

# AWS Cloud Monitoring Task 2 – Internship Report

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Organization: **CODTECH IT SOLUTIONS PVT. LTD.**

Intern Name: **Harshada D Jagtap**

Project Title: ***SET UP MONITORING FOR A CLOUDBASED APPLICATION USING AWS CLOUDWATCH. CONFIGURED ALERTS AND A DASHBOARD SHOWCASING METRICS.***

Internship Duration: May 20, 2025 – July 20, 2025

## Introduction

As part of the internship at Codtech IT Solutions Pvt. Ltd., we were assigned a task focused on AWS Cloud Monitoring. The goal of this task was to set up monitoring for EC2 instances using AWS CloudWatch, configure alarms, and validate resource metrics. This report outlines the steps followed and includes screenshots for each stage of the process.

## Step-by-Step Execution

1. Navigate to the AWS Management Console and access the CloudWatch service.
2. Under the Metrics section, select EC2 metrics and choose relevant instances.
3. Create dashboards to monitor metrics like CPUUtilization, DiskReadOps, etc.
4. Navigate to the Alarms section and create a new alarm based on specific metrics.
5. Set threshold conditions and select appropriate SNS notifications.
6. Review and confirm the alarm creation.
7. Test the alarm by generating CPU load or waiting for metric breach.
8. Observe alarm state changes and notifications.
9. Save all CloudWatch dashboard views and alarm states for report documentation.

## Screenshots

This screenshot shows the Amazon Elastic Compute Cloud (EC2) console home page. The top navigation bar includes the AWS logo, a search bar, and the user's name (Harshada). The left sidebar contains a menu with options like Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, Security Groups, and Elastic IPs. The main content area features a large hero section with the title "Amazon Elastic Compute Cloud (EC2)" and the subtitle "Create, manage, and monitor virtual servers in the cloud." Below this, there are three sections: "Benefits and features" which lists EC2's scalability and control, "Get started" which provides links to walkthroughs and a tutorial, and a "Launch a virtual server" button. The bottom of the page includes a footer with copyright information and links to Privacy, Terms, and Cookie preferences.

This screenshot shows the "Launch an instance" page in the Amazon EC2 console. The page is divided into several sections. The "Name and tags" section has a text input field for the instance name, currently set to "cloudmonitoring-codtech". The "Application and OS Images (Amazon Machine Image)" section includes a search bar and a "Quick Start" tab. Below this, there are several AMI cards for different operating systems: Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, and Debian. The "Amazon Machine Image (AMI)" section shows the selected AMI: "Amazon Linux 2023 kernel-6.1 AMI". The "Summary" section on the right provides a overview of the configuration, including the number of instances (1), the software image (Amazon Linux 2023 AMI), the virtual server type (t2.micro), the firewall (default), and the storage (1 volume - 8 GiB). A "Free tier" notification is also present, stating that users get 750 hours per month of t2.micro instance usage. The bottom of the page includes a footer with copyright information and links to Privacy, Terms, and Cookie preferences.

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Asia Pacific (Mumbai)HarshadaJ

Instances (1/2) Info

Last updated less than a minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input checked="" type="checkbox"/>	cloudmonitori...	i-0623c152bb5cd53f8	Pending	t2.micro	-	View alarms +	ap-south-1b	ec2-13-204-68-5.ap-
<input type="checkbox"/>	DevOps	i-0c2917f6248ddb304	Stopped	t2.micro	-	View alarms +	ap-south-1a	-

i-0623c152bb5cd53f8 (cloudmonitoring-codtech)

DetailsStatus and alarmsMonitoringSecurityNetworkingStorageTags

▼ Instance summary Info

Instance ID

i-0623c152bb5cd53f8

Public IPv4 address

13.204.68.5 | open address

Private IPv4 addresses

172.31.7.226

Instance state

Pending

Public DNS

ec2-13-204-68-5.ap-south-1.compute.amazonaws.com | open address

Private IP DNS name (IPv4 only)

ip-172-31-7-226.ap-south-1.compute.internal

IP name

ip-172-31-7-226.ap-south-1.compute.internal

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EC2 > Instances

Instances (1/2) Info

Last updated 3 minutes ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input checked="" type="checkbox"/>	cloudmonitori...	i-0623c152bb5cd53f8	Running	t2.micro	Initializing	View alarms +
<input type="checkbox"/>	DevOps	i-0c2917f6248ddb304	Stopped	t2.micro	-	View alarms +

i-0623c152bb5cd53f8 (cloudmonitoring-codtech)

DetailsStatus and alarmsMonitoringSecurityNetworkingStorageTags

▼ Instance summary Info

Instance ID

i-0623c152bb5cd53f8

Public IPv4 address

13.204.68.5 | open address

Private IPv4 addresses

172.31.7.226

Instance state

Running

Public DNS

ec2-13-204-68-5.ap-south-1.compute.amazonaws.com | open address

Private IP DNS name (IPv4 only)

ip-172-31-7-226.ap-south-1.compute.internal

IP name

ip-172-31-7-226.ap-south-1.compute.internal

Instance diagnostics

Instance settings

Networking

Security

Image and templates

Monitor and troubleshoot

Get system log

Get instance screenshot

Manage detailed monitoring

Manage CloudWatch alarms

Configure CloudWatch agent

EC2 serial console

Replace root volume

Fleet Manager

EC2

Dashboard

EC2 Global View

Events

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

▼ Images

AMIs

AMI Catalog

▼ Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

▼ Network & Security

Security Groups

Elastic IPs

CloudShell

Feedback

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EC2 > Instances

EC2

- Dashboard
- EC2 Global View
- Events
- Instances
  - Instances
  - Instance Types
  - Launch Templates
  - Spot Requests
  - Savings Plans
  - Reserved Instances
  - Dedicated Hosts
  - Capacity Reservations
- Images
  - AMIs
  - AMI Catalog
- Elastic Block Store
  - Volumes
  - Snapshots
  - Lifecycle Manager
- Network & Security
  - Security Groups
  - Elastic IPs

Instances (1/2) info

Find instance by attribute or tag (case-sensitive)

All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
cloudmonit...	i-0623c152bb5cd53f8	Running	t2.micro	Initializing	View alarms +	ap-south-1b	ec2-13-204-68-5.ap-
DevOps	i-0c2917f6248ddb304					ap-south-1a	-

**Detailed monitoring**

After you enable detailed monitoring for an instance, monitoring data is available in 1-minute periods. [Learn more](#)

Instance ID  
i-0623c152bb5cd53f8 (cloudmonitoring-codetech)

Detailed monitoring  
☒ Enable

After you enable detailed monitoring, the Amazon EC2 console displays monitoring graphs with a 1-minute period for the instance. [Additional charges apply](#)

Cancel Confirm

Instance summary info

Instance ID  
i-0623c152bb5cd53f8

IPv6 address  
-

Instance state  
Running

Public DNS  
ec2-13-204-68-5.ap-south-1.compute.amazonaws.com  
[open address](#)

Hostname type  
IP name: ip-172-31-7-226.ap-south-1.compute.internal

Private IP DNS name (IPv4 only)  
ip-172-31-7-226.ap-south-1.compute.internal

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Compose

Inbox 4,097

- Starred
- Snoozed
- Sent
- Drafts 10
- More

Labels +

1 of 4,940

**AWS Notification - Subscription Confirmation** Inbox x

AWS Notifications <no-reply@sns.amazonaws.com> to me 16:28 (2 minutes ago) ☆ 😊 ↶ ⋮

You have chosen to subscribe to the topic:  
**arn:aws:sns:us-east-1:891612580419:Default\_CloudWatch\_Alarms\_Topic**

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

Please do not reply directly to this email. If you wish to remove yourself from receiving all future SNS subscription confirmation requests please send an email to [sns.opt.out](#)

Reply Forward

aws Search [Alt+S]

CloudWatch > Alarms > Create alarm

Step 1: Specify metric and conditions

**Specify metric and conditions**

**Metric**

Graph

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

Percent

0.5

0.25

0

11:30 12:00 12:30 13:00 13:30 14:00

CPUUtilization

Namespace  
AWS/EC2

Metric name  
CPUUtilization

Statistic  
Average

Period  
5 minutes

**Conditions**

Threshold type

☒ Static Use a value as a threshold

☐ Anomaly detection Use a band as a threshold

When CPU Utilization is...

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aws

Search

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CloudWatch

Alarms

Create alarm

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...

Default\_CloudWatch\_Alarms\_Topic

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

Email (endpoints)  
jagtappharshada129@gmail.com - [View in SNS Console](#)

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

Send a notification to...

Default\_CloudWatch\_Alarms\_Topic

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

Email (endpoints)  
jagtappharshada129@gmail.com - [View in SNS Console](#)

Add notification

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CloudWatch

Alarms

Create alarm

Step 1

Specify metric and conditions

Step 2

Configure actions

Step 3

Add alarm details

Step 4

Preview and create

Preview and create

Step 1: Specify metric and conditions

Edit

Metric

Graph

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

Percent

1.00k

500

0.199

11:30

12:00

12:30

13:00

13:30

14:00

CPUUtilization

Namespace

AWS/EC2

Metric name

CPUUtilization

Statistic

Average

Period

5 minutes

Conditions

Threshold type

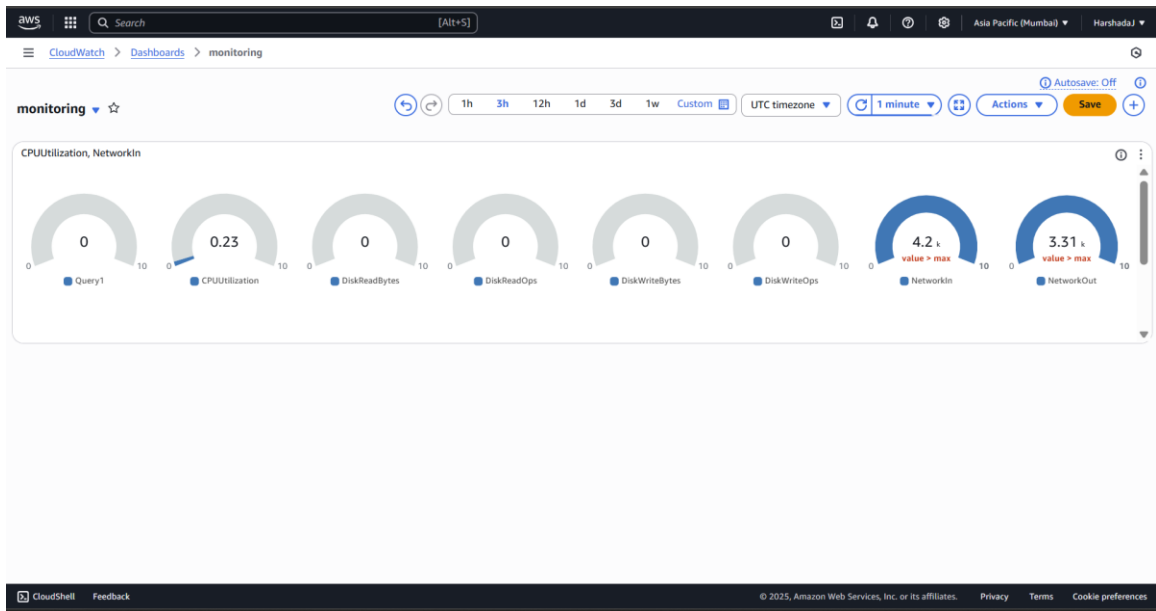
Static


Whenever CPUUtilization is

CloudShell

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# INTERNSHIP [REDACTED]

# TASK -2

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## CLOUD MONITORING AND ALERTS



**INSTRUCTIONS:**

- **SET UP MONITORING FOR A CLOUD-BASED APPLICATION USING AWS CLOUDWATCH, GOOGLE CLOUD MONITORING, OR AZURE MONITOR.**
- **DELIVERABLE: CONFIGURED ALERTS AND A DASHBOARD SHOWCASING METRICS.**
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