AWS
SQS & SNS

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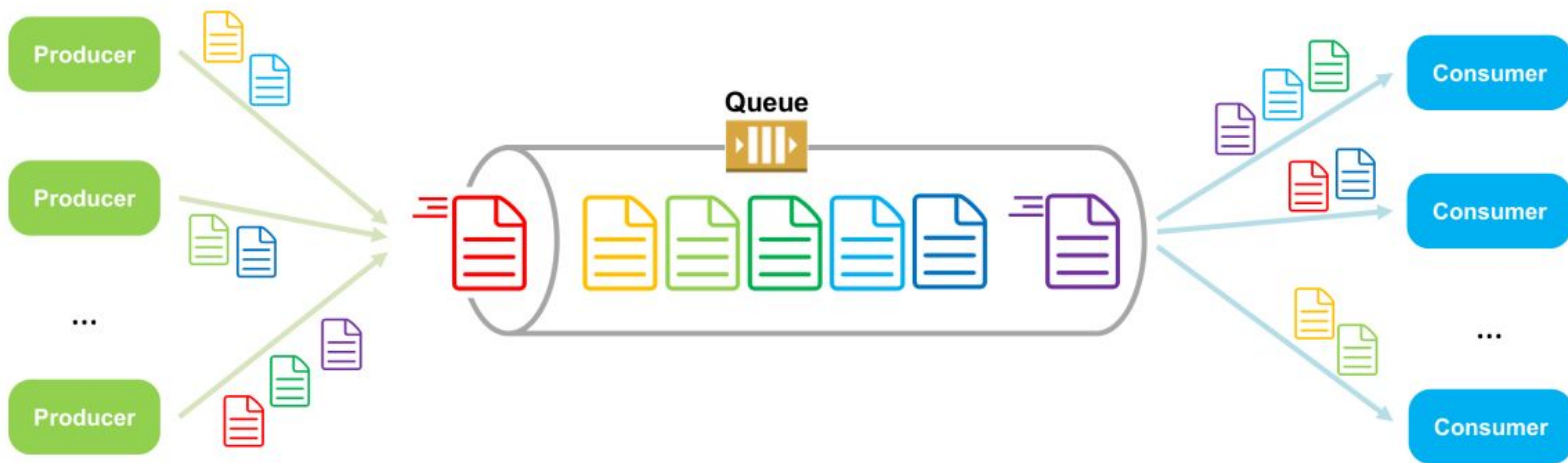
- SQS

- SNS

SQS

SQS

What is SQS?

- Amazon **Simple Queue Service (SQS)** is a fully managed **message queuing service** that enables you to decouple and scale microservices, distributed systems, and serverless applications.
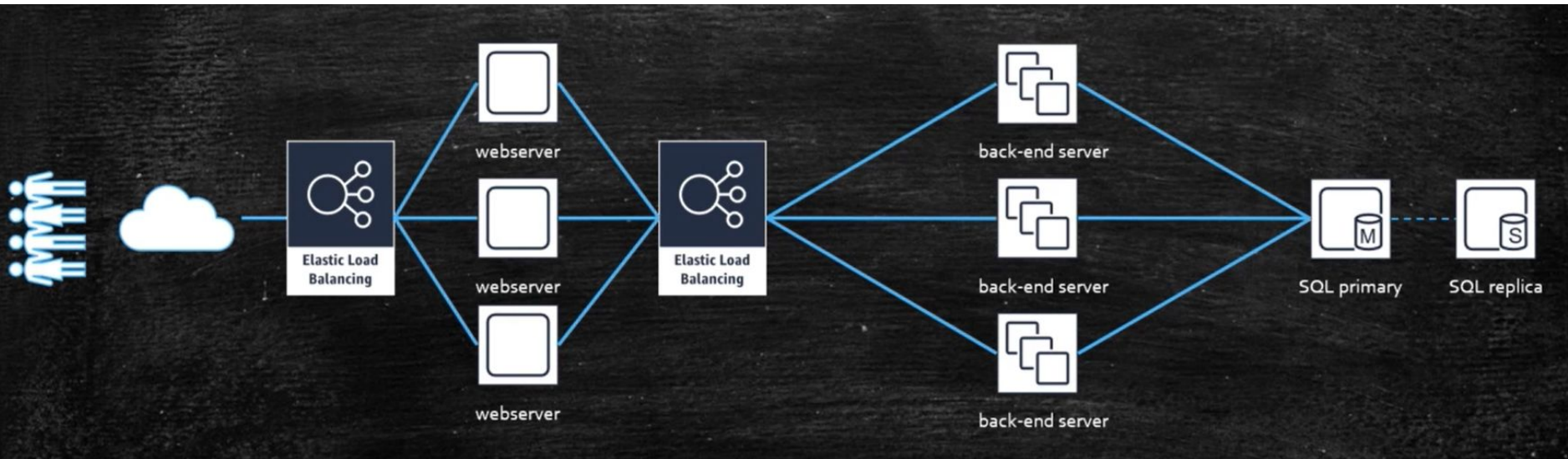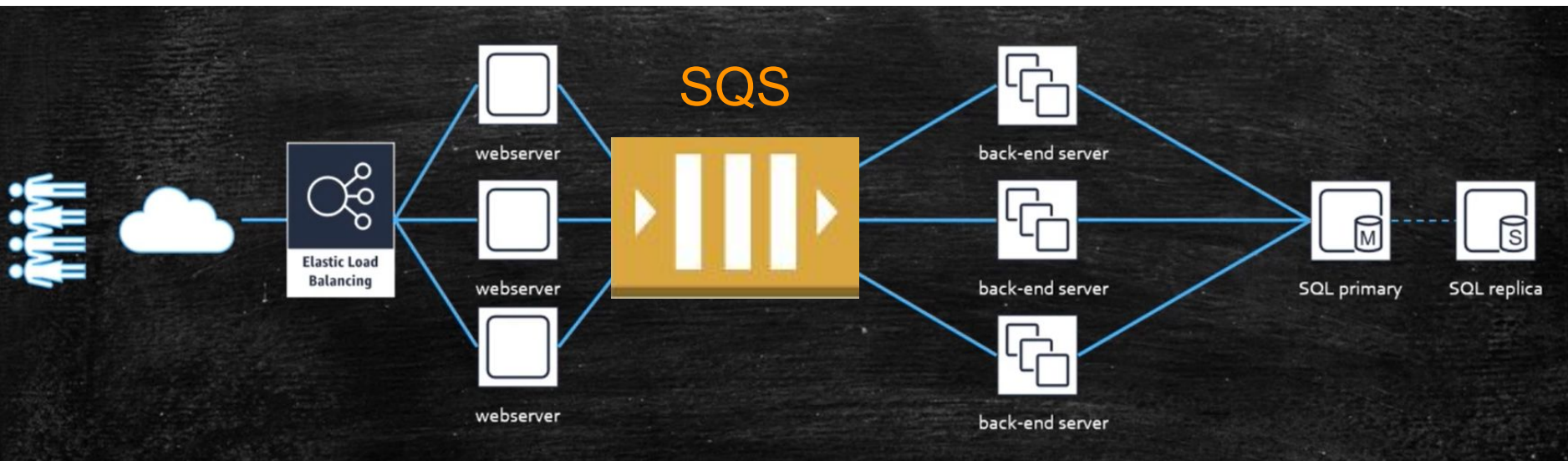
CLARUSWAY
WAY TO REINVENT YOURSELF

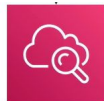# SQS

What is SQS?

SQS

What is SQS?

SQS

What is SQS?

Decoupling

SQS

What is SQS?

CloudWatch Metric – Queue Length
ApproximateNumberOfMessages

ASG

SQS

SQS
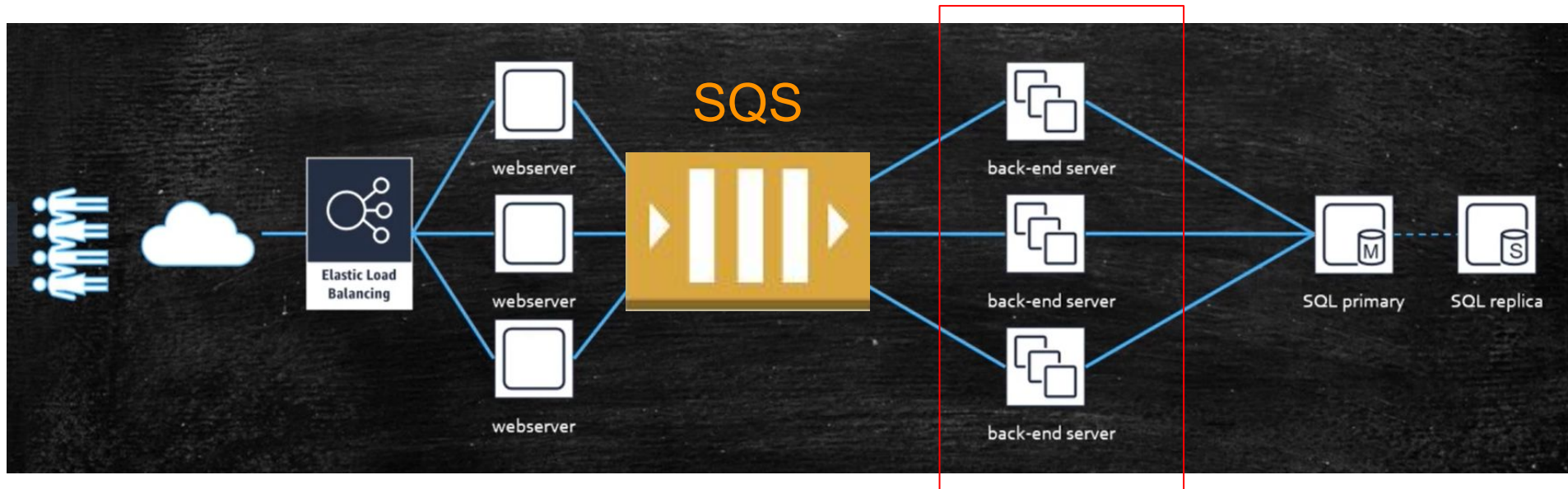
Standard Queue	FIFO Queue

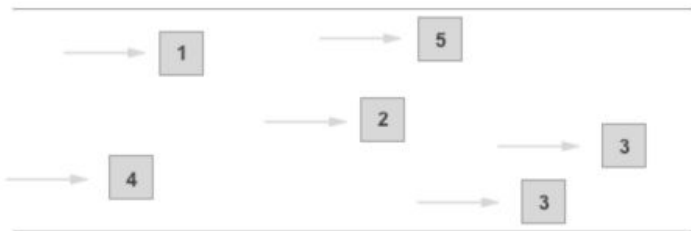**High Throughput:** Standard queues have nearly-unlimited transactions per second (TPS).

At-Least-Once Delivery: A message is delivered at least once, but occasionally more than one copy or a message is delivered.

Best-Effort Ordering: Occasionally, messages are delivered in an order different from which they were sent.

First-In-First-out Delivery: The order in which messages are sent and received is strictly preserved.

Exactly-Once Processing: A message is guaranteed to be delivered at least once, but all duplicates of the message are removed.

Limited Throughput: 300 transactions per second (TPS).

Send data between applications when the throughput is important, for example:

- Decouple live user requests from intensive background work: let users upload media while resizing or encoding it.

- Allocate tasks to multiple worker nodes: process a high number of credit card validation requests.

- Batch messages for future processing: schedule multiple entries to be added to a database.
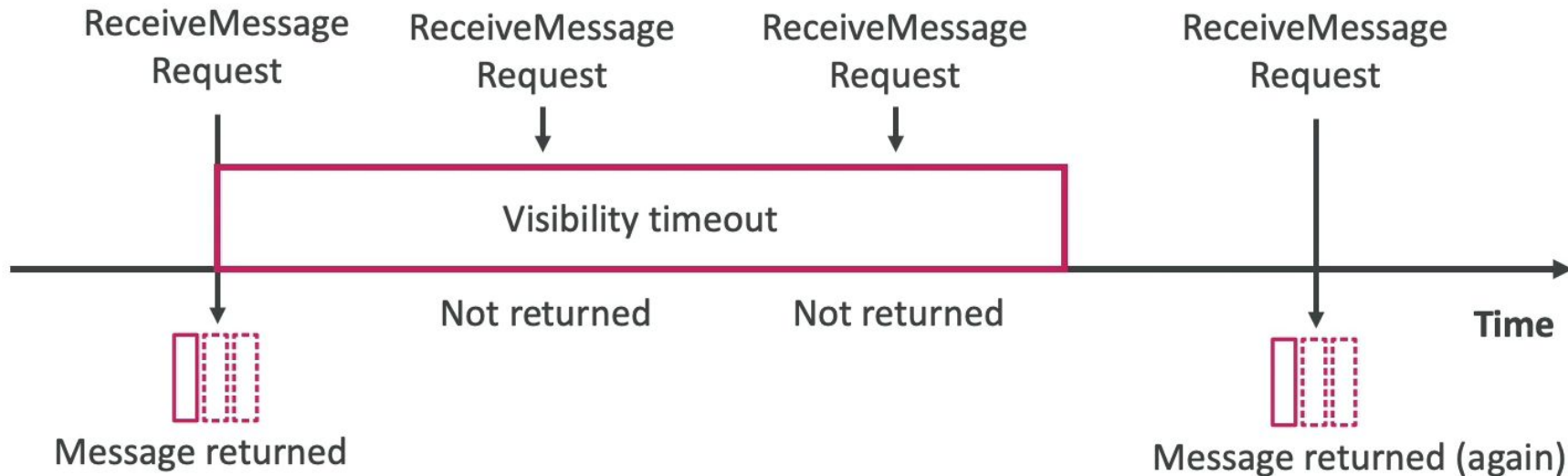
Send data between applications when the order of events is important, for example:

- Ensure that user-entered commands are executed in the right order.

- Display the correct product price by sending price modifications in the right order.

- Prevent a student from enrolling in a course before registering for an account.
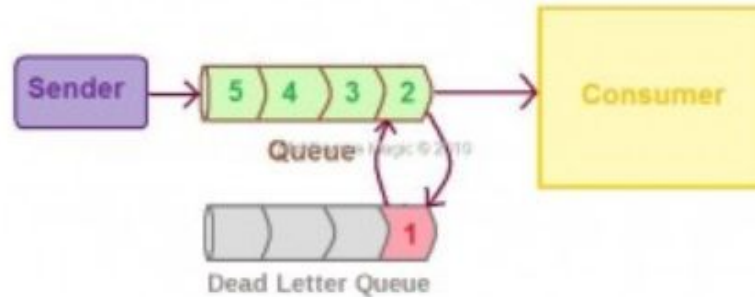
SQS
Message Visibility Timeout

SQS
Dead Letter Queue (DLQ)
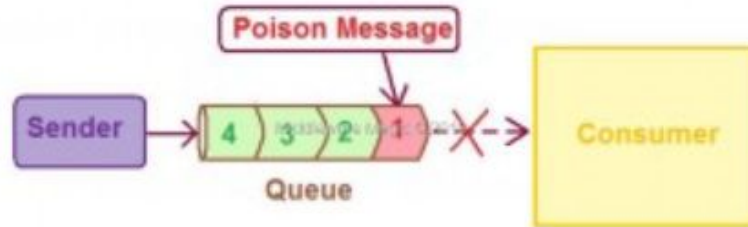
SQS
Pricing

- [Pay only for what you use](#)

- AWS **Free Tier** includes **1 million requests** with Amazon Simple Queue Service (SQS).

2 SNS

SNS

**Amazon
SNS**

- Amazon **Simple Notification Service** (Amazon SNS) is a managed service that provides message delivery from **publishers** to **subscribers** (also known as **producers** and **consumers**).

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SNS
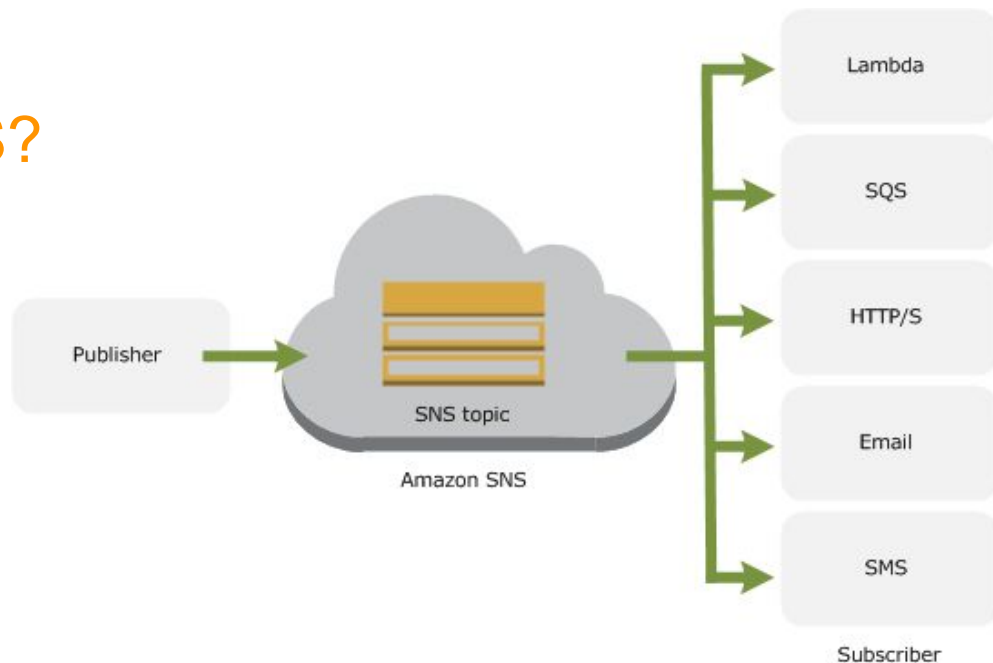
What is SNS?

- Clients can subscribe to the **SNS topic** and receive published messages using a supported protocol, such as Amazon SQS, AWS Lambda, HTTP, email, mobile push notifications, and mobile text messages (SMS).

SNS
What is SNS?

Application-to-Application (A2A)

SNS

What is SNS?

Application-to-Person (A2P)

SNS

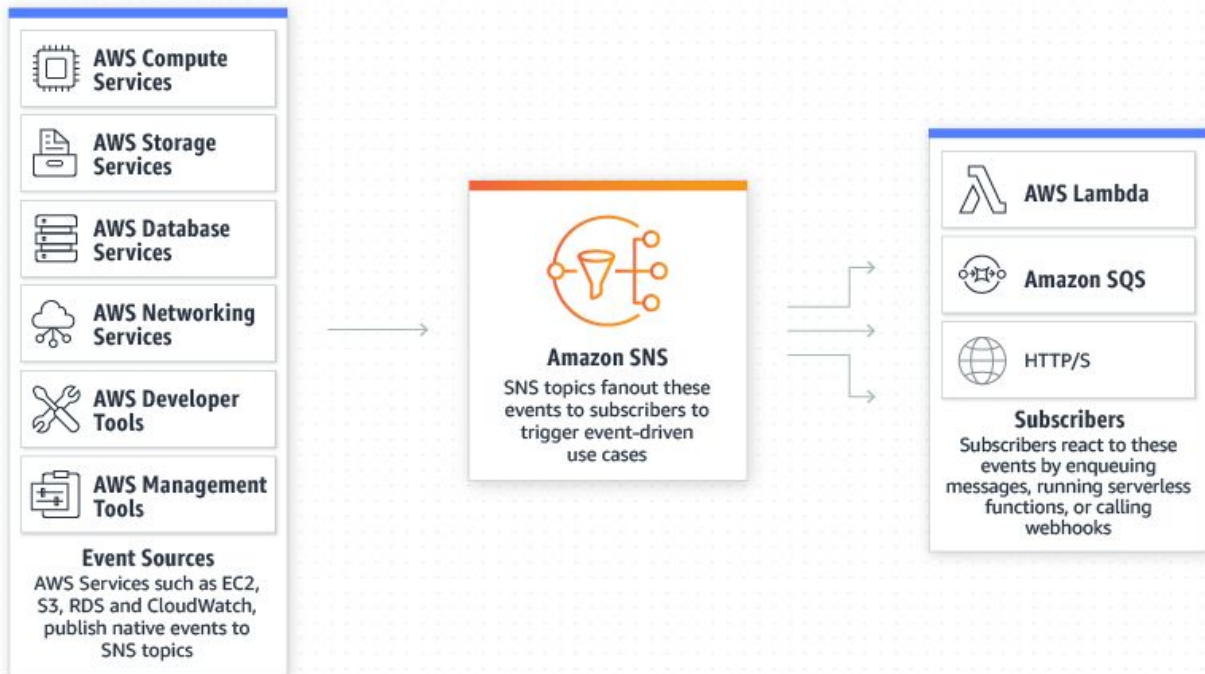SNS is integrated with many AWS Services

- CloudWatch (Alarms/Events)
- S3 (Bucket Events)
- CloudFormation (State changes etc.)
- Auto Scaling Groups
- And many others **can invoke SNS.**

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SNS

What is SNS?

Event Sources
AWS Services such as EC2, S3, RDS and CloudWatch, publish native events to SNS topics

Amazon SNS
SNS topics fanout these events to subscribers to trigger event-driven use cases

- AWS Lambda
- Amazon SQS
- HTTP/S

Subscribers
Subscribers react to these events by enqueuing messages, running serverless functions, or calling webhooks

AWS Compute Services
AWS Storage Services
AWS Database Services
AWS Networking Services
AWS Developer Tools
AWS Management Tools

SNS

Fan Out with SNS

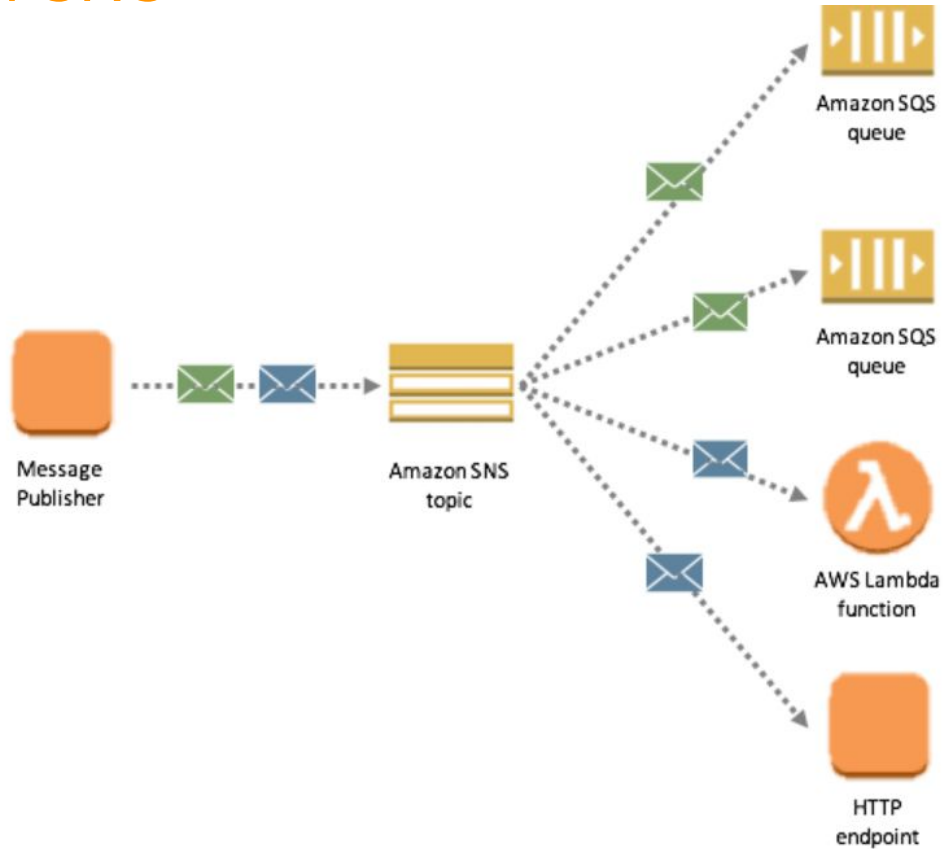Message Publisher → Amazon SNS topic → Amazon SQS queue, Amazon SQS queue, AWS Lambda function, HTTP endpoint

SNS
Pricing

- Amazon SNS has **no upfront costs** and you can **pay as you go**. You pay based on the number of notifications you publish, the number of notifications you deliver, and any additional API calls for managing topics and subscriptions. Delivery **pricing varies by endpoint type**. You can get started for free with the SNS free tier.

SQS & SNS

- Hands-on!!!

- Let's go to the AWS Management Console

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THANKS!

Any questions?