

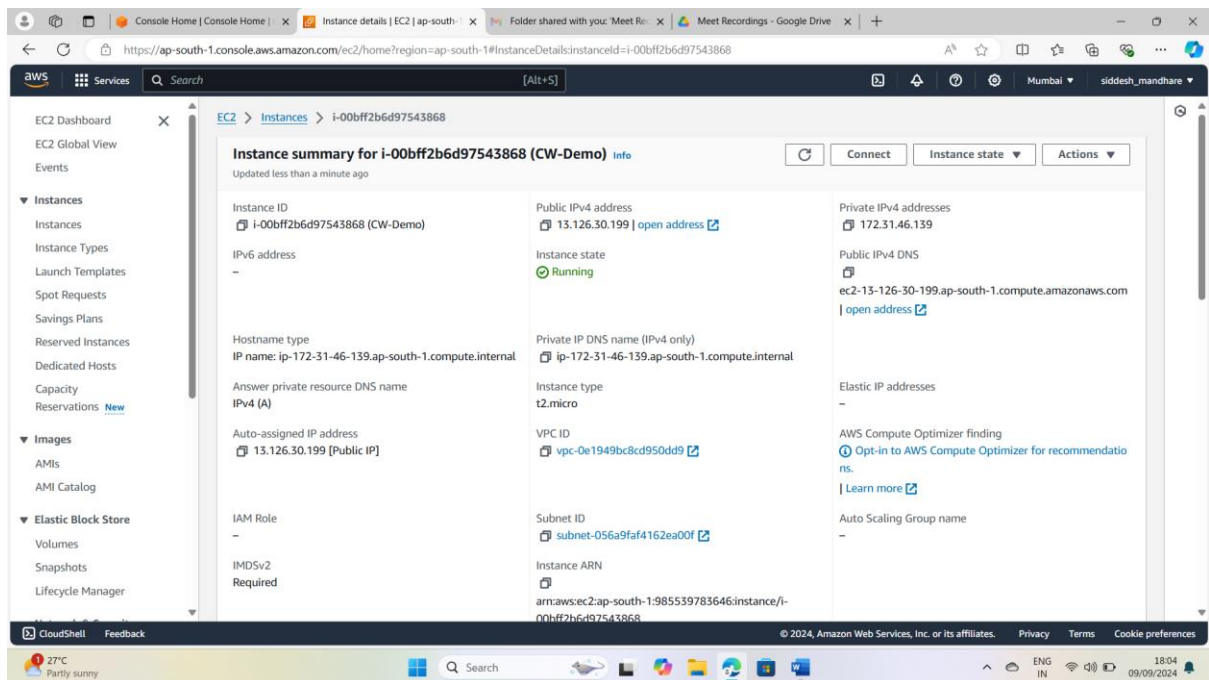
Cloud Watch

Siddesh Mandhare

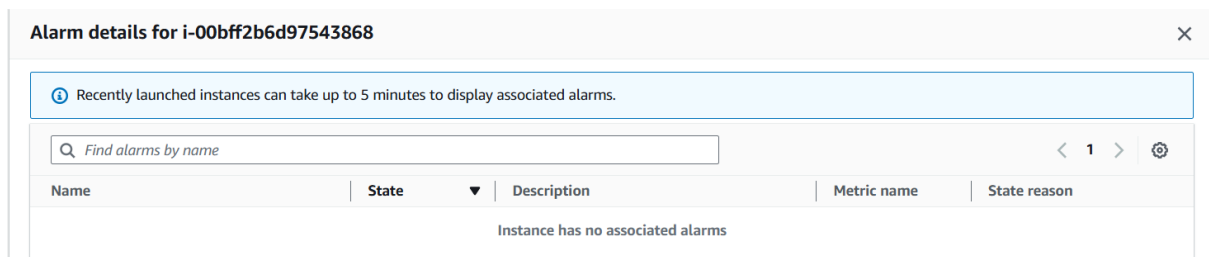
09/09/24

Problem Statement- Monitor the CPU utilization and set threshold of utilization greater than 80% and send a alert via SNS.

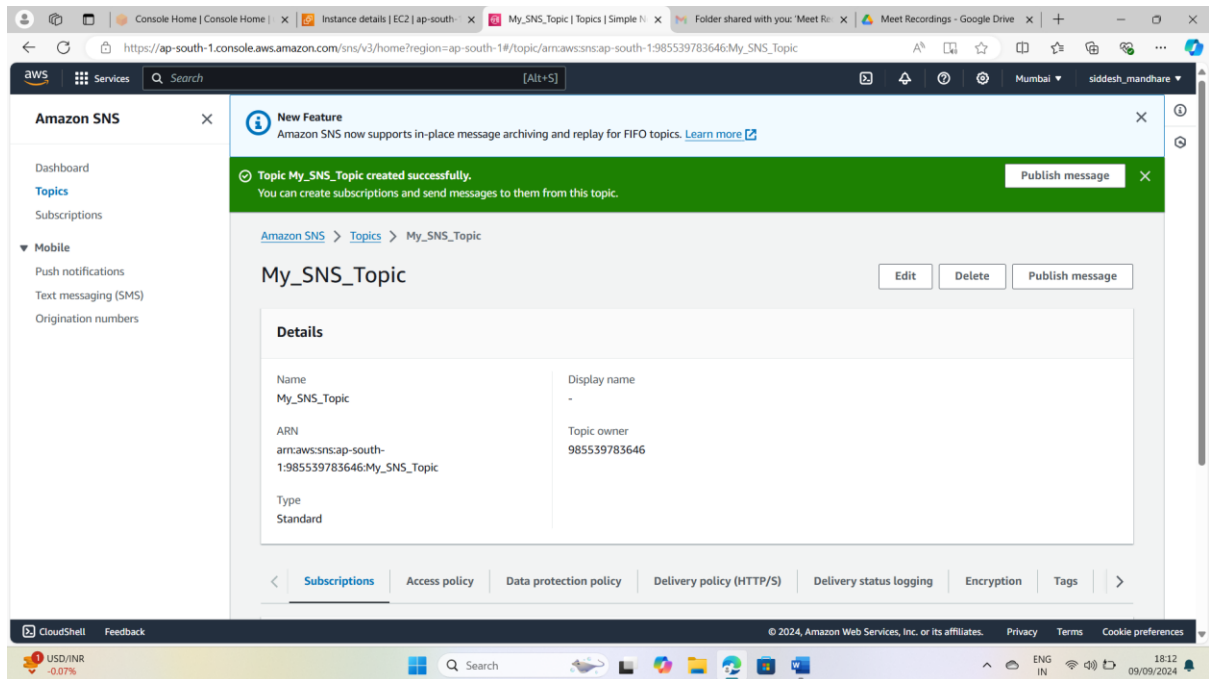
1) Create instance



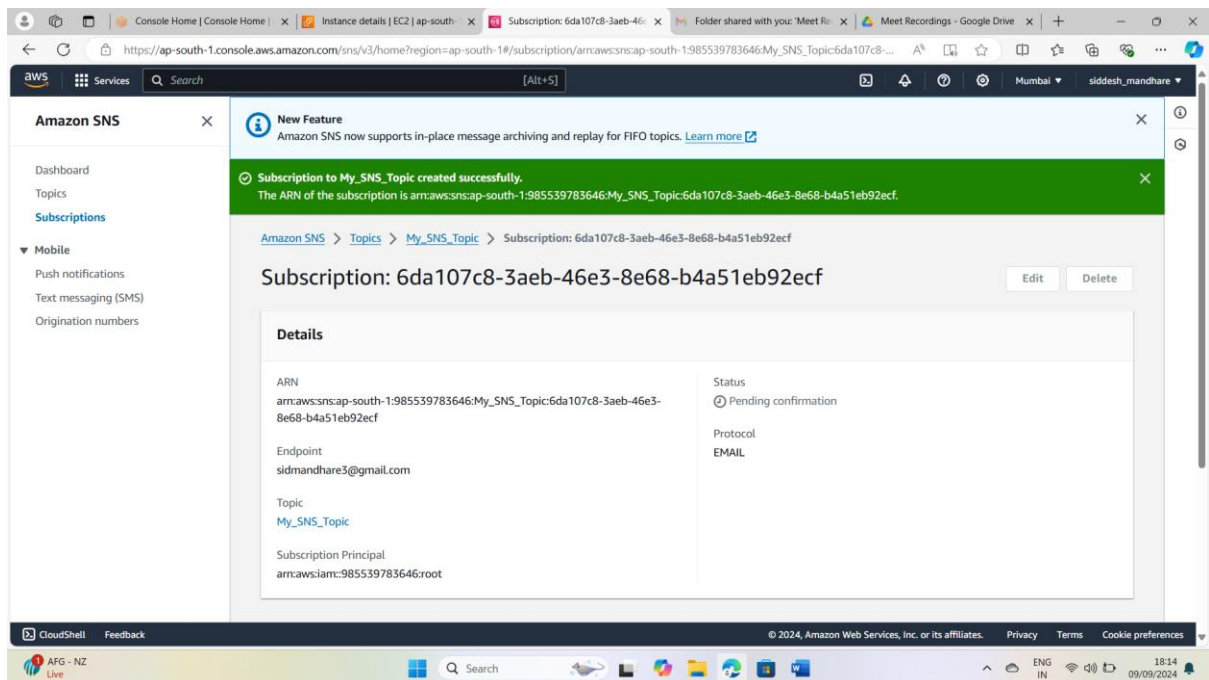
2) By default, there is no any alarm set



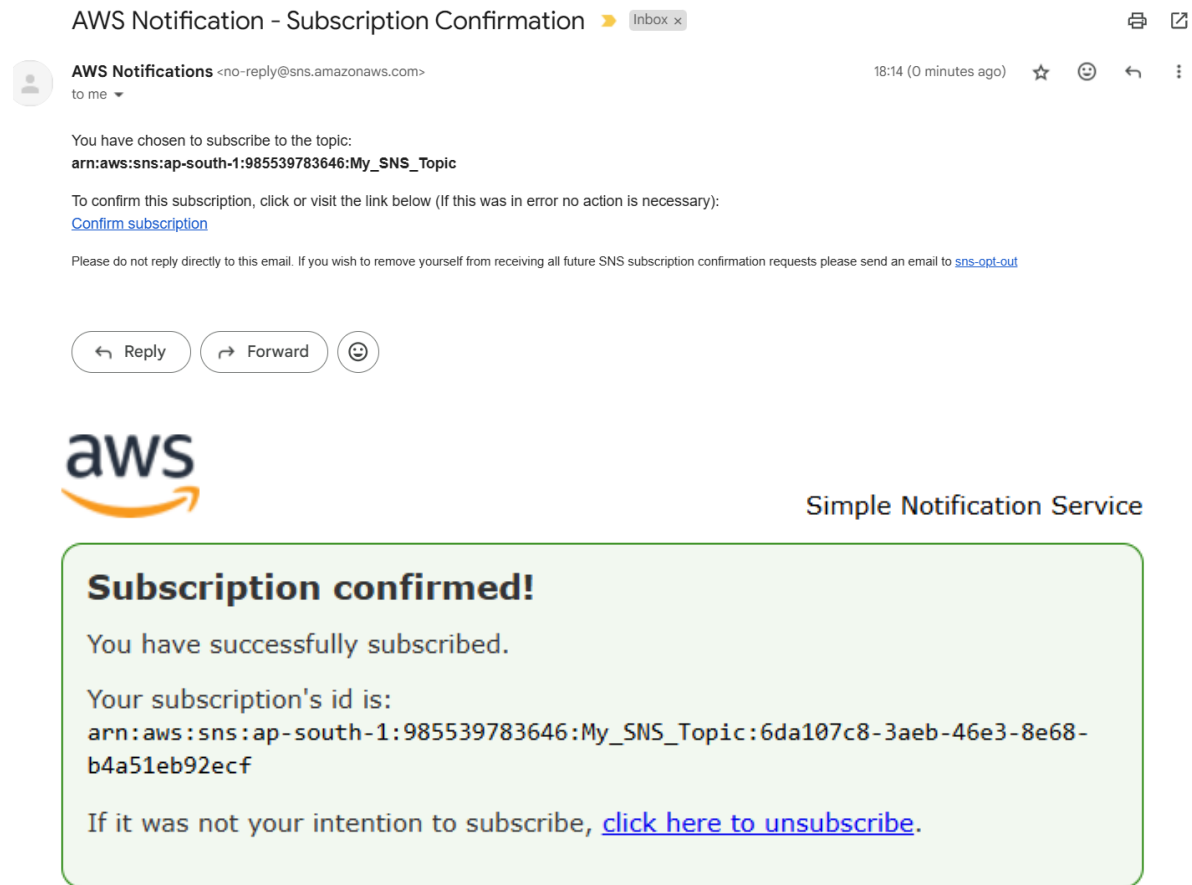
3) Go to SNS service and create standard topic



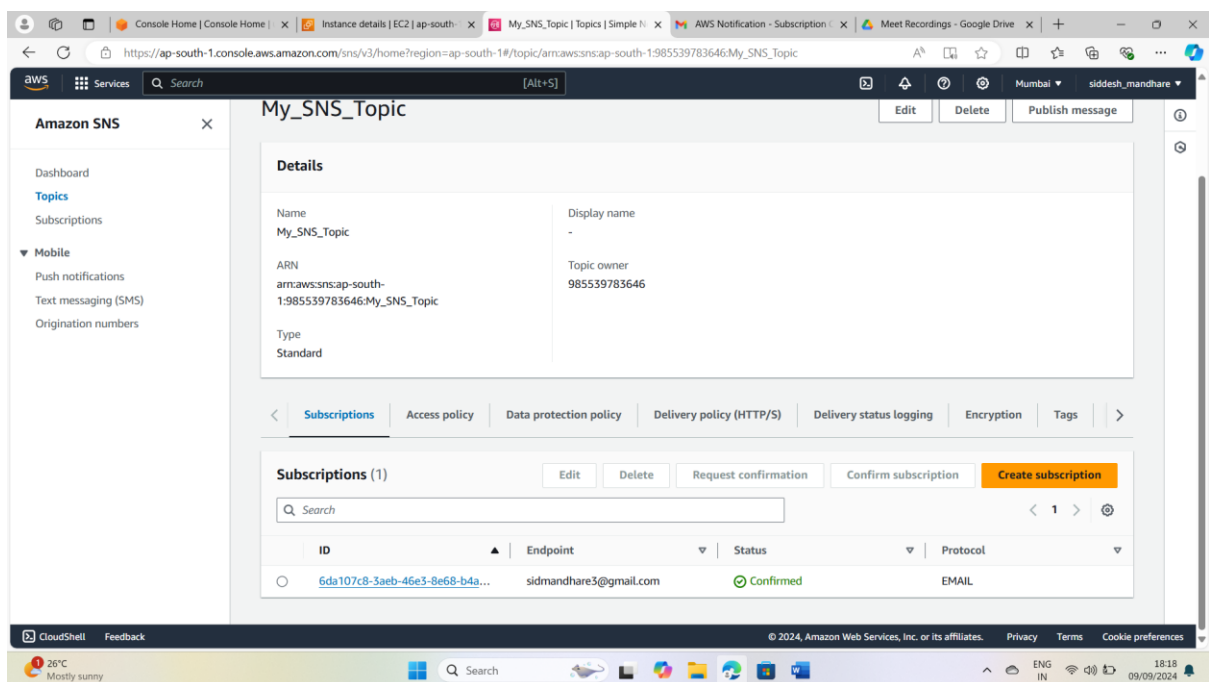
4) Create subscription in newly created SNS topic (My_SNS_Topic) and add Email id.



5) After creating subscription, got email for confirmation.



6) After conformation, status changes to “confirmed”.



7) GO to “CloudWatch” service and create alarm

This screenshot shows the 'Specify metric and conditions' step in the AWS CloudWatch console. The left sidebar lists the steps: Step 2 (Configure actions), Step 3 (Add name and description), and Step 4 (Preview and create). The main area is titled 'Specify metric and conditions' and contains a 'Metric' section with a graph and a form on the right.

Metric Section:

- Graph:** A line graph showing CPU utilization over time. The y-axis is labeled 'Percent' with values 0.234, 0.265, and 0.296. The x-axis shows times 10:30, 11:30, and 12:30. A blue line represents the metric, and a red horizontal line indicates the threshold. A text box below the graph states: 'This alarm will trigger when the blue line goes above the red line for 1 datapoints within 2 minutes.'
- Form Fields:**
 - Namespace: AWS/EC2
 - Metric name: CPUUtilization
 - Instanceid: i-00bff2b6d97543868
 - Instance name: CW-Demo
 - Statistic: Average
 - Period: 2 minutes

This screenshot shows the 'Notification' step in the AWS CloudWatch console. The left sidebar lists the steps: Step 2 (Configure actions), Step 3 (Add name and description), and Step 4 (Preview and create). The main area is titled 'Notification' and contains sections for 'Alarm state trigger', 'Send a notification to the following SNS topic', and 'Send a notification to...'.

Alarm state trigger:

- Define the alarm state that will trigger this action.
- Options: ☒ In alarm (The metric or expression is outside of the defined threshold.), ☐ OK (The metric or expression is within the defined threshold.), ☐ Insufficient data (The alarm has just started or not enough data is available.).
- Remove button.

Send a notification to the following SNS topic:

- Define the SNS (Simple Notification Service) topic that will receive the notification.
- Options: ☒ Select an existing SNS topic, ☐ Create new topic, ☐ Use topic ARN to notify other accounts.

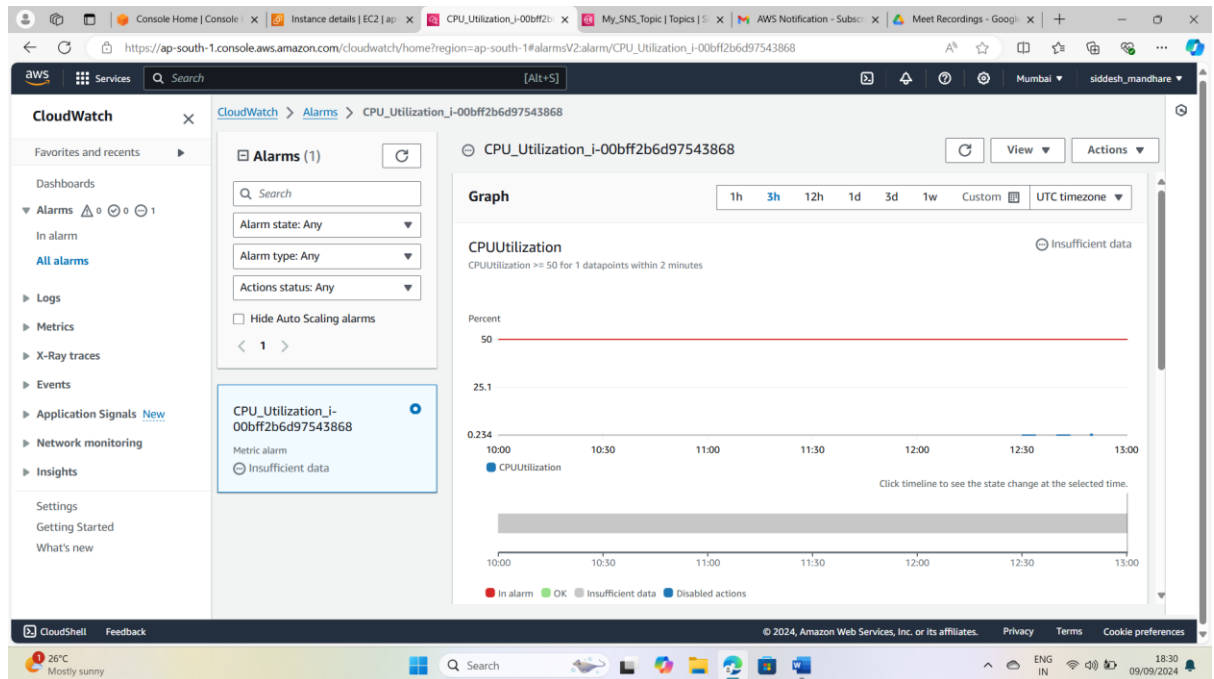
Send a notification to...:

- Search bar: My_SNS_Topic
- Text: Only topics belonging to this account are listed here. All persons and applications subscribed to the selected topic will receive notifications.
- Email (endpoints): sidmandhare3@gmail.com - View in SNS Console
- Add notification button.

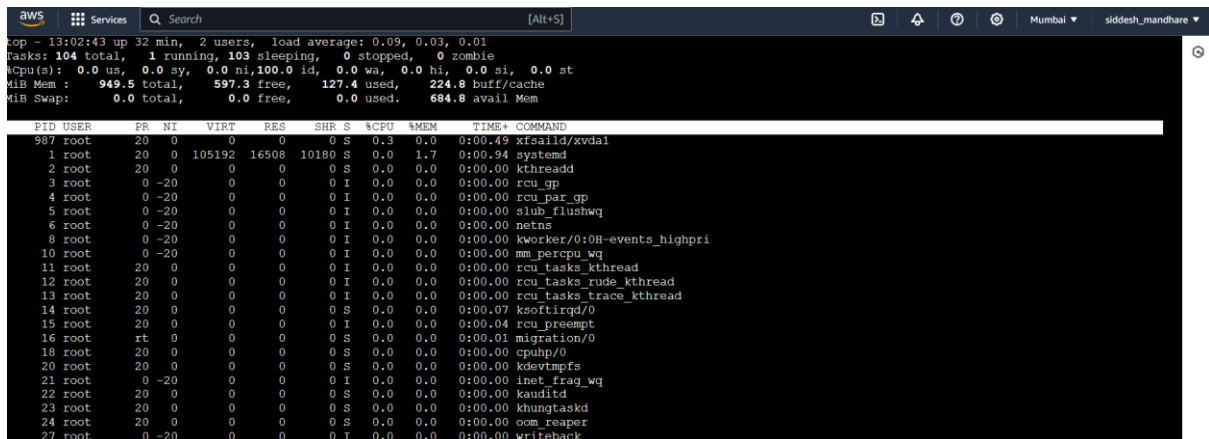
Lambda action:

- Section header for configuring a Lambda action.

8) Alarm successfully created



9) Goto instance and manually increase CPU utilization (sudo su, top)



10) Install stress package in Linux (yum install -y)

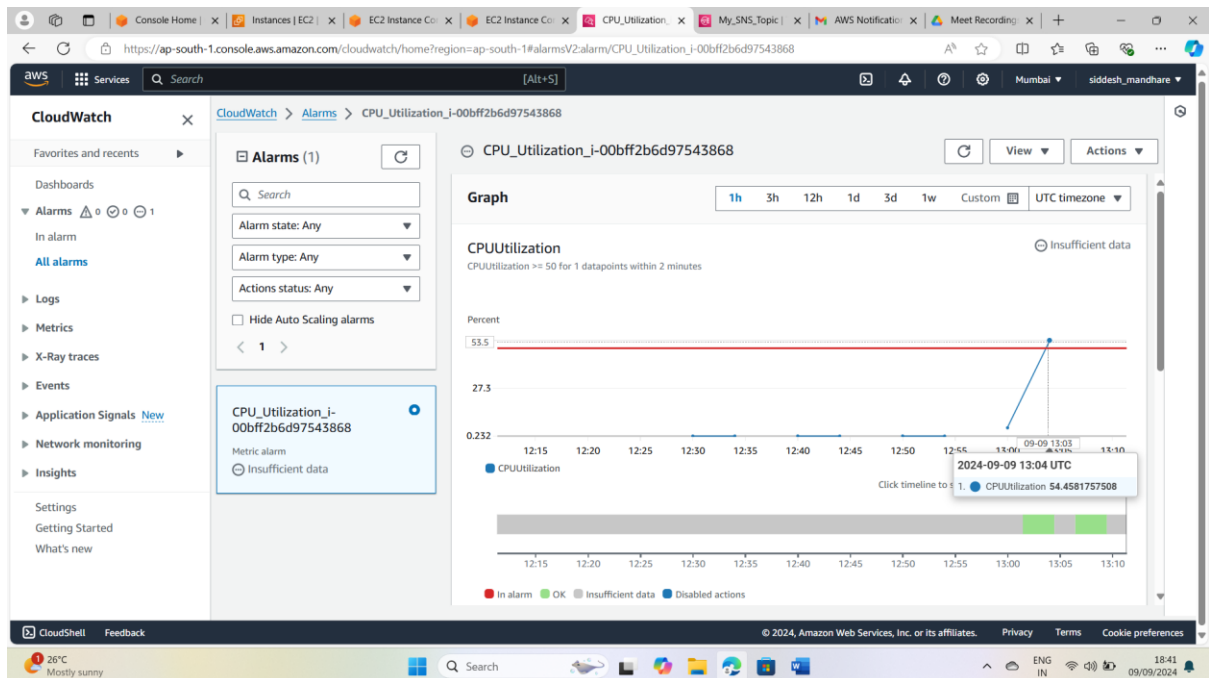
```
aws
Services Search [Alt+S] Mumbai siddesh_mandhan

Installing:
stress x86_64 1.0.7-2.amzn2023.0.1 amazonlinux 34 k

Transaction Summary
Install 1 Package

Total download size: 34 k
Installed size: 68 k
Downloading Packages:
stress-1.0.7-2.amzn2023.0.1.x86_64.rpm 450 kB/s | 34 kB 00:00
Total 259 kB/s | 34 kB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing : stress-1.0.7-2.amzn2023.0.1.x86_64 1/1
Installing : stress-1.0.7-2.amzn2023.0.1.x86_64 1/1
Running scriptlet: stress-1.0.7-2.amzn2023.0.1.x86_64 1/1
Verifying : stress-1.0.7-2.amzn2023.0.1.x86_64 1/1
Installed:
stress-1.0.7-2.amzn2023.0.1.x86_64
Complete!
```

11) Check CPU utilization in CloudWatch alarm which we created.



12) We got alert mail.

ALARM: "CPU_Utilization_i-00bff2b6d97543868" in Asia Pacific (Mumbai) Inbox

AWS Notifications <no-reply@sns.amazonaws.com> to me 18:41 (1 minute ago)

You are receiving this email because your Amazon CloudWatch Alarm "CPU_Utilization_i-00bff2b6d97543868" in the Asia Pacific (Mumbai) region has entered the ALARM state, because "Threshold Crossed: 1 out of the last 1 datapoints [54.458175750834265 (09/09/24 13:05:00)] was greater than or equal to the threshold (50.0) (minimum 1 datapoint for OK -> ALARM transition)." at "Monday 09 September, 2024 13:11:28 UTC".

View this alarm in the AWS Management Console:
https://ap-south-1.console.aws.amazon.com/cloudwatch/deeplink.js?region=ap-south-1#alarmsV2_alarm/CPU_Utilization_i-00bff2b6d97543868

Alarm Details:

- Name: CPU_Utilization_i-00bff2b6d97543868
- Description:
- State Change: INSUFFICIENT_DATA -> ALARM
- Reason for State Change: Threshold Crossed: 1 out of the last 1 datapoints [54.458175750834265 (09/09/24 13:05:00)] was greater than or equal to the threshold (50.0) (minimum 1 datapoint for OK -> ALARM transition).
- Timestamp: Monday 09 September, 2024 13:11:28 UTC
- AWS Account: 986539783646
- Alarm Arn: arn:aws:cloudwatch:ap-south-1:986539783646:alarm:CPU_Utilization_i-00bff2b6d97543868

Threshold:

- The alarm is in the ALARM state when the metric is GreaterThanOrEqualToThreshold 50.0 for at least 1 of the last 1 period(s) of 120 seconds.

Monitored Metric:

- MetricNamespace: AWS/EC2
- MetricName: CPUUtilization
- Dimensions: [InstanceId = i-00bff2b6d97543868]
- Period: 120 seconds
- Statistic: Average
- Unit: not specified
- TreatMissingData: missing

State Change Actions:

- OK:
- ALARM: [arn:aws:sns:ap-south-1:986539783646:My_SNS_Topic]
- INSUFFICIENT_DATA: