📊 Task 2: AWS CloudWatch Monitoring and Alerting

✅ Objective

Set up monitoring and alerting for EC2 instances using **AWS CloudWatch**. This task focuses on tracking system performance, creating alarms, and configuring alert notifications via email.

🛠️ Steps Performed

1️⃣ Created a CloudWatch Dashboard

- Added a **line graph widget** to visualize metrics over time.
- Configured a dashboard to monitor **two EC2 instances**.

2️⃣ Added the Following 4 Metric Widgets:

- 🧠 **CPUUtilization** – Tracks the CPU usage.
- 📶 **NetworkIn** – Measures incoming traffic.
- 📤 **NetworkOut** – Measures outgoing traffic.
- ⚠️ **StatusCheckFailed** – Indicates instance health issues.

3️⃣ Created a CloudWatch Alarm

- Metric: **CPUUtilization**
- Condition: **Greater than 70%** for **2 evaluation periods** (5 minutes each)
- Associated the alarm with the CloudWatch dashboard.

4️⃣ Configured SNS for Alerts

- Created a new **SNS topic** for alarm notifications.
- Subscribed my email address to the topic.

- Received the **confirmation email** and successfully confirmed the subscription.

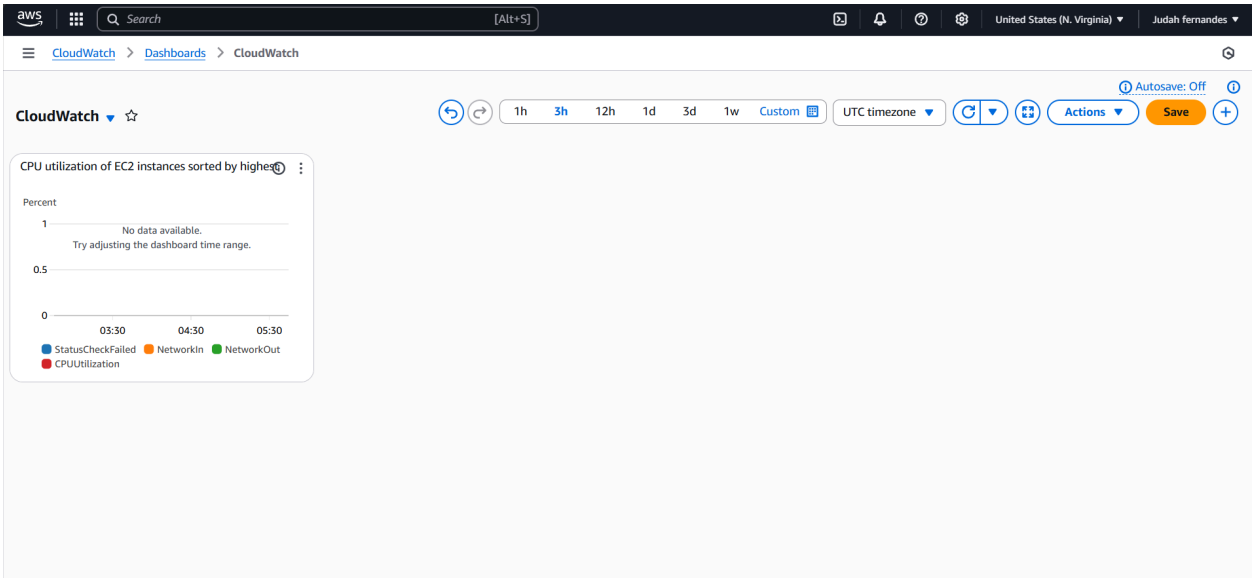
5️⃣ Final CloudWatch Dashboard

- Included CPU Utilization for **both EC2 instances**.
- Displayed alarm status on the dashboard.
- Real-time visualization for effective monitoring.

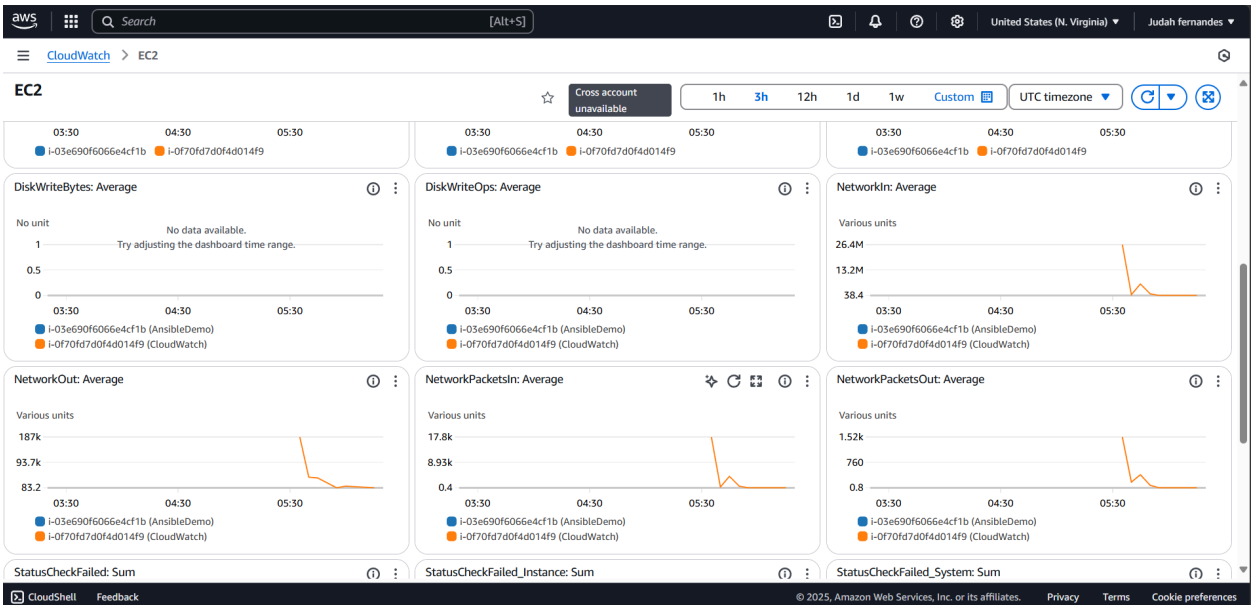
📸 Screenshots

> (Add these to a /screenshots/ folder and reference them as shown)

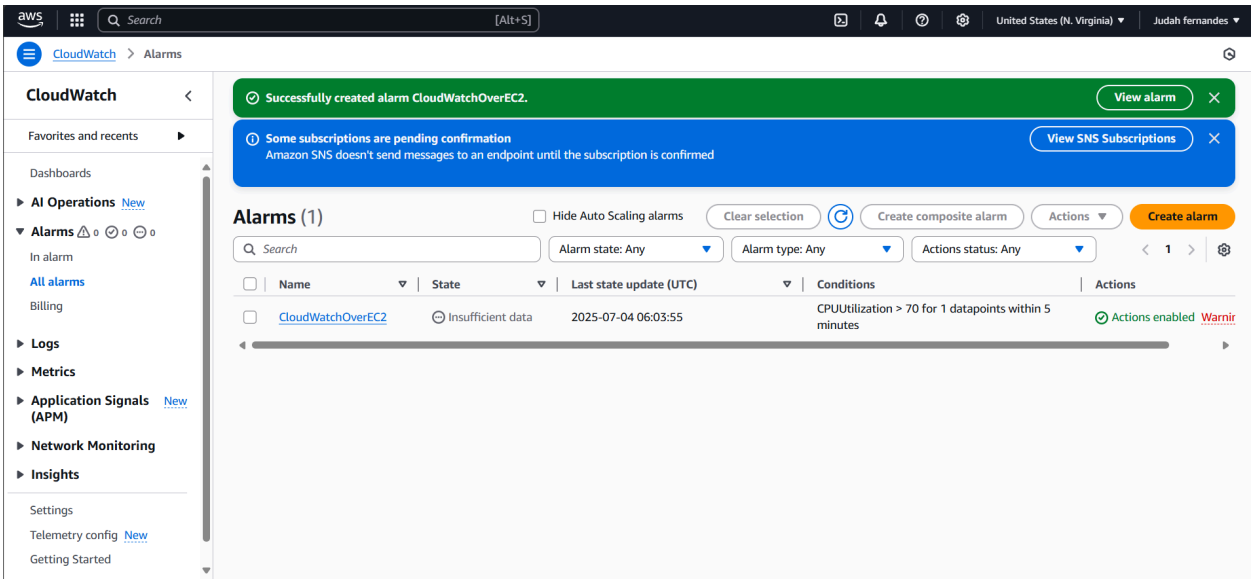
📊 CloudWatch Dashboard



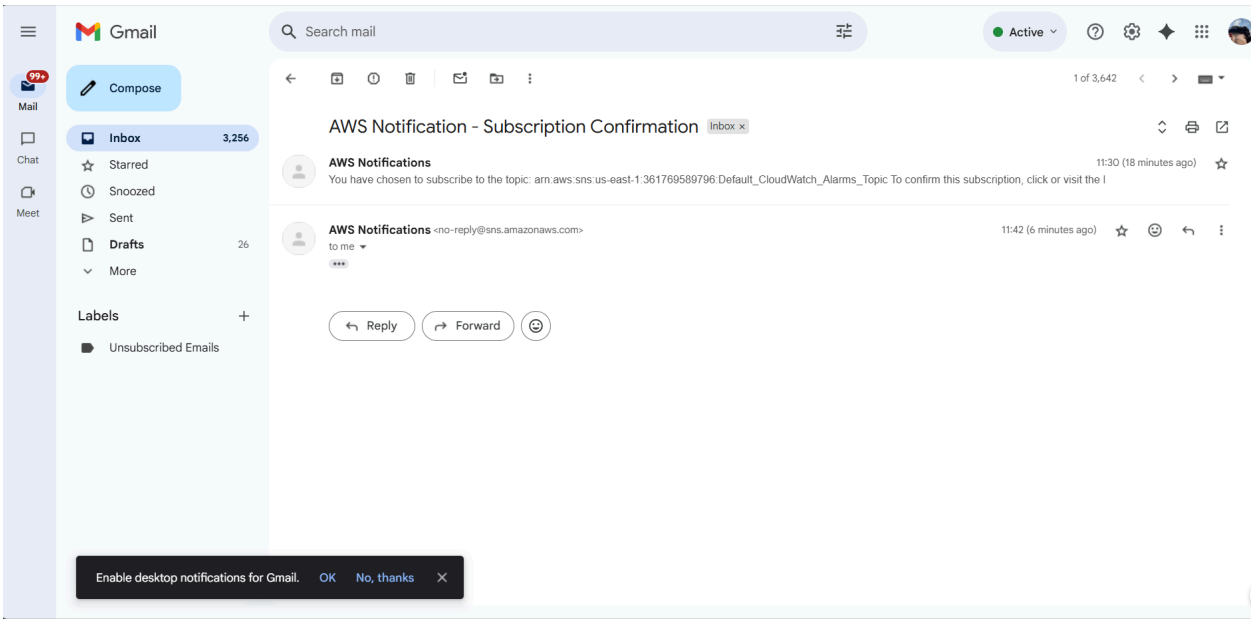
🧠 CPU Utilization Widget



⚠️ Alarm Creation



📧 Email Confirmation



📚 What I Learned

- How to create and manage dashboards in **AWS CloudWatch**.
- How to configure **CloudWatch Alarms** for metric-based triggers.
- How to use **SNS** for alerting via email.
- Importance of real-time monitoring in a cloud infrastructure.

📅 Status

✅ Task Completed

📅 Date: *[4th July 2025]*

🖥️ AWS Service Used: CloudWatch, EC2, SNS