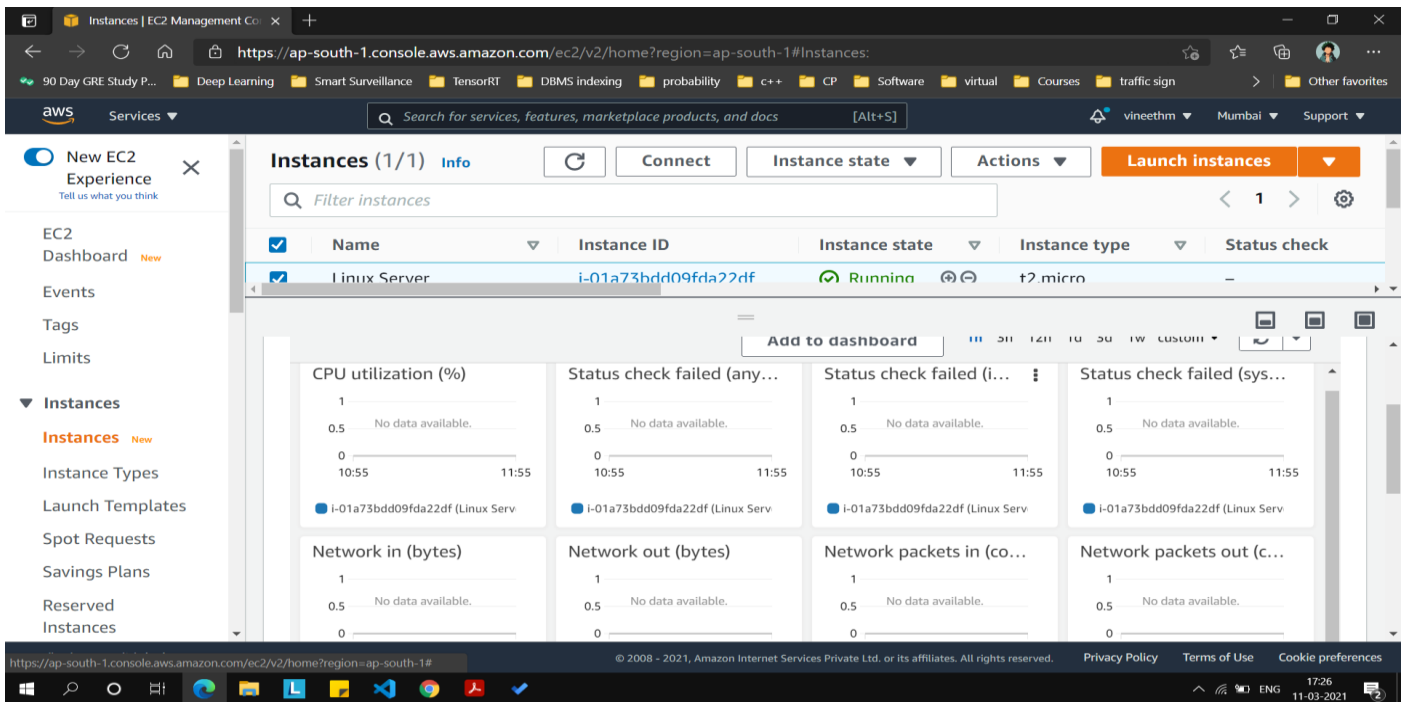


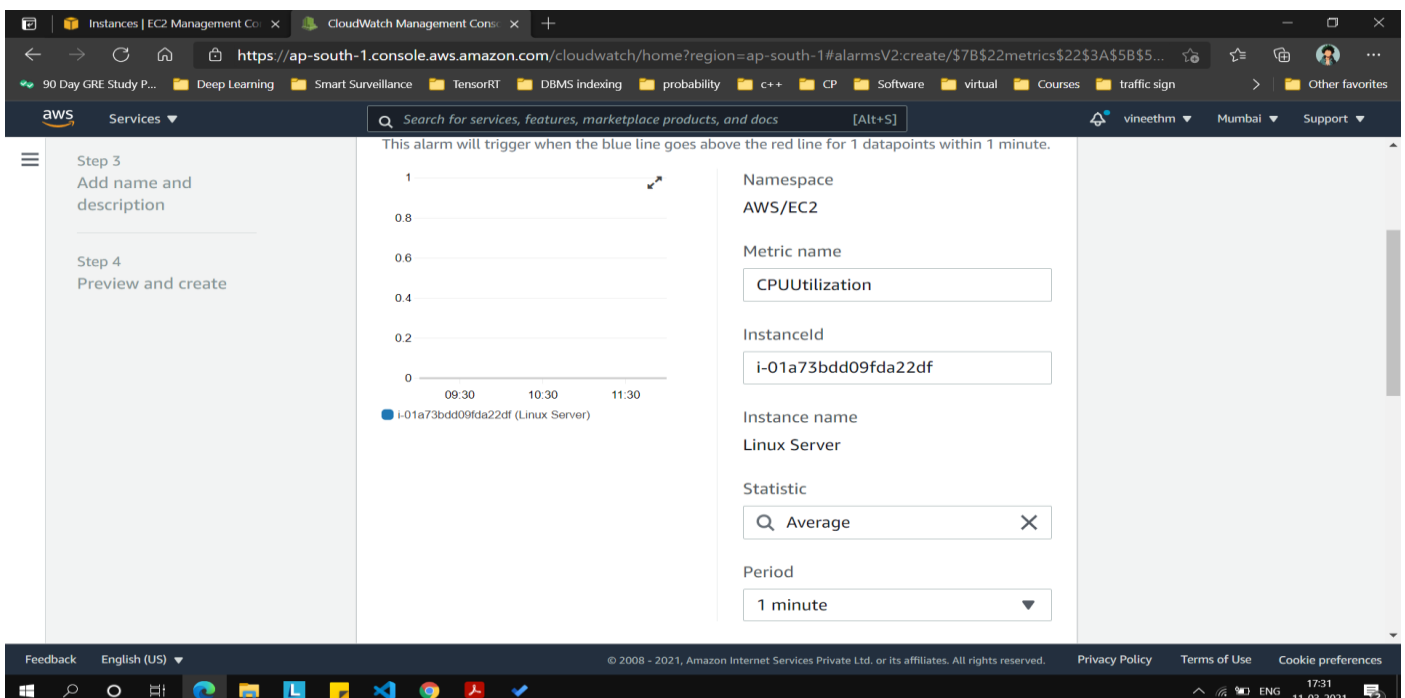
Lab Assignment 08

AWS CloudWatch Services to get notifications using AWS SNS when CPU utilization goes higher than the decided threshold.

Task-1: Launch EC2 Linux instance and review its CPU utilization metrics.



Task-2: Create Alarm for EC2 instance by creating a static threshold for CPU utilization.



Instances | EC2 Management Co... | CloudWatch Management Cons...

https://ap-south-1.console.aws.amazon.com/cloudwatch/home?region=ap-south-1#alarmsV2:create/\$7B\$22metrics\$22\$3A\$5B\$5...

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Conditions

Threshold type

☒ Static
Use a value as a threshold

☐ Anomaly detection
Use a band as a threshold

Whenever CPUUtilization is...
Define the alarm condition.

☒ Greater
> threshold

☐ Greater/Equal
>= threshold

☐ Lower/Equal
≤ threshold

☐ Lower
< threshold

than...
Define the threshold value.

0.6

Must be a number

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Task-3: Configure the actions of the CloudWatch by creating a new topic.

Instances | EC2 Management Co... | CloudWatch Management Cons...

https://ap-south-1.console.aws.amazon.com/cloudwatch/home?region=ap-south-1#alarmsV2:create/\$7B\$22metrics\$22\$3A\$5B\$5...

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Select an SNS topic

Define the SNS (Simple Notification Service) topic that will receive the notification.

☐ Select an existing SNS topic

☒ Create new topic

☐ Use topic ARN

Create a new topic...

The topic name must be unique.

Default_CloudWatch_Alarms_Topic

SNS topic names can contain only alphanumeric characters, hyphens (-) and underscores (_).

Email endpoints that will receive the notification...

Add a comma-separated list of email addresses. Each address will be added as a subscription to the topic above.

vinsarena1627@gmail.com

user1@example.com, user2@example.com

Create topic

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Task-4: View SNS console and review all the available metrics.

The screenshot shows the Amazon SNS console interface. The left sidebar contains navigation links: Dashboard, Topics, Subscriptions, Mobile, Push notifications, and Text messaging (SMS). The main content area is titled 'Subscriptions (1)' and includes buttons for Edit, Delete, Request confirmation, Confirm subscription, and a prominent orange 'Create subscription' button. Below these is a search bar and a table with one subscription entry.

ID	Endpoint	Status	Protocol
8046c841-8949-4eb6-939f-4c5073934108	vinsarena1627@gmail.com	Confirmed	EMAIL

The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock indicating 17:36 on 11-03-2021.

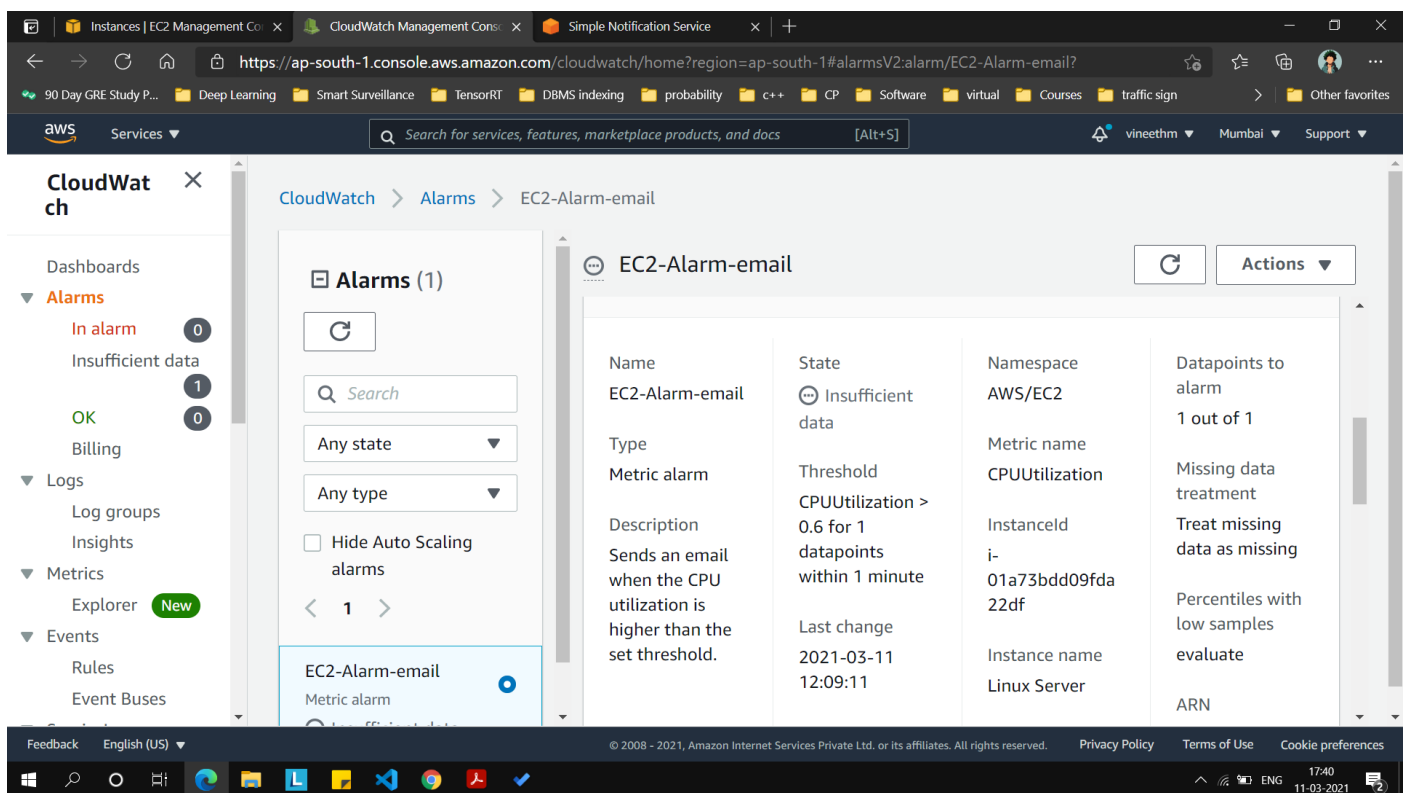
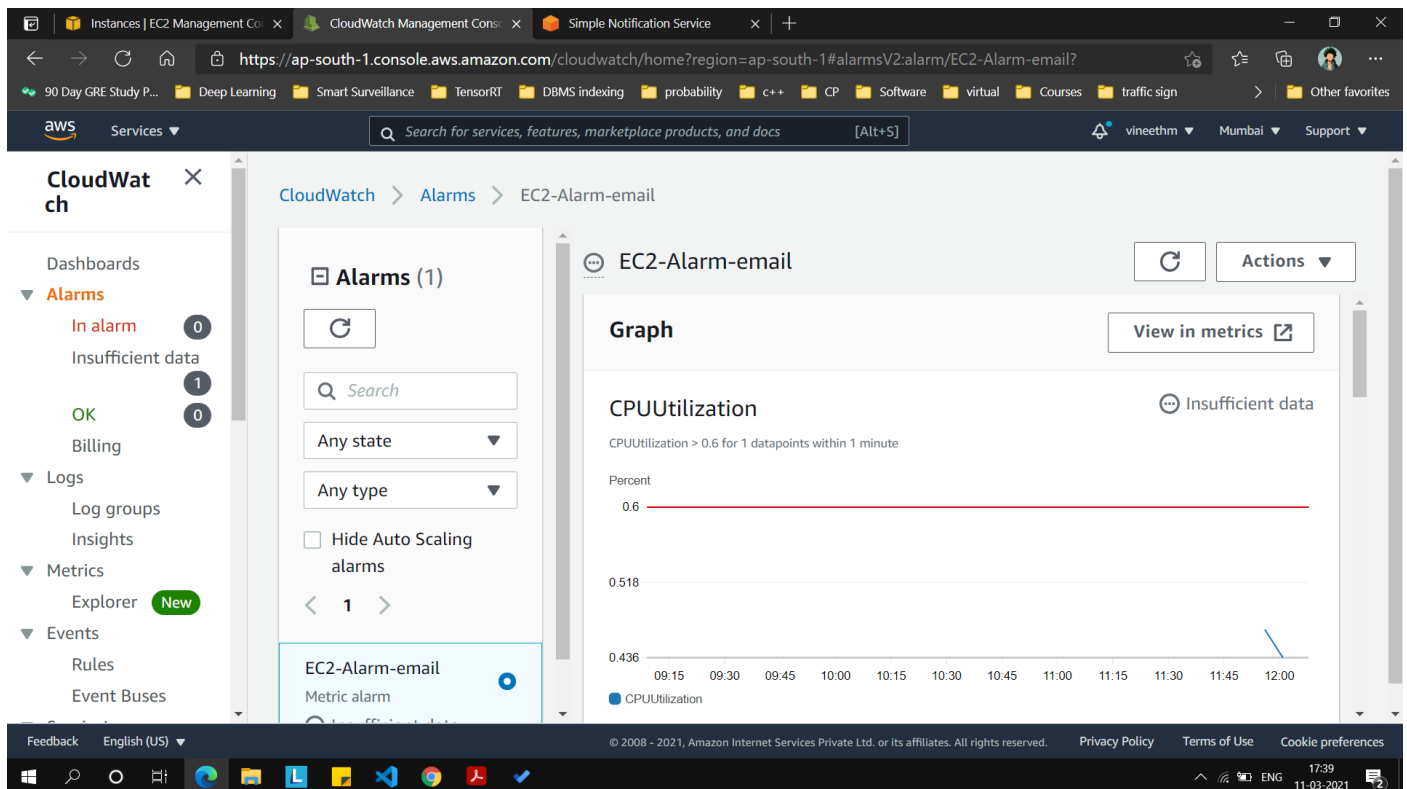
Task-5: The main agenda is that when CPU utilization of the EC2 instance exceeds the threshold then email notification should be sent to the email address.

The screenshot displays the AWS CloudWatch console during the 'Configure actions' step of creating a new alarm. The 'Metric' section shows a graph of CPU utilization for instance i-01a73bdd09fda22df. The graph has a red threshold line at 0.55 and a blue data line. The right-hand configuration panel lists the following details:

- Namespace: AWS/EC2
- Metric name: CPUUtilization
- Instanceld: i-01a73bdd09fda22df
- Instance name: Linux Server
- Statistic: Average
- Period: 1 minute

The left sidebar shows the progress of the setup: Step 3 'Add name and description' is active, and Step 4 'Preview and create' is next. The bottom of the image shows the Windows taskbar with the system clock at 17:39 on 11-03-2021.

Task-6: Save the created alarm by reviewing all the metrics.



Task-7: Install the stress testing tool to increase the load of the CPU. Execute the commands to increase the CPU load.

The screenshot shows the AWS CloudWatch console for a dashboard named 'MyDashBoard1'. On the left, the 'Alarms' section shows an alarm named 'EC2-Alarm-email' in an 'In alarm' state with 1 alarm. The main area displays a line graph for 'CPUUtilization' with a threshold line at 0.615. The graph shows a sharp increase in CPU utilization, crossing the threshold. On the right, a terminal window shows the command 'sudo yum install stress' being executed, with output indicating the installation of the 'stress' tool.

Task-8: Check the proper working of the Created Alarm.

The screenshot shows the same AWS CloudWatch console dashboard. The 'EC2-Alarm-email' alarm is still in an 'In alarm' state. The terminal window on the right now shows the command 'stress --cpu 8 --io 4 --vm 2 --vm-bytes 128M --timeout 10s' being executed, which is used to stress-test the system. The output of the command is visible, showing the stress tool's usage and the current state of the system.

We successfully received an email notification regarding the rise in the CPU utilization of the Linux EC2 instance.

