

Create an instance and Cloudwatch to trigger an alarm and shutdown the instance.

1. Log in to AWS Management Console

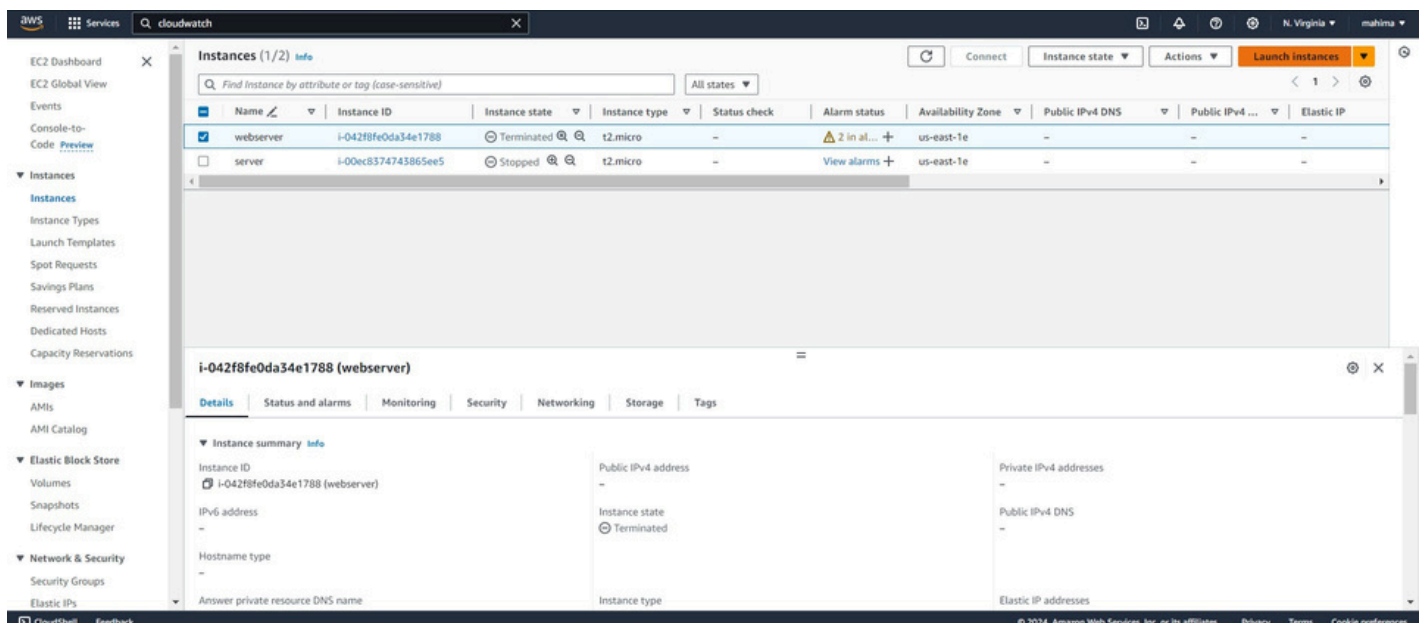
- Go to the [AWS Management Console](#).
- Sign in with your credentials.

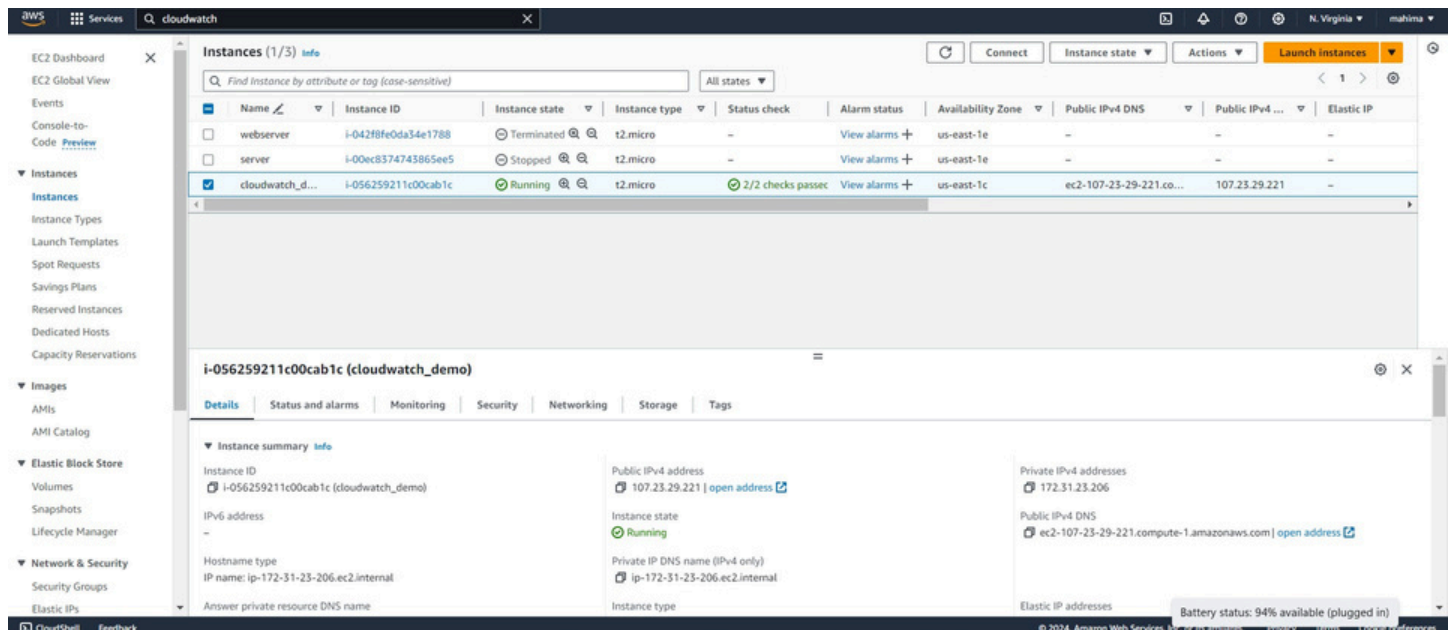
. Navigate to EC2

- In the AWS Management Console, type EC2 in the search bar and select it from the list of services.

. Launch an Instance

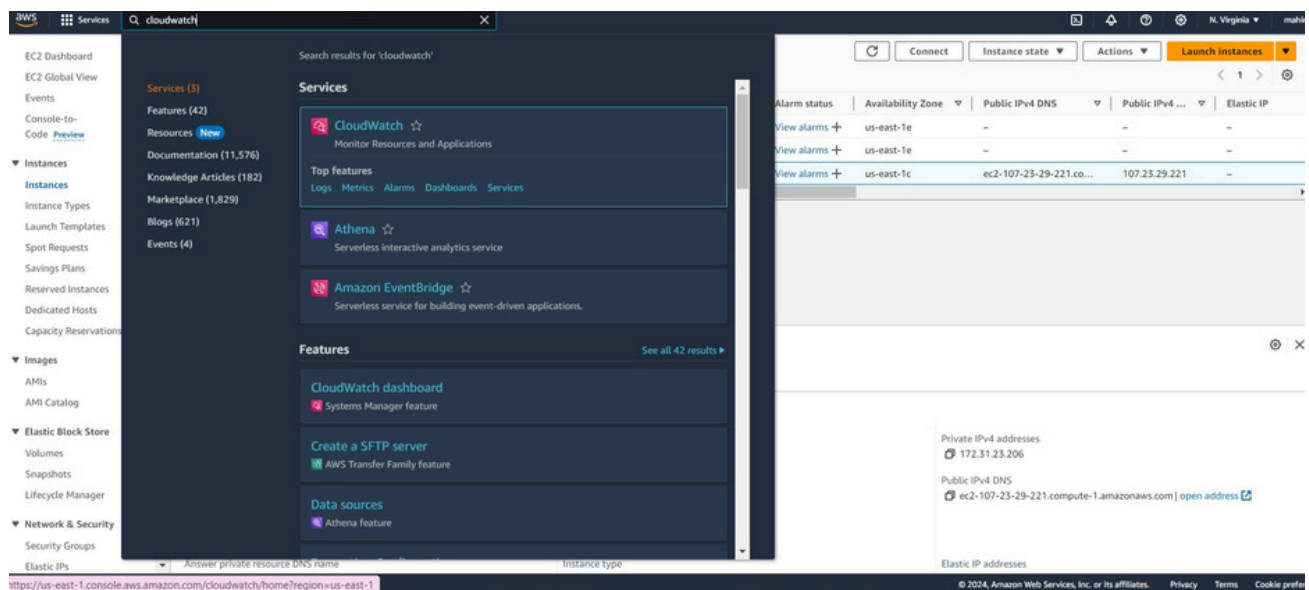
- In the EC2 Dashboard, click on the Launch Instance button.





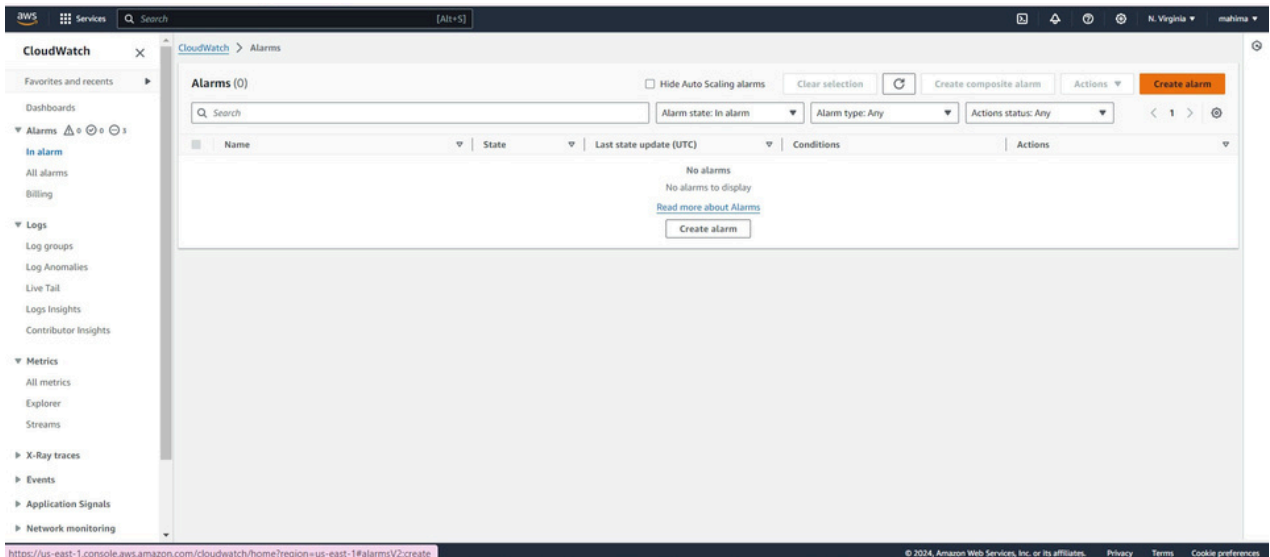
2. Navigate to CloudWatch

- In the AWS Management Console, type CloudWatch in the search bar and select it from the list of services.



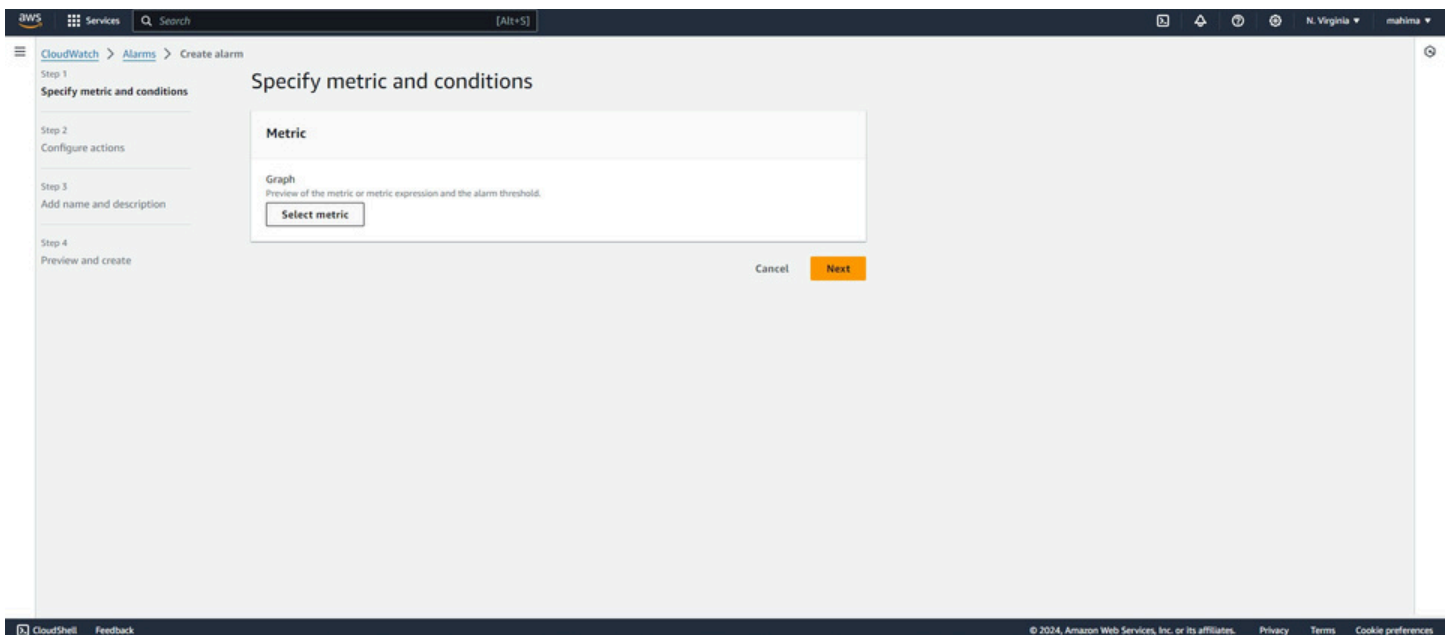
3. Create a New Alarm

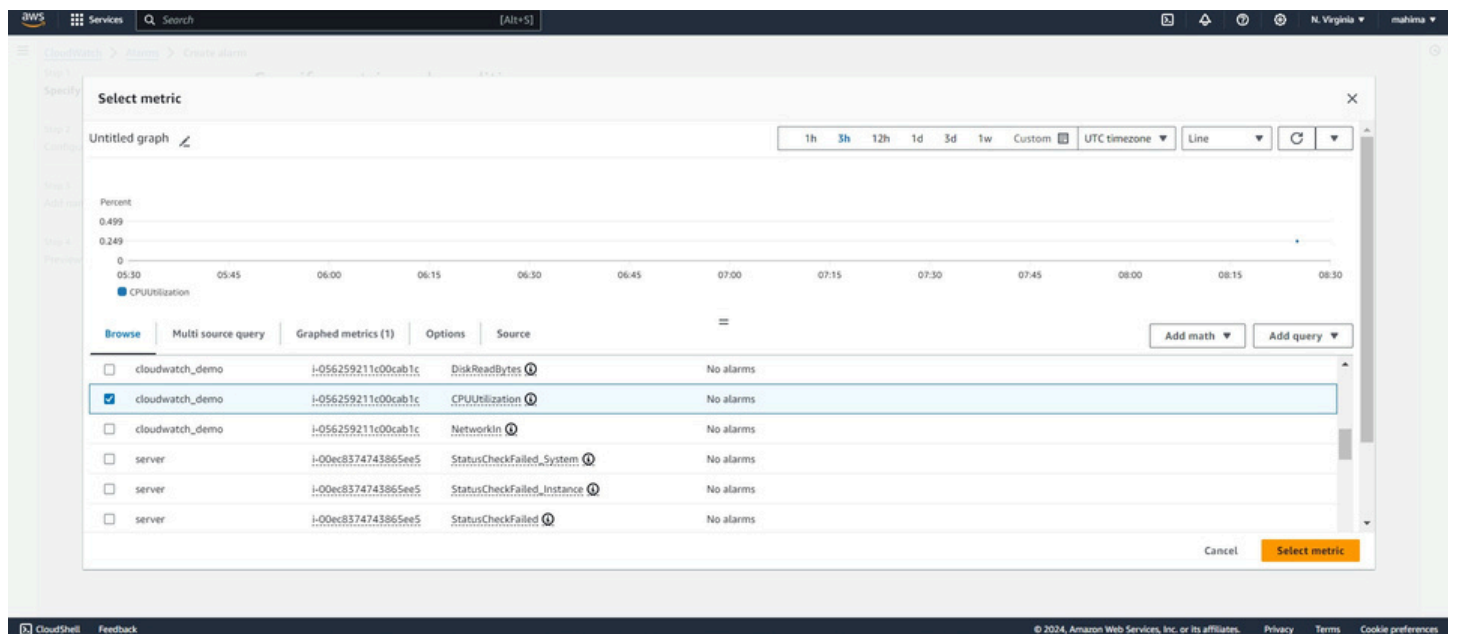
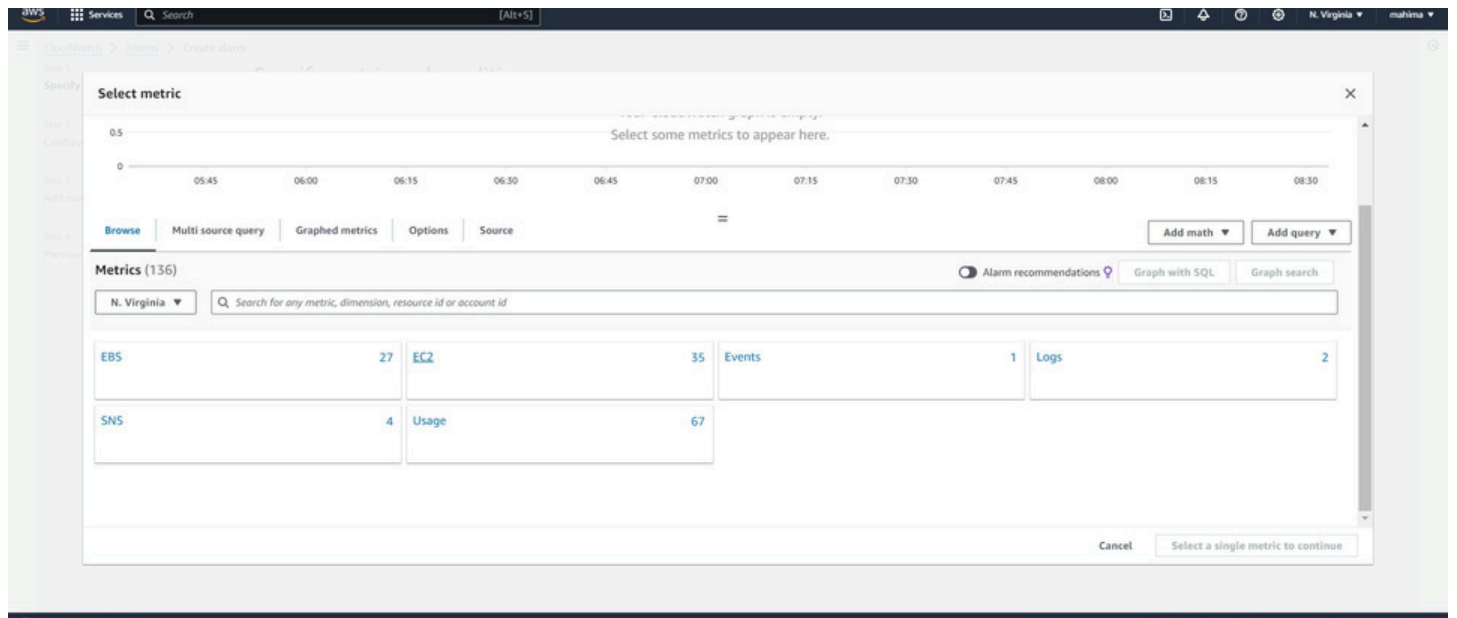
- In the CloudWatch dashboard, click on Alarms in the left-hand navigation pane.
- Click on the Create Alarm button.



4. Select a Metric

- Click on the Select metric button.
- Choose a metric category (e.g., EC2, RDS, Lambda).
- Browse or search for the specific metric you want to monitor (e.g., CPU Utilization for an EC2 instance).
- Select the desired metric and click Select metric.





5. Specify the Alarm Conditions

- Define the Threshold type:
 - Static: Specify a fixed threshold value.
 - Anomaly detection: AWS will use machine learning to create dynamic thresholds.
- Set the Threshold value and specify whether the condition should be Greater/Equal to or Less/Equal to the threshold.
- Define the Period (the length of time associated with the metric data).
- Set the Datapoints to Alarm and Evaluation Periods to determine how many times the metric must breach the threshold before the alarm triggers.

The screenshot shows the AWS CloudWatch 'Create Alarm' wizard. The metric is 'CPUUtilization'. The 'Statistic' is set to 'Average' and the 'Period' is '5 minutes'. Under 'Conditions', the 'Threshold type' is 'Static' (Use a value as a threshold). The condition is 'Whenever CPUUtilization is... Define the alarm condition.' with options: 'Greater > threshold', 'Greater/Equal >= threshold' (selected), 'Lower/Equal <= threshold', and 'Lower < threshold'. The 'than...' section shows 'Define the threshold value' as '15'. A 'Next' button is visible at the bottom right.

6. Configure Actions

- Choose the actions to take when the alarm state is triggered:
 - Send a notification to an SNS topic: Select or create an SNS topic and add the necessary recipients (e.g., email, SMS).



Simple Notification Service

Subscription confirmed!

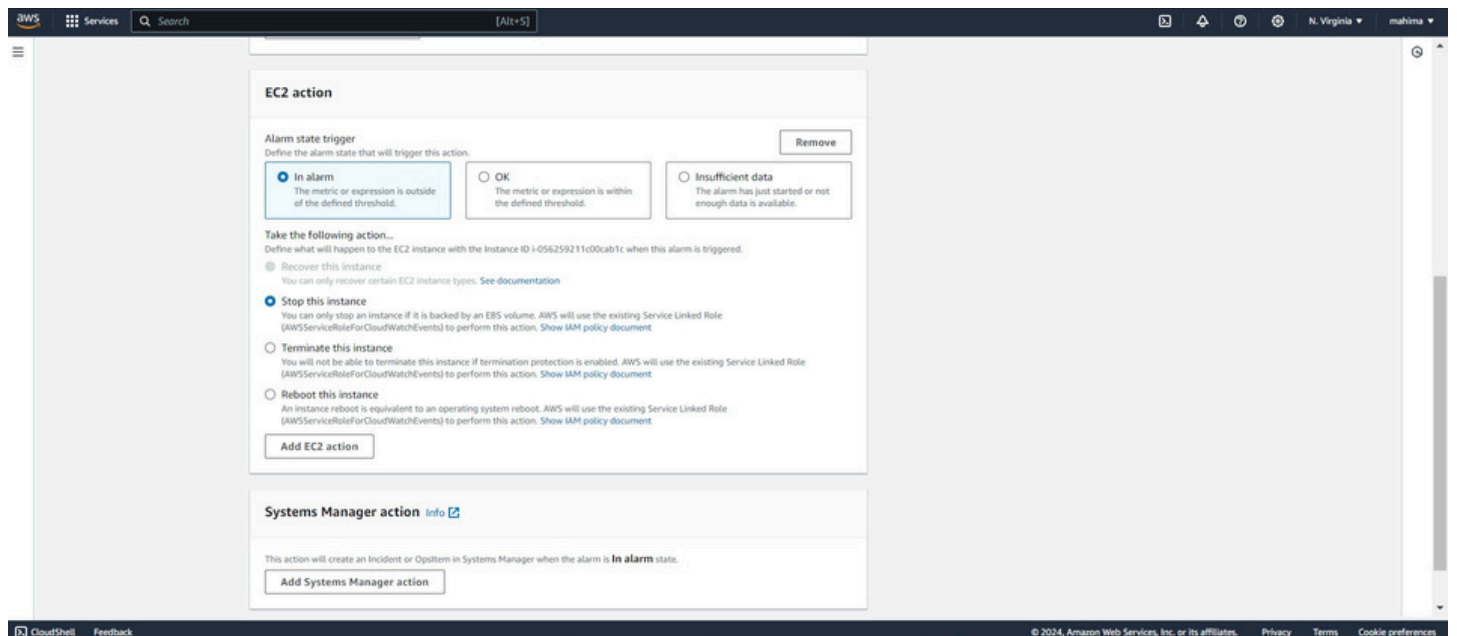
You have successfully subscribed.

Your subscription's id is:

arn:aws:sns:us-east-1:024848475202:Default_CloudWatch_Alarms_Topic:1ac450e0-71b0-4d04-93d9-f5a59148344d

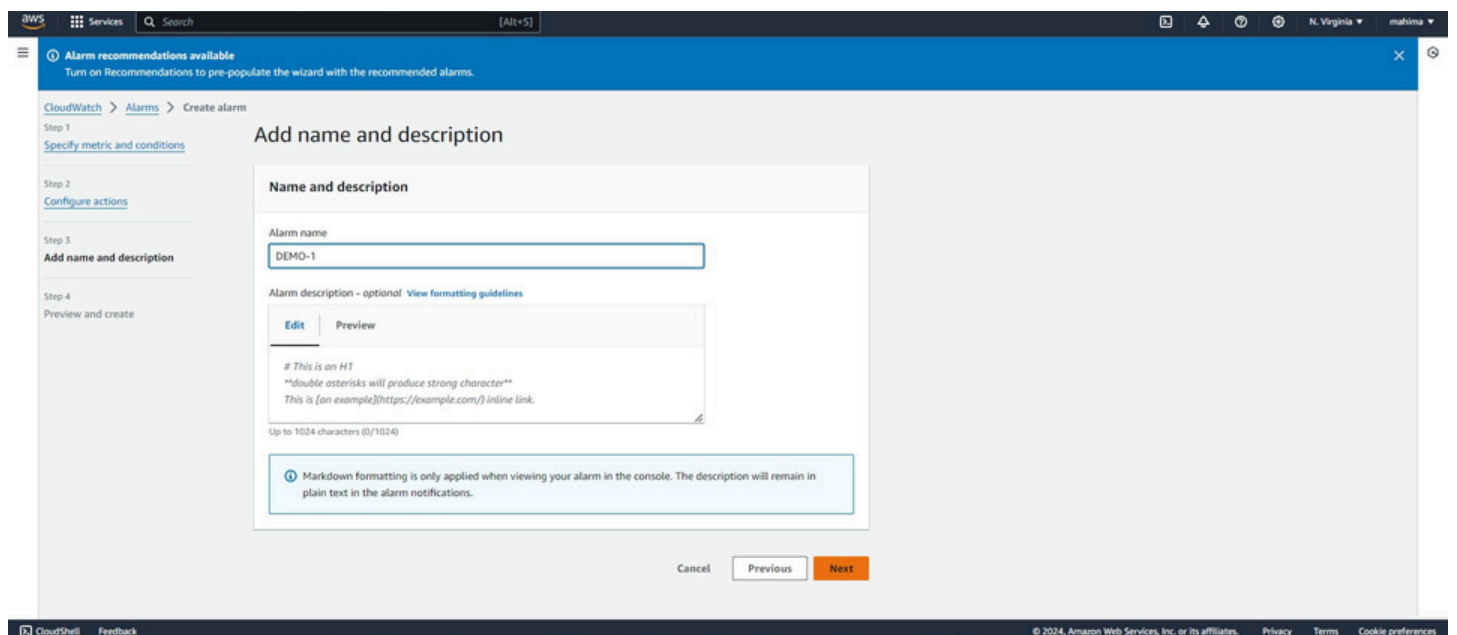
If it was not your intention to subscribe, [click here to unsubscribe](#).

- Auto-scaling actions: If you're using auto-scaling, select the appropriate auto-scaling group and action.
- EC2 action: Stop, terminate, reboot, or recover an EC2 instance.



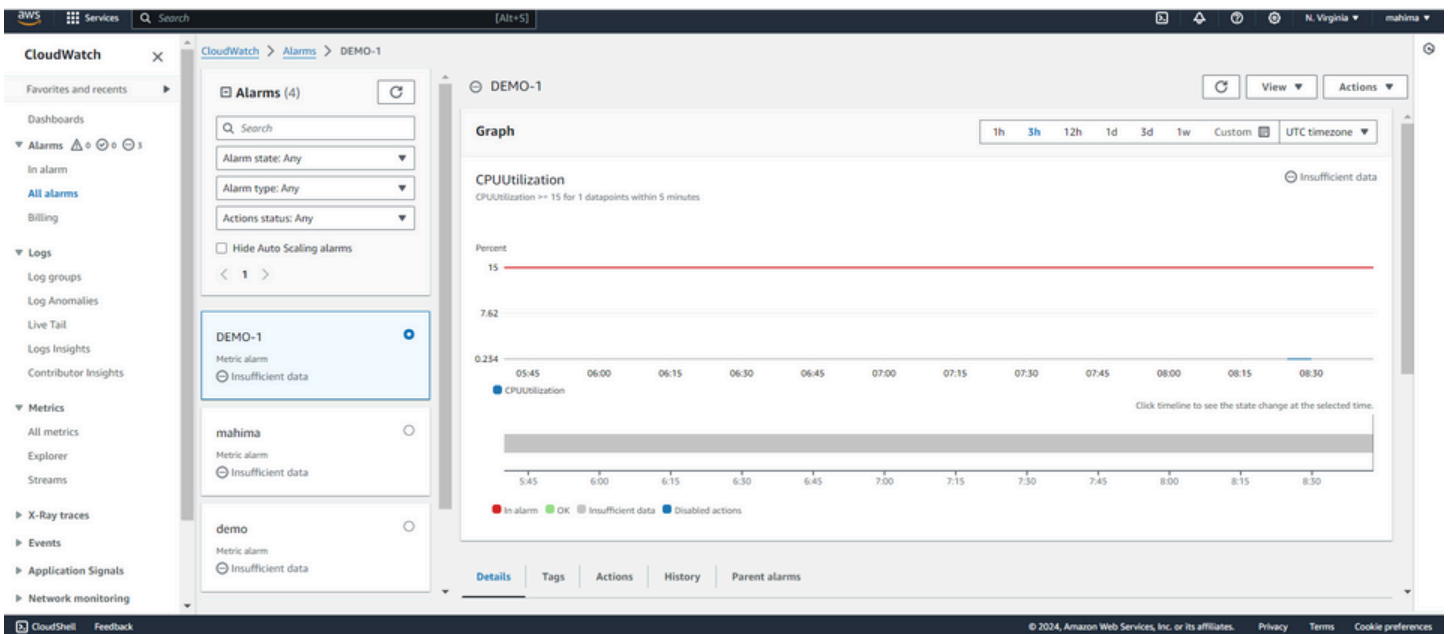
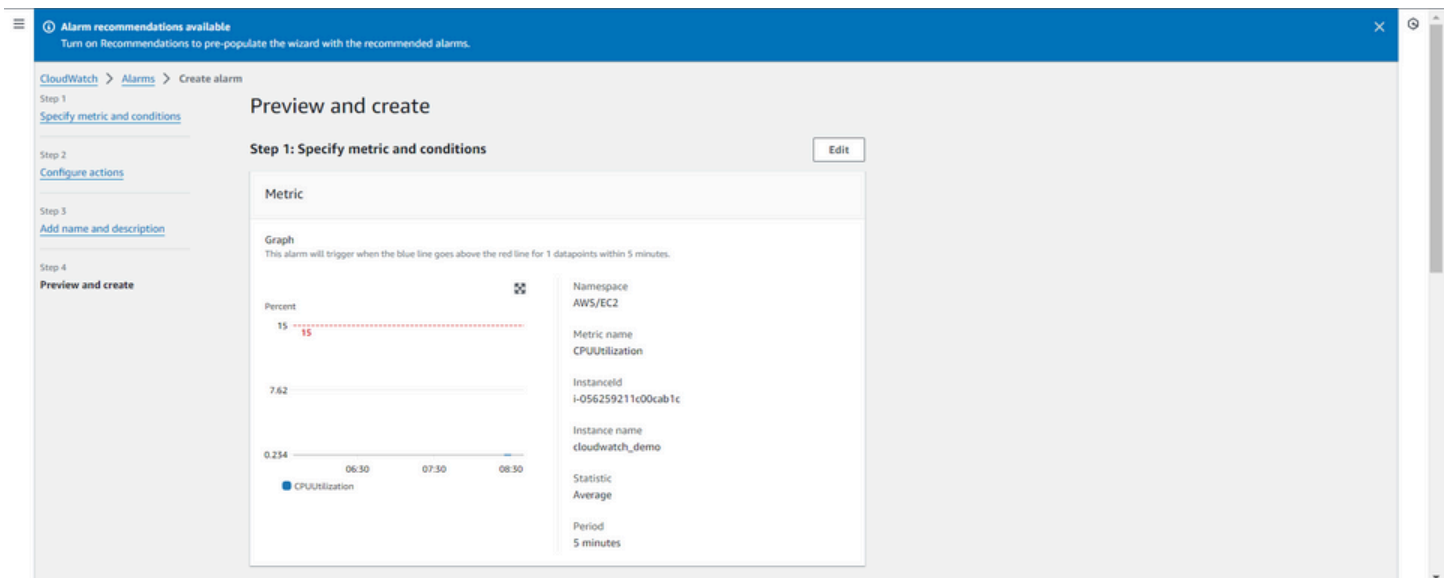
7. Add a Name and Description

- Provide a unique Name for the alarm.
- Optionally, add a Description to help identify the alarm's purpose.



8. Review and Create

- Review all the settings you have configured.
- Click the Create alarm button to finalize the creation.



9. Install Stress Tool

Once connected to the EC2 instance, install a stress tool like stress to create CPU load. For Amazon Linux 2, you can use:

```

AWS Services Search [Alt+S]
[ec2-user@ip-172-31-23-206 ~]$ sudo yum install stress -y
Last metadata expiration check: 0:17:31 ago on Tue Aug 6 08:28:36 2024.
Dependencies resolved.

Package Architecture Version Repository Size
Installing:
stress x86_64 1.0.4-28.amzn2023.0.2 amazonlinux 37 k

Transaction Summary
Install 1 Package

Total download size: 37 k
Installed size: 78 k
Downloading Packages:
stress-1.0.4-28.amzn2023.0.2.x86_64.rpm 457 kB/s | 37 kB 00:00
-----
Total 246 kB/s | 37 kB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      : stress-1.0.4-28.amzn2023.0.2.x86_64 1/1
  Installing     : stress-1.0.4-28.amzn2023.0.2.x86_64 1/1
  Running scriptlet: stress-1.0.4-28.amzn2023.0.2.x86_64 1/1
  Verifying      : stress-1.0.4-28.amzn2023.0.2.x86_64 1/1

Installed:
stress-1.0.4-28.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-23-206 ~]$

i-056259211c00cab1c (cloudwatch_demo)
PublicIPs: 107.23.29.221 PrivateIPs: 172.31.23.206

```

```

AWS Services Search [Alt+S]
[ec2-user@ip-172-31-23-206 ~]$ sudo yum install stress -y
Last metadata expiration check: 0:17:31 ago on Tue Aug 6 08:28:36 2024.
Dependencies resolved.

Package Architecture Version Repository Size
Installing:
stress x86_64 1.0.4-28.amzn2023.0.2 amazonlinux 37 k

Transaction Summary
Install 1 Package

Total download size: 37 k
Installed size: 78 k
Downloading Packages:
stress-1.0.4-28.amzn2023.0.2.x86_64.rpm 457 kB/s | 37 kB 00:00
-----
Total 246 kB/s | 37 kB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      : stress-1.0.4-28.amzn2023.0.2.x86_64 1/1
  Installing     : stress-1.0.4-28.amzn2023.0.2.x86_64 1/1
  Running scriptlet: stress-1.0.4-28.amzn2023.0.2.x86_64 1/1
  Verifying      : stress-1.0.4-28.amzn2023.0.2.x86_64 1/1

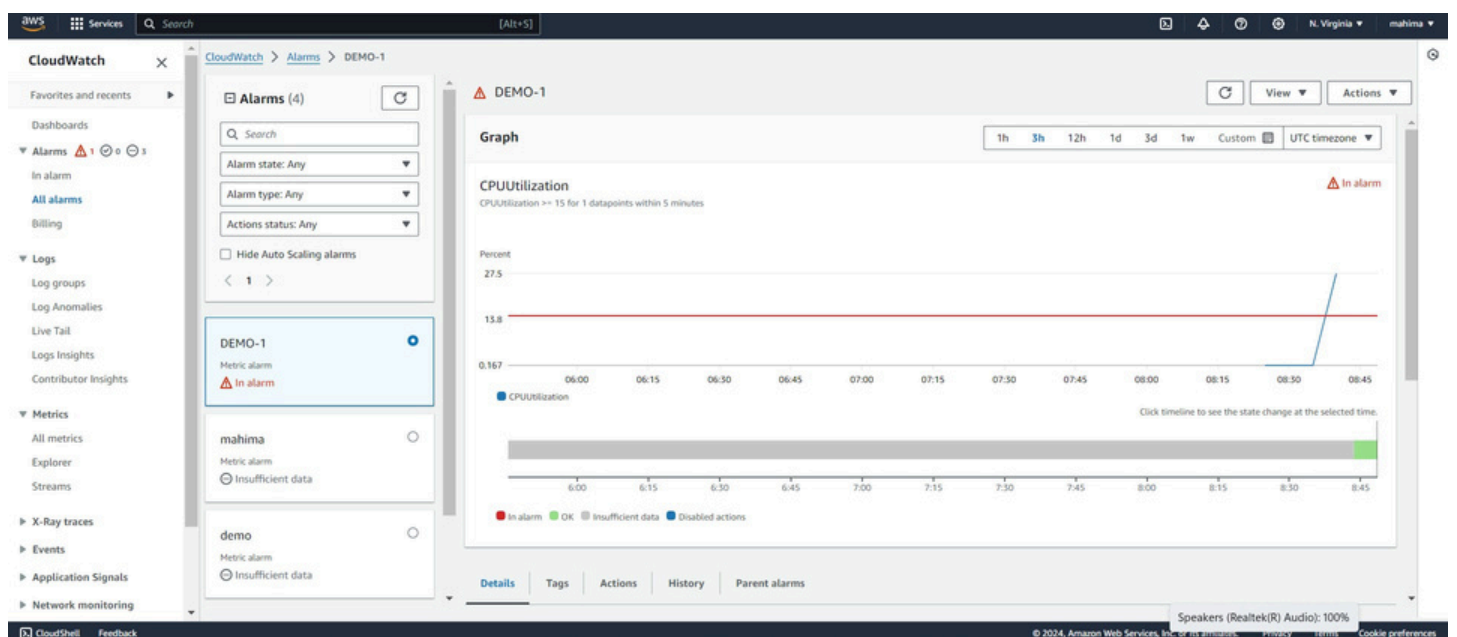
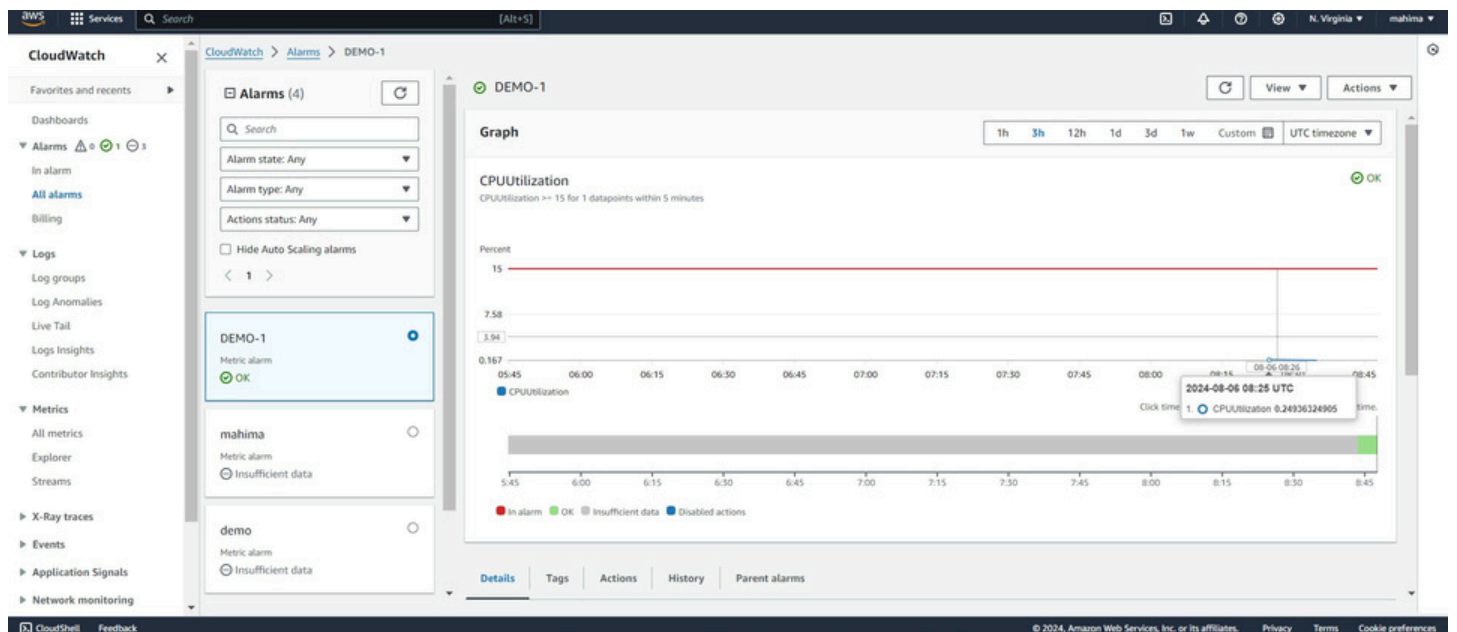
Installed:
stress-1.0.4-28.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-23-206 ~]$ stress -c 1 -t 3600
stress: info: [26195] dispatching hogs: 1 cpu, 0 io, 0 vm, 0 hdd

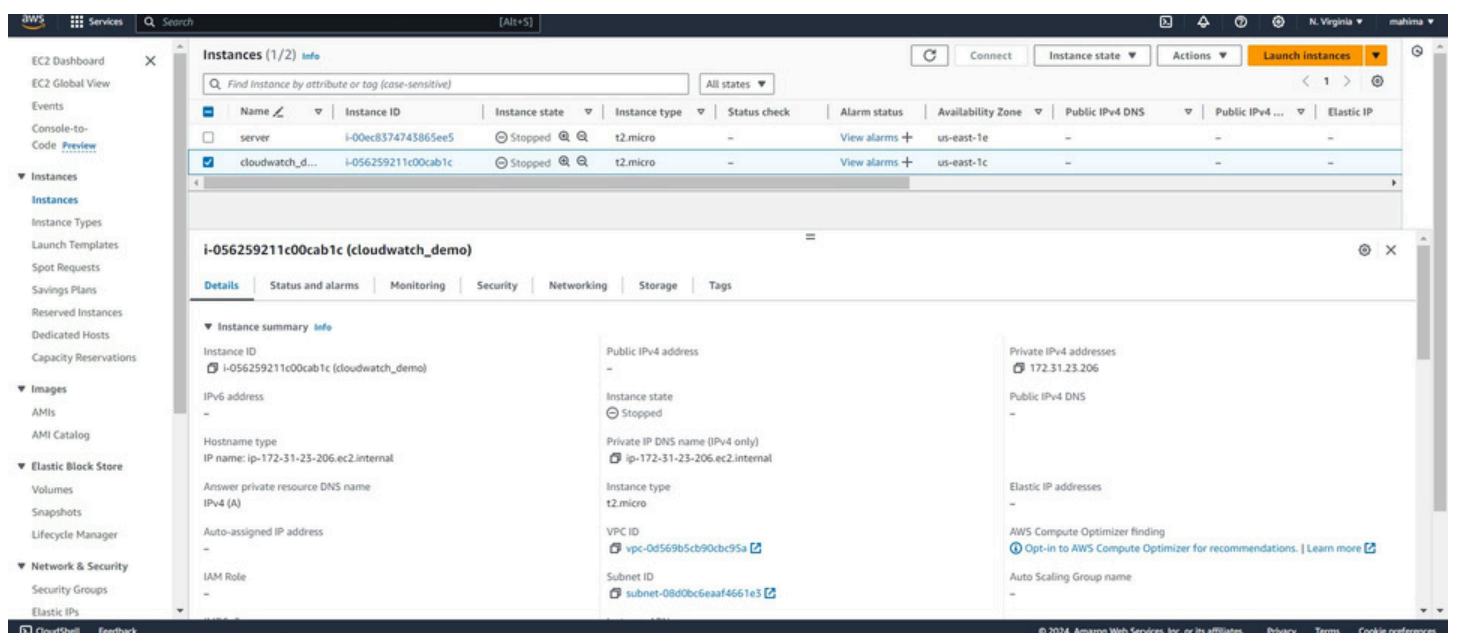
i-056259211c00cab1c (cloudwatch_demo)
PublicIPs: 107.23.29.221 PrivateIPs: 172.31.23.206

```

10.Variation in graph “ok” indicates the cpu utilization is within the limit and “in alarm” indicates that the threshold value is crossed.



11.The EC2 instance get stopped due to action taken by CLOUDWATCH.



mail.google.com/mail/u/0/#inbox/FMfcgzQVxtsPkfDntwXCDIHqkHfCfLKq

Google Chrome isn't your default browser

Set as default

Compose

Inbox1,945

Starred

Snoozed

Sent

Drafts10

More

Labels

Search mail

1 of 2,102

ALARM: "demo" in US East (N. Virginia)

AWS Notifications

<no-reply@sns.amazonaws.com>

to me

1:50 PM (31 minutes ago)

You are receiving this email because your Amazon CloudWatch Alarm "demo" in the US East (N. Virginia) region has entered the ALARM state, because "Threshold Crossed: 1 out of the last 1 datapoints [19.609316506676 (06/08/24 08:10:00)] was greater than or equal to the threshold (15.0) (minimum 1 datapoint for OK -> ALARM transition)." at "Tuesday 06 August, 2024 08:20:20 UTC".

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

Alarm Details:

- Name: demo
- Description:
- State Change: OK -> ALARM
- Reason for State Change: Threshold Crossed: 1 out of the last 1 datapoints [19.609316506676 (06/08/24 08:10:00)] was greater than or equal to the threshold (15.0) (minimum 1 datapoint for OK -> ALARM transition).
- Timestamp: Tuesday 06 August, 2024 08:20:20 UTC
- AWS Account: 024848475202
- Alarm Arn: arn:aws:cloudwatch:us-east-1:024848475202:alarm:demo

Threshold:

- The alarm is in the ALARM state when the metric is GreaterThanOrEqualToThreshold 15.0 for at least 1 of the last 1 period(s) of 300 seconds.

Monitored Metric:

- MetricNamespace: AWS/EC2