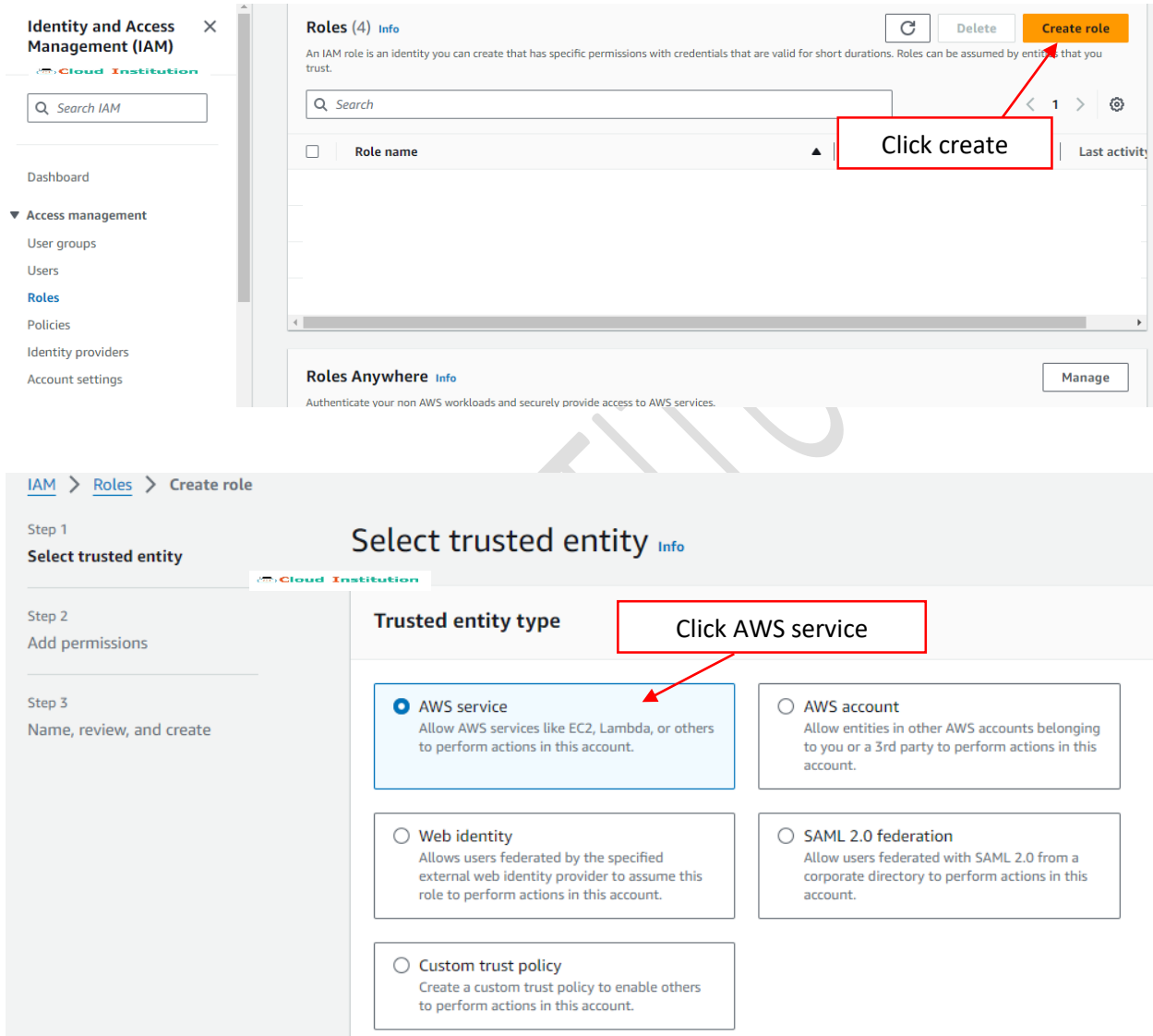


TRIGGERING SQS USING AWS LAMBDA

Step 1 : Create a IAM Role



The image shows two screenshots from the AWS IAM console. The top screenshot displays the 'Roles (4)' page with a 'Create role' button highlighted in orange. A red box labeled 'Click create' points to this button. The bottom screenshot shows the 'Select trusted entity' step, where the 'AWS service' option is selected and highlighted with a red box labeled 'Click AWS service'.

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings

Roles (4) 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.

Search

Role name

Click create

Roles Anywhere Info

Authenticate your non AWS workloads and securely provide access to AWS services.

Manage

IAM > Roles > Create role

Step 1

Select trusted entity

Step 2

Add permissions

Step 3

Name, review, and create

Select trusted entity Info

Trusted entity type

Click AWS service

- ☒ **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.

Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Select Lambda

Service or use case

Lambda

Choose a use case for the specified service.

Use case

☒ Lambda

Allows Lambda functions to call AWS services on your behalf.

Click next

Cancel

Next

Attach policy to Role-cloud-institute

► Current permissions policies (0)

Other permissions policies (1/926)



Q sqs






Filter by Type

All types

3 matches

< 1 >



<input type="checkbox"/>	Policy name	Type	Description
<input type="checkbox"/>	 AmazonSQSFullAccess	AWS managed	Provid
<input type="checkbox"/>	 AmazonSQSReadOnlyAccess	AWS managed	Provid
<input checked="" type="checkbox"/>	 AWSLambdaSQSQueueExecutionRole	AWS managed	Provid

Cancel

Add permissions

IAM > Roles > Create role

Step 1

[Select trusted entity](#)

Step 2

[Add permissions](#)

Step 3

Name, review, and create

Name, review, and create

Role details

Give a name to the Role

Role name

Enter a meaningful name to identify this role.

Role-cloud-institute

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: '_', '+', '@', '/', '[', ']', '#', '%', '^', '&', '*', '=', '<', '>'.

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](#)

Click create

Role Created

✓ **Role Role-cloud-institute created.** [View role](#) ✕

 **Roles (5)** [Info](#) [Refresh](#) [Delete](#) [Create role](#)





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.

<input type="checkbox"/>	Role name	Trusted entities	Last activity
<input type="checkbox"/>	Role-cloud-institute	AWS Service: lambda	-

Step 2 : Create a SQS

Search results for 'sqs'

Services [See all 14 results](#)

-  **Simple Queue Service** ☆
SQS Managed Message Queues
-  **Amazon Pinpoint SMS**
Scalable inbound and outbound text messaging
-  **Service Quotas** ☆
View and manage your AWS service quotas from a central location
-  **Simple Notification Service** ☆
SNS managed message topics for Pub/Sub

Features [See all 16 results](#)

[SQL queries](#)

Click on SQS

Application integration

Amazon SQS

A message queuing service

Amazon SQS provides queues for high-throughput, system-to-system messaging. You can use queues to decouple heavyweight processes and to buffer and batch work. Amazon SQS stores messages until microservices and serverless applications process them.

Click create

Get started

Learn how to use Amazon SQS by creating a queue, sending a message to the queue, and receiving and processing the message.

Create queue

Pricing (US)

[Amazon SQS](#) > [Queues](#) > Create queue

Create queue

Details

Click on Standard

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

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

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.

Click create

[Cancel](#)[Create queue](#)

Queue created

 Queue Cloud-institute-queue created successfully
You can now send and receive messages.

[Amazon SQS](#) > [Queues](#) > Cloud-institute-queue


Cloud-institute-queue

EditDeletePurgeSend and receive messagesStart DLQ redrive

Details Info

Name	Type	ARN
Cloud-institute-queue	Standard	arn:aws:sqs:us-east-1:473869189128:Cloud-institute-queue
Encryption	URL	Dead-letter queue
Amazon SQS key (SSE-SQS)	https://sqs.us-east-1.amazonaws.com/473869189128/Cloud-institute-queue	-

Step 3: Create a Lambda 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.

Click create

Get started

Author a Lambda function from scratch, or choose from one of many preconfigured examples.

[Create a function](#)

Lambda > Functions > Create function

Create function [Info](#)

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-Cloud-institute

Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime [Info](#)
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Python 3.12

Architecture [Info](#)
Choose the instruction set architecture you want for your function code.

☒ x86_64

☐ arm64

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.

▼ **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.

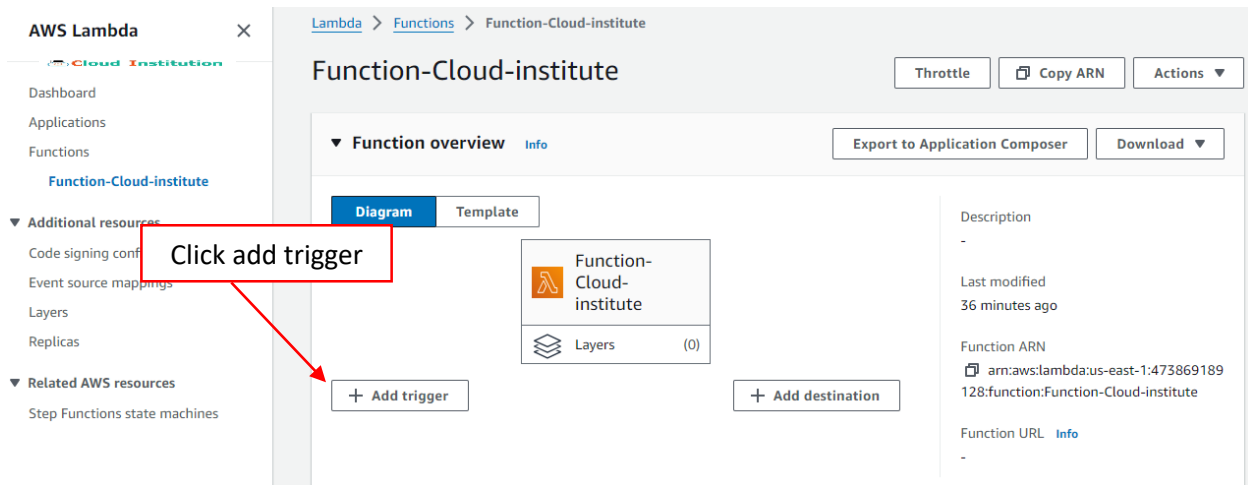
Role-cloud-institute

Advanced settings

Cancel **Create function**

Function created

Step : 4 Triggering SNS



AWS Lambda ×

Cloud Institution

Dashboard

Applications

Functions

Function-Cloud-institute

▼ Additional resources

Code signing config

Event source mappings

Layers

Replicas

▼ Related AWS resources

Step Functions state machines

Lambda > Functions > Function-Cloud-institute

Function-Cloud-institute

Throttle Copy ARN Actions

▼ Function overview Info

Export to Application Composer Download

Diagram Template

Function-Cloud-institute

Layers (0)

+ Add trigger

+ Add destination

Description

-

Last modified

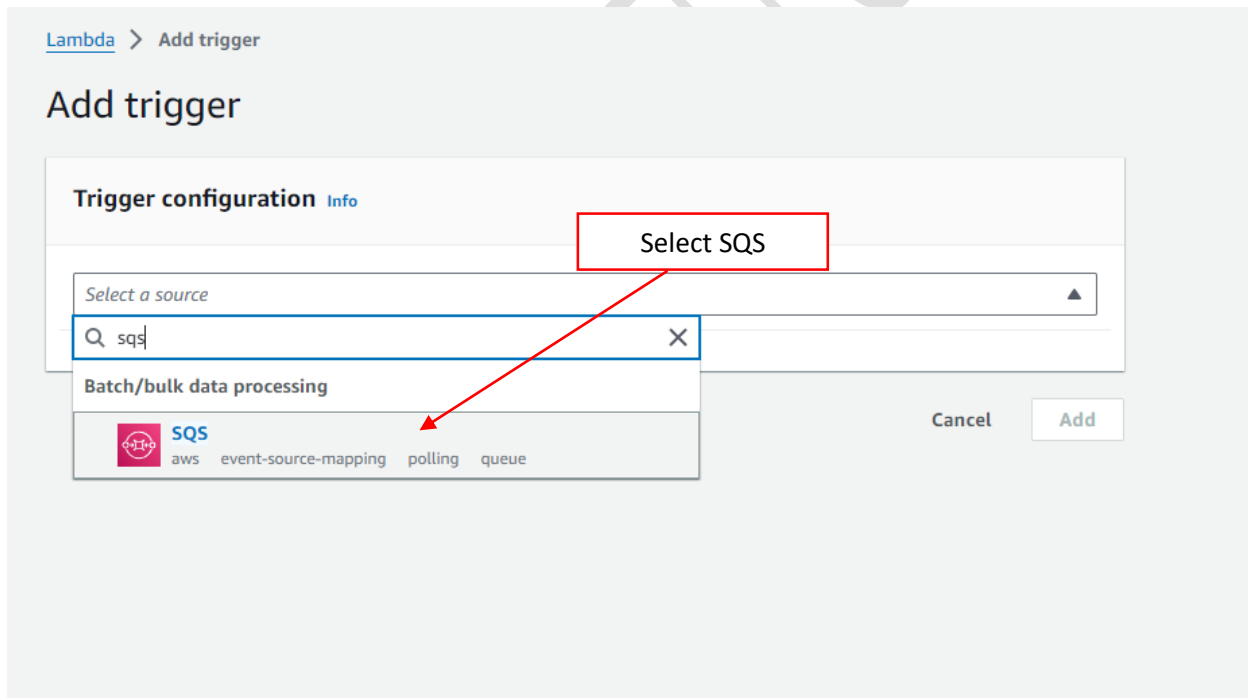
36 minutes ago

Function ARN

arn:aws:lambda:us-east-1:473869189:128:function:Function-Cloud-institute

Function URL Info

-



Lambda > Add trigger

Add trigger

Trigger configuration Info

Select a source

Q sqs X

Batch/bulk data processing

SQS

aws event-source-mapping polling queue

Cancel Add

Select SQS

Trigger configuration [Info](#)



SQS

aws event-source-mapping polling queue



SQS queue

Choose or enter the ARN of an SQS queue.



Cloud-institute-queue

☒ Activate trigger

Select to activate the trigger now. Keep unchecked to create the trigger in a deactivated state for testing (recommended).

Batch size - optional

The number of records in each batch to send to the function.

10

The maximum is 10,000 for standard queues and 10 for FIFO queues.

Batch window - optional

The maximum amount of time to gather records before invoking the function, in seconds.

0

Report batch item failures - optional

Allow your function to return a partial successful response for a batch of records.

☐

Filter criteria - optional

Define the filtering criteria to determine whether or not to process an event. Each filter must be in a valid JSON format in filter rule syntax. Lambda processes an event if any one of the filters are met. Otherwise, Lambda discards the event. [Learn more](#)

Add

During trigger creation, Lambda translates your filter(s) into a single JSON structure containing all your filters.

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

Select the created queue



Click Add

Cancel

Add

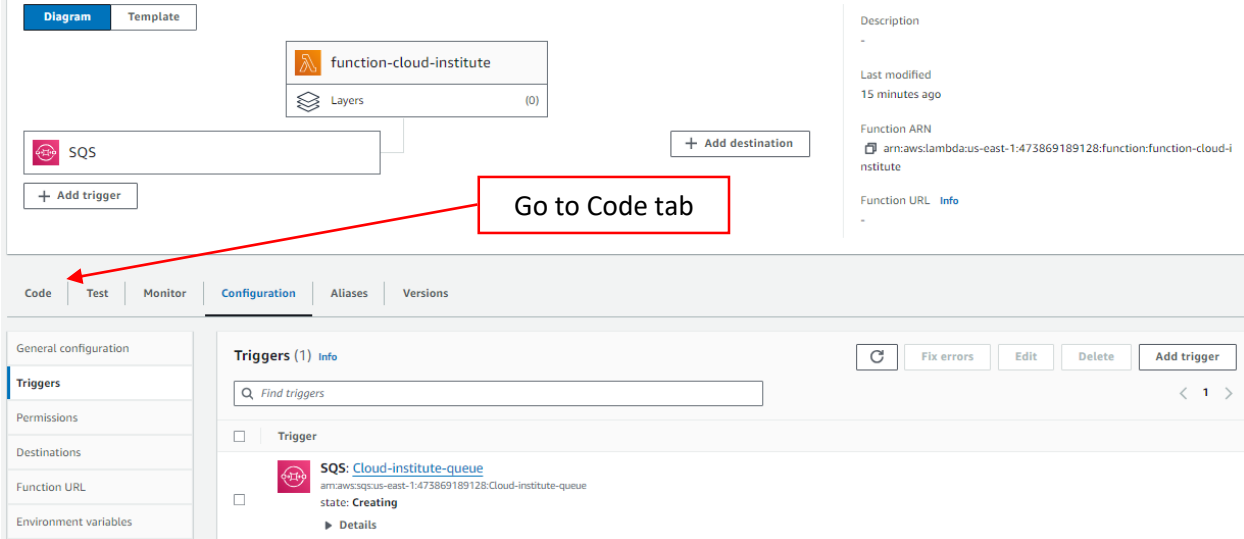


Diagram Template

function-cloud-institute

Layers (0)

SQS

+ Add destination

+ Add trigger

Go to Code tab

Description

Last modified 15 minutes ago

Function ARN arn:aws:lambda:us-east-1:473869189128:function:function-cloud-institute

Function URL Info

Code Test Monitor Configuration Aliases Versions

General configuration

Triggers

Permissions

Destinations

Function URL

Environment variables

Triggers (1) info

Find triggers

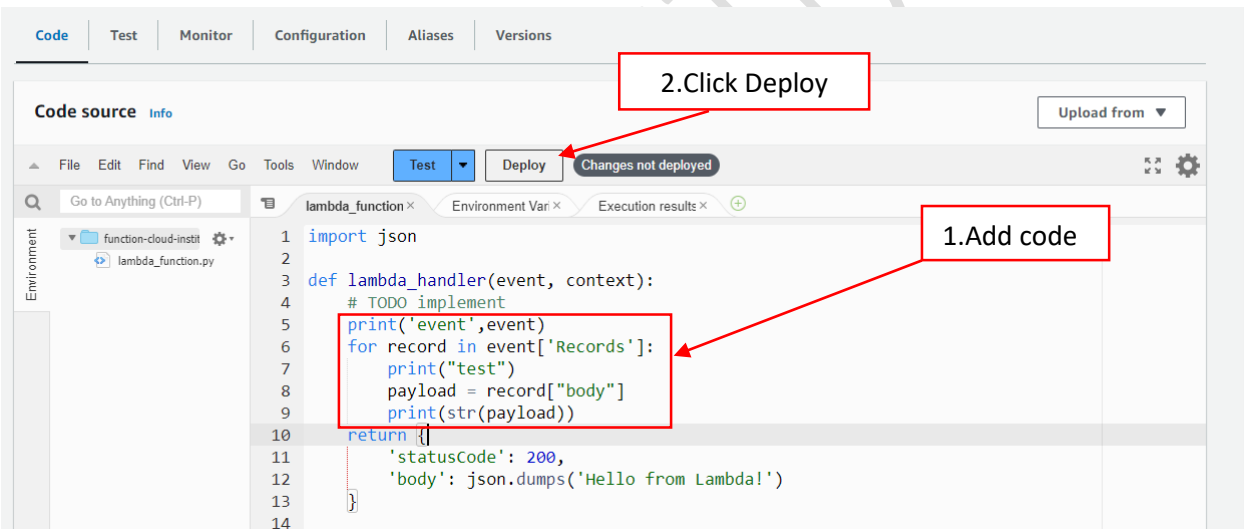
Trigger

SQS: Cloud-institute-queue

arn:aws:sqs:us-east-1:473869189128:Cloud-institute-queue

state: Creating

Details



Code Test Monitor Configuration Aliases Versions

Code source info

Upload from

File Edit Find View Go Tools Window Test Deploy Changes not deployed

Go to Anything (Ctrl-P)

function-cloud-institute

lambda_function.py

```
1 import json
2
3 def lambda_handler(event, context):
4     # TODO implement
5     print('event', event)
6     for record in event['Records']:
7         print("test")
8         payload = record["body"]
9         print(str(payload))
10    return {}
11    'statusCode': 200,
12    'body': json.dumps('Hello from Lambda!')
13
14
```

1.Add code

2.Click Deploy

```
print('event', event)
for record in event['Records']:
    print("test")
    payload = record["body"]
    print(str(payload))
```

Navigate to the SQS

Queue Cloud-institute-queue created successfully
You can now send and receive messages.

Amazon SQS > Queues > Cloud-institute-queue

Cloud-institute-queue

Edit Delete Purge Send and receive messages Start DLQ redrive

Details Info

Name	Cloud-institute-queue	Type	Standard	ARN	arn:aws:sqs:us-east-1:473869189128:Cloud-institute-queue
Encryption	Amazon SQS key (SSE-SQS)	URL	https://sqs.us-east-1.amazonaws.com/473869189128/Cloud-institute-queue	Dead-letter queue	-

Click send and receive messages

Amazon SQS > Queues > Cloud-institute-queue > Send and receive messages

Send and receive messages

Send messages to and receive messages from a queue.

Send message Info

Clear content Send message

Message body
Enter the message to send to the queue.

This is a test message from cloud institution

Delivery delay Info
0 Seconds
Should be between 0 seconds and 15 minutes.

1.Type a sample

2.Click send

Send message Info

Clear content Send message

✔ Your message has been sent and is ready to be received. View details

Message body
Enter the message to send to the queue.

Now go back to lambda functions

Code | Test | **Monitor** | Configuration | Aliases | Versions

Monitor [Info](#)

[View CloudWatch logs](#) [View X-Ray traces](#) [View Lambda Insights](#) [View CodeGuru profiles](#)

Filter metrics by **Function**

☐ Alarm recommendations [?](#)

3h 1d 1w [?](#) UTC timezone [↺](#) [↻](#) [⋮](#)

CloudWatch metrics

Lambda sends runtime metrics for your functions to Amazon CloudWatch. The metrics shown are an aggregate view of all function runtime activity. To view metrics for the unqualified or \$LATEST resource, choose **Filter by**. To view metrics for a specific function version or alias, choose **Aliases** or **Versions**, select the alias or version, and then choose

Invocations	Duration	Error count and success rate (%)
Count	Milliseconds	Count
2	2.66	1

< **Log streams** | Tags | Anomaly detection | Metric filters | Subscription filters | Contributor Insights | Data protection >

Log streams (3) [↺](#) [Delete](#) [Create log stream](#) [Search all log streams](#)

☐ Exact match ☐ Show expired [Info](#) < 1 > [⚙](#)

<input type="checkbox"/>	Log stream	Last event time
<input type="checkbox"/>	2024/05/07/[\$LATEST]be86956104344a08ac4ac82a3735f653	2024-05-07 11:56:45 (UTC+05:30)

Log events [↺](#) [Actions](#) [Start tailing](#) [Create metric filter](#)

You can use the filter bar below to search for and match terms, phrases, or values in your log events. [Learn more about filter patterns](#)

1m 1h [?](#) Local timezone [Display](#) [⚙](#)

▶	Timestamp	Message
▶	2024-05-07T11:56:45.886+05:30	INIT_START Runtime Version: python:3.12.v25 Runtime Version ARN: arn:aws:lambda:us-east-1::runtime...
▶	2024-05-07T11:56:45.968+05:30	START RequestId: 40c9d03c-d940-5e2d-a793-8e8f1298b676 Version: \$LATEST
▶	2024-05-07T11:56:45.968+05:30	event {'Records': [{'messageId': 'c9c5332b-a968-415c-adbc-c5247e35505f', 'receiptHandle': 'AQEBZUq...
▶	2024-05-07T11:56:45.968+05:30	test
▶	2024-05-07T11:56:45.968+05:30	This is a test message from cloud institution
▶	2024-05-07T11:56:45.971+05:30	END RequestId: 40c9d03c-d940-5e2d-a793-8e8f1298b676
▶	2024-05-07T11:56:45.971+05:30	REPORT RequestId: 40c9d03c-d940-5e2d-a793-8e8f1298b676 Duration: 3.52 ms Billed Duration: 4 ms Mem...

No newer events at this moment. [Auto retry paused](#). [Resume](#)

No older events at this moment. [Retry](#)

▶	2024-05-07T11:56:45.886+05:30	INIT_START Runtime Version: python:3.12.v25 Runtime Version ARN: arn:aws:lambda:us-east-1::runtime...
▶	2024-05-07T11:56:45.968+05:30	START RequestId: 40c9d03c-d940-5e2d-a793-8e8f1298b676 Version: \$LATEST
▼	26	<div>Triggered message</div> <pre>{ "Records": [{ "messageId": "c9c5332b-a968-415c-adbc-c5247e35505f", "receiptHandle": "AQEBZUqyXFcwPyHzjW11eyd8RY5Rb6jk+RPZYD07zvaTk6W/z/ExpJsALiyyujxSpDYZusynW+YDS/hJCFyzGacSM9VEE7wSvn3FvnfPqMZYamu5iBaFzjI4dkVak9gSZJcZJOL5UupP2gonrQc45ez68r2hTtxHGxOhxwGKaISXxpcanJ1clujGzh10L5wkEGvo78pTm/6UKuMOYF5sOHX2zWj59mE2+HwC1idNQkaCGkCCa0zgXm3hKuk2Lbc/h/uUChIiT42faiXTVrWbPp2+rUuMZUR61gVnNvZXhXIAzQSfqlTNYrLrMz05bbOuCLZEBq1r9siSanLdCm4CfTk100490V1DkaebZt0x0dXR0/b9tHqSXc3DGbpwVE2qCr1faNeI2wAAiYw/a1GGAfQQ0==", "body": "This is a test message from cloud institution", "attributes": { "ApproximateReceiveCount": "1", "SentTimestamp": "1715063205703", "SenderId": "473869189128", "ApproximateFirstReceiveTimestamp": "1715063205712", "messageAttributes": {} }, "md5OfBody": "0d1575e08936f701fc29c39a32a275fb", "eventSource": "aws:sqs", "eventSourceARN": "arn:aws:sqs:us-east-1:473869189128:Cloud-institute-queue", "awsRegion": "us-east-1" }] }</pre>
▶	2024-05-07T11:56:45.968+05:30	test
▶	2024-05-07T11:56:45.968+05:30	This is a test message from cloud institution
▶	2024-05-07T11:56:45.971+05:30	END RequestId: 40c9d03c-d940-5e2d-a793-8e8f1298b676
▶	2024-05-07T11:56:45.971+05:30	REPORT RequestId: 40c9d03c-d940-5e2d-a793-8e8f1298b676 Duration: 3.52 ms Billed Duration: 4 ms Mem...