

Assignment - Ashish Rase

Problem Statement:

Separate Document in Pdf format named "2021_WW_AWS-Coding_Test_v3.pdf"

Assignment: "Distance calculator in AWS"

Solution Code is uploaded to GIT : <https://github.com/ashishrase/assignment.git>

Programming language: Python

Cloud: AWS lambda, serverless, and API Gateway

Tools uses: Visual studio code, MS cmd

Environment Steup: Fresh Environment setup was buildup on a blank Laptop, with no Preinstalled tools

Time Analysis:

Environment setup time: 3 hours

Coding time: 1 hour

Documentation time: 30 min.

The Webservice is hosted on the AWS cloud and below is the live URL which can be triggered:

The service can be consumed over below url and are unauthorized for basic authentication, so no need for any IAM Role

Dev

<https://7m9rcs0lx9.execute-api.us-east-1.amazonaws.com/dev/result?distanceX=33&distanceY=33&units=meters>

Test:

<https://7m9rcs0lx9.execute-api.us-east-1.amazonaws.com/Test/result?distanceX=33&distanceY=33&units=meters>

Prod:

<https://7m9rcs0lx9.execute-api.us-east-1.amazonaws.com/Production/result?distanceX=33&distanceY=33&units=meters>

Below is the last deployment log

Command Prompt

```
D:\assignment\woodwing-Assignment>serverless deploy --aws-profile=underdog --force
Serverless: Packaging service...
Serverless: Excluding development dependencies...
Serverless: Uploading CloudFormation file to S3...
Serverless: Uploading artifacts...
Serverless: Uploading service servrless-distance-calculator.zip file to S3 (458 B)...
Serverless: Validating template...
Serverless: Updating Stack...
Serverless: Checking Stack update progress...
.....
Serverless: Stack update finished...
Service Information
service: servrless-distance-calculator
stage: dev
region: us-east-1
stack: servrless-distance-calculator-dev
resources: 12
api keys:
  None
endpoints:
  GET - https://7m9rcs0lx9.execute-api.us-east-1.amazonaws.com/dev/result
functions:
  distanceAddition: servrless-distance-calculator-dev-distanceAddition
layers:
  None
D:\assignment\woodwing-Assignment>dir
```

> If triggered with proper parameters we will get below result

← → ↻ 🔒 7m9rcs0lx9.execute-api.us-east-1.amazonaws.com/dev/result?distanceX=3&distanceY=4&units=meters

"7 meters"

Below are the GET and POST request

GET Request

```
{
  "resource": "/ distanceAddition",
  "path": "/ distanceAddition ",
  "httpMethod": "GET",
  "queryStringParameters": {
    "distanceX": 10,
    "distanceY": 20,
    "units": "meters"
  }
}
```

POST request

```
{
  "resource": "/distanceAddition",
  "path": "/distanceAddition",
  "httpMethod": "POST",
  "body": "{ \"distanceX\": 10, \"distanceY\": 20, \"units\" : \"meters\"}"
}
```

OR Payload like below:

```
{ "distanceX": 10,
  "distanceY": 20,
  "units" : "meters"
}
```

Future scope:

I can add canary for putting multiple stages

Some AWS screen shots for work in action

The screenshot displays the AWS Lambda console interface for the function `servrless-distance-calculator-dev-distanceAddition`. The breadcrumb navigation at the top shows the path: `Lambda > Functions > servrless-distance-calculator-dev-distanceAddition`. The function name is prominently displayed, accompanied by a 'Throttle' button. A light blue banner below the name contains a warning icon and the text: 'This function belongs to an application. Click here to manage it.'

The 'Function overview' section is expanded, showing a visual representation of the function's configuration. It includes a card for the function itself, labeled 'servrless-distance-calculator-dev-distanceAddition', and a 'Layers' section indicating '(0)' layers are currently attached. Below this, an 'API Gateway' trigger is shown with a count of '(2)'. A '+ Add trigger' button is located at the bottom left of the overview section.

On the right side of the console, a '+ Add destination' button is visible. Further down, the 'Description' field is empty, and the 'Last modified' timestamp is '2 hours ago'. The 'Function ARN' is listed as `arn:aws:lambda:us-east-1:8153249:calculator-dev-distanceAddition`, and the 'Application' is identified as `servrless-distance-calculator-dev`.

Lambda Function

Lambda > Functions > servless-distance-calculator-dev-distanceAddition

servless-distance-calculator-dev-distanceAddition

ThrottleCopy ARNActions

This function belongs to an application. Click here to manage it.

Function overview

servless-distance-calculator-dev-distanceAddition

Layers

0

API Gateway

2

Add trigger

Add destination

Description

-

Last modified

2 hours ago

Function ARN

arn:aws:lambda:us-east-1:815324989542:function:servless-distance-calculator-dev-distanceAddition

Application

servless-distance-calculator-dev

CodeTestMonitorConfigurationAliasesVersions

Code source

Upload from

FileEditFindViewGoToolsWindowTestDeployChanges deployed

Go to Anything (Ctrl-P)

servless-distance

functions

calculate-distance

calculate-distance.js

1 // request.js

2

3 //function definition to get distance value in over the REST service

4 def distanceAddition(event, context):

5 print(event)

6 distance=0

7 distance=0

8 id = "apiary"

9 http_method = event["httpMethod"]

10

11

12 if http_method == "GET":

13 distance= int(event["queryStringParameters"]["distance"])

14 distance= int(event["queryStringParameters"]["distance"])

15 units = (event["queryStringParameters"]["units"])

16

17 if http_method == "POST":

18 body = json.loads(event["body"])

19 distance= body["distance"]

20 distance= body["distance"]

21 units = body["units"]

22

23

24 if type(distance) != int or type(units) != int:

25 if units != "mi":

API Gateway

APIs

Custom Domain Names

VPC Links

API: dev-servless-...

Resources

Stages

Authorizers

Gateway Responses

Models

Resource Policy

Documentation

Dashboard

Settings

Stages

Create

dev

/

/result

GET

OPTIONS

Production

/

/result

POST

GET

OPTIONS

Test

/

/result

POST

GET

OPTIONS

Production Stage Editor

Settings

Logs/Tracing

Stage Variables

SDK Genera

Cache Settings

Enable API cache

Default Method Throttling

Choose the default throttling level for the methods in this stage. E with a burst of 5000 requests. [Read more about API Gateway thr](#)

Enable throttling

Rate 10000 requests pe

Burst 5000 requests

Web Application Firewall (WAF) [Learn more.](#)