import json

import boto3

client = boto3.client('s3')

def lambda\_handler(event, context):

    response = client.get\_object(

    Bucket='firstbucket06072025',

    Key='Bucket1\_Json.json',

)

    # convert from streaming to bytes

    data\_bytes = response['Body'].read()

    #bytes to string

    data\_strings = data\_bytes.decode("UTF-8")

# convert from strings to dict

    data\_dict = json.loads(data\_strings)

    return {

        'statusCode': 200,

        'body': data\_dict

    }

2nd :

import json

import boto3

client = boto3.client('s3')

def lambda\_handler(event, context):

    bucket=event['bucket']

    key=event['key']

    response = client.get\_object(

    Bucket=bucket,

    Key= key,

)

    # convert from streaming to bytes

    data\_bytes = response['Body'].read()

    #bytes to string

    data\_strings = data\_bytes.decode("UTF-8")

# convert from strings to dict

    data\_dict = json.loads(data\_strings)

    return {

        'statusCode': 200,

        'body': data\_dict

    }

* The target architecture for this use case would be creation of API, Gateway, Lambda and S3.
* invoke a particular API through the API gateway, which will trigger the lambda function.
* And then this lambda function is going to read the contents of this JSON file in a particular S3 bucket.
* we're going to add certain string parameters which the user is going to pass, and then it will trigger the lambda lambda function again.
* And then based on the query string parameter, it is going to read the data either from this S3 bucket
* or the second S3 word based on what parameters the end user has provided.
* So by passing the query string parameters, we're going to make the whole use case dynamic rather than hard coding the values in the lambda function.

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firstbucket06072025 🡪 Create Bucket

* Upload json file 🡪 { "name": "bucket1John", "age": 22 } 🡪 Bucket1\_json

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secondbucket06072025

* Upload 2nd json file 🡪 { "name": "bucket2Doe", "age": 32 }

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import json

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client = boto3.client('s3')

def lambda\_handler(event, context):

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        'statusCode': 200,

        'body': data\_dict

    }

Lambda function🡪 apigateways3lambda06072025

**Configuration** 🡪 General configuration 🡪 1 min

**Execution role:** AmazonS3FullAccess

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Testevent🡪test1

Testlambdaapigateway

Test

Status: Succeeded

Test Event Name: testlambdaapigateway

Response:

{

  "statusCode": 200,

  "body": {

    "name": "bucket1John",

    "age": 22

  }

}

Add Trigger🡪 API Gateway🡪 Rest API 🡪

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Security: IAM 🡪 Add

* The trigger apigateways3lambda06072025-API was successfully added to function apigateways3lambda06072025. The function is now receiving events from the trigger.

Open the API gateway

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Open API Gateway

Rest API Gateway🡪 Actions🡪 Create Resource🡪 Students🡪

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Method🡪 GET

Integrated type: Lambda Function 🡪 apigatewaylambda06072025

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Test

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Deploy 🡪

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API Gateway🡪 Stgaes🡪 DEV🡪 students🡪 GET

Invoke URL: <https://4gfknghkfj.execute-api.us-east-1.amazonaws.com/DEV/students>

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QUERY STRING:

**S3:**

**firstbucket06072025**

Bucket1\_Json.json

**secondbucket06072025**   
 Bucket2\_Json.json

**Lambda Function:**

S3DynamoAPIGateway06072025

[AmazonS3FullAccess](https://905418111046-p2xmdjap.us-east-1.console.aws.amazon.com/iam/home?#/policies/details/arn%3Aaws%3Aiam%3A%3Aaws%3Apolicy%2FAmazonS3FullAccess)

API:

S3DynamoAPIGateway06072025-API

Test Event:

Event Json

-----------------------------

{

"bucket": "firstbucket06072025",

"key": "Bucket1\_Json.json"

}

Test Result:

Status: Succeeded

Test Event Name: Query

Response:

{

  "statusCode": 200,

  "body": {

    "name": "bucket1John",

    "age": 22

  }

}

Method invocation:

**Method request settings:**

**Authorization:** None

**Request validator:** Validate query string parameters and headers

**URL query string parameters:**

Bucket: Required

Key: Required

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Integration Reqest:

**Request body passthrough :** When there are no templates defined (recommended)

**Mapping templates:**

**Content type:** application/json

A white rectangular object with two lines

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{

"bucket" : "$input.params('bucket')",

"key" : "$input.params('key')"

}

Click on test on lamda function

bucket= firstbucket06072025&key= Bucket1\_Json.json

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Test

**Response body**

{"statusCode": 200, "body": {"name": "bucket1John", "age": 22}}

**Response headers**

{

"Content-Type": "application/json",

"X-Amzn-Trace-Id": "Root=1-68449e6f-542c2923093bc806f93a17c4;Parent=1fa7425bba37308a;Sampled=0;Lineage=1:3cc56039:0"

}

Deploy

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<https://mimpyuln96.execute-api.us-east-1.amazonaws.com/prod/students>

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Invoke URL changes:

<https://mimpyuln96.execute-api.us-east-1.amazonaws.com/prod/students?bucket=firstbucket06072025&key=Bucket1_Json.json>

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<https://mimpyuln96.execute-api.us-east-1.amazonaws.com/prod/students?bucket=secondbucket06072025&key=Bucket2_Json.json>

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Consolidated:

API:

Method Request:

**Request validator:** Validate query string parameters and headers

**URL query string parameters:**

bucket=Required

Key=Required

Integrator request:

Mapping Templates:

**Content/type:** application/json

{

"bucket" : "$input.params('bucket')",

"key" : "$input.params('key')"

}

LAMPDA side

Test parameters:

{

"bucket": "firstbucket06072025",

"key": "Bucket1\_Json.json"

}

CODE:

def lambda\_handler(event, context):

bucket=event['bucket']

key=event['key']

response = client.get\_object(

Bucket=bucket,

Key= key,

)

return {

'statusCode': 200,

'body': data\_dict

}

INVOKE URL:

<https://mimpyuln96.execute-api.us-east-1.amazonaws.com/Dev/students> (DEV)

PROD:

<https://mimpyuln96.execute-api.us-east-1.amazonaws.com/prod/students?bucket=secondbucket06072025&key=Bucket2_Json.json>

class 3:

API Keys and USAGE plan

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S3:

firstbucket06072025

Bucket1\_Json.json

{ "name": "bucket1John", "age": 22 }

secondbucket06072025

Bucket2\_Json.json

{ "name": "bucket2Doe", "age": 32 }

Lambda:

apigateways3lambda06072025

[AmazonS3FullAccess](https://905418111046-p2xmdjap.us-east-1.console.aws.amazon.com/iam/home?#/policies/details/arn%3Aaws%3Aiam%3A%3Aaws%3Apolicy%2FAmazonS3FullAccess)

Code:

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# convert from strings to dict

    data\_dict = json.loads(data\_strings)

    return {

        'statusCode': 200,

        'body': data\_dict

    }

“

Response:

{

  "statusCode": 200,

  "body": {

    "name": "bucket1John",

    "age": 22

  }

}

“

Create API:

----------------------

REST api 🡪 usageplans

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Resources🡪 Students

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**Method:** GET

**Integration:** Lambda

**Lambda function: Lambda**

**Create Method**

**Deploy API**

New Stage:

Stage name: beta

Invoke URL: <https://p4kkngthjb.execute-api.us-east-1.amazonaws.com/beta/students>

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Postman

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New Stage:

Deploy API

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API keys:

Name: basicapikeys

API Key: Auto generate

SAVE

ouVecISTr640BR4I08rkQ5iO91YtHK6onYIRorxe

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Premium Key:

-------------------------

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USAGE PLANS:

**Name:** basicUsagePlan

**Throttling :** 5

Burst : 2

Quota: 50 per month

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Usage Plans with Associated API plans:

**Associate stage:**

**API:** usageplans

**Stage:** beta

Thotting:

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**Add API key**

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Now Goto API gateway🡪 Stages🡪

Invoke URL: <https://p4kkngthjb.execute-api.us-east-1.amazonaws.com/beta/students>

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API:

EDIT METHOD REQUEST

API key required

Save and DEPLOY API

Beta

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A close up of a word

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x-api-key

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