

# TASK - 1

Name : Ponvaishnavi MR

Location : Chennai

## Serverless Web Application :

The screenshot shows the AWS DynamoDB console interface. On the left, the 'DynamoDB' sidebar is visible with options like Dashboard, Tables, Explore items, PartiQL editor, Backups, Exports to S3, Imports from S3, Integrations, Reserved capacity, and Settings. The main area is titled 'UserSubmissions' and shows the 'Scan or query items' section. The 'Scan' button is selected, and the 'Table - UserSubmissions' is chosen. The 'Select attribute projection' is set to 'All attributes'. There are 'Run' and 'Reset' buttons at the bottom of the configuration area.

The screenshot shows the results of a scan operation on the 'UserSubmissions' table. A green banner at the top indicates 'Completed · Items returned: 2 · Items scanned: 2 · Efficiency: 100% · RCUs consumed: 2'. Below this, the 'Table: UserSubmissions - Items returned (2)' section shows a table with the following data:

submissionId (String)	email	message	name
9599b7ee-6fe7-4bff-abcc...	vaishugane...	Hello, This i...	Ponvaishnavi
a2d71998-e37d-4737-a94...	john@exam...	Hello!	John Doe

The table also includes 'Actions' and 'Create item' buttons. The scan started on November 01, 2025, 18:39:08.

Items | Amazon D... Roles | IAM | Glob... Functions | Lamb... API Gateway - Sta... Instance details | EC2 Instance Con... User Submission | +

https://us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/roles

aws Search [Alt+S] Global Account ID: 8115-7252-8734 Ponvaishnavi

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

User groups

Users

Roles

Policies

Identity providers

Account settings

Root access management

Access reports

Access Analyzer

Resource analysis New

CloudShell Feedback

Roles (10) Info

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Search

1

Role name Trusted entities Last activity

<input type="checkbox"/>	<a href="#">AWSServiceRoleForAPIGateway</a>	AWS Service: ops.apigateway (Service-Linker)	-
<input type="checkbox"/>	<a href="#">AWSServiceRoleForResourceExplorer</a>	AWS Service: resource-explorer-2 (Service-Linker)	15 minutes ago
<input type="checkbox"/>	<a href="#">AWSServiceRoleForSupport</a>	AWS Service: support (Service-Linker)	2 hours ago
<input type="checkbox"/>	<a href="#">AWSServiceRoleForTrustedAdvisor</a>	AWS Service: trustedadvisor (Service-Linker)	-
<input type="checkbox"/>	<a href="#">LambdaDynamoDBRole</a>	AWS Service: lambda	-
<input type="checkbox"/>	<a href="#">QueryLambda-role-gzp8xfy0</a>	AWS Service: lambda	-
<input type="checkbox"/>	<a href="#">SubmissionLambda-role-8p7h80r8</a>	AWS Service: lambda	Yesterday
<input type="checkbox"/>	<a href="#">test-lambda-appln-py-role-ac0b8xq1</a>	AWS Service: lambda	3 days ago
<input type="checkbox"/>	<a href="#">test-lambda-appln-role-6nwo027d</a>	AWS Service: lambda	3 days ago

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Items | Amazon D... Roles | IAM | Glob... Functions | Lamb... API Gateway - Sta... Instance details | EC2 Instance Con... User Submission | +

https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

Lambda Functions

Successfully updated the function QueryLambda.

The test event "GetAllSubmissions" was successfully saved.

Functions (3)

Last fetched 2 hours ago

Filter by attributes or search by keyword

1

Function name	Description	Package type	Runtime	Last modified
<a href="#">SubmissionLambda</a>	-	Zip	Python 3.12	2 hours ago
<a href="#">QueryLambda</a>	-	Zip	Python 3.12	2 hours ago
<a href="#">test-lambda-appln-py</a>	-	Zip	Python 3.13	3 days ago

Info Tutorials

Learn how to implement common use cases in AWS Lambda.

Create a simple web app

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

Learn more

Start tutorial

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Items | Amazon D... Roles | IAM | Glob... SubmissionLamb... API Gateway - Sta... Instance details |... EC2 Instance Con... User Submission F... +

https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/SubmissionLambda?tab=code

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

Lambda > Functions > SubmissionLambda

The test event "GetAllSubmissions" was successfully saved.

EXPLORER

- SUBMISSIONLAMBDA
  - lambda\_function.py

DEPLOY

Deploy (Ctrl+Shift+U)

Test (Ctrl+Shift+I)

TEST EVENTS [SELECTED: TESTSUBMISSIO...]

- Create new test event
- Private saved events
- TestSubmission

lambda\_function.py

```
1 import json
2 import boto3
3 import uuid
4 from datetime import datetime
5
6 dynamodb = boto3.resource('dynamodb')
7 table = dynamodb.Table('UserSubmissions')
8
9 def lambda_handler(event, context):
10     try:
11         body = json.loads(event['body'])
12         name = body.get('name')
13         email = body.get('email')
14         message = body.get('message')
15
16         if not name or not email or not message:
```

PROBLEMS OUTPUT CODE REFERENCE LOG TERMINAL Tasks

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Items | Amazon D... Roles | IAM | Glob... SubmissionLamb... API Gateway - Sta... Instance details |... EC2 Instance Con... User Submission F... +

https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/SubmissionLambda?tab=testing

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Lambda > Functions > SubmissionLambda

The test event "GetAllSubmissions" was successfully saved.

Code Test Monitor Configuration Aliases Versions

Executing function: succeeded (logs)

Details

```
{
  "statusCode": 200,
  "headers": {
    "Access-Control-Allow-Origin": "*"
  },
  "body": "{\"message\": \"Submission successful\\\", \"id\": \"a2d71998-e37d-4737-a943-c271ee983ca3\"}"
}
```

Summary

Code SHA-256 NMNBAacu9917FtVvCjCDWPwyBncktg2afDw3GcZ+cmM=	Execution time 2 hours ago
Function version \$LATEST	Request ID b523f07e-2fc4-4501-8ba2-3b67ca737cb9

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https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/QueryLambda?tab=code

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

Lambda > Functions > QueryLambda

The test event "GetAllSubmissions" was successfully saved.

Code Test Monitor Configuration Aliases Versions

Code source Info Open in Visual Studio Code Upload from

EXPLORER

QUERYLAMBDA

lambda\_function.py

DEPLOY

Deploy (Ctrl+Shift+U)

Test (Ctrl+Shift+I)

lambda\_function.py

```
1 import json
2 import boto3
3 from boto3.dynamodb.conditions import Attr
4
5 dynamodb = boto3.resource('dynamodb')
6 table = dynamodb.Table('UserSubmissions')
7
8 def lambda_handler(event, context):
9     try:
10         params = event.get('queryStringParameters') or {}
11         email = params.get('email')
12
13         if email:
```

Items | Amazon D... Roles | IAM | Glob... QueryLambda | F... API Gateway - Sta... Instance details | ... EC2 Instance Con... User Submission F... +

https://ap-south-1.console.aws.amazon.com/lambda/home?region=ap-south-1#/functions/QueryLambda?tab=testing

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

Lambda > Functions > QueryLambda

The test event "GetAllSubmissions" was successfully saved.

Code Test Monitor Configuration Aliases Versions

Executing function: succeeded (logs)

Details

```
{
  "statusCode": 200,
  "headers": {
    "Access-Control-Allow-Origin": "*"
  },
  "body": "[{\"submissionDate\": \"2025-11-01T11:45:59.856003\", \"message\": \"Hello!\", \"email\": \"john@example.com\", \"name\": \"John Doe\", \"submissionId\": \"a2d71998-e37d-4737-a943-c271ee983ca3\", \"status\": \"new\"}]"
}
```

Summary

Code SHA-256 4FXpv7UXc8Tu3grDvN4JRRsW4dblwOI7H+DUN3HIYK4=	Execution time 2 hours ago
Function version \$LATEST	Request ID 66ca892d-8cba-4a15-a7a6-5809dd3d1a58

Info Tutorials

Learn how to implement common use cases in AWS Lambda.

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Learn more

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https://ap-south-1.console.aws.amazon.com/console/home?region=ap-south-1

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Items | Amazon D... Roles | IAM | Glob... QueryLambda | F... API Gateway - API... Instance details | ... EC2 Instance Con... User Submission | ...

https://ap-south-1.console.aws.amazon.com/apigateway/main/apis?api=unselected&experience=rest&region=ap-south-1

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API Gateway > APIs

API Gateway

APIs

Custom domain names

Domain name access associations

VPC links

Usage plans

API keys

Client certificates

Settings

Successfully created deployment for UserSubmissionAPI. This deployment is active for prod.

APIs (1/1)

Find APIs

Name	Description	ID	Protocol	API endpoint type	Created
UserSubmissionAPI		n9649krbj	REST	Regional	2025-11-01

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Items | Amazon D... Roles | IAM | Glob... QueryLambda | F... API Gateway - Resources - UserSubmissionAPI (n9649krbj) Instance details | ... EC2 Instance Con... User Submission | ...

https://ap-south-1.console.aws.amazon.com/apigateway/main/apis/n9649krbj/resources?api=n9649krbj&experience=rest&region=ap-south-1

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API Gateway > APIs > Resources - UserSubmissionAPI (n9649krbj)

API Gateway

APIs

Custom domain names

Domain name access associations

VPC links

API: UserSubmissionAPI

Resources

Stages

Authorizers

Gateway responses

Models

Resource policy

Documentation

Dashboard

API settings

Successfully created deployment for UserSubmissionAPI. This deployment is active for prod.

Resources

Create resource

Resource details

Path

/

Update documentation

Enable CORS

Resource ID

8ewbf9htrb

Methods (0)

Delete

Create method

Method type

Integration type

Authorization

API key

No methods

No methods defined.

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https://ap-south-1.console.aws.amazon.com/apigateway/main/apis/n9649krbj/resources?api=n9649krbj&experience=rest&region=ap-south-1

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API Gateway > APIs > Resources - UserSubmissionAPI (n9649krbj)

**API Gateway**

- APIs
- Custom domain names
- Domain name access associations
- VPC links

▼ **API: UserSubmissionAPI**

- Resources
- Stages
- Authorizers
- Gateway responses
- Models
- Resource policy
- Documentation
- Dashboard
- API settings

**Resources**

Successfully created deployment for UserSubmissionAPI. This deployment is active for prod.

Create resource

- /
- /submissions
  - GET
  - OPTIONS
- /submit
  - OPTIONS
  - POST

**Resource details**

Path: /submit

Resource ID: 5cj01x

API actions: Delete, Update documentation, Enable CORS

Deploy API

**Methods (2)**

	Method type	Integration type	Authorization	API key
<input type="radio"/>	OPTIONS	Mock	None	Not required
<input type="radio"/>	POST	Lambda	None	Not required

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https://ap-south-1.console.aws.amazon.com/apigateway/main/apis/n9649krbj/resources?api=n9649krbj&experience=rest&region=ap-south-1

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API Gateway > APIs > Resources - UserSubmissionAPI (n9649krbj)

**API Gateway**

- APIs
- Custom domain names
- Domain name access associations
- VPC links

▼ **API: UserSubmissionAPI**

- Resources
- Stages
- Authorizers
- Gateway responses
- Models
- Resource policy
- Documentation
- Dashboard
- API settings

**Resources**

Successfully created deployment for UserSubmissionAPI. This deployment is active for prod.

Create resource

- /
- /submissions
  - GET
  - OPTIONS
- /submit
  - OPTIONS
  - POST

**Resource details**

Path: /submissions

Resource ID: cf0uaw

API actions: Delete, Update documentation, Enable CORS

Deploy API

**Methods (2)**

	Method type	Integration type	Authorization	API key
<input type="radio"/>	GET	Lambda	None	Not required
<input type="radio"/>	OPTIONS	Mock	None	Not required

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https://ap-south-1.console.aws.amazon.com/apigateway/main/apis/n9649krbj/stages?api=n9649krbj&experience=rest&region=ap-south-1

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API Gateway > APIs > UserSubmissionAPI (n9649krbj) > Stages

API Gateway

- APIs
- Custom domain names
- Domain name access associations
- VPC links

▼ API: UserSubmissionAPI

- Resources
- Stages
- Authorizers
- Gateway responses
- Models
- Resource policy
- Documentation
- Dashboard
- API settings

Successfully created deployment for UserSubmissionAPI. This deployment is active for prod.

Stages

prod

Stage actions Create stage

Stage details Info Edit

Stage name: prod

Rate Info: 10000

Cache cluster Info: Inactive

Default method-level caching: Inactive

Web ACL: -

Client certificate: -

Burst Info: 5000

Copy URL: https://n9649krbj.execute-api.ap-south-1.amazonaws.com/prod

Active deployment

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Items | Amazon D... Roles | IAM | Glob... QueryLambda | F... API Gateway - Sta... Instances | EC2 | EC2 Instance Con... User Submission |

https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

EC2 > Instances

EC2

- Dashboard
- Events
- ▼ Instances
- Instances
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances
- Dedicated Hosts
- Capacity Reservations
- Capacity Manager New
- ▼ Images
- AMIs
- AMI Catalog

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
FormServer	i-02681090999727f9a	Running	t3.micro	...	...	ap-south-1

i-02681090999727f9a (FormServer)

Details Status and alarms Monitoring Security Networking Storage Tags

▼ Instance summary Info

Instance ID: i-02681090999727f9a

Public IPv4 address: 43.204.107.155 open address

Private IPv4 addresses: 172.31.0.97

IPv6 address: -

Instance state: Running

Public DNS: -

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Items | Amazon D... Roles | IAM | Glob... QueryLambda | F... API Gateway - Sta... Instances | EC2 | a... EC2 Instance Coni... User Submission F... + -

https://ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=ap-south-1&connType=standard&instanceId=i-02681090999727f... A ☆

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

Installed:  
apr-1.7.5-1.amzn2023.0.4.x86\_64  
apr-util-openssl-1.6.3-1.amzn2023.0.2.x86\_64  
httpd-core-2.4.65-1.amzn2023.0.2.x86\_64  
libbrotli-1.0.9-4.amzn2023.0.2.x86\_64  
mod\_lua-2.4.65-1.amzn2023.0.2.x86\_64  
apr-util-1.6.3-1.amzn2023.0.2.x86\_64  
generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch  
httpd-filesystem-2.4.65-1.amzn2023.0.2.noarch  
mailcap-2.1.49-3.amzn2023.0.3.noarch  
apr-util-ldb-1.6.3-1.amzn2023.0.2.x86\_64  
httpd-2.4.65-1.amzn2023.0.2.x86\_64  
httpd-tools-2.4.65-1.amzn2023.0.2.x86\_64  
mod\_http2-2.0.27-1.amzn2023.0.3.x86\_64

Complete!  
[ec2-user@ip-172-31-0-97 ~]\$ sudo systemctl start httpd  
[ec2-user@ip-172-31-0-97 ~]\$ sudo systemctl enable httpd  
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.  
[ec2-user@ip-172-31-0-97 ~]\$ sudo systemctl status httpd  
● httpd.service - The Apache HTTP Server  
Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)  
Active: active (running) since Sat 2025-11-01 12:48:47 UTC; 48s ago  
Docs: man:httpd.service(8).  
Main PID: 26250 (httpd)  
Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes served/sec: 0 B/sec"  
Tasks: 177 (limit: 1053)  
Memory: 13.3M  
CPU: 111ms  
CGroup: /system.slice/httpd.service  
├─26250 /usr/sbin/httpd -DFOREGROUND  
└─26251 /usr/sbin/httpd -DFOREGROUND

i-02681090999727f9a (FormServer)

PublicIPs: 43.204.107.155 PrivateIPs: 172.31.0.97

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https://ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=ap-south-1&connType=standard&instanceId=i-02681090999727f... A ☆

aws Search [Alt+S] Asia Pacific (Mumbai) Account ID: 8115-7252-8734 Ponvaishnavi

Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)  
Active: active (running) since Sat 2025-11-01 12:48:47 UTC; 48s ago  
Docs: man:httpd.service(8).  
Main PID: 26250 (httpd)  
Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes served/sec: 0 B/sec"  
Tasks: 177 (limit: 1053)  
Memory: 13.3M  
CPU: 111ms  
CGroup: /system.slice/httpd.service  
├─26250 /usr/sbin/httpd -DFOREGROUND  
├─26251 /usr/sbin/httpd -DFOREGROUND  
├─26252 /usr/sbin/httpd -DFOREGROUND  
├─26253 /usr/sbin/httpd -DFOREGROUND  
└─26254 /usr/sbin/httpd -DFOREGROUND

Nov 01 12:48:47 ip-172-31-0-97.ap-south-1.compute.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...  
Nov 01 12:48:47 ip-172-31-0-97.ap-south-1.compute.internal systemd[1]: Started httpd.service - The Apache HTTP Server.  
Nov 01 12:48:47 ip-172-31-0-97.ap-south-1.compute.internal httpd[26250]: Server configured, listening on: port 80  
[ec2-user@ip-172-31-0-97 ~]\$ [[200~cd /var/www/html  
-bash: \$'[[200~cd': command not found  
[ec2-user@ip-172-31-0-97 ~]\$ cd /var/www/html  
[ec2-user@ip-172-31-0-97 html]\$ sudo nano index.html  
[ec2-user@ip-172-31-0-97 html]\$ sudo chmod 644 /var/www/html/index.html  
[ec2-user@ip-172-31-0-97 html]\$

i-02681090999727f9a (FormServer)

PublicIPs: 43.204.107.155 PrivateIPs: 172.31.0.97

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API Gateway - Stages

Instance details | EC2 | ap-south-

EC2 Instance Connect | ap-south-

User Submissions

Not secure 43.205.111.79

Submit Your Details

Name

Ponvaishnavi

Email

vaishuganesh03@gmail.com

Message

hello

Submit

Submission successful

View All Submissions

Load Submissions

Name	Email	Message	Date	Status
Alice	alice@example.com	Hello, this is a test submission!	2025-11-04T10:58:04.543788	new
Ponvaishnavi	vaishuganesh03@gmail.com	hello	2025-11-04T11:46:28.088366	new