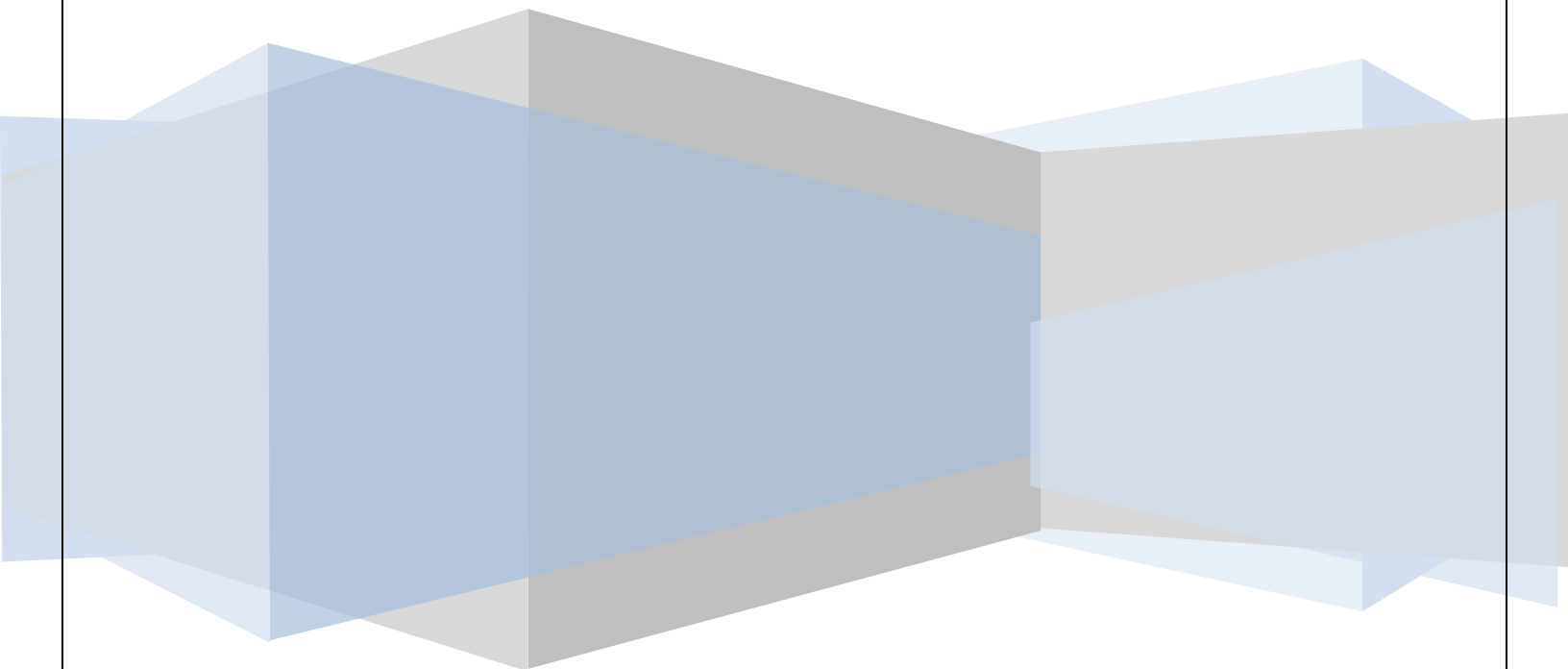


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AWS Cloud Training **AWS CLOUDWATCH**

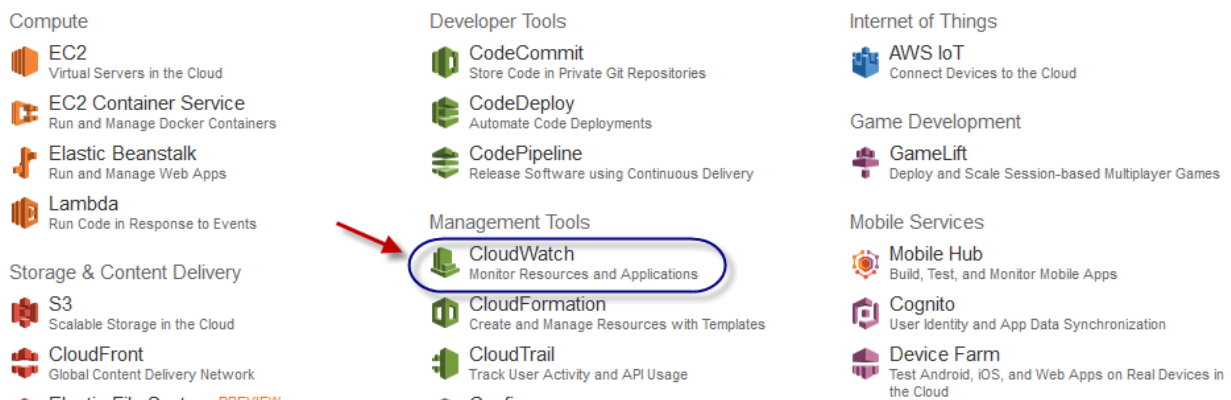


CLOUD WATCH

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.

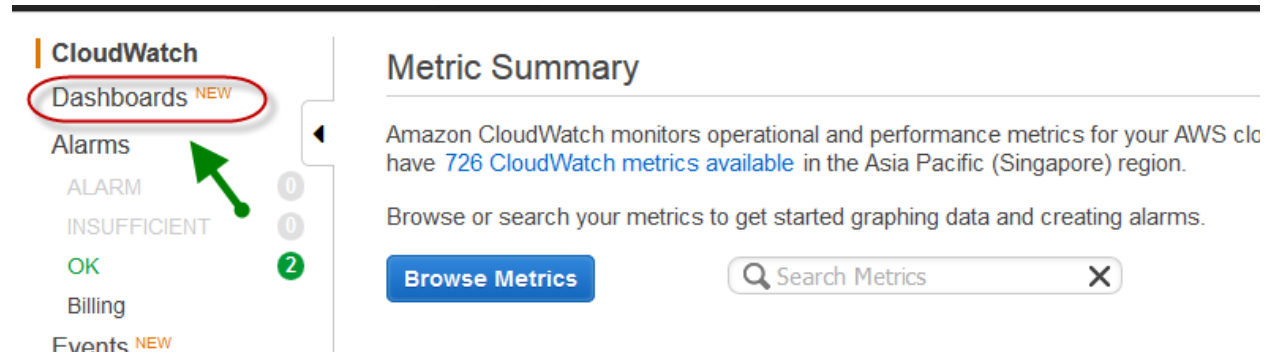
Once you logged into AWS under Console Home page, choose CloudWatch under management tools.

Amazon Web Services



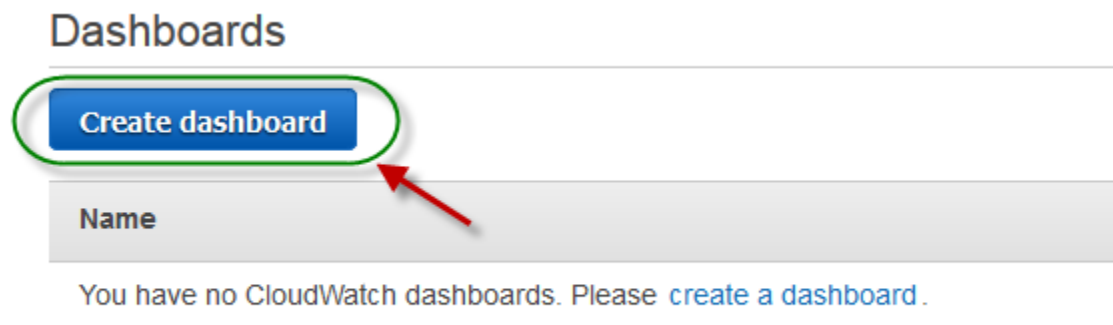
The screenshot shows the AWS Management Console home page. It is organized into several categories: Compute, Storage & Content Delivery, Developer Tools, Management Tools, Internet of Things, Game Development, and Mobile Services. The 'Management Tools' category is highlighted with a blue oval, and a red arrow points to the 'CloudWatch' icon and text, which includes the subtext 'Monitor Resources and Applications'.

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

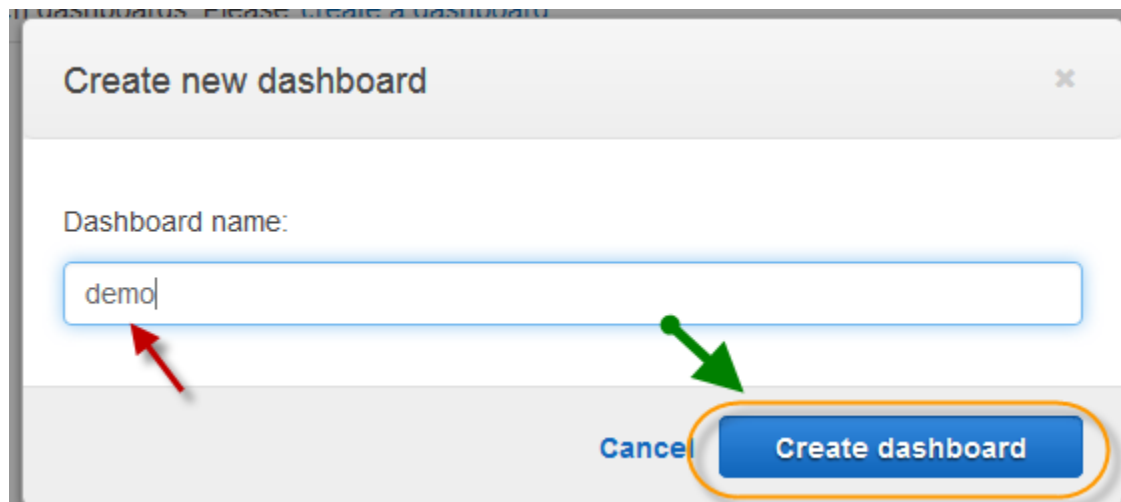


The screenshot shows the Amazon CloudWatch console. On the left, the 'Dashboards' link in the navigation pane is highlighted with a red oval and a green arrow. The main content area displays the 'Metric Summary' section, which includes a message about the number of metrics available in the Asia Pacific (Singapore) region and a 'Browse Metrics' button.

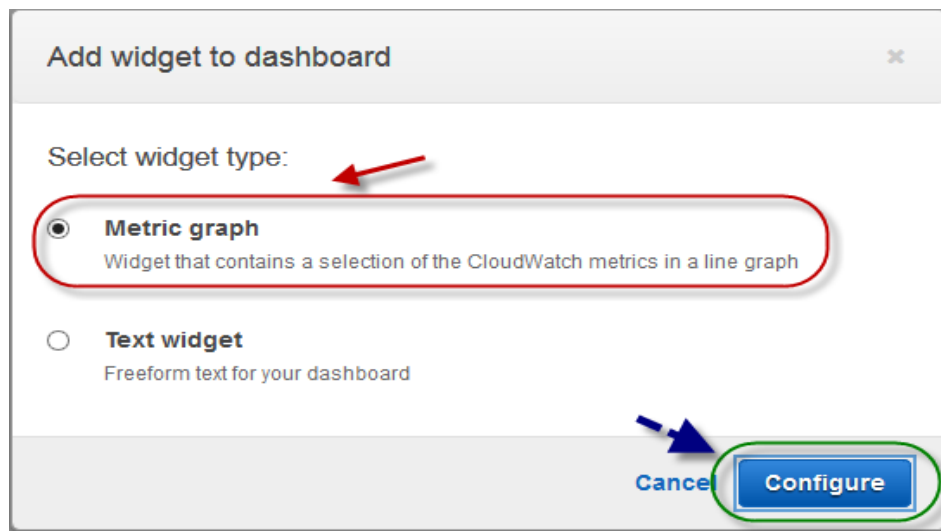
On the next page, choose Create Dashboard to create a new one.



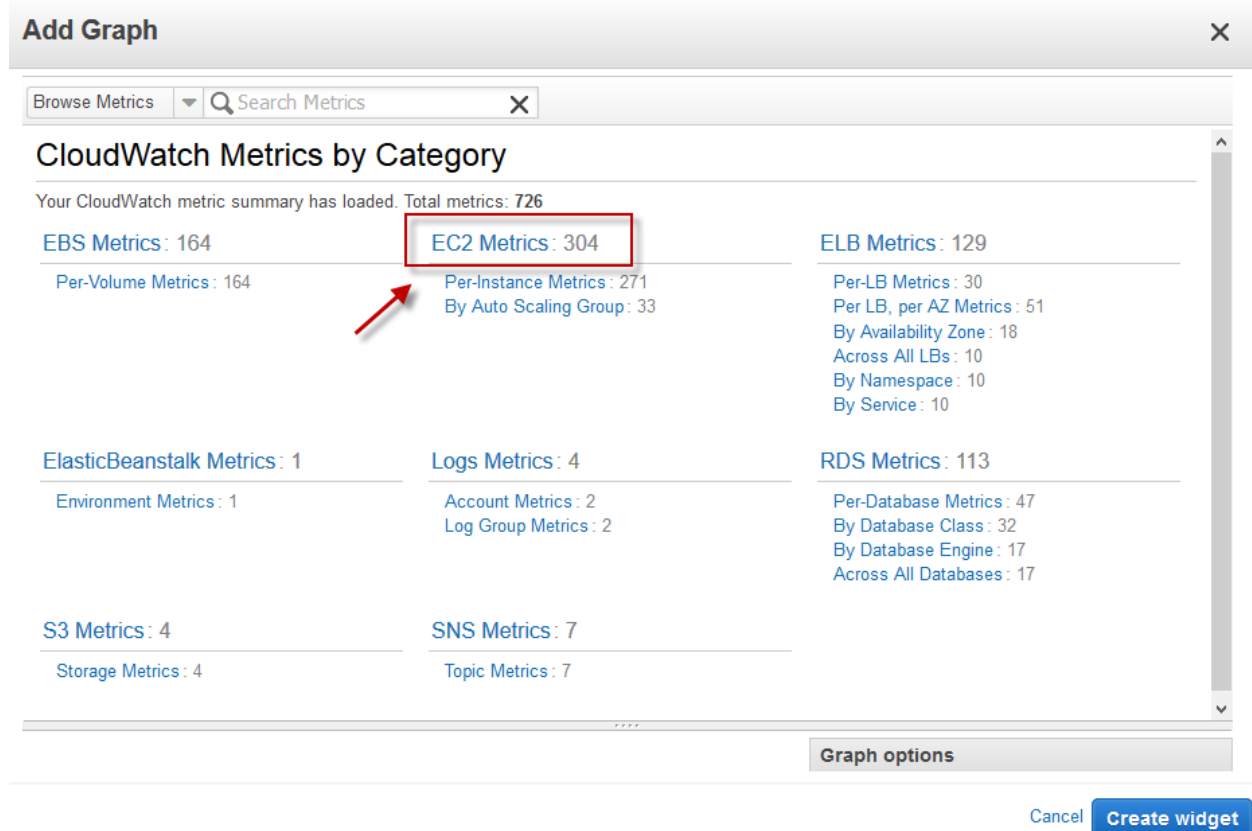
On Create new dashboard dialog box, specify a name for dashboard choose Create dashboard.



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.



Select multiple instances and click on Create Widget.

Add Graph

EC2 1 to 23 of 23 Metrics

Instance ID	Instance Name	Metric
<input type="checkbox"/> i-195b0a97		CPUUtilization
<input checked="" type="checkbox"/> i-1ef9a990	Webserver2	CPUUtilization
<input type="checkbox"/> i-5787d6d9		CPUUtilization
<input type="checkbox"/> i-5b94c0d5		CPUUtilization
<input type="checkbox"/> i-5bda8ad5		CPUUtilization
<input type="checkbox"/> i-682412cc		CPUUtilization
<input type="checkbox"/> i-684070cc		CPUUtilization
<input type="checkbox"/> i-6b4213e5		CPUUtilization
<input type="checkbox"/> i-73ba88d7		CPUUtilization
<input type="checkbox"/> i-996a3e17		CPUUtilization
<input type="checkbox"/> i-a15b0a2f		CPUUtilization

Title: CPUUtilization Average 5 Minutes

Graph options

Left Y-axis

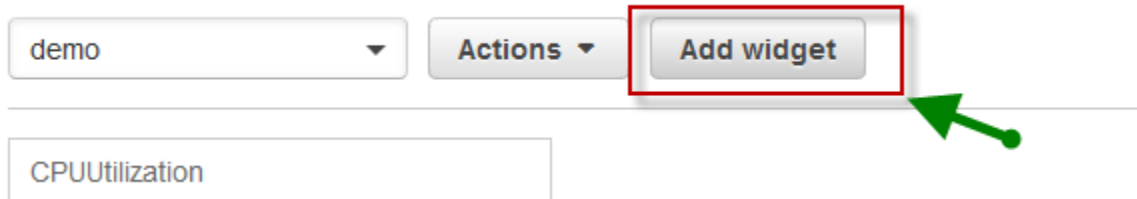
Custom bounds Min 0 Max Auto Auto

Cancel Create widget

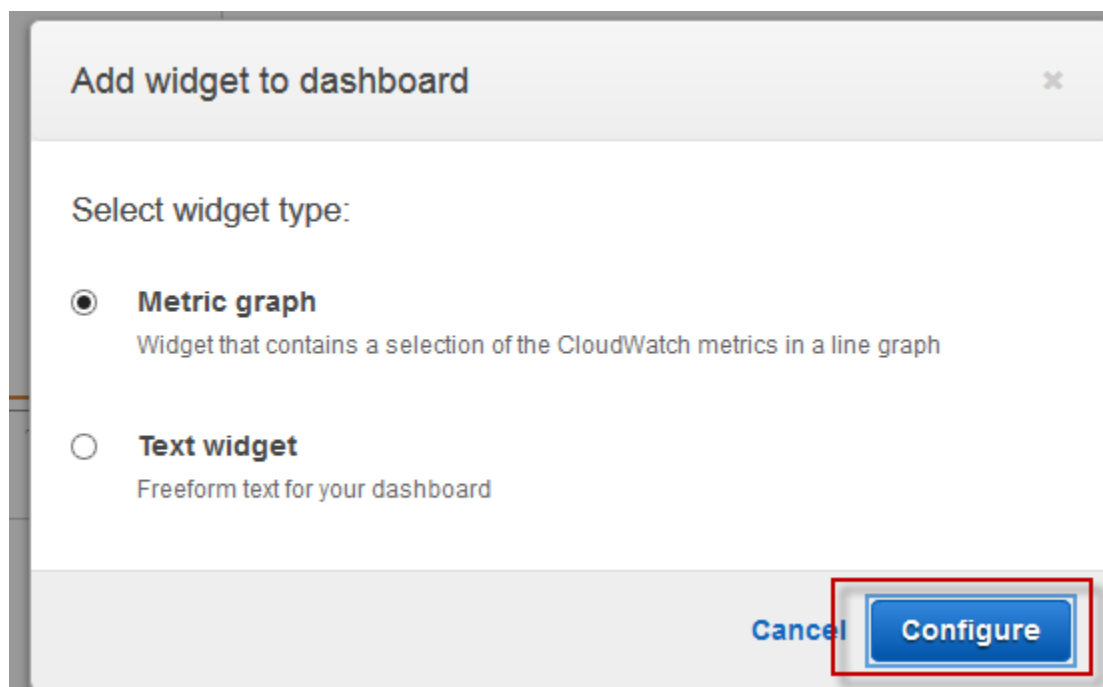
Graph will be created with instances which selected will added to your dashboard.



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

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

Per LB, per AZ Metrics : 51

By Availability Zone : 18

Across All LBs : 10

By Namespace : 10

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

S3 Metrics : 4

Storage Metrics : 4

SNS Metrics : 7

Topic Metrics : 7

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

Add Graph

RDS

Search Metrics

X

1 to 50 of 113 Metrics

☐ demo CPUCreditUsage

☒ demo CPUUtilization

☐ demo DatabaseConnections

☐ demo DiskQueueDepth

☐ demo FreeStorageSpace

☐ demo FreeableMemory

☐ demo NetworkReceiveThroughput

☐ demo NetworkTransmitThroughput

Title: CPUUtilization

Average

5 Minutes

Graph options

Left Y-axis

Custom bounds

Min 0 Max

Auto Auto

11.0

0.702

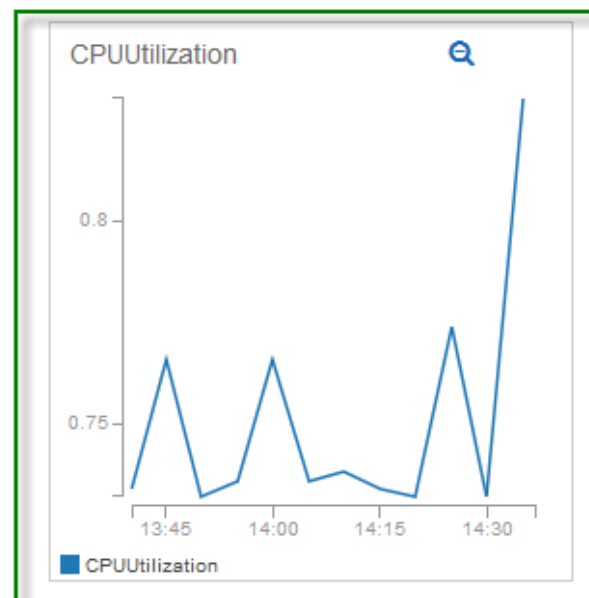
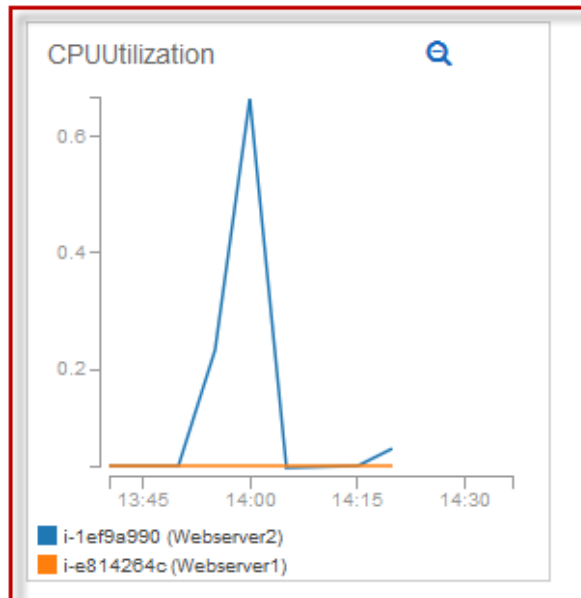
02:30 03:30 04:30 05:30 06:30 07:30 08:30 09:30 10:30 11:30 12:30 13:30 14:30

CPUUtilization

Cancel

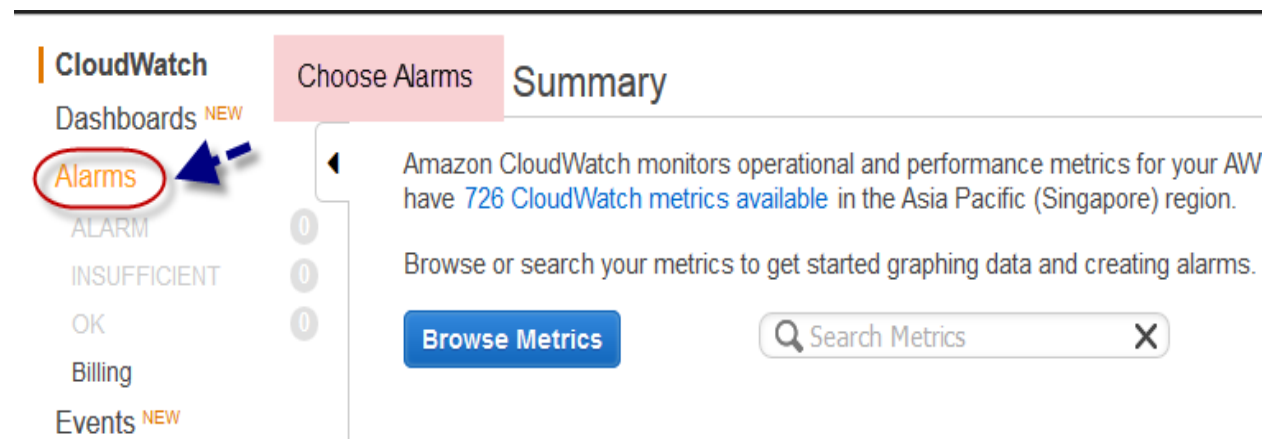
Create widget

Your attached graphs will be shown on your dashboard.

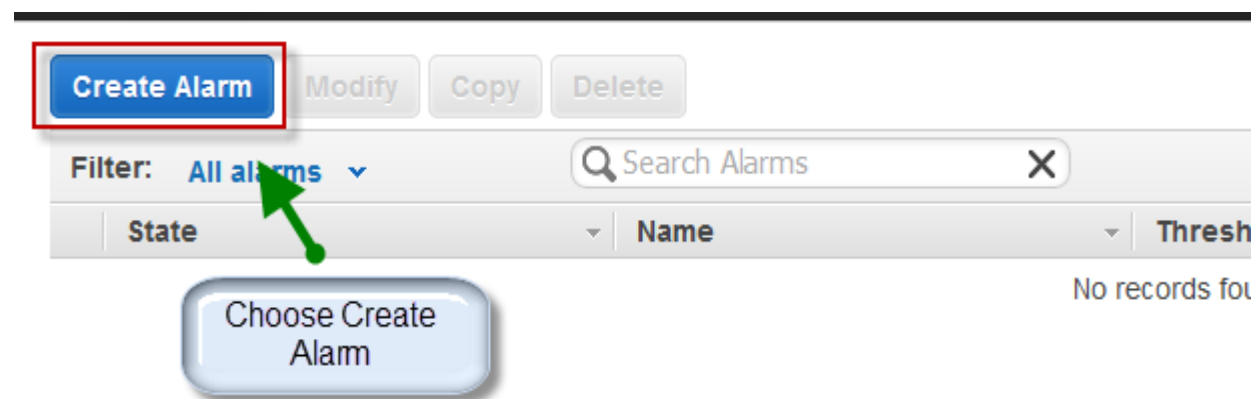


CREATING FIRST ALARM

From the CloudWatch dashboard select Alarms from left navigation pane.



Click on Create Alarm from top of the page.



Choose EC2 Metrics from Cloudwatch metrics by category dashboard.

Create Alarm

1. Select Metric 2. Define Alarm

Browse Metrics

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
Per LB, per AZ Metrics: 51
By Availability Zone: 18
Across All LBs: 10
By Namespace: 10
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

Instance ID	Instance Type	Metric
<input type="checkbox"/> i-1ef9a990	Webserver2	CPUCreditBalance
<input type="checkbox"/> i-1ef9a990	Webserver2	CPUCreditUsage
<input checked="" type="checkbox"/> i-1ef9a990	Webserver2	CPUUtilization
<input type="checkbox"/> i-1ef9a990	Webserver2	DiskReadBytes
<input type="checkbox"/> i-1ef9a990	Webserver2	DiskReadOps
<input type="checkbox"/> i-1ef9a990	Webserver2	DiskWriteBytes
<input type="checkbox"/> i-1ef9a990	Webserver2	DiskWriteOps
<input type="checkbox"/> i-1ef9a990	Webserver2	NetworkIn
<input type="checkbox"/> i-1ef9a990	Webserver2	NetworkOut
<input type="checkbox"/> i-1ef9a990	Webserver2	NetworkPacketsIn
<input type="checkbox"/> i-1ef9a990	Webserver2	NetworkPacketsOut

choose instance

choose metric

Title: CPUUtilization 5 Minutes

Update Graph

Time Range

Left Y-axis

Custom Min 0 Max

Cancel 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)

CPUUtilization > 5

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

Namespace: AWS/EC2

Instanceld: i-1ef9a990

InstanceName: Webserver2

Metric Name: CPUUtilization

Period: 5 Minutes

Statistic: Average

Actions

Define what actions are taken when your alarm changes state.

Notification

Delete

Whenever this alarm:

State is ALARM

Send notification to:

demo

Select list ⓘ

Email list:

trainercollabera@gmail.com

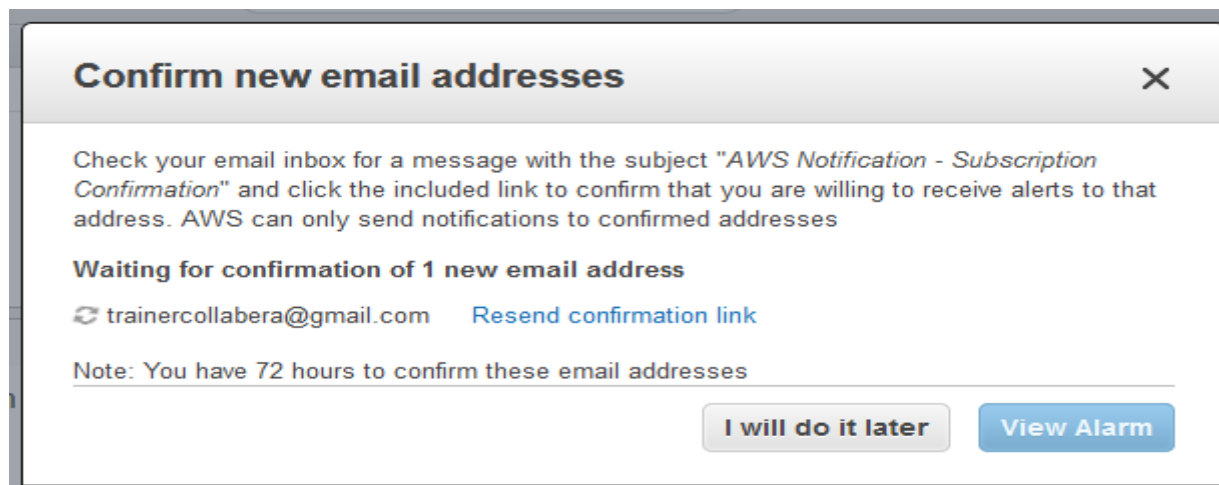
Cancel

Previous

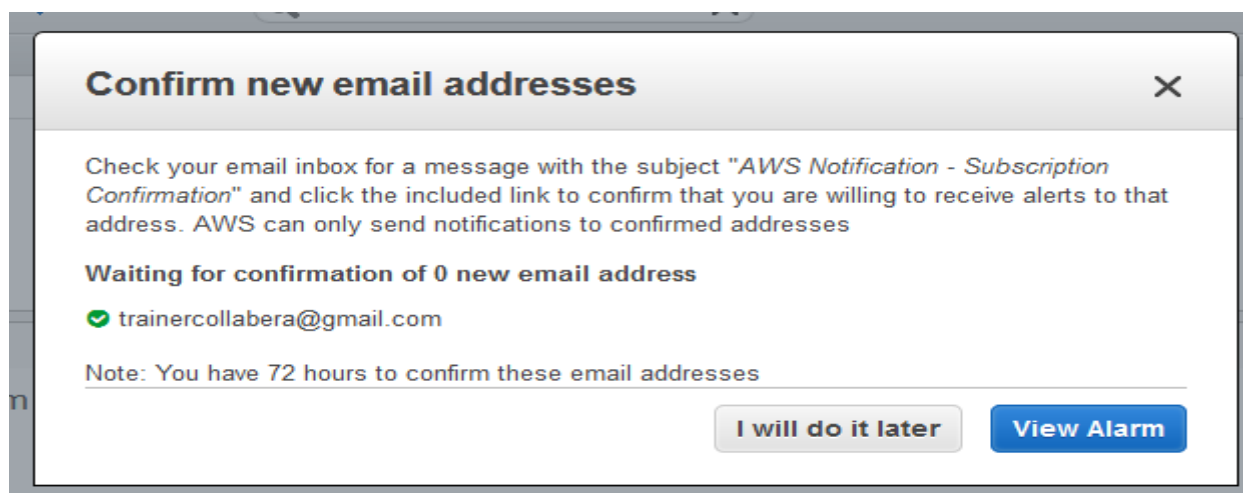
Next

Create Alarm

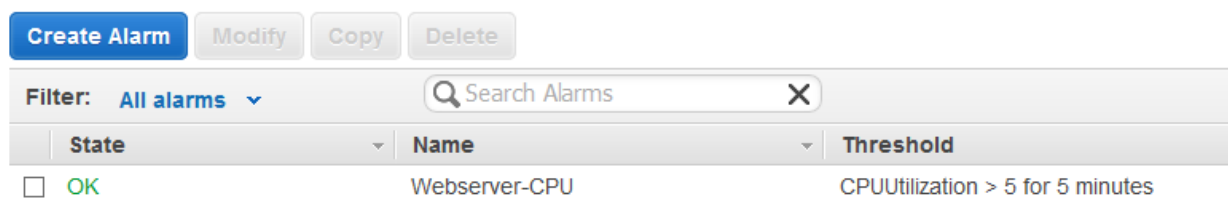
If you choose new list under Actions page, then you will be asked to confirm the subscription with in a dialog box with a confirmation mail sent to specified mail id.



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

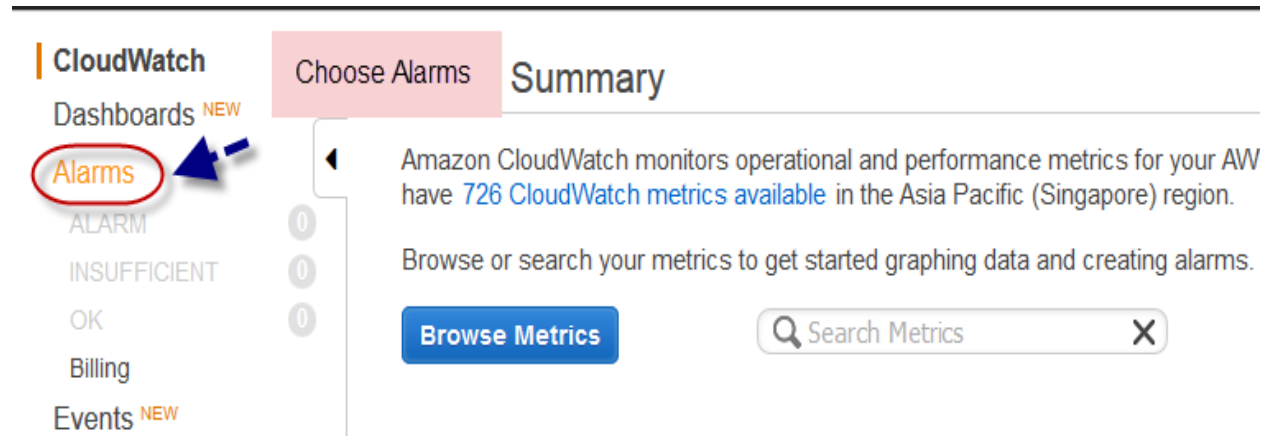


Click on View alarm to see created alarm on Alarm page under Cloud watch.

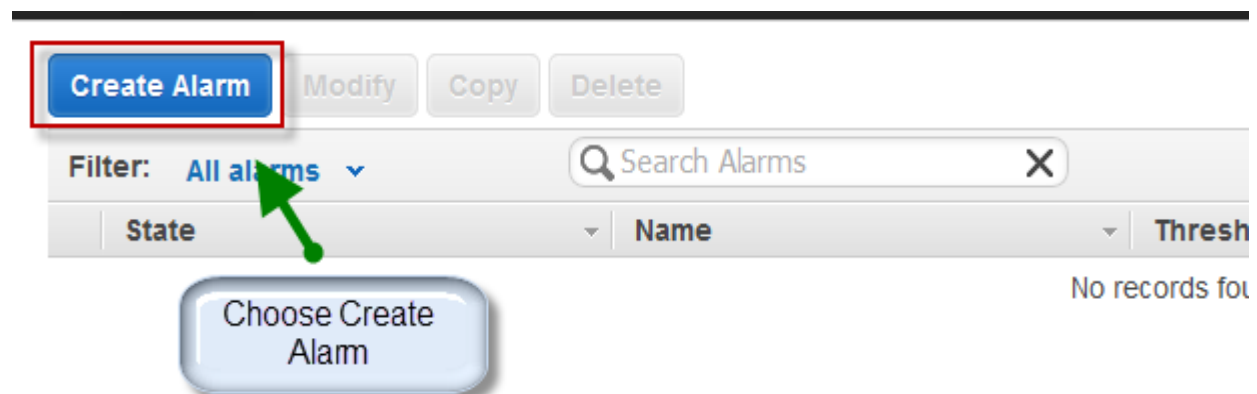


CREATE CLOUDWATCH ALARM FOR RDS

From the CloudWatch dashboard select Alarms from left navigation pane.



Click on Create Alarm from top of the page.



Choose RDS 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

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Account Metrics: 2
Log Group Metrics: 2

RDS Metrics: 113

Per-Database Metrics: 47
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By Database Engine: 17
Across All Databases: 17

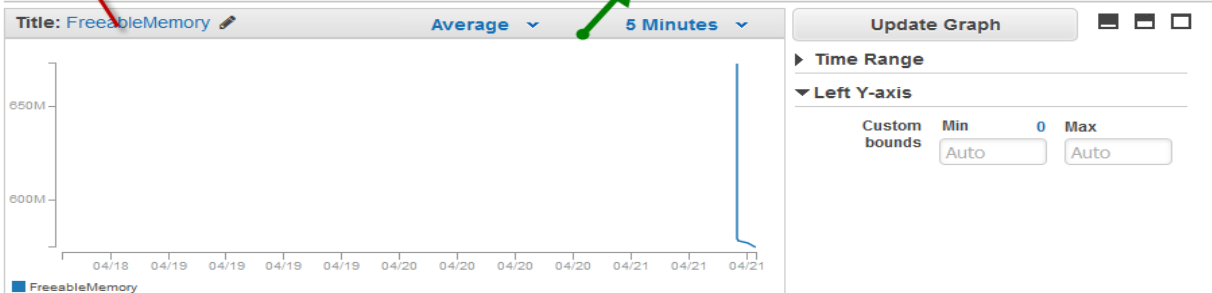
In create alarm page, select your RDS instance with respect to your metric, then click next.

Create Alarm

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

RDS Search Metrics X 1 to 50 of 113 Metrics

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



Cancel 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 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

Description: Demo-RDS-RAM

Whenever: FreeableMemory

is: <= 200000000

for: 1 consecutive period(s)

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

FreeableMemory <= 200000000

Namespaces: AWS/RDS

DBInstance-Identifier: demo

Metric Name: FreeableMemory

Period: 5 Minutes

Statistic: Average

Actions

Define what actions are taken when your alarm changes state.

Notification

Delete

Whenever this alarm: State is ALARM

Send notification to: Select a notification list

demo

+ Notification

+ AutoScaling Action

+ 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.

