

AWS Simple Queue Service (SQS)

SQS :

- Types of queue :
 - Standard
 - At-least once delivery
 - Best-effort ordering
 - FIFO
 - First-in-first-out delivery
 - Exactly-once processing

Configuration :

- Visibility timeout :
 - The amount of time that a message received from a queue (by one consumer) will not be visible to the other message consumers
 - The default visibility timeout setting is 30 seconds. This setting applies to all messages in the queue
 - Typically, you should set the visibility timeout to the maximum time that it takes your application to process and delete a message from the queue
- Message retention period :
 - The amount of time that SQS retains a message before it get deleted
 - SQS automatically deletes messages when it reached to the retention period
 - The default retention period is 4 days. The retention period has a range of 60 seconds to 1,209,600 seconds (14 days)
 - The expiration of a message is always based on its original enqueue timestamp. When a message is moved to a dead-letter queue, the enqueue timestamp remains unchanged
 - For example, if a message spends 1 day in the original queue before being moved to a dead-letter queue, and the retention period of the dead-letter queue is set to 4 days, the message is deleted from the dead-letter queue after 3 days
- Delivery delay :
 - The amount of time to delay the first delivery of each message added to the queue
 - Any messages that you send to the queue remain invisible to consumers for the duration of the delay period
 - Default (minimum) delay for a queue is 0 seconds. The maximum is 15 minutes
 - When consumers need additional time to process messages, you can delay each new message coming to the queue
- Maximum message size :
 - The smallest supported message size is 1 byte (1 character). The largest size is 262,144 bytes (256 KB).
 - To send messages larger than 256 KB, you can use the Amazon SQS Extended Client Library for Java, which allow a maximum payload size of 2GB
- Receive message wait time :
 - The maximum amount of time that polling will wait for messages to become available to receive.

- The minimum value is zero seconds and the maximum value is 20 seconds
- Long polling helps reduce the cost of using Amazon SQS by eliminating the number of empty responses
- If you set the receive message wait time to zero, the receive requests use short polling

Step-01 :

- Create a test queue using standard queue type

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

test-standard-queue

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

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": "817082744395"
      },
      "Action": [
        "SQS:"
      ],
      "Resource": "arn:aws:sqs:us-east-1:817082744395:test-standard-queue"
    }
  ]
}

```

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

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

► **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](#)

Cancel

Create queue

Step-02 :

- Create a Lambda function using a blueprint (pre-build) function

Create function

[Info](#)

Choose one of the following options to create your function.

Author from scratch

Start with a simple Hello World example.

☐

Use a blueprint

Build a Lambda application from sample code and configuration presets for common use cases.

☒

Blueprints [Info](#)

Filter by tags and attributes or search by keyword

1 match

"sqs" X Clear filters

sqs-poller

An Amazon SQS trigger that logs messages in a queue.

nodejs · sqs

☐

Basic information [Info](#)


Function name

test-sqs-poller-function

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 creation might take a few minutes. Please do not delete the role or edit the trust or permissions policies in this role.

Role name

Enter a name for your new role.


test-sqs-poller-function_role

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

Policy templates - *optional* [Info](#)

Choose one or more policy templates.




Amazon SQS poller permissions 
SQS

SQS trigger

[Remove](#)

SQS queue

Choose or enter the ARN of an SQS queue.

 arn:aws:sqs:us-east-1:817082744395:test-standard-queue



Batch size

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

10

Batch window

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

0

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: %j', messageId, body);
7   }
8   return `Successfully processed ${event.Records.length} messages.`;
9 };
10
```

Cancel

Create function

- Now select the SQS queue and send some test messages by clicking on “send and receive messages” and you should be able to see the messages on the queue and they must be also process by the Lambda function.

Send and receive messages

Send messages to and receive messages from a queue.

Send message [info](#)

Clear content

Send message

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

View details

×

Message body

Enter the message to send to the queue.

message1

Delivery delay

[info](#)

0

Seconds

▼

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

5

Polling duration

30

Maximum message count

10

Polling progress

✔

1.7 receives/second

Messages (5)

View details

Delete

Search messages

☐

ID

Sent

▼

Size

Receive count

▼

☐

14cd9708-3d49-4adc-b9d6-97f73a910cac

7/23/2021, 16:05:56 GMT+3

8 bytes

2

☐

e945cb1-8183-4532-a081-caf7a9d448851

7/23/2021, 16:08:07 GMT+3

8 bytes

1

☐

fbdbf2f6-4d59-4a8f-abd4-aa67cbe1f59d

7/23/2021, 16:06:04 GMT+3

8 bytes

2

- Additionally you can go to the CloudWatch log group and see the messages that are getting processed by the Lambda function
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