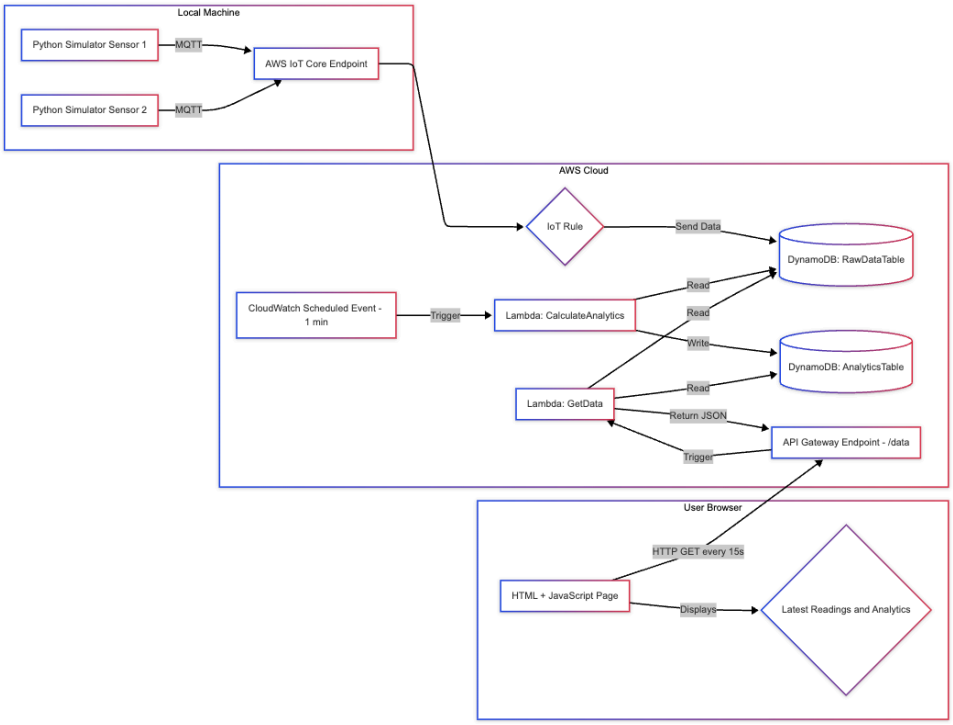
Cloud Application Workshop- AWS IOT DASHBOARD

Team Name: Nano Clouds
Team Members: Apoorva, Junie, Rinku, Ananya
Date: 05/01/2025

Architecture diagram :

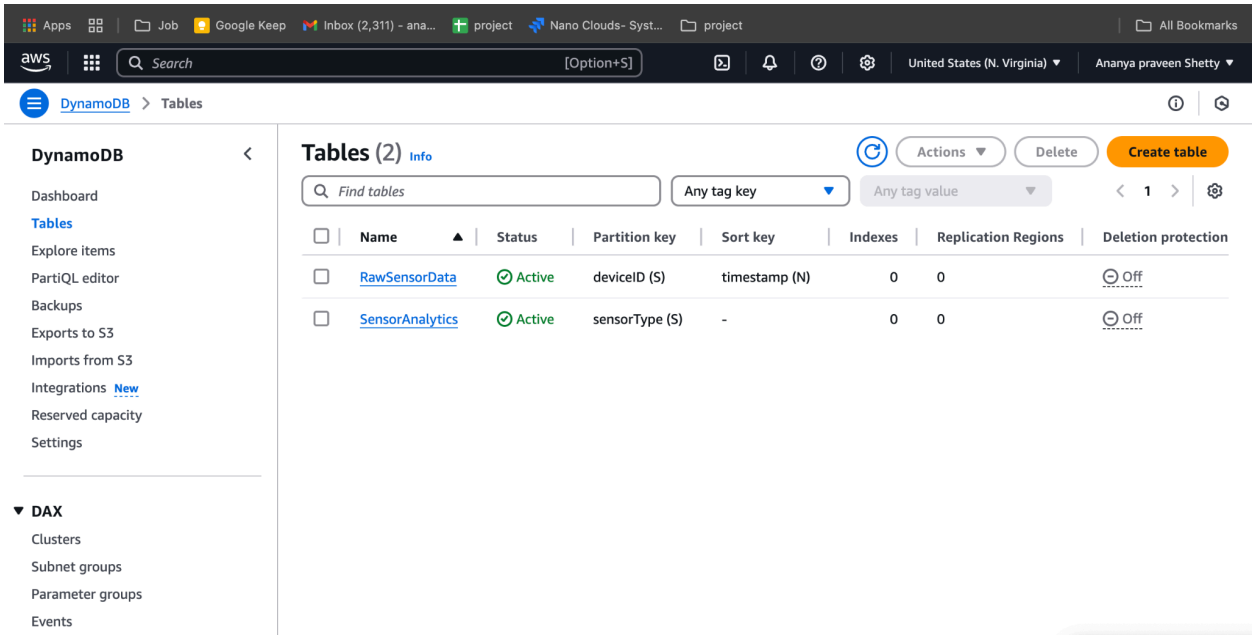


Resources used:

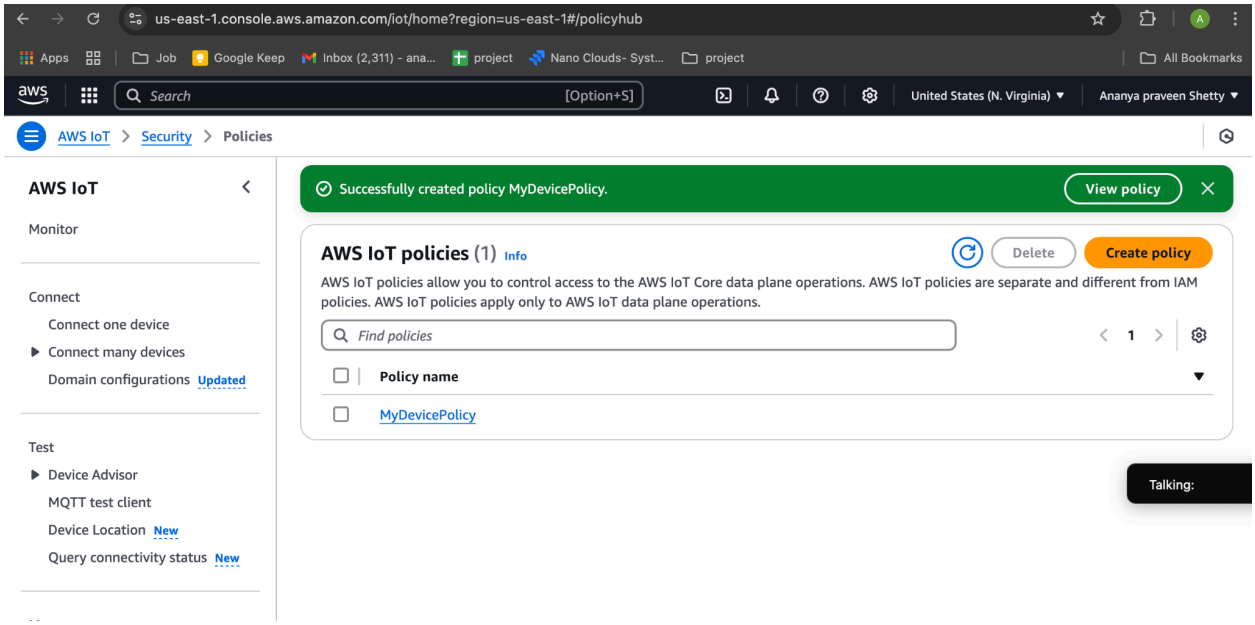
1. **AWS IoT Core:** To securely connect simulated devices and ingest MQTT data.
2. **AWS Lambda (x2):**
    - One for basic analytics (triggered periodically).
    - One to serve data to the dashboard via API Gateway.
3. **Amazon DynamoDB (x2 tables):**
    - One to store raw sensor data.
    - One to store calculated analytics.
4. **Amazon CloudWatch Events (EventBridge):** To trigger the analytics Lambda periodically.
5. **Amazon API Gateway:** To create a simple HTTP endpoint for the dashboard to fetch data.
6. **(Local) Python Script:** To simulate the two sensors.
7. **(Local) Basic HTML/JavaScript:** For the dashboard visualization.

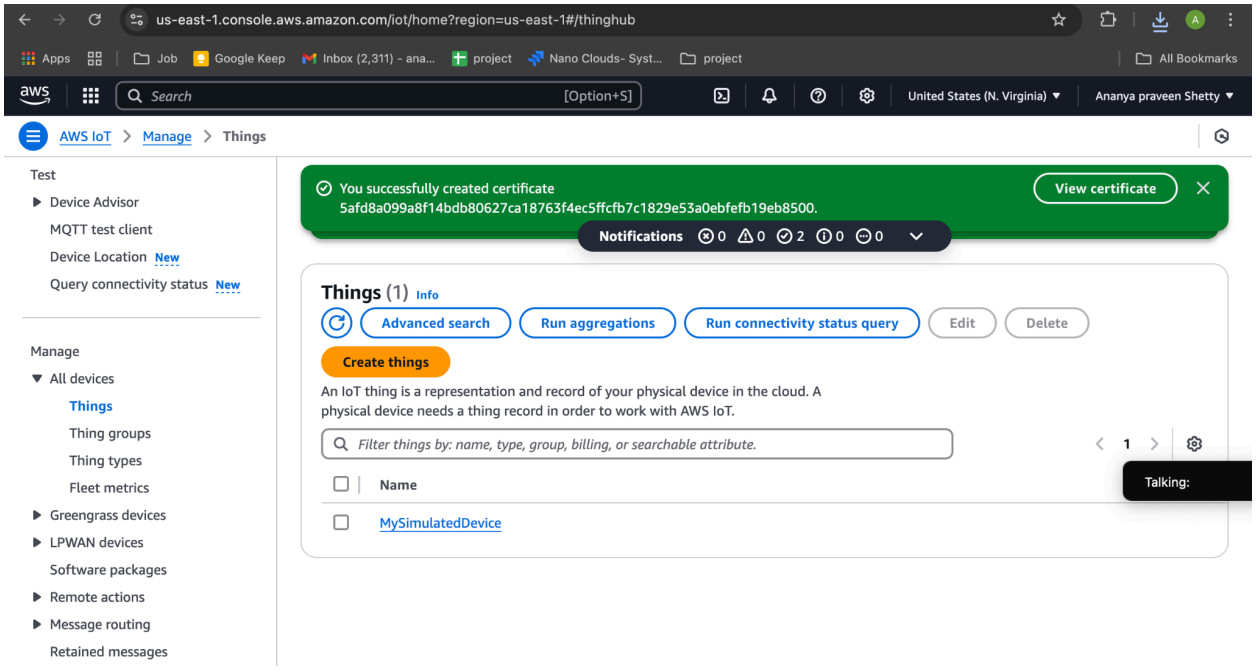
Phase 1: Setup AWS resources

1. Create DynamoDB tables

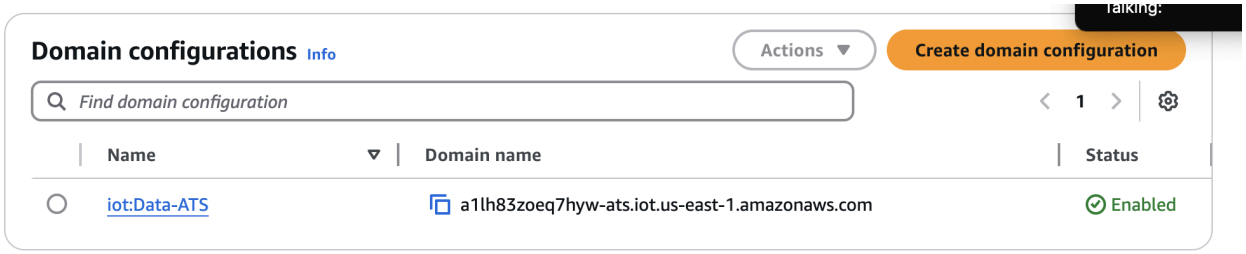


2. Setup AWS IoT core:

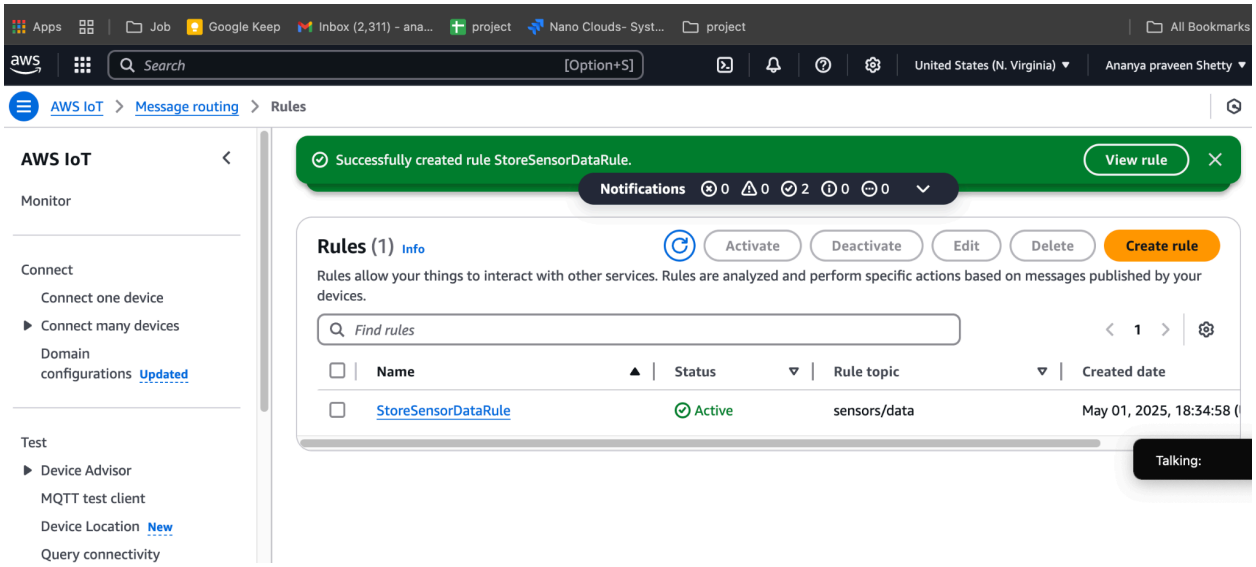




Iot endpoint :

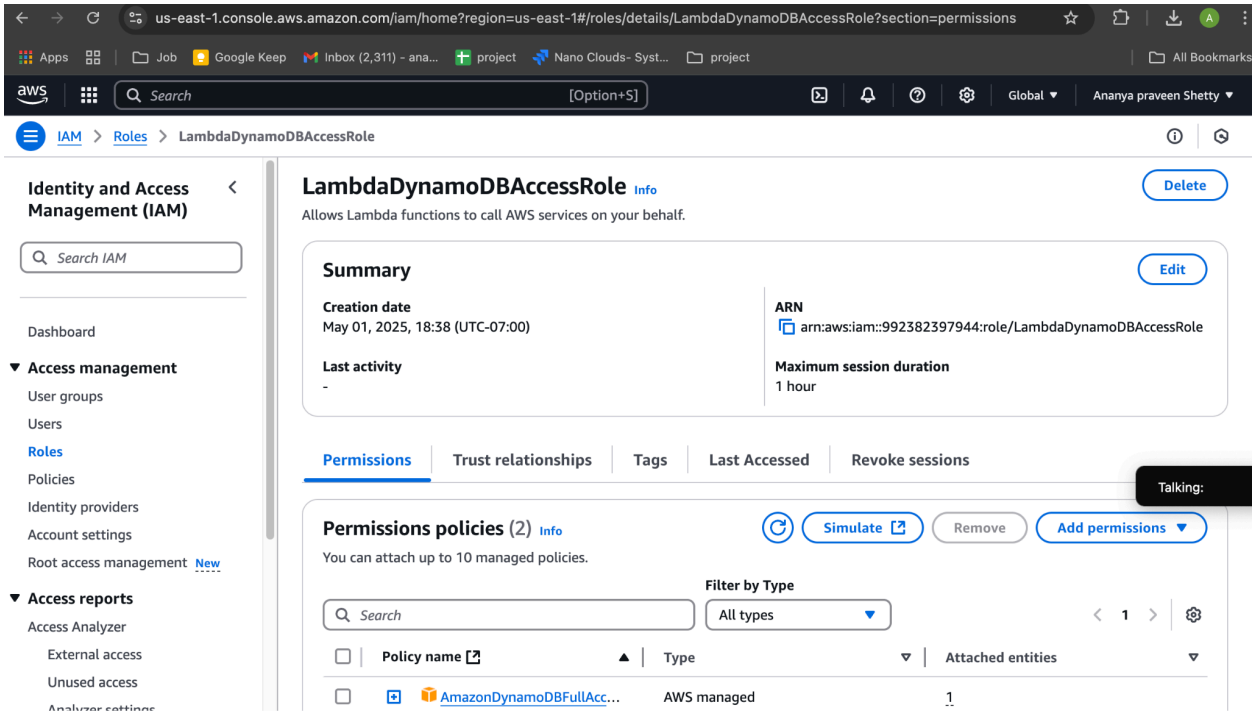


3. Create IoT rule to store data

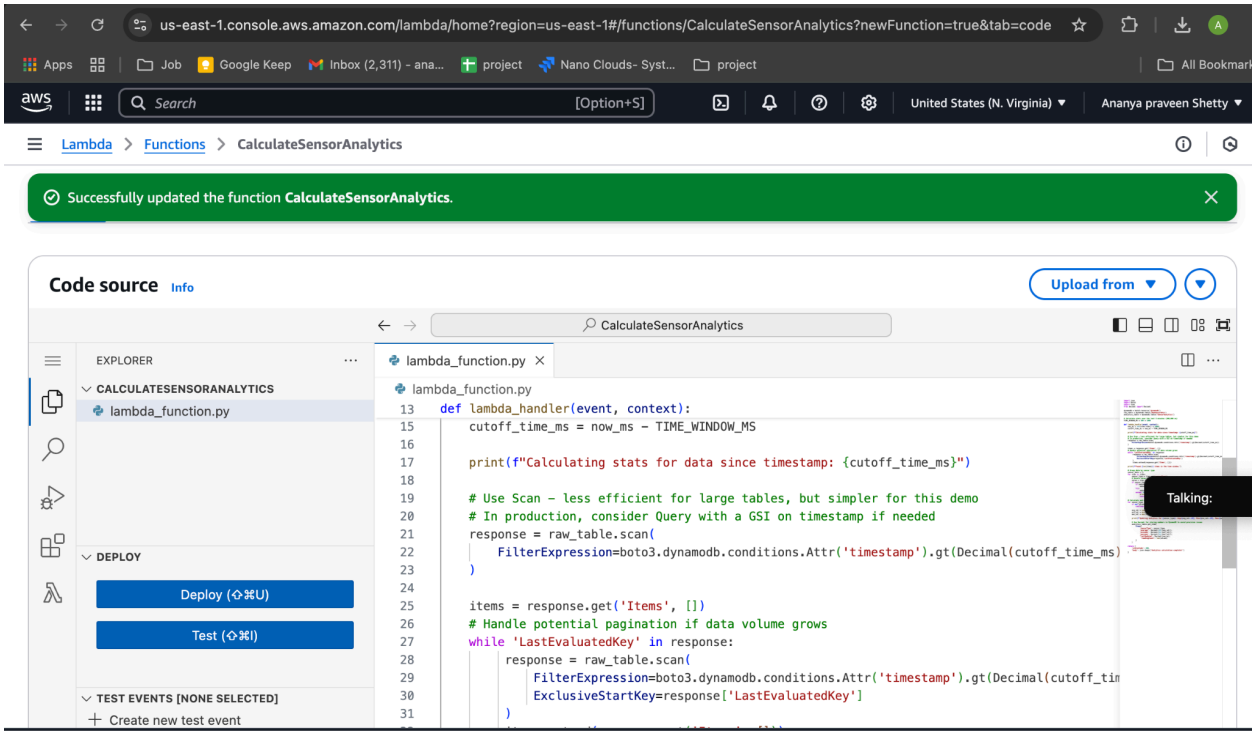


Phase 2:Create Lambda functions

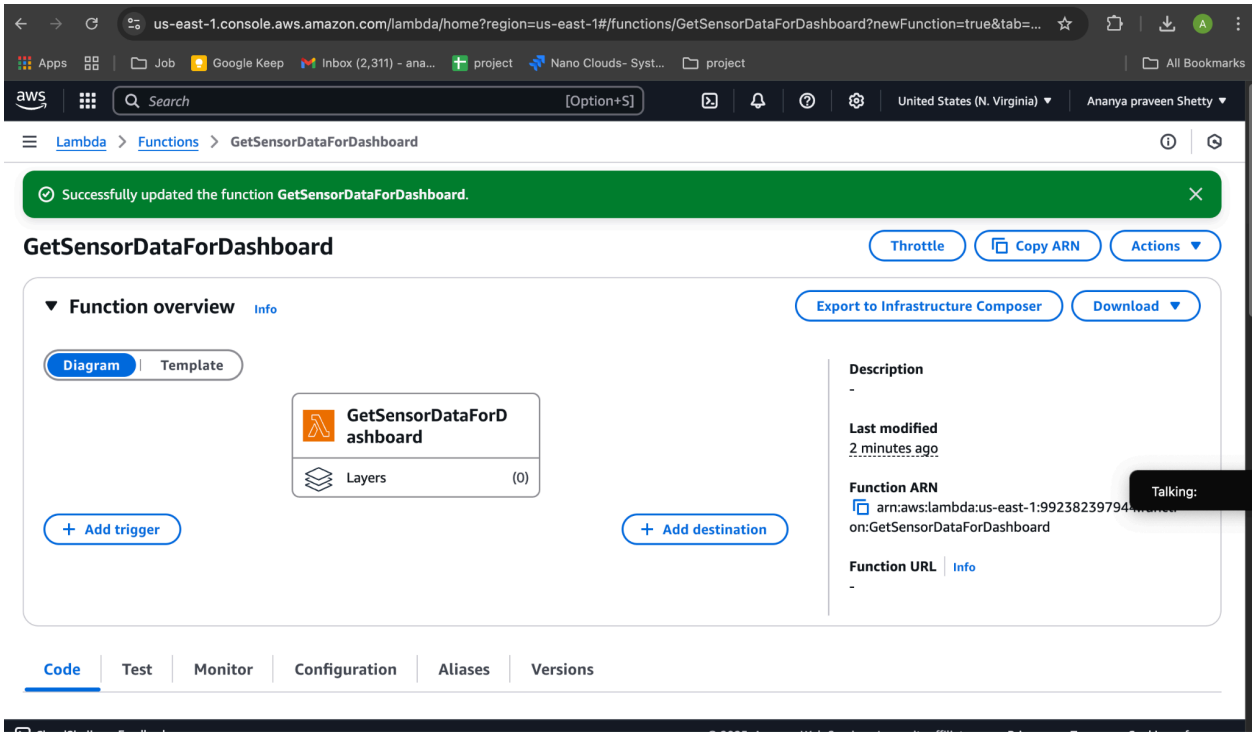
1. Create IAM role for lambdas



2. Create Analytics lambda function and deployed it

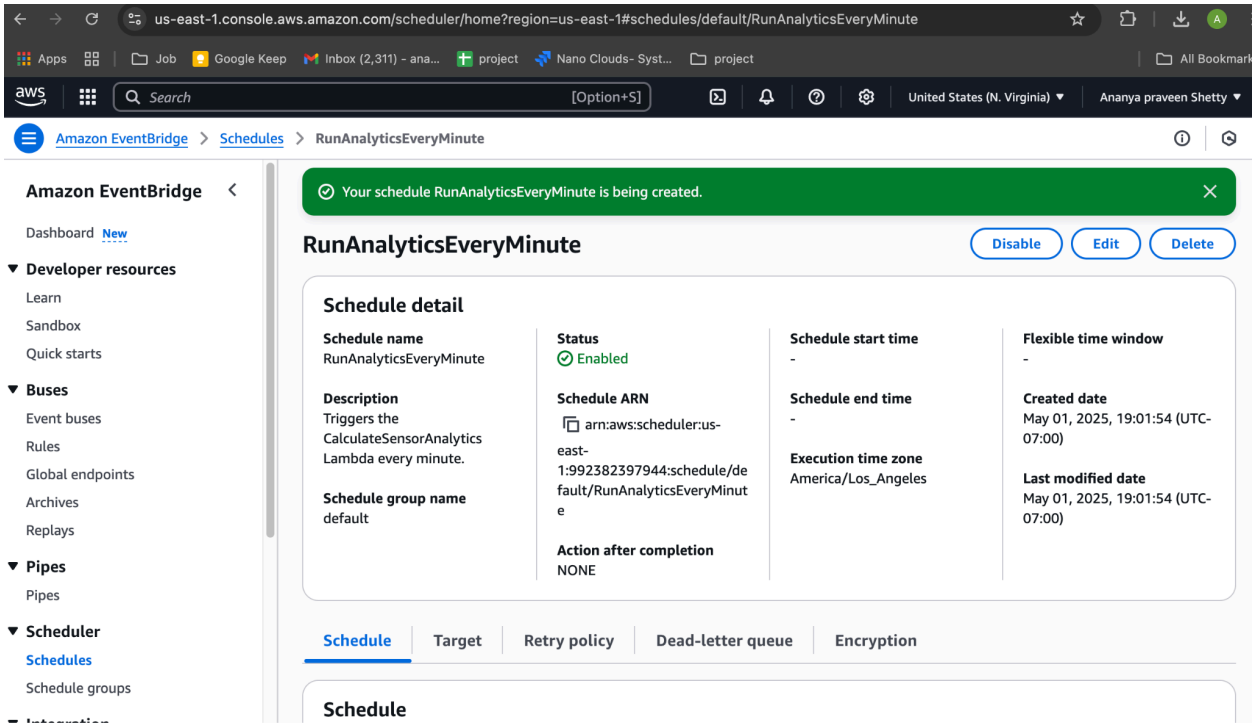


3. Create Dashboard lambda function

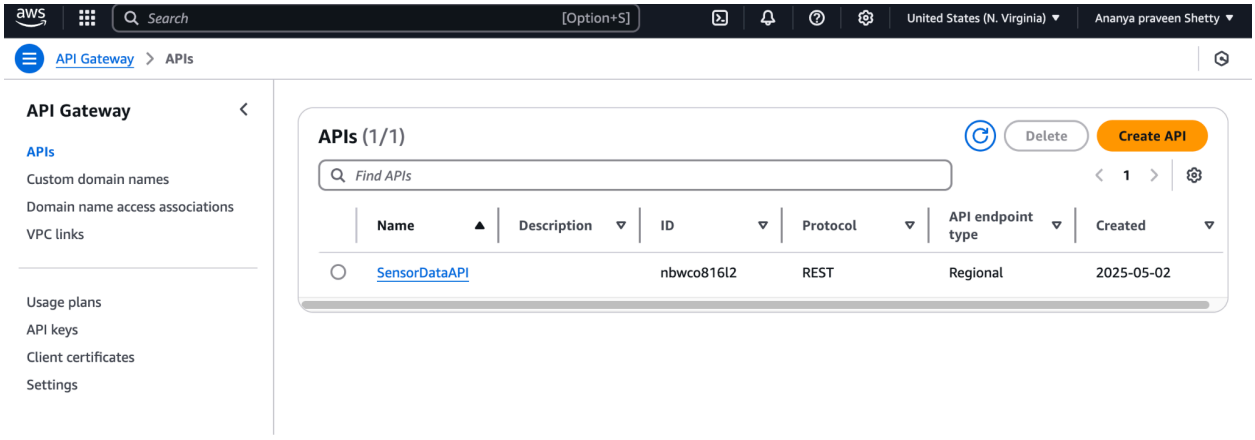


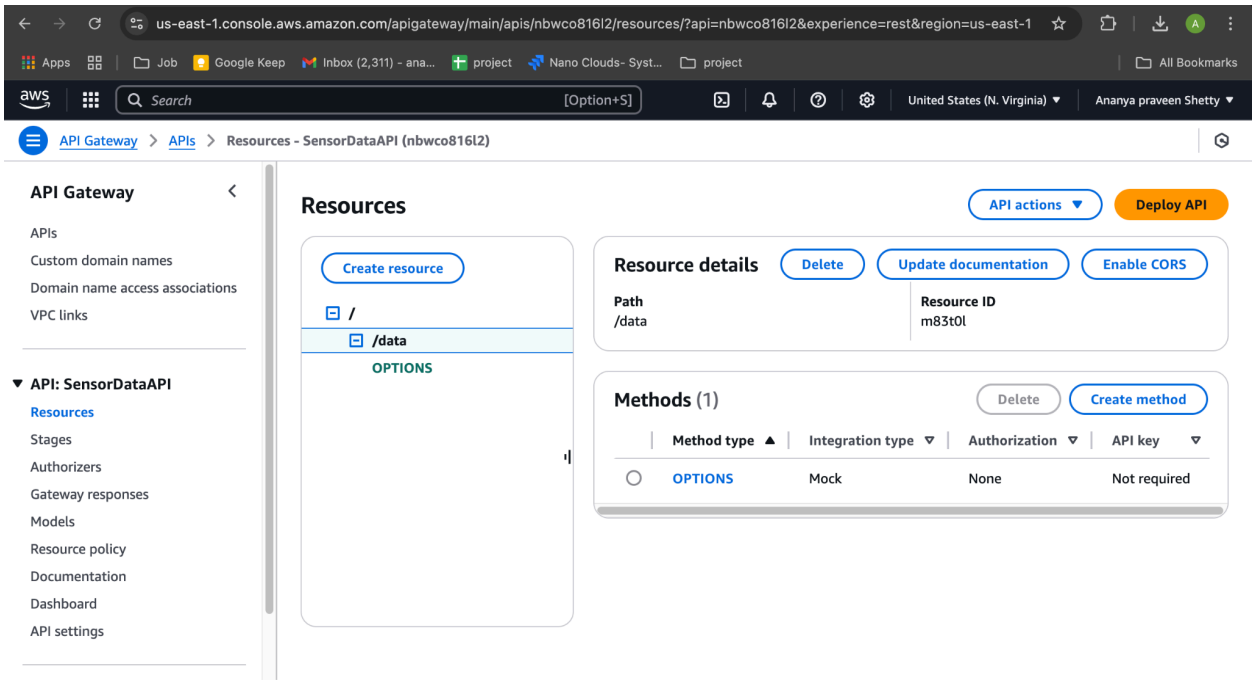
Phase 3: Connect Components

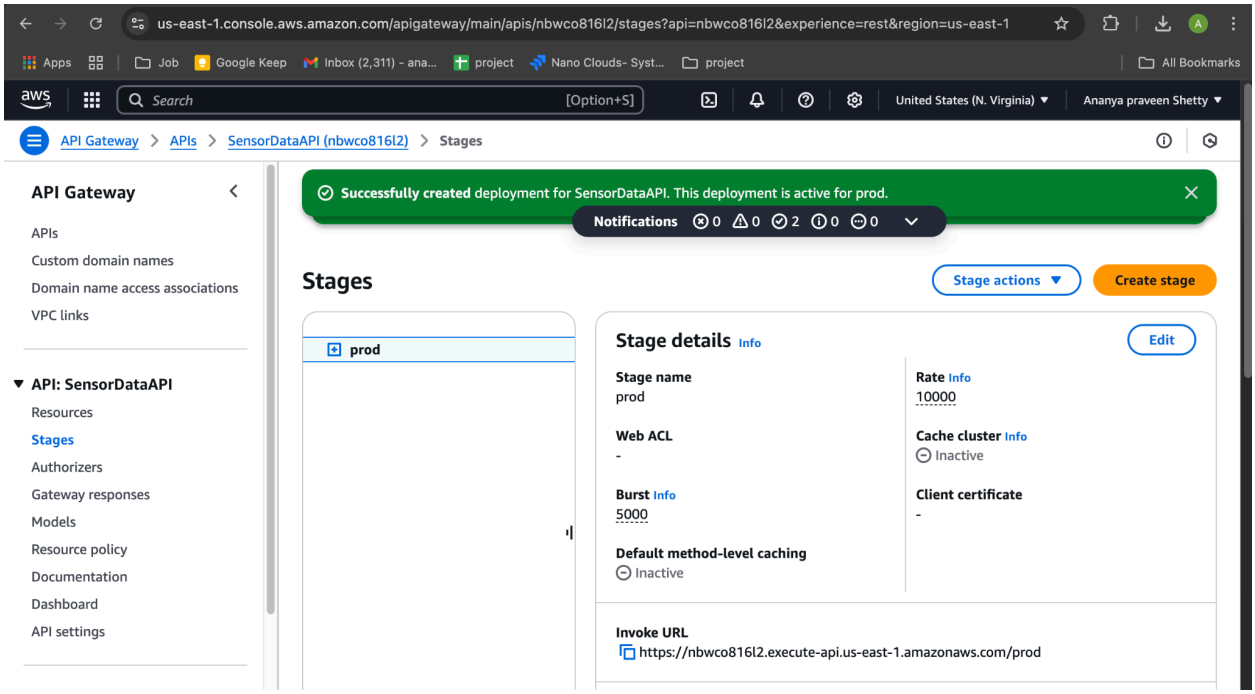
1. Schedule the analytics lambda



2. Create Api Gateway endpoint



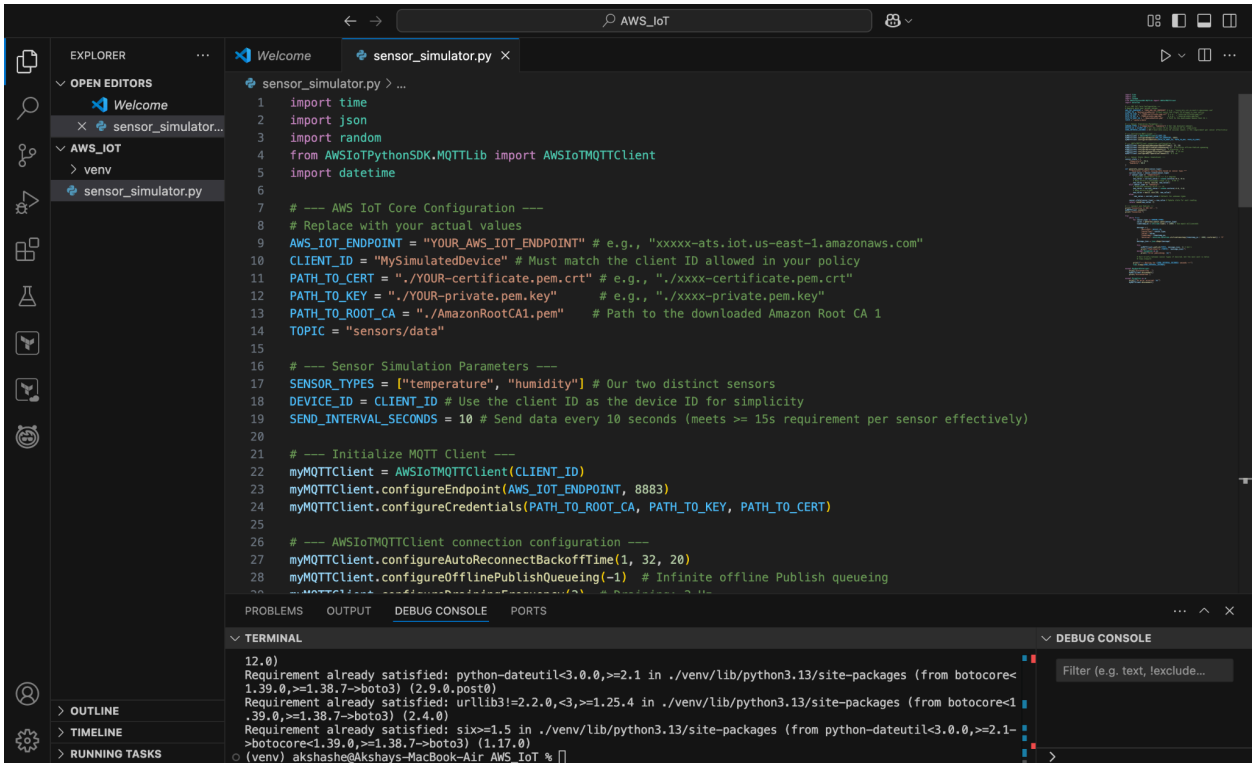




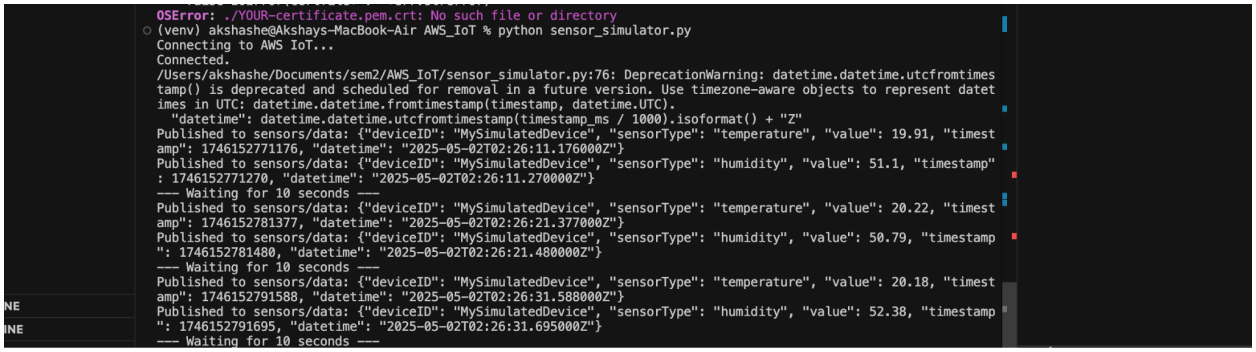
Invoke URL : https://nbwco816l2.execute-api.us-east-1.amazonaws.com/prod

Phase 4: Simulate Sensors

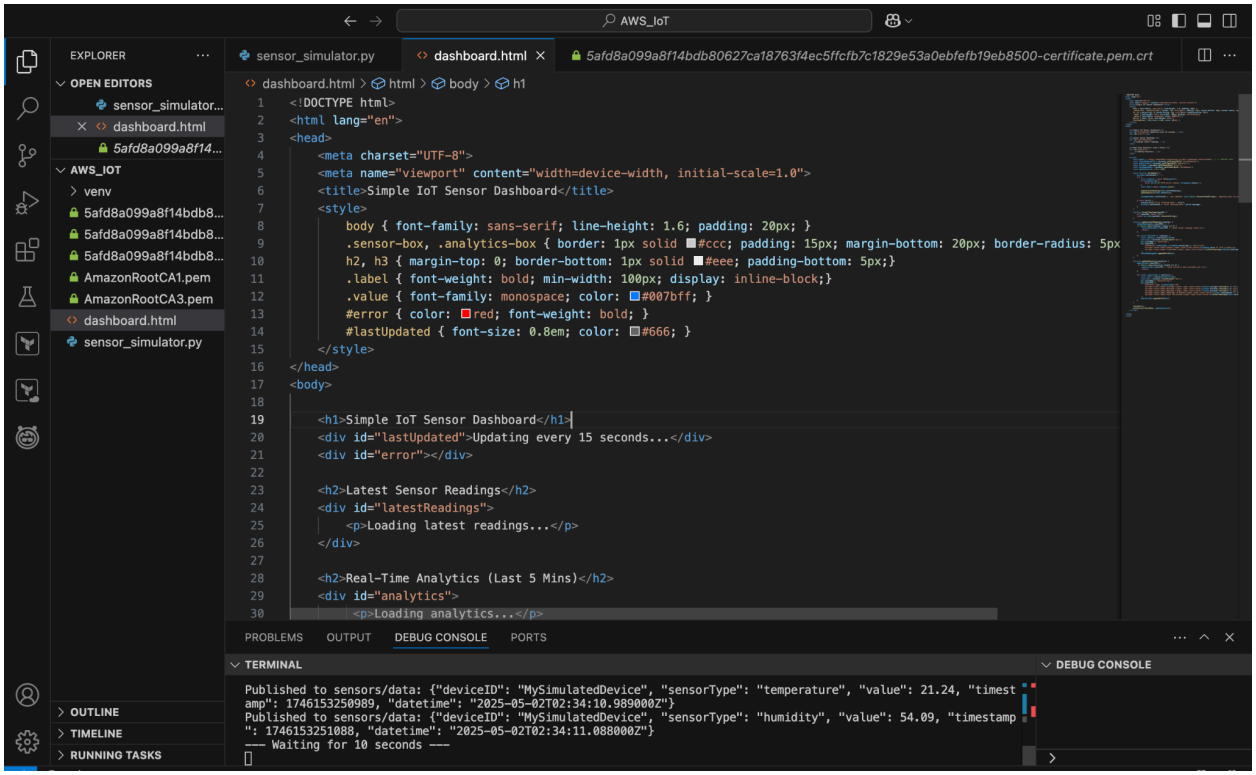
1. Create sensor_simulator.py



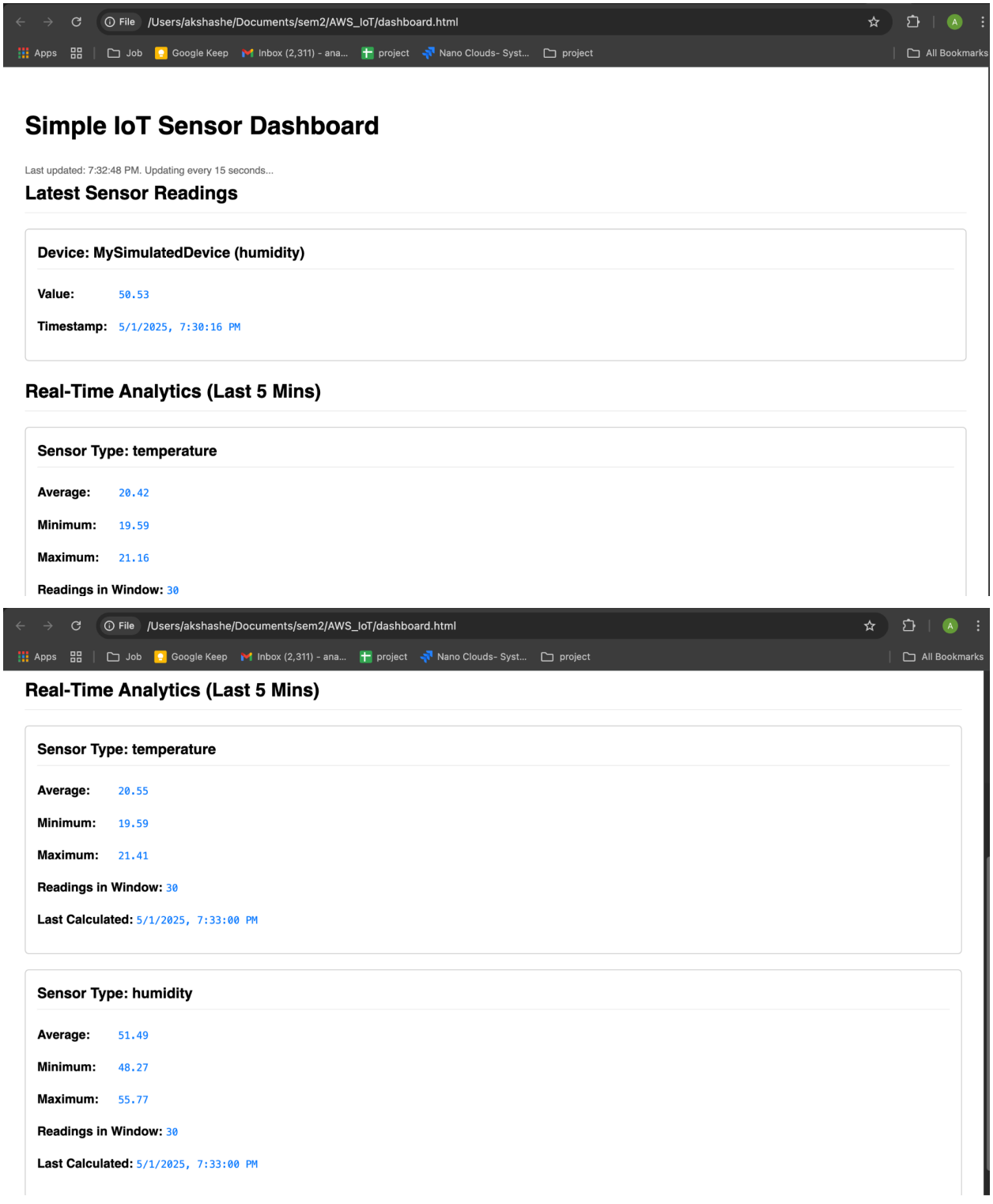
2. Run the simulator



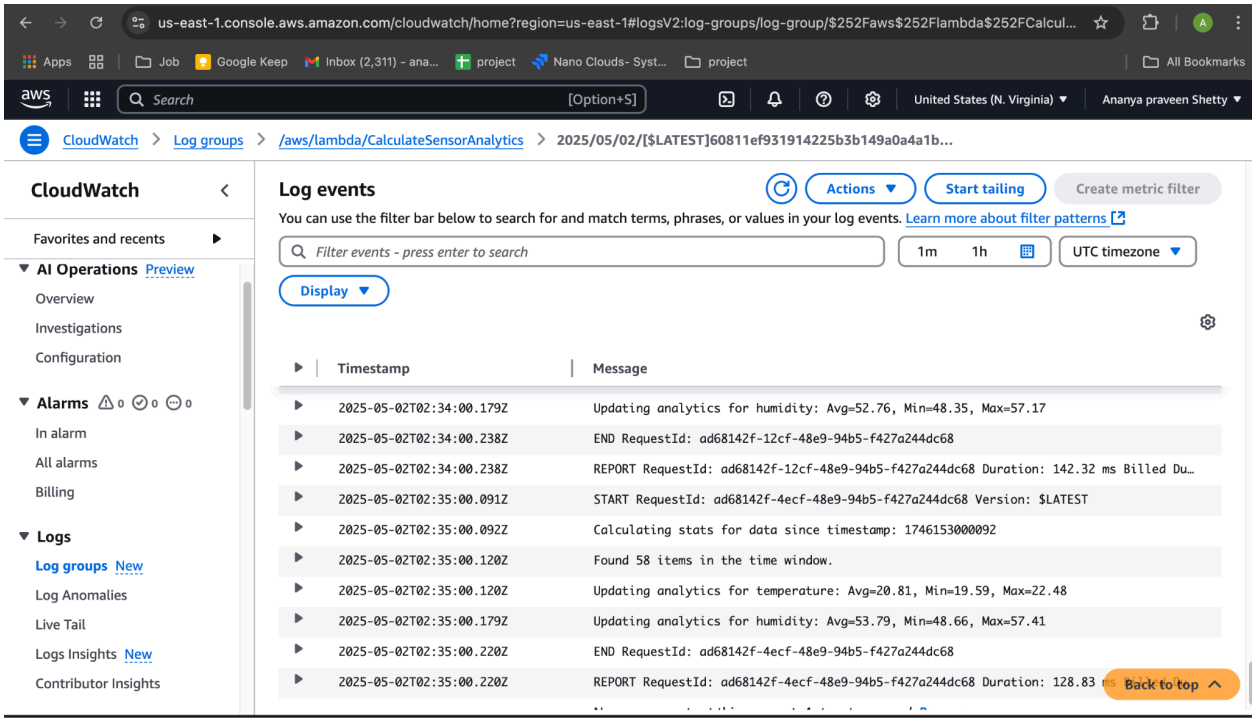
3. Create dashboard.html



Phase 5: Call dashboard.html in browser to see analytics



Logs in cloudwatch:



Github URL:
https://github.com/ananya101001/aws-iot-dashboard
