



# Amazon - CloudWatch

## What is Cloud Watch?

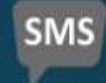
*"Amazon CloudWatch is a monitoring service for AWS cloud resources and the applications run on AWS. It is used to collect and track metrics, collect and monitor log files, and set alarms."*



immediately



1 minute later



1 minute later





# Amazon - CloudWatch

## How Amazon CloudWatch works?

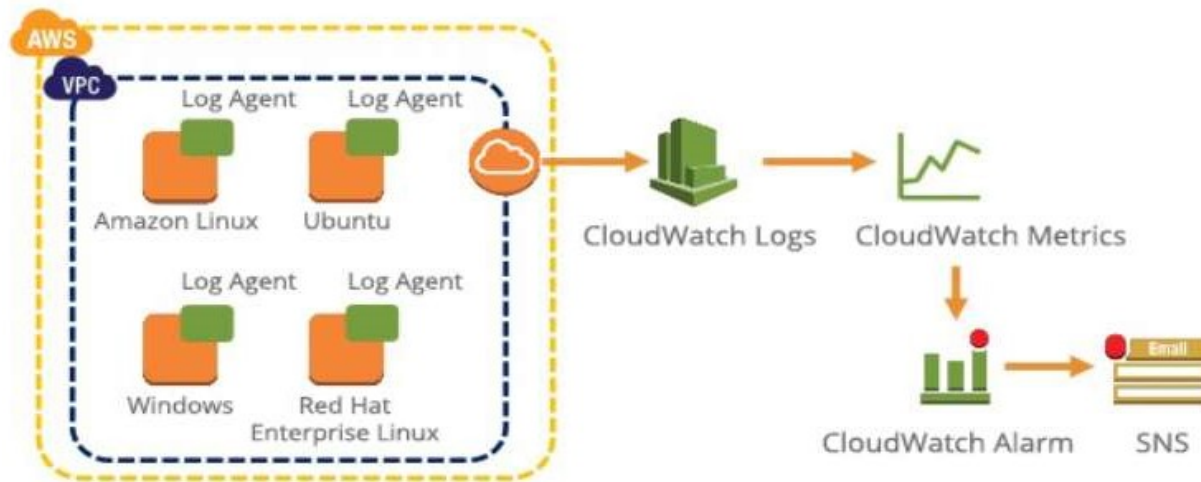
- Amazon CloudWatch is a metrics repository.
- An AWS service—such as Amazon EC2—puts metrics into the repository, and you retrieve statistics based on those metrics.
- If you put your own custom metrics into the repository, you can retrieve statistics on these metrics as well.





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Logs > Metrics > alerts > actions







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## Dashboard

Amazon CloudWatch dashboards are customizable home pages in the CloudWatch console that you can use to monitor your resources in a single view, even those resources that are spread across different regions.

With dashboards, you can create the following:

- A single view for selected metrics and alarms to help you assess the health of your resources
- A common view of critical resource and application measurements that can be shared by team members





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## Amazon CloudWatch Prerequisite

Before getting started with Amazon CloudWatch it's important to know the items it enables the user to monitor:

- 1- Amazon EC2 instances
- 2- Auto Scaling groups
- 3- EMR job flows
- 4- Estimated AWS charges

- 5- Amazon EBS volumes
- 6- Amazon SQS queues
- 7- Storage Gateway
- 8- Amazon RDS database instances in real-time

- 9- Elastic Load balancers
- 10- SNS topics
- 11- DynamoDB tables





# Amazon - CloudWatch

CloudWatch is nothing but a repository of data.

It can receive data from two sources namely AWS Products and also the Custom Data.

There are scripts/agent available which we can configure in any machine in such a way that it would capture current data and send it to CloudWatch.

## Amazon Charges for CloudWatch

It would charge per metrics. In EC2 there are 7 metrics. If it is basic monitoring it would be free of cost. If it is for detailed monitoring, it would charge \$2.10 per instance per month.







# Amazon - CloudWatch

## AMAZON CLOUDWATCH FEATURES

- 1- Up-to-minute statistics
- 2- View graphs
- 3- Set alarms for your metric data
- 4- Use Auto Scaling to add/remove resources based on CloudWatch Metrics

## AMAZON CLOUDWATCH USAGE

- 1- Visibility into resource utilization
- 2- Operational performance
- 3- Overall demand patterns, including metrics such as CPU utilization, disk reads and writes, and network traffic.





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## Amazon Cloudwatch Monitoring



The Cloudwatch Alarm would be use to take 3 actions

1- Autoscaling

2- SNS (Simple Notification Service) – notifies through Email/SMS/http endpoint.

3- EC2 Action

4- System Manager Ops Center







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## Amazon Cloudwatch Metrics:

### Namespaces:

It is a grouping to know what this metric belongs to. For example: AWS/EC2, AWS/AutoScaling AWS/ELB.

### Dimensions:

Dimension is a name/value pair that you uniquely identify a metric. For example: AutoScaling GroupName, ImageId, InstanceId, InstanceType, Volume ID.

### Timestamps:

To know what timestamp it had captured.

### Units:

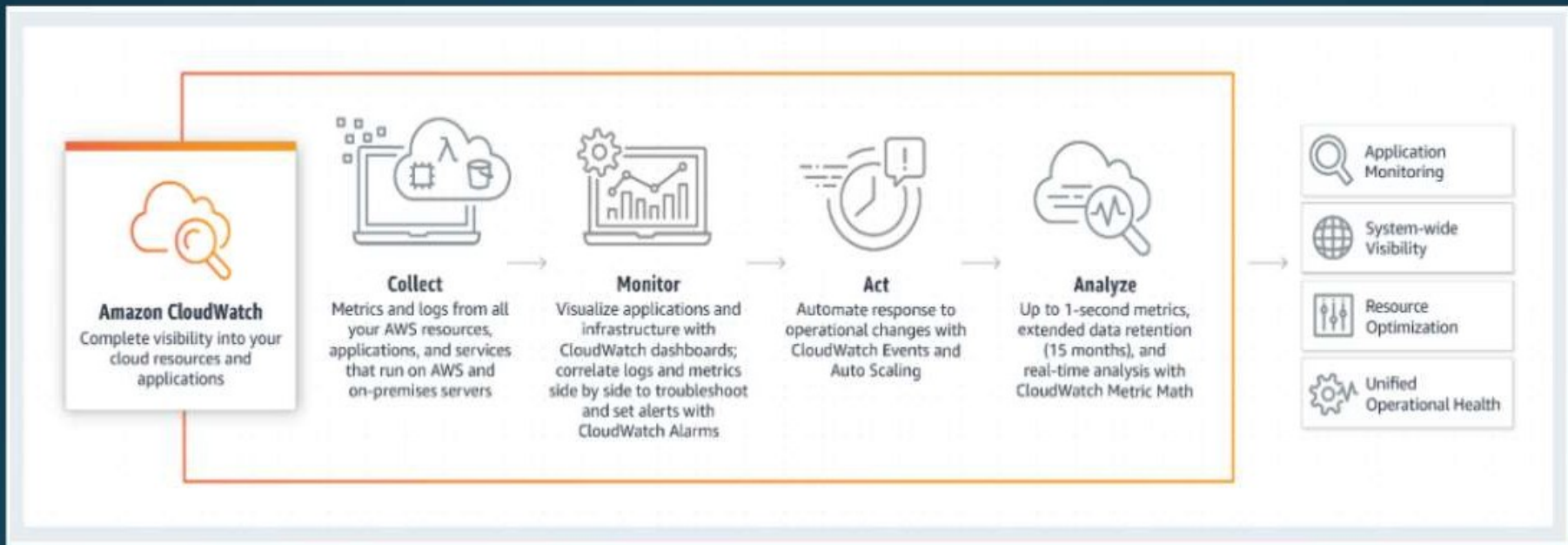
Unit represents the statistical unit of measure. For example: EC2 Networking metric in bytes.





# Amazon - CloudWatch

## How it works





# Amazon - CloudWatch

## Hands-On Lab

- Create a billing alarm which should be  $\leq$  Current billing cost
- Create Dashboard
- Verify alarm notification via SMS & email.

