

AWS CloudWatch + SNS Alarm (High CPU)

Step-by-Step Hands-On Guide with Screenshots

Objective: Create a CloudWatch alarm for an EC2 instance that triggers when CPU Utilization \geq 80%. Send notifications via Amazon SNS and (optional) stop the instance automatically on alarm.

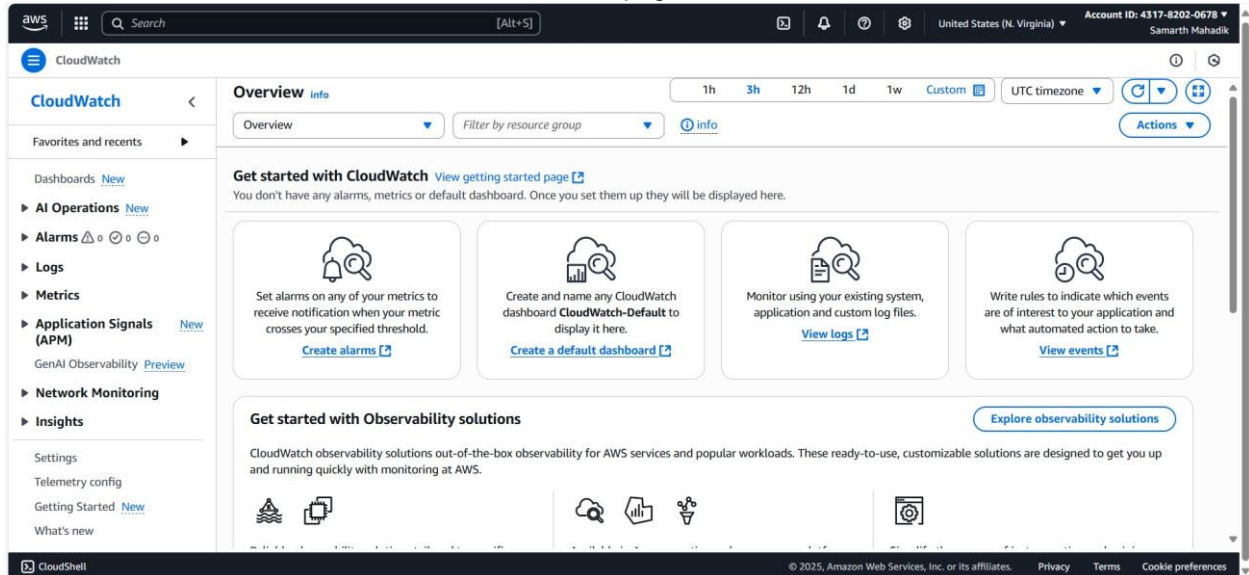
Generated: 2025-08-22 07:54 UTC

Prerequisites

- EC2 instance in the target Region (this guide uses us-east-1).
- Permissions for CloudWatch and SNS.
- A valid email address for SNS.

1) Open CloudWatch console

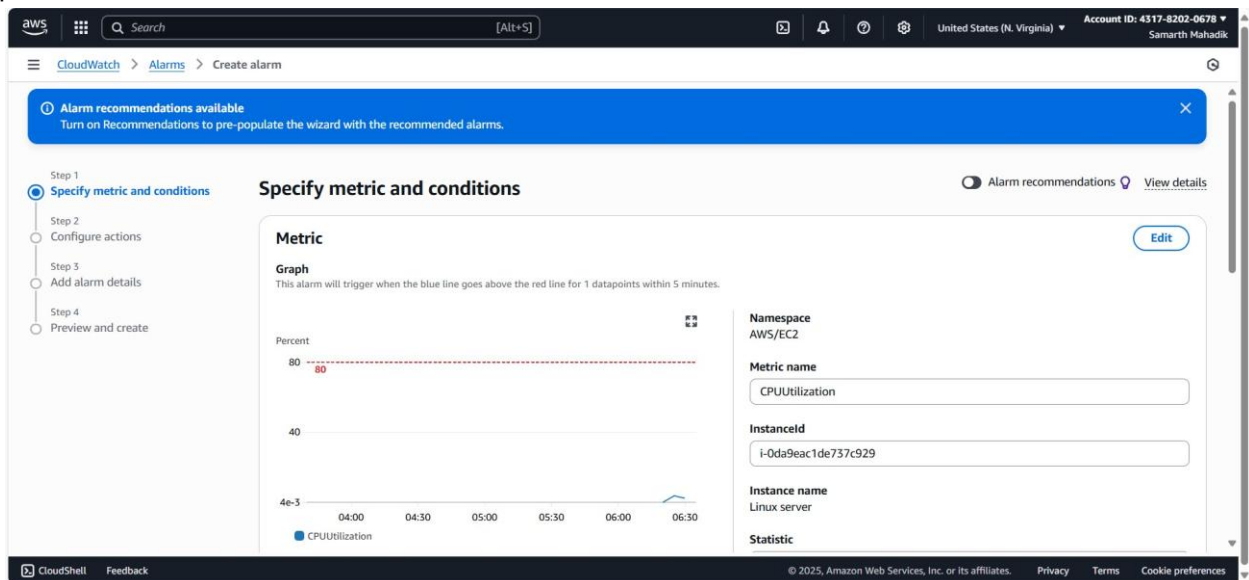
Open the CloudWatch service. You land on the Overview page.



CloudWatch Overview page.

2) Create alarm → Specify metric and conditions

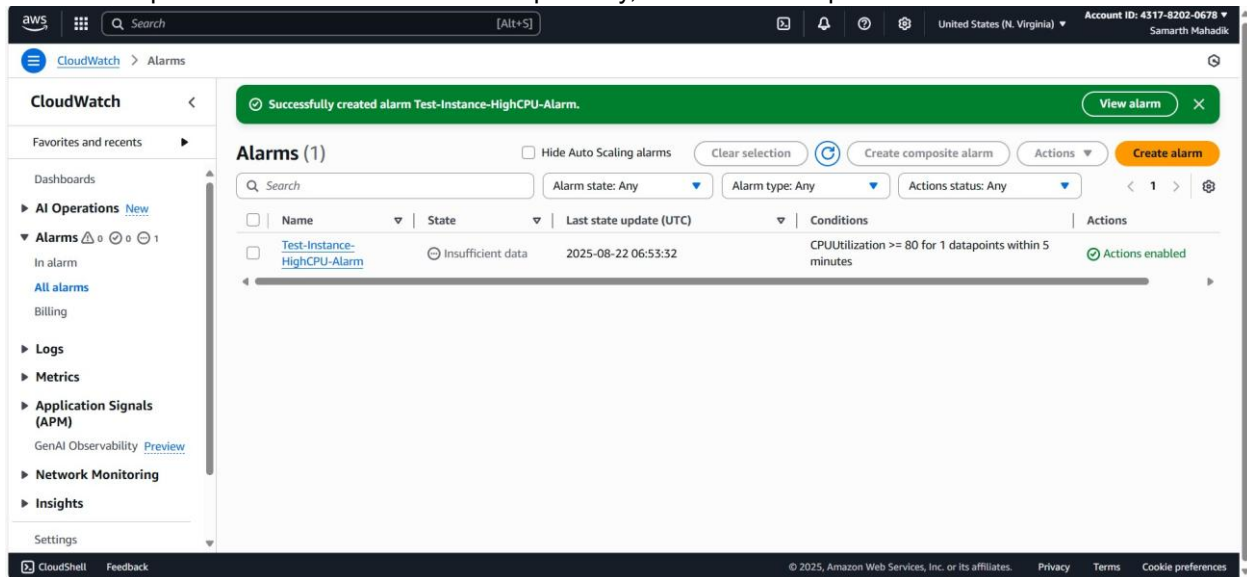
Click “Create alarms”. For Metric choose AWS/EC2 → CPU Utilization for your instance. Set threshold $\geq 80\%$ for 1 datapoint within 5 minutes.



Metric and threshold configuration.

3) Configure actions (SNS + optional EC2 stop)

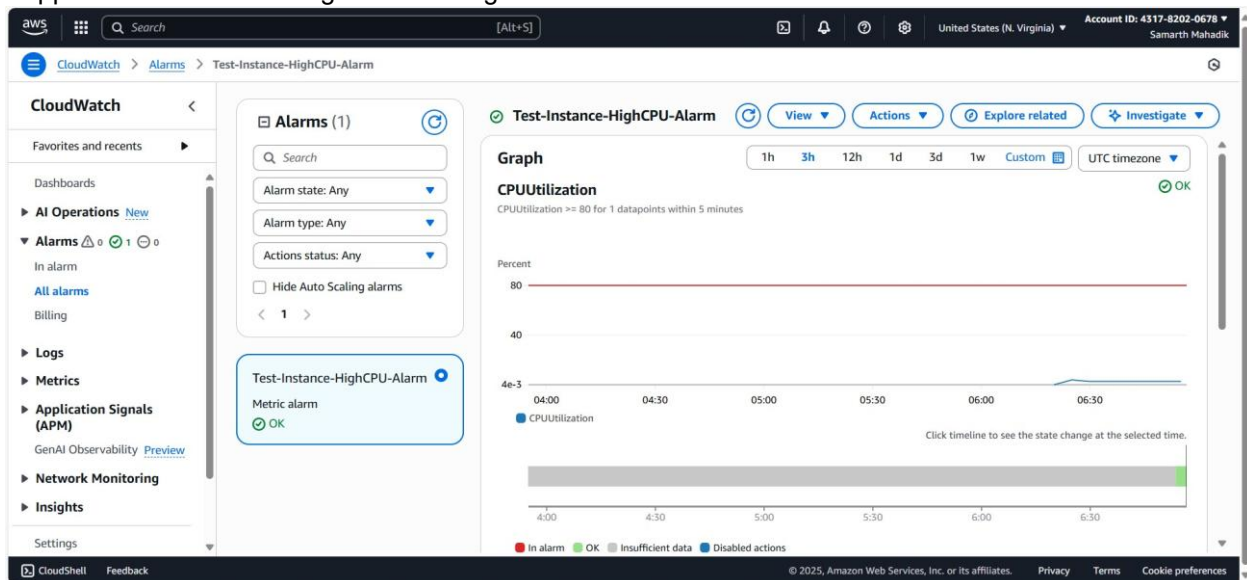
Attach an SNS topic to send email notifications. Optionally, add an EC2 stop action.



Alarm created (initially Insufficient data).

4) Verify alarm is listed and monitoring

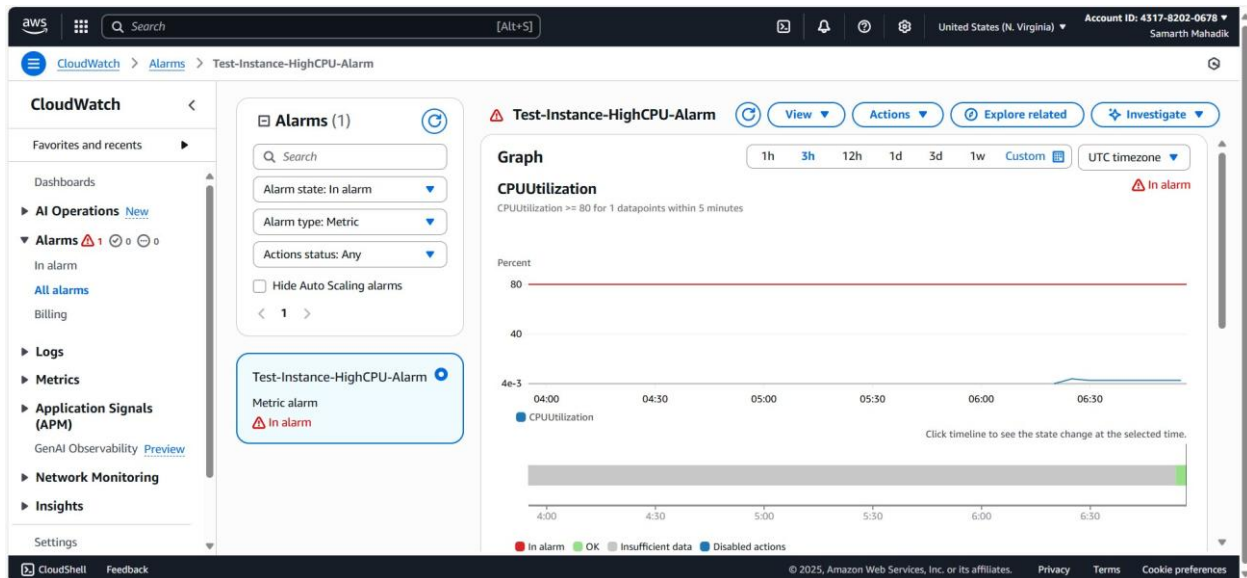
Alarm appears in the list and begins evaluating metrics.



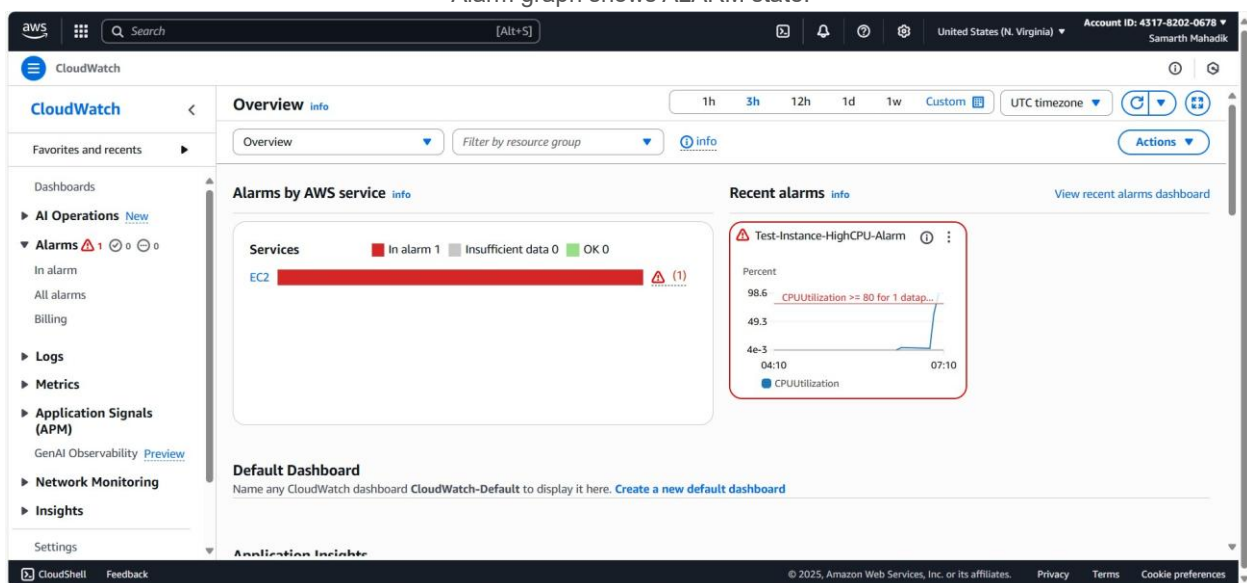
Alarm list and timeline.

5) Trigger the alarm (generate CPU load)

Create a CPU spike so usage exceeds 80%. The alarm transitions to ALARM.



Alarm graph shows ALARM state.



CloudWatch Overview shows the service in ALARM.

6) Receive SNS email

An email notification is delivered with details and a console link.



AWS No... 12:36 pm
to me ✓



You are receiving this email because your Amazon CloudWatch Alarm "Test-Instance-HighCPU-Alarm" in the US East (N. Virginia) region has entered the ALARM state, because "Threshold Crossed: 1 out of the last 1 datapoints [98.6255684689237 (22/08/25 07:01:00)] was greater than or equal to the threshold (80.0) (minimum 1 datapoint for OK -> ALARM transition)." at "Friday 22 August, 2025 07:06:43 UTC".

View this alarm in the AWS Management Console:
<https://us-east-1.console.aws.amazon.com/cloudwatch/deeplink.js?region=us-east-1#alarmsV2:alarm/Test-Instance-HighCPU-Alarm>

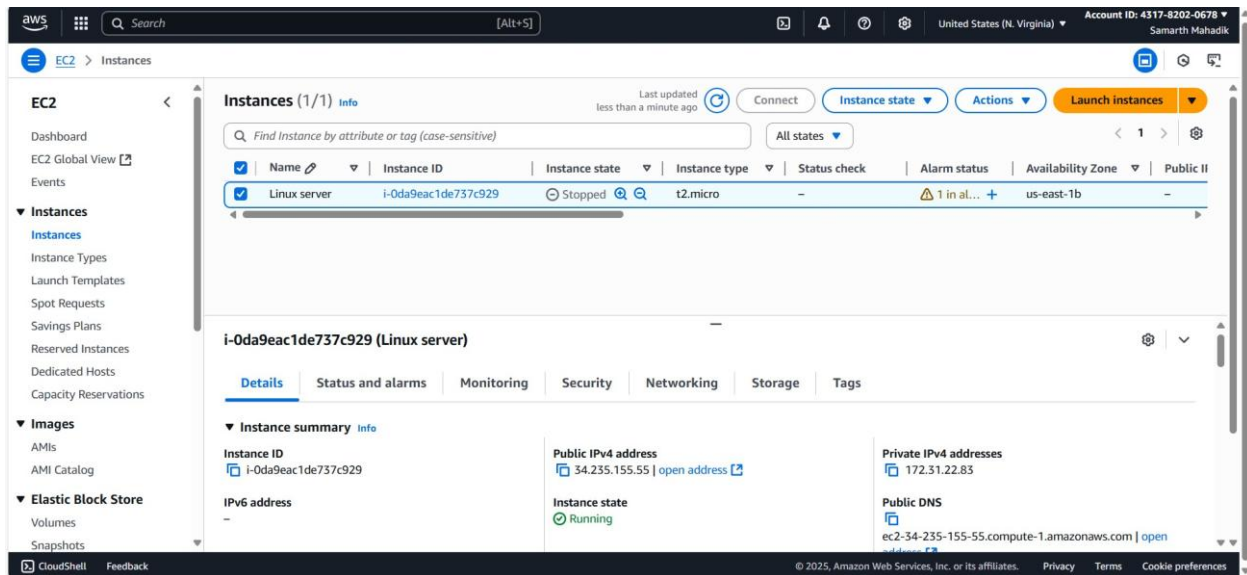
Alarm Details:

- Name: Test-Instance-HighCPU-Alarm
- Description:
- State Change: OK -> ALARM
- Reason for State Change: Threshold Crossed: 1 out of the last 1 datapoints [98.6255684689237 (22/08/25 07:01:00)] was greater than or equal to the threshold (80.0) (minimum 1 datapoint for OK -> ALARM transition).
- Timestamp: Friday 22 August, 2025 07:06:43 UTC
- AWS Account: 431782020678
- Alarm Arn: arn:aws:cloudwatch:us-east-1:431782020678:alarm:Test-Instance-HighCPU-

Sample SNS email for the high CPU alarm.

7) (Optional) Auto-stop EC2 on alarm

If configured, the instance automatically stops when the alarm fires.



EC2 instance state after stop action.

8) Alarm returns to OK

When CPU falls below the threshold, the alarm moves back to OK.