**CLOUD WATCH :**

amazon CloudWatch allows developers, system architects, and administrators to monitor their AWS applications in the cloud, in near-real-time. CloudWatch is automatically configured to provide metrics on request counts, latency, and CPU usage. Users also can send their own logs and custom metrics to CloudWatch for monitoring.

The data and reports CloudWatch provides lets users keep track of application performance, resource use, operational issues, and constraints. This helps organizations resolve technical issues and streamline operations.

CloudWatch is most commonly used with Elastic Compute Cloud (EC2) instances, and can also monitor Amazon Elastic Block Store (EBS) volumes, Elastic Load Balancers (ELBs), and instances of Amazon Relational Database Service (RDS). It also can extend beyond these core services to intake custom data from external sources.

Users choose CloudWatch for its automatic integration with AWS services, its flexibility, and its ability to scale quickly.

Monitoring AWS Resources With CloudWatch

Amazon CloudWatch is configured out-of-the-box to integrate with [EC2](https://www.sumologic.com/aws/what-is-aws-ec2/), offering two levels of monitoring capabilities:

* **Basic monitoring**, which requires no additional fee, includes seven pre-selected metrics and three status-check metrics, produced at five-minute and one-minute intervals, respectively.
* **Detailed monitoring**, which comes at an additional charge, increases the frequency of all metrics to one-minute intervals.

Additional [AWS](https://www.sumologic.com/aws/) services that CloudWatch can monitor automatically include the following:

* **EBS**: Monitors read/write latency and similar measurements.
* **RDS database instances**: Monitors metrics such as storage space and freeable memory.
* **SQS Queues**: Monitors messages sent, messages received, and other key metrics.
* **SNS Topics**: Monitors common metrics like number of published and delivered messages.

Other CloudWatch Features and Capabilities

Beyond its automatically configured [monitoring capabilities](https://www.sumologic.com/marketscape/infrastructure-monitoring/), CloudWatch can be extended to monitor metrics from additional AWS services and even external applications. Through API requests, users can enable the same core functionality of CloudWatch for [their custom data](https://help.sumologic.com/Send_Data/Collect_from_Other_Data_Sources/Amazon_CloudWatch_Logs). CloudWatch also can function for basic monitoring of system logs, allowing users to track and analyze for specific metrics.

The CloudWatch dashboard interface allows users to create custom graphical views across their AWS services. These can include both real-time data and historical data up to a two-week maximum. Users also can set alarms that will trigger whenever a metric crosses a specified limit, allowing them to take quick actions on real-time data or easily spot resources that are being underutilized. Some responsive actions can even be automated using a rules engine built into the service. CloudWatch Limits CloudWatch has the following limits: Resource Default Limit Actions 5/alarm. This limit cannot be changed. Alarms 10/month/customer for free. 5000 per region per account. API requests 1,000,000/month/customer for free. Custom metrics No limit. Dashboards Up to 1000 dashboards per account. Up to 100 metrics per dashboard widget. Up to 500 metrics per dashboard, across all widgets. These limits cannot be changed. DescribeAlarms 9 transactions per second (TPS). The maximum number of operation requests you can make per second without being throttled. You can request a limit increase. Dimensions 10/metric. This limit cannot be changed. GetMetricData 50 transactions per second (TPS). The maximum number of operation requests you can make per second without being throttled. 180,000 Datapoints Per Second (DPS) if the StartTime used in the API request is less than or equal to three hours from current time. 90,000 DPS if the StartTime is more than three hours from current time. This is the maximum number of datapoints you can request per second using one or more API calls without being throttled. You can request a limit increase for both of these limits. GetMetricStatistics 400 transactions per second (TPS). The maximum number of operation requests you can make per second without being throttled. You can request a limit increase. ListMetrics 25 transactions per second (TPS). The maximum number of operation requests you can make per second without being throttled. 8 Amazon CloudWatch User Guide Resources Resource Default Limit You can request a limit increase. Metric data 15 months. This limit cannot be changed. MetricDatum items 20/PutMetricData request. A MetricDatum object can contain a single value or a StatisticSet object representing many values. This limit cannot be changed. Metrics 10/month/customer for free. Period Maximum value is one day (86,400 seconds). This limit cannot be changed. PutMetricAlarm request 3 transactions per second (TPS). The maximum number of operation requests you can make per second without being throttled. You can request a limit increase. PutMetricData request 40 KB for HTTP POST requests. PutMetricData can handle 150 transactions per second (TPS), which is the maximum number of operation requests you can make per second without being throttled. You can request a limit increase. Amazon SNS email notifications 1,000/month/customer for free. Amazon CloudWatch Resources The following related resources can help you as you work with this service. Resource Description Amazon CloudWatch FAQs The FAQ covers the top questions developers have asked about this product. Release notes The release notes give a high-level overview of the current release. They specifically note any new features, corrections, and known issues. AWS Developer Resource Center A central starting point to find documentation, code examples, release notes, and other information to help you build innovative applications with AWS. AWS Management Console The console allows you to perform most of the functions of Amazon CloudWatch and various other AWS offerings without programming. Amazon CloudWatch Discussion Forums Community-based forum for developers to discuss technical questions related to Amazon CloudWatch. AWS Support The hub for creating and managing your AWS Support cases. Also includes links to other helpful resources, such as forums, technical FAQs, service health status, and AWS Trusted Advisor. 9 Amazon CloudWatch User Guide Resources Resource Description Amazon CloudWatch product information The primary webpage for information about Amazon CloudWatch. Contact Us A central contact point for inquiries concerning AWS billing, account, events, abuse, etc.