CLOUD WATCH

Amazon CloudWatch is a monitoring and observability service provided by Amazon Web Services (AWS) that offers real-time insights into your AWS resources and applications. It enables you to collect and track metrics, monitor log files, set alarms, and automatically respond to changes in your AWS environment.

Key Features of Amazon CloudWatch:

- **Metrics Collection:** CloudWatch collects and tracks metrics from various AWS services, such as Amazon EC2, providing visibility into resource utilization, application performance, and operational health.

- **Alarms:** You can set alarms to automatically initiate actions based on predefined thresholds for your metrics.

- **Logs Monitoring:** CloudWatch allows you to monitor, store, and access log files from various sources, providing a unified view of your logs.

- **Events:** It detects and responds to changes in your AWS resources, allowing you to react promptly to operational changes.

How Amazon CloudWatch Works:

1. **Data Collection:** AWS services, such as Amazon EC2, automatically send metrics to CloudWatch. You can also publish your own custom metrics to CloudWatch.

2. **Monitoring and Visualization:** CloudWatch enables you to monitor your complete stack (applications, infrastructure, network, and services) and use alarms, logs, and events data to take automated actions and reduce mean time to resolution (MTTR).

3. **Automated Actions:** Based on the alarms set, CloudWatch can trigger actions like sending notifications or executing automated responses to manage your AWS resources effectively.

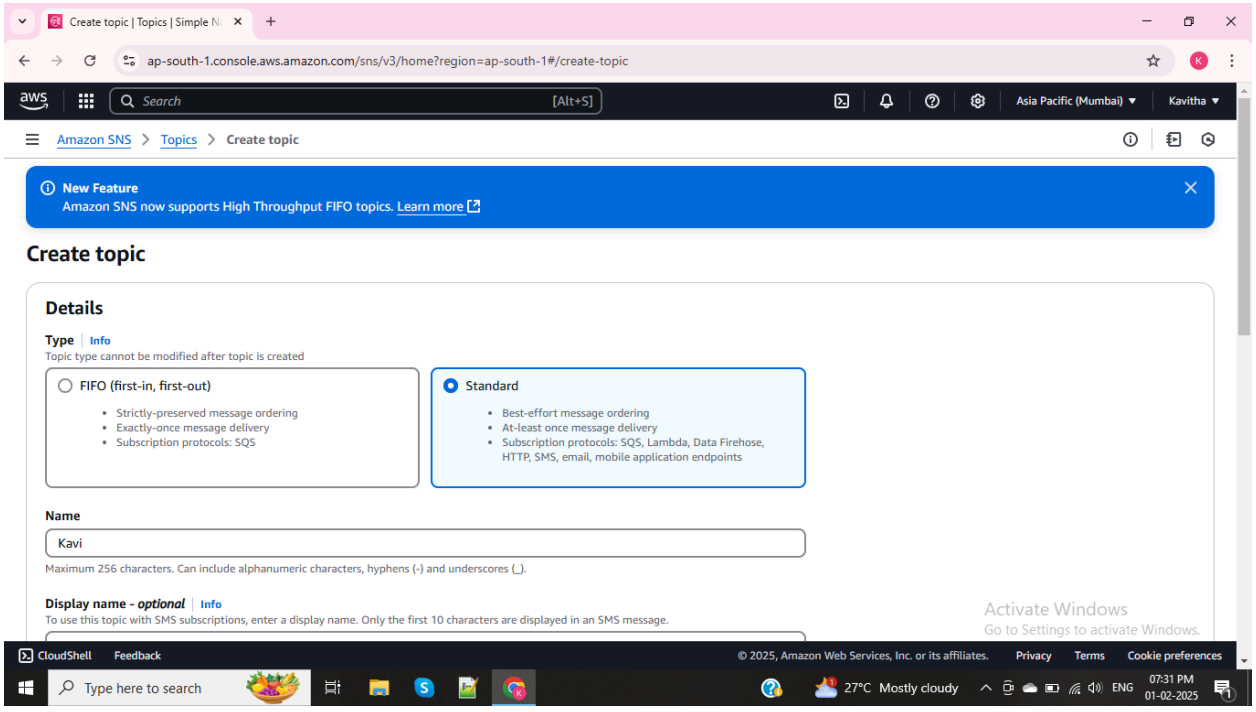
Amazon Cloud watch is a Gatekeeper of my AWS cloud which is capable to do:

1. Monitoring
2. Real life Metrics
3. Alarms
4. Log insights
5. Custom metrics
6. Cost optimisation
7. Scaling

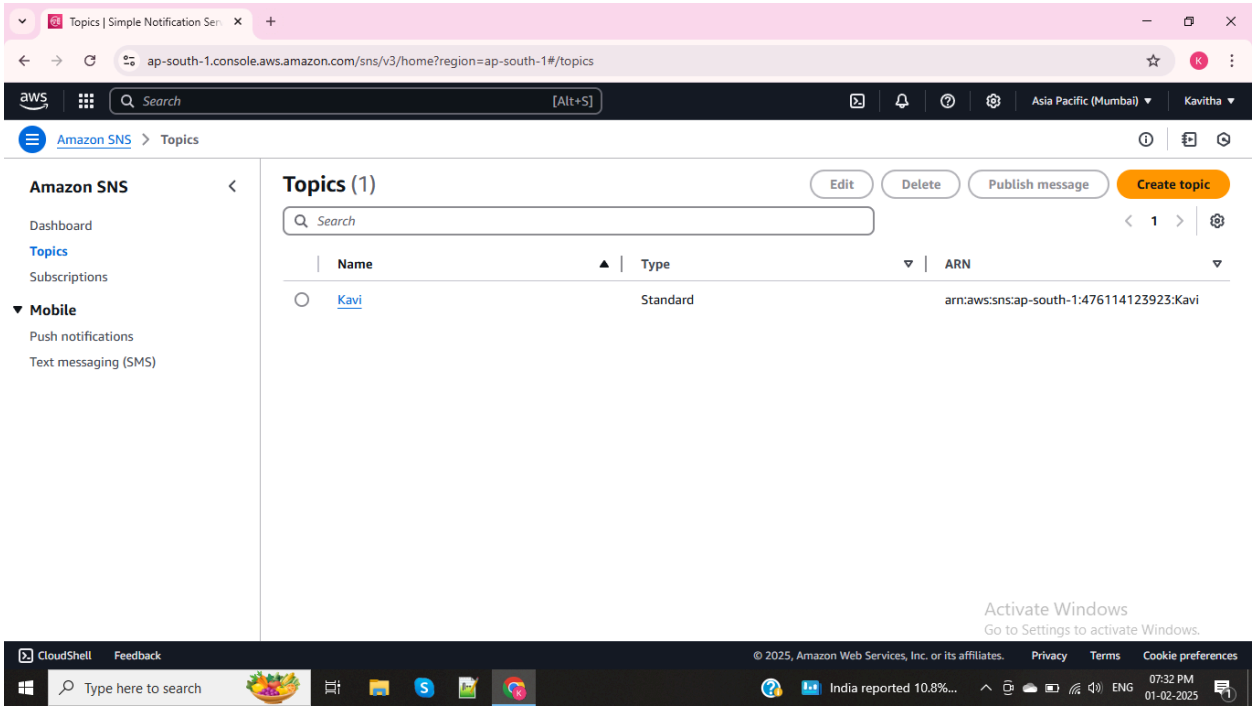
TASK : Configure Amazon CloudWatch to monitor EC2 instance's Metrics and send an email notification when it exceeds. This involves creating a CloudWatch alarm linked to an Amazon Simple Notification Service (SNS) topic.

1. Create an SNS Topic for Email Notifications:

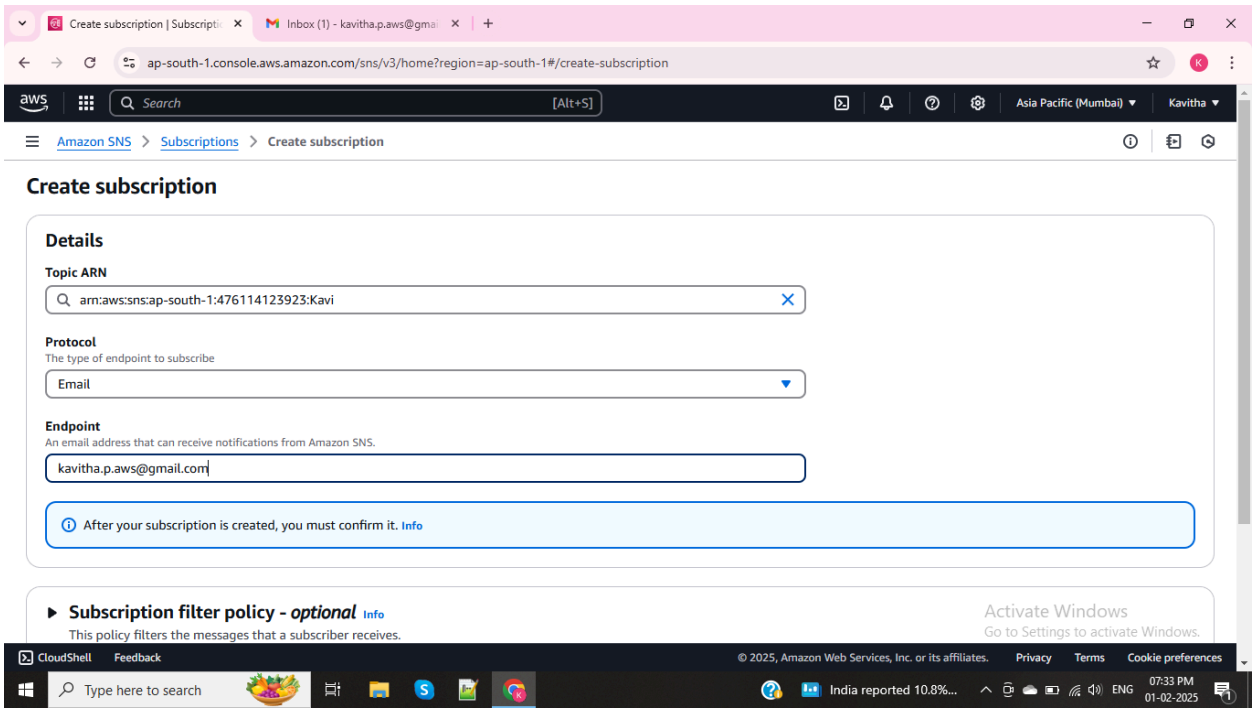
- Open the Amazon SNS console.
- In the navigation pane, select **Topics**, then choose **Create topic**.
- For **Type**, select **Standard**.
- Enter a name for the topic.
- Choose **Create topic**.



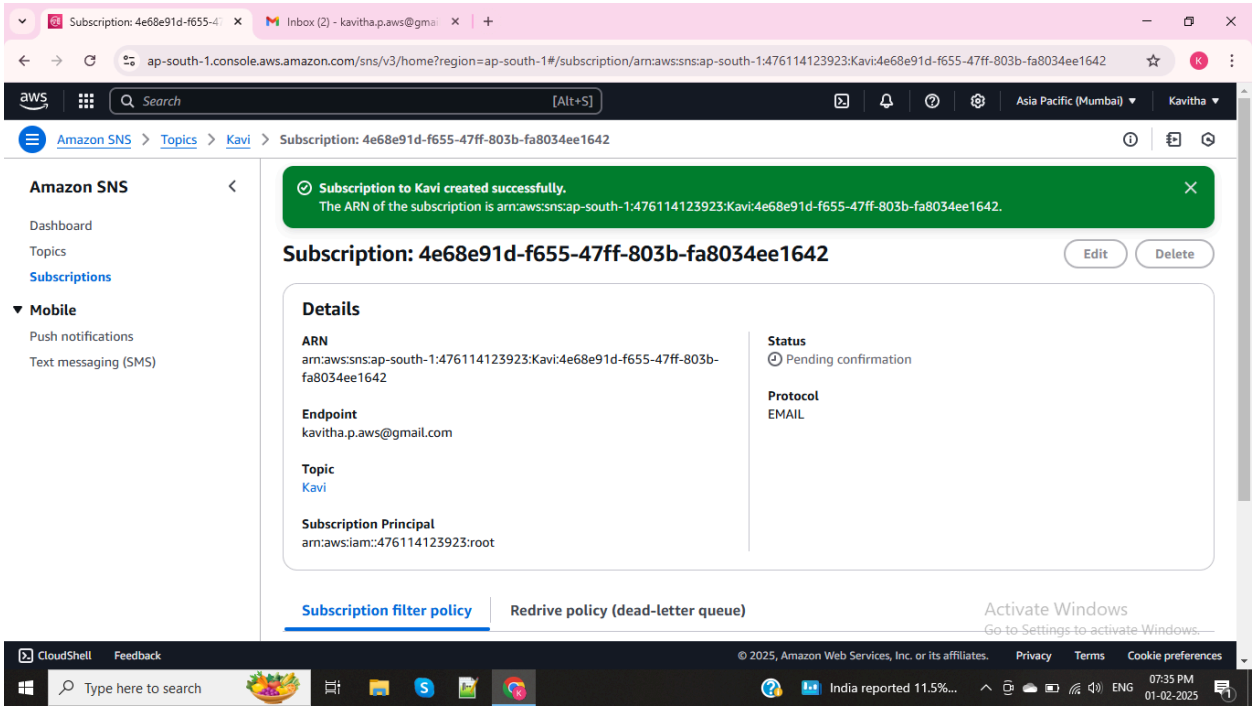
OUTPUT



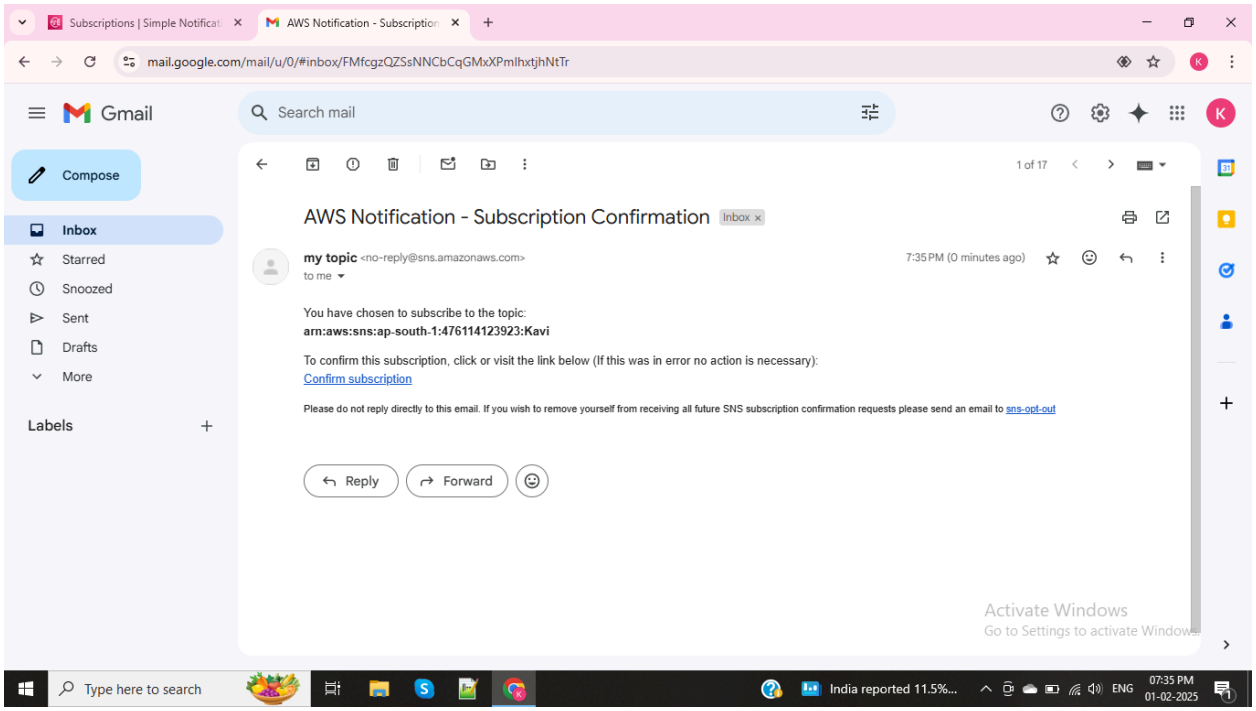
- After creating the topic, select it and choose **Create subscription**.
- Set **Protocol** to **Email** and enter email address.
- Choose **Create subscription**.



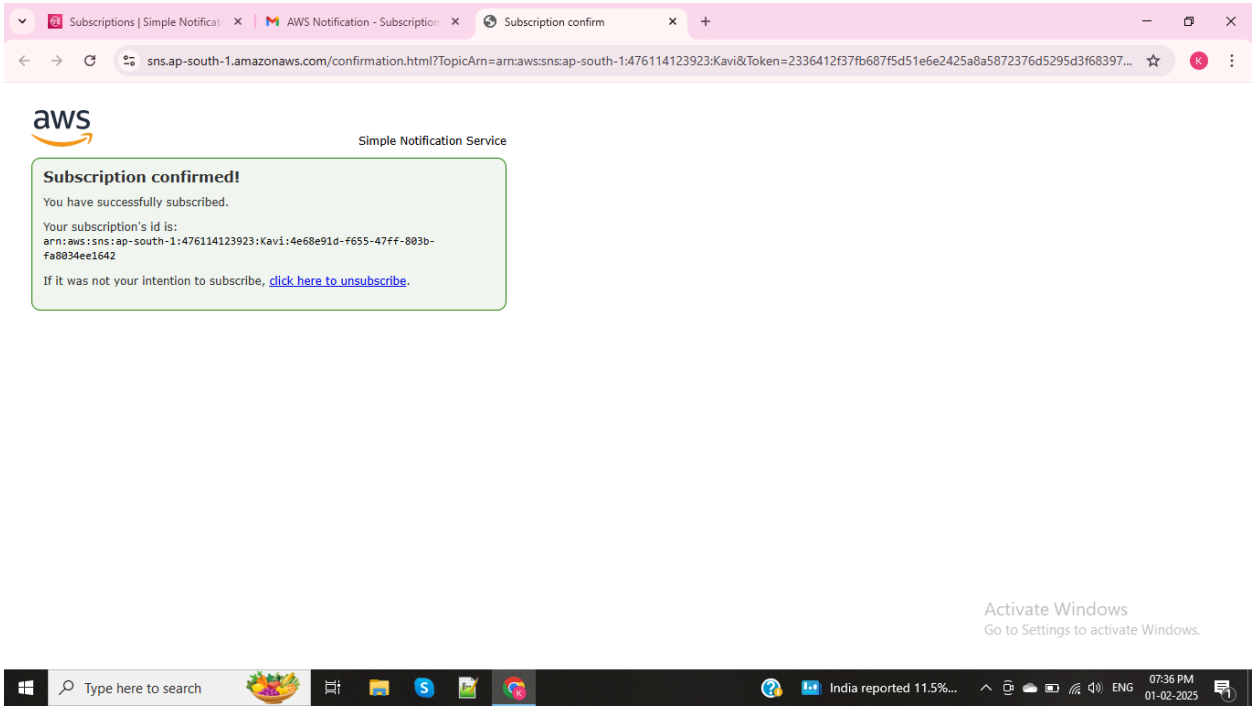
Subscription created successfully



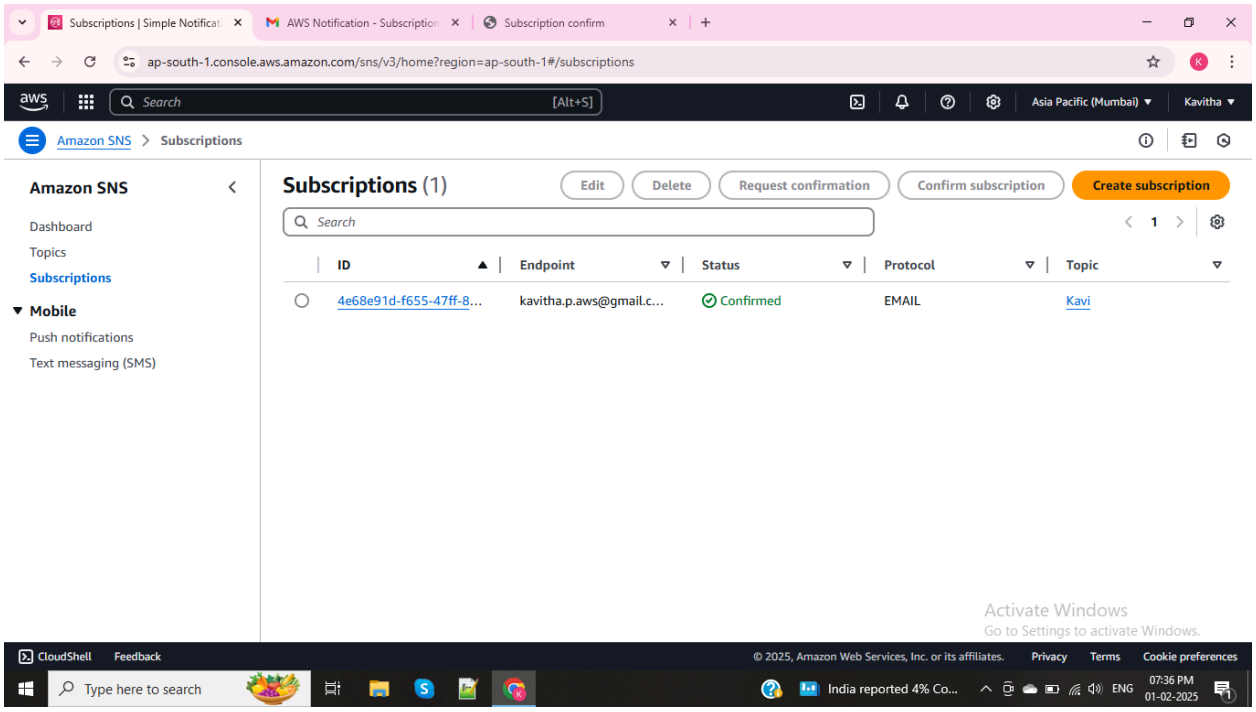
Check email for a confirmation message



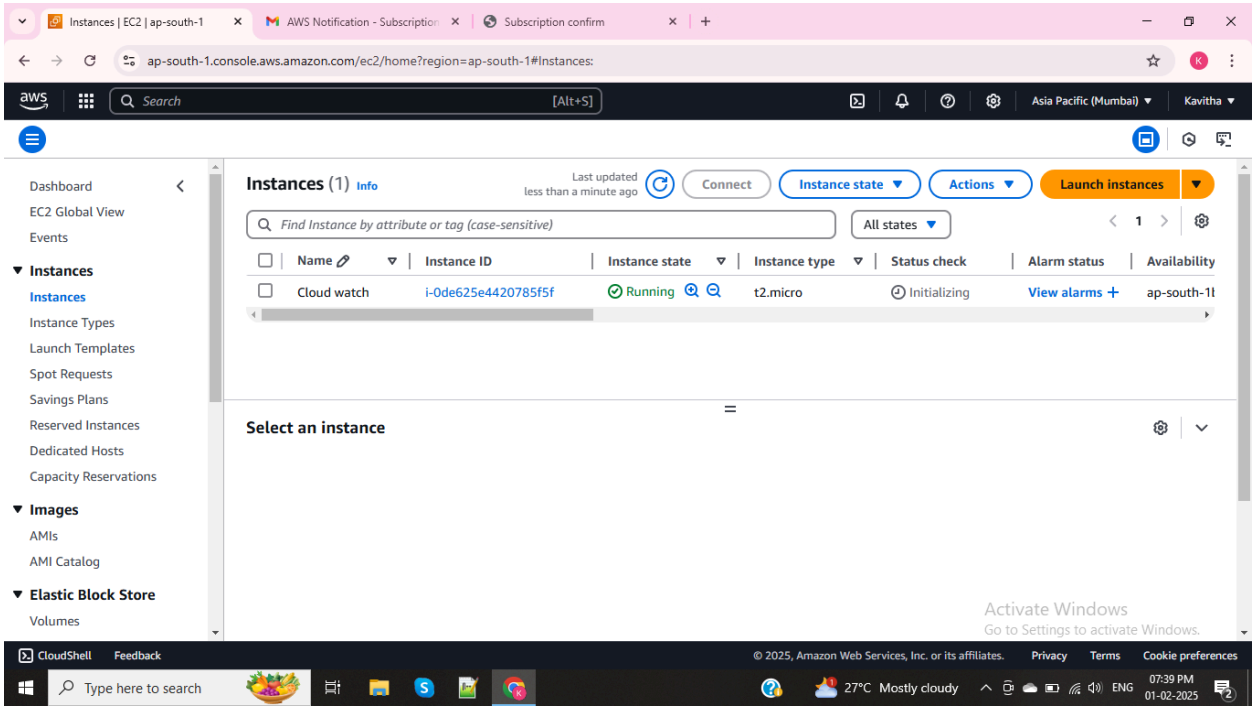
confirm the subscription



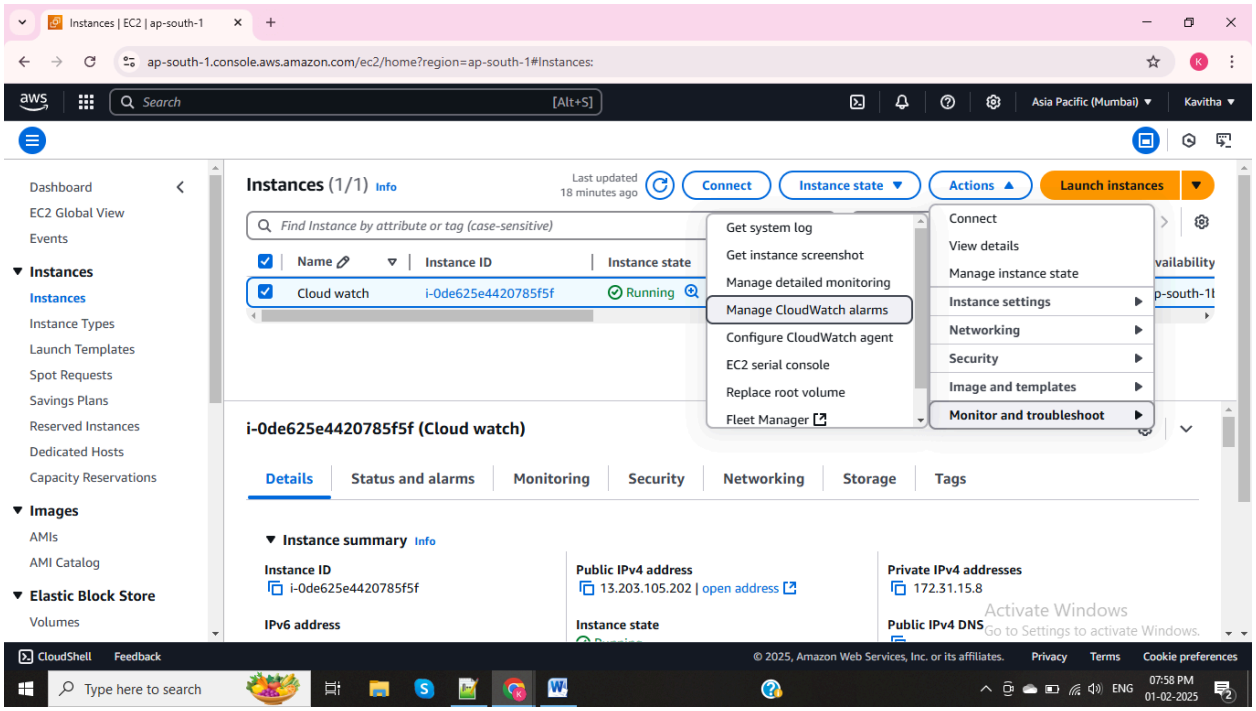
Its updated in the Amazon SNS status is **confirmed**



2. Creating an EC2 instance

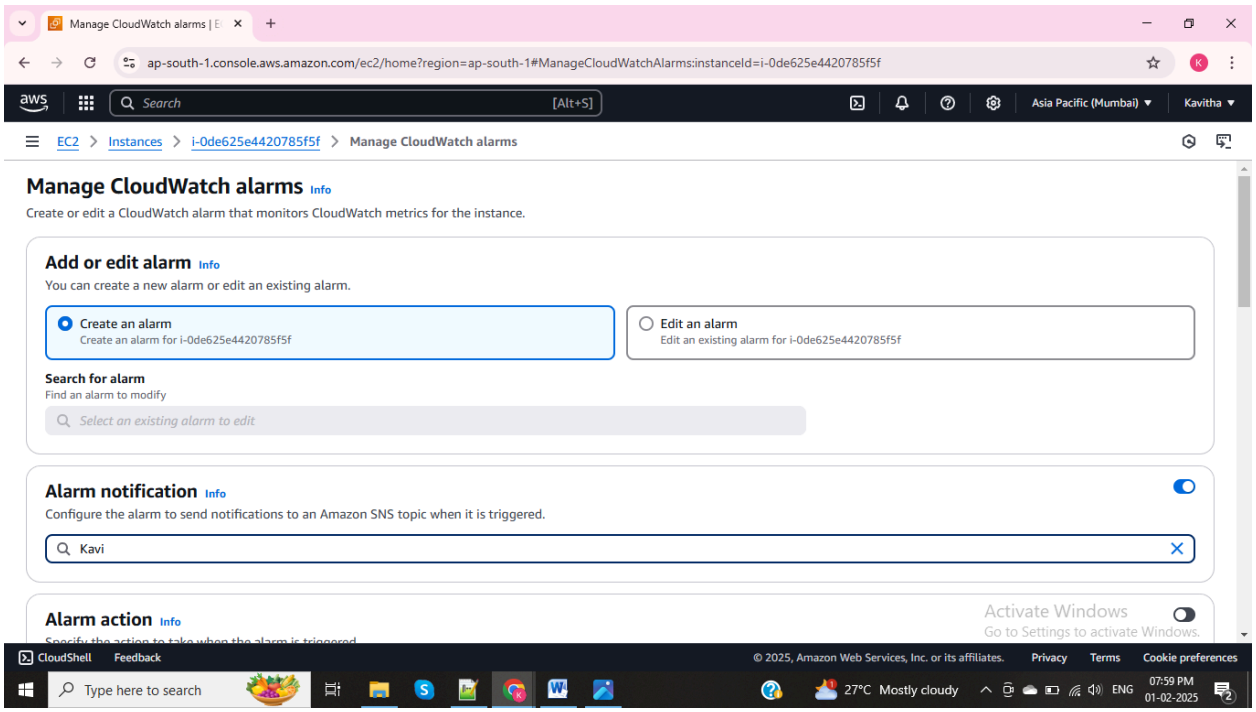


Configure the Cloud watch alarm with EC2 instance for Monitoring

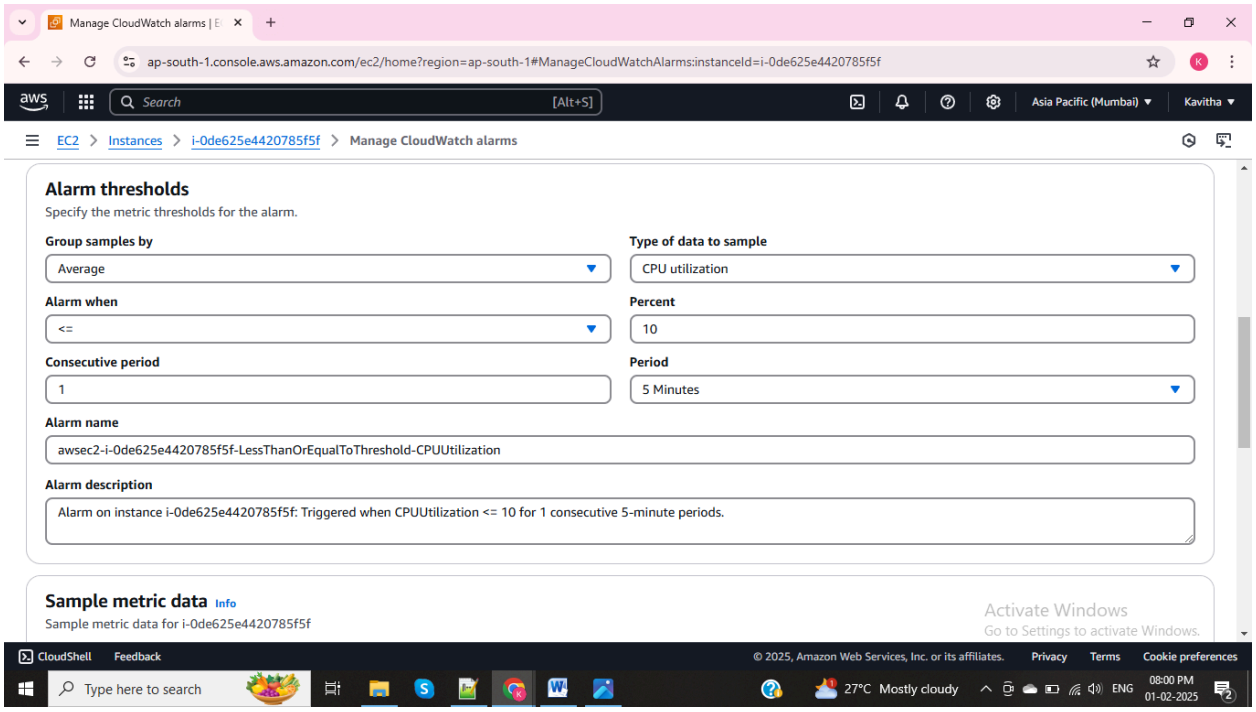


3. Create a CloudWatch Alarm for an EC2 Instance:

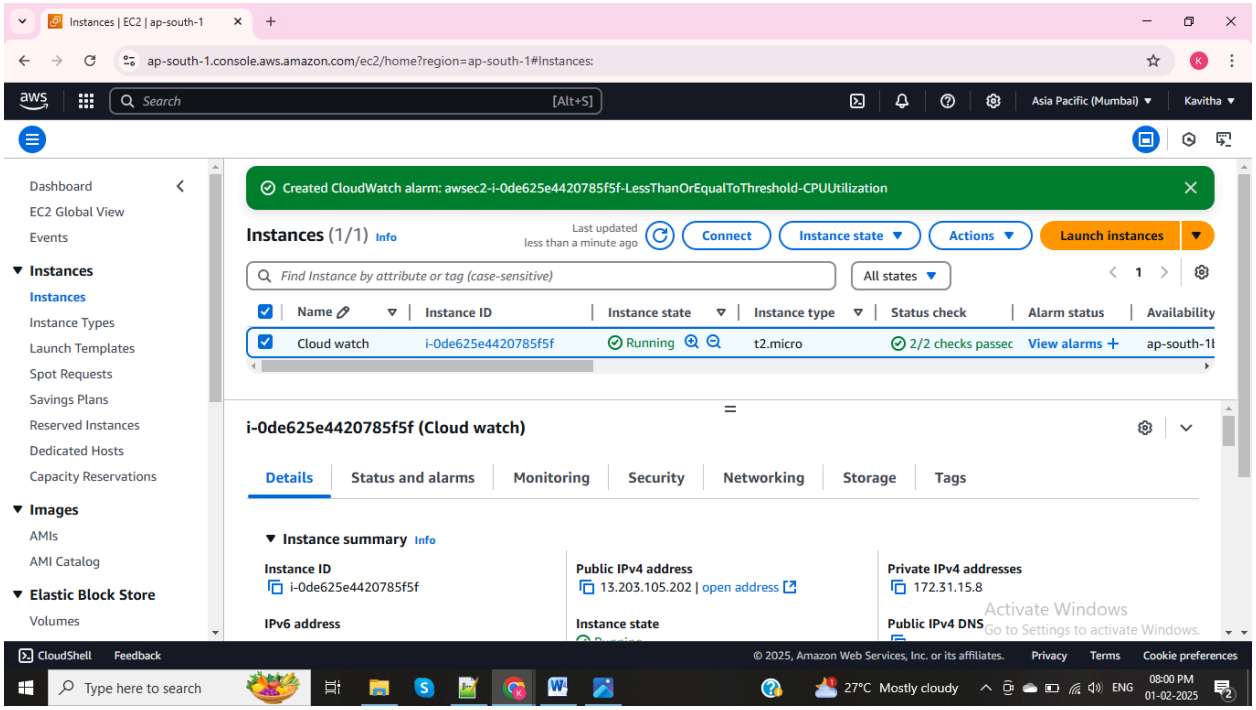
Create an alarm > Alarm notification choose which created in SNS topic



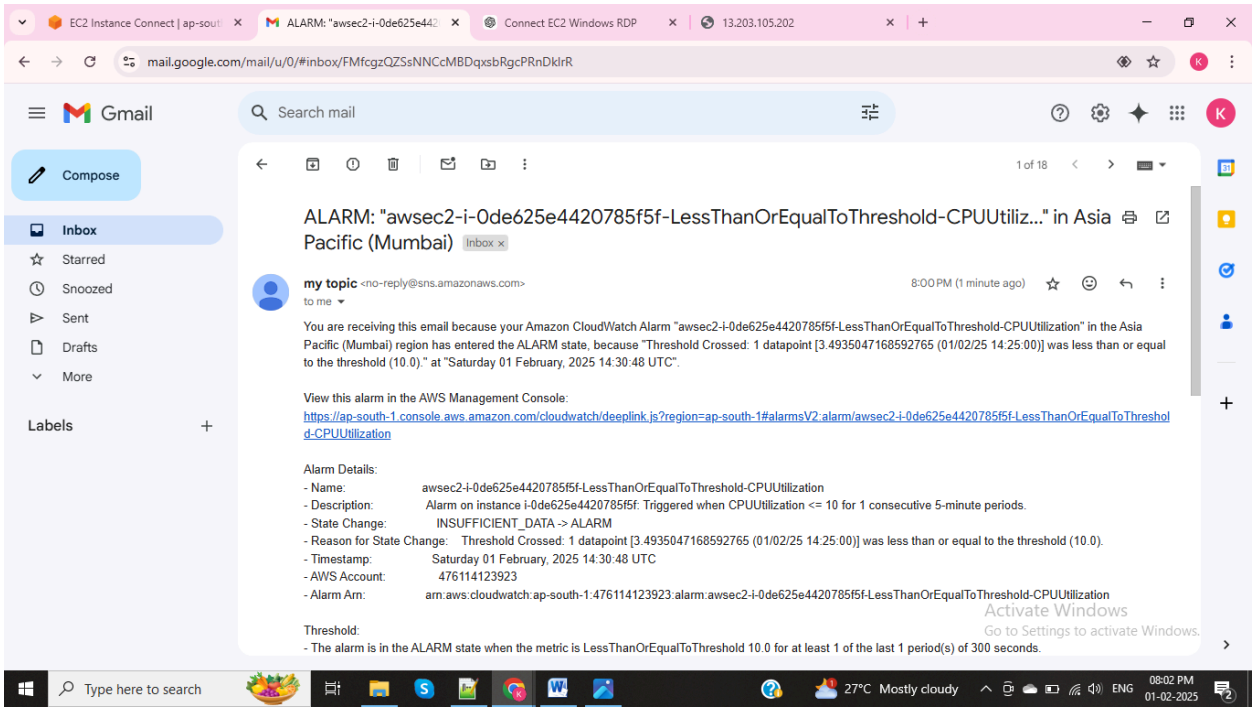
Set Alarm thresholds as per the requirements



Cloud watch alarm set successfully



Email received OUTPUT



Cloud Watch **In alarms** shows the alarm