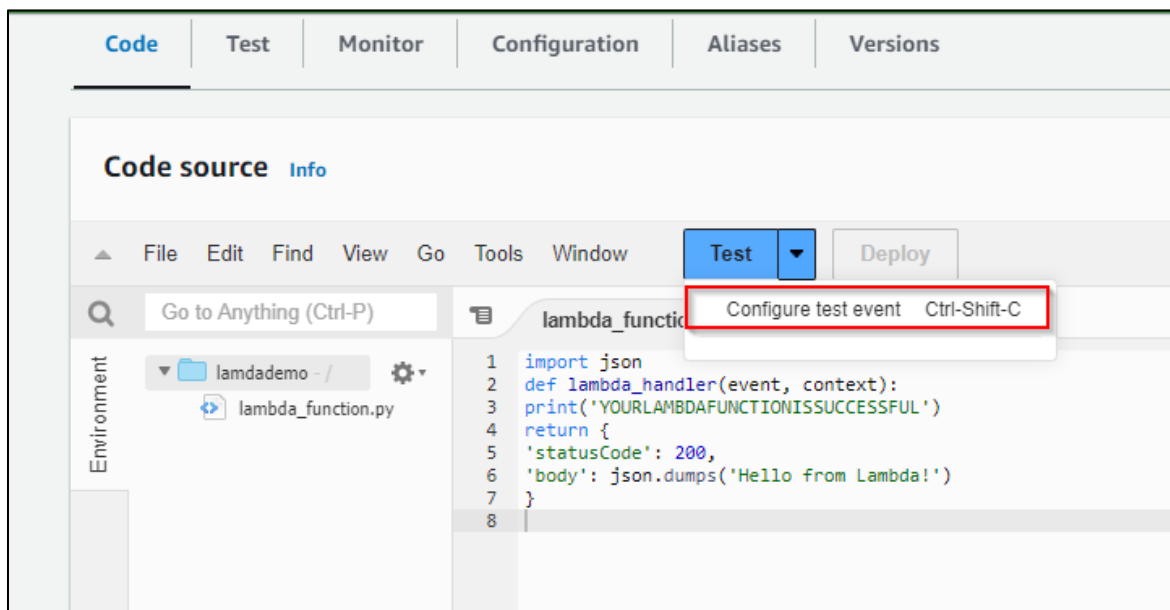




The Lambda function has been successfully updated.

### Step 3: Test the Lambda Function

#### 3.1 Click on the **Test** option and select **Configure test event**



### 3.2 Enter the **Event name** as **lamdademo** and click on the **Save** button

#### 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, configure the JSON event, then choose Test.

Test event action

☒ Create new event

☐ Edit saved event

Event name

lamdademo

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

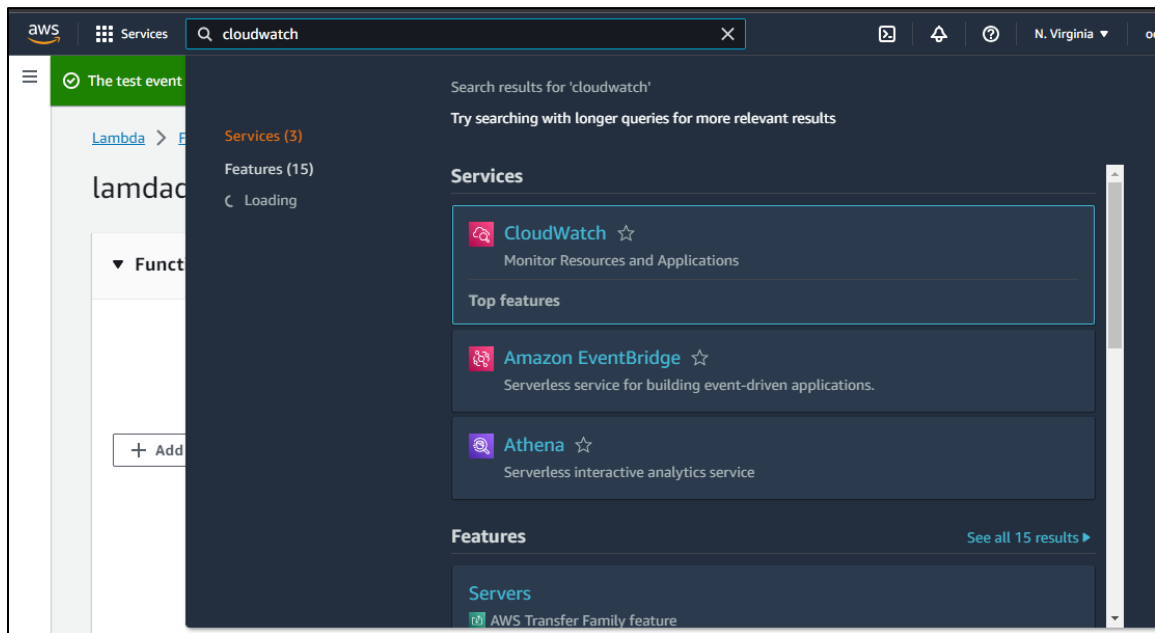
Cancel

Invoke

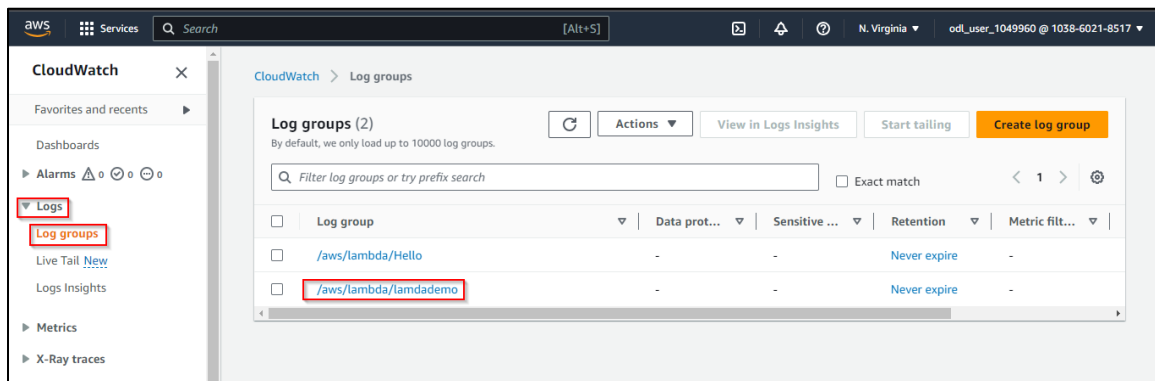
Save

## Step 4: View CloudWatch logs

### 4.1 On the AWS Management Console, search and select **CloudWatch**



### 4.2 Click on **Log groups** under **Logs** and click on the `/aws/lambda/lamdademo` option





#### 4.3 Click on any **Log streams** to view detailed CloudWatch logs for the Lambda function

The first screenshot shows the CloudWatch console with the 'Log streams' tab selected. It displays a list of log streams for the Lambda function. The selected log stream is highlighted with a red box.

The second screenshot shows the 'Log events' view for the selected log stream. It displays a list of log events with their timestamps and messages. The log events are highlighted with a red box.

**Log streams (1)**

Log stream	Last event time
2023/08/24/[\$LATEST]eb3f4d9da0ab470584466064e7ce3cf9	2023-08-24 14:27:53 (UTC+05:30)

**Log events**

Timestamp	Message
2023-08-24T14:27:53.185+05:30	INIT_START Runtime Version: python:3.9.v27 Runtime Version ARN: arn:aws:lambda:us-east-1::runtime:8b2...
2023-08-24T14:27:53.292+05:30	START RequestId: dba13414-b7dd-40e3-8377-2cea84191224 Version: \$LATEST
2023-08-24T14:27:53.292+05:30	[ERROR] Runtime.UserCodeSyntaxError: Syntax error in module 'lambda_function': expected an indented b...
2023-08-24T14:27:53.296+05:30	END RequestId: dba13414-b7dd-40e3-8377-2cea84191224
2023-08-24T14:27:53.296+05:30	REPORT RequestId: dba13414-b7dd-40e3-8377-2cea84191224 Duration: 2.07 ms Billed Duration: 3 ms Memory...

The above-mentioned are the CloudWatch logs.

By following these steps, you have successfully created an end-to-end process for working with Lambda functions, from creation to deployment, testing, and log analysis.