

Internship Project Report – Task 3

Organization: CODTECH IT SOLUTIONS PVT. LTD.

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Project Title: Multi-Cloud Architecture Using AWS Services

Internship Duration: May 20, 2025 – July 20, 2025

1. Objective

The goal of this project is to design and demonstrate a multi-tier architecture using AWS services (S3, Lambda, API Gateway) to simulate a multi-cloud environment within a single cloud provider (AWS). This demonstrates service distribution, interoperability, and observability.

2. Architecture Overview

The architecture simulates a multi-cloud system using AWS services as follows:

- Frontend hosted on Amazon S3 (Static Website)
- Backend API using AWS Lambda via API Gateway
- Inter-service communication is through HTTPS REST APIs

3. Implementation Steps

Step 1: S3 Static Website Setup

- Created S3 bucket with public access policy
- Enabled static website hosting and uploaded index.html
- Configured CORS settings

Step 2: Lambda Backend Function

- Created Lambda function with Node.js runtime
- Wrote handler function to parse JSON input and return response
- Deployed and tested with sample input

Step 3: API Gateway

- Created HTTP API Gateway
- Integrated with Lambda function
- Enabled CORS and deployed the API

Step 4: Frontend Integration

- Modified JavaScript to call the deployed API Gateway URL
- Uploaded updated HTML to S3

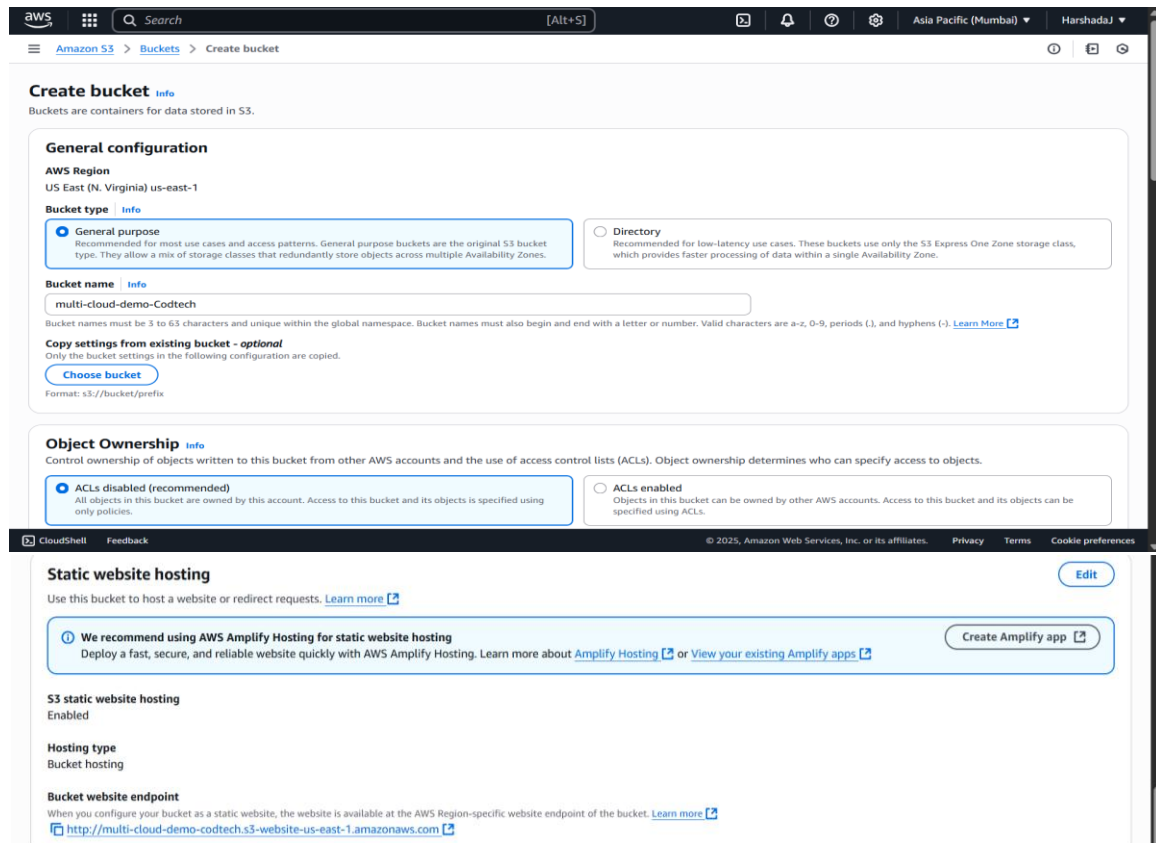
4. Testing and Results

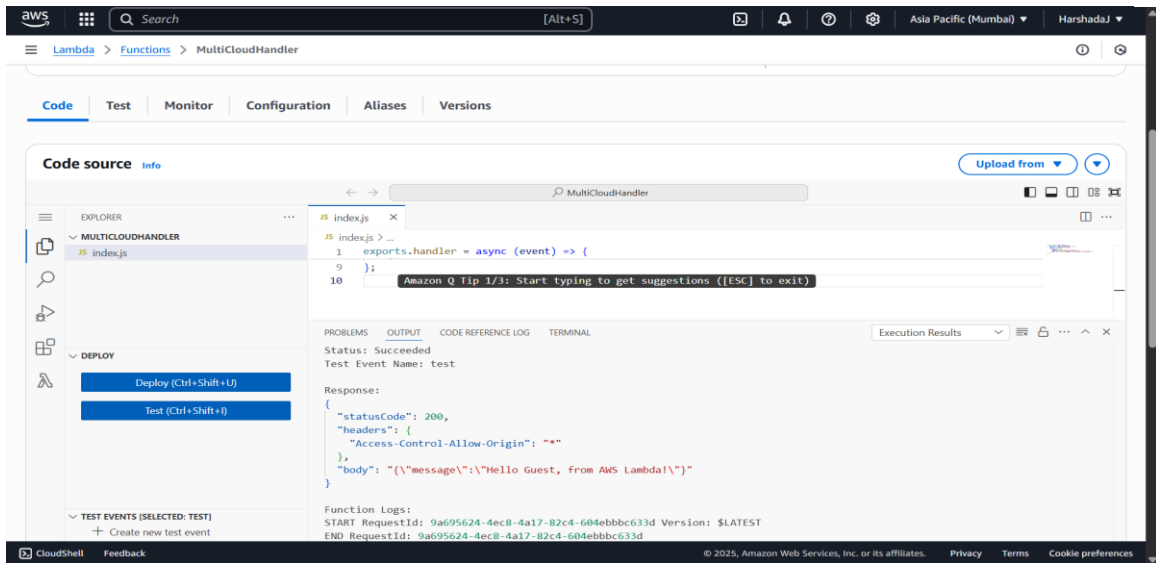
Accessed the S3 website URL, submitted form data, and received successful response from Lambda via API Gateway.

5. Screenshots

[Include the following screenshots here before final submission:]

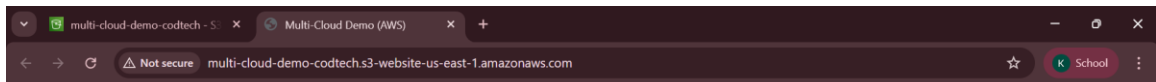
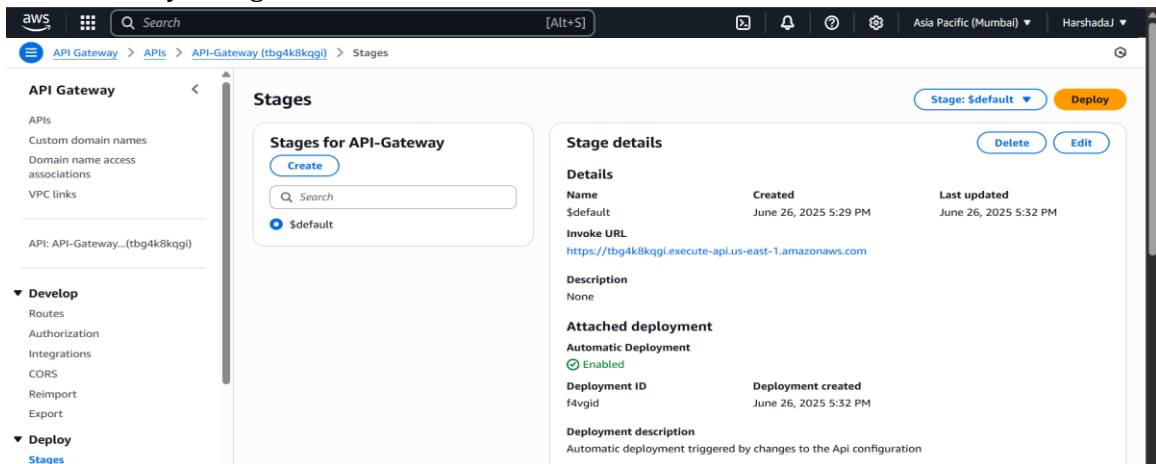
- S3 Bucket settings and Website URL





- Lambda function and test output

- API Gateway configuration



AWS Multi-Cloud Demo

Krushnakant Send to API

6. Conclusion

This project demonstrated how a multi-cloud architecture can be simulated within AWS using distributed services. It also showcased the ability to integrate, monitor, and automate cloud services effectively.