

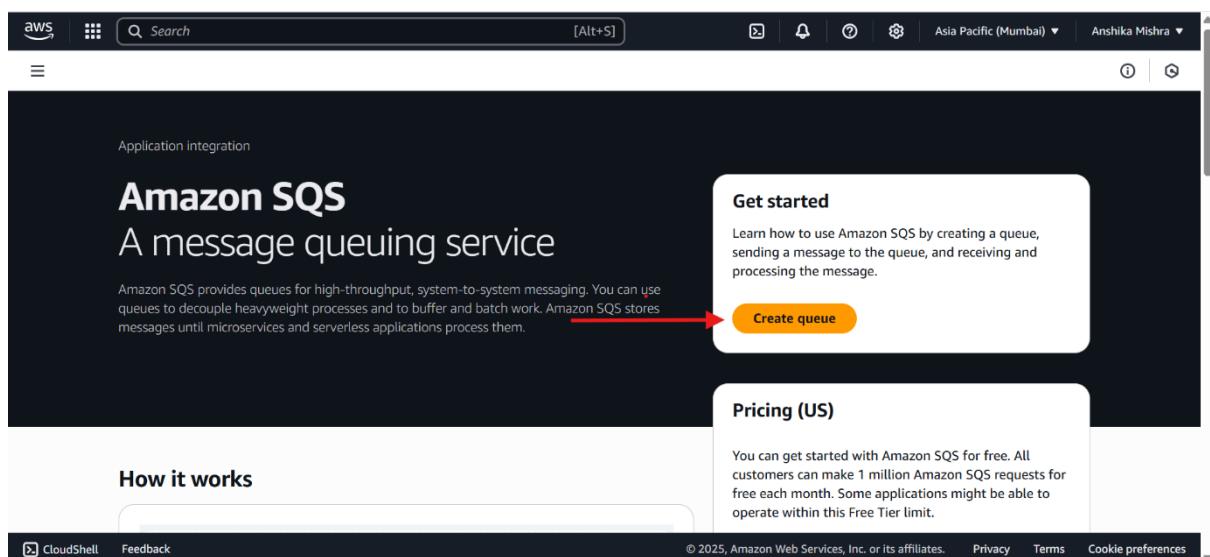
Simple Queue Service (SQS)

Amazon Simple Queue Service (Amazon SQS) offers a secure, durable, and available hosted queue that lets you integrate and decouple distributed software systems and components. Amazon SQS offers common constructs such as [dead-letter queues](#) and [cost allocation tags](#). It provides a generic web services API that you can access using any programming language that the AWS SDK supports.

How-

Step1:-

- Goto Search bar. Search SQS. Click on SQS.
- Click on “create Queue”.



- In “Type” select “Standard”.

Details

Type

Choose the queue type for your application or cloud infrastructure.

Standard Info
At-least-once delivery, message ordering isn't preserved

- At-least once delivery
- Best-effort ordering

FIFO Info
First-in-first-out delivery, message ordering is preserved

- First-in-first-out delivery
- Exactly-once processing

ⓘ You can't change the queue type after you create a queue.

Name

MyQueue

A queue name is case-sensitive and can have up to 80 characters. You can use alphanumeric characters, hyphens (-), and underscores (_).

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- Enter the “name” of queue.

Name

MyQueue

A queue name is case-sensitive and can have up to 80 characters. You can use alphanumeric characters, hyphens (-), and underscores (_).

- In “configuration” there are many option.
- Visibility timeout -The time a message stays hidden after being picked up by a consumer, preventing other consumers from receiving it. Set according to need.Ex:- 30second.

Configuration Info

Set the maximum message size, visibility to other consumers, and message retention.

Visibility timeout Info

30

Seconds

Message retention period Info

4

Days

Should be between 0 seconds and 12 hours.

Should be between 1 minute and 14 days.

Delivery delay Info

0

Seconds

Maximum message size Info

256

KB

Should be between 1 KB and 256 KB.

Receive message wait time Info

0

Seconds

Should be between 0 and 20 seconds.

- Message retention period – The amount of time messages are stored in the queue if not deleted, before they are automatically removed.
- Set according to your need. Ex:- 4 days.

Configuration Info

Set the maximum message size, visibility to other consumers, and message retention.

Visibility timeout Info

Seconds



Should be between 0 seconds and 12 hours.

Delivery delay Info

Seconds



Should be between 0 seconds and 15 minutes.

Receive message wait time Info

Seconds



Should be between 0 and 20 seconds.

Message retention period Info

Days



Should be between 1 minute and 14 days.

Maximum message size Info

KB

Should be between 1 KB and 256 KB.

- **Delivery delay** – The delay before a new message becomes available to consumers after being sent to the queue.
- Set by your need. Ex:- 0second.

Configuration Info

Set the maximum message size, visibility to other consumers, and message retention.

Visibility timeout Info

Seconds



Should be between 0 seconds and 12 hours.

Delivery delay Info

Seconds



Should be between 0 seconds and 15 minutes.

Receive message wait time Info

Seconds



Should be between 0 and 20 seconds.

Message retention period Info

Days



Should be between 1 minute and 14 days.

Maximum message size Info

KB

Should be between 1 KB and 256 KB.

- **Receive message wait time** – The time a receive request waits for a message to arrive before returning (used in long polling).
- Set by your need. Ex:- 0second.
- Set “maximum message size”. Ex:-256kb

Configuration Info

Set the maximum message size, visibility to other consumers, and message retention.

Visibility timeout Info

Seconds



Should be between 0 seconds and 12 hours.

Delivery delay Info

Seconds



Should be between 0 seconds and 15 minutes.

Receive message wait time Info

Seconds



Should be between 0 and 20 seconds.

Message retention period Info

Days



Should be between 1 minute and 14 days.

Maximum message size Info

KB

Should be between 1 KB and 256 KB.

Step2:-

- “Server side encryption” is enabled.
- Set “Encryption key type” “amazon SQS key (SSE-SQS)”.

Encryption Info

Amazon SQS provides in-transit encryption by default. To add at-rest encryption to your queue, enable server-side encryption.

Server-side encryption

Disabled Enabled

Encryption key type

Amazon SQS key (SSE-SQS)
An encryption key that Amazon SQS creates, manages, and uses for you.

AWS Key Management Service key (SSE-KMS)
An encryption key protected by AWS Key Management Service (AWS KMS).

- “Dead-letter queue” is “disabled”.

Dead-letter queue - Optional Info

Send undeliverable messages to a dead-letter queue.

Set this queue to receive undeliverable messages.

Disabled Enabled

- Click on “Create queue”.

Tags - Optional Info

A tag is a label assigned to an AWS resource. Use tags to search and filter your resources or track your AWS costs.

Key **Value - optional** **Remove**

Add new tag

You can add 49 more tags.

Create queue

- Queue is created.

Amazon SQS > Queues > myqueue

Queue myqueue created successfully. You can now send and receive messages.

myqueue

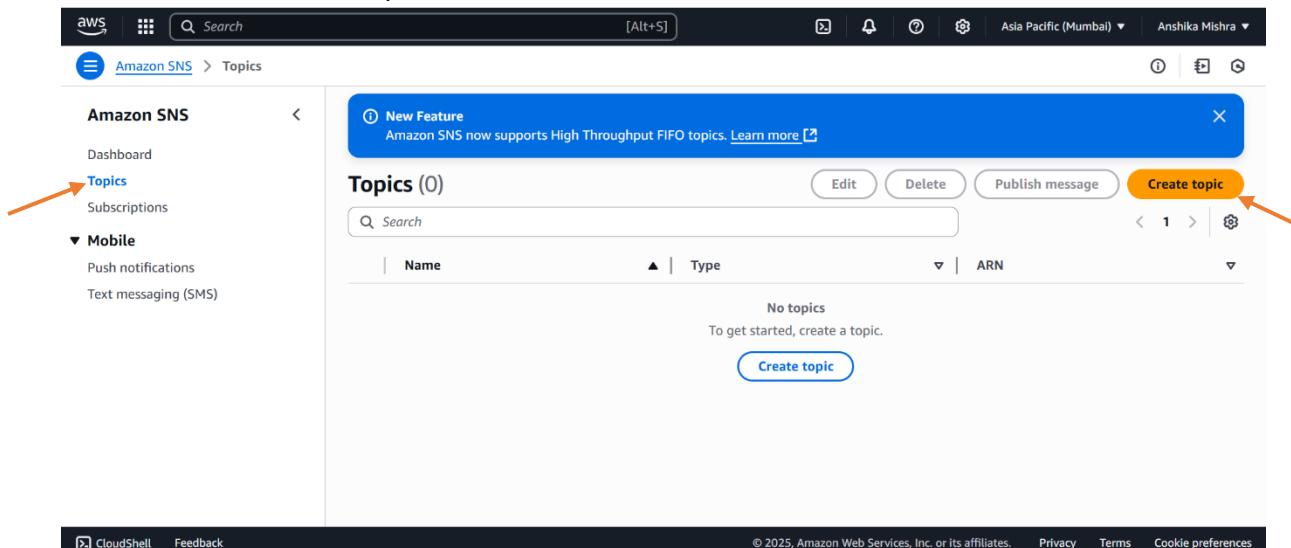
Details Info

Name myqueue	Type Standard	ARN arn:aws:sqs:ap-south-1:515614487437:myqueue
Encryption Amazon SQS key (SSE-SQS)	URL https://sqs.ap-south-1.amazonaws.com/515614487437/myqueue	Dead-letter queue -

Edit **Delete** **Purge** **Send and receive messages** **Start DLQ redrive**

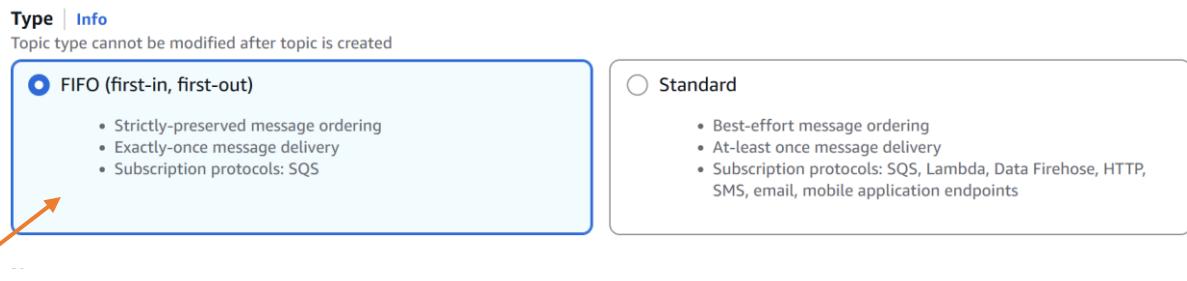
Step3:-

- Open “duplicate tab”.
- Search “SNS”.
- Goto “Topics”.
- Click on “create topics”.



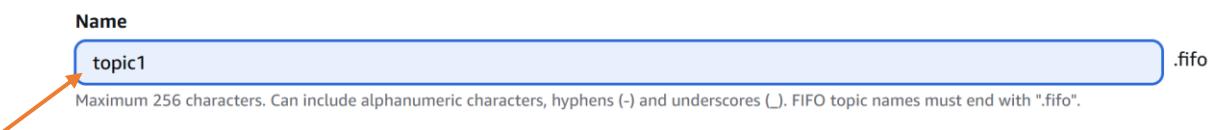
The screenshot shows the Amazon SNS Topics page. On the left, a sidebar menu is open with 'Topics' highlighted by an orange arrow. The main content area shows a 'Topics (0)' list with a 'Create topic' button highlighted by an orange box. A blue banner at the top announces the support for High Throughput FIFO topics.

- In “Type” select FIFO (First-in,first-out).



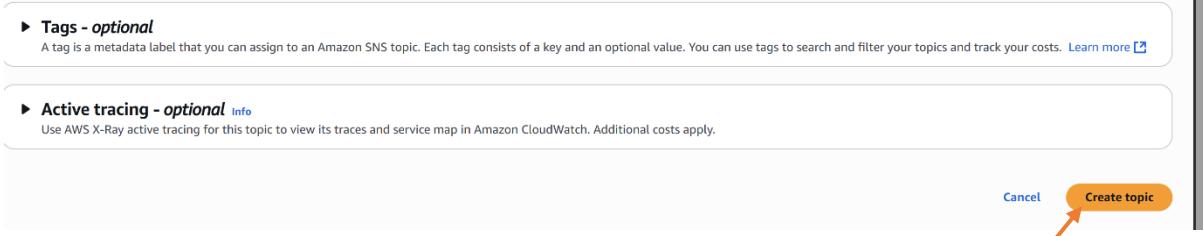
The screenshot shows a 'Type' selection dialog. It contains two options: 'FIFO (first-in, first-out)' (selected and highlighted with an orange box) and 'Standard'. The 'FIFO' option includes a list of features: Strictly-preserved message ordering, Exactly-once message delivery, and Subscription protocols: SQS. The 'Standard' option includes a list of features: Best-effort message ordering, At-least once message delivery, and Subscription protocols: SQS, Lambda, Data Firehose, HTTP, SMS, email, mobile application endpoints.

- Enter the “name” of topic.



The screenshot shows a 'Name' input field containing 'topic1', which is highlighted with an orange box. A note below the field states: 'Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_). FIFO topic names must end with ".fifo"'.

- Click on “create topic”.



The screenshot shows a 'Create topic' dialog. It includes optional settings: 'Tags - optional' (described as metadata labels for tracking costs) and 'Active tracing - optional' (described as AWS X-Ray active tracing for viewing traces and service maps). The 'Create topic' button is highlighted with an orange box.

- Topic is created successfully.

topic1 fifo

Details

Name topic1 fifo	Display name -	Retention policy Inactive
ARN arn:aws:sns:ap-south-1:515614487437:topic1 fifo	Topic owner 515614487437	Throughput scope MessageGroup
Type FIFO	Content-based message deduplication Disabled	

Edit **Delete** **Publish message**

Step4:-

- Select topic.
- Click on the topic name.

Topics (1)

Name	Type	ARN
topic1 fifo	FIFO	arn:aws:sns:ap-south-1:515614487437:topic1...

Edit **Delete** **Publish message** **Create topic**

- Click on "create subscription".

Subscriptions (0)

ID	Endpoint	Status	Protocol
No subscriptions found You don't have any subscriptions to this topic.			

Create subscription

- Select "topic ARN".

Details

Topic ARN
arn:aws:sns:ap-south-1:515614487437:topic1 fifo

Retention policy
Inactive

Protocol
The type of endpoint to subscribe
Select protocol

- In "Protocol" select "Amazon SQS".

Protocol
The type of endpoint to subscribe

Amazon SQS

- Click on “create subscription”.

Subscription filter policy - *optional* Info
This policy filters the messages that a subscriber receives.

Redrive policy (dead-letter queue) - *optional* Info
Send undeliverable messages to a dead-letter queue.

Create subscription

- Subscription is created.

Subscription to topic1 fifo created successfully.
The ARN of the subscription is arn:aws:sns:ap-south-1:515614487437:topic1 fifo:4bfd6b78-f2fd-430f-992d-1480aec5418e.

Subscription: 4bfd6b78-f2fd-430f-992d-1480aec5418e

Details

ARN arn:aws:sns:ap-south-1:515614487437:topic1 fifo:4bfd6b78-f2fd-430f-992d-1480aec5418e	Status Confirmed
Endpoint arn:aws:sqs:ap-south-1:515614487437:myqueue	Protocol SQS
Topic topic1 fifo	Raw message delivery Disabled
Subscription Principal arn:aws:iam::515614487437:root	

Step4:-

- Change the tab and back to “SQS”.
- Select the “queue”.
- Click on “Action”.

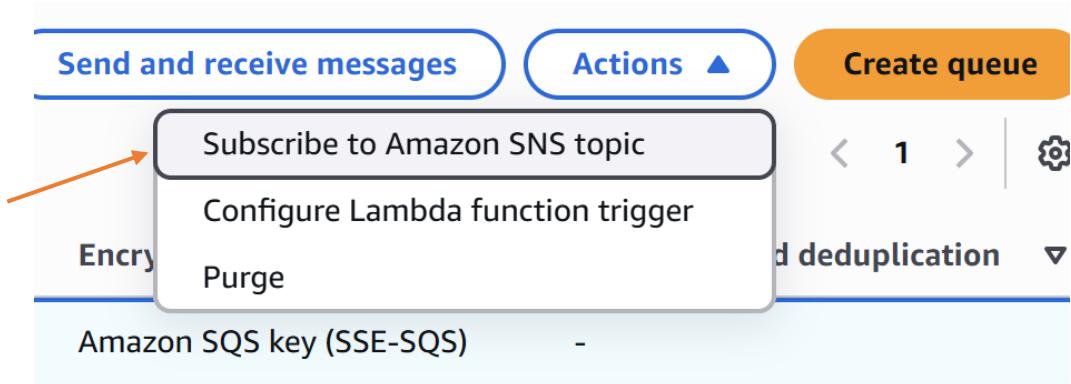
Queues (1)

Search queues by prefix

Name	Type	Created	Messages available	Messages in flight	Encryption	Content-based deduplication
myqueue	Standard	2025-07-19T00:01+05:30	0	0	Amazon SQS key (SSE-SQS)	-

Create queue

- Select “Subscribe to Amazon SNS topic”.



- In “Amazon SNS topic” “choose a topic” like use existing resource.

Subscribe to Amazon SNS topic Info

Amazon SNS topic

To allow your queue to receive messages from an Amazon SNS topic, subscribe it to an Amazon SNS topic.

Specify an Amazon SNS topic available for this queue.

Choose a topic

Q Search Amazon SNS topics.

Enter Amazon SNS topic ARN

Use existing resource

arn:aws:sns:ap-south-1:515614487437:topic1 fifo

End of results

Cancel

Save

- Click on “Save”.

Subscribe to Amazon SNS topic Info

Amazon SNS topic

To allow your queue to receive messages from an Amazon SNS topic, subscribe it to an Amazon SNS topic.

Specify an Amazon SNS topic available for this queue.

arn:aws:sns:ap-south-1:515614487437:topic1 fifo

Cancel

Save

- Subscribed successfully to topic.

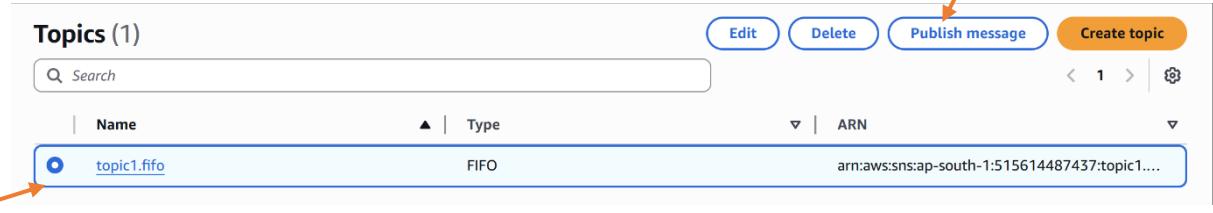
The screenshot shows the AWS SQS console with the queue 'myqueue' selected. At the top, there is a green success message: 'Subscribed successfully to topic arn:aws:sns:ap-south-1:515614487437:topic1 fifo.' Below this, the queue details are shown in a table format:

Details <small>Info</small>	
Name	myqueue
Encryption	Amazon SQS key (SSE-SQS)
Type	Standard
URL	https://sqs.ap-south-1.amazonaws.com/515614487437/myqueue
ARN	arn:aws:sqs:ap-south-1:515614487437:myqueue
Dead-letter queue	-

Below the table, there are buttons for 'Edit', 'Delete', 'Purge', 'Send and receive messages', and 'Start DLQ rehive'. The 'Send and receive messages' button is highlighted with an orange arrow. The 'myqueue' name is also highlighted with an orange arrow.

Step5:-

- Goto to “SNS” tab.
- Select the topic.
- Click on “publish message”.



Topics (1)

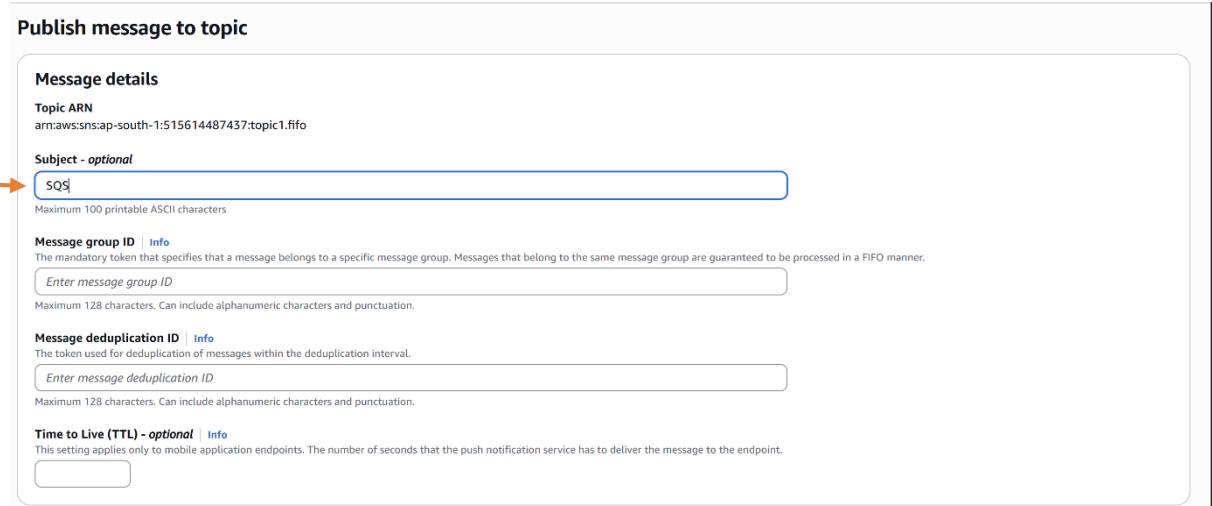
Search

Name Type ARN

topic1 fifo	FIFO	arn:aws:sns:ap-south-1:515614487437:topic1....
-------------	------	--

Edit Delete Publish message Create topic

- “Subject” name is optional.



Publish message to topic

Message details

Topic ARN
arn:aws:sns:ap-south-1:515614487437:topic1 fifo

Subject - optional
SQS

Message group ID | Info
The mandatory token that specifies that a message belongs to a specific message group. Messages that belong to the same message group are guaranteed to be processed in a FIFO manner.
Enter message group ID

Message deduplication ID | Info
The token used for deduplication of messages within the deduplication interval.
Enter message deduplication ID

Time to Live (TTL) - optional | Info
This setting applies only to mobile application endpoints. The number of seconds that the push notification service has to deliver the message to the endpoint.

- Enter “message ID”. Ex:- 101.

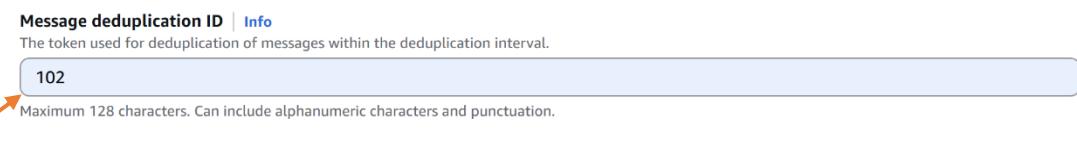


Message group ID | Info
The mandatory token that specifies that a message belongs to a specific message group. Messages that belong to the same message group are guaranteed to be processed in a FIFO manner.

101

Maximum 128 characters. Can include alphanumeric characters and punctuation.

- Enter “message deduplication ID”. Ex:- 102.

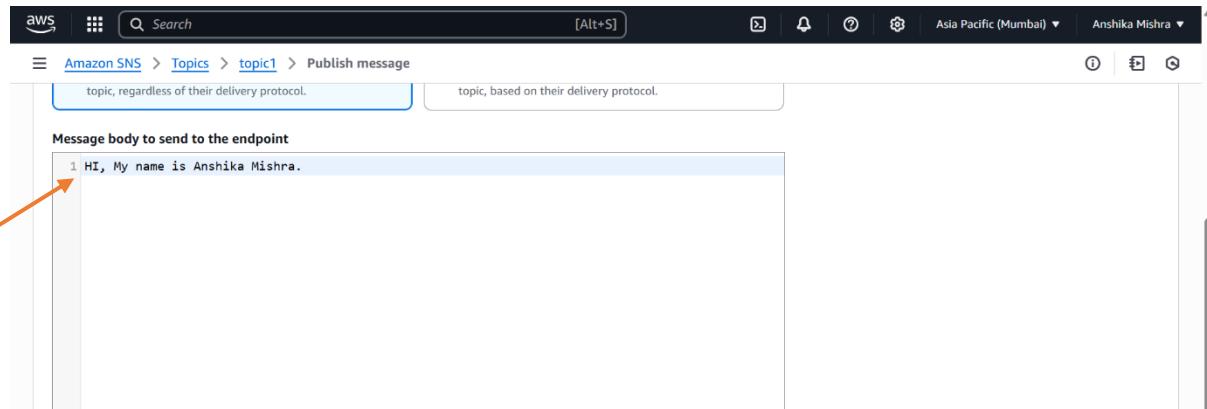


Message deduplication ID | Info
The token used for deduplication of messages within the deduplication interval.

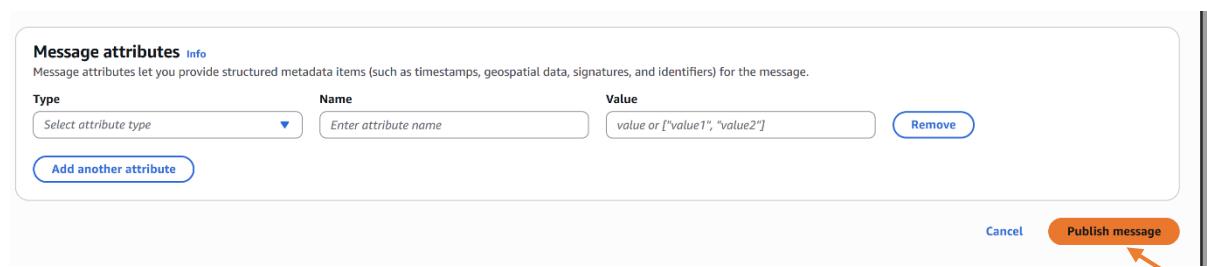
102

Maximum 128 characters. Can include alphanumeric characters and punctuation.

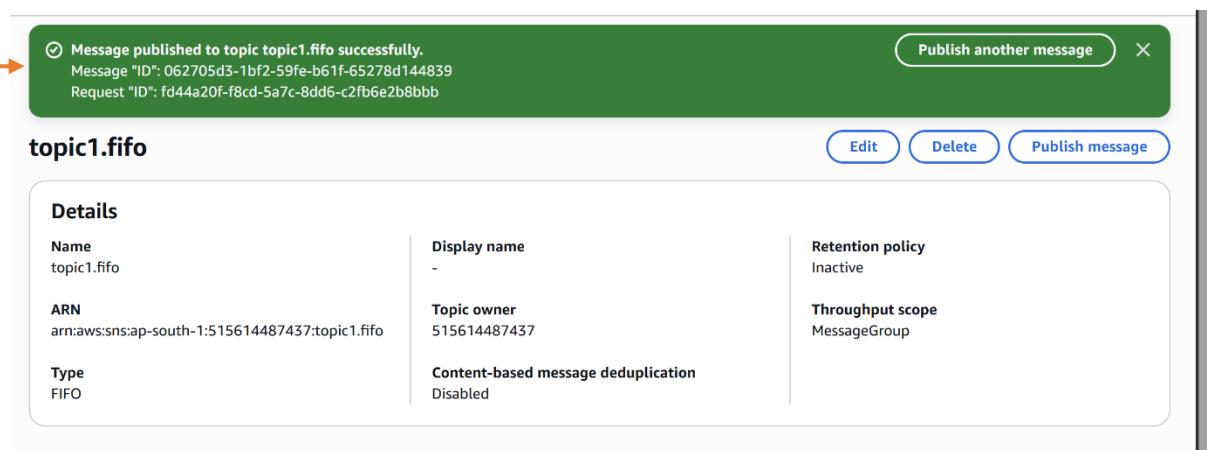
- Write the message in the “message body to send to the endpoint”.



- Click on “Publish message”.

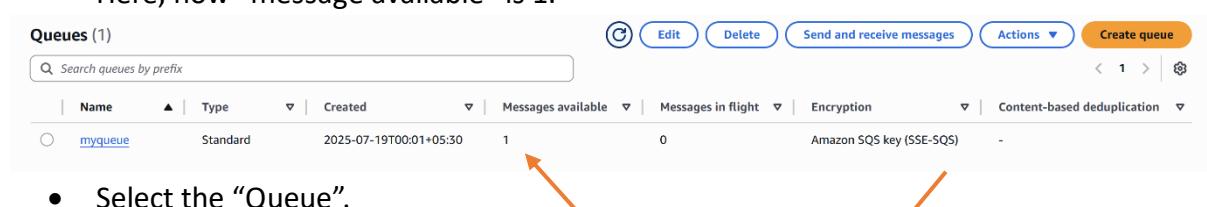


- Message is published successfully.



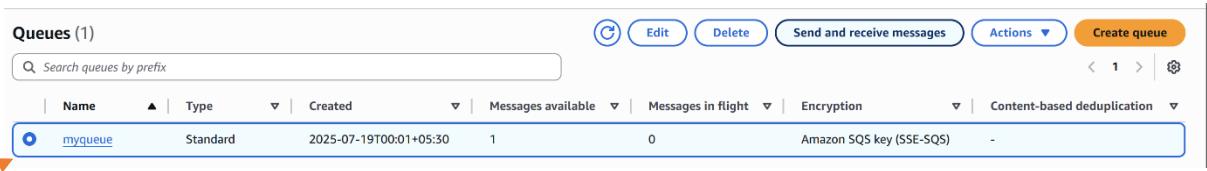
Step5:-

- Goto to “SQS” tab.
- Here, now “message available” is 1.



- Select the “Queue”.

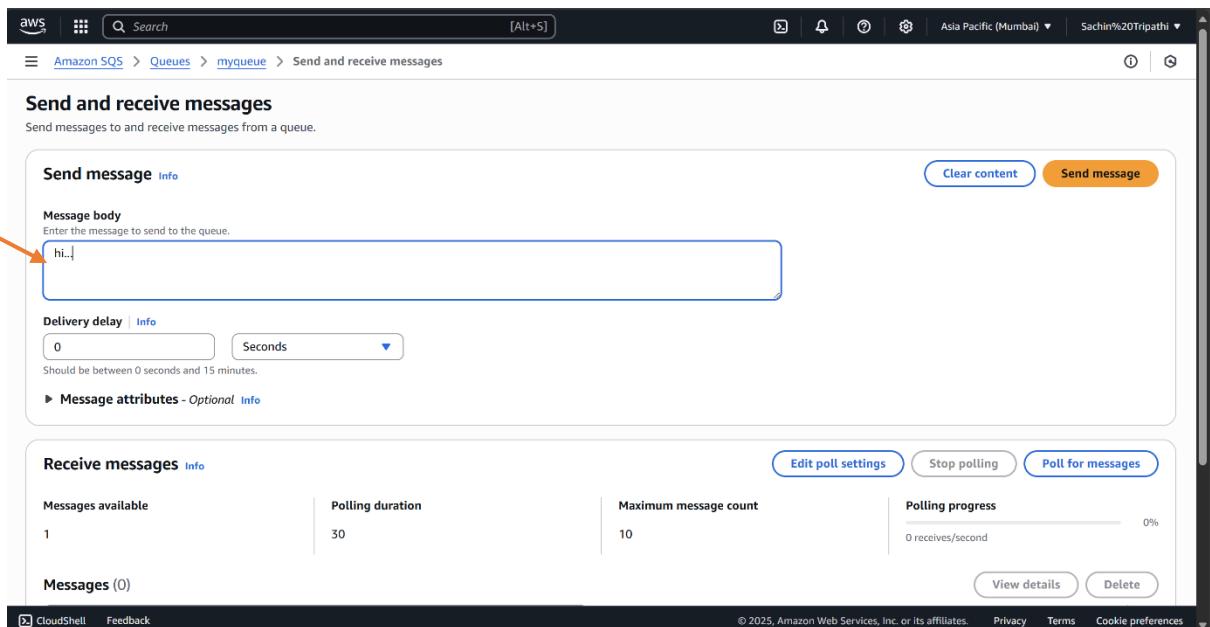
- Click on “send and receive message”



Queues (1)

Name	Type	Created	Messages available	Messages in flight	Encryption	Content-based deduplication
myqueue	Standard	2025-07-19T00:01+05:30	1	0	Amazon SQS key (SSE-SQS)	-

- Write the message in “message body”.



Send and receive messages

Send messages to and receive messages from a queue.

Send message Info

Message body Enter the message to send to the queue.
hi...

Delivery delay Info Seconds

Should be between 0 seconds and 15 minutes.

Message attributes - Optional Info

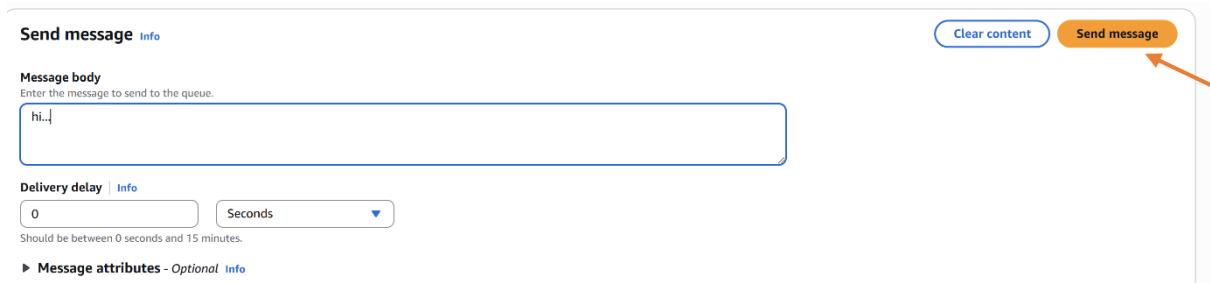
Receive messages Info

Messages available: 1 | Polling duration: 30 | Maximum message count: 10 | Polling progress: 0% 0 receives/second

Messages (0)

View details | Delete

- Click on “send message”.



Send message Info

Message body Enter the message to send to the queue.
hi...

Delivery delay Info Seconds

Should be between 0 seconds and 15 minutes.

Message attributes - Optional Info

- Message has been sent and is ready to be received.



Send message Info

Message body Your message has been sent and is ready to be received.

hi...

- Here, now “message available” is 2.

Queues (1)						
Search queues by prefix Actions Create queue						
Name	Type	Created	Messages available	Messages in flight	Encryption	Content-based deduplication
myqueue	Standard	2025-07-19T00:01+05:30	2	0	Amazon SQS key (SSE-SQS)	-

Step6:-

- Create a duplicate tab.
- Search “lambda”.
- Click on “create a function”.

Compute

AWS Lambda

lets you run code without thinking about servers.

You pay only for the compute time that you consume — there is no charge when your code is not running. With Lambda, you can run code for virtually any type of application or backend service, all with zero administration.

Create a function

How it works

Run

Next: Lambda responds to events

- Select “Author from scratch”.

Lambda > Functions > Create function

Create function

Choose one of the following options to create your function.

Author from scratch
Start with a simple Hello World example.

Use a blueprint
Build a Lambda application from sample code and configuration presets for common use cases.

Container image
Select a container image to deploy for your function.

Basic information

Function name
Enter a name that describes the purpose of your function.

Function name must be 1 to 64 characters, must be unique to the Region, and can't include spaces. Valid characters are a-z, A-Z, 0-9, hyphens (-), and underscores (_).

Runtime | **Info**
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Architecture | **Info**
Choose the instruction set architecture you want for your function code.
 arm64
 x86_64

Permissions | **Info**
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

Tutorials

Create a simple web app

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

[Learn more](#)

[Start tutorial](#)

- Write the “function name”. Ex:- `This_is_function`.

Function name

Enter a name that describes the purpose of your function.

This_is_function

Function name must be 1 to 64 characters, must be unique to the Region, and can't include spaces. Valid characters are a-z, A-Z, 0-9, hyphens (-), and underscores (_).

- Click on “IAM console”.

▼ Change default execution role**Execution role**

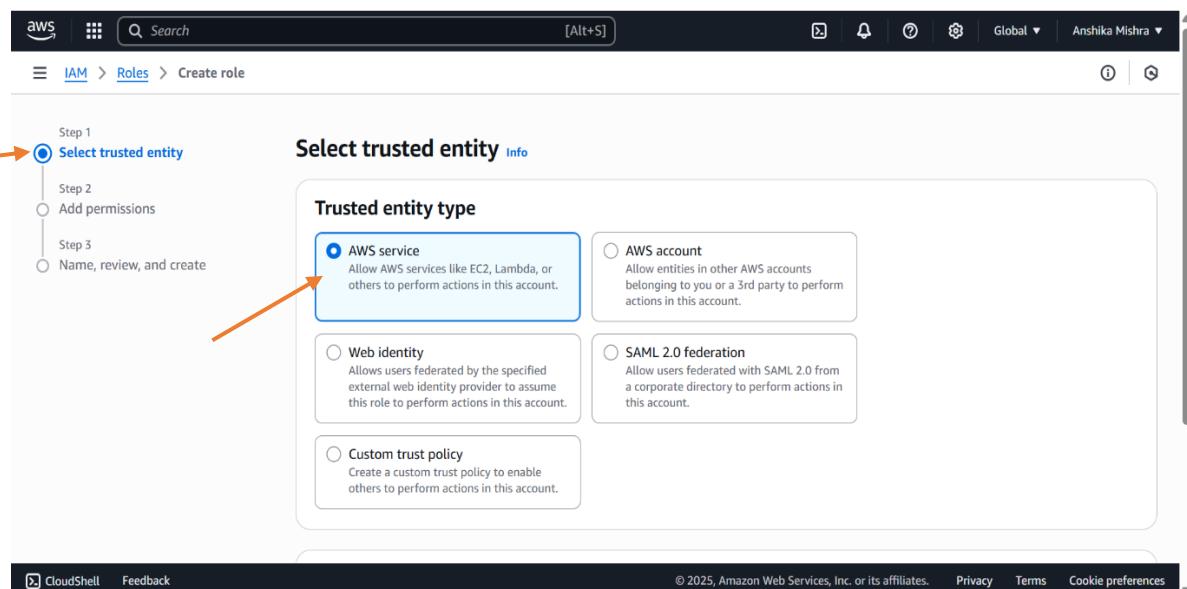
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

- Create a new role with basic Lambda permissions
- Use an existing role
- Create a new role from AWS policy templates

i Role creation might take a few minutes. Do not delete the role or edit the trust or permissions policies in this role.

Lambda will create an execution role named This_is_function-role-3kplttwy, with permission to upload logs to Amazon CloudWatch Logs.

- In “Select trusted entity”, select “Trusted entity type” “AWS services”.

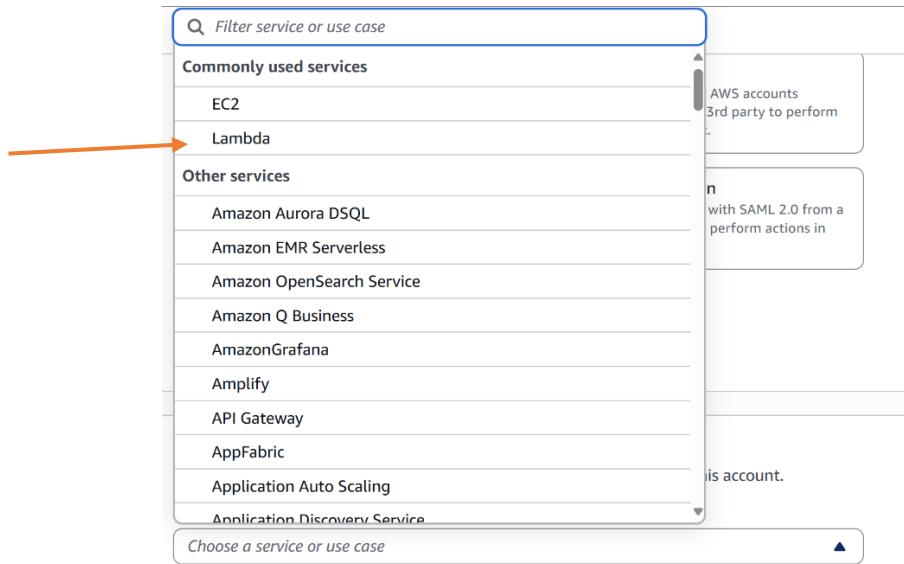


The screenshot shows the AWS IAM 'Create role' wizard. The title is 'Select trusted entity'. On the left, a sidebar shows 'Step 1: Select trusted entity' (highlighted with an orange arrow) and 'Step 2: Add permissions' and 'Step 3: Name, review, and create'. The main area is titled 'Trusted entity type' and contains five options:

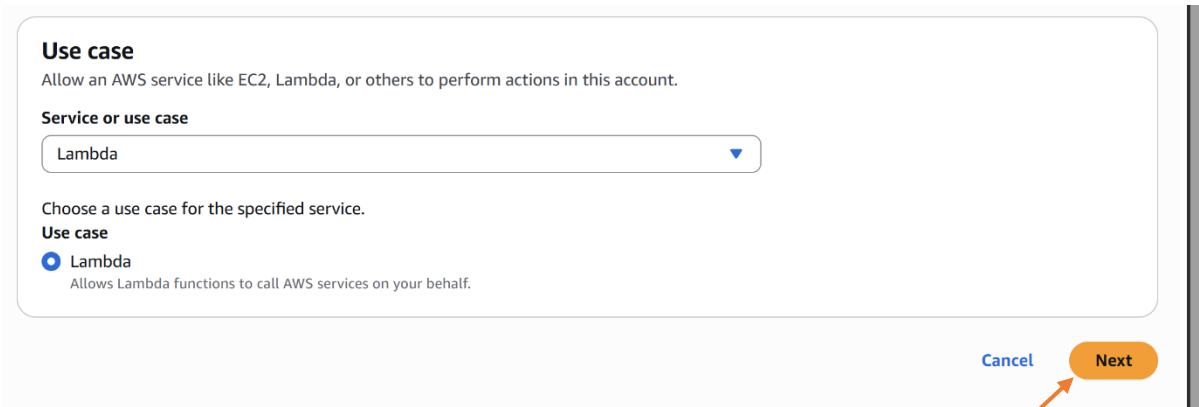
- AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.
- AWS account**
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.
- Web identity**
Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.
- SAML 2.0 federation**
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.
- Custom trust policy**
Create a custom trust policy to enable others to perform actions in this account.

Step7:-

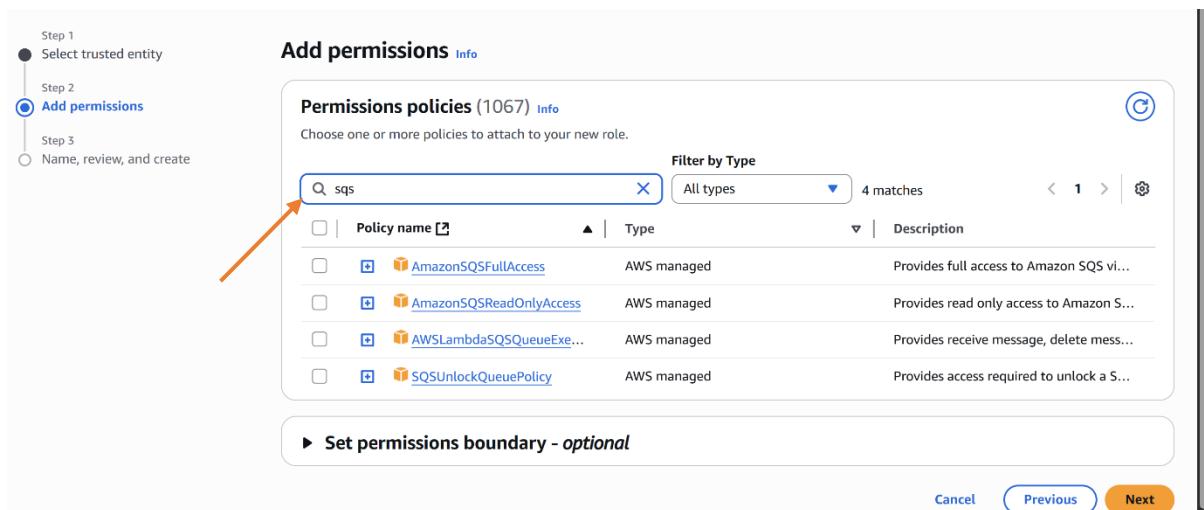
- Select “Lambda” in “Use case”.



- Click on “next”.



- In “Add permission” , search “SQS” in “permission policy”.



- Select “AmazonSQSFullAccess”.

Permissions policies (1/1067) [Info](#)

Choose one or more policies to attach to your new role.

Filter by Type

Policy name ▾ Type ▾ Description

Policy name	Type	Description
<input checked="" type="checkbox"/> AmazonSQSFullAccess	AWS managed	Provides full access to Amazon SQS vi...
<input type="checkbox"/> AmazonSQSReadOnlyAccess	AWS managed	Provides read only access to Amazon S...
<input type="checkbox"/> AWSLambdaSQSQueueEx...	AWS managed	Provides receive message, delete mess...
<input type="checkbox"/> SQSUnlockQueuePolicy	AWS managed	Provides access required to unlock a S...

▶ Set permissions boundary - *optional*

[Cancel](#) [Previous](#) [Next](#)

Step8:-

- In “Name, review, and create”.

Step 1: Select trusted entity

Step 2: Add permissions

Step 3: **Name, review, and create**

Name, review, and create

Role details

Role name
Enter a meaningful name to identify this role.

this_is_role1

Maximum 64 characters. Use alphanumeric and '+=_,@-' characters.

Description
Add a short explanation for this role.

Allows Lambda functions to call AWS services on your behalf.

Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=., @-/[\{\}]#\$%^&`~"'

Step 1: Select trusted entities [Edit](#)

- Enter the “Role name” Ex:-this_is_role1.

Role name

Enter a meaningful name to identify this role.

this_is_role1

Maximum 64 characters. Use alphanumeric and '+=_,@-' characters.

- Click on “create Role”.

Step 3: Add tags

Add tags - optional Info

Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.

No tags associated with the resource.

Add new tag

You can add up to 50 more tags.

Cancel **Previous** **Create role**

- Role is created.

Role this_is_role1 created.

Roles (7) Info

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

View role **X** **C** **Delete** **Create role**

Step9:-

- Back to the SQS tab.
- Select the “use an existing role”.

▼ Change default execution role

Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

Create a new role with basic Lambda permissions
 Use an existing role
 Create a new role from AWS policy templates

Existing role
Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

- In “Existing role” select the role which is “created”. Ex:- this_is_role1.

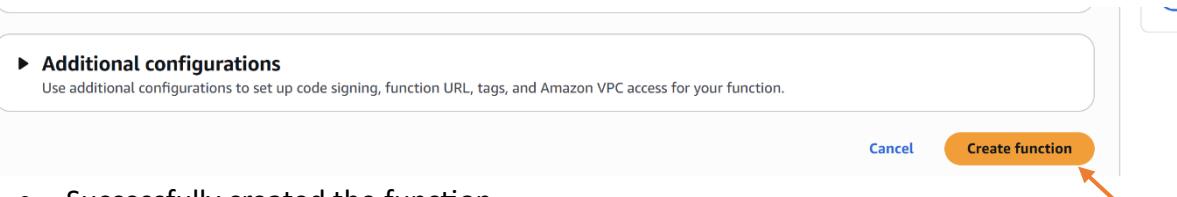
Existing role
Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

C

Search

service-role/Fun1-role-vv7f4mhf
this_is_role1

- Click on “create function”.



- Successfully created the function.

☰ Lambda > Functions > This_is_function

⌚ Successfully created the function **This_is_function**. You can now change its code and configuration. To invoke your function with a test event, choose "Test". X

This_is_function

Throttle

Copy ARN

Actions ▾

▼ Function overview Info

Diagram | Template



+ Add trigger

+ Add destination

Export to Infrastructure Composer

Download ▾

Description

Last modified
in 1 second

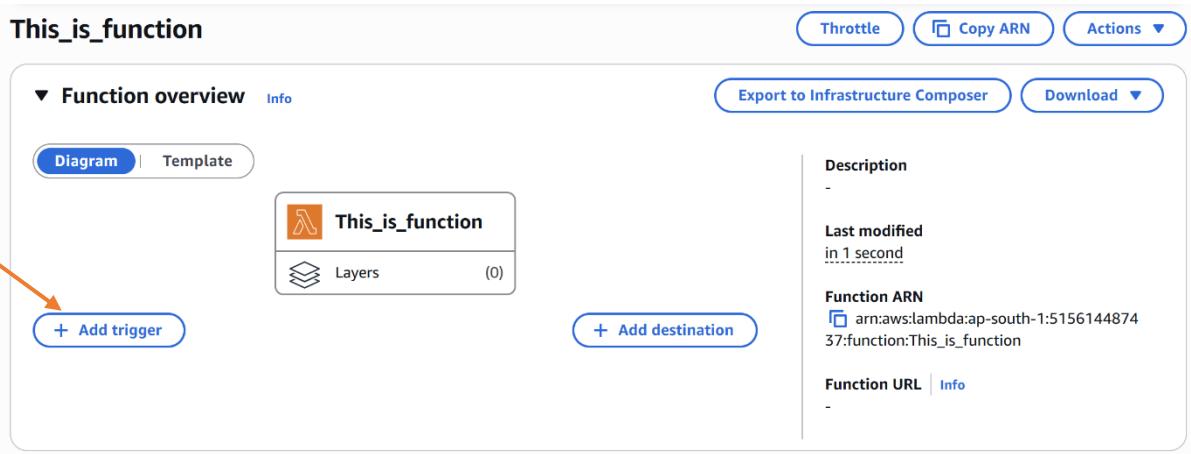
Function ARN

arn:aws:lambda:ap-south-1:515614487437:function:This_is_function

Function URL Info

Step10:-

- Click on “Add trigger”.



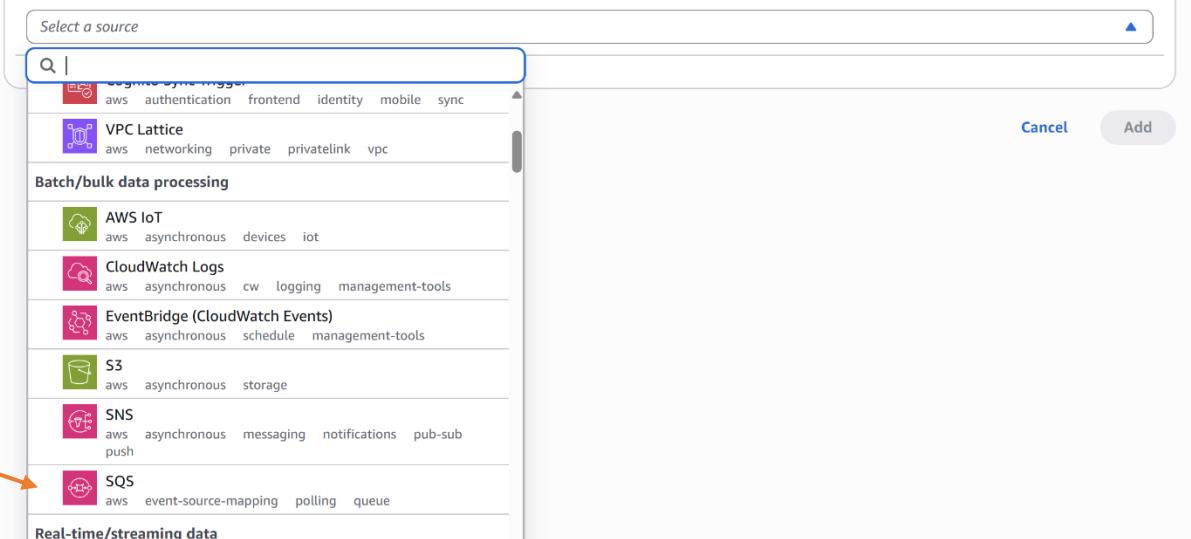
- Search and select “SQS”.

Add trigger

Trigger configuration [Info](#)

Select a source

Cancel [Add](#)



Batch/bulk data processing

- AWS IoT
- CloudWatch Logs
- EventBridge (CloudWatch Events)
- S3
- SNS
- SQS**

Real-time/streaming data

- In “SQS queue” select “myqueue”.

SQS queue

Choose or enter the ARN of an SQS queue.



myqueue

Event poller configuration

- Click on “Add” button.

► Additional settings

In order to read from the SQS trigger, your execution role must have proper permissions.

[Cancel](#)

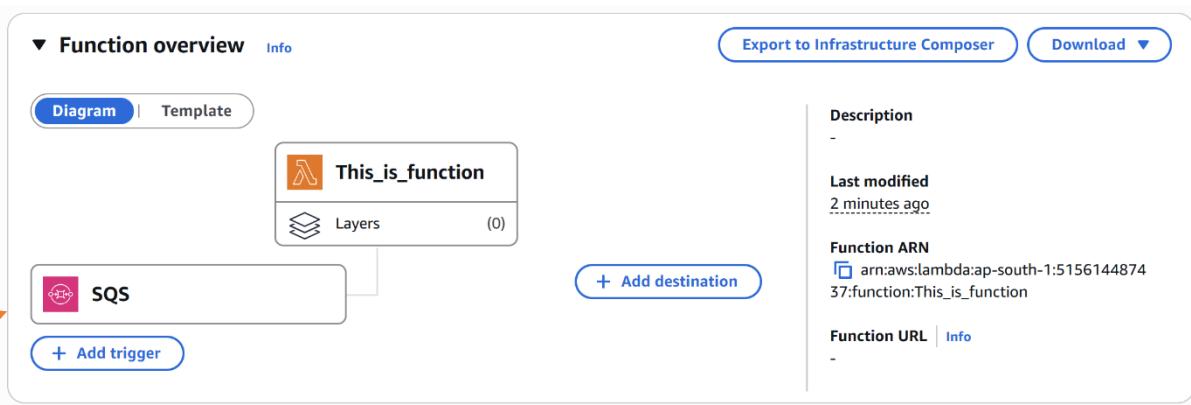
Add

- SQS is added.

▼ Function overview [Info](#)

[Export to Infrastructure Composer](#) [Download](#)

[Diagram](#) | [Template](#)



This_is_function

Layers (0)

SQS

+ Add destination

+ Add trigger

Description

Last modified 2 minutes ago

Function ARN [arn:aws:lambda:ap-south-1:515614487437:function:This_is_function](#)

Function URL [Info](#)

Step10:-

- Still there is two “message available”, refresh the queue.

Queues (1)						
<input type="text"/> Search queues by prefix						
Name	Type	Created	Messages available	Messages in flight	Encryption	Content-based deduplication
myqueue	Standard	2025-07-19T00:01+05:30	2	0	Amazon SQS key (SSE-SQS)	-



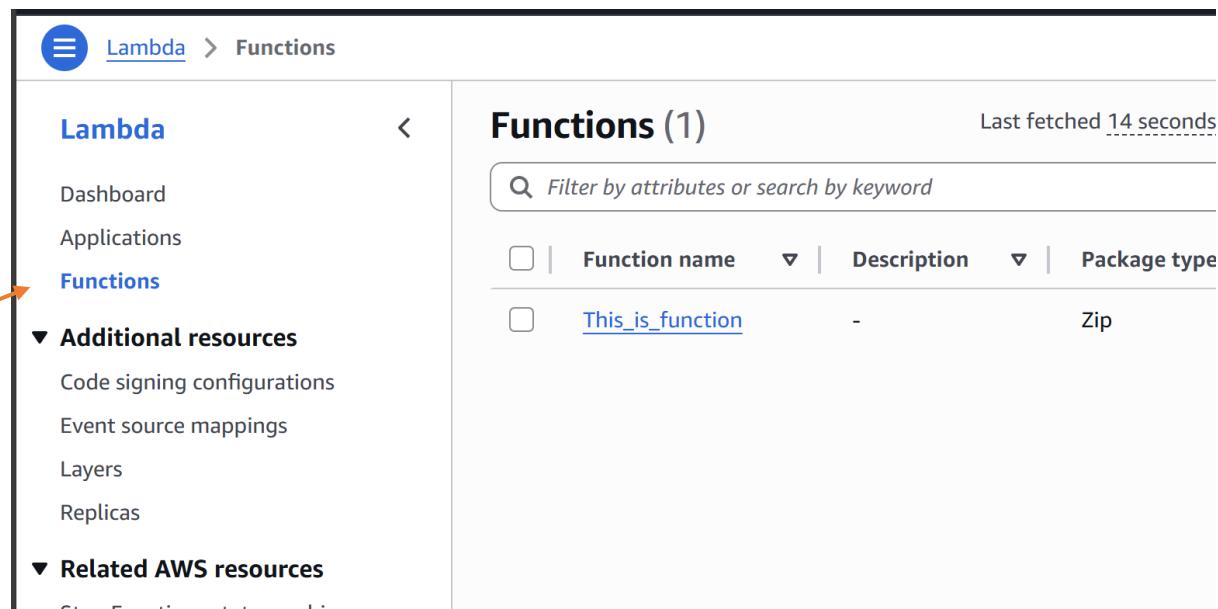
- There is no message are available all messages are send.

Queues (1)						
<input type="text"/> Search queues by prefix						
Name	Type	Created	Messages available	Messages in flight	Encryption	Content-based deduplication
myqueue	Standard	2025-07-19T00:01+05:30	0	0	Amazon SQS key (SSE-SQS)	-



Step10:-

- Goto lamda.



Lambda > Functions

Lambda

- Dashboard
- Applications
- Functions**

Additional resources

- Code signing configurations
- Event source mappings
- Layers
- Replicas

Related AWS resources

Stop Functions state machines

Functions (1) Last fetched 14 seconds

<input type="checkbox"/> Function name	Description	Package type
This_is_function	-	Zip

- Select the function, click on “Action” and then click on “Delete”.

Lambda > Functions

Functions (1/1)

Last fetched 24 seconds ago

Actions ▾ Create function

Filter by attributes or search by keyword

Function name Description Package type Runtime Last modified

This_is_function - Zip Node.js 22.x 3 minutes ago

View details Test Delete

- Type "confirm" and click on "Delete".

Delete function

Delete function **This_is_function** permanently? This action can't be undone.

⚠ Deleting a function permanently removes the function code. The related logs, roles, test event schemas, and triggers are retained in your account.

To confirm deletion, type "confirm" in the field.

confirm

Cancel Delete

- Function is deleted successfully.

Successfully deleted function: This_is_function

Functions (0)

Last fetched 54 seconds ago

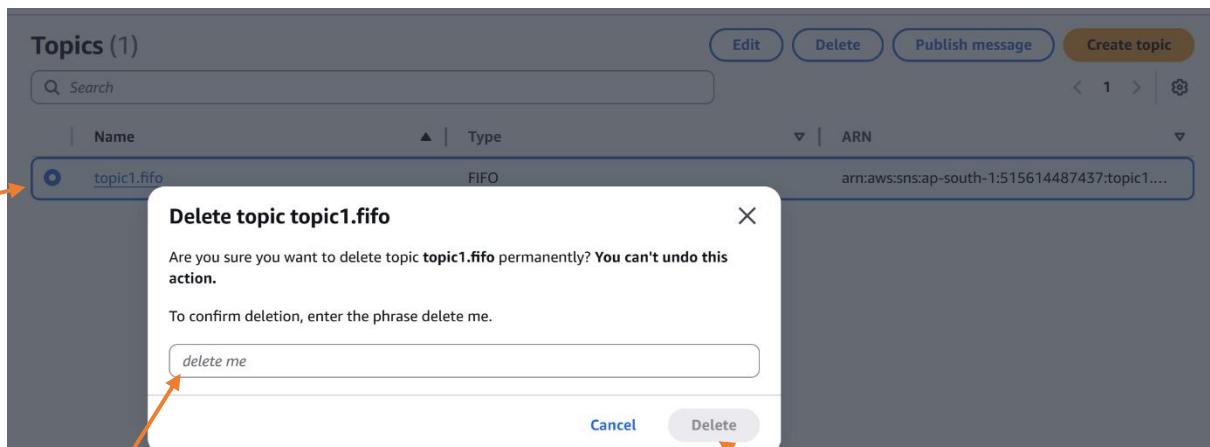
Actions ▾ Create function

Filter by attributes or search by keyword

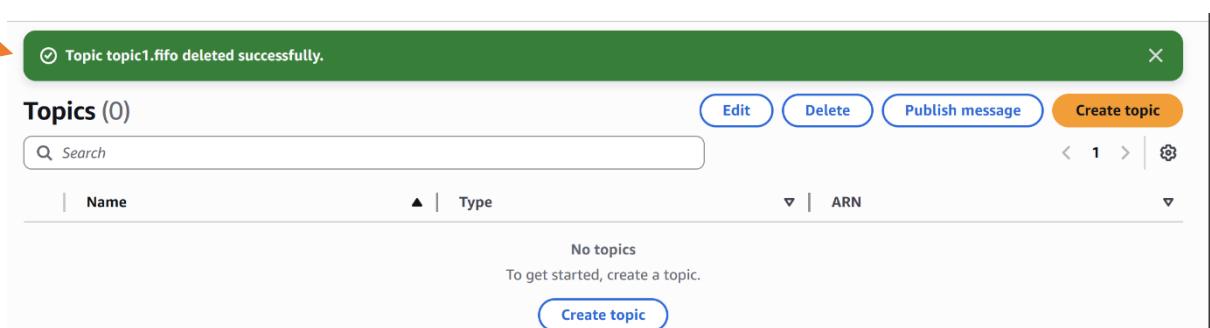
Function name Description Package type Runtime Last modified

Step10:-

- Goto Simple notification service (SNS).
- Select topic.
- Click on "Delete".
- Type "delete me".
- Click on "Delete".

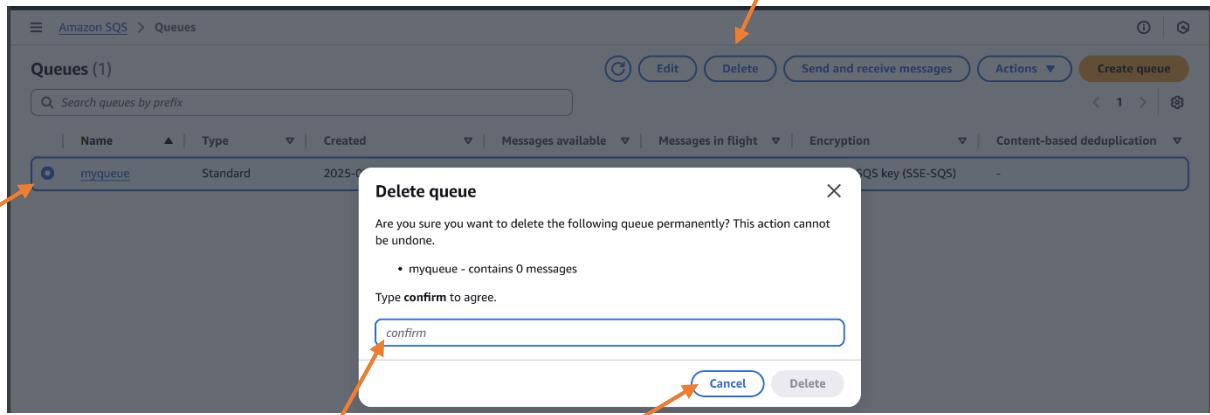


- Topic deleted successfully.



Step11:-

- Goto Simple Queue service (SQS).
- Select “Queue”.
- Click on “Delete”.
- Type “confirm”.
- Click on “delete”.



- Queue is deleted.

