Amazon Simple Queue Service

Getting Started Guide

API Version 2012-11-05

Amazon Simple Queue Service: Getting Started Guide

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Welcome

Welcome to the *Amazon Simple Queue Service Getting Started Guide*. Amazon Simple Queue Service (Amazon SQS) is a messaging queue service: it's a service that handles message or work flows between other components in a system.

The following video walks you through the example presented in this guide: Getting Started with Amazon SQS.

Amazon SQS Resources

You may find the following related resources useful as you work with this service.

Amazon Simple Queue Service Developer Guide
: The developer guide provides a detailed discussion of the service. It includes an architectural overview and a programming reference.

Amazon Simple Queue Service API Reference
: The API reference gives the WSDL location; complete descriptions of the API actions, parameters, and data types; and a list of errors that the service returns.

Scaling Based on Amazon SQS
: You can use Amazon SQS queues to help determine the load on an application, and when combined with Auto Scaling, you can scale the number of Amazon EC2 instances out or in depending upon the volume of traffic.

Amazon SQS Release Notes
: The release notes give a high-level overview of the current release. They specifically note any new features, corrections, and known issues.

Product information for Amazon SQS
: The primary web page for information about Amazon SQS.

Amazon SQS Discussion Forums
: A community-based forum for developers to discuss technical questions related to Amazon SQS.

AWS Support
: The primary web page for information about support channels to help you build and run applications on AWS infrastructure services.

Introduction to Amazon SQS

Topics

This introduction to Amazon SQS is intended to give you a high-level overview of this web service. After reading this section, you should understand the basics you need to work through the examples in this guide.

Overview of Amazon SQS

Amazon SQS is a distributed queue system that enables web service applications to quickly and reliably queue messages that one component in the application generates to be consumed by another component. A queue is a temporary repository for messages that are awaiting processing.

Using Amazon SQS, you can decouple the components of an application so they run independently, with Amazon SQS easing message management between components. Any component of a distributed application can store messages in a fail-safe queue. Messages can contain up to 256 KB of text in any format. Any component can later retrieve the messages programmatically using the Amazon SQS API. Messages larger than 256 KB can be managed using the Amazon SQS Extended Client Library for Java, which uses Amazon S3 for storing larger payloads.

The queue acts as a buffer between the component producing and saving data, and the component receiving the data for processing. This means the queue resolves issues that arise if the producer is producing work faster than the consumer can process it, or if the producer or consumer are only intermittently connected to the network.

Amazon SQS ensures delivery of each message at least once, and supports multiple readers and writers interacting with the same queue. A single queue can be used simultaneously by many distributed application components, with no need for those components to coordinate with each other to share the queue.

Amazon SQS is engineered to always be available and deliver messages. One of the resulting tradeoffs is that SQS does not guarantee first in, first out delivery of messages. For many distributed applications, each message can stand on its own, and as long as all messages are delivered, the order is not important.

If your system requires that order be preserved, you can place sequencing information in each message, so that you can reorder the messages when the queue returns them.

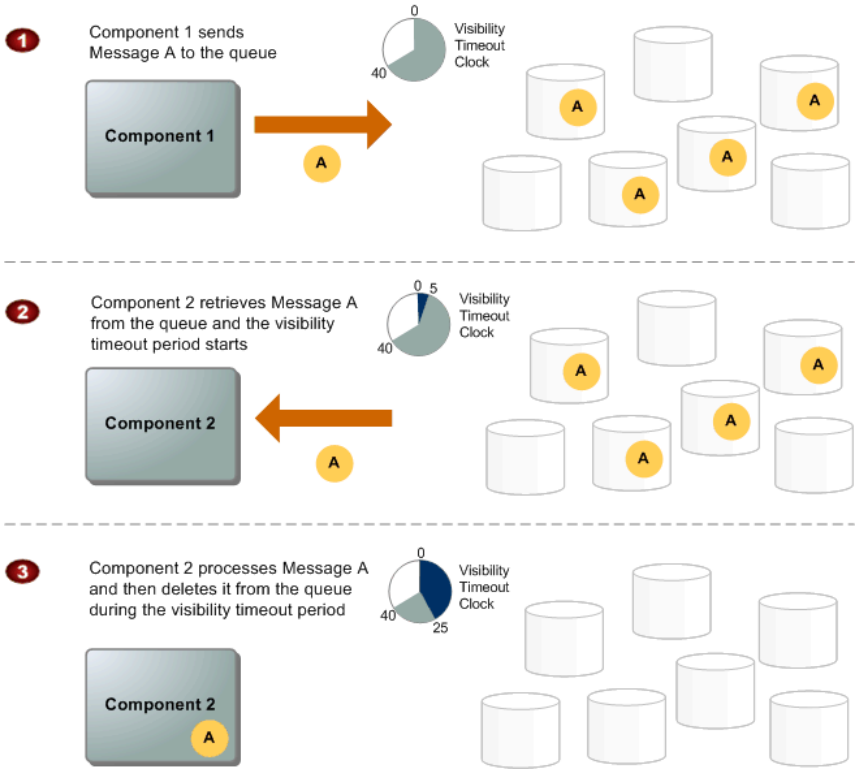
Features

Amazon SQS provides the following major features:

- **Redundant infrastructure** – Guarantees delivery of your messages at least once, highly concurrent access to messages, and high availability for sending and retrieving messages
- **Multiple writers and readers** – Multiple parts of your system can send or receive messages at the same time
  Amazon SQS locks the message during processing, keeping other parts of your system from processing the message simultaneously.
- **Configurable settings per queue** – All of your queues don't have to be exactly alike
  For example, one queue can be optimized for messages that require a longer processing time than others.
- **Variable message size** – Your messages can be up to 262,144 bytes (256 KB) in size
  For even larger messages, you can store the contents of the message using the Amazon Simple Storage Service (Amazon S3) or Amazon DynamoDB, and use Amazon SQS to hold a pointer to the Amazon S3 object. For more information, see Managing Amazon SQS Messages with Amazon S3.
  Alternatively, you can split the larger message into smaller ones.
- **Access control** – You can control who can send messages to a queue, and who can receive messages from a queue
- **Delay Queues** – A delay queue is one which the user sets a default delay on a queue such that delivery of all messages enqueued will be postponed for that duration of time. You can set the delay value when you create a queue with `CreateQueue`, and you can update the value with `SetQueueAttributes`. If you update the value, the new value affects only messages enqueued after the update.
- **PCI compliance** – Amazon SQS supports the processing, storage, and transmission of credit card data by a merchant or service provider, and has been validated as being compliant with Payment Card Industry (PCI) Data Security Standard (DSS). For more information about PCI DSS, including how to request a copy of the AWS PCI Compliance Package, see PCI DSS Level 1.

Message Lifecycle

The following diagram describes the lifecycle of an Amazon SQS message, from creation to deletion. In this example, a queue already exists.



Message Lifecycle

1	Component 1 sends Message A to a queue, and the message is redundantly distributed across the SQS servers.
2	When Component 2 is ready to process a message, it retrieves messages from the queue, and Message A is returned. While Message A is being processed, it remains in the queue and is not returned to subsequent receive requests for the duration of the *visibility timeout*.
3	Component 2 deletes Message A from the queue to avoid the message being received and processed again once the visibility timeout expires.

Note

SQS automatically deletes messages that have been in a queue for more than maximum message retention period. The default message retention period is 4 days. However, you can set the message retention period to a value from 60 seconds to 1209600 seconds (14 days) with SetQueueAttributes.

About the Samples

In the preceding section, we discussed in general terms how your system establishes a queue, confirms it's ready to use, and then starts using it. During use, the various components of your system continually send, receive, and delete messages. The examples in this guide focus specifically on the core queue operations:

- Creating a queue
- Listing your queues
- Controlling access to a queue
- Sending a message to a queue
- Retrieving messages from a queue
- Deleting messages from a queue
- Deleting a queue

The code samples available with this guide cover many of these operations. For more specific information about the samples, see Preparing the Samples (p. 10).

For information about the other operations you can perform with Amazon SQS, see the Amazon Simple Queue Service Developer Guide.

Getting Set Up

This section walks you through each of the tasks you must complete before you can submit an Amazon SQS request. They are presented in the best order to follow so that you can run the samples as quickly as possible. The following tables shows the sections you need to read if you're already an AWS user, or if you're brand new to AWS.

Existing AWS User	New AWS User
1. Getting the Tools You Need (p. 9)	1. Creating an AWS Account (p. 6) 2. Getting Your Access Key ID and Secret Access Key (p. 8) 3. Getting the Tools You Need (p. 9)

Creating an AWS Account

To access any web service AWS offers, you must first create an AWS account at http://aws.amazon.com. An AWS account is simply an Amazon.com account that is enabled to use AWS products; you can use an existing Amazon.com account login and password when creating the AWS account.

From your AWS account you can view your AWS account activity, view usage reports, and manage your AWS account access identifiers.

To set up a new account

1. Open http://aws.amazon.com/, and then choose **Create an AWS Account**.
2. Follow the online instructions.

   Part of the sign-up procedure involves receiving a phone call and entering a PIN using the phone keypad.

   Important
   We do not recommend that you use your AWS root account information to interact with Amazon SQS directly. Instead, we recommend an approach such as the following:

   1. Create an AWS Identity and Access Management (IAM) group named `Administrators`.
   2. Grant the group full permissions for all AWS services.

3. Create an IAM user for yourself.
4. Add the user to the `Administrators` group.
5. Use the IAM user information to interact with Amazon SQS directly.

For more information, see Creating an Administrators Group in the *IAM User Guide*.

Getting Your Access Key ID and Secret Access Key

To make calls to Amazon SQS programmatically (for example, using programming languages such as Java and C# or through the AWS Command Line Interface (AWS CLI)), you need an access key ID and a secret access key. If you plan to interact with Amazon SQS only through the Amazon SQS console, you do not need an access key ID or a secret access key, and you can skip ahead to Working with Amazon SQS (p. 10).

To get your access key ID and secret access key

Access keys consist of an access key ID and secret access key, which are used to sign programmatic requests that you make to AWS. If you don't have access keys, you can create them by using the AWS Management Console. We recommend that you use IAM access keys instead of AWS root account access keys. IAM lets you securely control access to AWS services and resources in your AWS account.

> **Note**
> To create access keys, you must have permissions to perform the required IAM actions. For more information, see Granting IAM User Permission to Manage Password Policy and Credentials in the *IAM User Guide*.

1. Open the IAM console.
2. In the navigation pane, choose **Users**.
3. Choose your IAM user name (not the check box).
4. Choose the **Security Credentials** tab and then choose **Create Access Key**.
5. To see your access key, choose **Show User Security Credentials**. Your credentials will look something like this:

   - Access Key ID: AKIAIOSFODNN7EXAMPLE
   - Secret Access Key: wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY

6. Choose **Download Credentials**, and store the keys in a secure location.

   Your secret key will no longer be available through the AWS Management Console; you will have the only copy. Keep it confidential in order to protect your account, and never email it. Do not share it outside your organization, even if an inquiry appears to come from AWS or Amazon.com. No one who legitimately represents Amazon will ever ask you for your secret key.

Related topics

- What Is IAM? in the *IAM User Guide*
- AWS Security Credentials in *AWS General Reference*

Getting the Tools You Need

If you want to use the sample code that goes with this guide, you must install the programming tools listed in this section. If you plan to interact with Amazon SQS only through the AWS Management Console, you do not need any of these programming tools, and you can skip ahead to Working with Amazon SQS (p. 10).

Note

Code examples are provided in this guide only for Java and C#. However, you can write code in additional programming languages. For more information, see the documentation for the AWS SDKs for Go, JavaScript, PHP, Python, and Ruby.

You can use the AWS Command Line Interface (AWS CLI) to interact with Amazon SQS through the command line. For more information, see Getting Set Up with the AWS Command Line Interface and the Amazon SQS section of the AWS CLI Reference.

You can also use the AWS Tools for Windows PowerShell to interact with Amazon SQS through Windows PowerShell. For more information, see Setting up the AWS Tools for Windows PowerShell and the Amazon Simple Queue Service section of the AWS Tools for Windows PowerShell Cmdlet Reference.

Java

To use the Java sample code, you must have the following tool:

- Java Standard Edition Development Kit

C#

To use the C# sample code, you must have the following tools:

- Microsoft .NET Framework 3.5 or later
- Visual Studio 2010 or later
- AWS SDK for .NET

For more information, see Install the .NET Development Environment.

Working with Amazon SQS

Topics

This section describes how to use the AWS Management Console or Java or C# to perform Amazon SQS operations such as creating a queue, sending a message to the queue, and retrieving and deleting messages from the queue. The following sections are intended to be followed sequentially, like a tutorial.

> **Tip**
> Code examples are provided in this guide only for Java and C#. However, you can write code in additional programming languages. For more information, see the documentation for the AWS SDKs for Go, JavaScript, PHP, Python, and Ruby.
> In addition to the AWS Management Console, you can explore Amazon SQS without writing code by using tools such as the AWS Command Line Interface (AWS CLI) or Windows PowerShell. AWS CLI examples are provided in the Amazon SQS section of the AWS CLI Reference. Windows PowerShell examples are provided in the Amazon Simple Queue Service section of the AWS Tools for Windows PowerShell Cmdlet Reference.

Preparing the Samples

If you want to use Java or C# code to complete the subsequent sections in this guide, you must make configuration changes to the sample files. If you plan to interact with Amazon SQS only through the Amazon SQS console, you can skip ahead to Creating a Queue (p. 11).

> **Tip**
> You can also use the **AWS Explorer** in the AWS Toolkit for Eclipse or the AWS Toolkit for Visual Studio to become more familiar with Amazon SQS without writing code. For information, see the AWS Toolkit for Eclipse Getting Started Guide or the AWS Toolkit for Visual Studio User Guide.

Java

Note that the Java example performs several actions in one call, including creating a queue, confirming the queue exists, sending a message, receiving a message, and deleting a message. The following procedure assumes you have completed the prerequisites in Getting the Tools You Need (p. 9), including installing the Java Standard Edition Development Kit.

To prepare the sample files

1. Go to the AWS SDK for Java page and download the SDK.
2. Unzip the `aws-java-sdk-<version>.zip` file to a directory designated as *<sqs home>* on your machine.
3. Specify your AWS credentials by following the instructions at Set Up your AWS Credentials for Use with the AWS SDK for Java.
4. Open the Amazon SQS sample at *<sqs home>*`/aws-java-sdk-`*<version>*`/samples/AmazonSimpleQueueService`.

C#

Note that the C# example performs several actions in one call, including creating a queue, confirming the queue exists, sending a message, receiving a message, and deleting a message. The following procedure assumes you have completed the prerequisites in Getting the Tools You Need (p. 9), including installing the Microsoft .NET Framework, Visual Studio, and the AWS SDK for .NET.

To prepare the sample files

1. Go to the aws-sdk-net-samples GitHub repository and choose **Download ZIP**, extracting the `aws-sdk-net-samples-master.zip` file's contents to a directory on your machine.

   Note
   The file contains many samples in addition to the Amazon SQS sample. It may take several minutes to extract the file's contents.
2. Specify your AWS credentials by following the instructions at Configuring AWS Credentials.
3. In the directory where you extracted the file's contents, go to the `ConsoleSamples\AmazonSQS_Sample` directory and open the file named `AmazonSQS_Sample.sln` in Visual Studio.
4. Open the `App.config` file.
5. In the `AWSProfileName` setting, specify the name of the profile that you defined for your credentials.
6. Save the file.

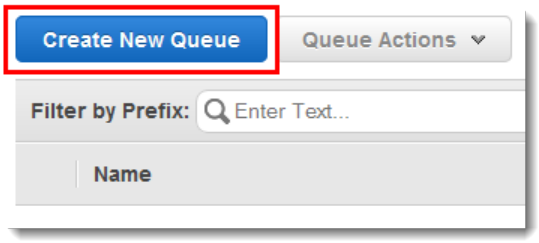
Creating a Queue

The first task in using Amazon SQS is to create one or more queues. The following examples demonstrate creation of a queue named `MyQueue`.

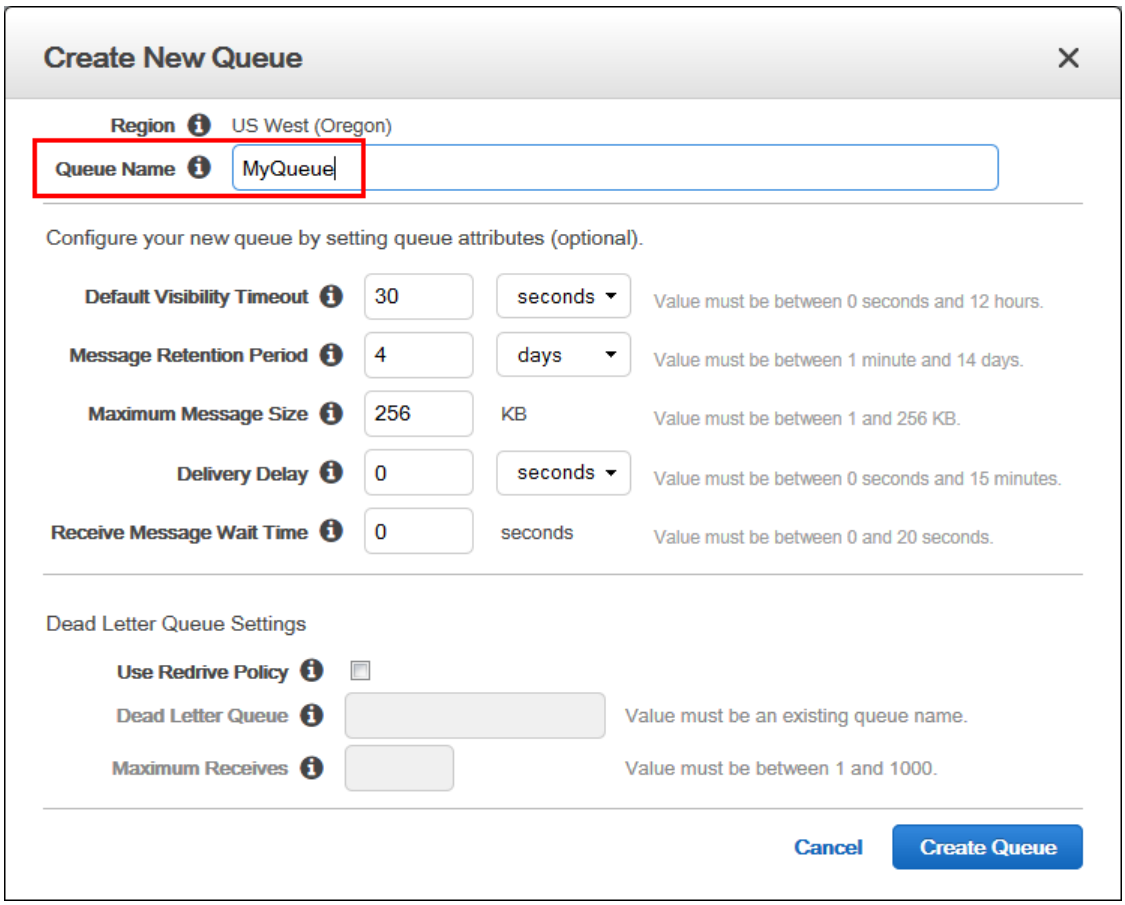
AWS Management Console

To run the sample

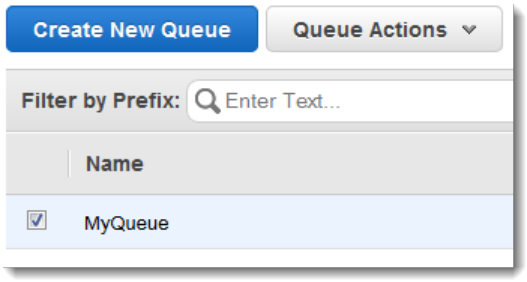
1. Sign in to the AWS Management Console and open the Amazon SQS console at https://console.aws.amazon.com/sqs/.
2. Click **Create New Queue**.



3. In the **Create New Queue** dialog box, enter `MyQueue` in the **Queue Name** field, and leave the default value settings for the remaining fields.



4. Click **Create Queue**.
   Your new queue appears in the list of queues.



Java

To run the sample

1. Open `SimpleQueueServiceSample.java`.

   The following section of the code creates a queue:

```
// Create a queue
System.out.println("Creating a new SQS queue called MyQueue.\n");
CreateQueueRequest createQueueRequest = new CreateQueueRe
quest().withQueueName("MyQueue");
String myQueueUrl = sqs.createQueue(createQueueRequest).getQueueUrl();
```

2. Compile and run the sample.
   The `MyQueue` queue is created.

C#

To run the sample

1. Open `Program.cs`.

   The following section of the code creates a queue:

```
//Creating a queue
Console.WriteLine("Create a queue called MyQueue.\n");
CreateQueueRequest sqsRequest = new CreateQueueRequest();
sqsRequest.QueueName = "MyQueue";
CreateQueueResponse createQueueResponse = sqs.CreateQueue(sqsRequest);
String myQueueUrl;
myQueueUrl = createQueueResponse.QueueUrl;
```

2. Run the sample.
   The `MyQueue` queue is created.

Confirming the Queue Exists

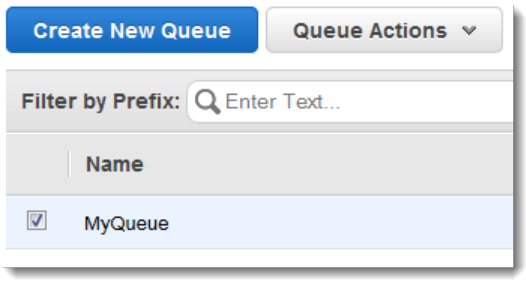
When you create a queue, it can take a short time for the queue to propagate throughout the Amazon SQS system. You can confirm the queue's existence by listing the queues you have in Amazon SQS. The following code snippets list the queues you've created using the 2012-11-05 version of Amazon SQS.

AWS Management Console

The AWS Management Console displays a list of your queues for the region you have selected.

To display a queue list for a specific region

- Select a region from the **Region** drop-down list, which is located on the top right of the console next to Help.
  The console displays all of your queues in that region.



Java

To run the sample

1. Open `SimpleQueueServiceSample.java`.

   The following section of the code lists your queues:

```
// List queues
System.out.println("Listing all queues in your account.\n");
for (String queueUrl : sqs.listQueues().getQueueUrls()) {
    System.out.println("  QueueUrl: " + queueUrl);
}
System.out.println();
```

2. Compile and run the sample.
   Amazon SQS returns the list of the queues you've created using the 2012-11-05 version of Amazon SQS, including the newly created `MyQueue` queue. Each queue is identified by its *queue URL*. The response also includes the request ID Amazon SQS assigned to your request.

C#

To run the sample

1. Open `Program.cs`.

   The following section of the code lists your queues:

```
//Confirming the queue exists
ListQueuesRequest listQueuesRequest = new ListQueuesRequest();
ListQueuesResponse listQueuesResponse = sqs.ListQueues(listQueuesRequest);

Console.WriteLine("Printing list of Amazon SQS queues.\n");
foreach (String queueUrl in listQueuesResponse.QueueUrls)
{
    Console.WriteLine("  QueueUrl: {0}", queueUrl);
}
Console.WriteLine();
```

2. Run the sample.
   Amazon SQS returns the list of the queues you've created using the 2012-11-05 version of Amazon SQS, including the newly created `MyQueue` queue. Each queue is identified by its *queue URL*. The response also includes the request ID Amazon SQS assigned to your request.

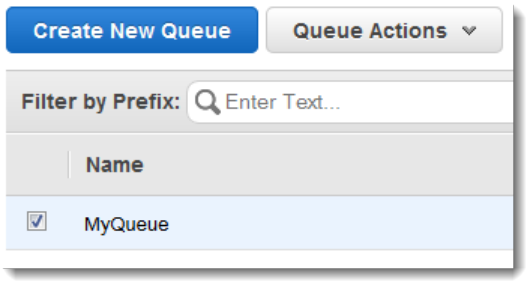
Add a Permission to the Queue

If you want to allow (or explicitly deny) others to interact with your queue in specific ways, you can specify this in the Amazon SQS system. The following demonstrates how to add a permission to your `MyQueue` queue.

AWS Management Console

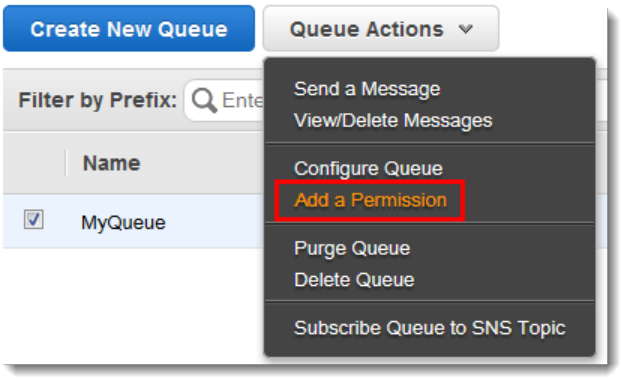
To add a permission to the queue

1. In the AWS Management Console select a queue.



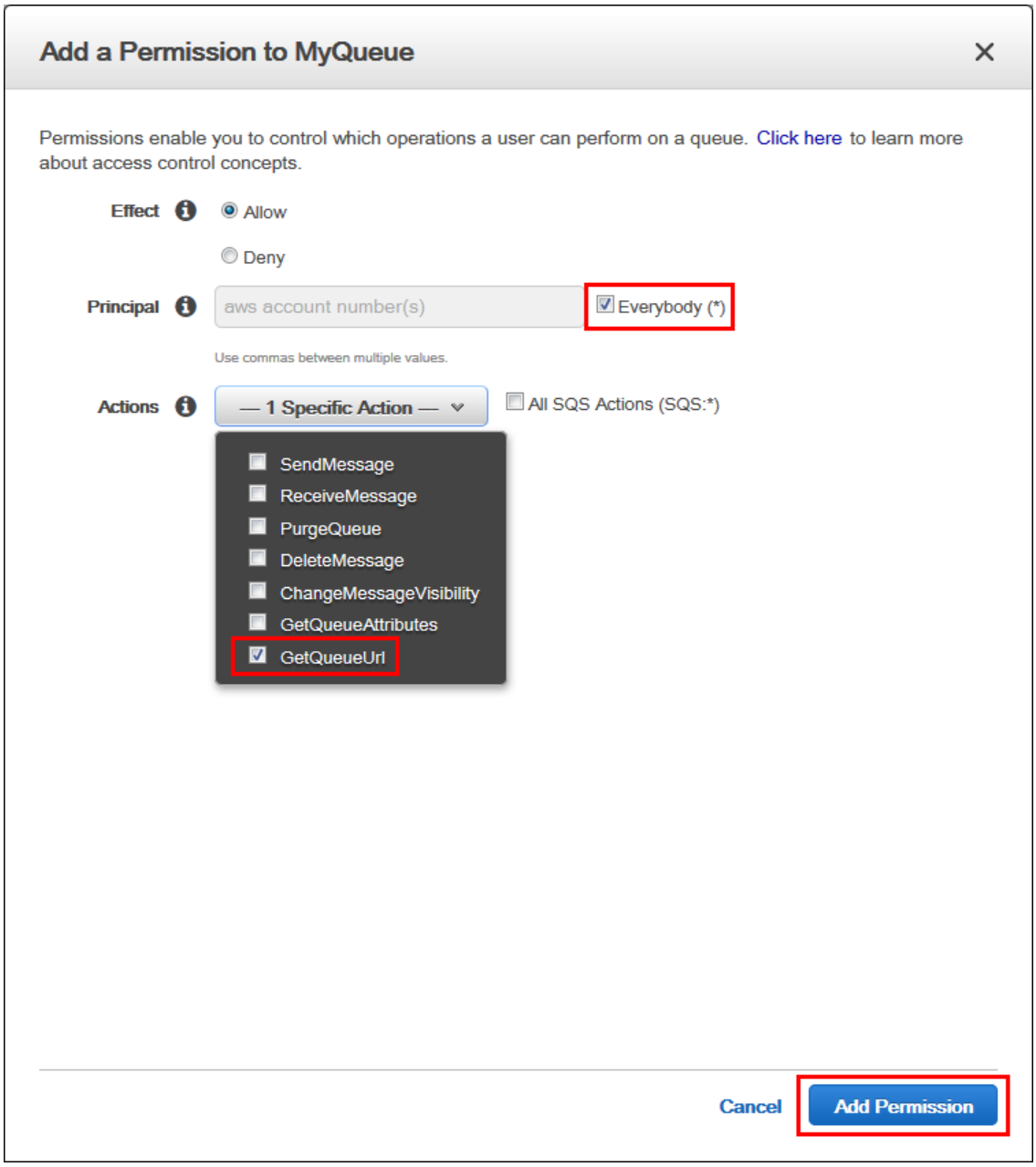
2. Select **Add a Permission** from the **Queue Actions** drop-down list.

   Note
   The **Queue Actions** drop-down list is available only if a queue is selected.

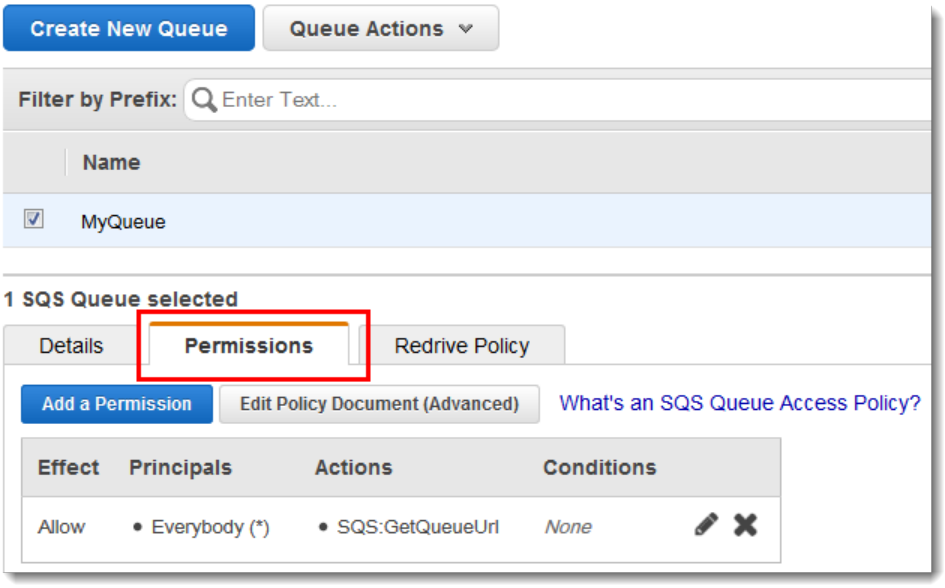


3. In the **Add a Permission** dialog box, specify the permission's settings.

   For this exercise, allow anyone to get the queue's URL: next to **Principal**, check the **Everybody** box; in the **Actions** drop-down list, check the **GetQueueUrl** box. Then click **Add Permission**.



4. To confirm that the permission was successfully added, with the queue still selected, click the **Permissions** tab.



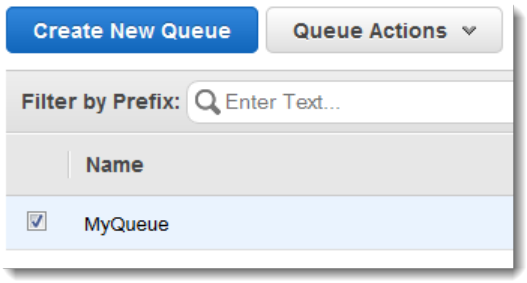
Sending a Message

Now that you've confirmed your queue exists in the Amazon SQS system, you can send a message to the queue. The following code snippets demonstrate how to send the message `This is my message text.` to your `MyQueue` queue.

AWS Management Console

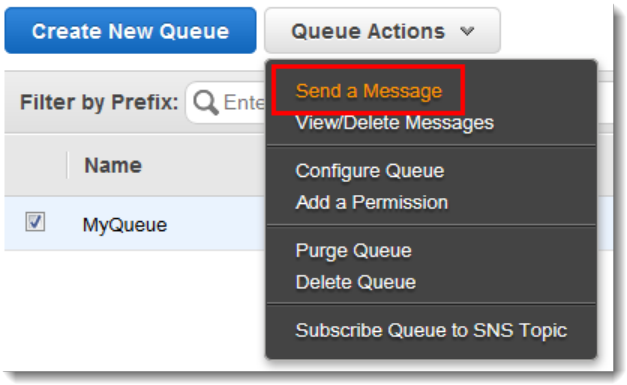
To send a message

1. In the AWS Management Console select a queue.

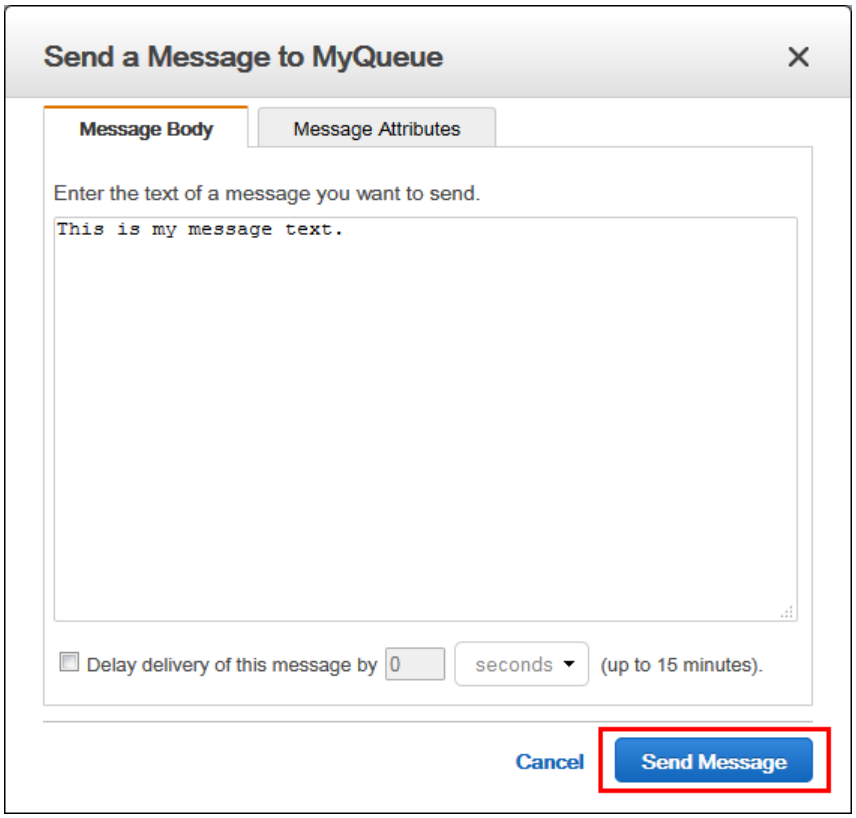


2. Select **Send a Message** from the **Queue Actions** drop-down list.

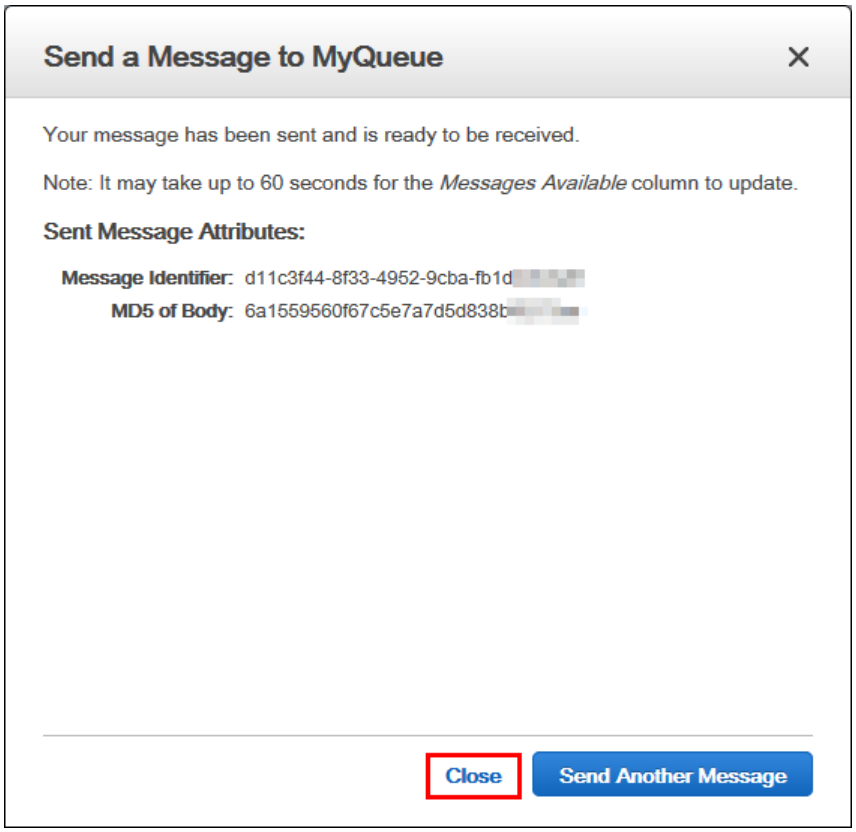
   Note
   The **Queue Actions** drop-down list is available only if a queue is selected.



3. In the **Send a Message to MyQueue** dialog box, enter `This is my message text.` and click **Send Message**.



4. In the **Send a Message to MyQueue** confirmation box click **Close**.



Java

To run the sample

1. Open `SimpleQueueServiceSample.java`.

   The following section of the code sends a message to your queue:

```
// Send a message
System.out.println("Sending a message to MyQueue.\n");
sqs.sendMessage(new SendMessageRequest()
    .withQueueUrl(myQueueUrl)
    .withMessageBody("This is my message text."));
```

2. Compile and run the sample.
   The message `This is my message text.` is sent to the queue. The response includes the following items:
   - The *message ID* Amazon SQS assigns to the message
   - An MD5 digest of the message body, which you can use to confirm that SQS received the message correctly (for information about MD5, go to http://faqs.org/rfcs/rfc1321.html)
   - The request ID that Amazon SQS assigned to your request

C#

To run the sample

1. Open `Program.cs`.

   The following section of the code sends a message to your queue:

```
//Sending a message
Console.WriteLine("Sending a message to MyQueue.\n");
SendMessageRequest sendMessageRequest = new SendMessageRequest();
sendMessageRequest.QueueUrl = myQueueUrl; //URL from initial queue creation
sendMessageRequest.MessageBody = "This is my message text.";
sqs.SendMessage(sendMessageRequest);
```

2. Run the sample.
   The message `This is my message text.` is sent to the queue. The response includes the following items:
   - The *message ID* Amazon SQS assigns to the message
   - An MD5 digest of the message body, which you can use to confirm that SQS received the message correctly (for information about MD5, go to http://faqs.org/rfcs/rfc1321.html)
   - The request ID that Amazon SQS assigned to your request

Receiving a Message

Now that a message is in the queue, you can receive it (retrieve it from the queue). When requesting to get a message from the queue, you can't specify which message to get. You simply specify the maximum number of messages you want to get (up to 10), and Amazon SQS returns up to that maximum number. Because Amazon SQS is a distributed system and the particular queue we're working with here has very few messages in it, the response to the receive request might be empty. Therefore, in this example where the default of short polling is used, you should rerun the sample until you get the message.

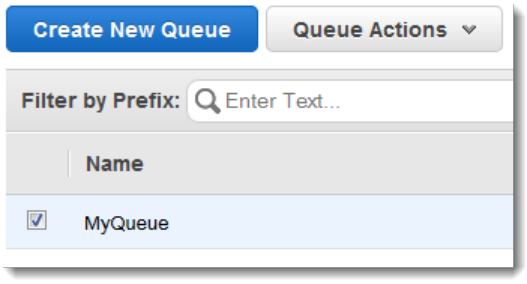
> **Note**
> When you design your own application determine whether short or long polling works better for your environment and application needs. For more information, see Amazon SQS Long Poll

Amazon SQS doesn't automatically delete the message after returning it to you, in case you don't actually receive the message (the receiving component could fail or lose its connection). You must send a separate request to delete the message, which acknowledges that you've successfully received and processed the message. For more information, see Deleting a Message (p. 27).

AWS Management Console

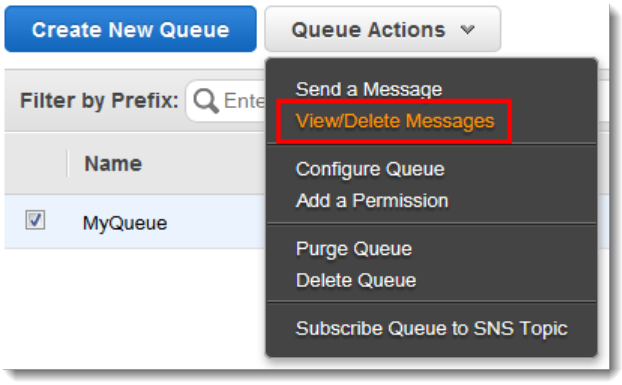
To receive a message

1. In the AWS Management Console, select a queue.

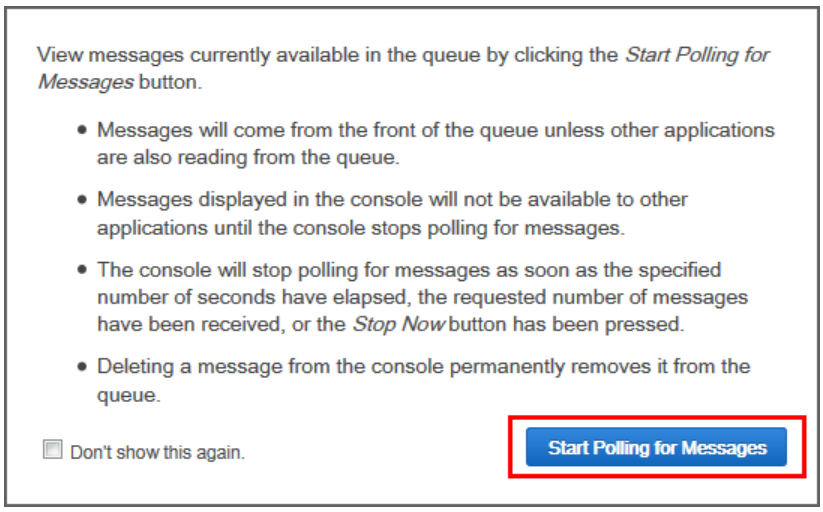


2. Select **View/Delete Messages** from the **Queue Actions** drop-down list.

   Note
   The **Queue Actions** drop-down list is available only if a queue is selected.

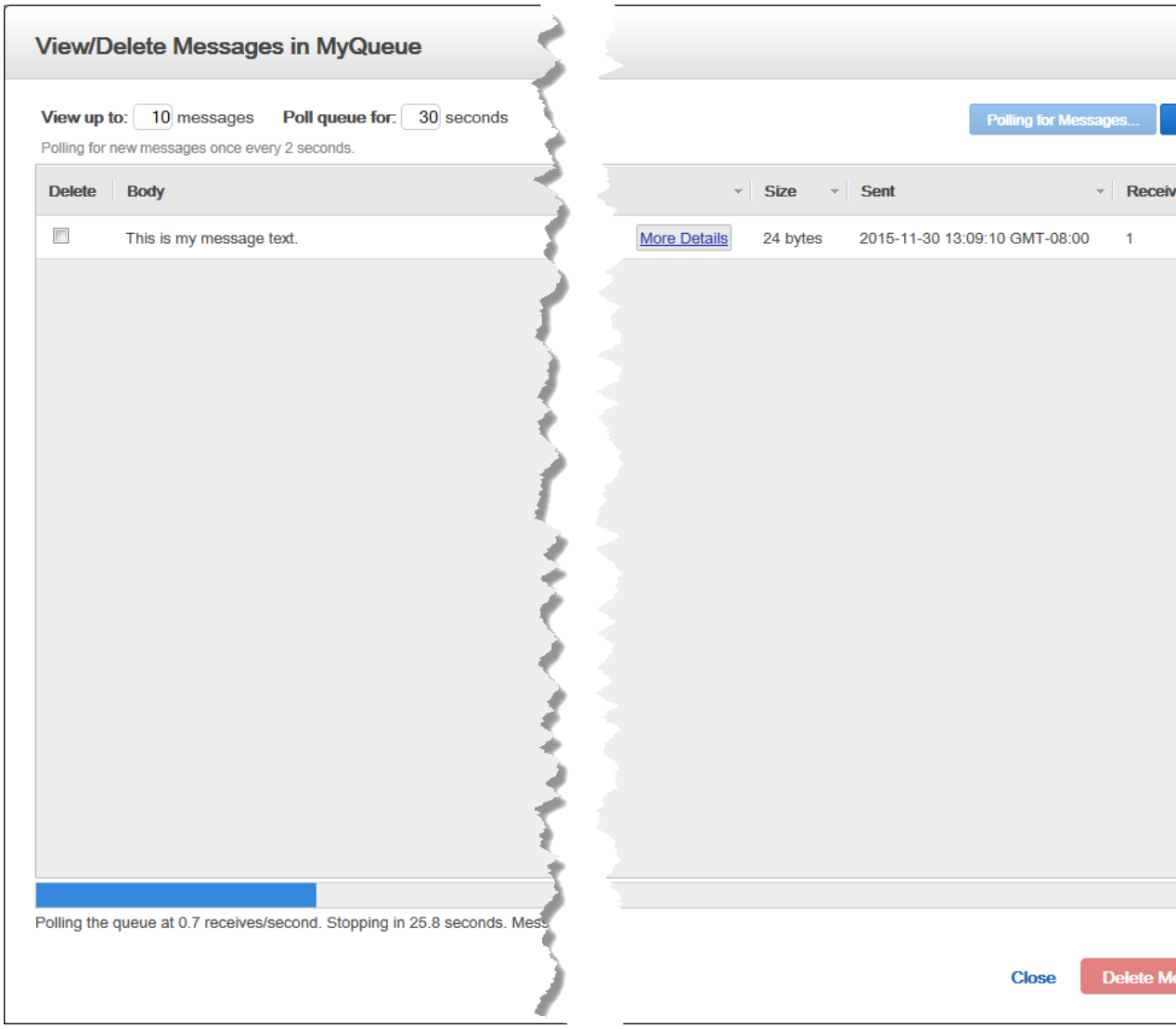


3. Click **Start Polling for Messages** to receive a message from the queue.

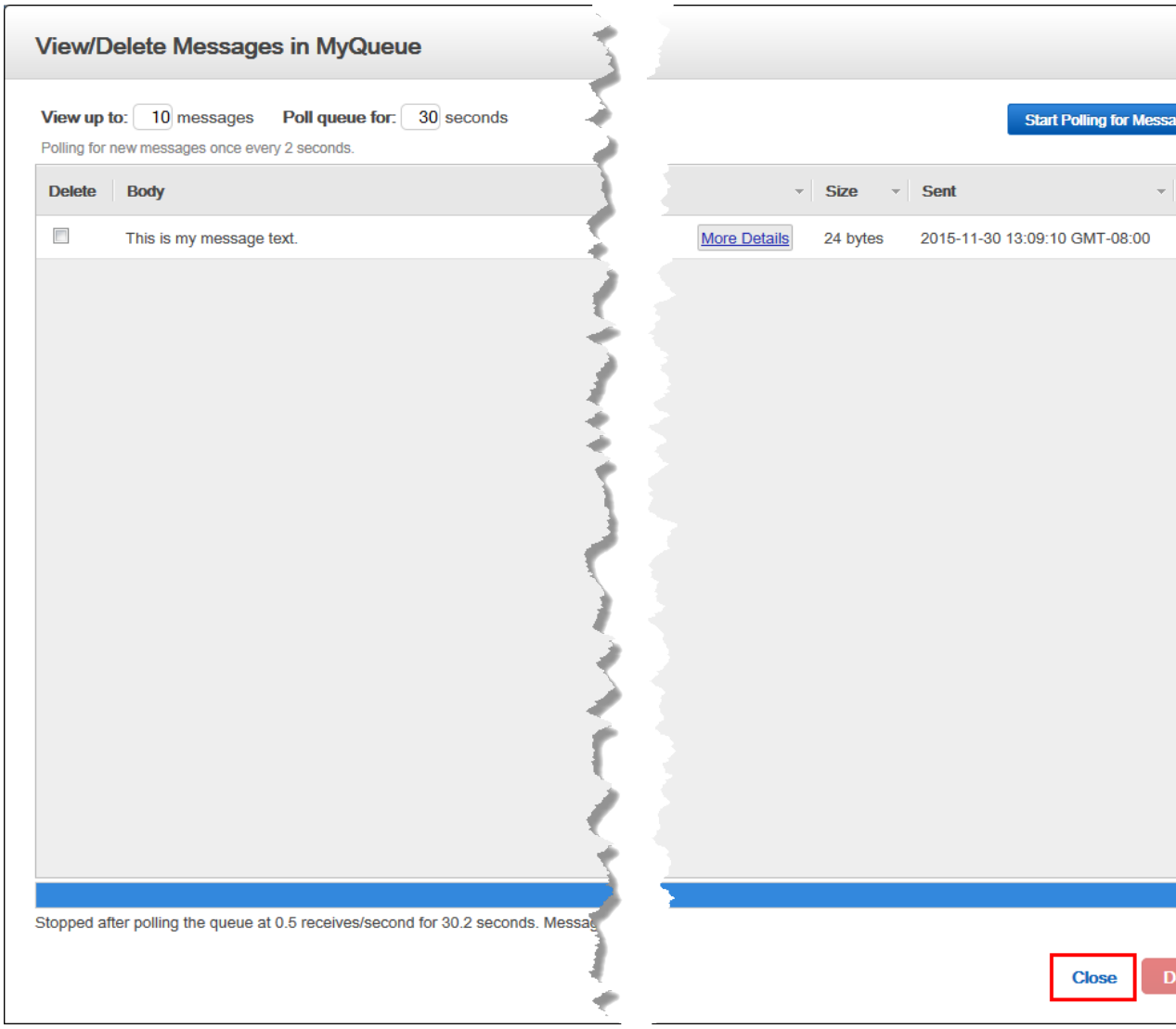


   Note
   The **Start Polling for Messages** dialog box will not appear if you have previously selected the **Don't show this again** checkbox.

   The **View/Delete Messages in MyQueue** dialog box displays a message from the queue.



A progress bar at the bottom of the dialog box displays the status of the message's visibility timeout. While the bar is not filled in, the message is not visible to other consumers. When the bar is filled in, the visibility timeout is complete and the message is once again visible to other consumers.



4. Click **Close** to close the **View/Delete Messages in MyQueue** dialog box.

Java

To run the sample

1. Open `SimpleQueueServiceSample.java`.

   The following section of the code receives a message from your queue:

```
System.out.println("Receiving messages from MyQueue.\n");
ReceiveMessageRequest receiveMessageRequest = new ReceiveMessageRe
quest(myQueueUrl);
List<Message> messages = sqs.receiveMessage(receiveMessageRequest).getMes
sages();
for (Message message : messages) {
    System.out.println("  Message");
```

```
    System.out.println("    MessageId:     " + message.getMessageId());
    System.out.println("    ReceiptHandle: " + message.getReceiptHandle());
    System.out.println("    MD5OfBody:     " + message.getMD5OfBody());
    System.out.println("    Body:          " + message.getBody());
    for (Entry<String, String> entry : message.getAttributes().entrySet()) {

        System.out.println("  Attribute");
        System.out.println("    Name:  " + entry.getKey());
        System.out.println("    Value: " + entry.getValue());
    }
}
System.out.println();
```

2. Compile and run the sample.
   The `MyQueue` queue is polled for messages and returns 0 or more messages. The sample prints the following items:
   - The *message ID* that you received when you sent the message to the queue
   - The *receipt handle* (which you use later to delete the message)
   - An MD5 digest of the message body (for information about MD5, go to http://faqs.org/rfcs/rfc1321.html)
   - The message body
   - The request ID that Amazon SQS assigned to your request

   If no messages are received in this particular call, the response includes only the request ID.

C#

To run the sample

1. Open `Program.cs`.

   The following section of the code receives a message from your queue:

```
//Receiving a message
ReceiveMessageRequest receiveMessageRequest = new ReceiveMessageRequest();
receiveMessageRequest.QueueUrl = myQueueUrl;
ReceiveMessageResponse receiveMessageResponse = sqs.ReceiveMessage(receiveMes
sageRequest);

Console.WriteLine("Printing received message.\n");
foreach (Message message in receiveMessageResponse.Messages)
{
    Console.WriteLine("  Message");
    Console.WriteLine("    MessageId: {0}", message.MessageId);
    Console.WriteLine("    ReceiptHandle: {0}", message.ReceiptHandle);
    Console.WriteLine("    MD5OfBody: {0}", message.MD5OfBody);
    Console.WriteLine("    Body: {0}", message.Body);

    foreach (KeyValuePair<string, string> entry in message.Attributes)
    {
        Console.WriteLine("  Attribute");
        Console.WriteLine("    Name: {0}", entry.Key);
        Console.WriteLine("    Value: {0}", entry.Value);
    }
```

```
}
String messageRecieptHandle = receiveMessageResponse.Messages[0].ReceiptHandle;
```

2. Run the sample.
   The `MyQueue` queue is polled for messages and returns 0 or more messages. The sample prints the following items:
   - The *message ID* that you received when you sent the message to the queue
   - The *receipt handle* (which you use later to delete the message)
   - An MD5 digest of the message body (for information about MD5, go to http://faqs.org/rfcs/rfc1321.html)
   - The message body
   - The request ID that Amazon SQS assigned to your request

   If no messages are received in this particular call, the response includes only the request ID.

Deleting a Message

Once you receive the message, you must delete it from the queue to acknowledge that you processed the message and no longer need it. You specify which message to delete by providing the *receipt handle* that Amazon SQS returned when you received the message. You can delete only one message per call. You can delete an entire queue with a call to `DeleteQueue`, even if the queue has messages in it.

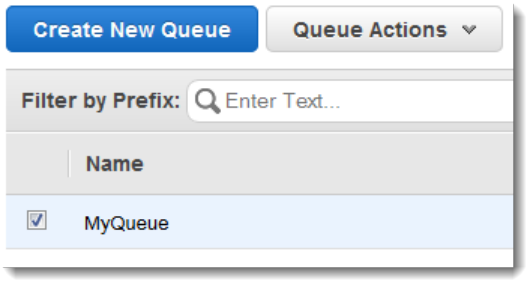
> **Note**
> If you don't have the receipt handle for the message, you can call `ReceiveMessage` again and receive the message again. Each time you receive the message, you get a different receipt handle. Use the latest receipt handle when calling `DeleteMessage`; otherwise, your message might not be deleted from the queue.

The following examples demonstrate how to delete the message from your `MyQueue` queue.

AWS Management Console

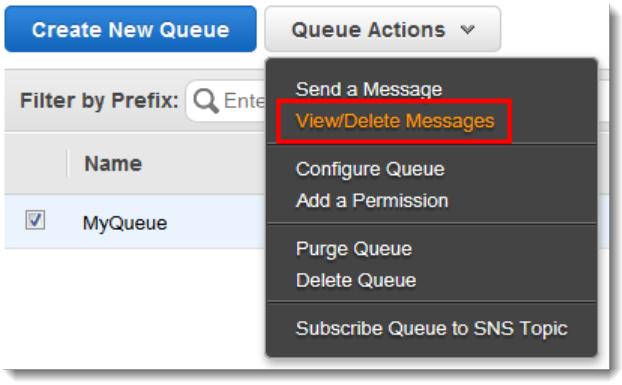
To delete a message

1. In the AWS Management Console, select a queue.

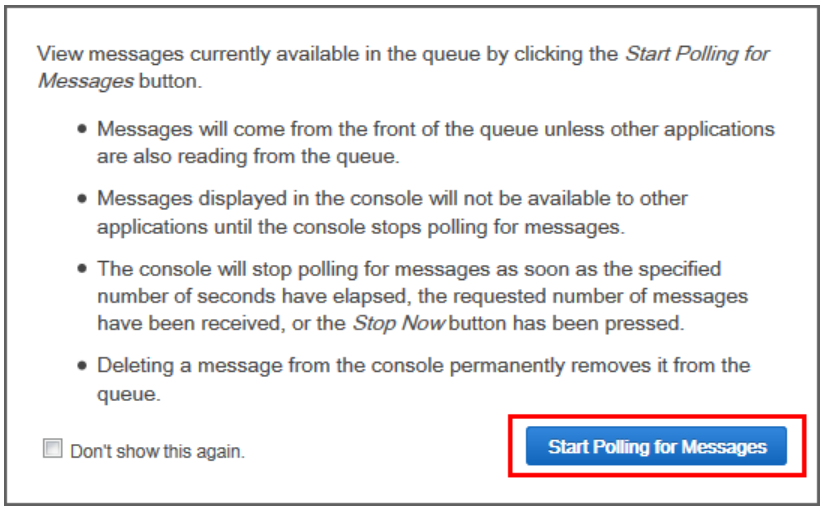


2. Select **View/Delete Messages** from the **Queue Actions** drop-down list.

> **Note**
> The **Queue Actions** drop-down list is available only if a queue is selected.

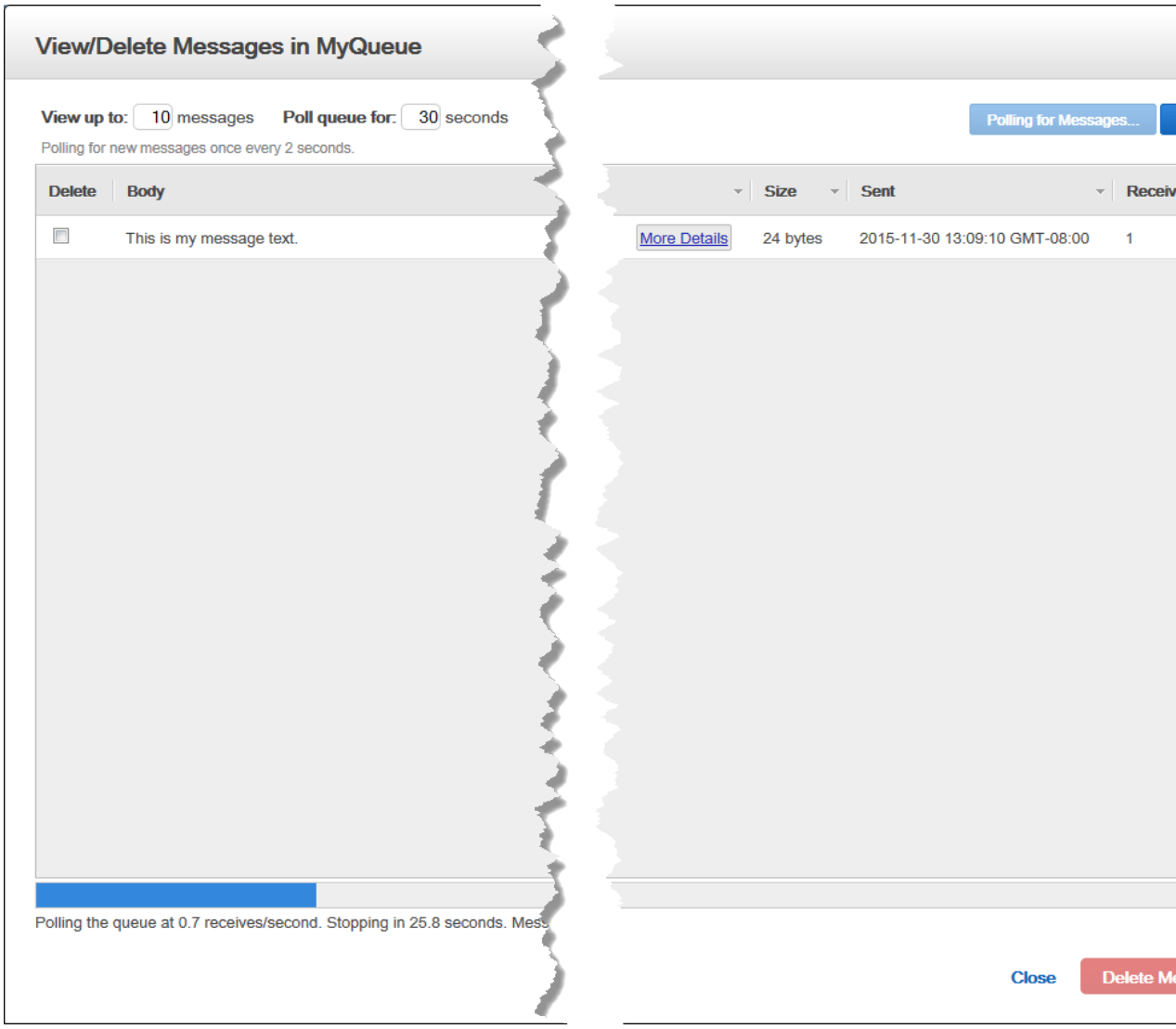


3. Click **Start Polling for Messages** to view a message from the queue.

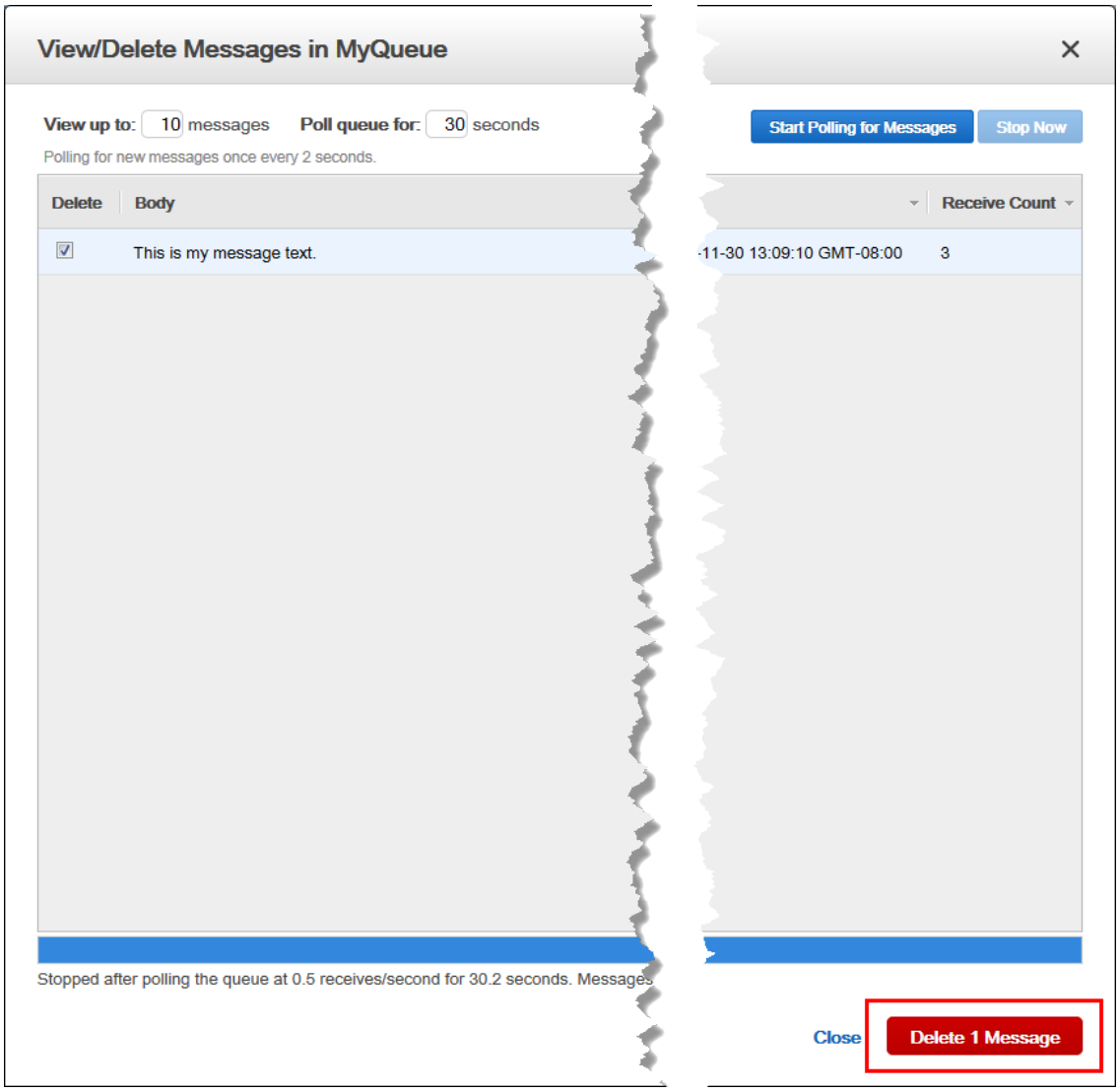


Note
The **Start Polling for Messages** dialog box will not appear if you have previously selected the **Don't show this again** checkbox.

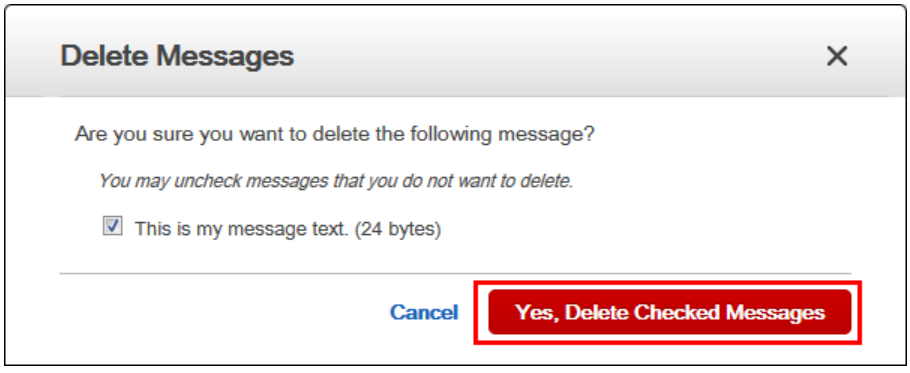
The **View/Delete Messages** dialog box displays a message from the queue.



4. Select the message you want to delete.



5. Click **Delete 1 Message** to delete the selected message.
A **Delete Messages** confirmation dialog box appears.



6. Click **Yes, Delete Checked Messages**.
The selected message is deleted.

7. Click **Close** to close the **View/Delete Messages** dialog box.

Java

To run the sample

1. Open `SimpleQueueServiceSample.java`.

   The following section of the code deletes a message:

```
// Delete a message
System.out.println("Deleting a message.\n");
String messageReceiptHandle = messages.get(0).getReceiptHandle();
sqs.deleteMessage(new DeleteMessageRequest()
    .withQueueUrl(myQueueUrl)
    .withReceiptHandle(messageReceiptHandle));
```

2. Compile and run the sample.
   The message is deleted from the `MyQueue` queue. The response includes the request ID that Amazon SQS assigned to your request.

C#

To run the sample

1. Open `Program.cs`.

   The following section of the code deletes a message:

```
//Deleting a message
Console.WriteLine("Deleting the message.\n");
DeleteMessageRequest deleteRequest = new DeleteMessageRequest();
deleteRequest.QueueUrl = myQueueUrl;
deleteRequest.ReceiptHandle = messageReceiptHandle;
sqs.DeleteMessage(deleteRequest);
```

2. Run the sample.
   The message is deleted from the `MyQueue` queue. The response includes the request ID that Amazon SQS assigned to your request.

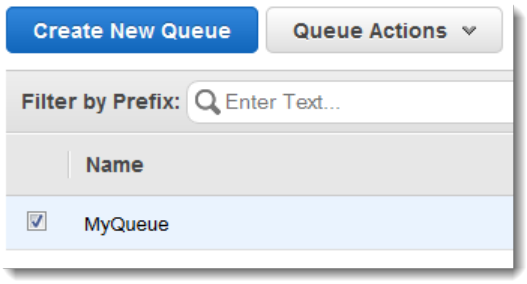
Purging the Queue

In the previous topic, you learned how to delete messages from your queue one at a time in the Amazon SQS system. But what if you want to delete many messages from your queue at once? There is a faster way. The following demonstrates how to purge all of the messages from your `MyQueue` queue at once.

AWS Management Console

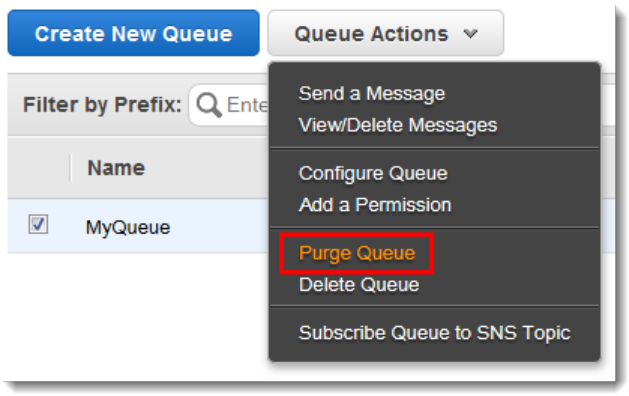
To purge a queue

1. In the AWS Management Console select a queue.



2. Select **Purge Queue** from the **Queue Actions** drop-down list.

   Note
   The **Queue Actions** drop-down list is available only if a queue is selected.

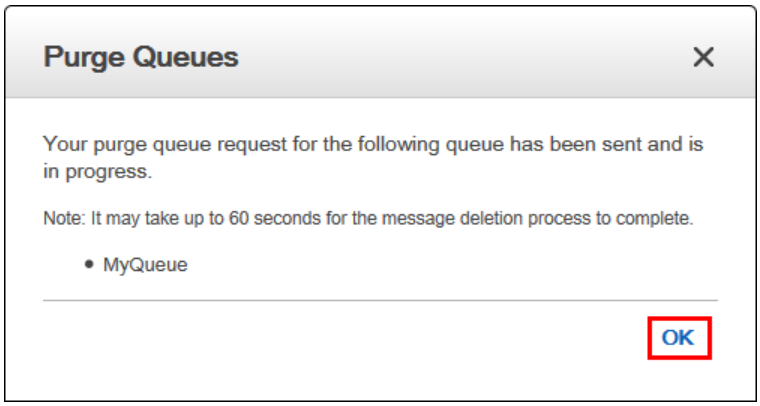


3. In the **Purge Queues** dialog box, click **Yes, Purge Queue**.

   Note
   Because you previously deleted the message you created earlier, the dialog box will display **MyQueue - contains no messages**. If you want to try purging multiple messages from the queue, then click **Cancel**, follow the instructions in Sending a Message (p. 18) several times

to create multiple messages, and then repeat the instructions in this topic again to delete all of those messages at once.

4. In the **Purge Queues** confirmation box click **OK**.



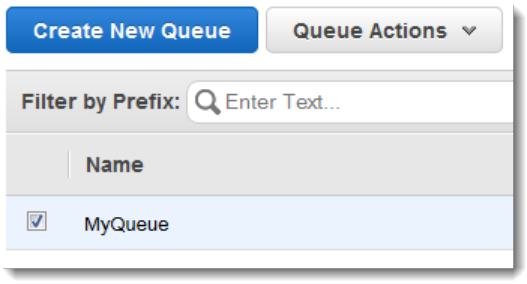
Deleting the Queue

If you are done using your queue, you should remove it from the Amazon SQS system. The following demonstrates how to delete your `MyQueue` queue.

AWS Management Console

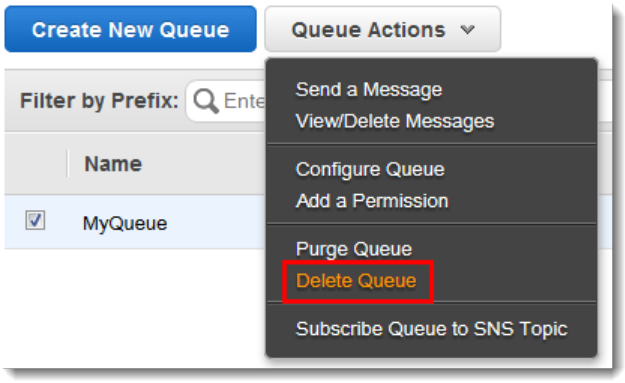
To delete a queue

1. In the AWS Management Console select a queue.



2. Select **Delete Queue** from the **Queue Actions** drop-down list.

   Note
   The **Queue Actions** drop-down list is available only if a queue is selected.



3. In the **Delete Queues** dialog box, click **Yes, Delete Queue**.

Where Do I Go from Here?

Now that you've read through this guide, you have a good idea of the main tasks you need to perform to use Amazon SQS, and where to go in the Amazon SQS Developer Guide for more information and instructions. This section describes the next steps we recommend you take.

Look at the Articles and Tutorials

We recommend that you read the Amazon SQS content available in Articles & Tutorials. Specifically, two webcasts are designed to help you gain a broader understanding of Amazon SQS:

- Amazon SQS: The Queue as Glue is a brief presentation that shows how Amazon SQS integrates with other elements in a service-oriented architecture (SOA) application.
- Use Amazon SQS to Build Self-Healing Applications presents the concepts for developing an application using Amazon SQS as a workflow queue. These ideas help ensure that all processes within a workflow get completed.

Read the Forum

We recommend you look at the Amazon SQS forum to get an idea of what other users are doing and questions they've had. This will help you further understand what you can and can't do with this service.

Look at Other Available Sample Code

You're already aware of the sample code that goes with this guide (for more information, see Preparing the Samples (p. 10)). You can look at other Amazon SQS sample code that's available from the Sample Code and Libraries page, or visit the Developer Center for a specific programming language:

- Java Developer Center
- JavaScript Developer Center
- PHP Developer Center
- Python Developer Center
- Ruby Developer Center

- Windows & .NET Developer Center

AWS Account and Security Credentials

So far you signed up for the service, got an AWS account and security credentials, and then completed a short exercise covering the essential product functions. Now that you're finished with the exercise, we recommend that you check with an administrator or coworker in your organization to determine if he or she already has an AWS account and security credentials for you to use in future interactions with AWS.

If you're an account owner or administrator and want to know more about AWS Identity and Access Management, see the product description at http://aws.amazon.com/iam or the technical documentation in the IAM User Guide.

Document History

The following table describes the important changes to the documentation since the last release of the *Amazon Simple Queue Service Getting Started Guide*.

- **API version:** 2012-11-05
- **Latest documentation update:** December 7, 2015

Change	Description	Date Changed
Update	Updated Amazon SQS console screenshots.	December 7, 2015
New feature	Amazon SQS is now available through the AWS Management Console. For an example of how to create a queue, send a message, and receive a message with the AWS Management Console, see Working with Amazon SQS (p. 10).	November 21, 2012
New feature	This service now integrates with AWS Identity and Access Management (IAM). For more information, go to AWS Services that Support IAM in IAM User Guide.	September 2, 2010
Example Code	Replaced the Java example code with the new Java example code from the AWS SDK for Java. For more information, see the Java examples listed in Working with Amazon SQS (p. 10).	March 22, 2010
Example Code	Replaced the C# and .NET example code with the new C# example code from the AWS SDK for .NET. For more information, see the C# examples listed in Working with Amazon SQS (p. 10).	November 11, 2009
Update	Updated the guide to reflect changes in the sample code that AWS provides for Java, C#, Perl, PHP5, and VB.NET.	December 15, 2008