

What Is SQS?

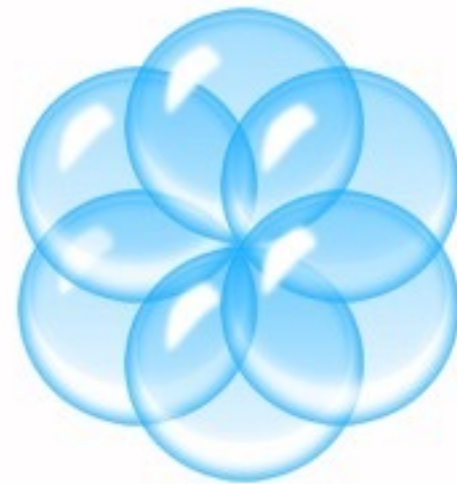
Simple Queue Service

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

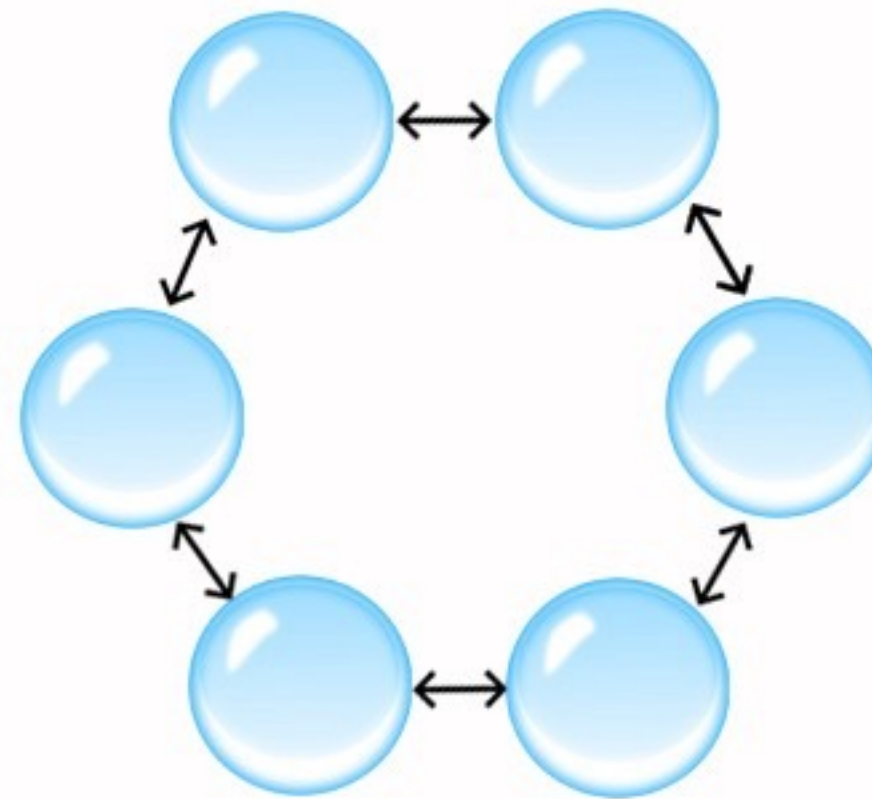


Loose Coupling

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



Tight Coupling



Loose Coupling

Message Driven Architecture

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



Simple Queue Service

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.

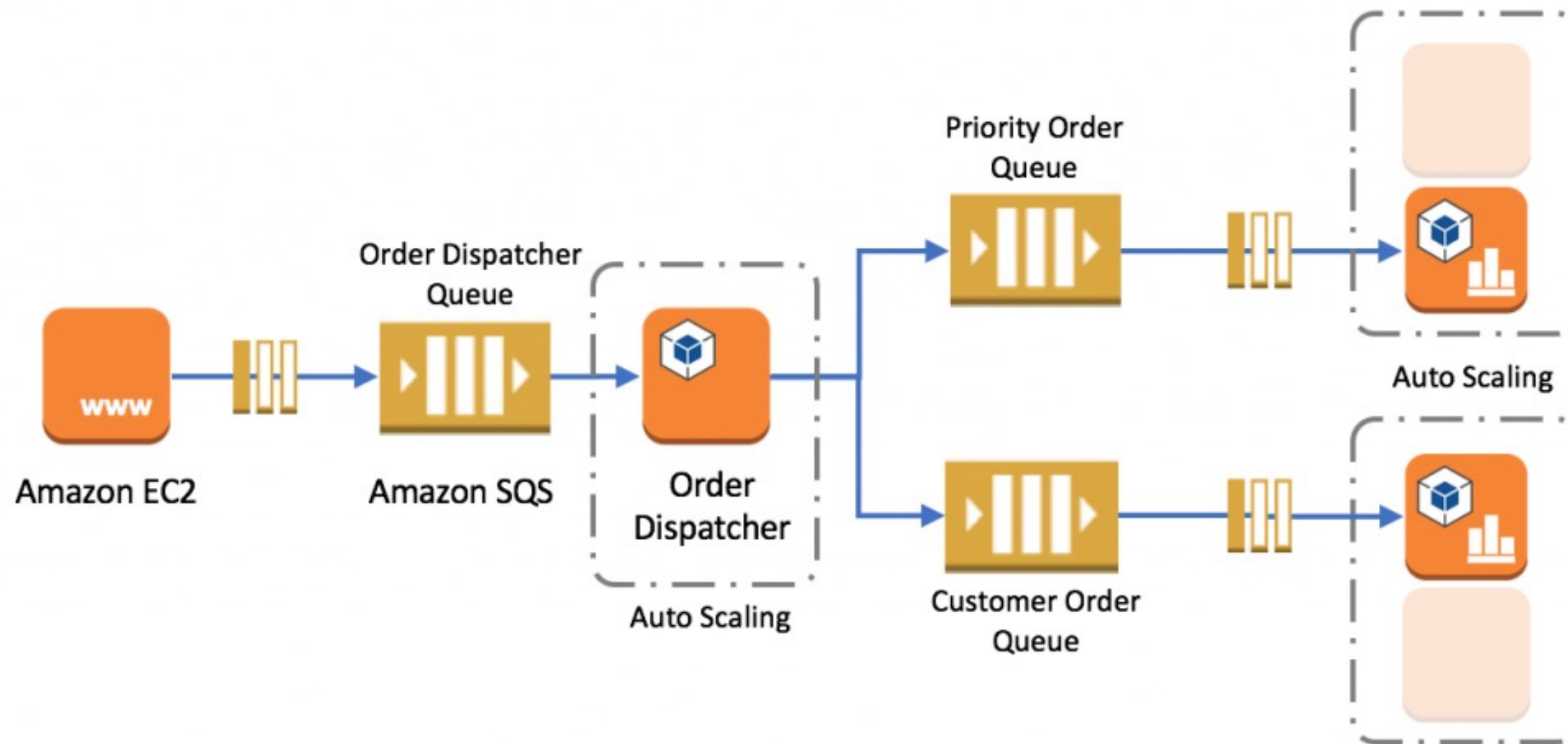
SQS is Durable

- 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.



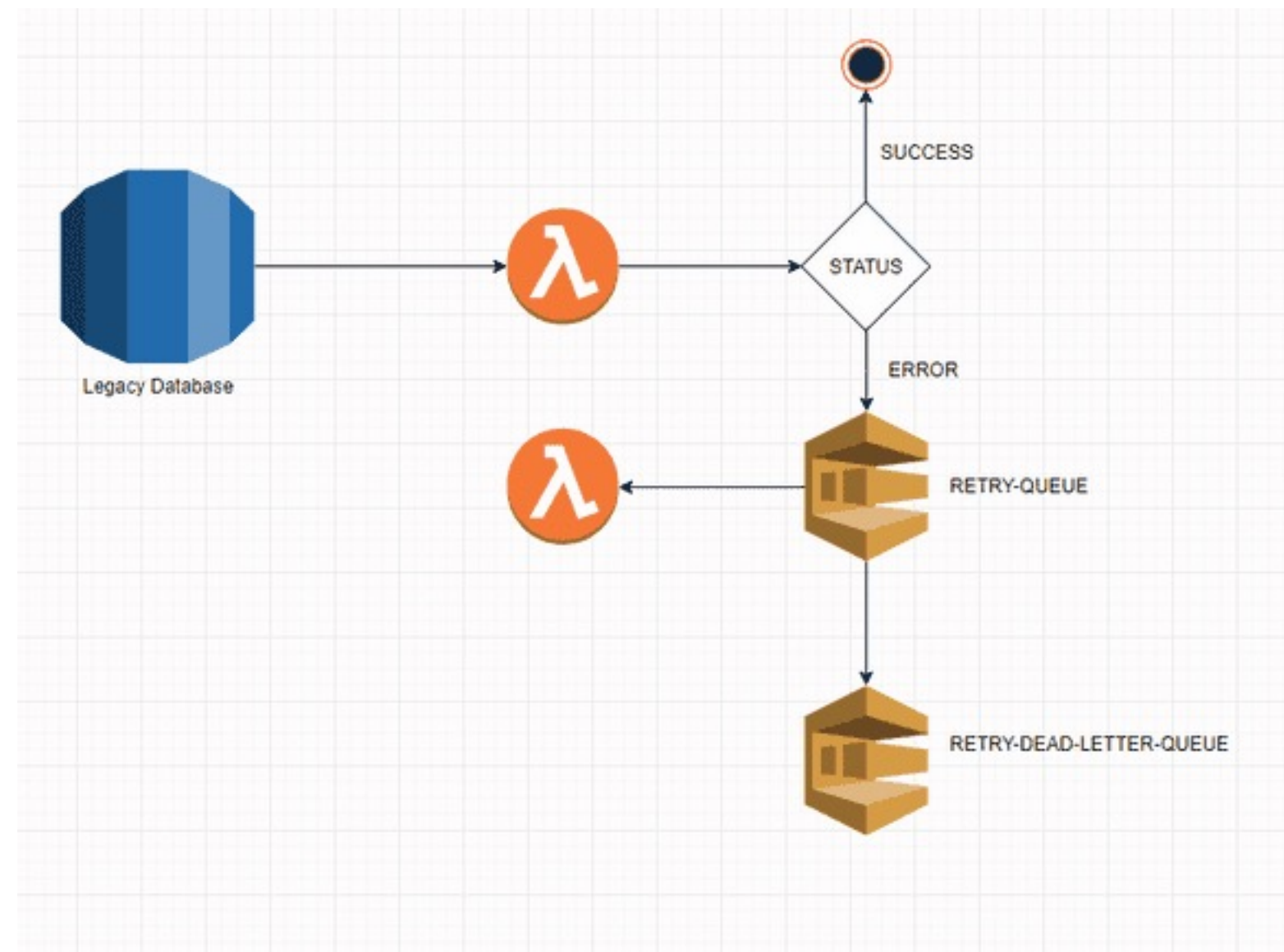
SQS Architecture

Sample SQS Architecture



Simple Queue Service

SQS Allows for retries and dead-letter queues



Simple Queue Service



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"  
}
```

Simple Queue Service



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"  
}
```


Simple Queue Service

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"
    }
  ]
}
```



Simple Queue Service

Deleting your Queue (Mac OS)

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



SQS Workshop

Deleting your Queue (Mac OS)

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

