

# **AWS Cloud SNS**

**Topics**: AWS

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Amazon Simple Notification Service (SNS) is a fully managed messaging service provided by Amazon Web Services (AWS). It enables the creation and distribution of messages or notifications to a large number of subscribers or endpoints. SNS simplifies the process of sending messages to distributed systems, microservices, mobile devices, email, and other endpoints.

# **Key Concepts and Features of Amazon SNS:**

#### **1. Topic:**

- A "Topic" is a communication channel to which messages can be sent.
- Subscribers (endpoints) interested in a specific type of message can subscribe to a topic.
- Topics act as a central point for message distribution.

# 2. Publisher:

- A "Publisher" is an entity that sends messages to a topic.
- This can be an application, server, or any component that wants to notify subscribers about an event.

#### 3. Subscriber:

- A "Subscriber" is an endpoint or application that wants to receive messages from a topic.
- Subscribers can subscribe to one or more topics based on their interests.

#### 4. Message:

- A "Message" is the information or notification sent to a topic.
- Messages can be in various formats, such as JSON, plain text, or even structured data.

#### 5. Protocol:

- SNS supports multiple protocols for message delivery, including:
  - HTTP/HTTPS
  - Amazon Simple Queue Service (SQS)
  - Email/Email-ISON
  - Short Message Service (SMS)
  - Lambda (invoking AWS Lambda functions)
  - Application (for mobile push notifications)

#### **How SNS Works:**

# 1. Create a Topic:

 You create a topic, giving it a meaningful name, such as "OrderProcessing" or "WeatherUpdates."

# 2. Subscribe Endpoints to the Topic:

• Interested parties (subscribers) subscribe to the topic. This can include applications, devices, or other AWS services.

# 3. Publish a Message to the Topic:

 When an event occurs (e.g., a new order or a weather update), a publisher sends a message to the associated topic.

# 4. Message Distribution:

• SNS distributes the message to all subscribed endpoints (subscribers) for that topic.

#### **Use Cases for Amazon SNS:**

#### 1. Push Notifications:

Send push notifications to mobile devices based on specific events.

#### 2. Event Notifications:

• Notify subscribers about events or changes in an application.

# 3. Fan-out Architectures:

• Distribute messages to multiple subscribers simultaneously.

#### 4. Application Integration:

• Integrate SNS with other AWS services for seamless communication.

#### **Benefits of Amazon SNS:**

#### 1. Scalable:

 SNS can handle high-throughput, making it suitable for applications with varying message volumes.

#### 2. Reliable:

• Ensures message delivery with retries and error handling.

#### 3. Flexible:

Supports multiple message formats and protocols for various use cases.

#### 4. Cost-Efficient:

o Pay-as-you-go pricing model based on actual usage.

# 5. Easy to Use:

 $\circ\,$  Simple API calls and integration with other AWS services.

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