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Amazon Simple Queue Service (SQS), dağıtılmış sistemleri ve sunucusuz uygulamaları birbirinden ayırmanıza ve ölçeklendirmenize imkan tanıyan, tam olarak yönetilen bir iletileri kuyruğa alma hizmetidir. SQS, mesajlaşmaya yönelik ara yazılımları yönetmenin ve işletmenin getirdiği karmaşıklık ile ek iş yükünü ortadan kaldırarak geliştiricilerin farklı işlere odaklanmasına imkan tanır. SQS ile ileti kaybı yaşamadan veya diğer hizmetlerin erişilebilir olmasına gereksinim duymadan yazılım bileşenleri arasında dilediğiniz hacimde ileti gönderebilir, depolayabilir ve alabilirsiniz. AWS konsolunu, tercih ettiğiniz Komut Satırı Arabirimini veya SDK'yı ve üç basit komutu kullanarak SQS'yi dakikalar içinde kullanmaya başlayabilirsiniz.

SQS iki tür ileti kuyruğu sunar. Standart kuyruklar tarafından en yüksek aktarım hızı, en iyi çaba ilkesine göre sıralama ve en az bir kez teslim olanakları sunulur. SQS FIFO kuyrukları, iletilerin tam olarak bir kez ve tam olarak gönderildikleri sırada işlenmesi konusunda güvence sağlayacak şekilde tasarlanmıştır.==> <https://aws.amazon.com/tr/sqs/>

SQS servisi Elastic Load Balancer' a bir alternatif servis diyebiliriz

► SQS

What is SQS?



- Amazon **Simple Queue Service (SQS)** is a fully managed **message queuing service** that enables you to decouple and scale microservices, distributed systems, and serverless applications.

► SQS

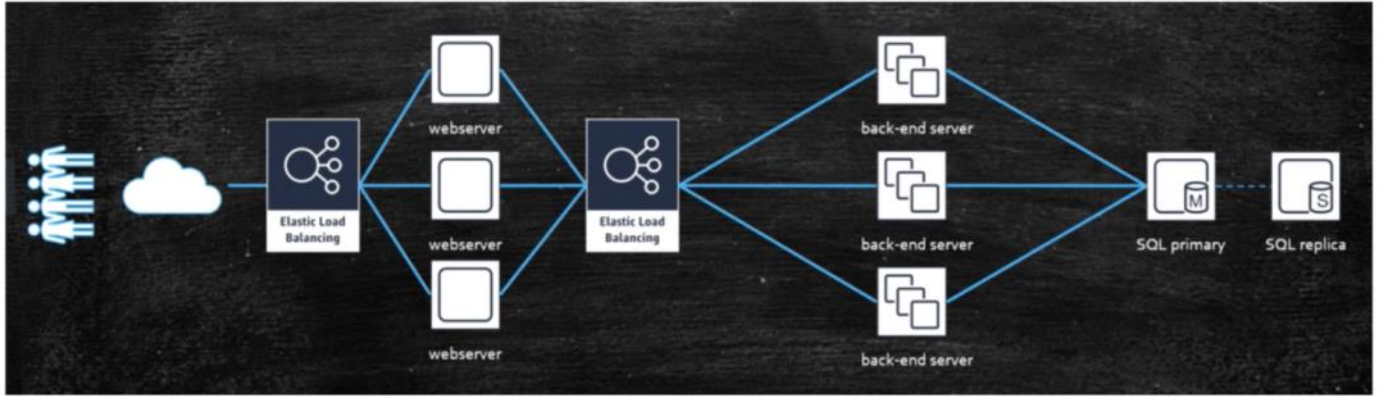
What is SQS?



Producer	Client, application, mesaj gonderen taraf
Consumer	Mesaji isleyen taraf

► SQS

What is SQS?

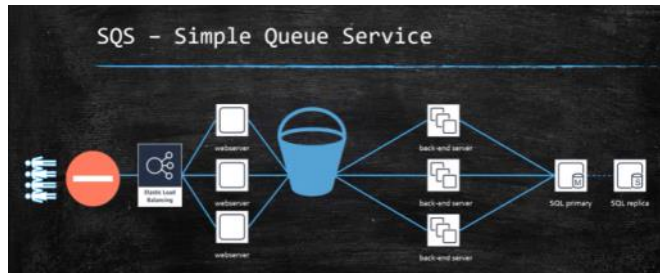


Online otel hizmeti

Kullanıcılar front end e bağlanıp rezervasyon işlemi ve kredi kartı işlemleri yapacak.

Front end back end e yonlendirecek. Back end de cevap verilecek mesajlari front end e diger kismini da database ye gonderecek

Normalde arada load balancerlar var ve yuku dengelemektedir. Ya yuk artar ve load balancer gibi dengeleyicilerde yuku karsilayamazlarsa. Yuk artarsa front end talepleri back end e ulasamayacak ve islem gerceklesemedi hatasi doner



SQS yukaridaki gorseldeki gibi gelen mesajlari beklettigi bir kova sistemi uygulamaktadır. Ve musteriye isleminiz yapiliyor bir sure bekleyiniz seklinde bilgilendirme yapilmaktadır (artik musteriye hata mesajı gitmemektedir)

<https://aws.amazon.com/sqs/>

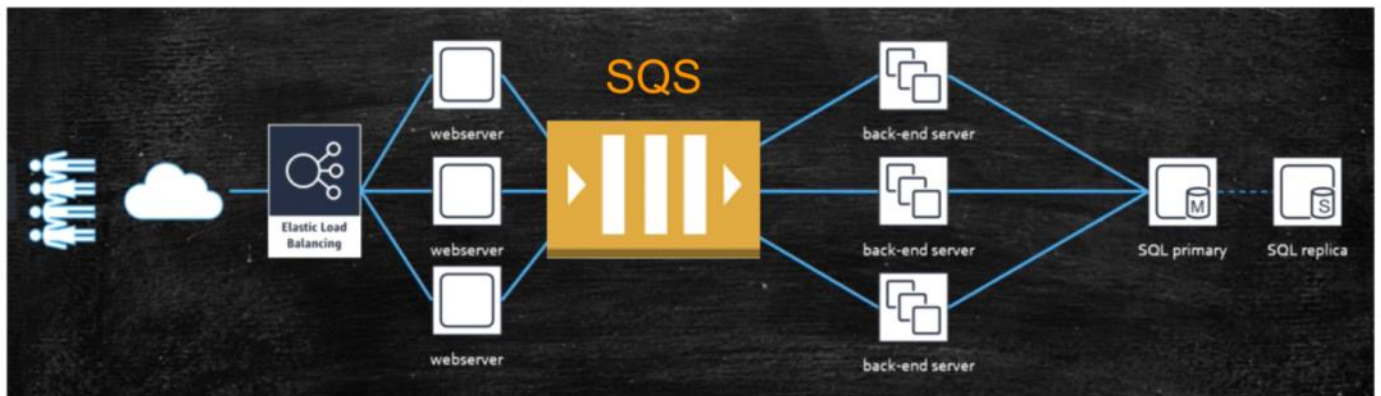
Amazon Simple Queue Service (SQS), mikroservisleri, dağıtılmış sistemleri ve sunucu olmayan uygulamaları ölçeklendirmenize olanak tanıyan tam yönetilen bir mesajlaşma hizmetidir. SQS, karmaşık aracılık ve üst düzey yönetim gereken yazılımlar arası mesajlaşma işlemlerini basit ve etkili hale getirir.

SQS

What is SQS?



Decoupling



Load balancer yerine SQS eklenmiş oldu ve belli bir süreliğine mesajları muhafaza edebiliriz (14 gün)

What is decouple SQS?

SQS lets you decouple application components so that they run and fail independently, increasing the overall fault tolerance of the system. Multiple copies of every message are stored redundantly across multiple availability zones so that they are available whenever needed.

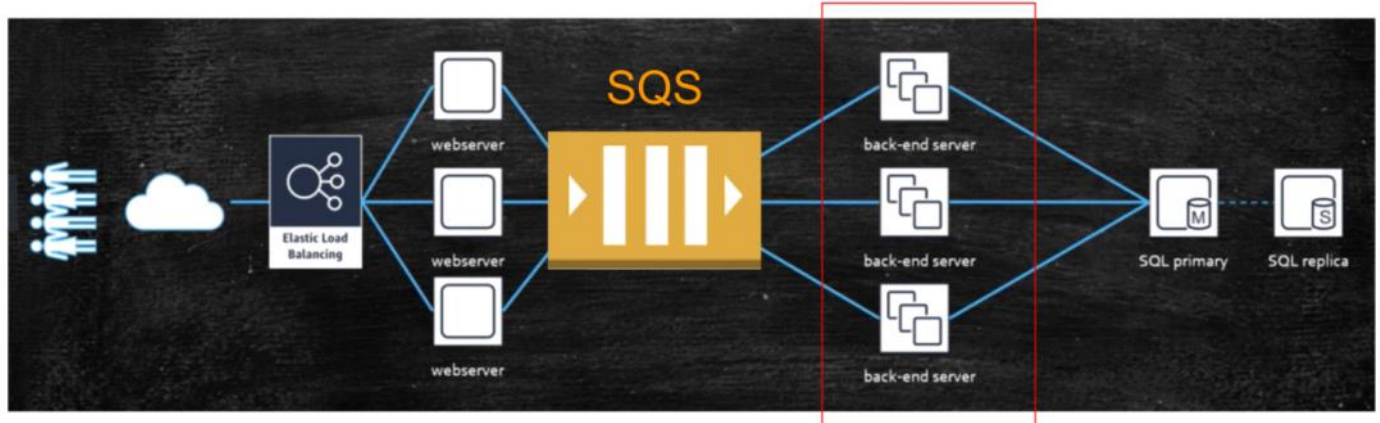
SQS

What is SQS?

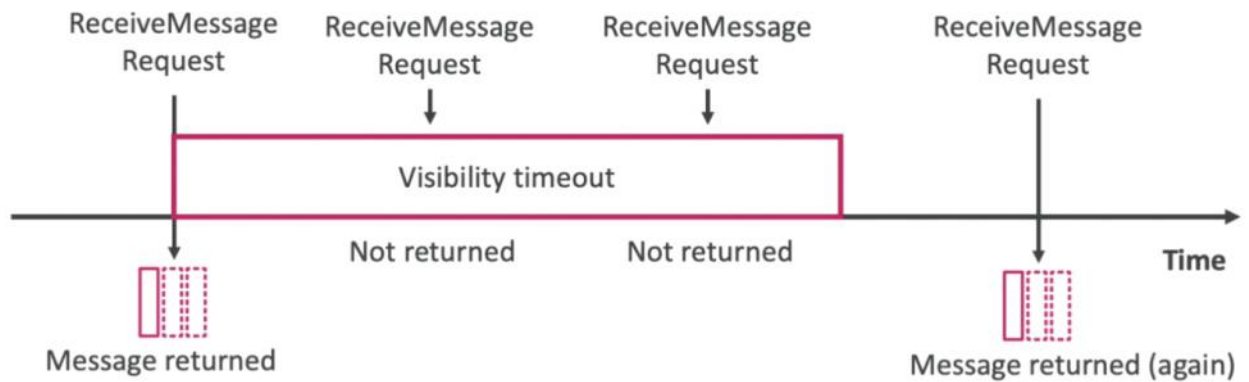


CloudWatch Metric – Queue Length
ApproximateNumberOfMessages

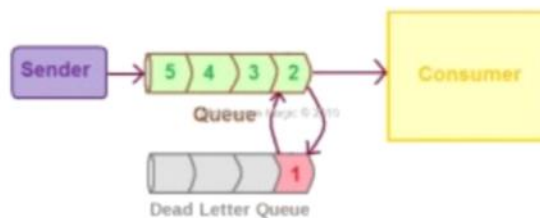
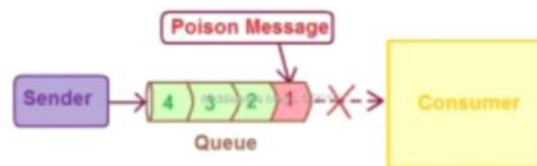
ASG



► SQS Message Visibility Timeout



► SQS Dead Letter Queue (DLQ)



Standard Queue

High Throughput: Standard queues have nearly-unlimited transactions per second (TPS).

At-Least-Once Delivery: A message is delivered at least once, but occasionally more than one copy or a message is delivered.

Best-Effort Ordering: Occasionally, messages are delivered in an order different from which they were sent.

Send data between applications when the throughput is important, for example:

- Decouple live user requests from intensive background work: let users upload media while resizing or encoding it.
- Allocate tasks to multiple worker nodes: process a high number of credit card validation requests.
- Batch messages for future processing: schedule multiple entries to be added to a database.

FIFO Queue

First-In-First-out Delivery: The order in which messages are sent and received is strictly preserved.

Exactly-Once Processing: A message is guaranteed to be delivered at least once, but all duplicates of the message are removed.

Limited Throughput: 300 transactions per second (TPS).

Send data between applications when the order of events is important, for example:

- Ensure that user-entered commands are executed in the right order.
- Display the correct product price by sending price modifications in the right order.
- Prevent a student from enrolling in a course before registering for an account.

Standard vs. FiFo

Standard

- Saniyede sınırsız yakın işlem kapasitesi
- Mesajın tek bir defa iletilmesi ve giriş çıkış sırası garanti değil



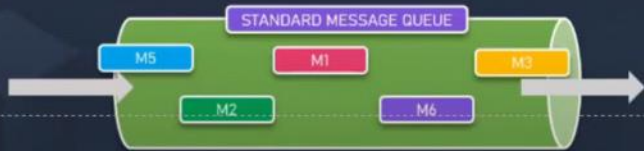
FiFo

- Saniyede 300 mesaj işleme kapasitesi, batch request ile bu 3000 mesaja kadar çıkabilir
- İlk giren mesaj ilk işlenir-FIFO
- Mesajın tek sefer işleneceği garanti edilir



STANDARD QUEUE

- **Unlimited Throughput:** Support a nearly unlimited number of transactions per second (TPS) per API action.
- **At-Least-Once Delivery:** A message is delivered at least once, but occasionally more than one copy of a message is delivered.
- **Best-Effort Ordering:** Occasionally, messages might be delivered in an order different from which they were sent.

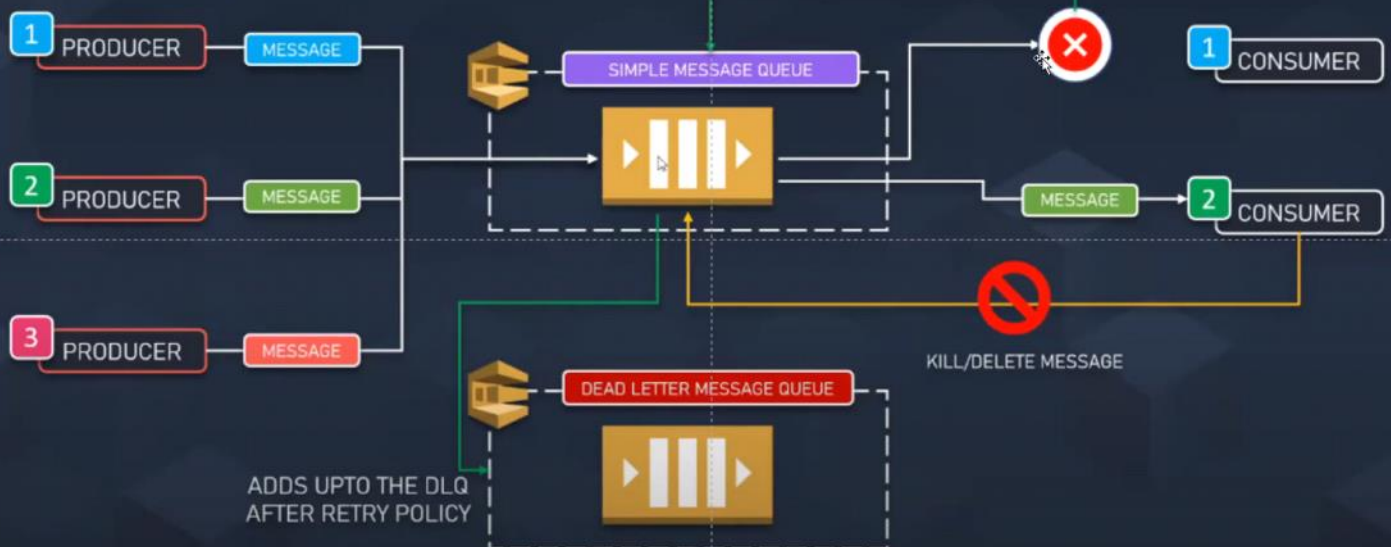


FIFO QUEUE

- **High Throughput:** By default, FIFO queues support up to 300 messages per second.
- **Exactly-Once Processing:** A message is delivered once and remains available until a consumer processes and deletes it.
- **Duplicates aren't introduced into the queue.**
- **First-In-First-Out Delivery:** The order in which messages are sent and received is strictly preserved.



Dead Letter Queue



► SQS Pricing



- Pay only for what you use
- AWS **Free Tier** includes **1 million requests** with Amazon Simple Queue Service (SQS).

<https://aws.amazon.com/sqs/pricing/>

2

SNS

SNS

What is SNS?



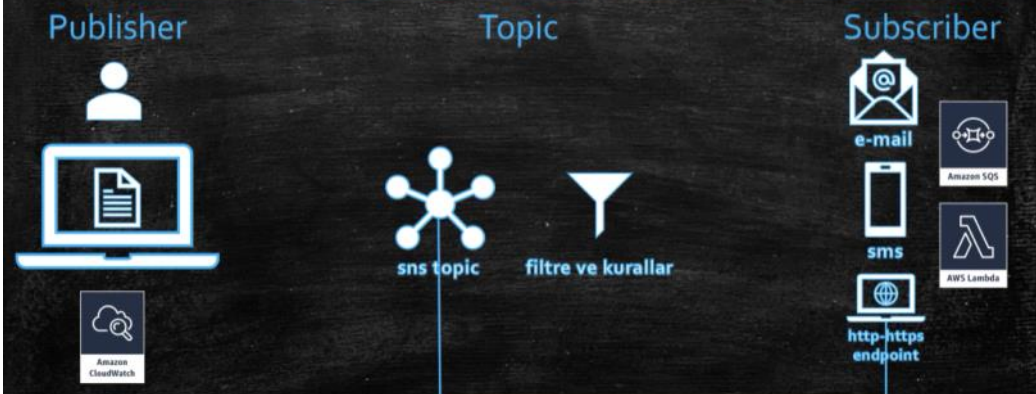
Amazon
SNS

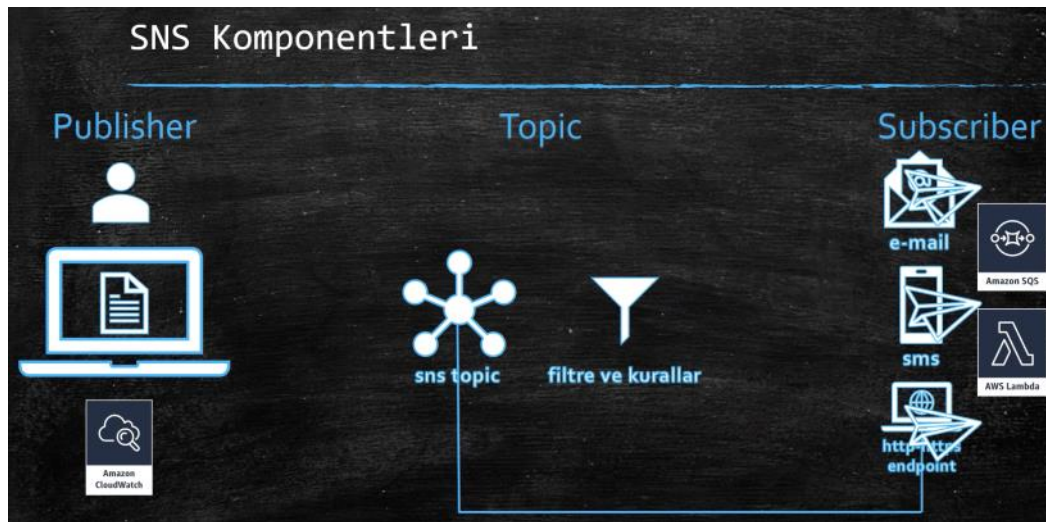
- Amazon **Simple Notification Service** (Amazon SNS) is a managed service that provides message delivery from **publishers** to **subscribers** (also known as **producers** and **consumers**).

<https://aws.amazon.com/sns/>

Amazon Simple Notification Service (SNS), mesajların uç noktalara ve müşterilere abone olarak almalarını sağlamak için esnek, tamamen yönetilen bir hub/alt mesajlaşma ve mobil bildirimler servisi. SNS ile, dağıtılmış sistemler ve hizmetler ve mobil cihazlar dahil olmak üzere çok sayıda aboneye mesaj gönderebilirsiniz. Tüm uç noktalarınıza her ölçekte bildirim göndermek, işletmek ve güvenilir şekilde göndermek kolaydır.

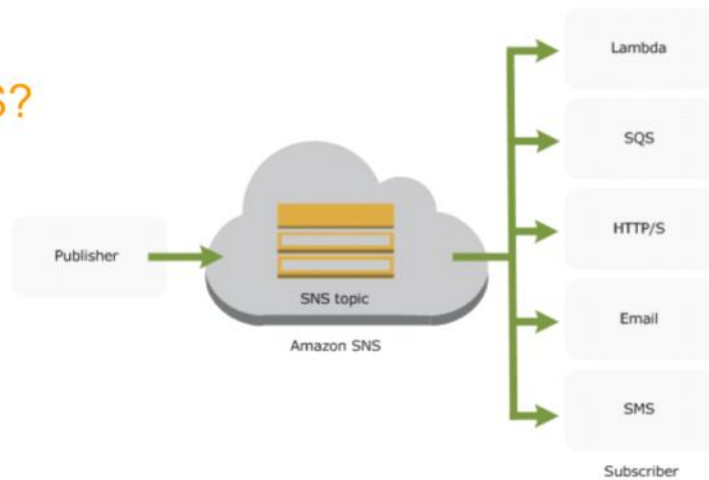
SNS Komponentleri





► SNS

What is SNS?



- Clients can subscribe to the **SNS topic** and receive published messages using a supported protocol, such as Amazon SQS, AWS Lambda, HTTP, email, mobile push notifications, and mobile text messages (SMS).

► SNS

What is SNS?

Application-to-Application (A2A)



► SNS

What is SNS?

Application-to-Person (A2P)



Bir topic oluşturuluyor ve aynı anda birden çok kullanıcıya gönderebiliyoruz.

► SNS

What is SNS?

SNS is integrated with many AWS Services

- CloudWatch (Alarms/Events)
- S3 (Bucket Events)
- CloudFormation (State changes etc.)
- Auto Scaling Groups
- And many others **can invoke SNS.**

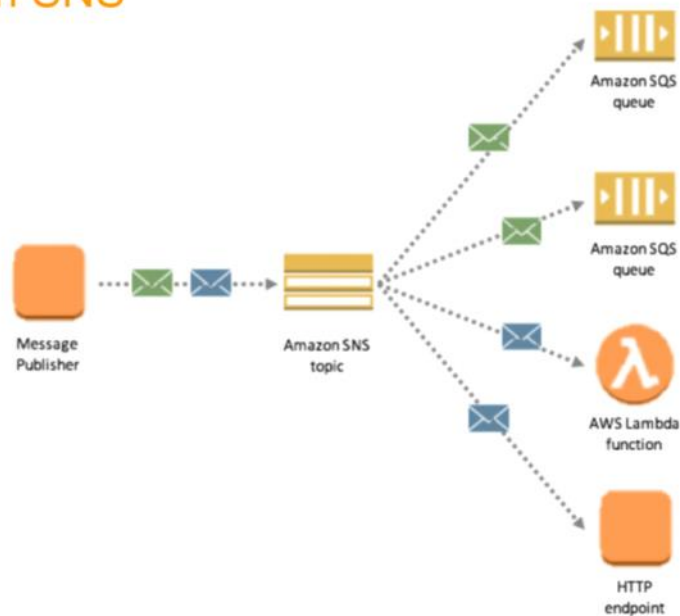
SNS

What is SNS?



SNS

Fan Out with SNS



► SNS Pricing



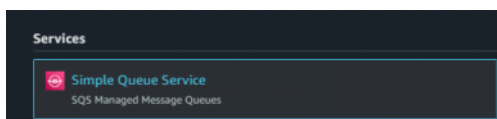
- Amazon SNS has **no upfront costs** and you can **pay as you go**. You pay based on the number of notifications you publish, the number of notifications you deliver, and any additional API calls for managing topics and subscriptions. Delivery **pricing varies by endpoint type**. You can get started for free with the SNS free tier.

<https://aws.amazon.com/sns/pricing/>

► SQS & SNS Hands on

- Hands-on!!!
- Let's go to the AWS Management Console

SQS Hands-on



Create queue

Amazon SQS > Queues > Create queue

Create queue

Details

Type
Choose the queue type for your application or cloud infrastructure.

You can't change the queue type after you create a queue.

☒ **Standard** Info

At-least-once delivery, message ordering isn't preserved

- At-least-once delivery
- Best-effort ordering

☐ **FIFO** Info

First-in-first-out delivery, message ordering is preserved

- First-in-first-out delivery
- Exactly-once processing

Name

My-First-Queue

A queue name is case-sensitive and can have up to 80 characters. You can use alphanumeric characters, hyphens (-), and underscores (_).

<https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-delay-queues.html>

Configuration

Set the maximum message size, visibility to other consumers, and message retention. [Info](#)

Visibility timeout [Info](#)
 Seconds ▼
Should be between 0 seconds and 12 hours.

Message retention period [Info](#)
 Days ▼
Should be between 1 minute and 14 days.

Delivery delay [Info](#)
 Seconds ▼
Should be between 0 seconds and 15 minutes.

Maximum message size [Info](#)
 KB
Should be between 1 KB and 256 KB.

Receive message wait time [Info](#)
 Seconds
Should be between 0 and 20 seconds.

Access policy

Define who can access your queue. [Info](#)

Choose method

☒ **Basic**
Use simple criteria to define a basic access policy.

☐ **Advanced**
Use a JSON object to define an advanced access policy.

Define who can send messages to the queue

☒ **Only the queue owner**
Only the owner of the queue can send messages to the queue.

☐ **Only the specified AWS accounts, IAM users and roles**
Only the specified AWS account IDs, IAM users and roles can send messages to the queue.

Define who can receive messages from the queue

☒ **Only the queue owner**
Only the owner of the queue can receive messages from the queue.

☐ **Only the specified AWS accounts, IAM users and roles**
Only the specified AWS account IDs, IAM users and roles can receive messages from the queue.

JSON (read-only)

```
{
  "Version": "2008-10-17",
  "Id": "___default_policy_ID",
  "Statement": [
    {
      "Sid": "___owner_statement",
      "Effect": "Allow",
      "Principal": {
        "AWS": "000000000000"
      },
      "Action": [
        "SQS:*"
      ],
      "Resource": "arn:aws:sqs:us-east-1:000000000000:My-First-Queue"
    }
  ]
}
```

▼ Encryption - Optional

Amazon SQS provides in-transit encryption by default. To add at-rest encryption to your queue, enable server-side encryption. [Info](#)

Server-side encryption

☒ Disabled
☐ Enabled

▼ Dead-letter queue - Optional

Send undeliverable messages to a dead-letter queue. [Info](#)

Set this queue to receive undeliverable messages.

☒ Disabled
☐ Enabled

▼ Tags - Optional

A tag is a label assigned to an AWS resource. Use tags to search and filter your resources or track your AWS costs. [Learn more](#)

Key	Value - optional	
<input type="text" value="Enter key"/>	<input type="text" value="Enter value"/>	<input type="button" value="Remove"/>

You can add 40 more tags.

Manuel olarak mesaj gonderecegiz

Send message [Info](#)

Message body
Enter the message to send to the queue.

this is my first Queue

Send message diyelim

✔ Your message has been sent and is ready to be received.

Menusune basınca bir tane mesaj geldigini gorebiliriz

Poll ==> mesajı request sayesinde consumer a gonderiliyor yani cekiliyor

Receive messages

Info

Edit poll settings

Stop polling

Poll for messages

Messages available3

Polling duration30

Maximum message count10

Polling progress0.1 receives/second

Messages (3)

View details

Delete

Search messages

< 1 >

<input type="checkbox"/>	ID	Sent	Size	Receive count
<input type="checkbox"/>	7ac2510d-3ac1-4bef-8074-8e0fa88487a8	8/18/2021, 20:44:53 GMT+3	23 bytes	2
<input type="checkbox"/>	ac952bac-7f98-46c8-b470-74d8e8fedbb5	8/18/2021, 20:42:00 GMT+3	22 bytes	3
<input type="checkbox"/>	24d90623-6b03-44b8-a47e-011d9692d157	8/18/2021, 20:44:58 GMT+3	22 bytes	1

Gonderdigim diger mesajlar

<https://aws.amazon.com/blogs/compute/building-loosely-coupled-scalable-c-applications-with-amazon-sqs-and-amazon-sns/>

Receive messages

Info

Edit poll settings

Stop polling

Poll for messages

Messages available3

Polling duration30

Maximum message count10

Polling progress1.5 receives/second

Messages (3)

View details

Delete

Search messages

< 1 >

<input checked="" type="checkbox"/>	ID	Sent	Size	Receive count
<input checked="" type="checkbox"/>	7ac2510d-3ac1-4bef-8074-8e0fa88487a8	8/18/2021, 20:44:53 GMT+3	23 bytes	3
<input checked="" type="checkbox"/>	ac952bac-7f98-46c8-b470-74d8e8fedbb5	8/18/2021, 20:42:00 GMT+3	22 bytes	4
<input checked="" type="checkbox"/>	24d90623-6b03-44b8-a47e-011d9692d157	8/18/2021, 20:44:58 GMT+3	22 bytes	2

Delete menu ile silebiliriz

Bir tane Lambda function olusturacagiz

Lambda > Functions

Functions (0)

Last fetched in 0 seconds

Actions

Create function

Filter by tags and attributes or search by keyword

< 1 >

Function name	Description	Package type	Runtime	Code size	Last modified
---------------	-------------	--------------	---------	-----------	---------------

There is no data to display.

Aws nin bize hazir sundugu template/function kullanacagiz

Author from scratch

Use a blueprint

Container image

Browse serverless app repository

Sqs yazip enter diyelim

Blueprints

Info

Export

Filter by tags and attributes or search by keyword

1 match

< 1 >

sq*

Clear filters

sq*-poller

An Amazon SQS trigger that logs messages in a queue.

nodejs - sqs

Cancel

Configure

sq*-poller

An Amazon SQS trigger that logs messages in a queue.

nodejs - sqs

Cancel

Configure

Basic information [info](#)

Function name

Execution role
 Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☐ Create a new role with basic Lambda permissions
☐ Use an existing role
☒ Create a new role from AWS policy templates

Role name
 Enter a name for your new role.

 Use only letters, numbers, hyphens, or underscores with no spaces.

Policy templates - optional [info](#)
 Choose one or more policy templates.

Permission otomatik geldi

SQS queue
 Choose or enter the ARN of an SQS queue.

Yukariya tikladigimizda my first queue otomatik geliyor

SQS trigger

SQS queue
 Choose or enter the ARN of an SQS queue.

Batch size
 The maximum number of messages to retrieve in a single batch.

Batch window
 The maximum amount of time to gather records before invoking the function, in seconds.

In order to read from the SQS trigger, your execution role must have proper permissions.

☒ Enable trigger
 Enable the trigger now, or create it in a disabled state for testing (recommended).

Lambda function code
 Code is preconfigured by the chosen blueprint. You can configure it after you create the function. [Learn more](#) about deploying Lambda functions.

Runtime
 Node.js 12.x

```


1 console.log('Loading function');
2
3 exports.handler = async (event) => {
4   //console.log('Received event:', JSON.stringify(event, null, 2));
5   for (const { messageId, body } of event.records) {
6     console.log('SQS message %s: %s', messageId, body);
7   }
8   return 'Successfully processed ${event.Records.length} messages.';
9 };
10


```


Create function

Function olustur ve triger da sqs

Function overview [info](#)

 **sqs-poller**

 Layers (0)

 **SQS**

Configure test event

A function can have up to 10 test events. The events are persisted so you can switch to another computer or web browser and test your function with the same events.

☒ Create new test event
 ☐ Edit saved test events

Event template

sqs-receive-message

Event name

event

```

1 {
2   "records": [
3     {
4       "messageId": "19dd0b57-b21e-4ac1-bd88-01bb068cb78",
5       "receiptHandle": "MessageReceiptHandle",
6       "body": "Hello from SQS!",
7       "attributes": {
8         "ApproximateReceiveCount": "1",
9         "SentTimestamp": "1523232000000",
10        "SenderId": "123456789012",
11        "ApproximateFirstReceiveTimestamp": "1523232000001"
12      },
13      "messageAttributes": {},
14      "md5OfBody": "({{md5_of_body}})",
15      "eventSource": "aws:sqs",
16      "eventSourceARN": "arn:aws:sqs:us-east-1:123456789012:MyQueue",
17      "awsRegion": "us-east-1"
18    }
19  ]
20 }
```

Cancel

Format JSON

Create

- Create and test

Code source

File Edit Find View Go Tools Window

Test

Deploy

Changes deployed

Go to Anything (Ctrl-P)

index.js

Execution result

Environment

sqs-poller

index.js

Test Event Name

event

Status: Succeeded

Max memory used: 64 MB

Time: 18.00 ms

Response

"Successfully processed 1 messages."

Function Logs

```

START RequestId: 2eb59428-ba7b-4355-a78a-3e757bfff5675 Version: $LATEST
2021-08-18T18:18:07.742Z undefined INFO Loading function
2021-08-18T18:18:07.747Z 2eb59428-ba7b-4355-a78a-3e757bfff5675 INFO SQS message 19dd0b57-b21e-4ac1-bd88-01bb068cb78: "Hello from SQS!"
END RequestId: 2eb59428-ba7b-4355-a78a-3e757bfff5675
REPORT RequestId: 2eb59428-ba7b-4355-a78a-3e757bfff5675 Duration: 18.00 ms Billed Duration: 18 ms Mem
Request ID
2eb59428-ba7b-4355-a78a-3e757bfff5675

```

Code

Test

Monitor

Configuration

Aliases

Versions

Execution result: succeeded (logs)

Details

The area below shows the result returned by your function execution. [Learn more about returning results from your function.](#)

"Successfully processed 1 messages."

Summary

Code SHA-256

RznH5Dt7KucDsJUrKpa6v0bBJ2eZGICQ5rFTQ69ORkg=

Request ID

9e53b62c-4793-4d7c-a93e-85937520ff39

Duration

27.61 ms

Billed duration

28 ms

Resources configured

128 MB

Max memory used

65 MB

Log output

The section below shows the logging calls in your code. [Click here](#) to view the corresponding CloudWatch log group.

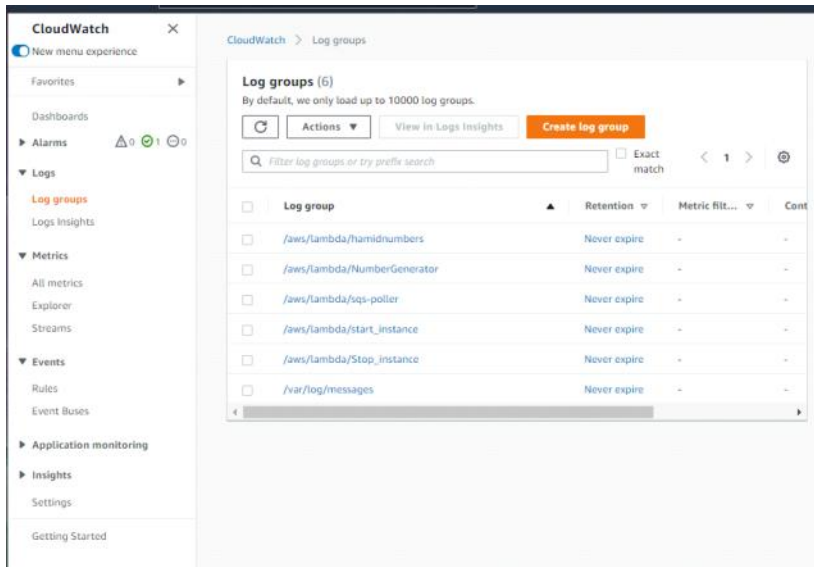
```

START RequestId: 9e53b62c-4793-4d7c-a93e-85937520ff39 Version: $LATEST
2021-08-18T18:12:09.124Z 9e53b62c-4793-4d7c-a93e-85937520ff39 INFO SQS message 19dd0b57-b21e-4ac1-bd88-01bb068cb78: "Hello from SQS!"
END RequestId: 9e53b62c-4793-4d7c-a93e-85937520ff39
REPORT RequestId: 9e53b62c-4793-4d7c-a93e-85937520ff39 Duration: 27.61 ms Billed Duration: 28 ms Memory Size: 128 MB Max Memory Used: 65 MB

```

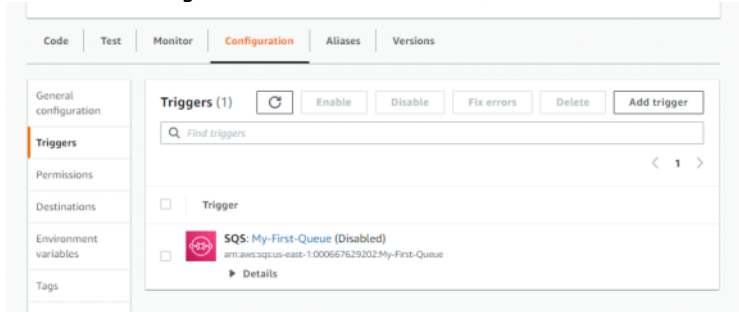
Cloudwatch ekranina gidelim

AWS Page 16

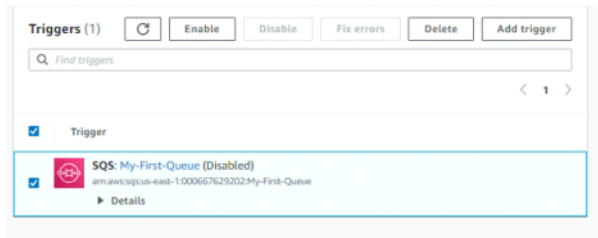


Sqs-poller adi altinda log grubunun olustugunu gorebilirsiniz

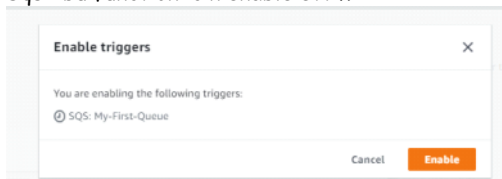
Lambda ekranina gidelim



Enable edelim



Sqs i bu function icin enable ettik



Amacimiz : biz consumer yerine lambda yi configure ettik. Mesaj koydugumuzda consumer yerine lambda mesaji cekecek ve cloudwatch e yazacak.

BMW Group, sürücülerine dinamik olarak güncellenen harita bilgileri sunmak için BMW 7 Serisi araçlardan sensör verilerini toplayan bağlı araç uygulaması için AWS'yi kullanıyor. BMW, sensör olarak araç (CARASSO) adını verdiği yeni hizmetini Amazon SQS, Amazon S3, Amazon DynamoDB, Amazon RDS ve AWS Elastic Beanstalk'tan yararlanarak yalnızca altı ayda oluşturdu.

Amazon SQS > Queues > My-First-Queue

My-First-Queue

Edit Delete Purge Send and receive messages

Details Info

Name	Type	ARN
My-First-Queue	Standard	arn:aws:sqs:us-east-1:000667629202:My-First-Queue
Encryption	URL	Dead-letter queue
-	https://sqs.us-east-1.amazonaws.com/000667629202/My-First-Queue	-

► More

SNS subscriptions **Lambda triggers** Dead-letter queue Monitoring Tagging Access policy Encryption

Lambda triggers (1) Info

View In Lambda Delete Configure Lambda function trigger

Search triggers

UUID	ARN	Status	Last modified
f122d59c-cfbc-4e62-ad4d-2cbe4d8a6921	arn:aws:lambda:us-east-1:000667629202:function:sqs-poller	Enabled	8/18/2021, 9:16:48 PM

Amazon SQS > Queues > My-First-Queue > Send and receive messages

Send and receive messages

Send messages to and receive messages from a queue.

Send message Info

Clear content Send message

Message body
Enter the message to send to the queue.

This message is sent from sqs to trigger lambda

Delivery delay Info

0

Sec... ▾

Should be between 0 seconds and 15 minutes.

► Message attributes - Optional Info

Receive messages Info

Edit poll settings Stop polling Poll for messages

Messages available	Polling duration	Maximum message count	Polling progress
0	30	10	0 receives/second 0%

View details Delete

Messages (0)

Search messages

ID	Sent	Size	Receive count
No messages. To view messages in the queue, poll for messages.			

Poll for messages

Lambda da mesaj log kayitlarini gorebiliriz

Send diyelim

Send and receive messages

Send messages to and receive messages from a queue.

Send message Info

Clear content Send message

Message body
Enter the message to send to the queue.

hello this is new message

Delivery delay Info

0

CloudWatch > Log groups > /aws/lambda/sqs-poller >
2021/08/18/[5LATEST]0f01753a14624816b5251b6653a873dc

Log events
You can use the filter bar below to search for and match terms, phrases, or values in your log events. [Learn more about filter patterns](#)

☐ View as text

1m 30m 1h 12h Custom

Timestamp	Message
No older events at this moment. Retry	
▶ 2021-08-18T21:25:33.736+03:00	START RequestId: d1a7ed08-ed53-5df2-8c64-b49fbf8ac42e Vers...
▶ 2021-08-18T21:25:33.738+03:00	2021-08-18T18:25:33.735Z undefined INFO Loading function
▶ 2021-08-18T21:25:33.740+03:00	2021-08-18T18:25:33.740Z d1a7ed08-ed53-5df2-8c64-b49fbf8ac...
▶ 2021-08-18T21:25:33.759+03:00	END RequestId: d1a7ed08-ed53-5df2-8c64-b49fbf8ac42e
▶ 2021-08-18T21:25:33.759+03:00	REPORT RequestId: d1a7ed08-ed53-5df2-8c64-b49fbf8ac42e Dur...
▶ 2021-08-18T21:28:19.420+03:00	START RequestId: 2622f80b-2554-5906-b225-a127762dbb0a Vers...
▶ 2021-08-18T21:28:19.479+03:00	2021-08-18T18:28:19.680Z 2622f80b-2554-5906-b225-a127762db...
▶ 2021-08-18T21:28:19.681+03:00	END RequestId: 2622f80b-2554-5906-b225-a127762dbb0a
▶ 2021-08-18T21:28:19.681+03:00	REPORT RequestId: 2622f80b-2554-5906-b225-a127762dbb0a Dur...
▶ 2021-08-18T21:29:23.340+03:00	START RequestId: 2d0570b0-bfbc-5a2c-ac8a-292cecb4a92 Vers...
▼ 2021-08-18T21:29:23.380+03:00	2021-08-18T18:29:23.360Z 2d0570b0-bfbc-5a2c-ac8a-292cecb4...
2021-08-18T18:29:23.360Z	2d0570b0-bfbc-5a2c-ac8a-292cecb4a92 INFO SQS message f488b57e-f094-4c75-af0a-84b21d33009e: "hello this is new message"
▶ 2021-08-18T21:29:23.382+03:00	END RequestId: 2d0570b0-bfbc-5a2c-ac8a-292cecb4a92
▶ 2021-08-18T21:29:23.382+03:00	REPORT RequestId: 2d0570b0-bfbc-5a2c-ac8a-292cecb4a92 Dur...
No newer events at this moment. Auto retry paused Resume	

▼ 2021-08-18T21:29:23.380+03:00 2021-08-18T18:29:23.360Z 2d0570b0-bfbc-5a2c-ac8a-292cecb4...
2021-08-18T18:29:23.360Z 2d0570b0-bfbc-5a2c-ac8a-292cecb4a92 INFO SQS message f488b57e-f094-4c75-af0a-84b21d33009e: "hello this is new message"

► SQS & SNS

Hands on

- Hands-on!!!
- Let's go to the AWS Management Console

Part 1 - Creating Topic, Subscription and Publishing Message

Amazon SNS > Topics

Topics (4)

Name	Type	ARN
Billing_Notification	Standard	arn:aws:sns:us-east-1:000667629202:Billing_Notification
Clarus-alarm-sns	Standard	arn:aws:sns:us-east-1:000667629202:Clarus-alarm-sns
billingalarm	Standard	arn:aws:sns:us-east-1:000667629202:billingalarm
dynamodb	Standard	arn:aws:sns:us-east-1:000667629202:dynamodb

Create topic and standart

Details

Type [Info](#)

Topic type cannot be modified after topic is created

☐ FIFO (first-in, first-out)

- Strictly-preserved message ordering
- Exactly-once message delivery
- High throughput, up to 300 publishes/second
- Subscription protocols: SQS

☒ Standard

- Best-effort message ordering
- At-least-once message delivery
- Highest throughput in publishes/second
- Subscription protocols: SQS, Lambda, HTTP, SMS, email, mobile application endpoints

Name

Demo-Topic

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_).

Display name - optional

To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message. [Info](#)

My-First-Topic

Maximum 100 characters, including hyphens (-) and underscores (_).

► Encryption - optional

Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic. [Info](#)

► Access policy - optional

This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic. [Info](#)

► Delivery retry policy (HTTP/S) - optional

The policy defines how Amazon SNS retries failed deliveries to HTTP/S endpoints. To modify the default settings, expand this section. [Info](#)

► Delivery status logging - optional

These settings configure the logging of message delivery status to CloudWatch Logs. [Info](#)

► Tags - optional

A tag is a metadata label that you can assign to an Amazon SNS topic. Each tag consists of a key and an optional value. You can use tags to search and filter your topics and track your costs. [Learn more](#)

Cancel

Create topic

Create subscription

Amazon SNS > Subscriptions > Create subscription

Create subscription

Details

Topic ARN

arn:aws:sns:us-east-1:000667629202:Demo-Topic

Protocol

The type of endpoint to subscribe

Email

Endpoint

An email address that can receive notifications from Amazon SNS.

hamidgokce@gmail.com

After your subscription is created, you must confirm it. [Info](#)

► Subscription filter policy - optional

This policy filters the messages that a subscriber receives. [Info](#)

► Redrive policy (dead-letter queue) - optional

Send undeliverable messages to a dead-letter queue. [Info](#)

Cancel

Create subscription

Create subscription

Pending statusunde oldugunu gorebiliriz

<input type="radio"/>	Pending confirmation	hamidgokce@gmail.com	<input type="radio"/>	Pending confirmation	EMAIL	Demo-Topic
-----------------------	----------------------	----------------------	-----------------------	----------------------	-------	------------

Mail olarak confirmation message gelecek

AWS Notification - Subscription Confirmation

My-First-Topic <no-reply@sns.amazonaws.com>
to me

9:41 PM (0 minutes ago) ☆ ↩ ⋮

You have chosen to subscribe to the topic:
arn:aws:sns:us-east-1:000667629202:Demo-Topic

To confirm this subscription, click or visit the link below (if this was in error no action is necessary):
[Confirm subscription](#)

Please do not reply directly to this email. If you wish to remove yourself from receiving all future SNS subscription confirmation requests please send an email to [aws-pd@amazon.com](#)

Onay sonrası statü değişti

8bf2526-706a-4424-bfc0-d99aafec3e6d	hamidgokce@gmail.com	Confirmed	EMAIL	Demo-Topic
-------------------------------------	----------------------	-----------	-------	------------

Amazon SNS > Topics > Demo-Topic

Demo-Topic

Edit

Delete

Publish message

Publish message diyelim

Amazon SNS > Topics > Demo-Topic > Publish message

Publish message to topic

Message details

Topic ARN
arn:aws:sns:us-east-1:000667629202:Demo-Topic

Subject - optional

sns-test-message

Maximum 100 printable ASCII characters

Time to Live (TTL) - optional

This setting applies only to mobile application endpoints. The number of seconds that the push notification service has to deliver the message to the endpoint. [Info](#)

Message body

Message structure

☒ Identical payload for all delivery protocols.
The same payload is sent to endpoints subscribed to the topic, regardless of their delivery protocol.

☐ Custom payload for each delivery protocol.
Different payloads are sent to endpoints subscribed to the topic, based on their delivery protocol.

Message body to send to the endpoint

```
1 This is a test message for sns inclass session
2
3
```

Publish message

Message e maile (end point) gitti

Endpoint
hamidgokce@gmail.com

Primary

Social
LinkedIn

Promotions
K-Citymarket Loimas, AliExpress...

My-First-Topic **New** sns-test-message - This is a test message for sns inclass sessi... 9:45 PM

Part 2 - Creating a CloudWatch Event to Invoke SNS

CloudWatch

New menu experience

Favorites

Dashboards

Alarms

Logs

Log groups

Logs Insights

Metrics

All metrics

Explorer

Streams

Events

Rules

Event Buses

Application monitoring

Insights

Settings

Getting Started

CloudWatch Events is now Amazon EventBridge

Amazon EventBridge (formerly CloudWatch Events) provides all functionality from CloudWatch Events and also launched new features such as Custom event buses, 3rd party event sources and Schema registry to better support our customers in the space of event-driven architecture and applications.

Amazon EventBridge documentation

Rules

Rules route events from your AWS resources for processing by selected targets. You can create, edit, and delete rules.

Create rule

Actions

Status All Name << < Viewing 0 to 0 of 0 Rules > >>

Status	Name	Description
You have no rules.		

Create rule

Bir tane ec2 acalim (ozellikler onemli degil)

Step 1: Create rule

Create rules to invoke Targets based on Events happening in your AWS environment.

Event Source

Build or customize an Event Pattern or set a Schedule to invoke Targets.

Event Pattern

Schedule

Build event pattern to match events by service

Service Name EC2

Event Type EC2 Instance State-change N...

Any state

Specific state(s)

Any instance

Specific instance Id(s)

Event Pattern Preview

Copy to clipboard

Edit

```
{
  "source": [
    "aws.ec2"
  ],
  "detail-type": [
    "EC2 Instance State-change Notification"
  ]
}
```

Show sample event(s)

Targets

Select Target to invoke when an event matches your Event Pattern or when schedule is triggered.

SNS topic

Topic* Demo-Topic

Configure input

Add target*

* Required

Cancel Configure details

Configure details

Step 2: Configure rule details

Rule definition

Name* instance-state-change

Description

State ☒ Enabled

CloudWatch Events will add necessary permissions for target(s) so they can be invoked when this rule is triggered.

* Required

Cancel Back Create rule

Create rule

Rules > instance-state-change Actions

Summary

ARN arn:aws:events:us-east-1:000667629202:rule:instance-state-change

Event pattern

```
{
  "source": [
    "aws.ec2"
  ],
  "detail-type": [
    "EC2 Instance State-change Notification"
  ]
}
```

Status Enabled

Description

Monitoring Show metrics for the rule

Targets

Filter: << < Viewing 1 to 1 of 1 Targets > >>

Type	Name	Input	Role	Additional parameters
SNS topic	Demo-Topic	Matched event		

Ec2 servisine gecelim. Herhangi instance de durum degisikliginde bize mail atacak

- Instance yi stop veya start edelim

☐ My-First-Topic 2 AWS Notification Message - ("version":"0","id":"3f48547e-08ca-6... 10:08 PM

AWS Notification Message Inbox Print Link

My-First-Topic <no-reply@sns.amazonaws.com> 10:10 PM (0 minutes ago) Star Link

to me

[{"version":"0","id":"5669727e-cfac-7fce-1dab-f3b123bd839c","detail-type":"EC2 Instance State-change Notification","source":"aws.ec2","account":"000667629202","time":"2021-08-18T19:10:21Z","region":"us-east-1","resources":["arn:aws:ec2:us-east-1:000667629202:instance/i-03a66499fe1ba6d59"],"detail":{"instance-id":"i-03a66499fe1ba6d59","state":"pending"}}]

..

If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe:
<https://sns.us-east-1.amazonaws.com/unsubscribe.html?SubscriptionArn=arn:aws:sns:us-east-1:000667629202:Demo-Topic:8ab2f2526-706a-4424-bfc0-d99aafce3e6d&Endpoint=hamidpocce@gmail.com>

Please do not reply directly to this email. If you have any questions or comments regarding this email, please contact us at <https://aws.amazon.com/support>

Pending statusunde oldugunu gorebiliriz

Temizlik asaması:

Cloudwatch rule silelim

Devamli mesaj gelmesini istemiyoruz

Rules

Rules route events from your AWS resources for processing by selected targets. You can create, edit, and delete rules.

Create rule Actions

Status All Edit Delete DisableViewing 1 to 1 of 1 Rules >>

Status	Name	Description
●	instance-state-change	

Amazon SNS > Topics

Topics (5) Edit Delete Publish message Create topic

Search

< 1 > ⊙

Name	Type	ARN
<input type="radio"/> Billing_Notification	Standard	arn:aws:sns:us-east-1:000667629202:Billing_Notification
<input type="radio"/> Clarus-alarm-sns	Standard	arn:aws:sns:us-east-1:000667629202:Clarus-alarm-sns
<input checked="" type="radio"/> Demo-Topic	Standard	arn:aws:sns:us-east-1:000667629202:Demo-Topic
<input type="radio"/> billingalarm	Standard	arn:aws:sns:us-east-1:000667629202:billingalarm
<input type="radio"/> dynamodb	Standard	arn:aws:sns:us-east-1:000667629202:dynamodb

Queues (1)



Edit

Delete

Send and receive messages

Actions ▾

Create queue

Q Search queues by prefix

<

1

>



Name ▲

Type ▾

Created ▾

Messages
available ▾Messages in
flight ▾

Encryption ▾

Can
base
ded
on

ⓘ	My-First-Queue	Standard	8/18/2021, 20:40:26 GMT+3	0	0	-	-
---	----------------	----------	---------------------------------	---	---	---	---