

Xerris Bootcamp Series

Introduction to AWS SQS

Simple Queue Service



What is AWS Simple Queue Service (SQS)

Simple Queue Service

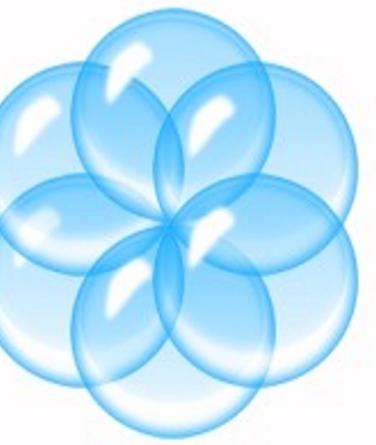
- SQS provides messaging between microservices
- SQS helps to keep services loosely coupled
- One of the first services ever published for AWS



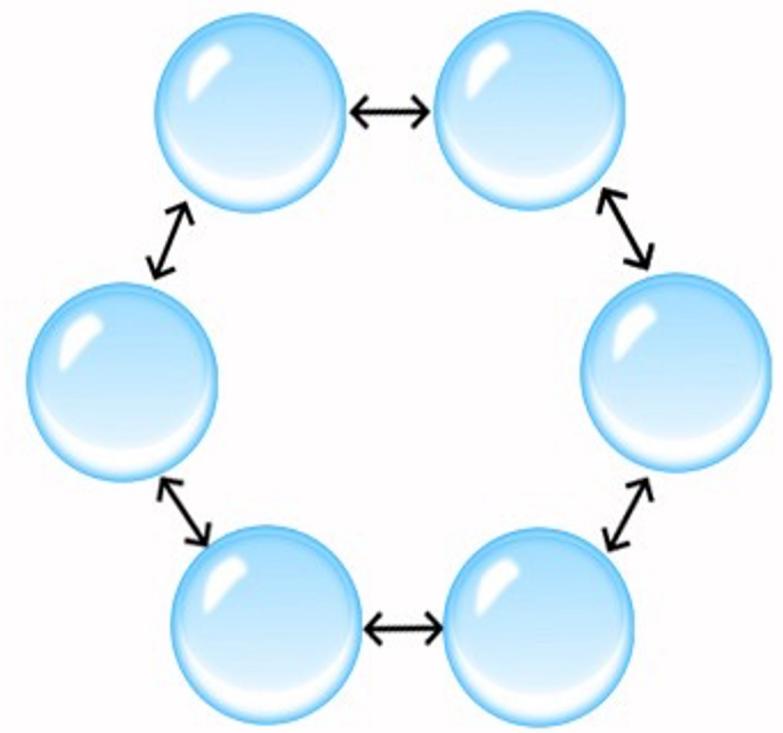
What is AWS Simple Queue Service (SQS)

Simple Queue Service

- SQA helps services be more resilient.
- Avoid the “House of cards.”
- When one fails, they all fail.



Tight Coupling



Loose Coupling



What is AWS Simple Queue Service (SQS)

Simple Queue Service

- Services interact via “Messages.”
- Not a great solution for request->response requests
- Great for workflow-driven systems



What is AWS Simple Queue Service (SQS)

SQS is highly available

- SQS Queues are spread across multiple Amazon SQS servers.
- SQS Queues can handle any amount of throughput
- Lambdas are designed to scale out with the SQS Queues.

SQS is Durable

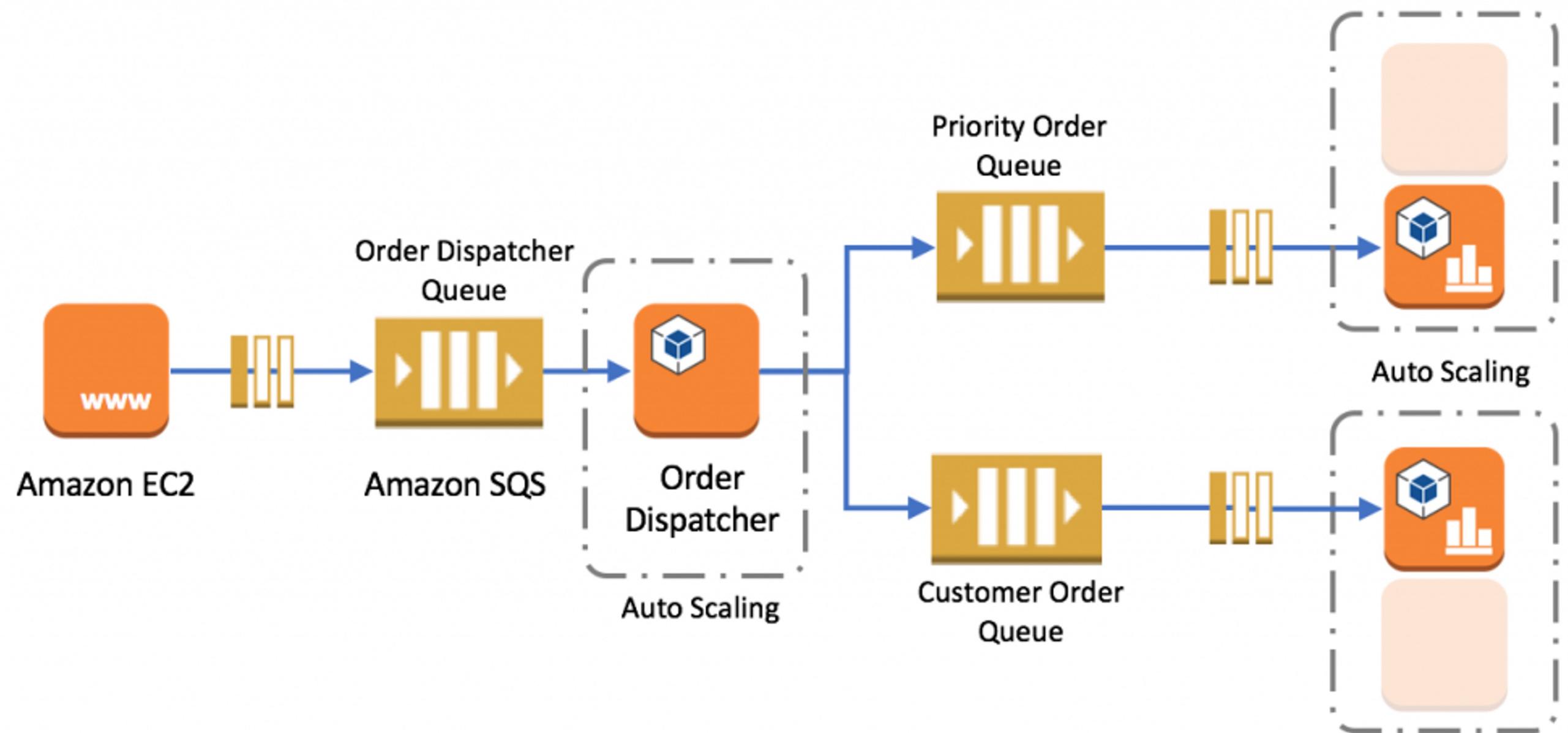
- Your SQS Messages are redundantly stored across Amazon SQS servers also.
- SQS Queues provide a retry policy for failed messages.
- SQS Provides a dead letter queue for messages that fail after so many retries.



What is AWS Simple Queue Service (SQS)

SQS Architecture

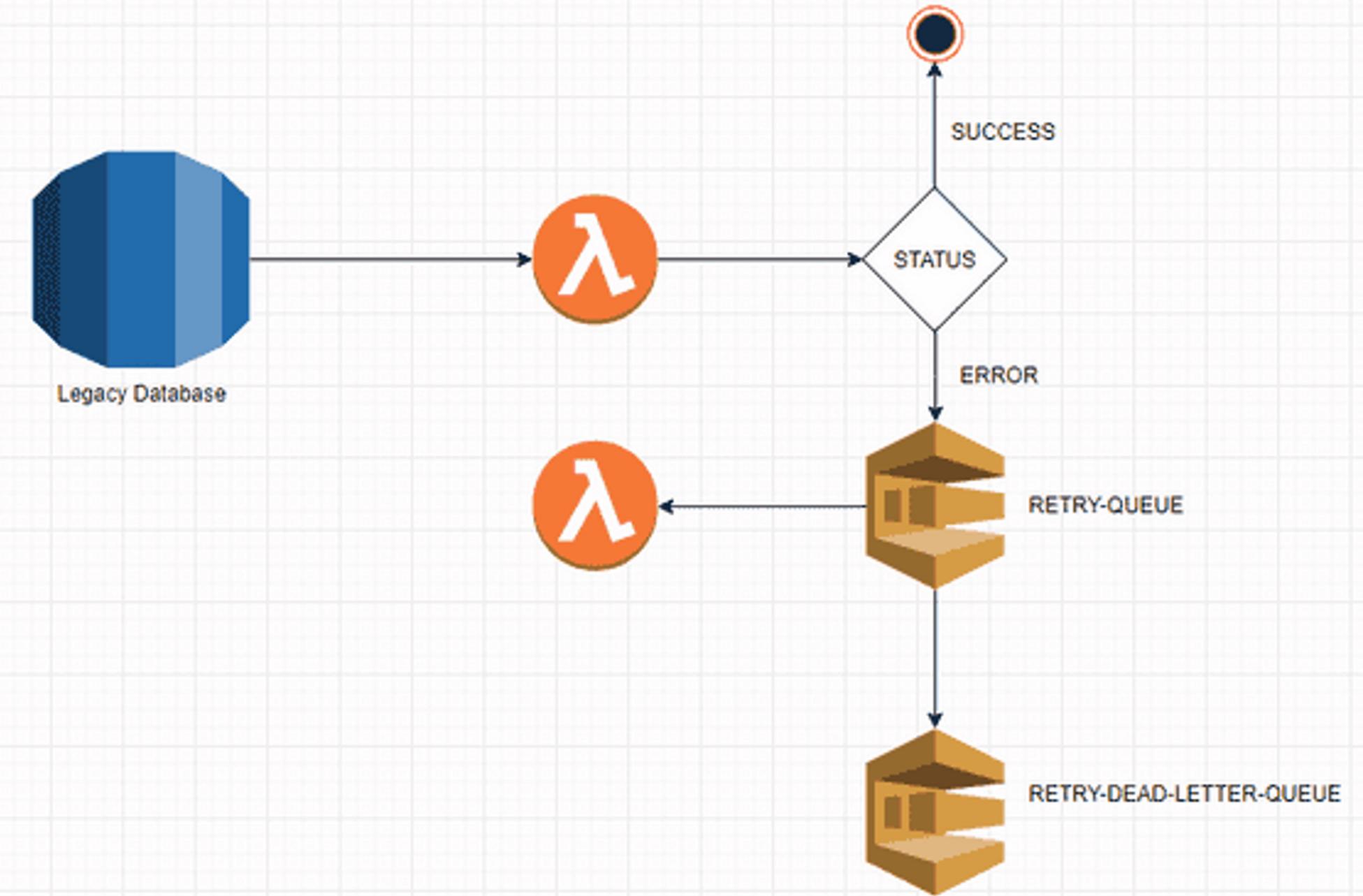
- Sample SQS Architecture



What is AWS Simple Queue Service (SQS)

SQS Architecture

- SQS supports dead-letter queues.
- If messages fail, they are stored here for further processing if required.



SQS using the AWS CLI

Listing queues with AWS CLI (Mac OS)

```
aws sqs list-queues
```

```
aws sqs list-queues --queue-name-prefix "abc"
```

Creating a Queue (Mac OS)

```
aws sqs create-queue \  
  --queue-name add-blog-queue \  
  --attributes DelaySeconds=10
```

Returns:

```
{  
  "QueueUrl": "https://sqs.us-west-  
2.amazonaws.com/123456789/myblog-queue"  
}
```



SQS using the AWS CLI

Send a message to your Queue (Mac OS)

```
aws sqs send-message --queue-url https://sqs.us-west-  
2.amazonaws.com/123456789/myblog-queue  
--message-body "Hello from SQS"
```

Results:

```
{  
  "MD5OfMessageBody":  
  "c7a5a80bb4b8f56b68b7786e692e4a8b",  
  "MessageId": "d986ba6d-68e1-4163-a1c2-b217ba8a7d38"  
}
```



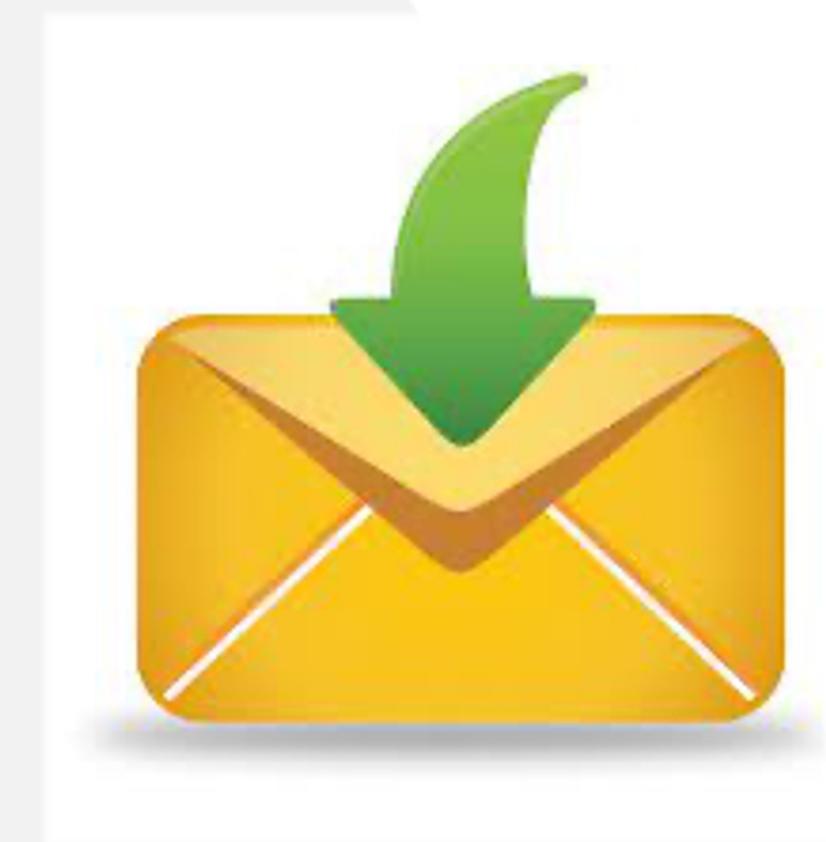
SQS using the AWS CLI

Receive a message from your Queue (Mac OS)

```
aws sqs receive-message --queue-url https://sqs.us-west-  
2.amazonaws.com/123456789/myblog-queue
```

Results:

```
{  
  "Messages": [  
    {  
      "MessageId": "d986ba6d-68e1-4163-a1c2-b217ba8a7d38",  
      "ReceiptHandle": "a-very-long string",  
      "MD5OfBody": "c7a5a80bb4b8f56b68b7786e692e4a8b",  
      "Body": "Hello from SQS"  
    }  
  ]  
}
```



SQS using the AWS CLI

Deleting your Queue (Mac OS)

```
aws sqs delete-queue --queue-url https://sqs.us-west-  
2.amazonaws.com/123456789/myblog-queue
```

