
Amazon Simple Queue Service

API Reference

API Version 2012-11-05



Amazon Simple Queue Service: API Reference

Copyright © 2016 Amazon Web Services, Inc. and/or its affiliates. All rights reserved.

Amazon's trademarks and trade dress may not be used in connection with any product or service that is not Amazon's, in any manner that is likely to cause confusion among customers, or in any manner that disparages or discredits Amazon. All other trademarks not owned by Amazon are the property of their respective owners, who may or may not be affiliated with, connected to, or sponsored by Amazon.

Table of Contents

Welcome	1
Actions	2
AddPermission	3
Request Parameters	3
Errors	4
Example	4
ChangeMessageVisibility	5
Request Parameters	5
Errors	5
Example	6
ChangeMessageVisibilityBatch	7
Request Parameters	7
Response Elements	7
Errors	7
Example	8
CreateQueue	9
Request Parameters	9
Response Elements	11
Errors	11
Example	11
DeleteMessage	13
Request Parameters	13
Errors	13
Example	13
DeleteMessageBatch	15
Request Parameters	15
Response Elements	15
Errors	15
Example	16
DeleteQueue	17
Request Parameters	17
Errors	17
Example	17
GetQueueAttributes	18
Request Parameters	18
Response Elements	19
Errors	19
Examples	19
GetQueueUrl	22
Request Parameters	22
Response Elements	22
Errors	22
Example	22
ListDeadLetterSourceQueues	24
Request Parameters	24
Response Elements	24
Errors	24
Example	24
ListQueues	26
Request Parameters	26
Response Elements	26
Errors	26
Example	26
PurgeQueue	28
Request Parameters	28

Errors	28
Example	28
ReceiveMessage	30
Request Parameters	30
Response Elements	33
Errors	33
Example	33
RemovePermission	35
Request Parameters	35
Errors	35
Example	35
SendMessage	36
Request Parameters	36
Response Elements	38
Errors	38
Example	39
SendMessageBatch	40
Request Parameters	40
Response Elements	40
Errors	41
Example	41
SetQueueAttributes	43
Request Parameters	43
Errors	44
Examples	44
Data Types	46
BatchResultErrorEntry	47
Contents	47
ChangeMessageVisibilityBatchRequestEntry	48
Contents	48
ChangeMessageVisibilityBatchResultEntry	49
Contents	49
DeleteMessageBatchRequestEntry	50
Contents	50
DeleteMessageBatchResultEntry	51
Contents	51
Message	52
Contents	52
MessageAttributeValue	53
Contents	53
SendMessageBatchRequestEntry	54
Contents	54
SendMessageBatchResultEntry	56
Contents	56
Common Parameters	57
Common Errors	59

Welcome

Welcome to the *Amazon Simple Queue Service API Reference*.

Amazon Simple Queue Service (Amazon SQS) is a reliable, highly-scalable hosted queue for storing messages as they travel between applications or microservices. Amazon SQS moves data between distributed application components and helps you decouple these components.

[Standard queues](#) are available in all regions. [FIFO queues](#) are available in US West (Oregon) and US East (Ohio).

Helpful Links

- [Amazon SQS Product Page](#)
- [Amazon SQS Developer Guide](#)
 - [Making API Requests](#)
 - [Using Amazon SQS Message Attributes](#)
 - [Using Amazon SQS Dead Letter Queues](#)
- [Amazon Web Services General Reference](#)
 - [Regions and Endpoints](#)

You can also use AWS SDKs to access Amazon SQS using your favorite programming language. The SDKs perform tasks such as the following automatically:

- Cryptographically sign your service requests
- Retry requests
- Handle error responses

For a list of available SDKs, see [Tools for Amazon Web Services](#).

This document was last published on December 6, 2016.

Actions

The following actions are supported:

- [AddPermission](#) (p. 3)
- [ChangeMessageVisibility](#) (p. 5)
- [ChangeMessageVisibilityBatch](#) (p. 7)
- [CreateQueue](#) (p. 9)
- [DeleteMessage](#) (p. 13)
- [DeleteMessageBatch](#) (p. 15)
- [DeleteQueue](#) (p. 17)
- [GetQueueAttributes](#) (p. 18)
- [GetQueueUrl](#) (p. 22)
- [ListDeadLetterSourceQueues](#) (p. 24)
- [ListQueues](#) (p. 26)
- [PurgeQueue](#) (p. 28)
- [ReceiveMessage](#) (p. 30)
- [RemovePermission](#) (p. 35)
- [SendMessage](#) (p. 36)
- [SendMessageBatch](#) (p. 40)
- [SetQueueAttributes](#) (p. 43)

AddPermission

Adds a permission to a queue for a specific [principal](#). This allows sharing access to the queue.

When you create a queue, you have full control access rights for the queue. Only you, the owner of the queue, can grant or deny permissions to the queue. For more information about these permissions, see [Shared Queues](#) in the *Amazon SQS Developer Guide*.

Note

`AddPermission` writes an Amazon-SQS-generated policy. If you want to write your own policy, use [SetQueueAttributes](#) (p. 43) to upload your policy. For more information about writing your own policy, see [Using The Access Policy Language](#) in the *Amazon SQS Developer Guide*.

Note

Some actions take lists of parameters. These lists are specified using the `param.n` notation. Values of `n` are integers starting from 1. For example, a parameter list with two elements looks like this:

```
&amp;param.Attribute.1=this  
&amp;param.Attribute.2=that
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

ActionName.N

The action the client wants to allow for the specified principal. The following values are valid:

- *
- `ChangeMessageVisibility`
- `DeleteMessage`
- `GetQueueAttributes`
- `GetQueueUrl`
- `ReceiveMessage`
- `SendMessage`

For more information about these actions, see [Understanding Permissions](#) in the *Amazon SQS Developer Guide*.

Specifying `SendMessage`, `DeleteMessage`, or `ChangeMessageVisibility` for `ActionName.n` also grants permissions for the corresponding batch versions of those actions: `SendMessageBatch`, `DeleteMessageBatch`, and `ChangeMessageVisibilityBatch`.

Type: array of Strings

Required: Yes

AWSAccountId.N

The AWS account number of the [principal](#) who is given permission. The principal must have an AWS account, but does not need to be signed up for Amazon SQS. For information about locating the AWS account identification, see [Your AWS Identifiers](#) in the *Amazon SQS Developer Guide*.

Type: array of Strings

Required: Yes

Label

The unique identification of the permission you're setting (for example, `AliceSendMessage`).

Maximum 80 characters. Allowed characters include alphanumeric characters, hyphens (-), and underscores (_).

Type: String

Required: Yes

QueueUrl

The URL of the Amazon SQS queue to which permissions are added.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

OverLimit

The action that you requested would violate a limit. For example, `ReceiveMessage` returns this error if the maximum number of inflight messages is reached. `AddPermission (p. 3)` returns this error if the maximum number of permissions for the queue is reached.

HTTP Status Code: 403

Example

The following example query request grants a [SendMessage \(p. 36\)](#) permission to the principal whose AWS account number is 125074342641. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=AddPermission  
&Label=testLabel  
&AWSAccountId.1=125074342641  
&ActionName.1=SendMessage  
&AWSAccountId.2=125074342642  
&ActionName.2=ReceiveMessage  
&Version=2012-11-05  
&Expires=2012-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<AddPermissionResponse>  
  <ResponseMetadata>  
    <RequestId>  
      9a285199-c8d6-47c2-bdb2-314cb47d599d  
    </RequestId>  
  </ResponseMetadata>  
</AddPermissionResponse>
```


ChangeMessageVisibility

Changes the visibility timeout of a specified message in a queue to a new value. The maximum allowed timeout value is 12 hours. Thus, you can't extend the timeout of a message in an existing queue to more than a total visibility timeout of 12 hours. For more information, see [Visibility Timeout](#) in the *Amazon SQS Developer Guide*.

For example, you have a message and with the default visibility timeout of 5 minutes. After 3 minutes, you call `ChangeMessageVisibility` with a timeout of 10 minutes. At that time, the timeout for the message is extended by 10 minutes beyond the time of the `ChangeMessageVisibility` action. This results in a total visibility timeout of 13 minutes. You can continue to call the `ChangeMessageVisibility` to extend the visibility timeout to a maximum of 12 hours. If you try to extend the visibility timeout beyond 12 hours, your request is rejected.

A message is considered to be *in flight* after it's received from a queue by a consumer, but not yet deleted from the queue.

For standard queues, there can be a maximum of 120,000 inflight messages per queue. If you reach this limit, Amazon SQS returns the `OverLimit` error message. To avoid reaching the limit, you should delete messages from the queue after they're processed. You can also increase the number of queues you use to process your messages.

For FIFO queues, there can be a maximum of 20,000 inflight messages per queue. If you reach this limit, Amazon SQS returns no error messages.

Important

If you attempt to set the `VisibilityTimeout` to a value greater than the maximum time left, Amazon SQS returns an error. Amazon SQS doesn't automatically recalculate and increase the timeout to the maximum remaining time.

Unlike with a queue, when you change the visibility timeout for a specific message the timeout value is applied immediately but isn't saved in memory for that message. If you don't delete a message after it is received, the visibility timeout for the message reverts to the original timeout value (not to the value you set using the `ChangeMessageVisibility` action) the next time the message is received.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

QueueUrl

The URL of the Amazon SQS queue whose message's visibility is changed.

Queue URLs are case-sensitive.

Type: String

Required: Yes

ReceiptHandle

The receipt handle associated with the message whose visibility timeout is changed. This parameter is returned by the [ReceiveMessage](#) (p. 30) action.

Type: String

Required: Yes

VisibilityTimeout

The new value for the message's visibility timeout (in seconds). Values values: 0 to 43200. Maximum: 12 hours.

Type: Integer

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

AWS.SimpleQueueService.MessageNotInflight

The message referred to isn't in flight.

HTTP Status Code: 400

ReceiptHandleIsInvalid

The receipt handle provided isn't valid.

HTTP Status Code: 400

Example

The following example query request changes the visibility timeout for a message to 60 seconds. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=ChangeMessageVisibility  
&VisibilityTimeout=60  
&ReceiptHandle=MbZj6wDWli%2BJvwwJaBV%2B3dcjk2YW2vA3%2BSTFF1jT  
M8tJJg6HRG6PYSasuWXPJB%2BCwLj1FjgXUv1uSj1gUPAWV66FU/WeR4mq2OKpEGY  
WbnLmpRCJVAYeMjeU5ZBdtcQ%2BQEauMZc8ZRv37sIW2iJKq3M9MFx1YvV11A2x/K  
SbkJ0=  
&Version=2012-11-05  
&Expires=2012-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<ChangeMessageVisibilityResponse>  
  <ResponseMetadata>  
    <RequestId>  
      6a7a282a-d013-4a59-aba9-335b0fa48bed  
    </RequestId>  
  </ResponseMetadata>  
</ChangeMessageVisibilityResponse>
```

ChangeMessageVisibilityBatch

Changes the visibility timeout of multiple messages. This is a batch version of [ChangeMessageVisibility \(p. 5\)](#). The result of the action on each message is reported individually in the response. You can send up to 10 [ChangeMessageVisibility \(p. 5\)](#) requests with each `ChangeMessageVisibilityBatch` action.

Important

Because the batch request can result in a combination of successful and unsuccessful actions, you should check for batch errors even when the call returns an HTTP status code of 200.

Note

Some actions take lists of parameters. These lists are specified using the `param.n` notation. Values of `n` are integers starting from 1. For example, a parameter list with two elements looks like this:

```
&param.Attribute.1=this  
&param.Attribute.2=that
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

ChangeMessageVisibilityBatchRequestEntry.N

A list of receipt handles of the messages for which the visibility timeout must be changed.

Type: array of [ChangeMessageVisibilityBatchRequestEntry \(p. 48\)](#) objects

Required: Yes

QueueUrl

The URL of the Amazon SQS queue whose messages' visibility is changed.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

BatchResultErrorEntry.N

A list of [BatchResultErrorEntry \(p. 47\)](#) items.

Type: array of [BatchResultErrorEntry \(p. 47\)](#) objects

ChangeMessageVisibilityBatchResultEntry.N

A list of [ChangeMessageVisibilityBatchResultEntry \(p. 49\)](#) items.

Type: array of [ChangeMessageVisibilityBatchResultEntry \(p. 49\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

AWS.SimpleQueueService.BatchEntryIdsNotDistinct

Two or more batch entries in the request have the same `Id`.

HTTP Status Code: 400

AWS.SimpleQueueService.EmptyBatchRequest

The batch request doesn't contain any entries.

HTTP Status Code: 400

AWS.SimpleQueueService.InvalidBatchEntryId

The `Id` of a batch entry in a batch request doesn't abide by the specification.

HTTP Status Code: 400

AWS.SimpleQueueService.TooManyEntriesInBatchRequest

The batch request contains more entries than permissible.

HTTP Status Code: 400

Example

`ChangeMessageVisibilityBatch` request changes the visibility timeout settings for two messages. You must URL-encode the entire URL. However, here the only the message body is URL-encoded to make the example easier to read.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/
&Action=ChangeMessageVisibilityBatch
&Version=2012-11-05
&ChangeMessageVisibilityBatchRequestEntry.1.Id=change_visibility_msg_2
&ChangeMessageVisibilityBatchRequestEntry.1.ReceiptHandle=gfk0T0R0waama4fVFffkjKzmhMCymjQvf
%2F%2Fa1IXW6AqaWhGsEPaLm3Vf6IiWqdM8u5imB%2BNTwj3tQRzOWdTOepjOjPcTpRxBtXix
%2BEVwJOZUma9wabv%2BSw6ZHjwmNcVDx8dZXJhVp16Bksiox
%2FGrUvrVTCJRTWTLc59oHLLF8sEkKzRmGNzTDGTiV
%2BYjHfQj60FD3rVaXmzTsonXrhKJ72uIHVMGVQiAGgBX6HGv9LDmYhPXw4hy%2FNgIg%3D%3D
&ChangeMessageVisibilityBatchRequestEntry.1.VisibilityTimeout=45
&ChangeMessageVisibilityBatchRequestEntry.2.Id=change_visibility_msg_3
&ChangeMessageVisibilityBatchRequestEntry.2.ReceiptHandle=gfk0T0R0waama4fVFffkjKzmhMCymjQvf
%2BxcNnJnQQ3U30qOumIE6AdAv3w%2F%2Fa1IXW6AqaWhGsEPaLm3Vf6IiWqdM8u5imB
%2BNTwj3tQRzOWdTOepjOsogjZM%2F7kzn4Ew27XLU9I%2FYaWYmKvDbq
%2Fk3HKVB9HfB43kE49atP2aWrzNL4yunG41Q4cFRrtfJdcGQGNHQ2%2Byd0Usf5qRldZr1iDo5xk946eQat83AxTRP
%2BY4Qi0V7FAeSLH9su9xpX6HGv9LDmYhPXw4hy%2FNgIg%3D%3D
&ChangeMessageVisibilityBatchRequestEntry.2.VisibilityTimeout=45
&Expires=2012-10-18T22%3A52%3A43PST
```

Sample Response

```
<ChangeMessageVisibilityBatchResponse>
  <ChangeMessageVisibilityBatchResult>
    <ChangeMessageVisibilityBatchResultEntry>
      <Id>change_visibility_msg_2</Id>
    </ChangeMessageVisibilityBatchResultEntry>
    <ChangeMessageVisibilityBatchResultEntry>
      <Id>change_visibility_msg_3</Id>
    </ChangeMessageVisibilityBatchResultEntry>
  </ChangeMessageVisibilityBatchResult>
  <ResponseMetadata>
    <RequestId>ca9668f7-ab1b-4f7a-8859-f15747ab17a7</RequestId>
  </ResponseMetadata>
</ChangeMessageVisibilityBatchResponse>
```

CreateQueue

Creates a new standard or FIFO queue or returns the URL of an existing queue. You can pass one or more attributes in the request. Keep the following caveats in mind:

- If you don't specify the `FifoQueue` attribute, Amazon SQS creates a standard queue.

Note

You can't change the queue type after you create it and you can't convert an existing standard queue into a FIFO queue. You must either create a new FIFO queue for your application or delete your existing standard queue and recreate it as a FIFO queue. For more information, see [Moving From a Standard Queue to a FIFO Queue](#) in the *Amazon SQS Developer Guide*.

- If you don't provide a value for an attribute, the queue is created with the default value for the attribute.
- If you delete a queue, you must wait at least 60 seconds before creating a queue with the same name.

To successfully create a new queue, you must provide a queue name that adheres to the [limits related to queues](#) and is unique within the scope of your queues.

To get the queue URL, use the [GetQueueUrl \(p. 22\)](#) action. [GetQueueUrl \(p. 22\)](#) requires only the `QueueName` parameter. be aware of existing queue names:

- If you provide the name of an existing queue along with the exact names and values of all the queue's attributes, `CreateQueue` returns the queue URL for the existing queue.
- If the queue name, attribute names, or attribute values don't match an existing queue, `CreateQueue` returns an error.

Note

Some actions take lists of parameters. These lists are specified using the `param.n` notation. Values of `n` are integers starting from 1. For example, a parameter list with two elements looks like this:

```
&amp;Attribute.1=this  
&amp;Attribute.2=that
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

Attribute , `Attribute.N.Name` (key), `Attribute.N.Value` (value)

A map of attributes with their corresponding values.

The following lists the names, descriptions, and values of the special request parameters that the `CreateQueue` action uses:

- `DelaySeconds` - The number of seconds for which the delivery of all messages in the queue is delayed. Valid values: An integer from 0 to 900 seconds (15 minutes). The default is 0 (zero).
- `MaximumMessageSize` - The limit of how many bytes a message can contain before Amazon SQS rejects it. Valid values: An integer from 1,024 bytes (1 KiB) to 262,144 bytes (256 KiB). The default is 262,144 (256 KiB).
- `MessageRetentionPeriod` - The number of seconds for which Amazon SQS retains a message. Valid values: An integer from 60 seconds (1 minute) to 1,209,600 seconds (14 days). The default is 345,600 (4 days).
- `Policy` - The queue's policy. A valid AWS policy. For more information about policy structure, see [Overview of AWS IAM Policies](#) in the *Amazon IAM User Guide*.

- `ReceiveMessageWaitTimeSeconds` - The number of seconds for which a [ReceiveMessage](#) (p. 30) action waits for a message to arrive. Valid values: An integer from 0 to 20 (seconds). The default is 0 (zero).
- `RedrivePolicy` - The parameters for the dead letter queue functionality of the source queue. For more information about the redrive policy and dead letter queues, see [Using Amazon SQS Dead Letter Queues](#) in the *Amazon SQS Developer Guide*.

Note

The dead letter queue of a FIFO queue must also be a FIFO queue. Similarly, the dead letter queue of a standard queue must also be a standard queue.

- `VisibilityTimeout` - The visibility timeout for the queue. Valid values: An integer from 0 to 43,200 (12 hours). The default is 30. For more information about the visibility timeout, see [Visibility Timeout](#) in the *Amazon SQS Developer Guide*.

The following attributes apply only to [FIFO \(first-in-first-out\) queues](#):

- `FifoQueue` - Designates a queue as FIFO. You can provide this attribute only during queue creation. You can't change it for an existing queue. When you set this attribute, you must provide a `MessageGroupId` explicitly.
For more information, see [FIFO Queue Logic](#) in the *Amazon SQS Developer Guide*.
- `ContentBasedDeduplication` - Enables content-based deduplication. For more information, see [Exactly-Once Processing](#) in the *Amazon SQS Developer Guide*.
 - Every message must have a unique `MessageDeduplicationId`,
 - You may provide a `MessageDeduplicationId` explicitly.
 - If you aren't able to provide a `MessageDeduplicationId` and you enable `ContentBasedDeduplication` for your queue, Amazon SQS uses a SHA-256 hash to generate the `MessageDeduplicationId` using the body of the message (but not the attributes of the message).
 - If you don't provide a `MessageDeduplicationId` and the queue doesn't have `ContentBasedDeduplication` set, the action fails with an error.
 - If the queue has `ContentBasedDeduplication` set, your `MessageDeduplicationId` overrides the generated one.
 - When `ContentBasedDeduplication` is in effect, messages with identical content sent within the deduplication interval are treated as duplicates and only one copy of the message is delivered.
 - You can also use `ContentBasedDeduplication` for messages with identical content to be treated as duplicates.
 - If you send one message with `ContentBasedDeduplication` enabled and then another message with a `MessageDeduplicationId` that is the same as the one generated for the first `MessageDeduplicationId`, the two messages are treated as duplicates and only one copy of the message is delivered.

Any other valid special request parameters (such as the following) are ignored:

- `ApproximateNumberOfMessages`
- `ApproximateNumberOfMessagesDelayed`
- `ApproximateNumberOfMessagesNotVisible`
- `CreatedTimestamp`
- `LastModifiedTimestamp`
- `QueueArn`

Type: String to String map

Valid Map Keys: `All` | `Policy` | `VisibilityTimeout` | `MaximumMessageSize` | `MessageRetentionPeriod` | `ApproximateNumberOfMessages` | `ApproximateNumberOfMessagesNotVisible` | `CreatedTimestamp` | `LastModifiedTimestamp` | `QueueArn` | `ApproximateNumberOfMessagesDelayed` | `DelaySeconds` | `ReceiveMessageWaitTimeSeconds` | `RedrivePolicy` | `FifoQueue` | `ContentBasedDeduplication`

Required: No

QueueName

The name of the new queue. The following limits apply to this name:

- A queue name can have up to 80 characters.
- Valid values: alphanumeric characters, hyphens (-), and underscores (_).
- A FIFO queue name must end with the `.fifo` suffix.

Queue names are case-sensitive.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

QueueUrl

The URL of the created Amazon SQS queue.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

AWS.SimpleQueueService.QueueDeletedRecently

You must wait 60 seconds after deleting a queue before you can create another one with the same name.

HTTP Status Code: 400

QueueAlreadyExists

A queue already exists with this name. Amazon SQS returns this error only if the request includes attributes whose values differ from those of the existing queue.

HTTP Status Code: 400

Example

The following example query request creates a new queue named `testQueue`. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/  
?Action=CreateQueue  
&QueueName=testQueue  
&Attribute.1.Name=VisibilityTimeout  
&Attribute.1.Value=40  
&Version=2012-11-05  
&Expires=2012-10-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<CreateQueueResponse>
```

```
<CreateQueueResult>
  <QueueUrl>
    http://queue.amazonaws.com/123456789012/testQueue
  </QueueUrl>
</CreateQueueResult>
<ResponseMetadata>
  <RequestId>
    7a62c49f-347e-4fc4-9331-6e8e7a96aa73
  </RequestId>
</ResponseMetadata>
</CreateQueueResponse>
```


DeleteMessage

Deletes the specified message from the specified queue. You specify the message by using the message's *receipt handle* and not the *MessageId* you receive when you send the message. Even if the message is locked by another reader due to the visibility timeout setting, it is still deleted from the queue. If you leave a message in the queue for longer than the queue's configured retention period, Amazon SQS automatically deletes the message.

Note

The receipt handle is associated with a specific instance of receiving the message. If you receive a message more than once, the receipt handle you get each time you receive the message is different. If you don't provide the most recently received receipt handle for the message when you use the `DeleteMessage` action, the request succeeds, but the message might not be deleted.

For standard queues, it is possible to receive a message even after you deleting it. This might happen on rare occasions if one of the servers storing a copy of the message is unavailable when you send the request to delete the message. The copy remains on the server and might be returned to you on a subsequent receive request. You should ensure that your application is idempotent, so that receiving a message more than once does not cause issues.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

QueueUrl

The URL of the Amazon SQS queue from which messages are deleted.

Queue URLs are case-sensitive.

Type: String

Required: Yes

ReceiptHandle

The receipt handle associated with the message to delete.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

InvalidIdFormat

The receipt handle isn't valid for the current version.

HTTP Status Code: 400

ReceiptHandleIsInvalid

The receipt handle provided isn't valid.

HTTP Status Code: 400

Example

The following example query request deletes a message from the queue named `testQueue`. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=DeleteMessage  
&ReceiptHandle=MbZj6wDWli%2BJvwwJaBV%2B3dcjk2YW2vA3%2BSTFF1jT  
M8tJJg6HRG6PYSasuWXPJB%2BCwLj1FjgXUv1uSj1gUPAWV66FU/WeR4mq2OKpEGY  
WbnLmpRCJVAYeMjeU5ZBdtcQ%2BQEauMZc8ZRv37sIW2iJKq3M9MFx1YvV11A2x/K  
SbkJ0=  
&Version=2012-11-05  
&Expires=2012-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<DeleteMessageResponse>  
  <ResponseMetadata>  
    <RequestId>  
      b5293cb5-d306-4a17-9048-b263635abe42  
    </RequestId>  
  </ResponseMetadata>  
</DeleteMessageResponse>
```

DeleteMessageBatch

Deletes up to ten messages from the specified queue. This is a batch version of [DeleteMessage \(p. 13\)](#) . The result of the action on each message is reported individually in the response.

Important

Because the batch request can result in a combination of successful and unsuccessful actions, you should check for batch errors even when the call returns an HTTP status code of 200.

Note

Some actions take lists of parameters. These lists are specified using the `param.n` notation. Values of `n` are integers starting from 1. For example, a parameter list with two elements looks like this:

```
&param.Attribute.1=this  
&param.Attribute.2=that
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

DeleteMessageBatchRequestEntry.N

A list of receipt handles for the messages to be deleted.

Type: array of [DeleteMessageBatchRequestEntry \(p. 50\)](#) objects

Required: Yes

QueueUrl

The URL of the Amazon SQS queue from which messages are deleted.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

BatchResultErrorEntry.N

A list of [BatchResultErrorEntry \(p. 47\)](#) items.

Type: array of [BatchResultErrorEntry \(p. 47\)](#) objects

DeleteMessageBatchResultEntry.N

A list of [DeleteMessageBatchResultEntry \(p. 51\)](#) items.

Type: array of [DeleteMessageBatchResultEntry \(p. 51\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

AWS.SimpleQueueService.BatchEntryIdsNotDistinct

Two or more batch entries in the request have the same `Id`.

HTTP Status Code: 400

AWS.SimpleQueueService.EmptyBatchRequest

The batch request doesn't contain any entries.

HTTP Status Code: 400

AWS.SimpleQueueService.InvalidBatchEntryId

The Id of a batch entry in a batch request doesn't abide by the specification.

HTTP Status Code: 400

AWS.SimpleQueueService.TooManyEntriesInBatchRequest

The batch request contains more entries than permissible.

HTTP Status Code: 400

Example

In the following example, a `DeleteMessageBatch` request deletes two messages. You must URL-encode the entire URL. However, here the only the message body is URL-encoded to make the example easier to read. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/
&Action=DeleteMessageBatch
&Version=2012-11-05
&DeleteMessageBatchRequestEntry.1.Id=msg1
&DeleteMessageBatchRequestEntry.1.ReceiptHandle=gfk0T0R0waama4fVFffkjPQrrvzMrOg0fTFk2LxT33E
%2F5LeGPPyTLzjqLQxyQYaQALeSNHb0us3uE84uujxpBhsDkZUQkjFFkNqBXn48x1McVhTcI3Y LH
%2Bd%2BIqetIOHgBCZAPx6r
%2B09dWabXei6nbK5Ygih21DCDdAwFV68Jo8DXhb3ErEfoDqx7vyvC5nCpdwqv%2BJhU
%2FTNGjNN8t51v5c
%2FAXvQsAzyZVNapxUrHit4NxRhKJ72uICcxruyE8eRXlxIVNgeNP8ZEDcw7zZU1Zw%3D%3D
&DeleteMessageBatchRequestEntry.2.Id=msg2
&DeleteMessageBatchRequestEntry.2.ReceiptHandle=gfk0T0R0waama4fVFffkjKzmmMcymjOvfTFk2LxT33G
%2F%2FalIXW6AqaWhGsEPaLm3Vf6IiWqdm8u5imB%2BNTwj3tQRzOWdT0ePj0jPcTpRxBtXix
%2BEVwJZOZUma9wabv%2BSw6ZHjwmNcVDx8dZXJhVp16Bksiox
%2FGrUvrVTCJRTWTlc59oHLLF8sEkKzRmGNzTDGTiV
%2BYjHfQj60FD3rVaXmzTsonXrhKJ72uIHVMGVQiaGgB%2BqAbSqfKHDQtVOmJJgkHug%3D%3D
&Expires=2014-10-18T22%3A52%3A43PST
&AUTHPARAMS
```

Sample Response

```
<DeleteMessageBatchResponse>
  <DeleteMessageBatchResult>
    <DeleteMessageBatchResultEntry>
      <Id>msg1</Id>
    </DeleteMessageBatchResultEntry>
    <DeleteMessageBatchResultEntry>
      <Id>msg2</Id>
    </DeleteMessageBatchResultEntry>
  </DeleteMessageBatchResult>
  <ResponseMetadata>
    <RequestId>d6f86b7a-74d1-4439-b43f-196a1e29cd85</RequestId>
  </ResponseMetadata>
</DeleteMessageBatchResponse>
```

DeleteQueue

Deletes the queue specified by the `QueueUrl`, even if the queue is empty. If the specified queue doesn't exist, Amazon SQS returns a successful response.

Important

Be careful with the `DeleteQueue` action: When you delete a queue, any messages in the queue are no longer available.

When you delete a queue, the deletion process takes up to 60 seconds. Requests you send involving that queue during the 60 seconds might succeed. For example, a [SendMessage \(p. 36\)](#) request might succeed, but after 60 seconds the queue and the message you sent no longer exist.

When you delete a queue, you must wait at least 60 seconds before creating a queue with the same name.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

QueueUrl

The URL of the Amazon SQS queue to delete.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

Example

The following example query request deletes the specified queue. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests in the Amazon Web Services General Reference](#).

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=DeleteQueue  
&Version=2012-11-05  
&Expires=2012-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<DeleteQueueResponse>  
  <ResponseMetadata>  
    <RequestId>  
      6fde8d1e-52cd-4581-8cd9-c512f4c64223  
    </RequestId>  
  </ResponseMetadata>  
</DeleteQueueResponse>
```

GetQueueAttributes

Gets attributes for the specified queue.

Note

Some actions take lists of parameters. These lists are specified using the `param.n` notation. Values of `n` are integers starting from 1. For example, a parameter list with two elements looks like this:

```
&amp;param:Attribute.1=this  
&amp;param:Attribute.2=that
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

AttributeName.N

A list of attributes for which to retrieve information.

Note

In the future, new attributes might be added. If you are writing code that calls this action, we recommend that you structure your code so that it can handle new attributes gracefully.

The following attributes are supported:

- `All` - Returns all values.
- `ApproximateNumberOfMessages` - Returns the approximate number of visible messages in a queue. For more information, see [Resources Required to Process Messages](#) in the *Amazon SQS Developer Guide*.
- `ApproximateNumberOfMessagesDelayed` - Returns the approximate number of messages that are waiting to be added to the queue.
- `ApproximateNumberOfMessagesNotVisible` - Returns the approximate number of messages that have not timed-out and aren't deleted. For more information, see [Resources Required to Process Messages](#) in the *Amazon SQS Developer Guide*.
- `CreatedTimestamp` - Returns the time when the queue was created in seconds ([epoch time](#)).
- `DelaySeconds` - Returns the default delay on the queue in seconds.
- `LastModifiedTimestamp` - Returns the time when the queue was last changed in seconds ([epoch time](#)).
- `MaximumMessageSize` - Returns the limit of how many bytes a message can contain before Amazon SQS rejects it.
- `MessageRetentionPeriod` - Returns the number of seconds for which Amazon SQS retains a message.
- `Policy` - Returns the policy of the queue.
- `QueueArn` - Returns the Amazon resource name (ARN) of the queue.
- `ReceiveMessageWaitTimeSeconds` - Returns the number of seconds for which the `ReceiveMessage` action waits for a message to arrive.
- `RedrivePolicy` - Returns the parameters for dead letter queue functionality of the source queue. For more information about the redrive policy and dead letter queues, see [Using Amazon SQS Dead Letter Queues](#) in the *Amazon SQS Developer Guide*.
- `VisibilityTimeout` - Returns the visibility timeout for the queue. For more information about the visibility timeout, see [Visibility Timeout](#) in the *Amazon SQS Developer Guide*.

The following attributes apply only to [FIFO \(first-in-first-out\) queues](#):

- `FifoQueue` - Returns whether the queue is FIFO. For more information, see [FIFO Queue Logic](#) in the *Amazon SQS Developer Guide*.

- `ContentBasedDeduplication` - Returns whether content-based deduplication is enabled for the queue. For more information, see [Exactly-Once Processing](#) in the *Amazon SQS Developer Guide*.

Type: array of Strings

Valid Values: All | Policy | VisibilityTimeout | MaximumMessageSize
| MessageRetentionPeriod | ApproximateNumberOfMessages |
ApproximateNumberOfMessagesNotVisible | CreatedTimestamp |
LastModifiedTimestamp | QueueArn | ApproximateNumberOfMessagesDelayed |
DelaySeconds | ReceiveMessageWaitTimeSeconds | RedrivePolicy | FifoQueue |
ContentBasedDeduplication

Required: No

QueueUrl

The URL of the Amazon SQS queue whose attribute information is retrieved.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Attribute , Attribute.N.Name (key), Attribute.N.Value (value)

A map of attributes to their respective values.

Type: String to String map

Valid Map Keys: All | Policy | VisibilityTimeout | MaximumMessageSize
| MessageRetentionPeriod | ApproximateNumberOfMessages |
ApproximateNumberOfMessagesNotVisible | CreatedTimestamp |
LastModifiedTimestamp | QueueArn | ApproximateNumberOfMessagesDelayed |
DelaySeconds | ReceiveMessageWaitTimeSeconds | RedrivePolicy | FifoQueue |
ContentBasedDeduplication

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

InvalidAttributeName

The attribute referred to doesn't exist.

HTTP Status Code: 400

Examples

Example

The following example query requests gets all the attribute values for the specified queue. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=GetQueueAttributes  
&AttributeName.1=All
```

```
&Version=2012-11-05
&Expires=2013-10-18T22%3A52%3A43PST
&AUTHPARAMS
```

Sample Response

```
<GetQueueAttributesResponse>
  <GetQueueAttributesResult>
    <Attribute>
      <Name>ReceiveMessageWaitTimeSeconds</Name>
      <Value>2</Value>
    </Attribute>
    <Attribute>
      <Name>VisibilityTimeout</Name>
      <Value>30</Value>
    </Attribute>
    <Attribute>
      <Name>ApproximateNumberOfMessages</Name>
      <Value>0</Value>
    </Attribute>
    <Attribute>
      <Name>ApproximateNumberOfMessagesNotVisible</Name>
      <Value>0</Value>
    </Attribute>
    <Attribute>
      <Name>CreatedTimestamp</Name>
      <Value>1286771522</Value>
    </Attribute>
    <Attribute>
      <Name>LastModifiedTimestamp</Name>
      <Value>1286771522</Value>
    </Attribute>
    <Attribute>
      <Name>QueueArn</Name>
      <Value>arn:aws:sqs:us-east-1:123456789012:qfoo</Value>
    </Attribute>
    <Attribute>
      <Name>MaximumMessageSize</Name>
      <Value>8192</Value>
    </Attribute>
    <Attribute>
      <Name>MessageRetentionPeriod</Name>
      <Value>345600</Value>
    </Attribute>
  </GetQueueAttributesResult>
  <ResponseMetadata>
    <RequestId>1ea71be5-b5a2-4f9d-b85a-945d8d08cd0b</RequestId>
  </ResponseMetadata>
</GetQueueAttributesResponse>
```

Example

The following example query request gets three attribute values for the specified queue. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=GetQueueAttributes  
&Action=GetQueueAttributes  
&Version=2012-11-05  
&AttributeName.1=VisibilityTimeout  
&AttributeName.2=DelaySeconds  
&AttributeName.3=ReceiveMessageWaitTimeSeconds  
&Expires=2014-10-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<GetQueueAttributesResponse>  
  <GetQueueAttributesResult>  
    <Attribute>  
      <Name>VisibilityTimeout</Name>  
      <Value>30</Value>  
    </Attribute>  
    <Attribute>  
      <Name>DelaySeconds</Name>  
      <Value>0</Value>  
    </Attribute>  
    <Attribute>  
      <Name>ReceiveMessageWaitTimeSeconds</Name>  
      <Value>2</Value>  
    </Attribute>  
  </GetQueueAttributesResult>  
</GetQueueAttributesResponse>
```

GetQueueUrl

Returns the URL of an existing queue. This action provides a simple way to retrieve the URL of an Amazon SQS queue.

To access a queue that belongs to another AWS account, use the `QueueOwnerAWSAccountId` parameter to specify the account ID of the queue's owner. The queue's owner must grant you permission to access the queue. For more information about shared queue access, see [AddPermission \(p. 3\)](#) or see [Shared Queues](#) in the *Amazon SQS Developer Guide*.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

QueueName

The name of the queue whose URL must be fetched. Maximum 80 characters. Valid values: alphanumeric characters, hyphens (-), and underscores (_).

Queue names are case-sensitive.

Type: String

Required: Yes

QueueOwnerAWSAccountId

The AWS account ID of the account that created the queue.

Type: String

Required: No

Response Elements

The following element is returned by the service.

QueueUrl

The URL of the queue.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

AWS.SimpleQueueService.NonExistentQueue

The queue referred to doesn't exist.

HTTP Status Code: 400

Example

The following example Qquery request gets the URL for the specified queue. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/  
?Action=GetQueueUrl  
&QueueName=testQueue
```

```
&Version=2012-11-05  
&Expires=2015-10-24T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<GetQueueUrlResponse>  
  <GetQueueUrlResult>  
    <QueueUrl>  
      http://sqs.us-east-2.amazonaws.com/123456789012/testQueue  
    </QueueUrl>  
  </GetQueueUrlResult>  
  <ResponseMetadata>  
    <RequestId>470a6f13-2ed9-4181-ad8a-2fdea142988e</RequestId>  
  </ResponseMetadata>  
</GetQueueUrlResponse>
```

ListDeadLetterSourceQueues

Returns a list of your queues that have the `RedrivePolicy` queue attribute configured with a dead letter queue.

For more information about using dead letter queues, see [Using Amazon SQS Dead Letter Queues](#) in the *Amazon SQS Developer Guide*.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

QueueUrl

The URL of a dead letter queue.
Queue URLs are case-sensitive.
Type: String
Required: Yes

Response Elements

The following element is returned by the service.

QueueUrl.N

A list of source queue URLs that have the `RedrivePolicy` queue attribute configured with a dead letter queue.
Type: array of Strings

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

AWS.SimpleQueueService.NonExistentQueue

The queue referred to doesn't exist.
HTTP Status Code: 400

Example

The following example query request returns a list of dead letter source queues. In this example, only one source queue, `MySourceQueue`, is configured with a dead letter queue. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
?Action=ListDeadLetterSourceQueues
&Version=2012-11-05
&Expires=2014-12-12T22%3A52%3A43PST
&AUTHPARAMS
```

Sample Response

```
<ListDeadLetterSourceQueuesResponse xmlns="http://queue.amazonaws.com/doc/2012-11-05/">
  <ListDeadLetterSourceQueuesResult>
    <QueueUrl>http://sqs.us-east-2.amazonaws.com/123456789012/MySourceQueue</QueueUrl>
  </ListDeadLetterSourceQueuesResult>
  <ResponseMetadata>
    <RequestId>8ffb921f-b85e-53d9-abcf-d8d0057f38fc</RequestId>
  </ResponseMetadata>
</ListDeadLetterSourceQueuesResponse>
```

ListQueues

Returns a list of your queues. The maximum number of queues that can be returned is 1,000. If you specify a value for the optional `QueueNamePrefix` parameter, only queues with a name that begins with the specified value are returned.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

QueueNamePrefix

A string to use for filtering the list results. Only those queues whose name begins with the specified string are returned.

Queue names are case-sensitive.

Type: String

Required: No

Response Elements

The following element is returned by the service.

QueueUrl.N

A list of queue URLs, up to 1,000 entries.

Type: array of Strings

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

Example

The following example query request returns the queues whose names begin with the letter `t`. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/  
?Action=ListQueues  
&QueueNamePrefix=t  
&Version=2012-11-05  
&Expires=2014-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<ListQueuesResponse>  
  <ListQueuesResult>  
    <QueueUrl>  
      http://sqs.us-east-2.amazonaws.com/123456789012/testQueue  
    </QueueUrl>  
  </ListQueuesResult>
```

```
<ResponseMetadata>  
  <RequestId>  
    725275ae-0b9b-4762-b238-436d7c65a1ac  
  </RequestId>  
</ResponseMetadata>  
</ListQueuesResponse>
```

PurgeQueue

Deletes the messages in a queue specified by the `QueueURL` parameter.

Important

When you use the `PurgeQueue` action, you can't retrieve a message deleted from a queue.

When you purge a queue, the message deletion process takes up to 60 seconds. All messages sent to the queue before calling the `PurgeQueue` action are deleted. Messages sent to the queue while it is being purged might be deleted. While the queue is being purged, messages sent to the queue before `PurgeQueue` is called might be received, but are deleted within the next minute.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 57\)](#).

QueueUrl

The URL of the queue from which the `PurgeQueue` action deletes messages.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

AWS.SimpleQueueService.NonExistentQueue

The queue referred to doesn't exist.

HTTP Status Code: 400

AWS.SimpleQueueService.PurgeQueueInProgress

Indicates that the specified queue previously received a `PurgeQueue` request within the last 60 seconds (the time it can take to delete the messages in the queue).

HTTP Status Code: 403

Example

The following example query request purges a queue named `testQueue`. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=PurgeQueue  
&Version=2012-11-05  
&Expires=2014-12-12T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<PurgeQueueResponse>  
  <ResponseMetadata>
```



```
<RequestId>  
    6fde8d1e-52cd-4581-8cd9-c512f4c64223  
</RequestId>  
</ResponseMetadata>  
</PurgeQueueResponse>
```

ReceiveMessage

Retrieves one or more messages (up to 10), from the specified queue. Using the `WaitTimeSeconds` parameter enables long-poll support. For more information, see [Amazon SQS Long Polling](#) in the *Amazon SQS Developer Guide*.

Short poll is the default behavior where a weighted random set of machines is sampled on a `ReceiveMessage` call. Thus, only the messages on the sampled machines are returned. If the number of messages in the queue is small (fewer than 1,000), you most likely get fewer messages than you requested per `ReceiveMessage` call. If the number of messages in the queue is extremely small, you might not receive any messages in a particular `ReceiveMessage` response. If this happens, repeat the request.

For each message returned, the response includes the following:

- The message body.
- An MD5 digest of the message body. For information on MD5, see [RFC1321](#).
- The `MessageId` you received when you sent the message to the queue.
- The receipt handle.
- The message attributes.
- An MD5 digest of the message attributes.

The receipt handle is the identifier you must provide when deleting the message. For more information, see [Queue and Message Identifiers](#) in the *Amazon SQS Developer Guide*.

You can provide the `VisibilityTimeout` parameter in your request. The parameter is applied to the messages that Amazon SQS returns in the response. If you don't include the parameter, the overall visibility timeout for the queue is used for the returned messages. For more information, see [Visibility Timeout](#) in the *Amazon SQS Developer Guide*.

A message that isn't deleted or a message whose visibility isn't extended before the visibility timeout expires counts as a failed receive. Depending on the configuration of the queue, the message might be sent to the dead letter queue.

Note

In the future, new attributes might be added. If you are writing code that calls this action, we recommend that you structure your code so that it can handle new attributes gracefully.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

AttributeName.N

A list of attributes that need to be returned along with each message. These attributes include:

- `All` - Returns all values.
- `ApproximateFirstReceiveTimestamp` - Returns the time the message was first received from the queue ([epoch time](#) in milliseconds).
- `ApproximateReceiveCount` - Returns the number of times a message has been received from the queue but not deleted.
- `SenderId`
 - For an IAM user, returns the IAM user ID, for example `ABCDEFGHI1JKLMNOPQ23R`.
 - For an IAM role, returns the IAM role ID, for example `ABCDE1F2GH3I4JK5LMNOP:i-a123b456`.
- `SentTimestamp` - Returns the time the message was sent to the queue ([epoch time](#) in milliseconds).
- `MessageDeduplicationId` - Returns the value provided by the sender that calls the [SendMessage](#) (p. 36) action.

- `MessageGroupId` - Returns the value provided by the sender that calls the [SendMessage](#) (p. 36) action. Messages with the same `MessageGroupId` are returned in sequence.

- `SequenceNumber` - Returns the value provided by Amazon SQS.

Any other valid special request parameters (such as the following) are ignored:

- `ApproximateNumberOfMessages`
- `ApproximateNumberOfMessagesDelayed`
- `ApproximateNumberOfMessagesNotVisible`
- `CreatedTimestamp`
- `ContentBasedDeduplication`
- `DelaySeconds`
- `FifoQueue`
- `LastModifiedTimestamp`
- `MaximumMessageSize`
- `MessageRetentionPeriod`
- `Policy`
- `QueueArn`,
- `ReceiveMessageWaitTimeSeconds`
- `RedrivePolicy`
- `VisibilityTimeout`

Type: array of Strings

Valid Values: All | Policy | VisibilityTimeout | MaximumMessageSize | MessageRetentionPeriod | ApproximateNumberOfMessages | ApproximateNumberOfMessagesNotVisible | CreatedTimestamp | LastModifiedTimestamp | QueueArn | ApproximateNumberOfMessagesDelayed | DelaySeconds | ReceiveMessageWaitTimeSeconds | RedrivePolicy | FifoQueue | ContentBasedDeduplication

Required: No

MaxNumberOfMessages

The maximum number of messages to return. Amazon SQS never returns more messages than this value (however, fewer messages might be returned). Valid values are 1 to 10. Default is 1.

Type: Integer

Required: No

MessageAttributeName.N

The name of the message attribute, where *N* is the index.

- The name can contain alphanumeric characters and the underscore (`_`), hyphen (`-`), and period (`.`).
- The name is case-sensitive and must be unique among all attribute names for the message.
- The name must not start with AWS-reserved prefixes such as `AWS.` or `Amazon.` (or any casing variants).
- The name must not start or end with a period (`.`), and it should not have periods in succession (`..`).
- The name can be up to 256 characters long.

When using `ReceiveMessage`, you can send a list of attribute names to receive, or you can return all of the attributes by specifying `All` or `*` in your request. You can also use all message attributes starting with a prefix, for example `bar.*`.

Type: array of Strings

Required: No

QueueUrl

The URL of the Amazon SQS queue from which messages are received.

Queue URLs are case-sensitive.

Type: String

Required: Yes

ReceiveRequestAttemptId

This parameter applies only to FIFO (first-in-first-out) queues.

The token used for deduplication of `ReceiveMessage` calls. If a networking issue occurs after a `ReceiveMessage` action, and instead of a response you receive a generic error, you can retry the same action with an identical `ReceiveRequestAttemptId` to retrieve the same set of messages, even if their visibility timeout has not yet expired.

- You can use `ReceiveRequestAttemptId` only for 5 minutes after a `ReceiveMessage` action.
- When you set `FifoQueue`, a caller of the `ReceiveMessage` action can provide a `ReceiveRequestAttemptId` explicitly.
- If a caller of the `ReceiveMessage` action doesn't provide a `ReceiveRequestAttemptId`, Amazon SQS generates a `ReceiveRequestAttemptId`.
- You can retry the `ReceiveMessage` action with the same `ReceiveRequestAttemptId` if none of the messages have been modified (deleted or had their visibility changes).
- During a visibility timeout, subsequent calls with the same `ReceiveRequestAttemptId` return the same messages and receipt handles. If a retry occurs within the deduplication interval, it resets the visibility timeout. For more information, see [Visibility Timeout](#) in the *Amazon Simple Queue Service Developer Guide*.

Important

If a caller of the `ReceiveMessage` action is still processing messages when the visibility timeout expires and messages become visible, another worker reading from the same queue can receive the same messages and therefore process duplicates. Also, if a reader whose message processing time is longer than the visibility timeout tries to delete the processed messages, the action fails with an error.

To mitigate this effect, ensure that your application observes a safe threshold before the visibility timeout expires and extend the visibility timeout as necessary.

- While messages with a particular `MessageGroupId` are invisible, no more messages belonging to the same `MessageGroupId` are returned until the visibility timeout expires. You can still receive messages with another `MessageGroupId` as long as it is also visible.
- If a caller of `ReceiveMessage` can't track the `ReceiveRequestAttemptId`, no retries work until the original visibility timeout expires. As a result, delays might occur but the messages in the queue remain in a strict order.

The length of `ReceiveRequestAttemptId` is 128 characters. `ReceiveRequestAttemptId` can contain alphanumeric characters (a-z, A-Z, 0-9) and punctuation (!"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~).

For best practices of using `ReceiveRequestAttemptId`, see [Using the ReceiveRequestAttemptId Request Parameter](#) in the *Amazon Simple Queue Service Developer Guide*.

Type: String

Required: No

VisibilityTimeout

The duration (in seconds) that the received messages are hidden from subsequent retrieve requests after being retrieved by a `ReceiveMessage` request.

Type: Integer

Required: No

WaitTimeSeconds

The duration (in seconds) for which the call waits for a message to arrive in the queue before returning. If a message is available, the call returns sooner than `WaitTimeSeconds`.

Type: Integer

Required: No

Response Elements

The following element is returned by the service.

Message.N

A list of messages.

Type: array of [Message](#) (p. 52) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

OverLimit

The action that you requested would violate a limit. For example, `ReceiveMessage` returns this error if the maximum number of inflight messages is reached. `AddPermission` (p. 3) returns this error if the maximum number of permissions for the queue is reached.

HTTP Status Code: 403

Example

The following example query request receives messages from the specified queue. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=ReceiveMessage  
&MaxNumberOfMessages=5  
&VisibilityTimeout=15  
&AttributeName=All;  
&Version=2012-11-05  
&Expires=2014-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<ReceiveMessageResponse>  
  <ReceiveMessageResult>  
    <Message>  
      <MessageId>  
        5fea7756-0ea4-451a-a703-a558b933e274  
      </MessageId>  
      <ReceiptHandle>  
        MbZj6wDWli+JvwwJaBV+3dcjk2YW2vA3+STFF1jTM8tJJg6HRG6PYSasuWXPJB+Cw  
        Lj1FjgXUv1uSj1gUPAWV66FU/WeR4mq2OKpEGYWbnLmpRCJVAyemjeU5ZBdteQ+QE  
        auMZc8ZRv37sIW2iJKq3M9MFx1YvV11A2x/KSbkJ0=  
      </ReceiptHandle>  
      <MD5OfBody>  
        fafb00f5732ab283681e124bf8747ed1  
      </MD5OfBody>  
      <Body>This is a test message</Body>  
      <Attribute>
```

```
    <Name>SenderId</Name>
    <Value>195004372649</Value>
  </Attribute>
  <Attribute>
    <Name>SentTimestamp</Name>
    <Value>1238099229000</Value>
  </Attribute>
  <Attribute>
    <Name>ApproximateReceiveCount</Name>
    <Value>5</Value>
  </Attribute>
  <Attribute>
    <Name>ApproximateFirstReceiveTimestamp</Name>
    <Value>1250700979248</Value>
  </Attribute>
</Message>
</ReceiveMessageResult>
<ResponseMetadata>
  <RequestId>
    b6633655-283d-45b4-ae4-4e84e0ae6afa
  </RequestId>
</ResponseMetadata>
</ReceiveMessageResponse>
```

RemovePermission

Revokes any permissions in the queue policy that matches the specified `Label` parameter. Only the owner of the queue can remove permissions.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

Label

The identification of the permission to remove. This is the label added using the [AddPermission](#) (p. 3) action.

Type: String

Required: Yes

QueueUrl

The URL of the Amazon SQS queue from which permissions are removed.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

Example

The following example query request removes the `testLabel` permission from the queue named `testQueue`. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=RemovePermission  
&Label=testLabel  
&Version=2012-11-05  
&Expires=2012-04-18T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<RemovePermissionResponse>  
  <ResponseMetadata>  
    <RequestId>  
      f8bdb362-6616-42c0-977a-ce9a8bcce3bb  
    </RequestId>  
  </ResponseMetadata>  
</RemovePermissionResponse>
```

SendMessage

Delivers a message to the specified queue.

Important

The following list shows the characters (in Unicode) that are allowed in your message, according to the W3C XML specification:

- #x9
- #xA
- #xD
- #x20 to #xD7FF
- #xE000 to #xFFFD
- #x10000 to #x10FFFF

For more information, see [RFC1321](#). If you send any characters that aren't included in this list, your request is rejected.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

DelaySeconds

The number of seconds to delay a specific message. Valid values: 0 to 900. Maximum: 15 minutes. Messages with a positive `DelaySeconds` value become available for processing after the delay period is finished. If you don't specify a value, the default value for the queue applies.

Note

When you set `FifoQueue`, you can't set `DelaySeconds` per message. You can set this parameter only on a queue level.

Type: Integer

Required: No

MessageAttribute , MessageAttribute.N.Name (key), MessageAttribute.N.Value (value)

Each message attribute consists of a `Name`, `Type`, and `Value`. For more information, see [Message Attribute Items and Validation](#) in the *Amazon SQS Developer Guide*.

Type: String to [MessageAttributeValue](#) (p. 53) object map

Required: No

MessageBody

The message to send. The maximum string size is 256 KB.

Important

The following list shows the characters (in Unicode) that are allowed in your message, according to the W3C XML specification:

- #x9
- #xA
- #xD
- #x20 to #xD7FF
- #xE000 to #xFFFD
- #x10000 to #x10FFFF

For more information, see [RFC1321](#). If you send any characters that aren't included in this list, your request is rejected.

Type: String

Required: Yes

MessageDeduplicationId

This parameter applies only to FIFO (first-in-first-out) queues.

The token used for deduplication of sent messages. If a message with a particular `MessageDeduplicationId` is sent successfully, any messages sent with the same `MessageDeduplicationId` are accepted successfully but aren't delivered during the 5-minute deduplication interval. For more information, see [Exactly-Once Processing](#) in the *Amazon SQS Developer Guide*.

- Every message must have a unique `MessageDeduplicationId`,
 - You may provide a `MessageDeduplicationId` explicitly.
 - If you aren't able to provide a `MessageDeduplicationId` and you enable `ContentBasedDeduplication` for your queue, Amazon SQS uses a SHA-256 hash to generate the `MessageDeduplicationId` using the body of the message (but not the attributes of the message).
 - If you don't provide a `MessageDeduplicationId` and the queue doesn't have `ContentBasedDeduplication` set, the action fails with an error.
 - If the queue has `ContentBasedDeduplication` set, your `MessageDeduplicationId` overrides the generated one.
- When `ContentBasedDeduplication` is in effect, messages with identical content sent within the deduplication interval are treated as duplicates and only one copy of the message is delivered.
- You can also use `ContentBasedDeduplication` for messages with identical content to be treated as duplicates.
- If you send one message with `ContentBasedDeduplication` enabled and then another message with a `MessageDeduplicationId` that is the same as the one generated for the first `MessageDeduplicationId`, the two messages are treated as duplicates and only one copy of the message is delivered.

Note

The `MessageDeduplicationId` is available to the recipient of the message (this can be useful for troubleshooting delivery issues).

If a message is sent successfully but the acknowledgment is lost and the message is resent with the same `MessageDeduplicationId` after the deduplication interval, Amazon SQS can't detect duplicate messages.

The length of `MessageDeduplicationId` is 128 characters. `MessageDeduplicationId` can contain alphanumeric characters (a-z, A-Z, 0-9) and punctuation (!"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~).

For best practices of using `MessageDeduplicationId`, see [Using the MessageDeduplicationId Property](#) in the *Amazon Simple Queue Service Developer Guide*.

Type: String

Required: No

MessageGroupId

This parameter applies only to FIFO (first-in-first-out) queues.

The tag that specifies that a message belongs to a specific message group. Messages that belong to the same message group are processed in a FIFO manner (however, messages in different message groups might be processed out of order). To interleave multiple ordered streams within a single queue, use `MessageGroupId` values (for example, session data for multiple users). In this scenario, multiple readers can process the queue, but the session data of each user is processed in a FIFO fashion.

- You must associate a non-empty `MessageGroupId` with a message. If you don't provide a `MessageGroupId`, the action fails.
- `ReceiveMessage` might return messages with multiple `MessageGroupId` values. For each `MessageGroupId`, the messages are sorted by time sent. The caller can't specify a `MessageGroupId`.

The length of `MessageGroupId` is 128 characters. Valid values are alphanumeric characters and punctuation (!"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~).

For best practices of using `MessageGroupId`, see [Using the MessageGroupId Property](#) in the *Amazon Simple Queue Service Developer Guide*.

Type: String

Required: No

QueueUrl

The URL of the Amazon SQS queue to which a message is sent.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

MD5OfMessageAttributes

An MD5 digest of the non-URL-encoded message attribute string. You can use this attribute to verify that Amazon SQS received the message correctly. Amazon SQS URL-decodes the message before creating the MD5 digest. For information on MD5, see [RFC1321](#).

Type: String

MD5OfMessageBody

An MD5 digest of the non-URL-encoded message attribute string. You can use this attribute to verify that Amazon SQS received the message correctly. Amazon SQS URL-decodes the message before creating the MD5 digest. For information on MD5, see [RFC1321](#).

Type: String

MessageId

An element containing the `MessageId` of the message sent to the queue. For more information, see [Queue and Message Identifiers](#) in the *Amazon SQS Developer Guide*.

Type: String

SequenceNumber

This element applies only to FIFO (first-in-first-out) queues.

A large, non-consecutive number that Amazon SQS assigns to each message.

The length of `SequenceNumber` is 128 bits. `SequenceNumber` continues to increase for a particular `MessageGroupId`.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

AWS.SimpleQueueService.UnsupportedOperation

Error code 400. Unsupported operation.

HTTP Status Code: 400

InvalidMessageContents

The message contains characters outside the allowed set.

HTTP Status Code: 400

Example

The following example `SendMessage` request sends a message containing `This is a test message` to the queue. You must URL-encode the entire URL. However, here the only the message body is URL-encoded to make the example easier to read. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=SendMessage  
&MessageBody=This+is+a+test+message  
&MessageAttribute.1.Name=test_attribute_name_1  
&MessageAttribute.1.Value.StringValue=test_attribute_value_1  
&MessageAttribute.1.Value.DataType=String  
&MessageAttribute.2.Name=test_attribute_name_2  
&MessageAttribute.2.Value.StringValue=test_attribute_value_2  
&MessageAttribute.2.Value.DataType=String  
&Version=2012-11-05  
&Expires=2014-05-05T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<SendMessageResponse>  
  <SendMessageResult>  
    <MD5OfMessageBody>  
      fafb00f5732ab283681e124bf8747ed1  
    </MD5OfMessageBody>  
    <MD5OfMessageAttributes>  
      3ae8f24a165a8cedc005670c81a27295  
    </MD5OfMessageAttributes>  
    <MessageId>  
      5fea7756-0ea4-451a-a703-a558b933e274  
    </MessageId>  
  </SendMessageResult>  
  <ResponseMetadata>  
    <RequestId>  
      27daac76-34dd-47df-bd01-1f6e873584a0  
    </RequestId>  
  </ResponseMetadata>  
</SendMessageResponse>
```

SendMessageBatch

Delivers up to ten messages to the specified queue. This is a batch version of [SendMessage](#) (p. 36). For a FIFO queue, multiple messages within a single batch are enqueued in the order they are sent.

The result of sending each message is reported individually in the response. Because the batch request can result in a combination of successful and unsuccessful actions, you should check for batch errors even when the call returns an HTTP status code of 200.

The maximum allowed individual message size and the maximum total payload size (the sum of the individual lengths of all of the batched messages) are both 256 KB (262,144 bytes).

Important

The following list shows the characters (in Unicode) that are allowed in your message, according to the W3C XML specification:

- #x9
- #xA
- #xD
- #x20 to #xD7FF
- #xE000 to #xFFFD
- #x10000 to #x10FFFF

For more information, see [RFC1321](#). If you send any characters that aren't included in this list, your request is rejected.

If you don't specify the `DelaySeconds` parameter for an entry, Amazon SQS uses the default value for the queue.

Note

Some actions take lists of parameters. These lists are specified using the `param.n` notation. Values of `n` are integers starting from 1. For example, a parameter list with two elements looks like this:

```
&param.Attribute.1=this  
&param.Attribute.2=that
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

QueueUrl

The URL of the Amazon SQS queue to which batched messages are sent.

Queue URLs are case-sensitive.

Type: String

Required: Yes

SendMessageBatchRequestEntry.N

A list of [SendMessageBatchRequestEntry](#) (p. 54) items.

Type: array of [SendMessageBatchRequestEntry](#) (p. 54) objects

Required: Yes

Response Elements

The following elements are returned by the service.

BatchResultErrorEntry.N

A list of [BatchResultErrorEntry](#) (p. 47) items with error details about each message that can't be enqueued.

Type: array of [BatchResultErrorEntry](#) (p. 47) objects

SendMessageBatchResultEntry.N

A list of [SendMessageBatchResultEntry](#) (p. 56) items.

Type: array of [SendMessageBatchResultEntry](#) (p. 56) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 59).

AWS.SimpleQueueService.BatchEntryIdsNotDistinct

Two or more batch entries in the request have the same Id.

HTTP Status Code: 400

AWS.SimpleQueueService.BatchRequestTooLong

The length of all the messages put together is more than the limit.

HTTP Status Code: 400

AWS.SimpleQueueService.EmptyBatchRequest

The batch request doesn't contain any entries.

HTTP Status Code: 400

AWS.SimpleQueueService.InvalidBatchEntryId

The Id of a batch entry in a batch request doesn't abide by the specification.

HTTP Status Code: 400

AWS.SimpleQueueService.TooManyEntriesInBatchRequest

The batch request contains more entries than permissible.

HTTP Status Code: 400

AWS.SimpleQueueService.UnsupportedOperation

Error code 400. Unsupported operation.

HTTP Status Code: 400

Example

The following example `SendMessageBatch` request sends two messages to the queue. You must URL-encode the entire URL. However, here the only the message body is URL-encoded to make the example easier to read. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/  
?Action=SendMessageBatch  
&SendMessageBatchRequestEntry.1.Id=test_msg_001  
&SendMessageBatchRequestEntry.1.MessageBody=test%20message%20body%201  
&SendMessageBatchRequestEntry.2.Id=test_msg_002  
&SendMessageBatchRequestEntry.2.MessageBody=test%20message%20body%202  
&SendMessageBatchRequestEntry.2.DelaySeconds=60  
&SendMessageBatchRequestEntry.2.MessageAttribute.1.Name=test_attribute_name_1  
&SendMessageBatchRequestEntry.2.MessageAttribute.1.Value.StringValue=test_attribute_value_1  
&SendMessageBatchRequestEntry.2.MessageAttribute.1.Value.DataType=String  
&Version=2012-11-05
```

```
&Expires=2014-05-05T22%3A52%3A43PST  
&AUTHPARAMS
```

Sample Response

```
<SendMessageBatchResponse>  
<SendMessageBatchResult>  
  <SendMessageBatchResultEntry>  
    <Id>test_msg_001</Id>  
    <MessageId>0a5231c7-8bff-4955-be2e-8dc7c50a25fa</MessageId>  
    <MD5OfMessageBody>0e024d309850c78cba5eabbef7cae71</MD5OfMessageBody>  
  </SendMessageBatchResultEntry>  
  <SendMessageBatchResultEntry>  
    <Id>test_msg_002</Id>  
    <MessageId>15ee1ed3-87e7-40c1-bdaa-2e49968ea7e9</MessageId>  
    <MD5OfMessageBody>7fb8146a82f95e0af155278f406862c2</MD5OfMessageBody>  
    <MD5OfMessageAttributes>295c5fa15a51aae6884d1d7c1d99ca50</  
MD5OfMessageAttributes>  
  </SendMessageBatchResultEntry>  
</SendMessageBatchResult>  
<ResponseMetadata>  
  <RequestId>calad5d0-8271-408b-8d0f-1351bf547e74</RequestId>  
</ResponseMetadata>  
</SendMessageBatchResponse>
```

SetQueueAttributes

Sets the value of one or more queue attributes. When you change a queue's attributes, the change can take up to 60 seconds for most of the attributes to propagate throughout the Amazon SQS system. Changes made to the `MessageRetentionPeriod` attribute can take up to 15 minutes.

Note

In the future, new attributes might be added. If you are writing code that calls this action, we recommend that you structure your code so that it can handle new attributes gracefully.

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 57).

Attribute , Attribute.N.Name (key), Attribute.N.Value (value)

A map of attributes to set.

The following lists the names, descriptions, and values of the special request parameters that the `SetQueueAttributes` action uses:

- `DelaySeconds` - The number of seconds for which the delivery of all messages in the queue is delayed. Valid values: An integer from 0 to 900 (15 minutes). The default is 0 (zero).
- `MaximumMessageSize` - The limit of how many bytes a message can contain before Amazon SQS rejects it. Valid values: An integer from 1,024 bytes (1 KiB) up to 262,144 bytes (256 KiB). The default is 262,144 (256 KiB).
- `MessageRetentionPeriod` - The number of seconds for which Amazon SQS retains a message. Valid values: An integer representing seconds, from 60 (1 minute) to 1,209,600 (14 days). The default is 345,600 (4 days).
- `Policy` - The queue's policy. A valid AWS policy. For more information about policy structure, see [Overview of AWS IAM Policies](#) in the *Amazon IAM User Guide*.
- `ReceiveMessageWaitTimeSeconds` - The number of seconds for which a [ReceiveMessage](#) (p. 30) action waits for a message to arrive. Valid values: an integer from 0 to 20 (seconds). The default is 0.
- `RedrivePolicy` - The parameters for the dead letter queue functionality of the source queue. For more information about the redrive policy and dead letter queues, see [Using Amazon SQS Dead Letter Queues](#) in the *Amazon SQS Developer Guide*.

Note

The dead letter queue of a FIFO queue must also be a FIFO queue. Similarly, the dead letter queue of a standard queue must also be a standard queue.

- `VisibilityTimeout` - The visibility timeout for the queue. Valid values: an integer from 0 to 43,200 (12 hours). The default is 30. For more information about the visibility timeout, see [Visibility Timeout](#) in the *Amazon SQS Developer Guide*.

The following attribute applies only to [FIFO \(first-in-first-out\) queues](#):

- `ContentBasedDeduplication` - Enables content-based deduplication. For more information, see [Exactly-Once Processing](#) in the *Amazon SQS Developer Guide*.
 - Every message must have a unique `MessageDeduplicationId`,
 - You may provide a `MessageDeduplicationId` explicitly.
 - If you aren't able to provide a `MessageDeduplicationId` and you enable `ContentBasedDeduplication` for your queue, Amazon SQS uses a SHA-256 hash to generate the `MessageDeduplicationId` using the body of the message (but not the attributes of the message).
 - If you don't provide a `MessageDeduplicationId` and the queue doesn't have `ContentBasedDeduplication` set, the action fails with an error.
 - If the queue has `ContentBasedDeduplication` set, your `MessageDeduplicationId` overrides the generated one.

- When `ContentBasedDeduplication` is in effect, messages with identical content sent within the deduplication interval are treated as duplicates and only one copy of the message is delivered.
- You can also use `ContentBasedDeduplication` for messages with identical content to be treated as duplicates.
- If you send one message with `ContentBasedDeduplication` enabled and then another message with a `MessageDeduplicationId` that is the same as the one generated for the first `MessageDeduplicationId`, the two messages are treated as duplicates and only one copy of the message is delivered.

Any other valid special request parameters (such as the following) are ignored:

- `ApproximateNumberOfMessages`
- `ApproximateNumberOfMessagesDelayed`
- `ApproximateNumberOfMessagesNotVisible`
- `CreatedTimestamp`
- `LastModifiedTimestamp`
- `QueueArn`

Type: String to String map

Valid Map Keys: `All` | `Policy` | `VisibilityTimeout` | `MaximumMessageSize` | `MessageRetentionPeriod` | `ApproximateNumberOfMessages` | `ApproximateNumberOfMessagesNotVisible` | `CreatedTimestamp` | `LastModifiedTimestamp` | `QueueArn` | `ApproximateNumberOfMessagesDelayed` | `DelaySeconds` | `ReceiveMessageWaitTimeSeconds` | `RedrivePolicy` | `FifoQueue` | `ContentBasedDeduplication`

Required: Yes

QueueUrl

The URL of the Amazon SQS queue whose attributes are set.

Queue URLs are case-sensitive.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 59\)](#).

InvalidAttributeName

The attribute referred to doesn't exist.

HTTP Status Code: 400

Examples

Example

The following example query request sets a policy that gives all users [ReceiveMessage \(p. 30\)](#) permission for a queue named `testQueue`. For more examples of policies, see [Amazon SQS Policy Examples](#) in the *Amazon SQS Developer Guide*. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/
```



```
?Action=SetQueueAttributes
&Version=2012-11-05
&Attribute.Name=Policy
&Attribute.Value=%7B%22Version%22%3A%222012-11-05%22%2C%22Id%22
%3A%222F123456789012%2FtestQueue%2FSQSDefaultPolicy%22%2C%22Stat
ement%22%3A%5B%7B%22Sid%22%3A%22Queue1ReceiveMessage%22%2C%22Effe
ct%22%3A%22Allow%22%2C%22Principal%22%3A%7B%22AWS%22%3A%22*%22%7D
%2C%22Action%22%3A%22SQS%3AReceiveMessage%22%2C%22Resource%22%3A%
22arn%3Aaws%3Aaws%3Asqs%3Aus%2Deast%2D1%3A123456789012%3AtestQueue%22%7D%5D
%7D
&Timestamp=2015-12-06T16%3A57%3A31.000Z
&AUTHPARAMS
```

Example

The following example query request sets the visibility timeout to 35 seconds for a queue named `testQueue`. How you structure the `AUTHPARAMS` depends on how you are signing your API request. For information on `AUTHPARAMS` in Signature Version 4, see [Examples of Signed Signature Version 4 Requests](#) in the *Amazon Web Services General Reference*.

Note

A message is considered to be *in flight* after it's received from a queue by a consumer, but not yet deleted from the queue.

For standard queues, there can be a maximum of 120,000 inflight messages per queue. If you reach this limit, Amazon SQS returns the `OverLimit` error message. To avoid reaching the limit, you should delete messages from the queue after they're processed. You can also increase the number of queues you use to process your messages.

For FIFO queues, there can be a maximum of 20,000 inflight messages per queue. If you reach this limit, Amazon SQS returns no error messages.

Sample Request

```
http://sqs.us-east-2.amazonaws.com/123456789012/testQueue/
?Action=SetQueueAttributes
&Attribute.Name=VisibilityTimeout
&Attribute.Value=35
&Version=2012-11-05
&Expires=2014-04-18T22%3A52%3A43PST
&AUTHPARAMS
```

Sample Response

```
<SetQueueAttributesResponse>
  <ResponseMetadata>
    <RequestId>
      e5cca473-4fc0-4198-a451-8abb94d02c75
    </RequestId>
  </ResponseMetadata>
</SetQueueAttributesResponse>
```

Data Types

The Amazon Simple Queue Service API contains several data types that various actions use. This section describes each data type in detail.

Note

The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- [BatchResultErrorEntry](#) (p. 47)
- [ChangeMessageVisibilityBatchRequestEntry](#) (p. 48)
- [ChangeMessageVisibilityBatchResultEntry](#) (p. 49)
- [DeleteMessageBatchRequestEntry](#) (p. 50)
- [DeleteMessageBatchResultEntry](#) (p. 51)
- [Message](#) (p. 52)
- [MessageAttributeValue](#) (p. 53)
- [SendMessageBatchRequestEntry](#) (p. 54)
- [SendMessageBatchResultEntry](#) (p. 56)

BatchResultErrorEntry

This is used in the responses of batch API to give a detailed description of the result of an action on each entry in the request.

Contents

Code

An error code representing why the action failed on this entry.

Type: String

Required: Yes

Id

The `Id` of an entry in a batch request.

Type: String

Required: Yes

Message

A message explaining why the action failed on this entry.

Type: String

Required: No

SenderFault

Specifies whether the error happened due to the sender's fault.

Type: Boolean

Required: Yes

ChangeMessageVisibilityBatchRequestEntry

Encloses a receipt handle and an entry id for each message in [ChangeMessageVisibilityBatch](#) (p. 7) .

Important

All of the following list parameters must be prefixed with `ChangeMessageVisibilityBatchRequestEntry.n`, where `n` is an integer value starting with 1. For example, a parameter list for this action might look like this:

```
&ChangeMessageVisibilityBatchRequestEntry.1.Id=change_visibility_msg_2
&ChangeMessageVisibilityBatchRequestEntry.1.ReceiptHandle=<replaceable>Your_Receipt_Handle
&ChangeMessageVisibilityBatchRequestEntry.1.VisibilityTimeout=45
```

Contents

Id

An identifier for this particular receipt handle used to communicate the result.

Note

The Ids of a batch request need to be unique within a request

Type: String

Required: Yes

ReceiptHandle

A receipt handle.

Type: String

Required: Yes

VisibilityTimeout

The new value (in seconds) for the message's visibility timeout.

Type: Integer

Required: No

ChangeMessageVisibilityBatchResultEntry

Encloses the `Id` of an entry in [ChangeMessageVisibilityBatch](#) (p. 7) .

Contents

Id

Represents a message whose visibility timeout has been changed successfully.

Type: String

Required: Yes

DeleteMessageBatchRequestEntry

Encloses a receipt handle and an identifier for it.

Contents

Id

An identifier for this particular receipt handle. This is used to communicate the result.

Note

The `Ids` of a batch request need to be unique within a request

Type: String

Required: Yes

ReceiptHandle

A receipt handle.

Type: String

Required: Yes

DeleteMessageBatchResultEntry

Encloses the `Id` of an entry in [DeleteMessageBatch](#) (p. 15) .

Contents

Id

Represents a successfully deleted message.

Type: String

Required: Yes

Message

An Amazon SQS message.

Contents

Attribute , Attribute.N.Name (key), Attribute.N.Value (value)

SenderId, SentTimestamp, ApproximateReceiveCount, and/or ApproximateFirstReceiveTimestamp. SentTimestamp and ApproximateFirstReceiveTimestamp are each returned as an integer representing the [epoch time](#) in milliseconds.

Type: String to String map

Valid Map Keys: SenderId | SentTimestamp | ApproximateReceiveCount | ApproximateFirstReceiveTimestamp | SequenceNumber | MessageDeduplicationId | MessageGroupId

Required: No

Body

The message's contents (not URL-encoded).

Type: String

Required: No

MD5OfBody

An MD5 digest of the non-URL-encoded message body string.

Type: String

Required: No

MD5OfMessageAttributes

An MD5 digest of the non-URL-encoded message attribute string. You can use this attribute to verify that Amazon SQS received the message correctly. Amazon SQS URL-decodes the message before creating the MD5 digest. For information on MD5, see [RFC1321](#).

Type: String

Required: No

MessageAttribute , MessageAttribute.N.Name (key), MessageAttribute.N.Value (value)

Each message attribute consists of a Name, Type, and Value. For more information, see [Message Attribute Items and Validation](#) in the *Amazon SQS Developer Guide*.

Type: String to [MessageAttributeValue](#) (p. 53) object map

Required: No

MessageId

A unique identifier for the message. A MessageId is considered unique across all AWS accounts for an extended period of time.

Type: String

Required: No

ReceiptHandle

An identifier associated with the act of receiving the message. A new receipt handle is returned every time you receive a message. When deleting a message, you provide the last received receipt handle to delete the message.

Type: String

Required: No

MessageAttributeValue

The user-specified message attribute value. For string data types, the `Value` attribute has the same restrictions on the content as the message body. For more information, see [SendMessage \(p. 36\)](#).

`Name`, `type`, `value` and the message body must not be empty or null. All parts of the message attribute, including `Name`, `Type`, and `Value`, are part of the message size restriction (256 KB or 262,144 bytes).

Contents

BinaryListValue.N

Not implemented. Reserved for future use.

Type: array of Base64-encoded binary datas

Required: No

BinaryValue

Binary type attributes can store any binary data, such as compressed data, encrypted data, or images.

Type: Base64-encoded binary data

Required: No

DataType

Amazon SQS supports the following logical data types: `String`, `Number`, and `Binary`. For the `Number` data type, you must use `StringValue`.

You can also append custom labels. For more information, see [Message Attribute Data Types and Validation](#) in the *Amazon SQS Developer Guide*.

Type: String

Required: Yes

StringListValue.N

Not implemented. Reserved for future use.

Type: array of Strings

Required: No

StringValue

Strings are Unicode with UTF-8 binary encoding. For a list of code values, see [ASCII Printable Characters](#).

Type: String

Required: No

SendMessageBatchRequestEntry

Contains the details of a single Amazon SQS message along with an `Id`.

Contents

DelaySeconds

The number of seconds for which a specific message is delayed. Valid values: 0 to 900. Maximum: 15 minutes. Messages with a positive `DelaySeconds` value become available for processing after the delay period is finished. If you don't specify a value, the default value for the queue is applied.

Note

When you set `FifoQueue`, you can't set `DelaySeconds` per message. You can set this parameter only on a queue level.

Type: Integer

Required: No

Id

An identifier for a message in this batch used to communicate the result.

Note

The `Ids` of a batch request need to be unique within a request

Type: String

Required: Yes

MessageAttribute , `MessageAttribute.N.Name` (key), `MessageAttribute.N.Value` (value)

Each message attribute consists of a `Name`, `Type`, and `Value`. For more information, see [Message Attribute Items and Validation](#) in the *Amazon SQS Developer Guide*.

Type: String to [MessageAttributeValue](#) (p. 53) object map

Required: No

MessageBody

The body of the message.

Type: String

Required: Yes

MessageDeduplicationId

This parameter applies only to FIFO (first-in-first-out) queues.

The token used for deduplication of messages within a 5-minute minimum deduplication interval. If a message with a particular `MessageDeduplicationId` is sent successfully, subsequent messages with the same `MessageDeduplicationId` are accepted successfully but aren't delivered. For more information, see [Exactly-Once Processing](#) in the *Amazon SQS Developer Guide*.

- Every message must have a unique `MessageDeduplicationId`,
 - You may provide a `MessageDeduplicationId` explicitly.
 - If you aren't able to provide a `MessageDeduplicationId` and you enable `ContentBasedDeduplication` for your queue, Amazon SQS uses a SHA-256 hash to generate the `MessageDeduplicationId` using the body of the message (but not the attributes of the message).
 - If you don't provide a `MessageDeduplicationId` and the queue doesn't have `ContentBasedDeduplication` set, the action fails with an error.
 - If the queue has `ContentBasedDeduplication` set, your `MessageDeduplicationId` overrides the generated one.
- When `ContentBasedDeduplication` is in effect, messages with identical content sent within the deduplication interval are treated as duplicates and only one copy of the message is delivered.

- You can also use `ContentBasedDeduplication` for messages with identical content to be treated as duplicates.
- If you send one message with `ContentBasedDeduplication` enabled and then another message with a `MessageDeduplicationId` that is the same as the one generated for the first `MessageDeduplicationId`, the two messages are treated as duplicates and only one copy of the message is delivered.

Note

The `MessageDeduplicationId` is available to the recipient of the message (this can be useful for troubleshooting delivery issues).

If a message is sent successfully but the acknowledgement is lost and the message is resent with the same `MessageDeduplicationId` after the deduplication interval, Amazon SQS can't detect duplicate messages.

The length of `MessageDeduplicationId` is 128 characters. `MessageDeduplicationId` can contain alphanumeric characters (a-z, A-Z, 0-9) and punctuation (!"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~).

For best practices of using `MessageDeduplicationId`, see [Using the MessageDeduplicationId Property](#) in the *Amazon Simple Queue Service Developer Guide*.

Type: String

Required: No

MessageGroupId

This parameter applies only to FIFO (first-in-first-out) queues.

The tag that specifies that a message belongs to a specific message group. Messages that belong to the same message group are processed in a FIFO manner (however, messages in different message groups might be processed out of order). To interleave multiple ordered streams within a single queue, use `MessageGroupId` values (for example, session data for multiple users). In this scenario, multiple readers can process the queue, but the session data of each user is processed in a FIFO fashion.

- You must associate a non-empty `MessageGroupId` with a message. If you don't provide a `MessageGroupId`, the action fails.
- `ReceiveMessage` might return messages with multiple `MessageGroupId` values. For each `MessageGroupId`, the messages are sorted by time sent. The caller can't specify a `MessageGroupId`.

The length of `MessageGroupId` is 128 characters. Valid values are alphanumeric characters and punctuation (!"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~).

For best practices of using `MessageGroupId`, see [Using the MessageGroupId Property](#) in the *Amazon Simple Queue Service Developer Guide*.

Type: String

Required: No

SendMessageBatchResultEntry

Encloses a `MessageId` for a successfully-enqueued message in a [SendMessageBatch](#) (p. 40) .

Contents

Id

An identifier for the message in this batch.

Type: String

Required: Yes

MD5OfMessageAttributes

An MD5 digest of the non-URL-encoded message attribute string. You can use this attribute to verify that Amazon SQS received the message correctly. Amazon SQS URL-decodes the message before creating the MD5 digest. For information on MD5, see [RFC1321](#).

Type: String

Required: No

MD5OfMessageBody

An MD5 digest of the non-URL-encoded message attribute string. You can use this attribute to verify that Amazon SQS received the message correctly. Amazon SQS URL-decodes the message before creating the MD5 digest. For information on MD5, see [RFC1321](#).

Type: String

Required: Yes

MessageId

An identifier for the message.

Type: String

Required: Yes

SequenceNumber

This element applies only to FIFO (first-in-first-out) queues.

A large, non-consecutive number that Amazon SQS assigns to each message.

The length of `SequenceNumber` is 128 bits. As `SequenceNumber` continues to increase for a particular `MessageGroupId`.

Type: String

Required: No

Common Parameters

The following table lists the parameters that all actions use for signing Signature Version 4 requests. Any action-specific parameters are listed in the topic for that action. To view sample requests, see [Examples of Signed Signature Version 4 Requests](#) or [Signature Version 4 Test Suite](#) in the *Amazon Web Services General Reference*.

Action

The action to be performed.

Type: string

Required: Yes

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: `access_key/YYYYMMDD/region/service/aws4_request`.

For more information, see [Task 2: Create a String to Sign for Signature Version 4](#) in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Handling Dates in Signature Version 4](#) in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service. For a list of services that support AWS Security Token Service, go to [Using Temporary Security Credentials to Access AWS](#) in *Using Temporary Security Credentials*.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Task 1: Create a Canonical Request For Signature Version 4](#) in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Errors

This section lists the common errors that all actions return. Any action-specific errors are listed in the topic for the action.

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

InvalidAction

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

InvalidClientTokenId

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

InvalidQueryParameter

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

RequestExpired

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

Throttling

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400