

Task - 1

Name: Jenin Krishna K P

Location: Chennai

Serverless Web Application

The screenshot shows the AWS DynamoDB console with the 'UserSubmissions' table selected. The left sidebar shows navigation options like Dashboard, Tables, and DAX. The main panel displays the table's general information, including its primary key (submissionId), capacity mode (On-Demand), and active alarms. It also shows the table's status as Active and its point-in-time recovery (PITR) setting as Off. A note about PITR is present, stating that it backs up data automatically for restore within 1 to 35 days.

The screenshot shows the AWS EC2 Instances page with one instance named 'WebServer' running successfully. The instance details include its ID (i-00f6d54c2111a180e), state (Running), type (t3.micro), and availability zone (ap-south-1). The instance summary section shows the public IPv4 address (13.127.3.42) and private IPv4 address (172.31.41.100). The instance state is listed as Running.

The screenshot shows the AWS Lambda Functions console. The main area displays the 'QueryLambda' function, which is triggered by an API Gateway. The 'Tutorials' sidebar is open, showing a 'Create a simple web app' tutorial with steps to build a Lambda function with a function URL that outputs a webpage.

The screenshot shows the AWS Lambda Functions console with the 'Test' tab selected. It displays the execution logs for a successful test run, showing the function's SHA-256 code and request ID. The 'Tutorials' sidebar is open, showing a 'Create a simple web app' tutorial.

```

lambda_function.py
import json
import boto3
from botocore.dynamodb.conditions import Attr
dynamodb = boto3.resource("dynamodb")
table = dynamodb.Table("UserSubmissions")
def lambda_handler(event, context):
    try:
        email = None
        if event.get("queryStringParameters"):
            email = event["queryStringParameters"].get("email")
        if email:
            response = table.scan(FilterExpression=Attr("email").eq(email))
        else:
            response = table.scan()
        items = response.get("Items", [])
        return {
            "isBase64Encoded": False,
            "statusCode": 200,
            "headers": {
                "Content-Type": "application/json",
                "Access-Control-Allow-Origin": "*",
                "Access-Control-Allow-Headers": "Content-Type",
                "Access-Control-Allow-Methods": "GET,OPTIONS"
            },
            "body": json.dumps(items)
        }
    except Exception as e:
        return {
            "isBase64Encoded": False,
            "statusCode": 500,
            "headers": {"Access-Control-Allow-Origin": "*"},
            "body": json.dumps({"error": str(e)})
        }

```

Code editor interface showing the function code. The code is a Python script named `lambda_function.py` that handles incoming events by querying a DynamoDB table named `UserSubmissions`. It returns a JSON response with the query results.

SubmissionLambda

Function overview

Description: -

Last modified: 3 days ago

Function ARN: arn:aws:lambda:ap-south-1:29718679-2789:function:SubmissionLambda

Function URL: -

Tutorials

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

Start tutorial

Code

Test | Monitor | Configuration | Aliases | Versions

CloudShell Feedback

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This screenshot shows the AWS Lambda function details page for `SubmissionLambda`. It displays the function's configuration, including its ARN, last modified time, and a simple description. A 'Tutorials' section is present, providing links to learn how to build a simple web app using the function. The bottom navigation bar includes tabs for Code, Test, Monitor, Configuration, Aliases, and Versions, along with CloudShell and Feedback options.

View table | Amazon DynamoDB Instances | EC2 | ap-south-1 SubmissionLambda Functions | +

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

SubmissionLambda

lambda_function.py

```
1 import json
2 import boto3
3 import uuid
4 from datetime import datetime
5 dynamodb = boto3.resource("dynamodb")
6 table = dynamodb.Table("UserSubmissions")
7 def lambda_handler(event, context):
8     try:
9         body = json.loads(event.get("body", "{}"))
10        name = body.get("name")
11        email = body.get("email")
12        message = body.get("message")
13        if not (name and email and message):
14            return {
15                "isBase64Encoded": False,
16                "statusCode": 400,
17                "headers": {
18                    "Access-Control-Allow-Origin": "*",
19                    "Access-Control-Allow-Headers": "Content-Type",
20                    "Access-Control-Allow-Methods": "POST,OPTIONS"
21                },
22                "body": json.dumps({"error": "Missing fields"})
23            }
24        submission_id = str(uuid.uuid4())
25        submission_date = datetime.utcnow().isoformat()
26        table.put_item(Item={
27            "submissionId": submission_id,
28            "name": name,
29            "email": email,
30            "message": message,
31            "submissionDate": submission_date,
32            "status": "submitted"
33        })
34        return {
35            "isBase64Encoded": False,
36            "statusCode": 200,
37        }
38    except Exception as e:
39        return {
40            "isBase64Encoded": False,
41            "statusCode": 500,
42            "headers": {"Access-Control-Allow-Origin": "*"},
43            "body": json.dumps({"error": str(e)})
44        }
```

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View table | Amazon DynamoDB Instances | EC2 | ap-south-1 SubmissionLambda Functions | +

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

SubmissionLambda

lambda_function.py

```
7 def lambda_handler(event, context):
8     try:
9         table.put_item(Item={
10             })
11     return {
12         "isBase64Encoded": False,
13         "statusCode": 200,
14         "headers": {
15             "Access-Control-Allow-Origin": "*",
16             "Access-Control-Allow-Headers": "Content-Type",
17             "Access-Control-Allow-Methods": "POST,OPTIONS"
18         },
19         "body": json.dumps({
20             "message": "Submission successful!",
21             "submissionId": submission_id
22         })
23     }
24 except Exception as e:
25     return {
26         "isBase64Encoded": False,
27         "statusCode": 500,
28         "headers": {"Access-Control-Allow-Origin": "*"},
29         "body": json.dumps({"error": str(e)})
30     }
```

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The screenshot shows the AWS API Gateway Resources page for the UserSubmissionAPI. The left sidebar shows the API Gateway navigation menu with the 'APIs' section expanded, showing 'Custom domain names', 'Domain name access associations', and 'VPC links'. Below that, the 'API: UserSubmissionAPI' section is expanded, showing 'Resources', 'Stages', 'Authorizers', 'Gateway responses', 'Models', 'Resource policy', 'Documentation', 'Dashboard', and 'API settings'. The main content area is titled 'Resources' and shows a tree structure under the path '/'. The '/submissions' node has three methods listed: 'GET', 'OPTIONS', and 'POST'. To the right, the 'Resource details' panel shows the path '/' and resource ID 't971cl5aq4'. The 'Methods (0)' panel indicates 'No methods defined.'.

The screenshot shows the AWS API Gateway Stages page for the UserSubmissionAPI. The left sidebar shows the API Gateway navigation menu with the 'Stages' section expanded, showing 'Authorizers', 'Gateway responses', 'Models', 'Resource policy', 'Documentation', 'Dashboard', and 'API settings'. The main content area is titled 'Stages' and shows a single stage named 'prod'. The 'Stage details' panel for 'prod' shows the stage name 'prod', rate limit of 10000, burst limit of 5000, and default method-level caching set to 'Inactive'. It also displays the invoke URL 'https://6c9u4ndn67.execute-api.ap-south-1.amazonaws.com/prod' and an active deployment message. The bottom status bar shows the date and time as '11/6/2025 3:19 PM'.

```
A newer release of "Amazon Linux" is available.  
Version 2023.9.20251105:  
Run "/usr/bin/dnf check-release-update" for full release and version update info  
`__ _# # # # #  
~~ \_ # # # # #  
~~ \# /  
~~ V- ' __>  
~~ /  
~~ /_ /  
m/`  
Amazon Linux 2023  
https://aws.amazon.com/linux/amazon-linux-2023  
Last login: Mon Nov  3 12:42:26 2025 from 13.233.177.5  
[ec2-user@ip-172-31-41-100 ~]$
```

i-00f6d54c2111a180e (WebServer)
PublicIPs: 13.127.3.42 PrivateIPs: 172.31.41.100

Submit Your Details

Name
john henry

Email
john@gmail.com

Message
working!!

Submit

View All Submissions

Load Submissions

