 

**Placement Empowerment Program**

***Cloud Computing and DevOps Centre***

Use Cloud Storage

Create a storage bucket on your cloud platform and upload/download files. Configure access permissions for the bucket

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**Introduction**

Cloud-based monitoring services provide real-time insights into the performance, health, and usage of your cloud infrastructure. Amazon CloudWatch is AWS's monitoring and observability service that collects and visualizes metrics like CPU utilization, disk I/O, memory usage, and network activity for your EC2 instances. Setting up CloudWatch allows you to detect performance issues early, optimize resources, and automate responses to critical events.

**Overview**

Amazon CloudWatch enables you to:

* Monitor AWS resources such as EC2, S3, and RDS.
* Set up alarms for performance thresholds.
* View logs and generate dashboards for better observability.
* Automate actions based on predefined conditions.

In this guide, you will learn how to:

1. Enable CloudWatch monitoring for a Windows-based EC2 instance.
2. View key system metrics like CPU usage and disk I/O.
3. Set up alarms to receive notifications**.**

**Objectives**

By the end of this guide, you will be able to:

* Enable CloudWatch monitoring on an AWS EC2 Windows instance.
* View system performance metrics.
* Configure CloudWatch alarms for proactive monitoring.

**Step-by-St** **ep process**

**Step-by-Step Process**

Step 1: Log in to AWS Console

1. Open the AWS Management Console.
2. Navigate to CloudWatch under the Management & Governance section.

Step 2: Enable CloudWatch Monitoring for EC2

1. Go to EC2 Dashboard > Instances.
2. Select your Windows EC2 instance.
3. Click Actions > Monitor and troubleshoot > Manage CloudWatch alarms.
4. If detailed monitoring is disabled, enable it:
   * Click Modify instance > Check Enable detailed monitoring.
   * Click Apply.

Step 3: Install CloudWatch Agent on Windows EC2

To monitor additional metrics like memory and disk usage, install the CloudWatch Agent:

1. Connect to your Windows EC2 instance via RDP.
2. Open PowerShell as Administrator.
3. Download the CloudWatch Agent:

Invoke-WebRequest -Uri https://s3.amazonaws.com/amazoncloudwatch-agent/windows/amd64/latest/AmazonCloudWatchAgent.msi -OutFile AmazonCloudWatchAgent.msi

1. Install the agent:

Start-Process -FilePath "AmazonCloudWatchAgent.msi" -ArgumentList "/quiet" -Wait

1. Configure the agent:

amazon-cloud watch-agent-config-wizard

1. Start the agent:

Start-Service Amazon Cloud Watch Agent

Step 4: View CloudWatch Metrics

1. Go back to the CloudWatch console.
2. Click Metrics > EC2.
3. Select the instance ID to view:
   * CPU Utilization
   * Disk Read/Write Operations
   * Network In/Out
   * Memory Usage (if agent installed)

Step 5: Set Up CloudWatch Alarms

1. In CloudWatch, go to Alarms > Create Alarm.
2. Select CPU Utilization as the metric.
3. Set a threshold (e.g., above 80% for 5 minutes).
4. Choose an action (e.g., send an email notification using an SNS topic).
5. Click Create Alarm.

**Outcome**

By enabling Amazon CloudWatch on your Windows EC2 instance, you can monitor critical metrics, detect performance issues, and set up proactive alerts. Installing the CloudWatch Agent extends monitoring capabilities to memory and disk usage, providing a more comprehensive view of system health. This ensures better resource utilization and helps maintain optimal performance for your cloud environment