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Cloudwatch Alarm & SNS Notification

Go to your AWS Account

Select Required Region - Ohio

Go to EC2

Go to instances

Click on launch instances

Select AMI

Select t2.micro

Now in configure instance find monitoring by scrolling down

Tick on Enable Cloudwatch Detailed Monitoring

Click next Add storage

Click next Add tags

Click next Security Groups

Review & Launch instance.

Now copy our instance id.

Go to Cloudwatch - check region is Ohio

Click on All Alarm

Click on Create Alarm

Click on Select Metric

Click on EC2

Click on Instance per metric

Select CPU Utilization

Click on Select Metric

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Now paste your copied instance ID
Change period as 1 minute

In condition

Select static in threshold type
Select Greater Than Threshold
Specify 50 %
click on next

Do not
Delete
our
SNS
Topic
we will
use in
future

Select In Alarm
Click on Create new topic
Insert topic name → Ohio-Alarm
Insert your email address
click on create topic

Gmail

Go to your email inbox
Open latest email received from AWS
click on confirm Subscription.

Now in cloudwatch click on next

Give Alarm Name → Ohio-Alarm
Give Description → Ohio-Alarm

Review & click on Create Alarm

Our Alarm is created successfully.

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Now Go to cloudwatch
click on dashboards
click on create dashboards
give name → ohio-dashboard
click on create dashboard

Now click on All Alarms

Select our created Alarm

Ohio-Alarm

Click on Actions

Click on Add to Dashboard

Click on Add to Dashboard

Now Go to dashboard → ohio-dashboard

To check our Alarm with widget

It is now in OK State.

Now Go to EC2

Select Instance

Click on connect

Copy Last command from SSH client

Open Mobaxterm

Paste Command & connect with instance

use sudo su -

use cd /

use amazon-linux-extras install epel -y

use yum install stress -y

use stress -c 20

Wait for 2 min

In Cloudwatch Alarms state is changed to InAlarm & we will receive an email notification.

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Cloudwatch Alarm with SNS Notification & Terminate Instance

Go to EC2

Click on Launch Instance

Select AMI

Select t2.micro

In configure instance, find monitoring by scrolling down & tick on Enable cloudwatch detailed monitoring.

Click next Add Storage

Click ~~next~~ next Add Tags

Click next Add security group

Launch Instance

Wait for 2 min & Refresh Page

Now Select instance

Click on Actions

Click on Monitor & Troubleshoot

Click on manage cloudwatch Alarms

Click on create Alarm

Turn on Alarm Notification

Choose an Existing Topic → Ohio-Alarm

Turn on Alarm Action

Selection action to Alarm fires as Terminate

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In Alarm Thresholds

Group Samples by	- Average
Type of data to Sample	- CPU Utilization
Alarm when	- \geq
Percent	- 50 %
Consecutive Period	- 1
Period	- 1 minute

Scroll down & click on create

wait for 2 min

Now Go to Cloudwatch

click on All Alarms

Now our Alarm state is OK.

Now Go to EC2 & select instance
click on connect & copy last command

Open MobaXterm & Paste Command
Connect to the instance

use sudo su -

use cd /

use amazon-linux-extras install epel -y

use yum install stress -y

use stress -c 20

Wait for 2 min

Now we can check that we have received one mail notification and also our instance is terminated.

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Cloudwatch Event with EC2

Go to cloudwatch → click on events
click on Back to cloudwatch events

Click on create Rule

Service name - EC2

Event Type - EC2 Instance State-change Notification

Select Specific state

Running in Box

Select Any Instance

In Right Side Targets → click on Add Target

Select as SNS Topic → from Lambda to SNS Topic
Topic → Ohio-Alarm

Scroll down & click on configure details

Give Name → Rule-state-change

Give Description → Rule-state-change

Click on Create Rule

Now Go to EC2

Click on Launch Instance

Select AMI

Select t2.micro

Next Add Storage

Next Add Tags

Next Security Group

Review and Launch Instance

Wait for 2 min

When our instance state is changed as running then we will receive email.

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S3 with Cloud Watch Event

Go to S3

Create Bucket

Give unique Bucket name → my7498

Scroll down & click on Create Bucket

Copy Bucket Name in Notepad.

Go to SNS

Click on Topics

Click on Create Topics

Select Standard

Give Name as → S3-SNS-Topic

Click on Create Topic

Now go to Subscription

Click on Create Subscription

Topic ARN → S3-SNS-Topic

Protocol → Email

Endpoint → Add your email address

Click on Create Subscription

Go to your email inbox

Open latest AWS email

Click on Confirm Subscription

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Now Go to Topic
click on S3-SNS-Topic
Copy ARN in Notepad
Copy Topic Owner in Notepad

```
{  
    "Version": "2012-10-17",  
    "Id": "example-ID",  
    "Statement": [  
        {  
            "Sid": "example-statement-ID",  
            "Effect": "Allow",  
            "Principal": {  
                "Service": "s3.amazonaws.com"  
            },  
            "Action": [  
                "SNS:Publish"  
            ],  
            "Resource": "Your-ARN",  
            "Condition": {  
                "ArnLike": { "aws:SourceArn": "arn:aws:s3:::Your-Bucket-Name" },  
                "StringEquals": { "aws:SourceAccount": "Your-Topic-Owner" }  
            }  
        }  
    ]  
}
```

Make changes in policy According to figure.

click on Edit in S3-SNS-Topic
scroll down - click on Access policy
delete existing JSON code
Paste our custom JSON code
scroll down click on save changes.

Now Go to S3 & Go inside Bucket

click on Properties

scroll down & find Event Notifications

click on Create Event Notification

Event Name Bucket-Event

scroll down in Event Types

in object creation - Tick on All object Create Events

in object Remove - Tick on All object Remove Events

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Scroll down in Destination

choose Destination as SNS Topic

Choose SNS Topic as S3-SNS-Topic

click on Save changes

It will save successfully.

Now Go to objects in S3 Bucket

click on Upload

Add files

click on upload.

It will upload successfully

Now click on close

Wait for 1 minute

Check your mail inbox

You will receive an email notification.