Advance DevOps

Experiment No. 6A

Name: Shariya Ansari

Roll No: 03

Class: IT SEM V

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Aim: A tiny sample example of serverless computing on AWS Lambda. The output should be shown on an HTML page.

Procedure:

Objective: Create a Lambda function on AWS that returns a simple HTML/ text output, demonstrating serverless computing.

Steps:

1. Open VS Code and Set Up AWS Toolkit

1. Install **AWS Toolkit** extension in VS Code (if not installed).

2. Configure your **AWS credentials** in VS Code:

   o Access Key ID

   o Secret Access Key

   o Region (e.g., us-east-1)

2. Create a New Lambda Function

1. In VS Code, open the **AWS Explorer** sidebar.

2. Click **Create new Lambda Function**.

3. Enter the following:

   o **Function Name:** my-hello-world-function

   o **Runtime:** Python 3.11

4. Click **Create Function**.

3. Write Lambda Code

Open the generated index.mjs (Node.js) and replace with the following code:

Node.js Example (index.mjs):

```
export const handler = async (event) => {
```

```
  return {

    statusCode: 200,

    headers: { 'Content-Type': 'text/html' },

    body: "<h1>Hello from Lambda!</h1>"

  };

};
```

4. Deploy the Lambda Function

1. In VS Code, select the function and click **Deploy (Ctrl+Shift+U)**.

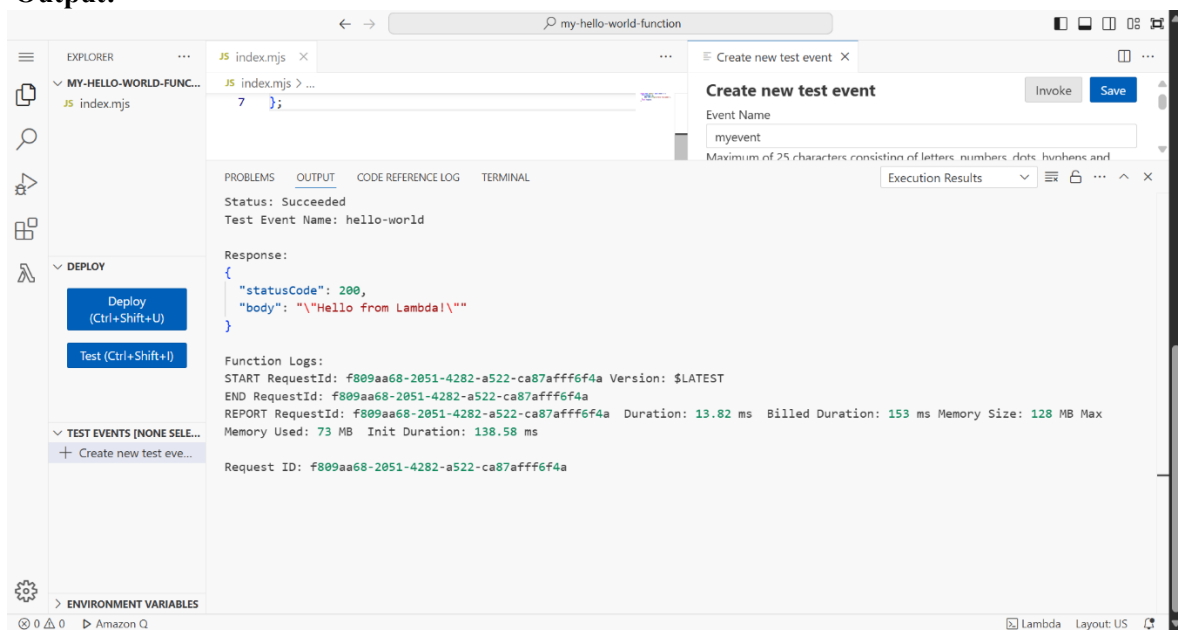2. Wait until deployment succeeds.

5. Create a Test Event

1. Click **Create new test event**.

2. Enter:

   o **Event Name:** hello-world

   o **Event JSON:** leave default {}

3. Click **Save**.

6. Test the Function

1. Click **Test (Ctrl+Shift+I)** in VS Code.

2. Check **Output Panel** for the result.

Output:

7. Verify in Browser

1. Add an **API Gateway Trigger** to your Lambda function.

2. Copy the **Invoke URL** and paste in browser.

3. You will see:

Test the Lambda

- After the trigger is added, scroll up; you'll see a box called **API Gateway** with an **Invoke URL** like:

  https://abcd1234.execute-api.us-east-1.amazonaws.com/default/HelloLambda

- Copy that URL.

- In your terminal or browser, make a GET request:

  curl https://abcd1234.execute-api.us-east-1.amazonaws.com/default/HelloLambda

- You should get:

```
{"message": "Hello from AWS Lambda!"}
```

Conclusion: In this experiment, we successfully created and deployed a serverless AWS Lambda function that returned HTML output. We learned how to trigger the function using events and access it via API Gateway. This demonstrated the ease of serverless computing, where code runs without managing servers, and can serve dynamic content efficiently.