AWS CloudWatch

Topics : [AWS](#)
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Amazon CloudWatch is a monitoring and observability service provided by Amazon Web Services (AWS). It allows you to collect, monitor, and analyze logs, metrics, and events from your AWS resources and applications. CloudWatch provides a comprehensive set of tools for gaining insights into the performance, health, and operational efficiency of your AWS environment.

1. **Metrics:**

   - CloudWatch collects and stores metrics, which are numerical data points representing the performance of your AWS resources. Metrics can include information about CPU usage, network traffic, and other system-level or application-level data.

2. **Dashboards:**

   - CloudWatch Dashboards allow you to create custom visualizations of your metrics and resources. You can build dashboards to monitor and analyze the key performance indicators (KPIs) relevant to your applications and workloads.

3. **Alarms:**

   - CloudWatch Alarms enable you to set thresholds on your metrics. When a metric crosses a specified threshold, CloudWatch can trigger actions such as sending notifications, auto-scaling, or executing AWS Lambda functions.

4. **Logs:**

   - CloudWatch Logs allows you to collect, monitor, and analyze log files from your AWS resources. It supports logs from EC2 instances, Lambda functions, and other services. You can create metric filters and alarms based on log data.

5. **Events:**

   - CloudWatch Events is a service that enables you to respond to changes in your AWS environment. You can set up rules to trigger actions, such as invoking Lambda functions or running AWS Step Functions, based on events from various AWS services.

6. **Retrieval and Storage of Metrics Data:**

   - CloudWatch retains metric data for a configurable period (retention period), and you can retrieve historical data for analysis. You can also use CloudWatch Metrics Explorer for interactive exploration of metric data.

7. **Custom Metrics:**

   - In addition to the metrics automatically collected by AWS services, you can publish custom metrics to CloudWatch. This allows you to monitor and analyze application-specific performance metrics.

8. **Application Insights:**

   - CloudWatch Application Insights helps you detect and troubleshoot issues in your applications. It automatically analyzes logs, traces, and metrics to identify common problems and provides insights into the root cause of issues.

9. **Cross-Account Dashboards:**

   - CloudWatch supports cross-account dashboards, allowing you to create centralized dashboards that aggregate metrics from multiple AWS accounts.

10. **Integration with AWS Services:**

   - CloudWatch integrates with various AWS services, including EC2, Amazon RDS, Lambda, and more. It provides native support for monitoring the performance of these services.

11. **CloudWatch Synthetics:**

   - CloudWatch Synthetics allows you to create canaries, which are scripts that run on a schedule to monitor your endpoints and APIs. This helps ensure the availability and performance of your applications.

12. **CloudWatch Contributor Insights:**

   - Contributor Insights helps you identify the top contributors to changes in your metric data. It allows you to analyze and visualize the top sources of anomalies or changes in your metrics.