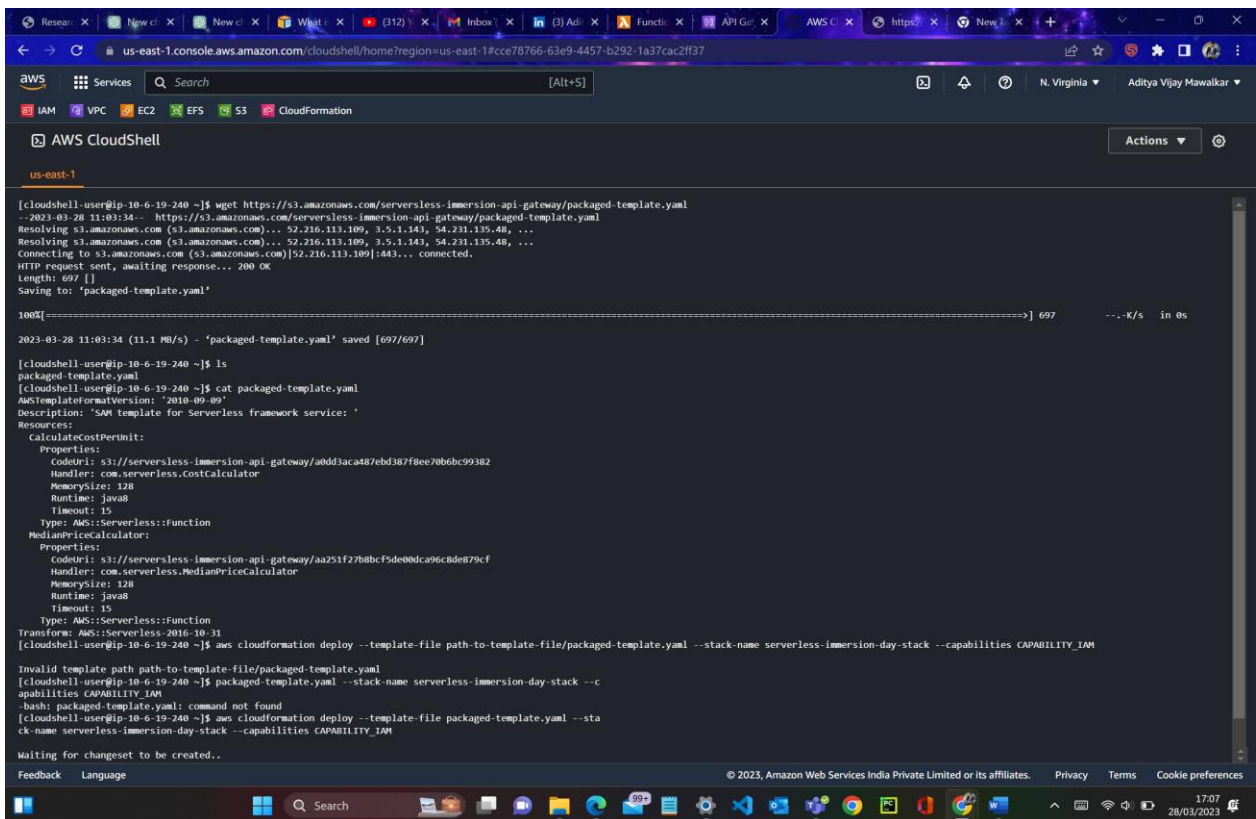


API GATEWAY

- API GATEWAY- In this lab, we created API Gateway
- Created two lambda functions and then we made API and then we triggered Lambda Function using the API.
- We are testing the API to see whether it's working or not.



```
[cloudshell-user@ip-10-6-19-240 ~]$ wget https://s3.amazonaws.com/serverless-immersion-api-gateway/package-template.yaml
--2023-03-28 11:03:34-- https://s3.amazonaws.com/serverless-immersion-api-gateway/package-template.yaml
Resolving s3.amazonaws.com (s3.amazonaws.com)... 52.216.113.109, 3.5.1.143, 54.231.135.48, ...
Connecting to s3.amazonaws.com (s3.amazonaws.com)... 52.216.113.109, 3.5.1.143, 54.231.135.48, ...
HTTP request sent, awaiting response... 200 OK
Length: 697 [text/plain]
Saving to: 'package-template.yaml'

100%[=====] 697  ---K/s  in 0s

2023-03-28 11:03:34 (11.1 MB/s) - 'package-template.yaml' saved [697/697]

[cloudshell-user@ip-10-6-19-240 ~]$ ls
package-template.yaml
[cloudshell-user@ip-10-6-19-240 ~]$ cat package-template.yaml
AWSTemplateFormatVersion: '2010-09-09'
Description: 'SAM template for Serverless framework service: '
Resources:
  CalculateCostPerUnit:
    Properties:
      CodeUri: s3://serverless-immersion-api-gateway/abdd3aca87ebd387f8ee70b6bc99382
      Handler: com.serverless.CostCalculator
      MemorySize: 128
      Runtime: java8
      Timeout: 15
      Type: AWS::Serverless::Function
  MedianPriceCalculator:
    Properties:
      CodeUri: s3://serverless-immersion-api-gateway/aa251f27b0bcf5de00dca96c8de879cf
      Handler: com.serverless.MedianPriceCalculator
      MemorySize: 128
      Runtime: java8
      Timeout: 15
      Type: AWS::Serverless::Function
Transform: AWS::Serverless-2016-10-31
[cloudshell-user@ip-10-6-19-240 ~]$ aws cloudformation deploy --template-file path-to-template-file/package-template.yaml --stack-name serverless-immersion-day-stack --capabilities CAPABILITY_IAM
Invalid template path path-to-template-file/package-template.yaml
[cloudshell-user@ip-10-6-19-240 ~]$ aws cloudformation deploy --template-file package-template.yaml --stack-name serverless-immersion-day-stack --capabilities CAPABILITY_IAM
-bash: package-template.yaml: command not found
[cloudshell-user@ip-10-6-19-240 ~]$ aws cloudformation deploy --template-file package-template.yaml --stack-name serverless-immersion-day-stack --capabilities CAPABILITY_IAM
Waiting for changeset to be created..
```

```
us-east-1.console.aws.amazon.com/cloudshell/home?region=us-east-1#cce78766-63e9-4457-b292-1a37cac2ff37

AWS CloudShell
us-east-1

Resolving s3.amazonaws.com (s3.amazonaws.com)... 52.216.113.109, 3.5.1.143, 54.231.135.48, ...
Connecting to s3.amazonaws.com (s3.amazonaws.com)[52.216.113.109]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 697 [ ]
Saving to: 'packaged-template.yaml'

100%[=====] 697  ....K/s in 0s

2023-03-28 11:03:34 (11.1 MB/s) - 'packaged-template.yaml' saved [697/697]

[cloudshell-user@ip-10-6-19-240 ~]$ ls
packaged-template.yaml
[cloudshell-user@ip-10-6-19-240 ~]$ cat packaged-template.yaml
AWSTemplateFormatVersion: '2010-09-09'
Description: 'SAM template for Serverless framework service: '
Resources:
  CalculateCostPerUnit:
    Properties:
      CodeUri: s3://serverless-immersion-api-gateway/abdd3aca487ebd387f8ee70b6bc99382
      Handler: com.serverless.costcalculator
      MemorySize: 128
      Runtime: java8
      Timeout: 15
    Type: AWS::Serverless::Function
  MedianPriceCalculator:
    Properties:
      CodeUri: s3://serverless-immersion-api-gateway/aa251f27b8bcf5de00dca9c8de879cf
      Handler: com.serverless.MedianPriceCalculator
      MemorySize: 128
      Runtime: java8
      Timeout: 15
    Type: AWS::Serverless::Function
Transform: AWS::Serverless-2016-10-31
[cloudshell-user@ip-10-6-19-240 ~]$ aws cloudformation deploy --template-file path-to-template-file/packaged-template.yaml --stack-name serverless-immersion-day-stack --capabilities CAPABILITY_IAM

Invalid template path path-to-template-file/packaged-template.yaml
[cloudshell-user@ip-10-6-19-240 ~]$ packaged-template.yaml --stack-name serverless-immersion-day-stack --c
apabilities CAPABILITY_IAM
bash: packaged-template.yaml: command not found
[cloudshell-user@ip-10-6-19-240 ~]$ aws cloudformation deploy --template-file packaged-template.yaml --sta
ck-name serverless-immersion-day-stack --capabilities CAPABILITY_IAM

Waiting for changeset to be created..
Waiting for stack create/update to complete
Successfully created/updated stack - serverless-immersion-day-stack
[cloudshell-user@ip-10-6-19-240 ~]$

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```

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

aws Services X

IAM VPC EC2 EFS S3 CloudFormation

Lambda > Functions

Functions (2) Last fetched 7 minutes ago Actions

<input type="checkbox"/>	Function name	Description	Package type	Runtime	Last modified
<input type="checkbox"/>	serverless-immersion-day-stac-CalculatCostPerUnit-EdhPQqORGTIV	-	Zip	Java 8 on Amazon Linux 1	8 minutes ago
<input type="checkbox"/>	serverless-immersion-day-sta-MedianPriceCalculator-HuHtcimHFpT	-	Zip	Java 8 on Amazon Linux 1	8 minutes ago

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17:08 28/03/2023

us-east-1.console.aws.amazon.com/apigateway/home?region=us-east-1#/apis/zm3r5vk6o9/resources/08mouf/methods/POST

API Gateway

APIs > calculateperunit (zm3r5vk6o9) > Resources > /test-resource (08mouf) > POST

APIs

Custom Domain Names

VPC Links

API: calculateperunit

Resources

Stages

Authorizers

Gateway Responses

Models

Resource Policy

Documentation

Dashboard

Settings

Usage Plans

API Keys

Client Certificates

Settings

Resources

Actions

Method Execution

/test-resource - POST - Method Test

Make a test call to your method. When you make a test call, API Gateway skips authorization and directly invokes your method.

Path

No path parameters exist for this resource. You can define path parameters by using the syntax **(myPathParam)** in a resource path.

Query Strings

(test-resource)

Headers

(test-resource)

Stage Variables

No stage variables exist for this method.

Request Body

```
1 {
2   "price": "400000",
3   "size": "1600",
4   "unit": "sqFt",
5   "downPayment": "20"
6 }
```

Request: /test-resource

Status: 200

Latency: 28 ms

Response Body

```
{
  "statusCode": 200,
  "body": {
    "pricePerUnit": "250.0",
    "medianPrice": 320000.0,
    "totalCost": 400000.0,
    "headers": {
      "X-Powered-By": "AWS API Gateway & Lambda Serverless",
      "isBase64Encoded": false
    }
  }
}
```

Response Headers

```
{
  "Content-Type": ["application/json"],
  "X-Amzn-Trace-Id": ["Root=1-6422d1df-d858d82c13f2eb8226068a74;Sampled=0"]
}
```

Logs

```
Execution log for request f0635281-9df8-4c88-aa50-08608113686e
Tue Mar 28 11:39:11 UTC 2023 : Starting execution for request: f0635281-9df8-4c88-aa50-08608113686e
Tue Mar 28 11:39:11 UTC 2023 : HTTP Method: POST, Resource Path: /test-resource
Tue Mar 28 11:39:11 UTC 2023 : Method request path: {}
Tue Mar 28 11:39:11 UTC 2023 : Method request query string: {}
Tue Mar 28 11:39:11 UTC 2023 : Method request headers: {}
Tue Mar 28 11:39:11 UTC 2023 : Method request body before transformations: {}
```

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us-east-1.console.aws.amazon.com/apigateway/home?region=us-east-1#/apis/zm3r5vk6o9/resources/08mouf/methods/POST

API Keys

Client Certificates

Settings

Request Body

```
1 {
2   "price": "400000",
3   "size": "1600",
4   "unit": "sqFt",
5   "downPayment": "20"
6 }
7
```

Test

Tue Mar 28 11:39:11 UTC 2023 : HTTP Method: POST, Resource Path: /test-resource
Tue Mar 28 11:39:11 UTC 2023 : Method request path: {}
Tue Mar 28 11:39:11 UTC 2023 : Method request query string: {}
Tue Mar 28 11:39:11 UTC 2023 : Method request headers: {}
Tue Mar 28 11:39:11 UTC 2023 : Method request body before transformations: {
 "price": "400000",
 "size": "1600",
 "unit": "sqFt",
 "downPayment": "20"
}

Tue Mar 28 11:39:11 UTC 2023 : Endpoint request URI: http://lambda.us-east-1.amazonaws.com/2015-03-31/functions/arn:aws:lambda:us-east-1:342634125439:function:serverless-immersion-day-stac-CalculateCostPerUnit-EdhPQoRGtIV/invocations
Tue Mar 28 11:39:11 UTC 2023 : Endpoint request headers: {X-Amz-Date=20230328T113911Z, x-amzn-apigateway-api-id=zm3r5vk6o9, Accept=application/json, User-Agent=AmazonAPIGateway_zm3r5vk6o9, Host=lambda.us-east-1.amazonaws.com, X-Amz-Content-Sha256=372efc260e292f5469dd49aedf2081ce7039aec09f75b8e7f1e470b18c9f2354, X-Amzn-Trace-Id=Root=1-6422d1df-d858d82c13f2eb8226068a74, x-amzn-lambda-integration-tag=f0635281-9df8-4c88-aa50-08608113686e, Authorization=*****
*****8888ff, X-Amz-Source-Arn=arn:aws:execute-api:us-east-1:342634125439:zm3r5vk6o9/test-invoke-stage/POST/test-resource, X-Amz-Security-Token=IQo7b3p2Z1uX2VjEGSaCXVzLWVhc3QtMSJIMEYCIQUNp6zanjYUeVWmYa3Hj43P6e9ri4GjNduwYCiupZAIhAPuLoAR7LV9NvDXRy1FcCVguUu/stnQ5vukeaHG2+2s [TRUNCATED]
Tue Mar 28 11:39:11 UTC 2023 : Endpoint request body after transformations: {
 "price": "400000",
 "size": "1600",
 "unit": "sqFt",
 "downPayment": "20"
}

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us-east-1.console.aws.amazon.com/apigateway/home?region=us-east-1#/apis/zm3r5vk6o9/resources/08mouf/methods/POST

7LV9NvDXRy1FcCVgUuU/stnQ5vukeaHG2+zs [TRUNCATED]

Tue Mar 28 11:39:11 UTC 2023 : Endpoint request body after transformations: {
 "price": "400000",
 "size": "1600",
 "unit": "sqFt",
 "downPayment": "20"
}

Tue Mar 28 11:39:11 UTC 2023 : Sending request to https://lambda.us-east-1.amazonaws.com/2015-03-31/functions/arn:aws:lambda:us-east-1:342634125439:function:serverless-immersion-day-stac-CalculateCostPerUnit-EdhPOqORgtIV/invocations

Tue Mar 28 11:39:11 UTC 2023 : Received response. Status: 200, Integration latency: 25 ms

Tue Mar 28 11:39:11 UTC 2023 : Endpoint response headers: {Date=Tue, 28 Mar 2023 11:39:11 GMT, Content-Type=application/json, Content-Length=193, Connection=keep-alive, x-amzn-RequestId=9cd9a2f0-9d3b-4c13-993b-fa0ee385ff69, x-amzn-Remapped-Content-Length=0, X-Amz-Executed-Version=\$LATEST, X-Amzn-Trace-Id=Root=1-6422d1df-d858d82c13f2eb8226068a74;sampled=0}

Tue Mar 28 11:39:11 UTC 2023 : Endpoint response body before transformations: {"statusCode":200,"body":{"pricePerUnit\\":\\250.0\\",\\medianPrice\\":320000.0,\\totalCost\\":400000.0},"headers":{"X-Powered-By":"AWS API Gateway & Lambda Serverless"},"isBase64Encoded":false}

Tue Mar 28 11:39:11 UTC 2023 : Method response body after transformations: {"statusCode":200,"body":{"pricePerUnit\\":\\250.0\\",\\medianPrice\\":320000.0,\\totalCost\\":400000.0},"headers":{"X-Powered-By":"AWS API Gateway & Lambda Serverless"},"isBase64Encoded":false}

Tue Mar 28 11:39:11 UTC 2023 : Method response headers: {X-Amzn-Trace-Id=Root=1-6422d1df-d858d82c13f2eb8226068a74;sampled=0, Content-Type=application/json}

Tue Mar 28 11:39:11 UTC 2023 : Successfully completed execution

Tue Mar 28 11:39:11 UTC 2023 : Method completed with status: 200

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us-east-1.console.aws.amazon.com/apigateway/home?region=us-east-1#/apis/zm3r5vk6o9/resources/08mouf/methods/POST

Services Search [Alt+S]

IAM VPC EC2 EFS S3 CloudFormation

Amazon API Gateway APIs > calculateperunit (zm3r5vk6o9) > Resources > /test-resource (08mouf) > POST

Resources Actions /test-resource - POST - Method Execution

/test-resource
OPTIONS
POST

Client

Method Request

Auth: NONE
ARN: arn:aws:execute-api:us-east-1:342634125439:zm3r5vk6o9/*/POST/resource

Integration Request

Type: LAMBDA
Region: us-east-1

Method Response

HTTP Status: 200
Models: application/json => Empty

Integration Response

HTTP status pattern: -
Output passthrough: No

Lambda serverless-immersion-day-siac-CalculateCost...

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us-east-1.console.aws.amazon.com/apigateway/home?region=us-east-1#/apis/zm3r5vk6o9/resources/08mouf

Services Search [Alt+S]

IAM VPC EC2 EFS S3 CloudFormation

Amazon API Gateway APIs > calculateperunit (zm3r5vk6o9) > Resources > /test-resource (08mouf)

Resources Actions /test-resource Methods

/test-resource
OPTIONS
POST

OPTIONS

Mock Endpoint

Authorization None
API Key Not required

POST

arn:aws:lambda:us-east-1:342634125439:functi...

Authorization None
API Key Not required

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