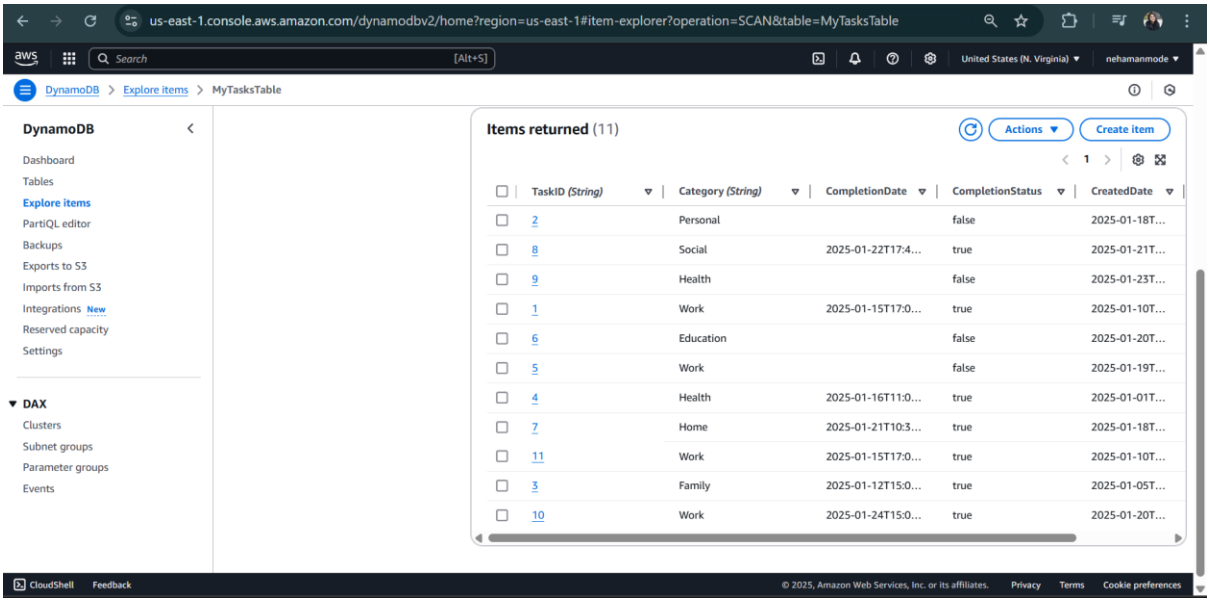
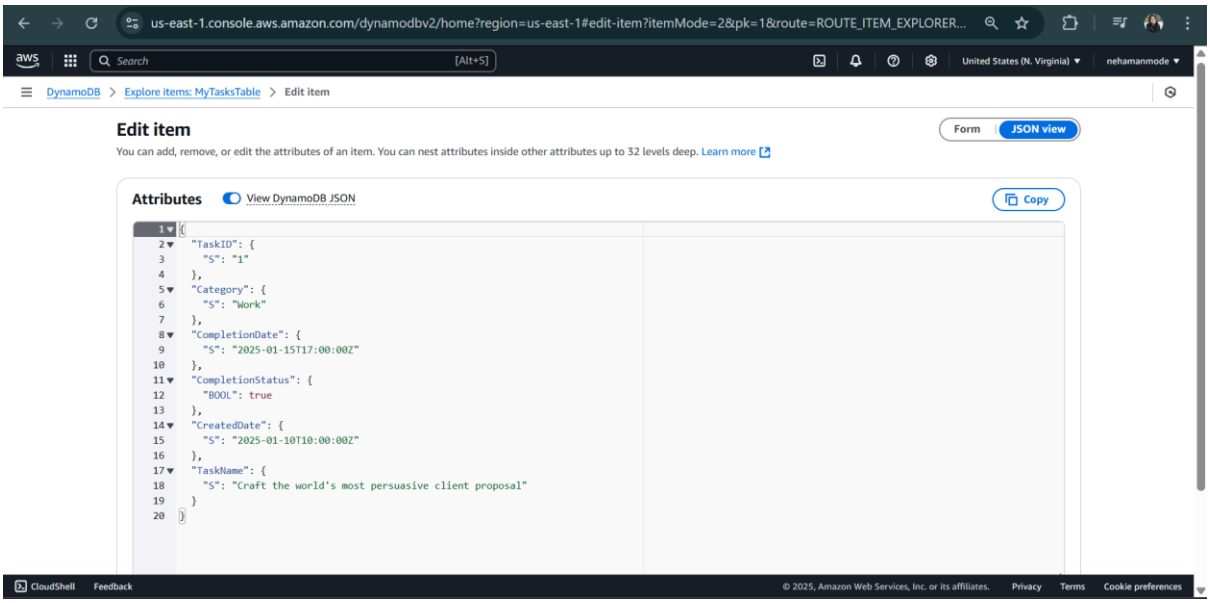
AWS Project: Data Pipeline with QuickSight, DynamoDB, Athena, S3 & IAM

This project demonstrates how to integrate AWS DynamoDB with Athena using Lambda and Glue to enable querying, and then visualize the results in Amazon QuickSight. Below are the step-by-step implementations of this solution.

Step 1: Create DynamoDB Table

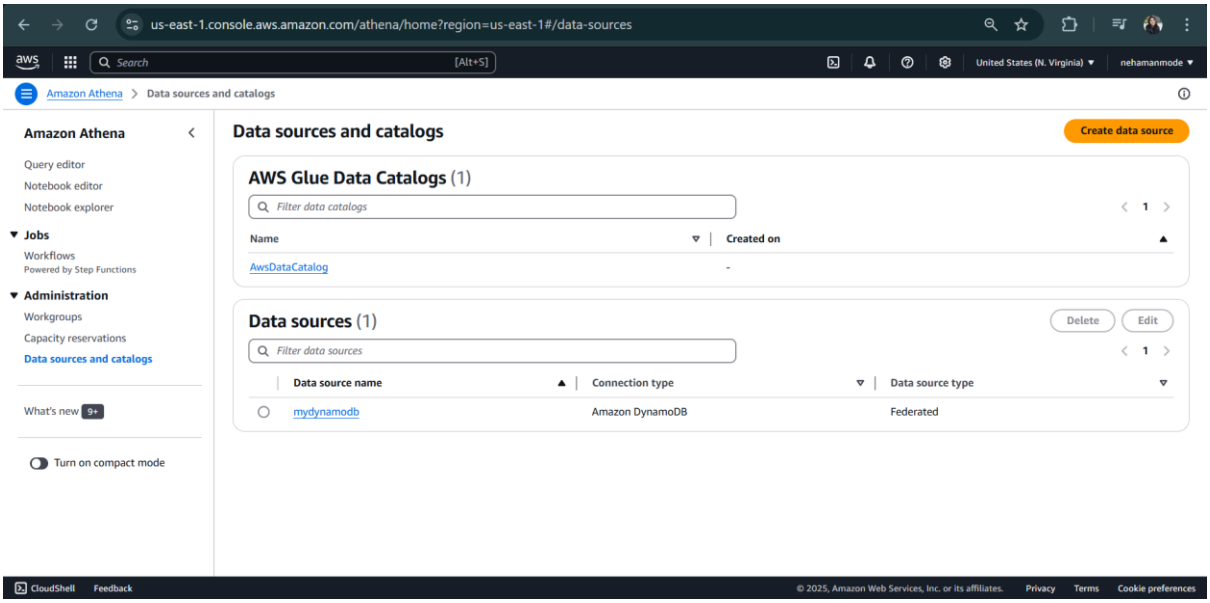
Create a table named `MyTasksTable` in DynamoDB and insert data items.

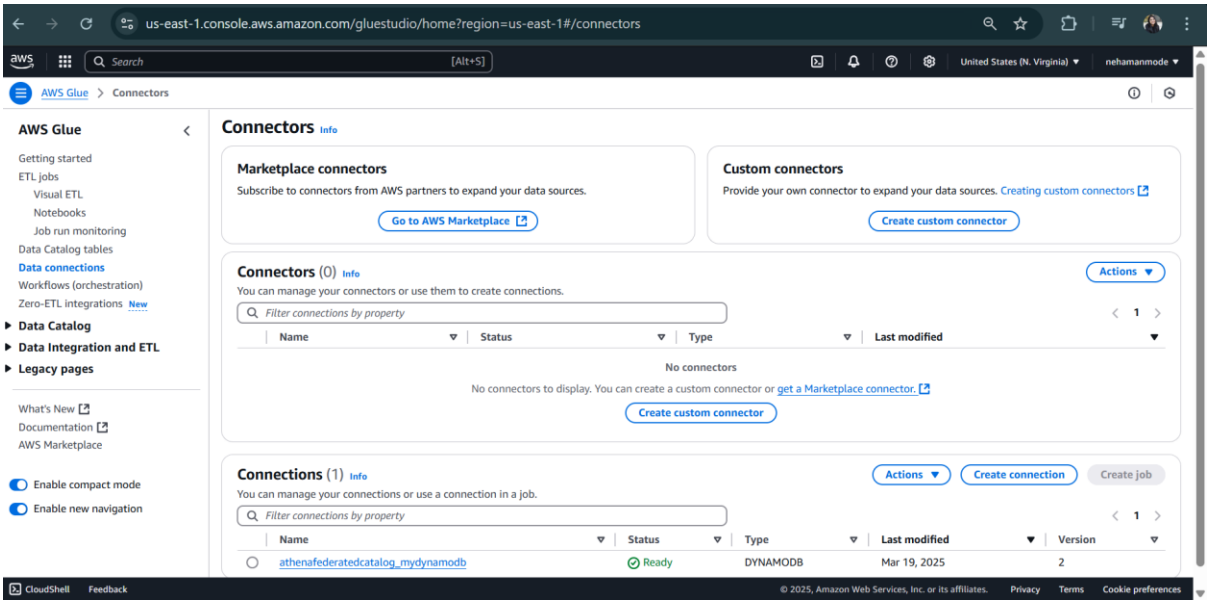




Step 2: Create Data Source in DynamoDB

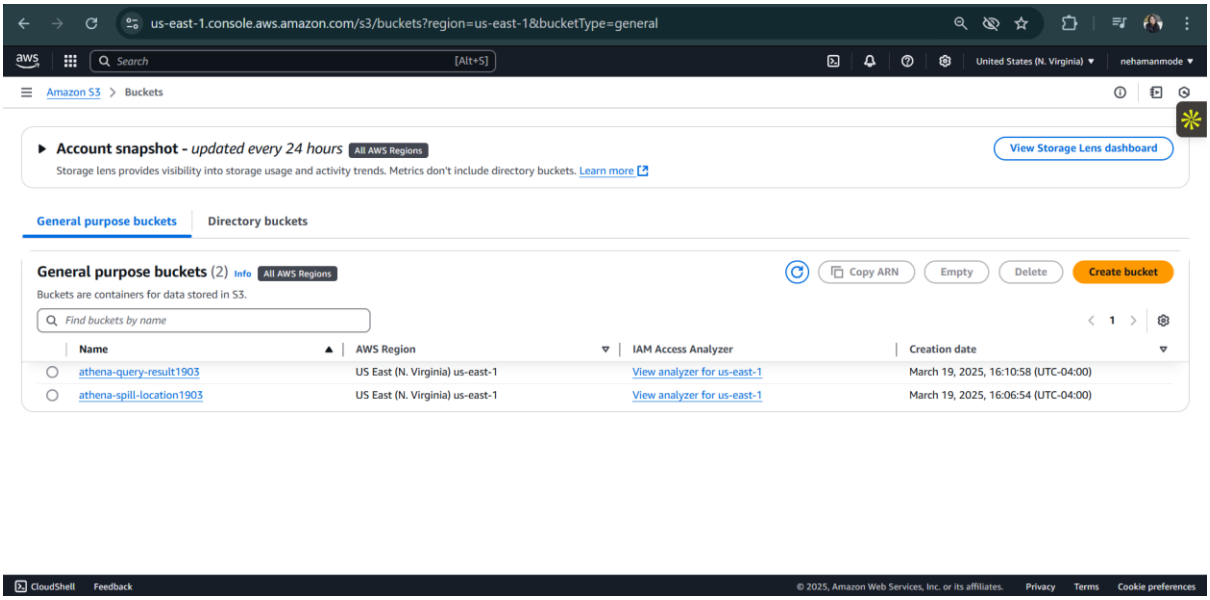
Define a data source in DynamoDB (mydynamodb), which creates a default AWS Glue connection.





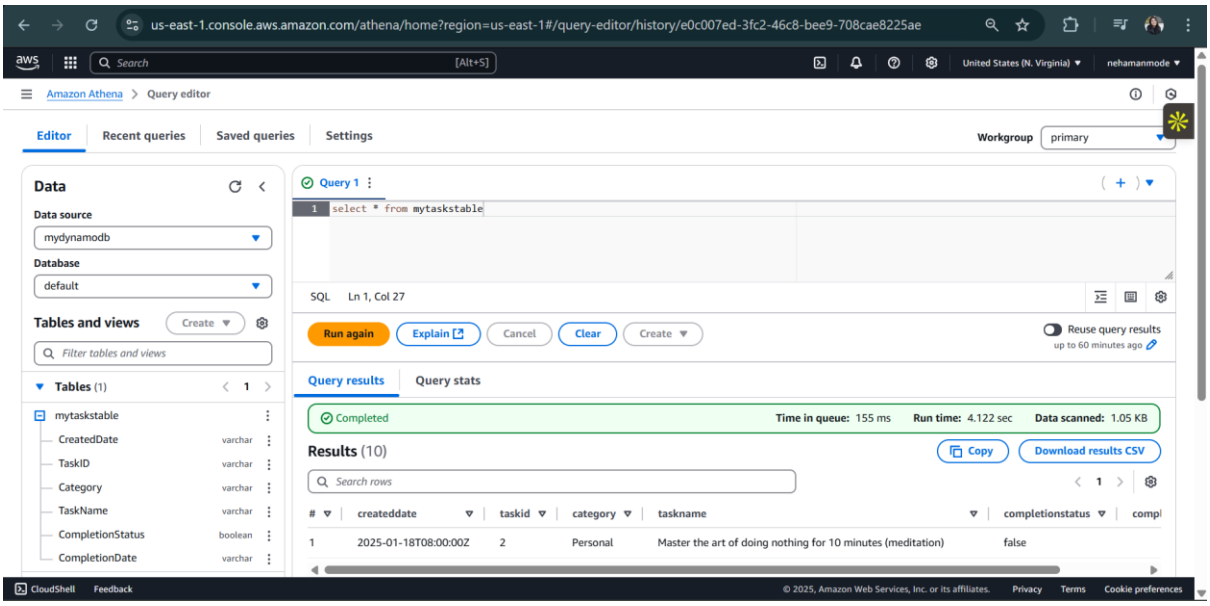
Step 3: Setup S3 Spill Bucket

Create an S3 spill bucket for Athena queries and specify its location while setting up DynamoDB.



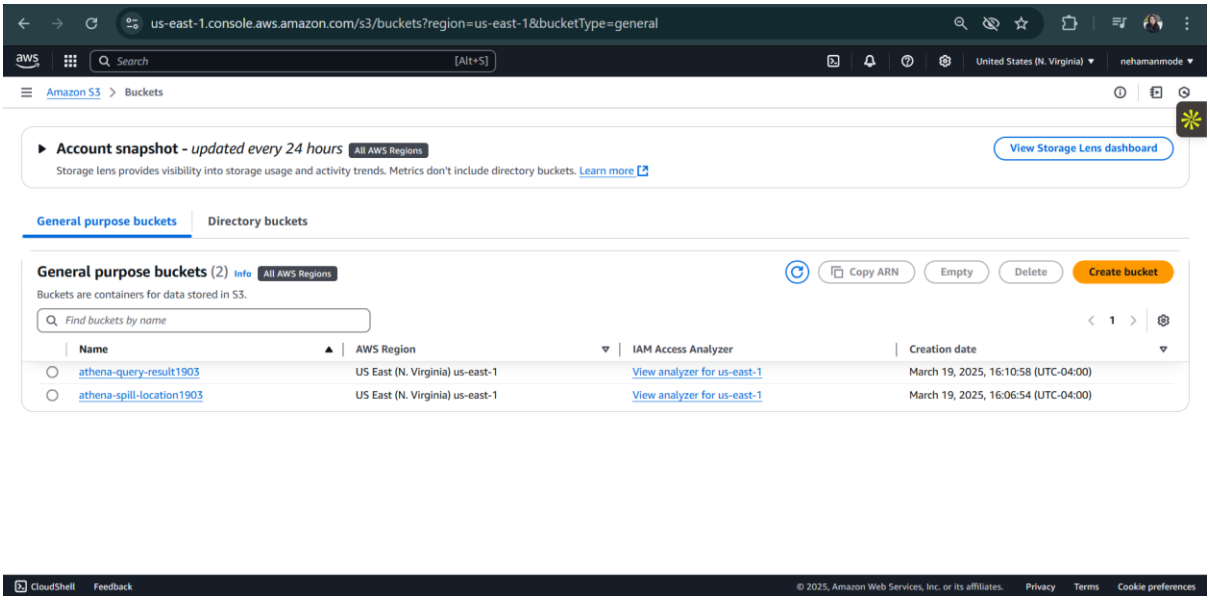
Step 4: Connect to Athena

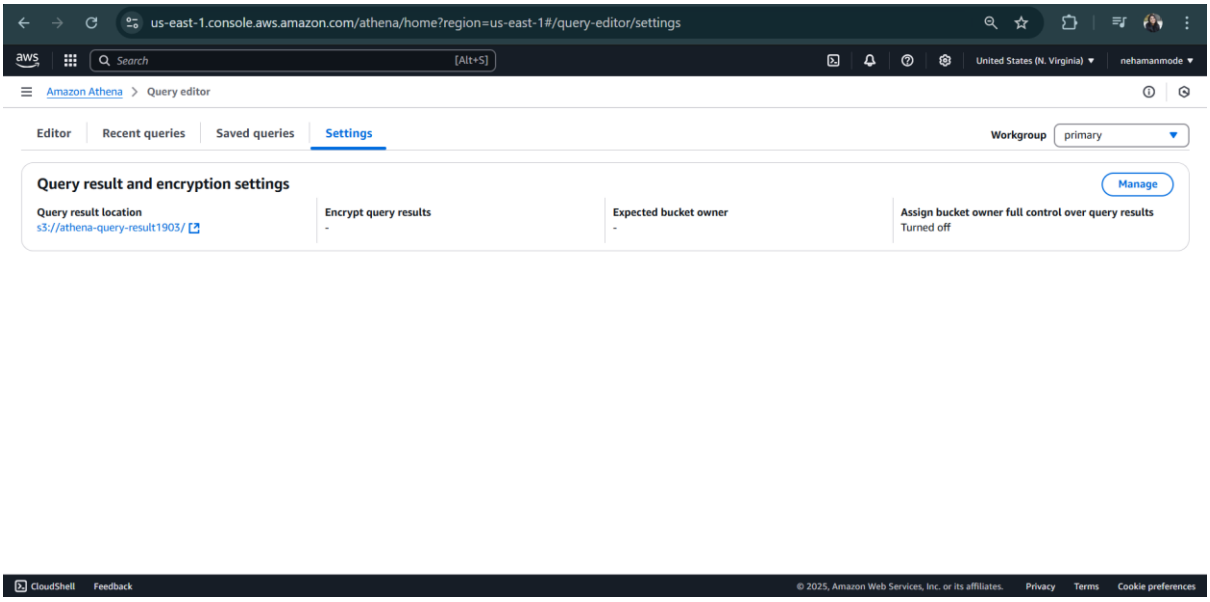
Use Athena to query data from DynamoDB, fetching relevant records.



Step 5: Store Query Results in S3

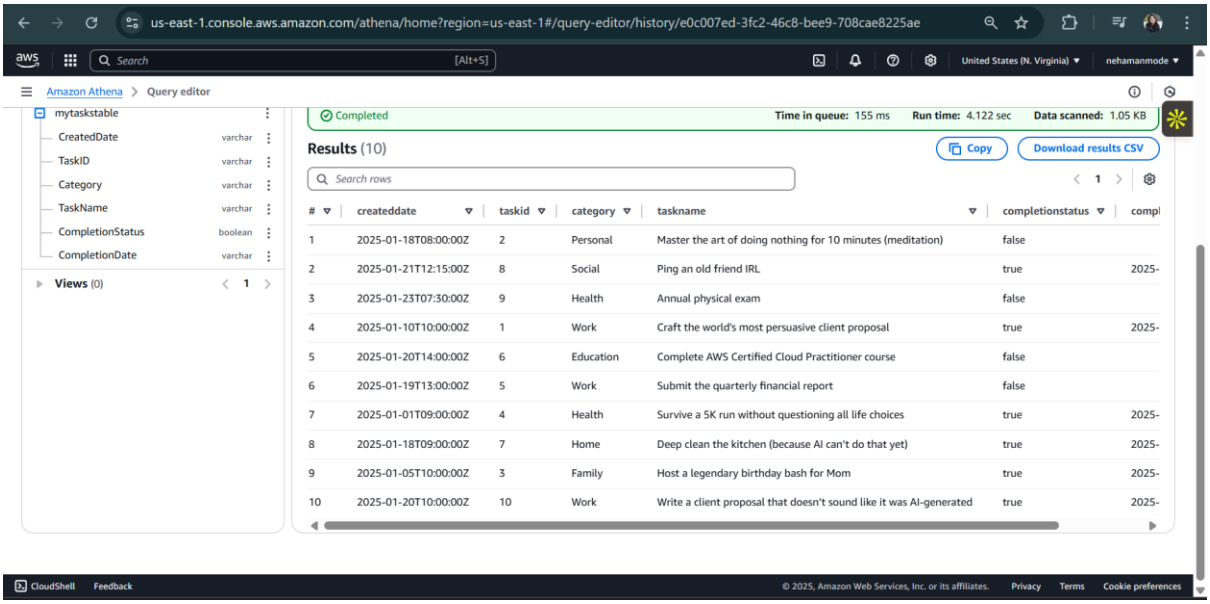
Configure Athena to save query results in the designated S3 bucket.





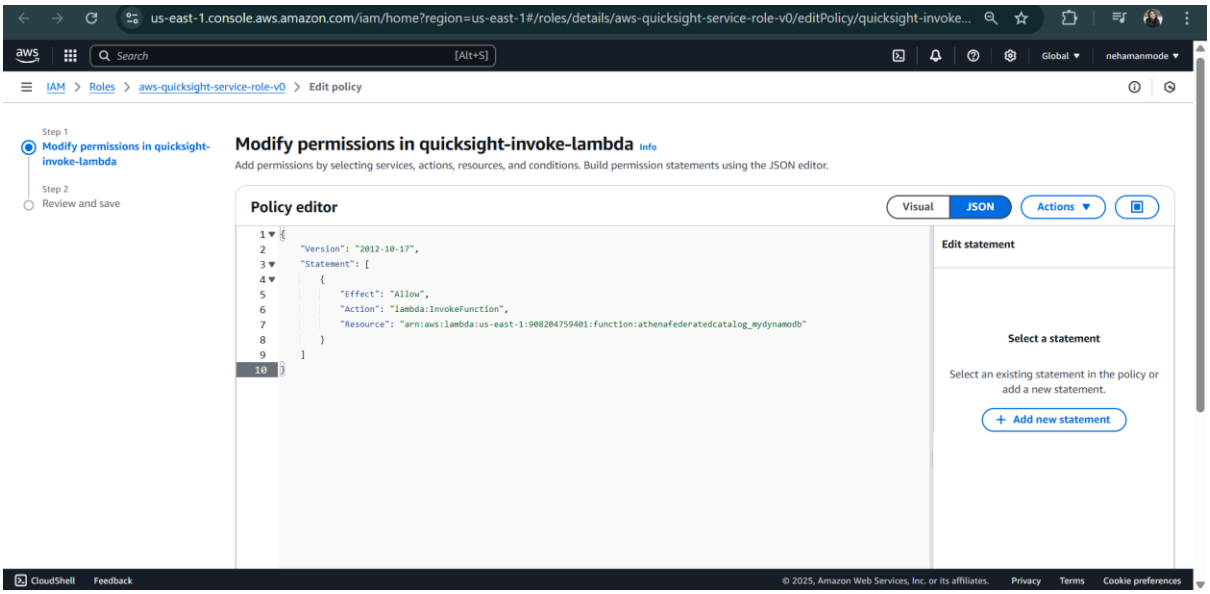
Step 6: View Athena Query Results

Validate that data retrieval is successful.



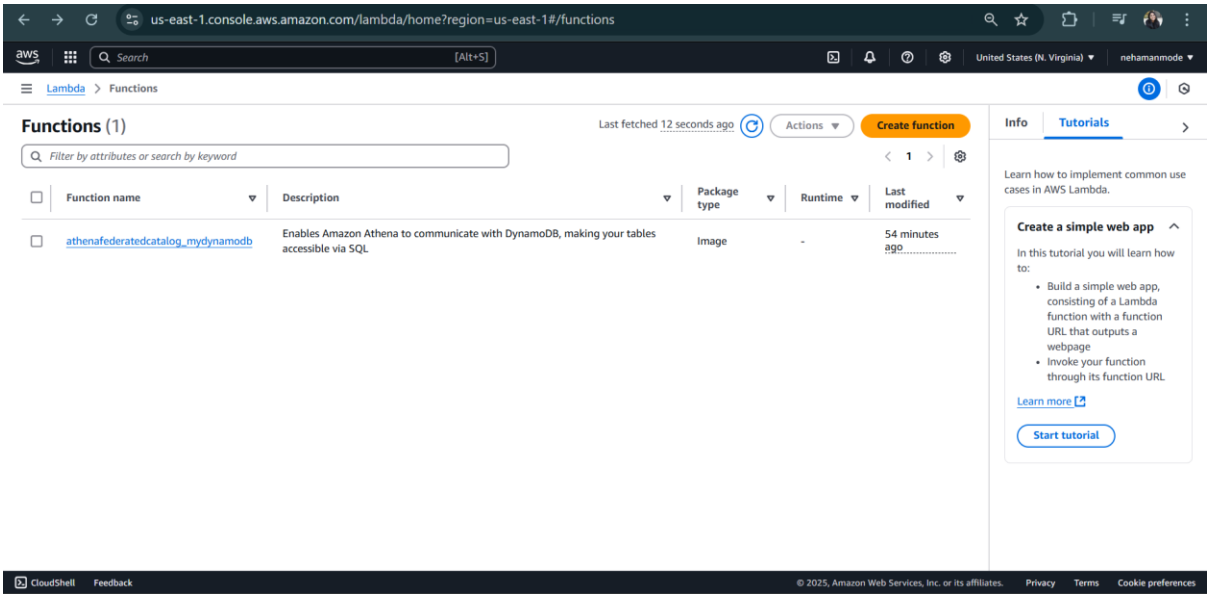
Step 7: Setup QuickSight Permissions

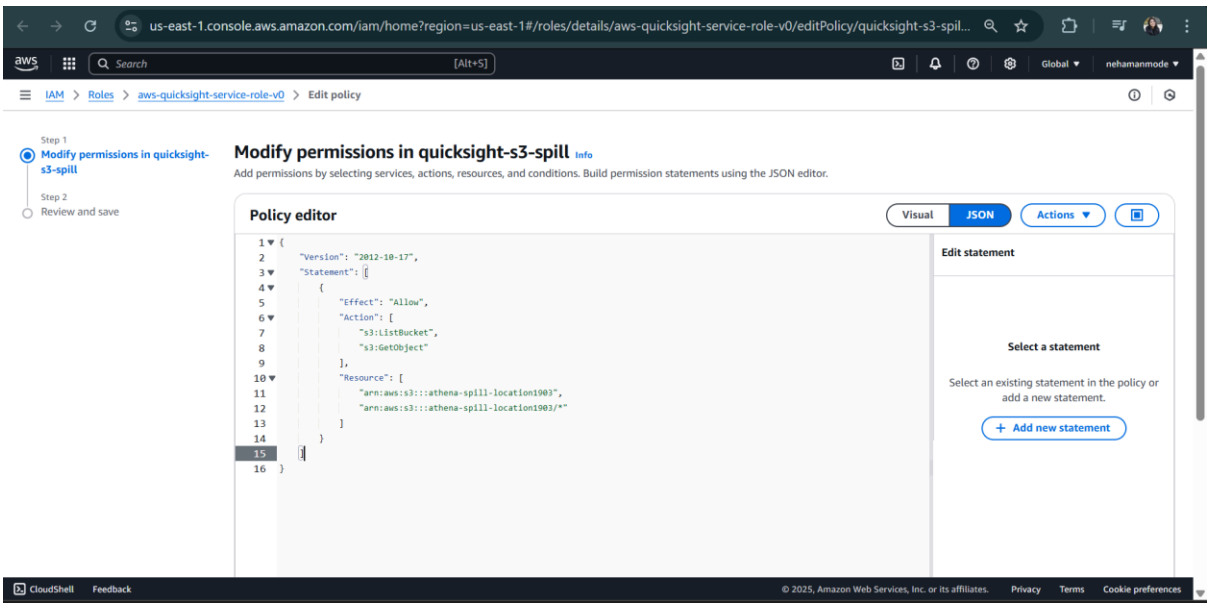
Provide IAM permissions to allow QuickSight to invoke the Lambda function and access the S3 spill bucket.

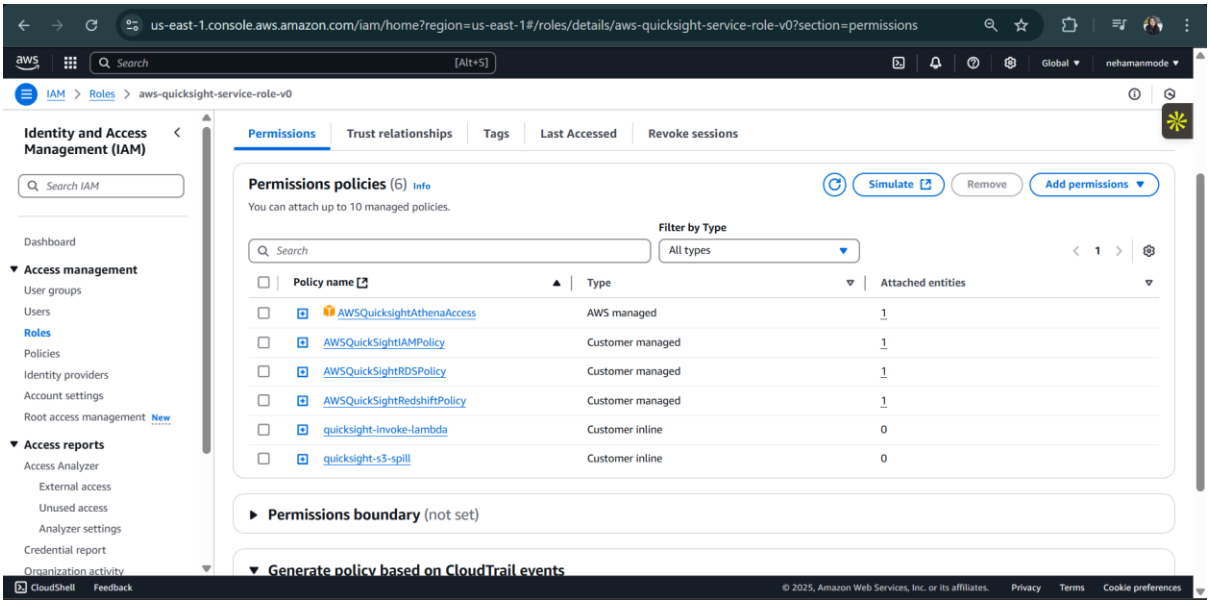


Step 8: Update IAM Policies

Modify Lambda function's policy and attach necessary permissions for QuickSight.

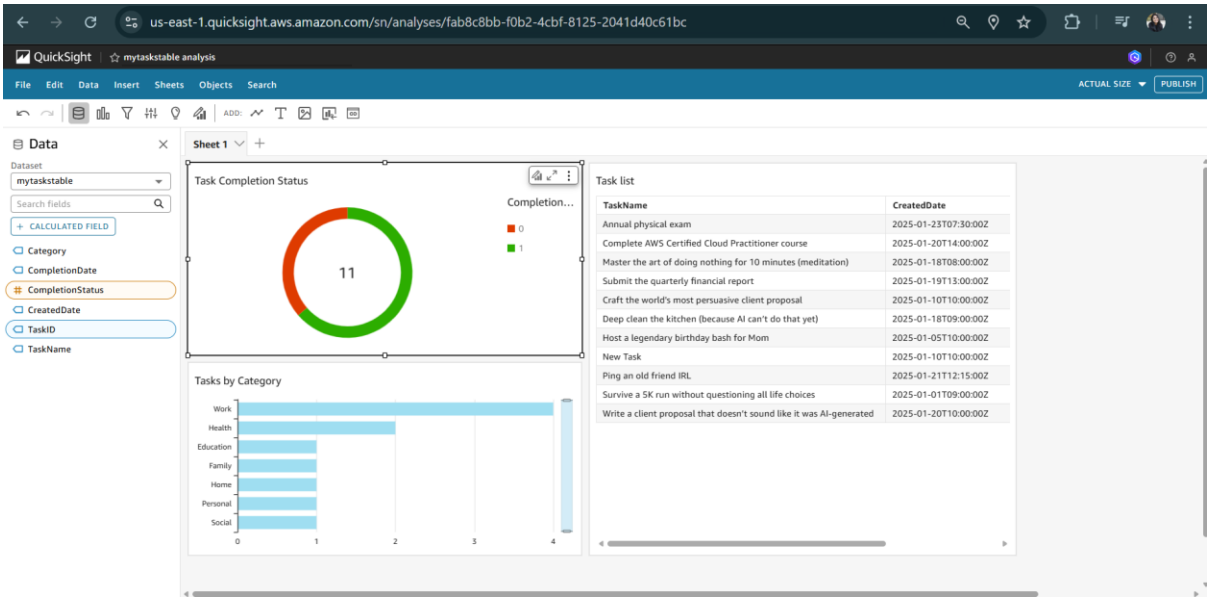






Step 9: Connect QuickSight to Athena

In QuickSight, connect to Athena using the Lambda connector and start building dashboards.



Project Summary

This project successfully integrates AWS DynamoDB with Athena for structured querying, stores results in S3, and visualizes the data in QuickSight. It demonstrates how AWS Glue, Lambda, IAM, and S3 can work together to enable analytics.