

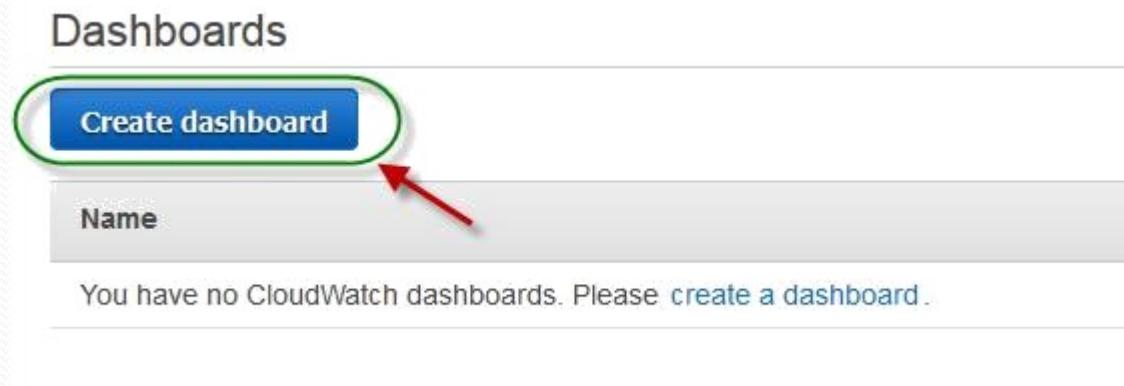
CLOUD WATCH

Amazon CloudWatch is a monitoring service for AWS cloud resources and the applications you run on AWS. You can use Amazon CloudWatch to collect and track metrics, collect and monitor log files, set alarms, and automatically react to changes in your AWS resources. Amazon CloudWatch can monitor AWS resources such as Amazon EC2 instances, Amazon DynamoDB tables, and Amazon RDS DB instances, as well as custom metrics generated by your applications and services.

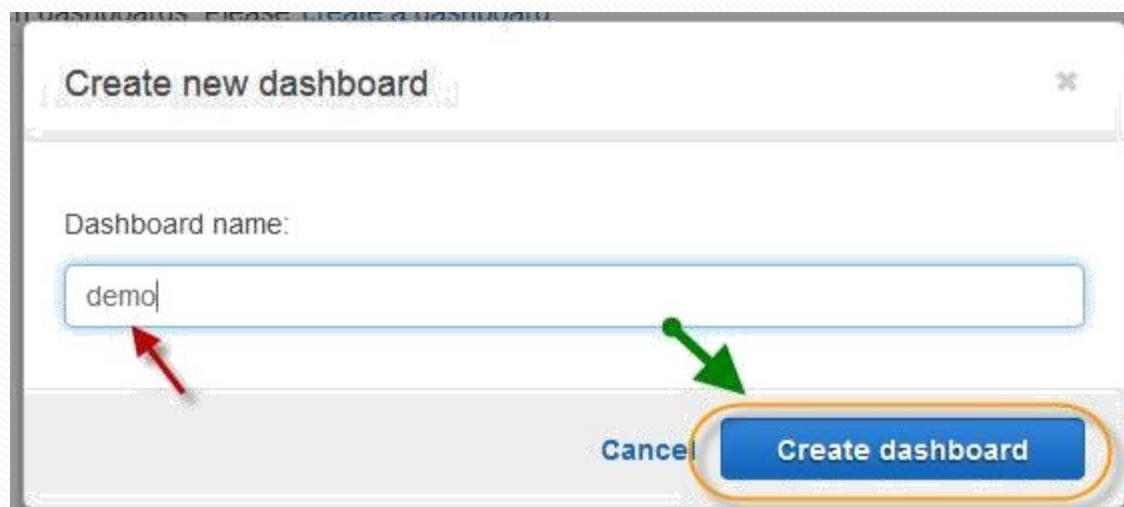
Once you logged into AWS under Console Home page, choose CloudWatch under management tools.

Then click Dashboards on the CloudWatch page from the left navigation pane.

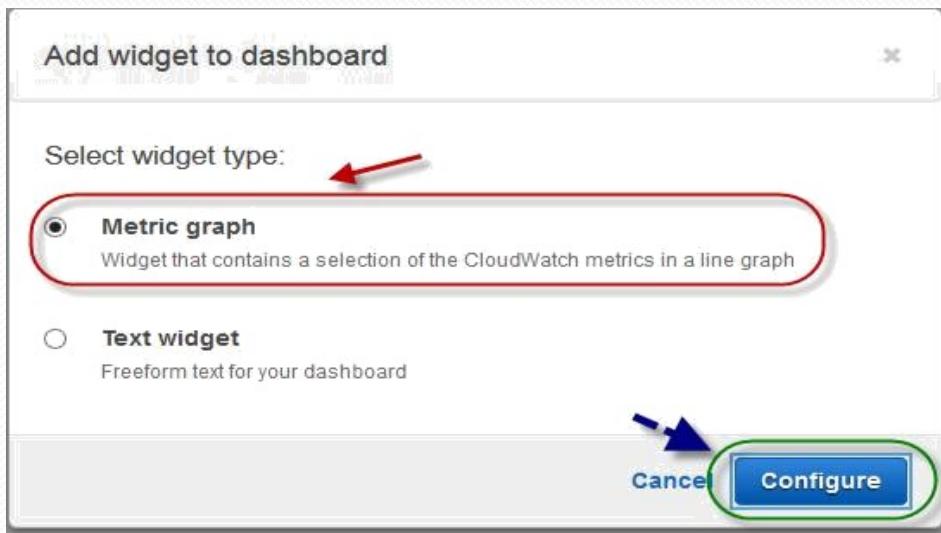
On the next page, choose Create Dashboard to create a new one.



On Create new dashboard dialog box, specify a name for dashboard choose Create dashboard.



Once dashboard created, choose one widget from widget dialog box and click on configure.



Next, choose one of the metrics from the Cloud watch metrics by category dialog box.

Add Graph

Browse Metrics Search Metrics

CloudWatch Metrics by Category

Your CloudWatch metric summary has loaded. Total metrics: 726

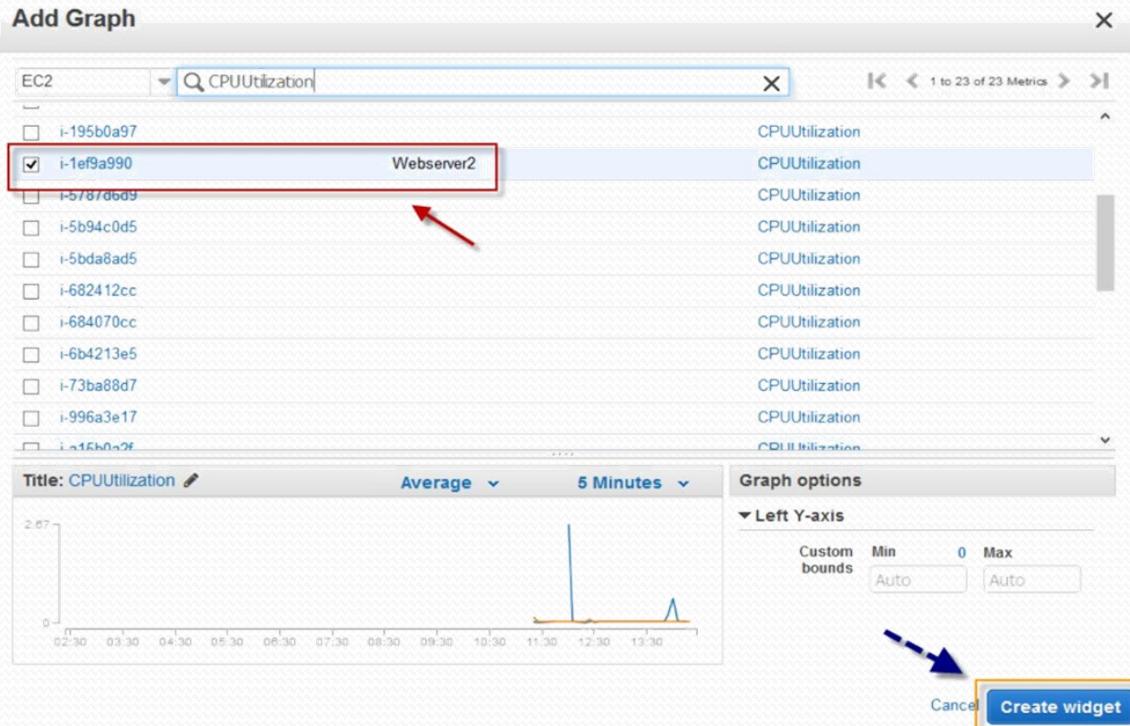
EBS Metrics: 164	EC2 Metrics: 304	ELB Metrics: 129
Per-Volume Metrics: 164	Per-Instance Metrics: 271	Per-LB Metrics: 30
	By Auto Scaling Group: 33	Per LB, per AZ Metrics: 51
		By Availability Zone: 18
		Across All LBs: 10
		By Namespace: 10
		By Service: 10
ElasticBeanstalk Metrics: 1	Logs Metrics: 4	RDS Metrics: 113
Environment Metrics: 1	Account Metrics: 2	Per-Database Metrics: 47
	Log Group Metrics: 2	By Database Class: 32
S3 Metrics: 4	SNS Metrics: 7	By Database Engine: 17
Storage Metrics: 4	Topic Metrics: 7	Across All Databases: 17

Graph options

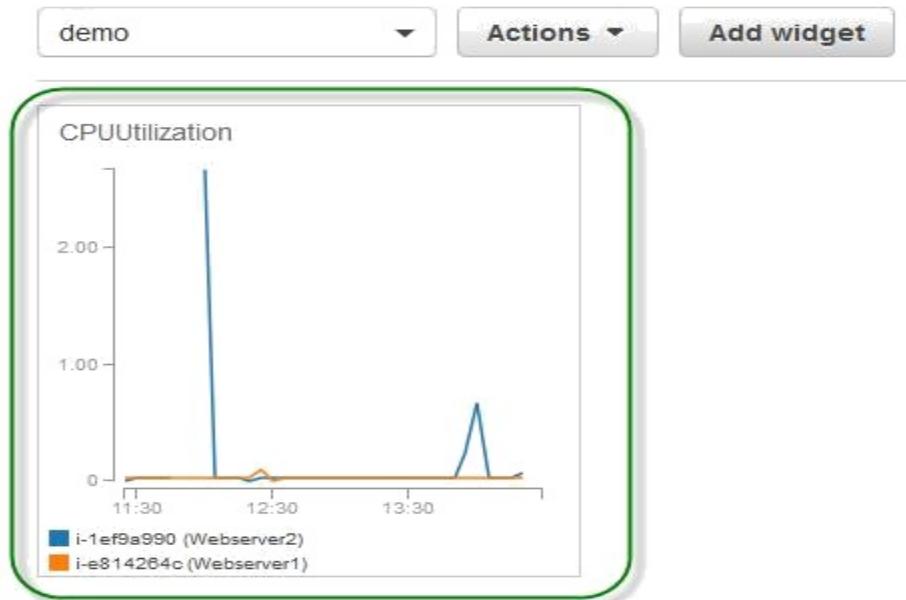
Create widget



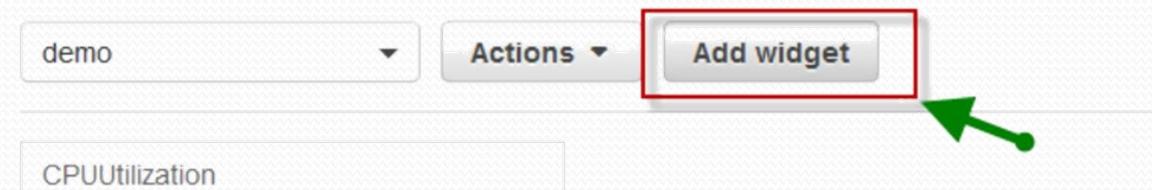
Select multiple instances and click on Create Widget.



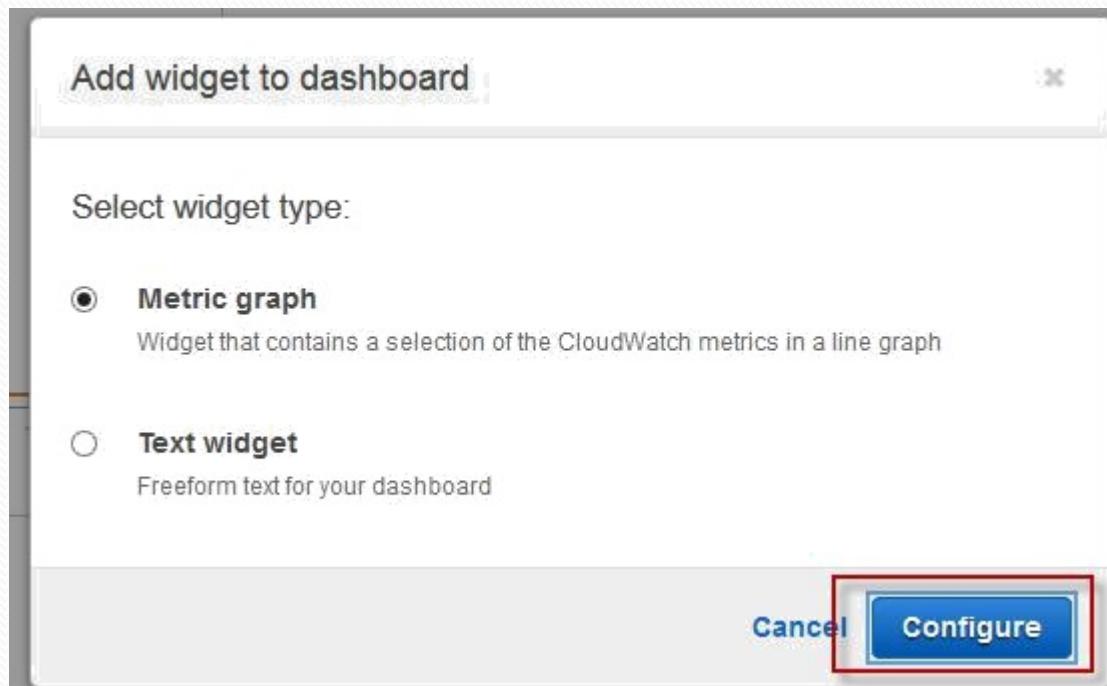
Graph will be created with instances which selected will added to your dashboard.



From the newly created dashboard, click add widget to add more graphs.



Choose your widget type and click on configure on add widget dashboard dialog box.



Next, choose one of the metrics from the Cloud watch metrics by category dialog box.

Add Graph

Browse Metrics

CloudWatch Metrics by Category

Your CloudWatch metric summary has loaded. Total metrics: 726

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S3 Metrics: 4	SNS Metrics: 7	
Storage Metrics: 4	Topic Metrics: 7	

Choose RDS instance with respective metric and click on Create Widget.

Add Graph

RDS

1 to 50 of 113 Metrics

<input type="checkbox"/> demo	CPUCreditUsage
<input checked="" type="checkbox"/> demo	CPUUtilization
<input type="checkbox"/> demo	DatabaseConnections
<input type="checkbox"/> demo	DiskQueueDepth
<input type="checkbox"/> demo	FreeStorageSpace
<input type="checkbox"/> demo	FreeableMemory
<input type="checkbox"/> demo	NetworkReceiveThroughput
<input type="checkbox"/> demo	NetworkTransmitThroughput

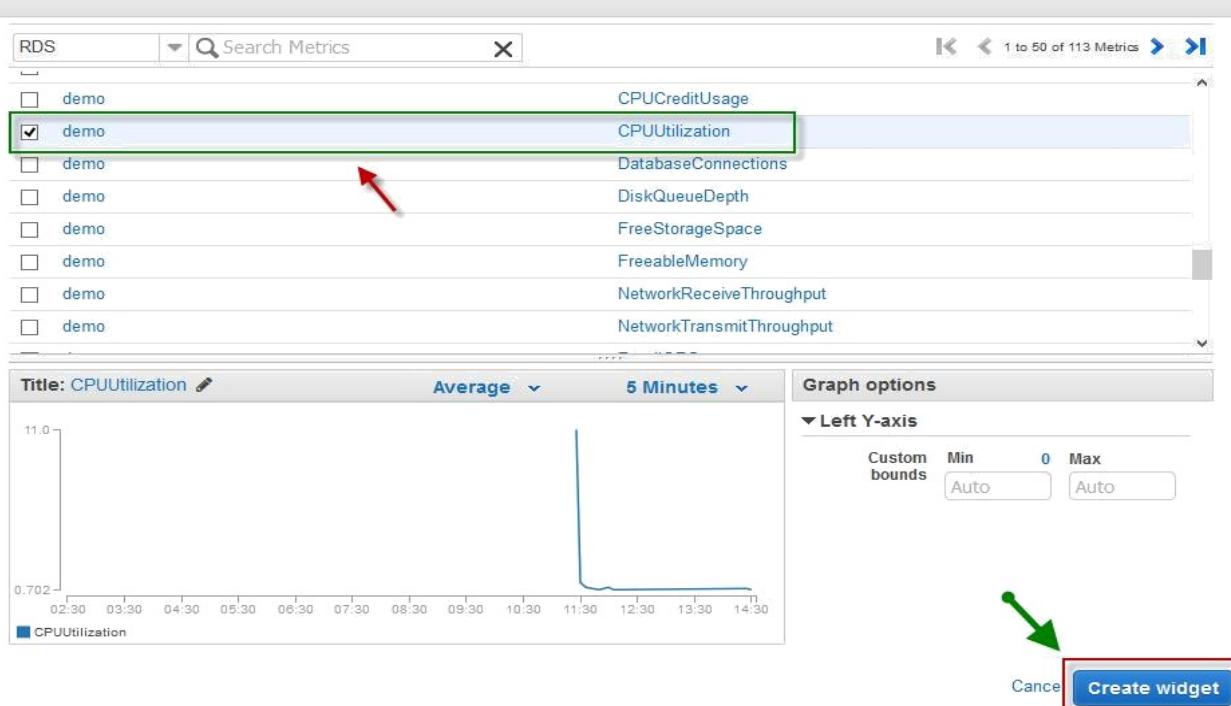
Title: CPUUtilization Average

Graph options

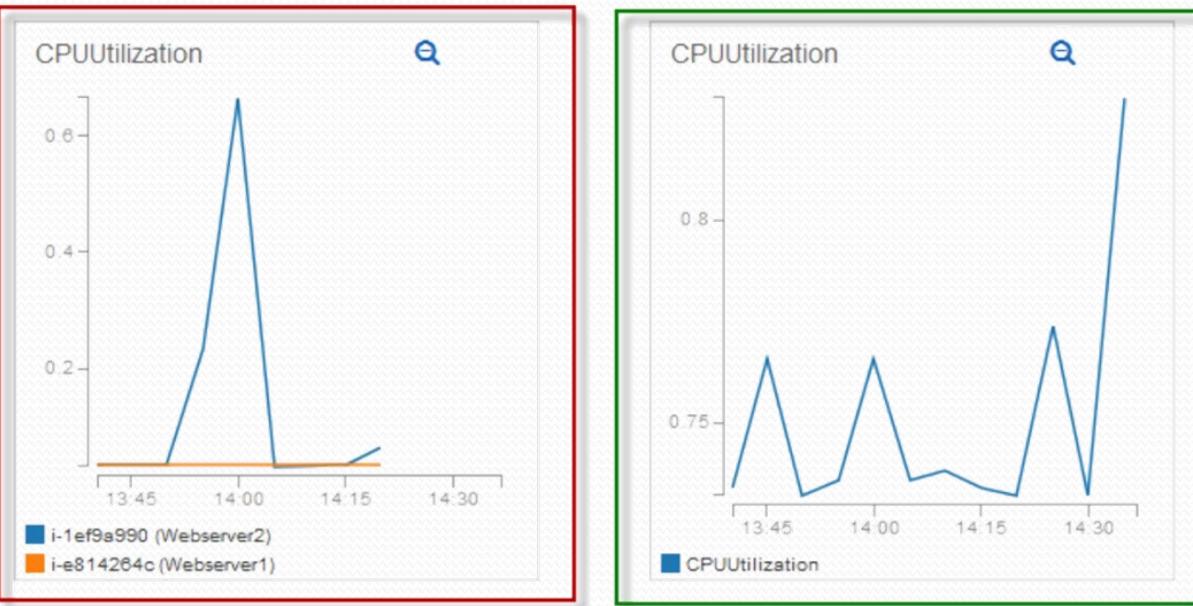
Left Y-axis

Custom bounds

Cancel



Your attached graphs will be shown on your dashboard.



CREATING FIRST ALARM

From the CloudWatch dashboard select Alarms from left navigation pane.

The screenshot shows the CloudWatch Dashboard. On the left, there is a navigation pane with the following items:

- CloudWatch
- Dashboards NEW
- Alarms** (highlighted with a red oval and a blue arrow pointing to it)
- INSUFFICIENT
- OK
- Billing
- Events NEW

The main content area has tabs: "Choose Alarms" (selected) and "Summary". The "Summary" tab contains the following text:
Amazon CloudWatch monitors operational and performance metrics for your AWS resources. You have 726 CloudWatch metrics available in the Asia Pacific (Singapore) region.
Browse or search your metrics to get started graphing data and creating alarms.

Buttons include "Browse Metrics" and a search bar "Search Metrics" with an "X" button.

Click on Create Alarm from top of the page.

The screenshot shows the "Create Alarm" page. At the top, there are buttons for "Create Alarm" (highlighted with a red box), "Modify", "Copy", and "Delete". Below that is a "Filter" dropdown set to "All alarms" (with a green arrow pointing to it) and a "Search Alarms" input field with an "X" button. The main area has columns for "State", "Name", and "Threshold". A message at the bottom says "No records found". A large button labeled "Choose Create Alarm" is centered at the bottom.

Choose EC2 Metrics from Cloudwatch metrics by category dashboard.

Create Alarm

1. Select Metric 2. Define Alarm

Browse Metrics ▼ Search Metrics X

CloudWatch Metrics by Category

Your CloudWatch metric summary has loaded. Total metrics: 726

EBS Metrics: 164

Per-Volume Metrics: 164

EC2 Metrics: 304

Per-Instance Metrics: 271
By Auto Scaling Group: 33

ELB Metrics: 129

Per-LB Metrics: 30
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By Service: 10



Select your instance which you want to create an alarm, and choose metric type, the click next.

Create Alarm

1. Select Metric 2. Define Alarm

EC2 Search Metrics X 1 to 50 of 200 Metrics < >

Instance ID	Instance Type	Metric Type
i-1ef9a990	Webserver2	CPUUtilization
i-1ef9a990	Webserver2	DiskReadBytes
i-1ef9a990	Webserver2	DiskReadOps
i-1ef9a990	Webserver2	DiskWriteBytes
i-1ef9a990	Webserver2	DiskWriteOps
i-1ef9a990	Webserver2	NetworkIn
i-1ef9a990	Webserver2	NetworkOut
i-1ef9a990	Webserver2	NetworkPacketsIn
i-1ef9a990	Webserver2	NetworkPacketsOut

choose instance

choose metric

Title: CPUUtilization Average 5 Minutes Update Graph

Time Range: Custom Min 0 Max

Left Y-axis: Previous Next Create Alarm

In define alarm page, specify a name for alarm, add description.

Choose when to trigger an alarm, like trigger an alarm when instance CPU reaches or crossed some percentage.

In Actions dialog box, make sure it is selected as State is ALARM.

Select SNS topic if you already have one created, or choose new list on Send notification to text box.

Specify email address if you choose new list. Then click on Create Alarm.

Create Alarm

1. Select Metric 2. Define Alarm

Provide the details and threshold for your alarm. Use the graph on the right to help set the appropriate threshold.

Name: Webserver-CPU **Description:** Webserver-CPU

Whenever: CPUUtilization
is: > 5 **for:** 1 consecutive period(s)

This alarm will trigger when the blue line goes above the red line for a duration of 5 minutes

CPUUtilization > 5



Namespaces: AWS/EC2
InstanceId: i-ef9a990
InstanceName: Webserver2
Metric Name: CPUUtilization

Actions

Define what actions are taken when your alarm changes state.

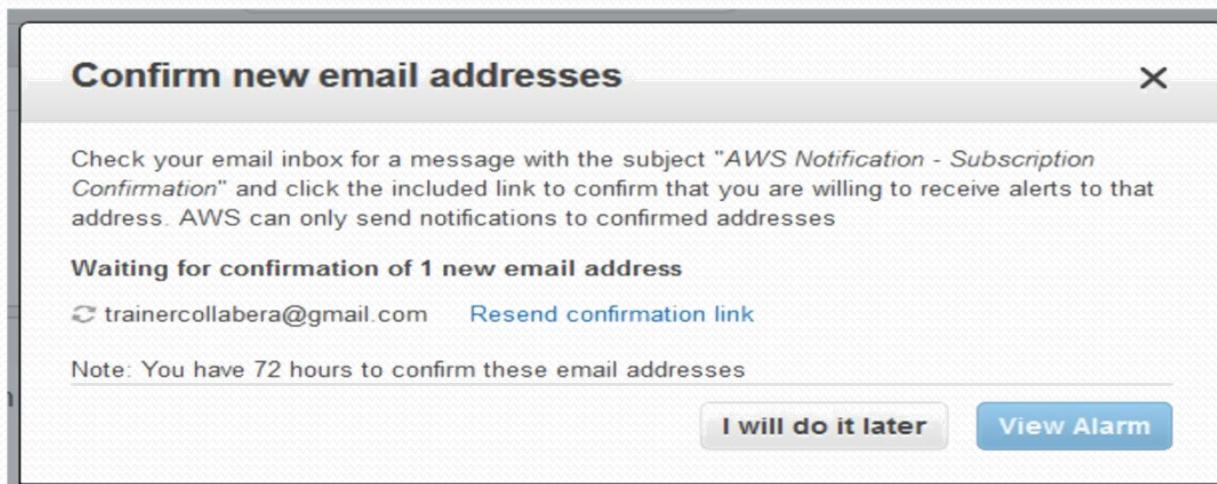
Notification

Whenever this alarm: State is ALARM
Send notification to: demo **Email list:** trainercollabera@gmail.com

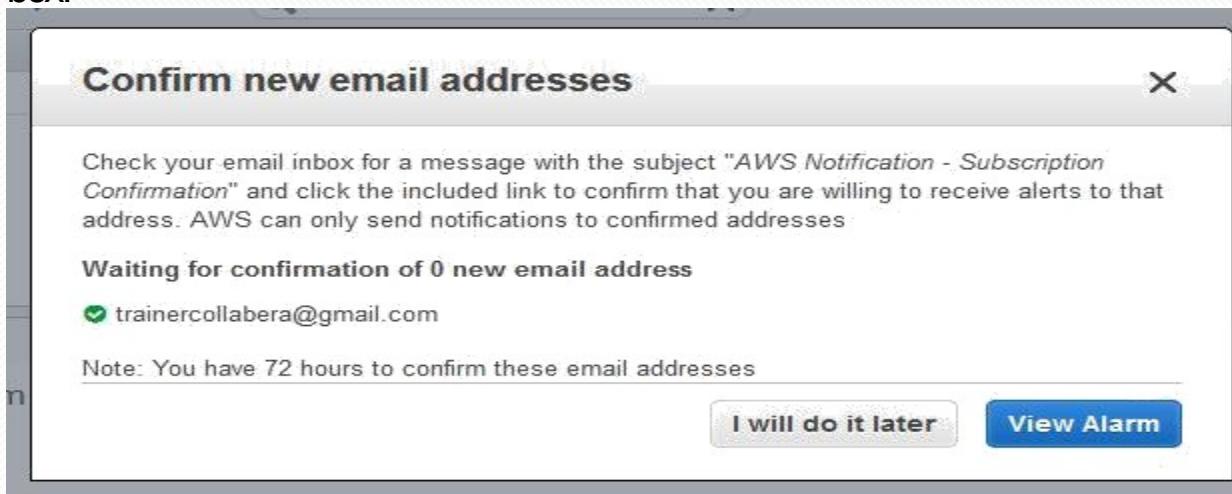
Period: 5 Minutes **Statistic:** Average

Cancel Previous Next **Create Alarm**

If you choose new list under Actions page, then you will be asked to confirm the subscription with in a dialog box with a confirmation mail sent to specified mail id.



Once confirmed, you can see the same has been updated in the dialog box.



Click on View alarm to see created alarm on Alarm page under Cloud watch.

[Create Alarm](#) [Modify](#) [Copy](#) [Delete](#)

Filter: All alarms

State	Name	Threshold
<input type="checkbox"/> OK	Webserver-CPU	CPUUtilization > 5 for 5 minutes

CREATE CLOUDWATCH ALARM FOR RDS

From the CloudWatch dashboard select Alarms from left navigation pane.

The screenshot shows the CloudWatch Metrics interface. On the left, there's a navigation pane with links: Dashboards (NEW), Alarms (circled in yellow with a blue arrow pointing to it), ALARM, INSUFFICIENT, OK, Billing, and Events (NEW). The main area has tabs: Choose Alarms (selected) and Summary. Below the tabs, text says: "Amazon CloudWatch monitors operational and performance metrics for your AWS resources. You have 726 CloudWatch metrics available in the Asia Pacific (Singapore) region." There's a "Browse Metrics" button and a search bar labeled "Search Metrics".

Click on Create Alarm from top of the page.

The screenshot shows the "Create Alarm" interface. At the top, there are buttons for Create Alarm (highlighted with a red box), Modify, Copy, and Delete. Below that is a "Filter: All alarms" dropdown with a green arrow pointing to it. To the right is a search bar labeled "Search Alarms" with an "X" icon. Further down are filters for State, Name, and Threshold. A message "No records found" is displayed. At the bottom, there's a large button labeled "Choose Create Alarm".

Choose RDS Metrics from Cloudwatch metrics by category dashboard.

Create Alarm

1. Select Metric 2. Define Alarm

Browse Metrics Search Metrics

CloudWatch Metrics by Category

Your CloudWatch metric summary has loaded. Total metrics: 726

EBS Metrics: 164

Per-Volume Metrics: 164

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Per-Instance Metrics: 271

By Auto Scaling Group: 33

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By Service: 10

ElasticBeanstalk Metrics: 1

Environment Metrics: 1

Logs Metrics: 4

Account Metrics: 2

Log Group Metrics: 2

RDS Metrics: 113

Per-Database Metrics: 47

By Database Class: 32

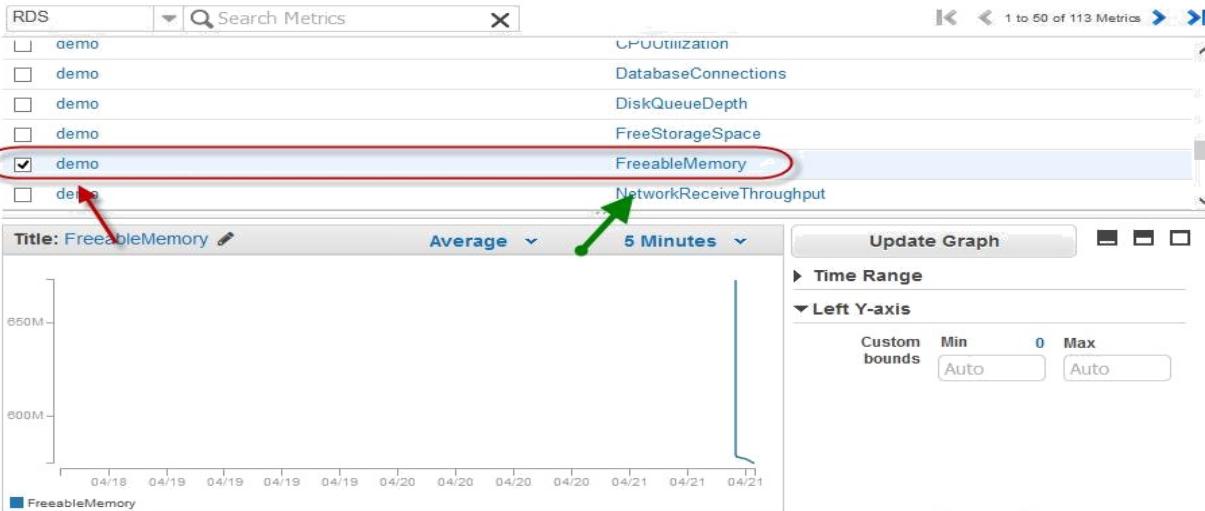
By Database Engine: 17

Across All Databases: 17

In create alarm page, select your RDS instance with respect to your metric, then click next.

Create Alarm

1. Select Metric 2. Define Alarm



In define alarm page, specify a name for alarm, add description.

Choose when to trigger an alarm, like trigger an alarm when RDS instance RAM having low memory.

In Actions dialog box, make sure it is selected as State is ALARM. Select SNS topic on Send notification to text box. Then click on Create Alarm.

Create Alarm

1. Select Metric **2. Define Alarm**

appropriate threshold.

Name: Demo-RDS-RAM (Red arrow)

Description: Demo-RDS-RAM (Blue arrow)

Whenever: FreeableMemory

is: <= 200000000 (Red box)

for: 1 consecutive period(s)

down to or below the red line for a duration of 5 minutes

FreeableMemory <= 200000000

Namespace: AWS/RDS

DBInstance-Identifier: demo

Metric Name: FreeableMemory

Period: 5 Minutes (Red box)

Statistic: Average (Red box)

Actions

Define what actions are taken when your alarm changes state.

Notification	Delete
Whenever this alarm: State is ALARM	
Send notification to:	<input style="border: 1px solid #ccc; padding: 2px; width: 150px; height: 20px;" type="button" value="Select a notification list"/> New list Enter list
<input style="border: 1px solid green; border-radius: 10px; padding: 2px 10px; margin-right: 10px;" type="button" value="demo"/> <input style="border: 1px solid green; border-radius: 10px; padding: 2px 10px;" type="button" value="Select a notification list"/>	
<input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; margin-right: 10px;" type="button" value="+ Notification"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="+ AutoScaling Action"/> <input style="border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="+ EC2 Action"/>	

Cancel Previous Next **Create Alarm**

Once done alarm will be added to alarm list.

Create Alarm **Modify** **Copy** **Delete**

Filter: All alarms Search Alarms

State	Name	Threshold
<input type="checkbox"/> OK	Demo-RDS-RAM	FreeableMemory <= 200,000,000 for 5 minutes
<input type="checkbox"/> OK	Webserver-CPU	CPUUtilization > 5 for 5 minutes

GETTING STATISTICS FOR EC2 INSTANCES

Once you are under EC2 dashboard, go to instances from left navigation pane, select your instance.

Once selected instance, select Monitoring tab under the instance, you can see all Monitoring metrics available for different types like CPU, Disk, Network, Status checks etc.

The screenshot shows the AWS EC2 Instances page with two instances listed: Webserver2 and Webserver1. A red arrow points to the 'Monitoring' tab at the bottom of the instance card for Webserver2, which is highlighted with a yellow box. Below the tabs, a message indicates 'CloudWatch alarms: 1 of 1 in OK'. The 'CloudWatch metrics' section displays three graphs: 'CPU Utilization (Percent)', 'Disk Reads (Bytes)', and 'Disk Read Operations (Operations)'. All three graphs show data for the date 4/21, with the CPU utilization graph showing a sharp increase around that date.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm
Webserver2	i-1ef9a990	t2.micro	ap-southeast-1a	running	2/2 checks ...	OK
Webserver1	i-e814264c	t2.micro	ap-southeast-1b	running	2/2 checks ...	None

CloudWatch metrics: Basic monitoring. [Enable Detailed Monitoring](#)

Showing

CloudWatch alarms: 1 of 1 in OK

CloudWatch metrics

CPU Utilization (Percent)

Disk Reads (Bytes)

Disk Read Operations (Operations)

4/21 4/21

4/21 4/21

4/21 4/21