



BATCH : 149
LESSON : AWS
DATE : 11.09.2023
SUBJECT : CloudWatch



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Amazon CloudWatch

AWS Cloudwatch





What is CloudWatch ?

- ▶ Amazon CloudWatch is a monitoring service to monitor your AWS resources, as well as the applications that you run on AWS.



Amazon CloudWatch



What can CloudWatch do?

CloudWatch can monitor things like:

Compute

- ✓ Autoscaling Groups
- ✓ Elastic Load Balancers
- ✓ Route53 Health Checks

Storage & Content Delivery

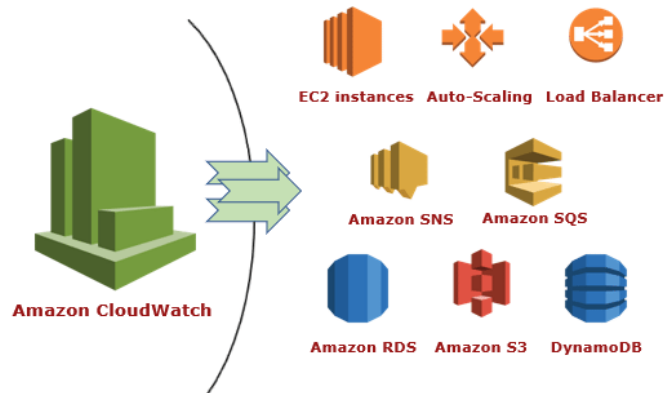
- ✓ EBS Volumes
- ✓ Storage Gateways
- ✓ CloudFront

Databases & Analytics

- ✓ DynamoDB
- ✓ ElastiCache Nodes
- ✓ RDS Instances
- ✓ Elastic MapReduce Job Flows
- ✓ Redshift

Other

- ✓ SNS Topics
- ✓ SQS Queues
- ✓ Opsworks
- ✓ CloudWatch Logs
- ✓ Estimated Charges on your AWS Bill





CloudWatch and EC2

Host Level Metrics Consist of:

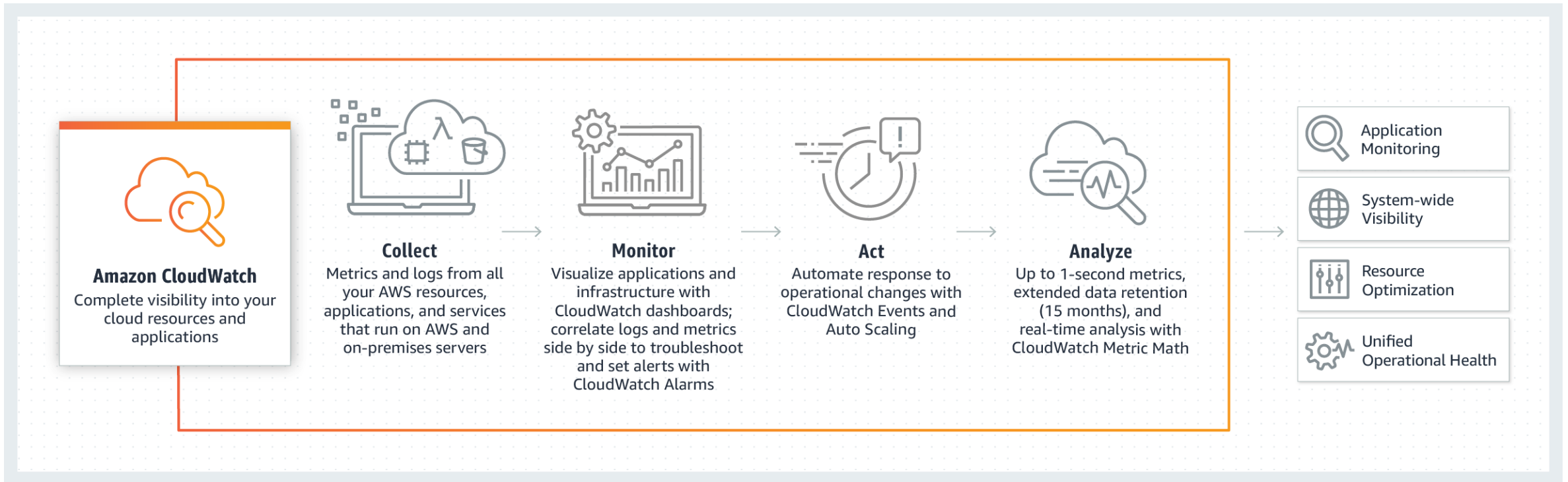
- ✓ CPU
- ✓ Network
- ✓ Disk
- ✓ Status Check



Note: RAM Utilization is a custom metric! By default EC2 monitoring is 5 minute intervals, unless you enable detailed monitoring which will then make it 1 minute intervals.

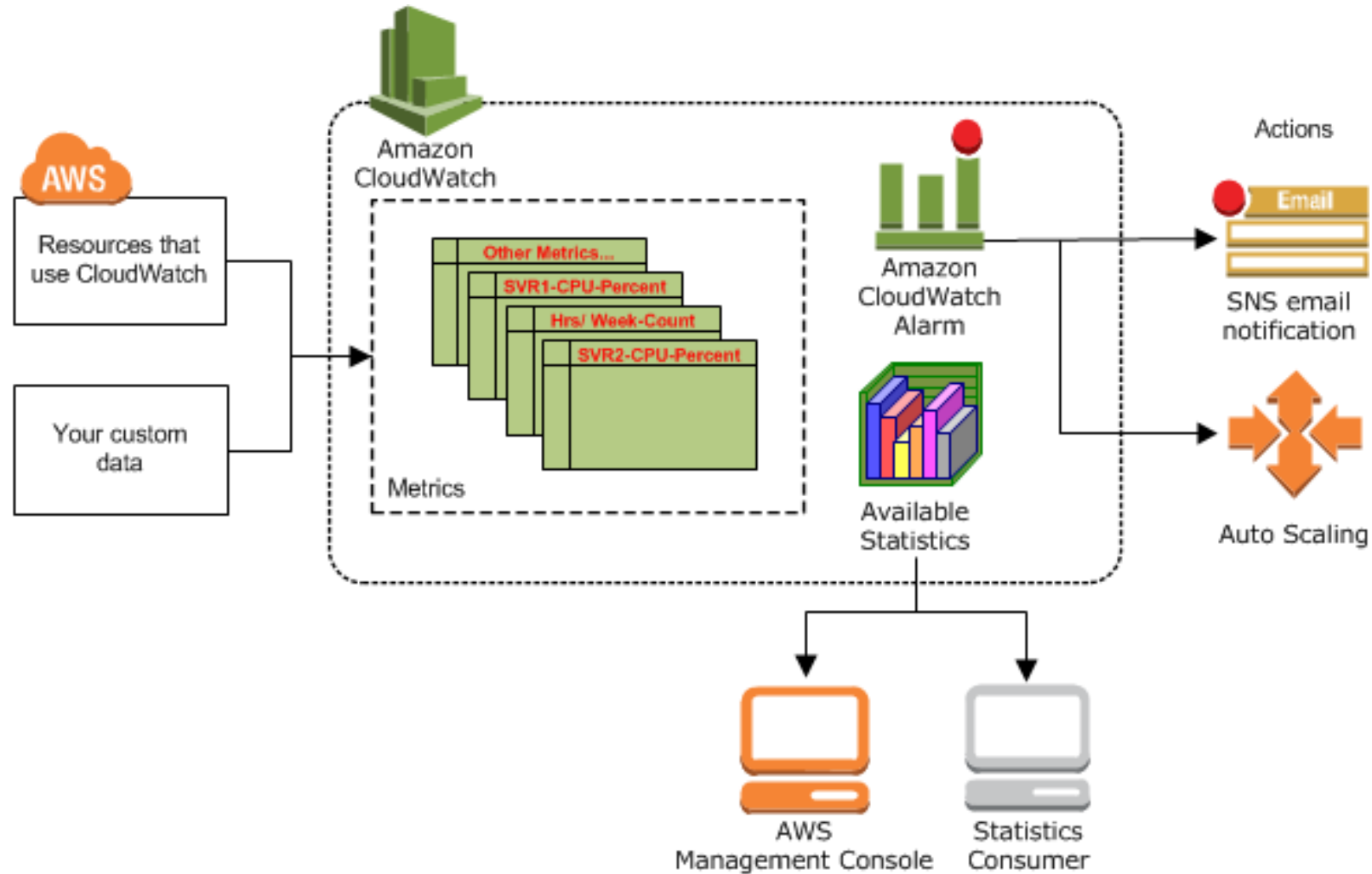


How Amazon CloudWatch works





How Amazon CloudWatch works



CloudWatch

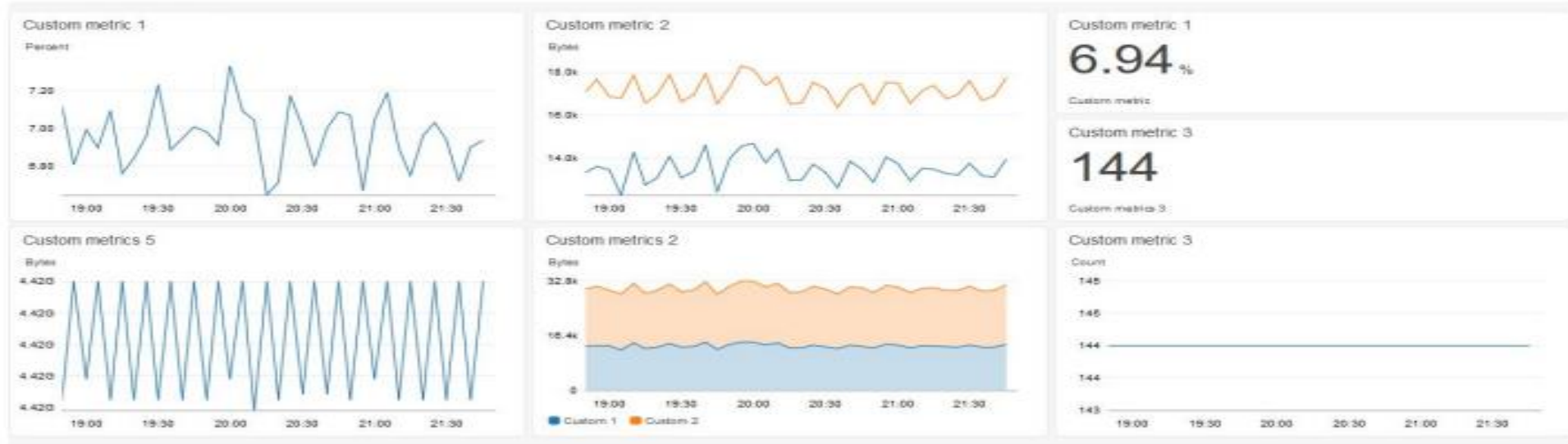
Basic Components



- **Metrics:** Metrics are the **measurable data** about your resources, apps or services like EC2 instance CPU utilization or the number of objects in an S3 bucket.
 - › Sayısal veriler,ölçeklenebilir veriler,odak

CloudWatch

Basic Components



- **Dashboards:** Dashboards enable you to create graphs and visualize your cloud resources and applications according to your needs.
 - › Ekran,nasıl bir ekran ,neleri görmek istiyorsun



Part 2 - Creating an Dashbord





CloudWatch

Basic Components



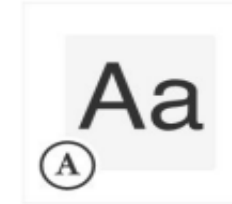
Line
Compare metrics over time



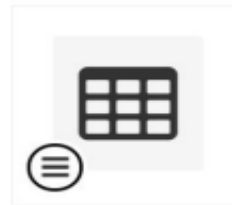
Stacked area
Compare the total over time



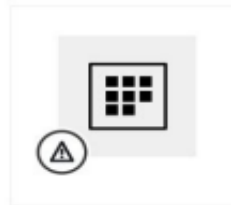
Number
Instantly see the latest value for a metric



Text
Free text with markdown formatting



Logs table
Explore results from Logs Insights



Alarm status
Instantly see the status of your alarms in a grid view

- **Widgets:** You can leverage dashboards as customizable home pages in the CloudWatch console to view metrics, logs and alarms.

› Grafik, gösterge,şekil



CloudWatch

Basic Components

The screenshot shows the AWS CloudWatch console interface. The left sidebar contains navigation links: CloudWatch, Dashboards, Alarms, Billing, Events, Rules, Event Buses, Logs (selected), Insights, Metrics, Settings, and Favorites. The main content area displays the 'Log Groups' page for the 'apache-access' log group. A table of log events is shown, filtered for the date '2019-04-30'. The table has two columns: 'Time (UTC +00:00)' and 'Message'. The messages are HTTP GET requests from various IP addresses, mostly from 183.178.64.143, accessing different paths like '/mysql/admin/index.php' and '/phpMyadmin/index.php'.

Time (UTC +00:00)	Message
2019-04-30	
11:55:52	182.73.116.202 - - [30/Apr/2019:11:55:47 +0000] "GET / HTTP/1.1" 200 11173 "-" Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML...
16:17:47	45.168.138.131 - - [30/Apr/2019:16:17:42 +0000] "GET / HTTP/1.1" 200 11173 "-" Mozilla/5.0 (Windows NT 10.0; WOW64) AppleWebKit/537.36 (KHTML...
17:02:10	61.219.11.153 - - [30/Apr/2019:17:02:05 +0000] "-" 408 0 "-" "
17:08:12	185.209.0.12 - - [30/Apr/2019:17:08:07 +0000] "x03" 400 0 "-" "
18:05:53	180.251.54.70 - - [30/Apr/2019:18:05:48 +0000] "GET / HTTP/1.1" 200 11229 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6) AppleWebKit/601.7.7...
19:43:12	109.94.121.118 - - [30/Apr/2019:19:43:07 +0000] "GET / HTTP/1.1" 200 11173 "-" Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML...
19:45:45	183.178.64.143 - - [30/Apr/2019:19:45:44 +0000] "GET /mysql/admin/index.php?lang=en HTTP/1.1" 404 458 "-" Mozilla/5.0 (Windows NT 10.0; Win64; >
19:45:45	183.178.64.143 - - [30/Apr/2019:19:45:44 +0000] "GET /mysql/dbadmin/index.php?lang=en HTTP/1.1" 404 460 "-" Mozilla/5.0 (Windows NT 10.0; Win64; >
19:45:46	183.178.64.143 - - [30/Apr/2019:19:45:45 +0000] "GET /mysql/sqlmanager/index.php?lang=en HTTP/1.1" 404 463 "-" Mozilla/5.0 (Windows NT 10.0; Wi
19:45:47	183.178.64.143 - - [30/Apr/2019:19:45:46 +0000] "GET /mysql/mysqlmanager/index.php?lang=en HTTP/1.1" 404 465 "-" Mozilla/5.0 (Windows NT 10.0;
19:45:47	183.178.64.143 - - [30/Apr/2019:19:45:46 +0000] "GET /phpmyadmin/index.php?lang=en HTTP/1.1" 404 457 "-" Mozilla/5.0 (Windows NT 10.0; Win64; >
19:45:48	183.178.64.143 - - [30/Apr/2019:19:45:47 +0000] "GET /phpMyadmin/index.php?lang=en HTTP/1.1" 404 457 "-" Mozilla/5.0 (Windows NT 10.0; Win64; >

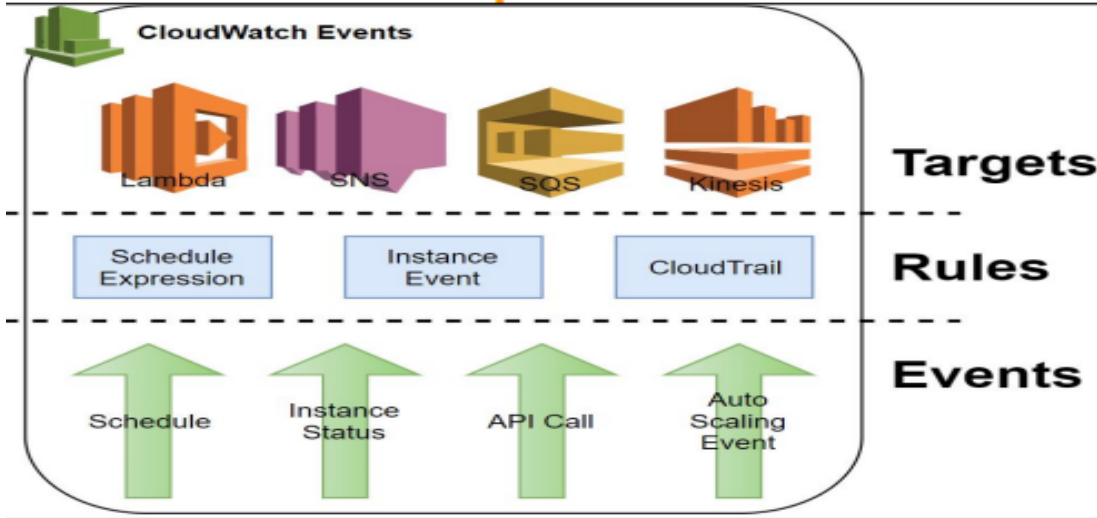
- **Logs:** Logs let you monitor, store, and access your log files from AWS or other resources. It also allows you to centralize these logs for querying and analyzing.

➤ Bilgi dizay etme, sıralama, istatistik bilgi



CloudWatch

Basic Components



Amazon EventBridge

Events: An event indicates changes in your AWS environment. You create rules that self-trigger on an automated schedule.

Now it can be used in new service named “Amazon EventBridge”

› Bir takım olaylar gözlemlene, bakma ,zaman,olay,hadise



CloudWatch Alarms

- You can create an alarm to monitor any Amazon CloudWatch metric in your account. This can include EC2 CPU Utilization, Elastic Load Balancer Latency or even the charges on your AWS bill. You can set the appropriate thresholds in which to trigger the alarms and also set What actions should be taken if an alarm state is reached.





Pricing

Free tier

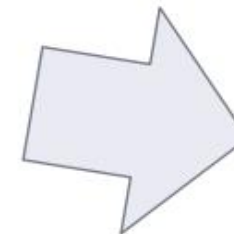
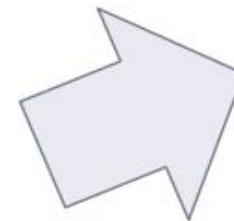
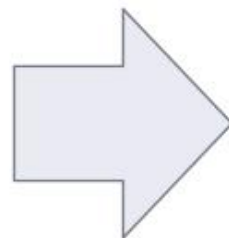
You can get started with Amazon CloudWatch for free. Most AWS Services (EC2, S3, Kinesis, etc.) send metrics automatically for free to CloudWatch. Many applications should be able to operate within these free tier limits. You can learn more about AWS Free Tier [here](#).

Metrics	Basic Monitoring Metrics (at 5-minute frequency)
	10 Detailed Monitoring Metrics (at 1-minute frequency)
	1 Million API requests (not applicable to GetMetricData and GetMetricWidgetImage)
Dashboard	3 Dashboards for up to 50 metrics per month
Alarms	10 Alarm metrics (not applicable to high-resolution alarms)
Logs	5GB Data (ingestion, archive storage, and data scanned by Logs Insights queries)
Events	All events except custom events are included
Contributor Insights	1 Contributor Insights rule per month
	The first one million log events that match the rule per month
Synthetics	100 canary runs per month



Part 3 - Creating an Alarm

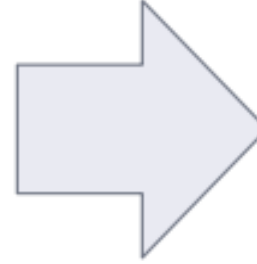
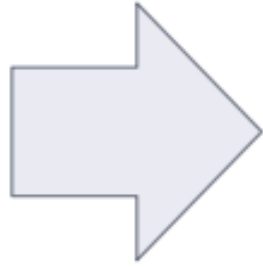
can trigger



- triggered by **exceeding the limits**



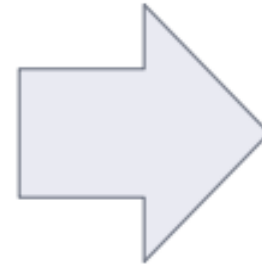
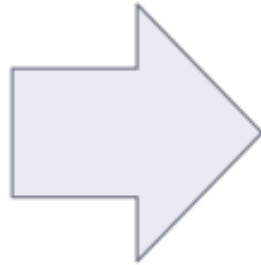
- everyday 7:00 am



Part 4 - Creating an Events with Lambda-2



- everyday 18:00 pm



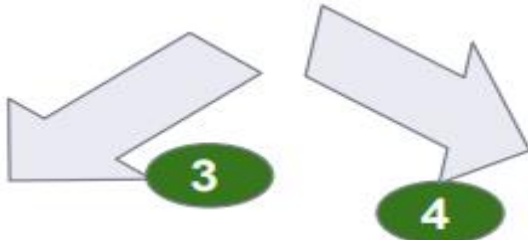
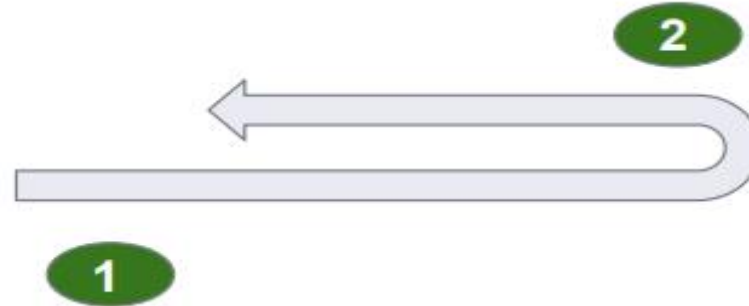
LOGS

Part 5 - Creating Agent

CloudWatchAgent



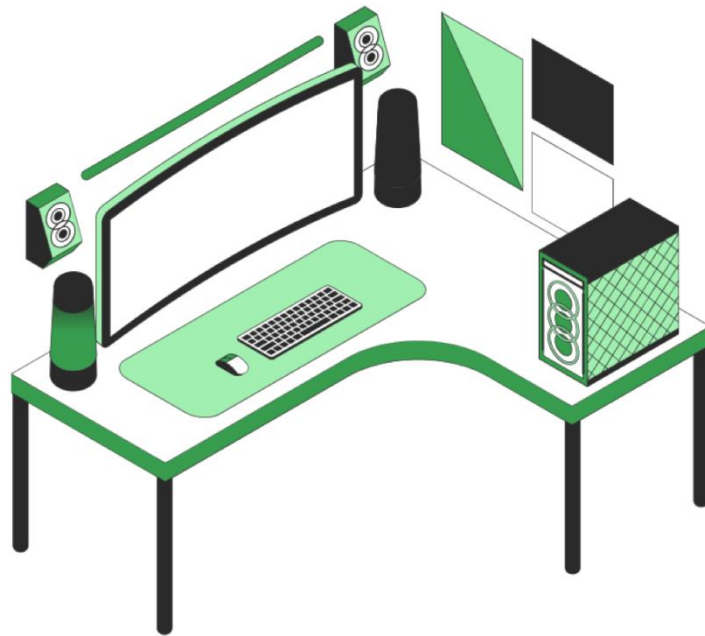
Amazon CloudWatch



NGINX

instance logs
(`/var/log/messages`)

1. access logs of nginx
2. error logs of nginx



Do you
have any
questions?

Send it to us! We hope you learned
something new.