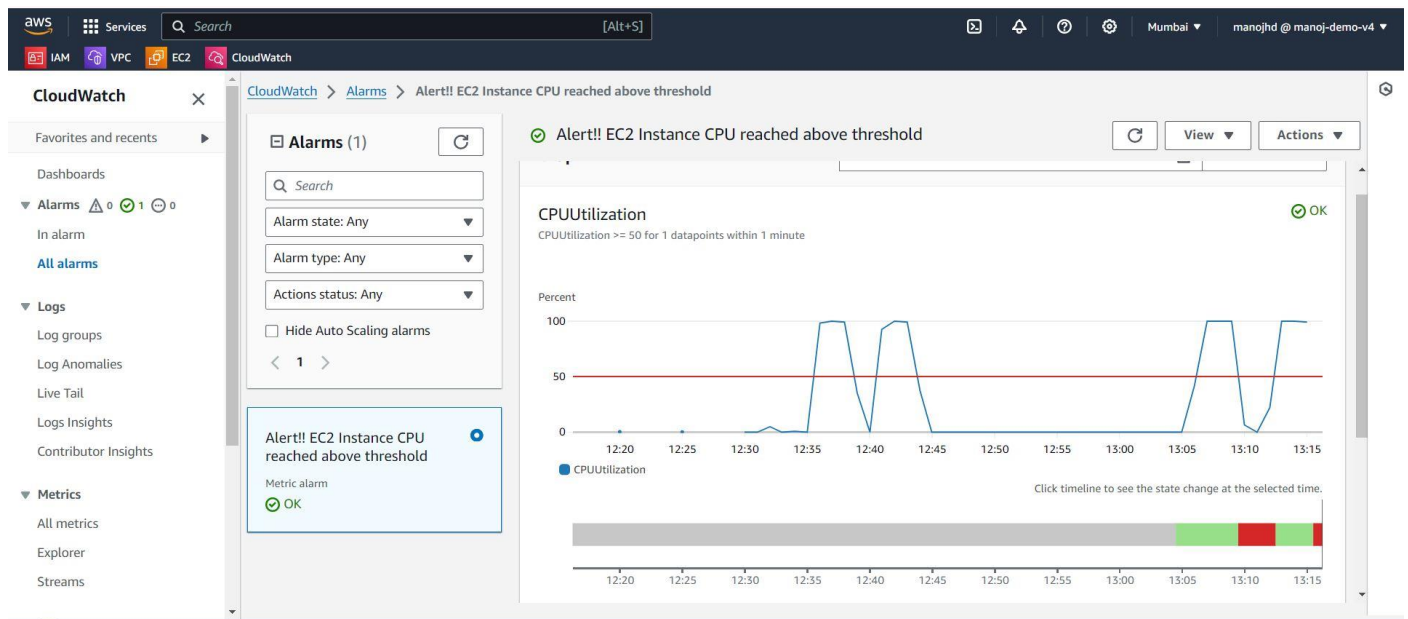


CloudWatch Project using SNS service

Configuring alarm in CloudWatch using SNS service to receive mail notification once CPU utilization went above threshold.



Running Python script to make CPU utilization high manually by creation EC2 instance.

```
aws | Services | Search [Alt+S]
IAM VPC EC2 CloudWatch
ubuntu@ip-172-31-47-52:~$ python3 cpu_spike.py
Simulating CPU spike at 80%...
CPU spike simulation completed.
ubuntu@ip-172-31-47-52:~$ cat cpu_spike.py
import time

def simulate_cpu_spike(duration=30, cpu_percent=80):
    print(f"Simulating CPU spike at {cpu_percent}%...")
    start_time = time.time()

    # Calculate the number of iterations needed to achieve the desired CPU utilization
    target_percent = cpu_percent / 100
    total_iterations = int(target_percent * 5_000_000) # Adjust the number as needed

    # Perform simple arithmetic operations to spike CPU utilization
    for _ in range(total_iterations):
        result = 0
        for i in range(1, 1001):
            result += i

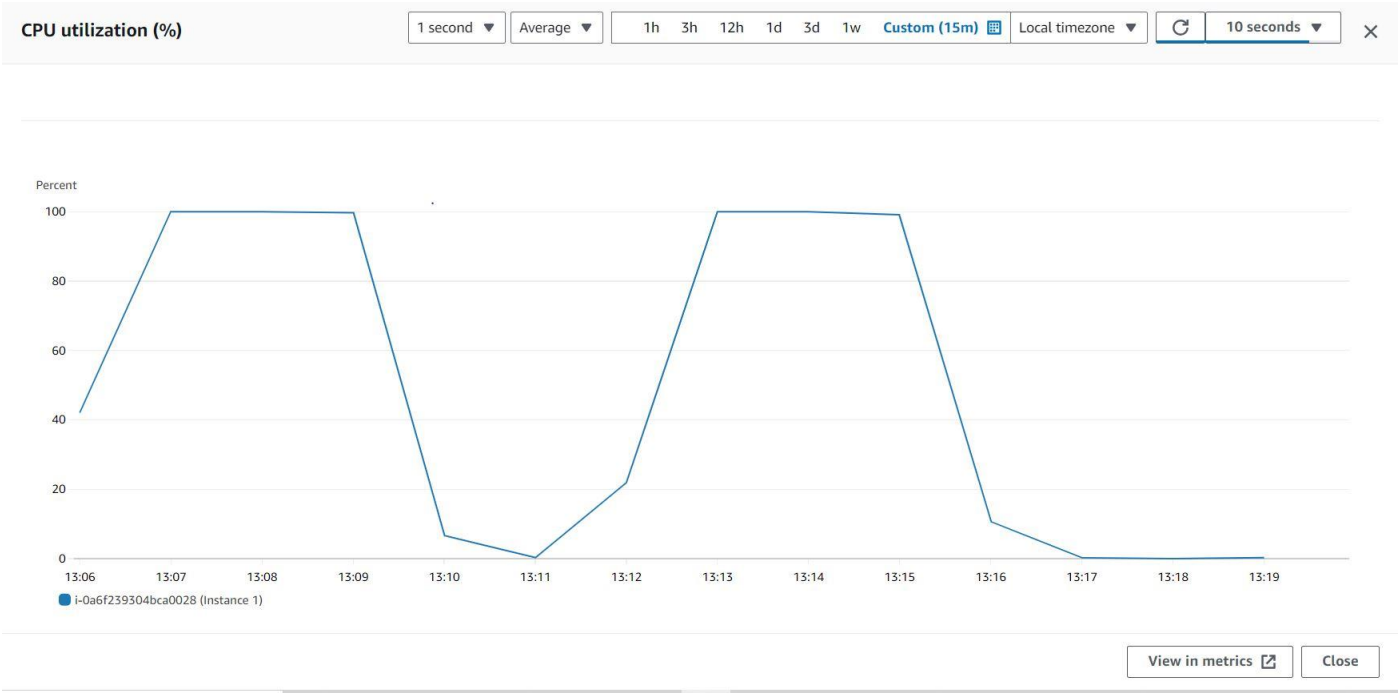
    # Wait for the rest of the time interval
    elapsed_time = time.time() - start_time
    remaining_time = max(0, duration - elapsed_time)
    time.sleep(remaining_time)

    print("CPU spike simulation completed.")

if __name__ == '__main__':
    # Simulate a CPU spike for 30 seconds with 80% CPU utilization
    simulate_cpu_spike(duration=30, cpu_percent=80)

ubuntu@ip-172-31-47-52:~$ python3 cpu_spike.py
Simulating CPU spike at 80%...
```

CPU utilization went above threshold post running script on EC2 instance.



Received mail notification once CPU utilization crossed above limit.

ALARM: "Alert!! EC2 Instance CPU reached above threshold" in Asia Pacific (Mumbai)

AWS Notifications <no-reply@sns.amazonaws.com> to me 1:09 PM (15 minutes ago)

You are receiving this email because your Amazon CloudWatch Alarm "Alert!! EC2 Instance CPU reached above threshold" in the Asia Pacific (Mumbai) region has entered the ALARM state, because "Threshold Crossed: 1 out of the last 1 datapoints [100.0 (27/08/24 07:37:00)] was greater than or equal to the threshold (50.0) (minimum 1 datapoint for OK -> ALARM transition)." at "Tuesday 27 August, 2024 07:39:30 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/Alert%21%21%20EC2%20Instance%20CPU%20reached%20above%20threshold

Alarm Details:

- Name: Alert!! EC2 Instance CPU reached above threshold
- Description: Hey Team, This is an automated notification from cloudwatch to let you that your instance CPU has spiked 50% or above. Please take the necessary actions.
- State Change: OK -> ALARM
- Reason for State Change: Threshold Crossed: 1 out of the last 1 datapoints [100.0 (27/08/24 07:37:00)] was greater than or equal to the threshold (50.0) (minimum 1 datapoint for OK -> ALARM transition).
- Timestamp: Tuesday 27 August, 2024 07:39:30 UTC
- AWS Account: 890742610887
- Alarm Arn: arn:aws:cloudwatch:ap-south-1:890742610887:alarm:Alert!! EC2 Instance CPU reached above threshold

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 60 seconds.

Monitored Metric:

- MetricNamespace: AWS/EC2
- MetricName: CPUUtilization
- Dimensions: [InstanceId = i-0a6f239304bca0028]
- Period: 60 seconds
- Statistic: Maximum
- Unit: not specified
- TreatMissingData: missing

State Change Actions:

- OK:
- ALARM: [arn:aws:sns:ap-south-1:890742610887:EC2-Instance-CPU-Utilization]
- INSUFFICIENT_DATA: