

AWS EC2 Memory Utilization

Standard Operating Procedure (SOP)

Overview

This SOP outlines the process for monitoring EC2 instance memory utilization on AWS using CloudWatch. It includes steps to retrieve memory utilization metrics, set up CloudWatch alarms for high memory usage, and take actions based on those alarms.

2. Platform

AWS

Code Language

Python

Required Dependencies

- boto3
- AWS SDK for Python

Credentials Required

- AWS_ACCESS_KEY_ID
- AWS_SECRET_ACCESS_KEY
- AWS_REGION

Input Parameters

1. instance_id
Type: String
Description: The unique ID of the EC2 instance to monitor
Required: true
Default: null
2. memory_utilization_threshold
Type: Integer
Description:

- The memory utilization threshold percentage at which to trigger an alarm

Required: true

Default: 70

Validation Rule:

- Integer value between 1 and 100 (e.g., 70 for 70% memory).

3. comparison_operator

Type: String

Description:

The operator to compare against the threshold (GreaterThanThreshold)

Required: true

Default: GreaterThanThreshold

Accepted Values:

- GreaterThanThreshold, LessThanThreshold

4. region

- type: string
- description: region associated with ec2
- required: true
- default: null

Logic Flow

1. Pre-Creation Validation

- Validate AWS credentials
- Validate EC2 Instance ID
- Validate Memory Utilization Threshold
- Validate Alarm Parameters

2. Post-Creation Configuration

- Verify Alarm Creation

- Log Action

3. Error Handling Scenarios

- Invalid EC2 Instance ID
- Invalid Memory Threshold
- Invalid Alarm Name
- Insufficient Permissions

Success Criteria

- Memory utilization metrics are retrieved successfully from CloudWatch.
- CloudWatch alarm is created to monitor memory utilization.
- Action is triggered when the alarm condition is met (e.g., send email/SNS notification).
- Logs indicate the successful creation and configuration of the alarm.

Monitoring Considerations

- Monitor Alarm Status
- Review Memory Metrics
- Monitor Alarm Actions

Tags

- aws
- ec2
- cloudwatch
- memory-utilization
- monitoring
- alarm