

Module 3:

CloudWatch Alarms Assignment

Problem Statement:

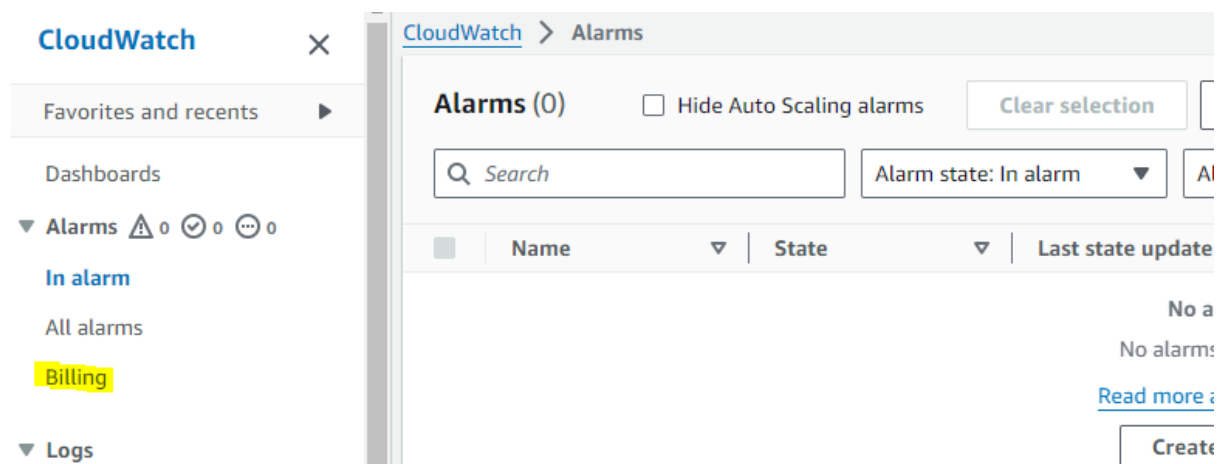
You work for XYZ Corporation. To maintain the security of the AWS account and the resources you have been asked to implement a solution that can help easily recognize and monitor the different users. Also, you will be monitoring the machines created by these users for any errors or misconfigurations.

Tasks to be Performed:

1. Create a CloudWatch billing alarm which goes off when the estimated charges go above \$500.
2. Create a CloudWatch alarm which goes off to an Alarm state when the CPU utilization of an EC2 instance goes above 65%. Also add an SNS topic so that it notifies the person when the threshold is crossed.

Solutions:

Go to Cloudwatch > Alarms > Billing > Create Metric



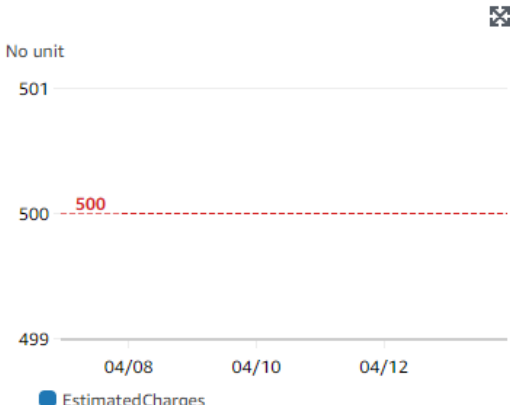
Specify metric and conditions

Metric

Edit

Graph

This alarm will trigger when the blue line goes above the red line for 1 datapoints within 6 hours.



No unit

501

500

499

04/08 04/10 04/12

EstimatedCharges

Namespace

AWS/Billing

Metric name

EstimatedCharges

Currency

USD

Statistic

Maximum

Period

6 hours

Select conditions as per questions

Conditions

Threshold type

☒ **Static**
Use a value as a threshold

☐ **Anomaly detection**
Use a band as a threshold

Whenever EstimatedCharges is...
Define the alarm condition.

☒ **Greater**
> threshold

☐ **Greater/Equal**
≥ threshold

☐ **Lower/Equal**
≤ threshold

☐ **Lower**
< threshold

than...
Define the threshold value.

500

USD

Must be a number

Additional configuration

Give Alarm Name and then click on create alarm

Alarm name

Ruchita-Billing

Alarm description - optional [View formatting guidelines](#)


EditPreview

This is an H1














****double asterisks will produce strong character****

This is [an example](https://example.com/) inline link.

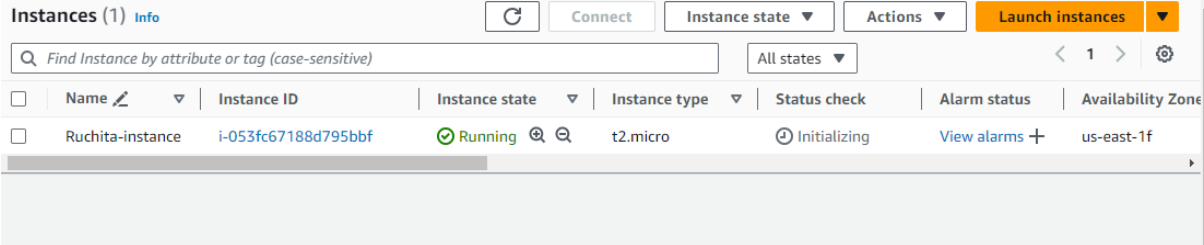
Up to 1024 characters (0/1024)

 Markdown formatting is only applied when viewing your alarm in the console. The description will remain in plain text in the alarm notifications.

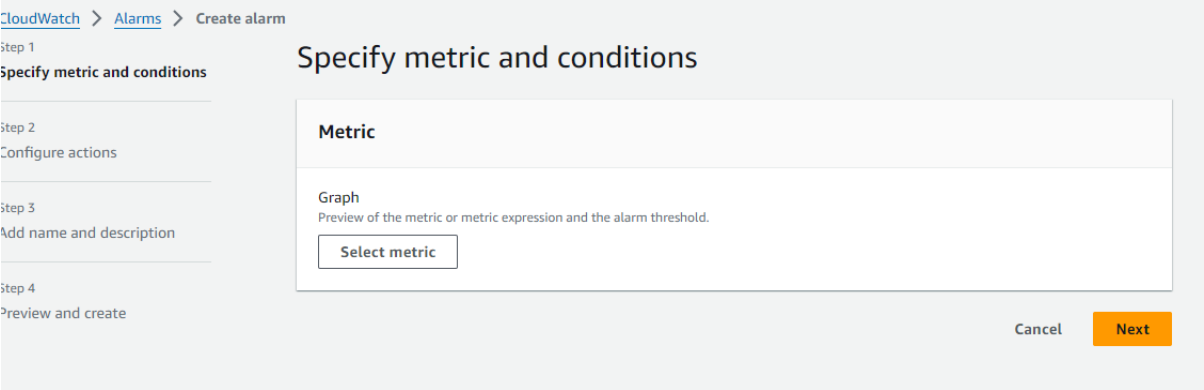
Created the Billing alarm which goes off when the estimated charges go above \$500.

Billing alarms (1)					
<div><div><input type="checkbox"/> Hide Auto Scaling alarms</div><div>Clear selection</div><div></div><div>Create composite alarm</div><div>Actions </div><div>Create alarm</div></div> <div><div><div> Search</div><div>Alarm state: Any </div><div>Alarm type: Any </div><div>Actions status: Any </div><div> 1 </div><div></div></div></div>					
<input type="checkbox"/>	Name 	State 	Last state update 	Conditions	Actions
<input type="checkbox"/>	Ruchita-Billing	 Insufficient data	2024-04-14 17:15:14	EstimatedCharges > 500 for 1 datapoints within 6 hours	No actions

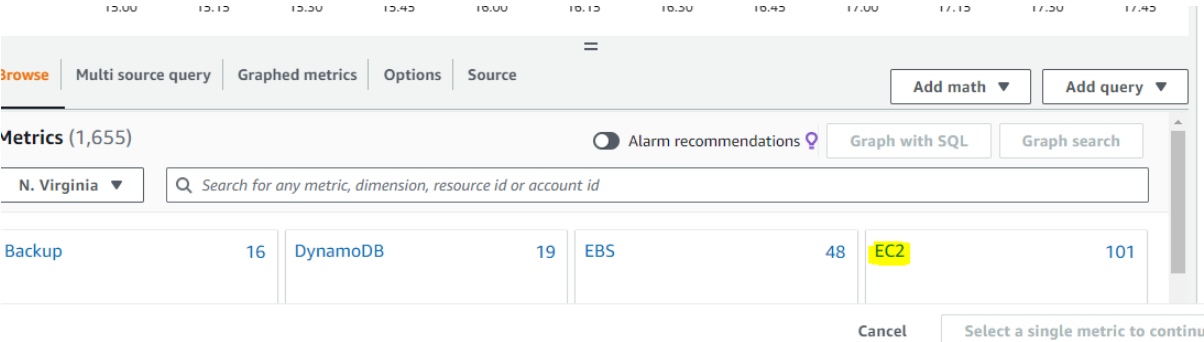
To Create CloudWatch alarm, Create an EC2 instance



Go to CloudWatch > Alarm > create Alarm



Select EC2



Click on Per-instance Metrics

BrowseMulti source queryGraphed metricsOptionsSource

Metrics (101)

Alarm recommendations

Graph with SQL

Graph search

N. Virginia

All > EC2

Search for any metric, dimension, resource id or account id

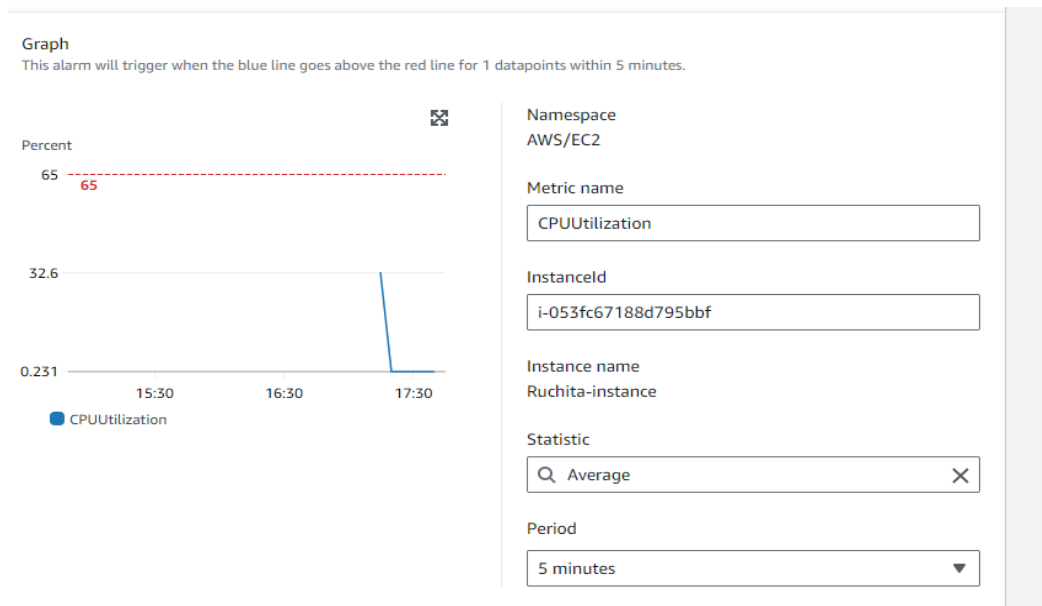
By Auto Scaling Group20

Per-Instance Metrics81

Select CPUUtilization for the created instance

Browse	Multi source query	Graphed metrics	Options	Source	Add math	Add query
<input type="checkbox"/>	Ruchita-instance	i-053fc67188d795bbf	CPUUtilization ⓘ	No alarms		
<input type="checkbox"/>	Ruchita-instance	i-053fc67188d795bbf	DiskWriteOps ⓘ	No alarms		
<input type="checkbox"/>	Ruchita-instance	i-053fc67188d795bbf	MetadataNoToken ⓘ	No alarms		
<input type="checkbox"/>	Ruchita-instance	i-053fc67188d795bbf	CPUSurplusCreditsCharged ⓘ	No alarms		
<input type="checkbox"/>	Ruchita-instance	i-053fc67188d795bbf	CPUSurplusCreditBalance ⓘ	No alarms		

Select the Metrics details



Select the threshold Value 65 and Click Next

For which the CloudWatch alarm goes off to an Alarm state when the CPU utilization of an EC2 instance goes above 65%.

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.

65

Must be a number

► Additional configuration

Cancel Next

Add SNS topic so that it notifies the person when the threshold is crossed

Notification

Alarm state trigger

Define the alarm state that will trigger this action.

Remove

☒ **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.

Send a notification to the following 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 to notify other accounts

Send a notification to...

Q 65-SNS X

Only topics belonging to this account are listed here. All persons and applications subscribed to the selected topic will receive notifications.

Email (endpoints)

ruchitharuthu123@gmail.com - [View in SNS Console](#)

Add notification

Give the Alarm name and Click Next

Name and description

Alarm name

Ruchi-Alarm

Alarm description - optional [View formatting guidelines](#)

Edit

Preview

This is an H1

double asterisks will produce strong character

This is [an example](https://example.com/) inline link.

Up to 1024 characters (0/1024)

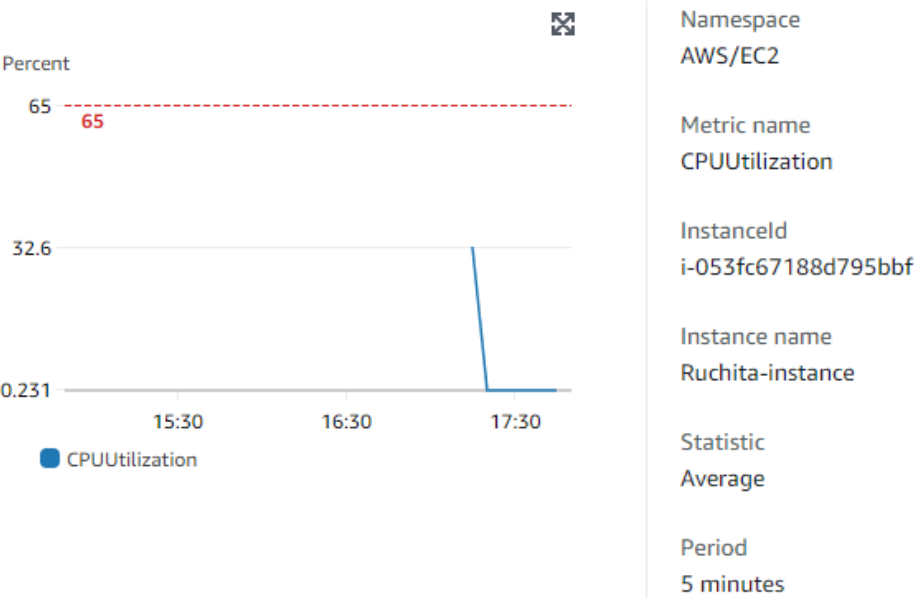


Markdown formatting is only applied when viewing your alarm in the console. The description will remain in plain text in the alarm notifications.

Preview and Create

Graph

This alarm will trigger when the blue line goes above the red line for 1 datapoints within 5 minutes.



Conditions

Threshold type
Static

Whenever **CPUUtilization** is
Greater (>)

than...
65

► Additional configuration

Step 2: Configure actions

Edit

Actions

Notification

When In alarm, send a notification to "65-SNS"

Step 3: Add name and description

Edit

Name and description

Name

Ruchi-Alarm

Description

-

Cancel

Previous

Create alarm

Alarm is created

Alarms (2) ☐ Hide Auto Scaling alarms

Clear selection

↺

Create composite alarm

Actions ▾

Create alarm

Q Search

Alarm state: Any ▾

Alarm type: Any ▾

Actions status: Any ▾


< 1 >

<input type="checkbox"/>	Name ▾	State ▾	Last state update ▾	Conditions	Actions
<input type="checkbox"/>	Ruchi-Alarm	⌚ Insufficient data	2024-04-14 17:55:12	CPUUtilization > 65 for 1 datapoints within 5 minutes	✔ Actions
<input type="checkbox"/>	Ruchita-Billing	⌚ Insufficient data	2024-04-14 17:15:14	EstimatedCharges > 500 for 1 datapoints within 6 hours	No actions

You will receive the AWS Notification for the Subscription Confirmation

AWS Notification - Subscription Confirmation

Inbox x



AWS Notifications

<no-reply@sns.amazonaws.com>

to me ▾

22:42 (46 minutes ago) ☆

You have chosen to subscribe to the topic:

arn:aws:sns:us-east-1:730335274013:Default_CloudWatch_Alarms_Topic

To confirm this subscription, click or visit the link below (If this was in error no action is necessary):

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Simple Notification Service

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