Cloud Computing Exercise #20

Simple Lambda Test

A. Preparation

1. Sign in to your AWS account as the non-root admin user.

B. Create a Lambda function

1. Go to the Lambda dashboard (AWS Lambda/Dashboard) and select “Create function”. The default “Author from scratch” option is what you need. Give your Lambda a name (e.g. “MyLambda”), and select the latest Python runtime (Python 3.12). This will be a simple test Lambda function, and it will not need any special permissions. Thus, this time we do not need to create any custom roles for this Lambda – the basic Lambda execution role, which will be assigned to the Lambda by default, is just fine. Select “Create function” at the bottom.
2. In the code window, you will see a “create test event”. Click on the it and create a simple test event with name “MyTestEvent” and the following JSON input:

{

"TestCode": 1234,

"TestString": "Hello World!"

}

Add this test input to the text editor below; this input will be sent to your Lambda when it is invoked by the test event. Select “Save” at the bottom.

1. You will be returned to the code composer window. Modify the event handler code stub in such a way that
   * It sets the logging level such that events with severity INFO and above will be logged.
   * It prints the value corresponding to the key “TestCode” from the Lamda’s input parameters,
   * It logs the value corresponding to the key “TestString” from the Lamda’s input parameters at the INFO level,
   * It logs the message “This is a test error event log.” at the ERROR level,
   * Returns a JSON object with two key/value pairs. The first key should be “StatusCode”, and the corresponding value should be 200. The second key should be “TestString”, and the corresponding value should be the value of the key ”TestString” from the Lamda’s input parameters.

The code should look something like this:

A screenshot of a computer

Description automatically generated

C. Deploy and run the Lambda function

1. First, you need to deploy your Lambda code. It will be deployed in zip format, but since we do not use any custom libraries/dependencies, there is no need to manually create and upload the deployment zip file – this will be done for you by the AWS Lambda service. You only need to click on the “Deploy” button to deploy your Lambda function. Please make sure that each time you modify the source code in the code editor, you also deploy your code again to make sure that you will run the latest version. The code composer will display the warning message “No changes to deploy” to remind you of that.
2. Now click on the “Test” button to generate a test event and invoke the Lambda function with the provided test input. A new tab will appear in the code composer window with the test run results having the label “Execution results”. The output you will see should be like this:

A screenshot of a computer

Description automatically generated

Thus, now you can create Lambda functions, generate test events with the desired test input, access and process the Lambda’s input parameters, log the Lamda’s internal state for debugging or indicating error conditions, and return values from the Lambda.

D. Clean up after yourself

1. Delete your Lambda function. Go to the list of your Lambda functions (AWS Lambda/Functions), select the Lambda function by checking its checkbox, click on “Actions” and select “Delete”.
2. Log out of AWS.