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Cloud Watch Alarm Creation

Problem Statement:

You work for TechArkit 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.

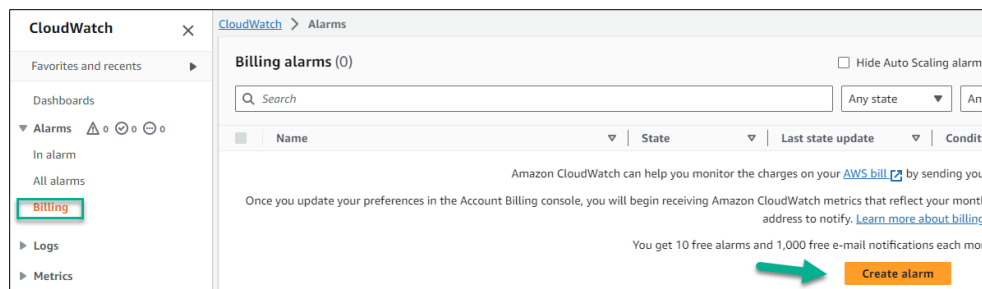
Tasks to Be Performed:

1. Create a CloudWatch billing alarm that goes off when the estimated charges go above \$500.
2. Create a CloudWatch alarm which goes off to an Alarm state when the

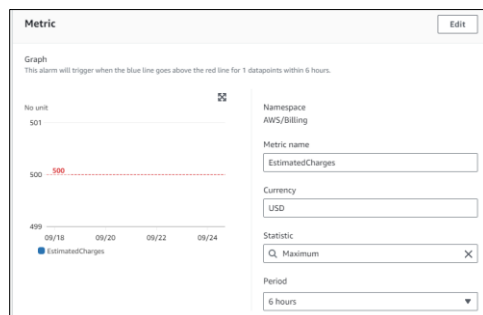
CPU utilization of an EC2 instance goes above 65%. Also, add an SNS topic so that it notifies the person when the threshold is crossed.

Answer

Login to the AWS Management console then search for Cloudwatch



CloudWatch → Alarms → Billing → Create Alarm



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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

Cancel Next

Select the conditions based on your requirement

Type: Static

Estimated Charges: Greater than

\$500

Click **Next**

Configure actions

Notification

Add notification

Auto Scaling action

Add Auto Scaling action

EC2 action

This action is only available for EC2 Per-Instance Metrics.

Add EC2 action

Systems Manager action [Info](#)

This action will create an Incident or OpsItem in Systems Manager when the alarm is **In alarm** state.

Add Systems Manager action

Cancel Previous Next

Click **Next**

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Add name and description

Name and description

Alarm name

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.

Cancel Previous Next

Preview and confirm the alarm

“Create Alarm”

Successfully created alarm BillingAlarmUSD500.

CloudWatch > Alarms

Billing alarms (1)

☐ Hide Auto Scaling alarms

Clear selection

Create composite alarm

Any state

Any type

Any actions ...

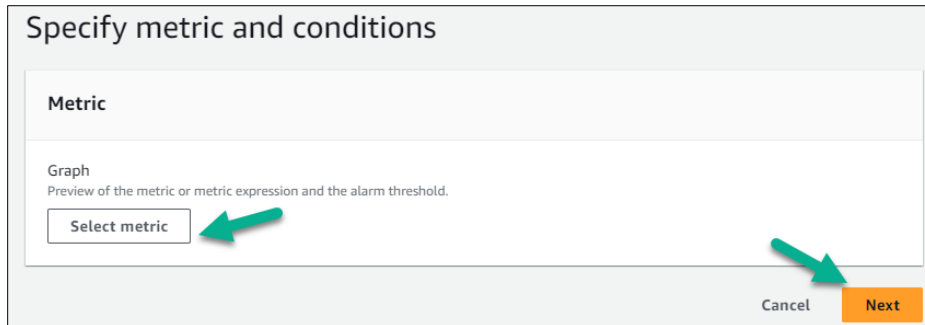
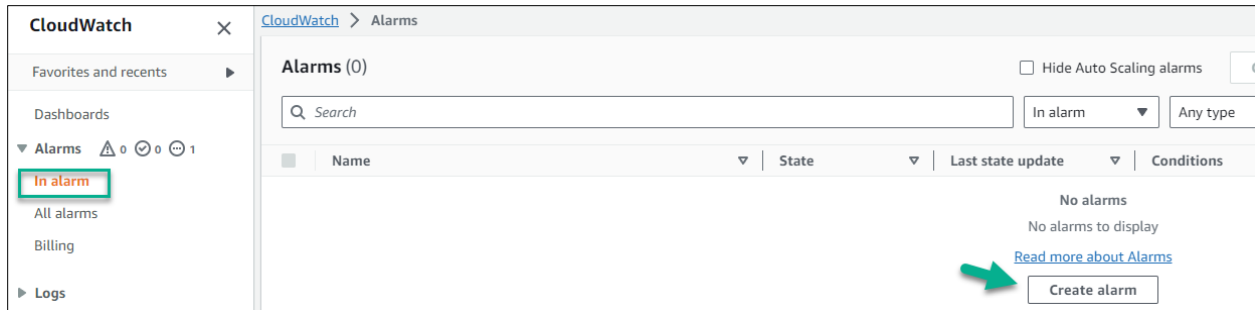
| <input type="checkbox"/> | Name | State | Last state update | Conditions | Actions |
|--------------------------|------------------------------------|--------------------------------|---------------------|--|------------|
| <input type="checkbox"/> | BillingAlarmUSD500 | Insufficient data | 2023-09-25 11:44:32 | EstimatedCharges > 500 for 1 datapoints within 6 hours | No actions |

The alarm was Created successfully as per the requirement. Which will trigger the alarm when the usage of the AWS account reaches \$500.

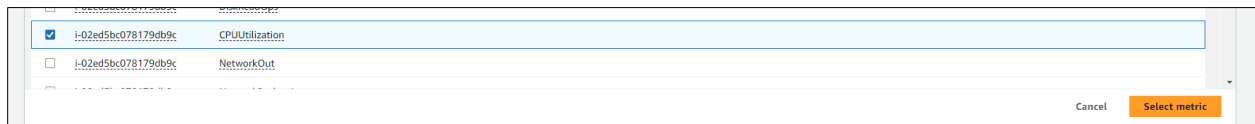
Creating an Alarm for CPU Utilization notification

CloudWatch → In Alarm → Create Alarm

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Select metric → EC2 → Per-Instance Metrics → CPU Utilization



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

No unit
66
65
64
09:30 10:30 11:30
CPUUtilization

Namespace
AWS/EC2

Metric name
CPUUtilization

Instanceld
i-02ed5bc078179db9c

Instance name
No name specified

Statistic
Average

Period
5 minutes

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

Select the threshold Greater/Equal => 65%

Click **Next**

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Configure actions

Notification

Alarm state trigger
Define the alarm state that will trigger this action.

☒ 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.

Remove

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

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.

aravikumar48@gmail.com

user1@example.com, user2@example.com

Create topic

Add notification

I do not have an SNS topic already created so I am creating a new SNS topic, if you have already a topic just select the existing SNS topic

Click **“Create Topic”**

Click **Next**

Add name and description

Name and description

Alarm name

CPUUtilization6S

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

Edit Preview

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Up to 1024 characters (0/1024)

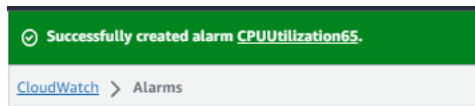
Markdown formatting is only applied when viewing your alarm in the console. The description will remain in plain text in the alarm notifications.

Cancel Previous Next

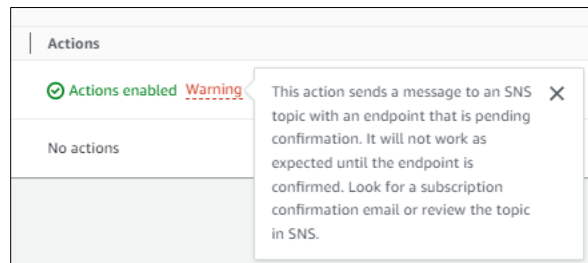
Provide the Alarm Name, Click **Next**

Preview and Create the Alarm

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In order to get the email notifications you have to confirm the subscription from your email address



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