

Module 8: SQS and SES Assignment

Assignment Submitted By:-Hitesh Chauhan

Course Offered: -Advanced Cloud Computing and Devops

Assignment By: -Intellipaat

Trainer: -Puneet Gavri

Date Of Submission: -15/11/2024

Problem Statement:

You work for XYZ Corporation. Your team is asked to deploy similar architecture multiple times for testing, development, and production purposes. Implement CloudFormation for the tasks assigned to you below.

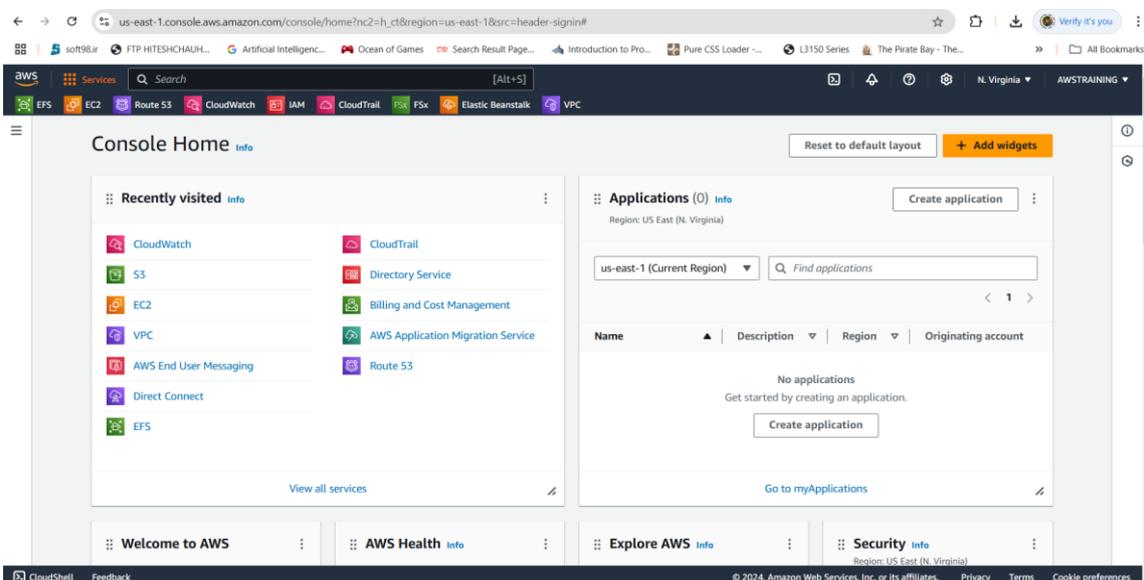
Tasks To Be Performed:

Tasks To Be Performed:

1. Create a FIFO SQS queue and test by sending messages.
2. Register your mail in SES and send a test mail to yourself.

ANSWER:

Login to AWS Management Console then Search Cloud Formation. you will see the cloud formation and click the Cloud Formation.



In cloud formation need to create the templates

AWSTemplateFormatVersion: "2010-09-09"

Description: CloudFormation template to create an SQS FIFO sqsQueue

Resources:

MyFIFOQueue:

Type: "AWS::SQS::Queue"

Properties:

QueueName: "MyFIFOQueue1.fifo" #FIFO queues must end with .fifo

FifoQueue: true

ContentBasedDeduplication: true #Content-based deduplication is the default setting

After complete the code you need to save .yaml file. Save this file as sqs-fifo-queue.yaml. I used For this code editor is visual studio.This is the visual studio code editor download link.

<https://code.visualstudio.com/>

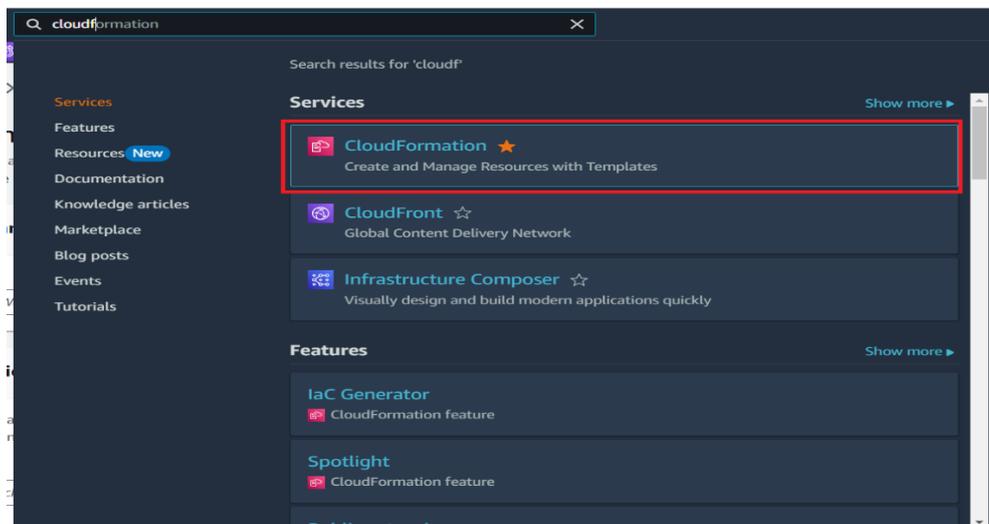
```
AWSTemplateFormatVersion: "2010-09-09"
Description: CloudFormation template to create an SQS FIFO sqsQueue

Resources:
  MyFIFOQueue:
    Type: "AWS::SQS::Queue"
    Properties:
      QueueName: "MyFIFOQueue1.fifo" #FIFO queues must end with .fifo
      FifoQueue: true
      ContentBasedDeduplication: true #Content-based deduplication is the default setting
```

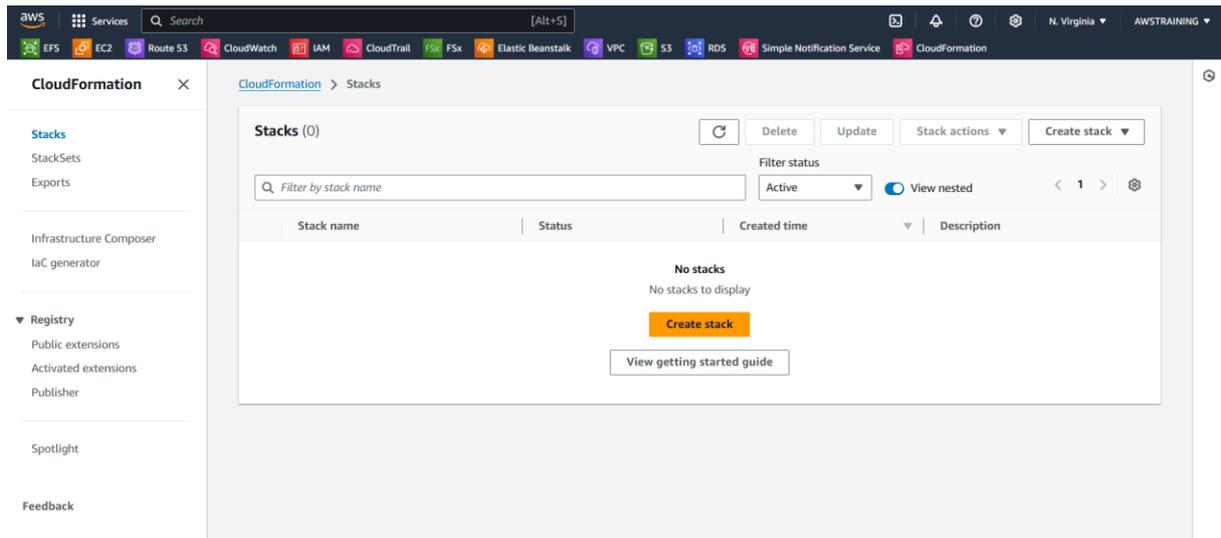
Upload the Template to CloudFormation.

Log in to your AWS Management Console.

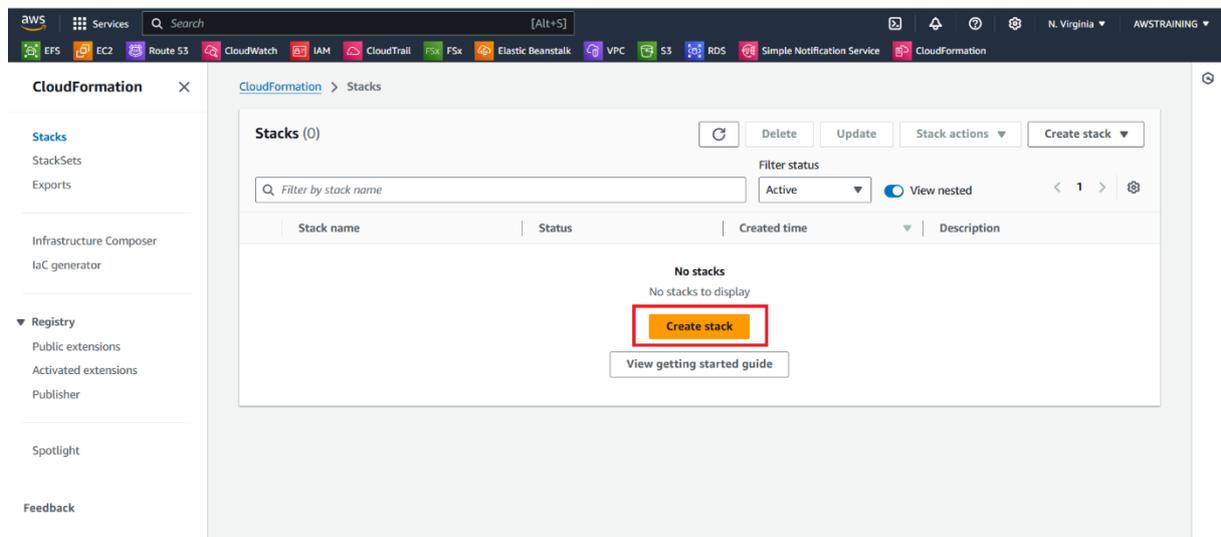
- Navigate to the CloudFormation service.
- Click Create Stack and select with new resources (standard).
- Choose Upload a template file and upload the sqs-fifo-queue.yaml file.
- Click Next.



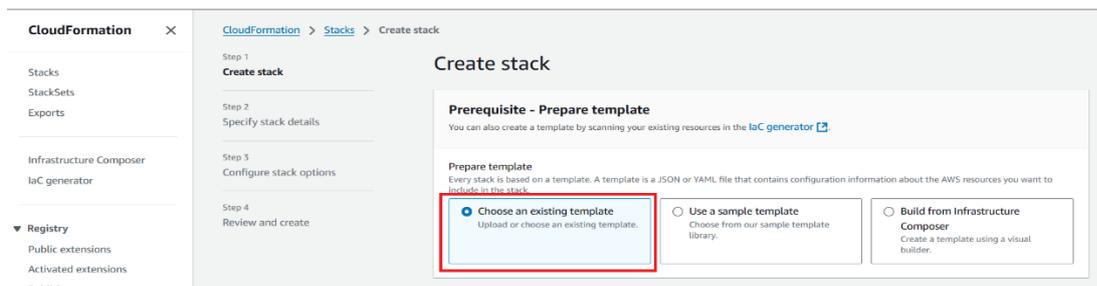
Then Open This Page



Then Click Create Stack



After Click the Create stack You will open Like this page.



Then

Specify template [Info](#)

A template is a JSON or YAML file that describes your stack's resources and properties.

Template source

Selecting a template generates an Amazon S3 URL where it will be stored.

Amazon S3 URL

Provide an Amazon S3 URL to your template.

Upload a template file

Upload your template directly to the console.

Sync from Git

Sync a template from your Git repository.

Upload a template file

JSON or YAML formatted file

S3 URL: Will be generated when template file is uploaded

Specify template [Info](#)

A template is a JSON or YAML file that describes your stack's resources and properties.

Template source

Selecting a template generates an Amazon S3 URL where it will be stored.

Amazon S3 URL

Provide an Amazon S3 URL to your template.

Upload a template file

Upload your template directly to the console.

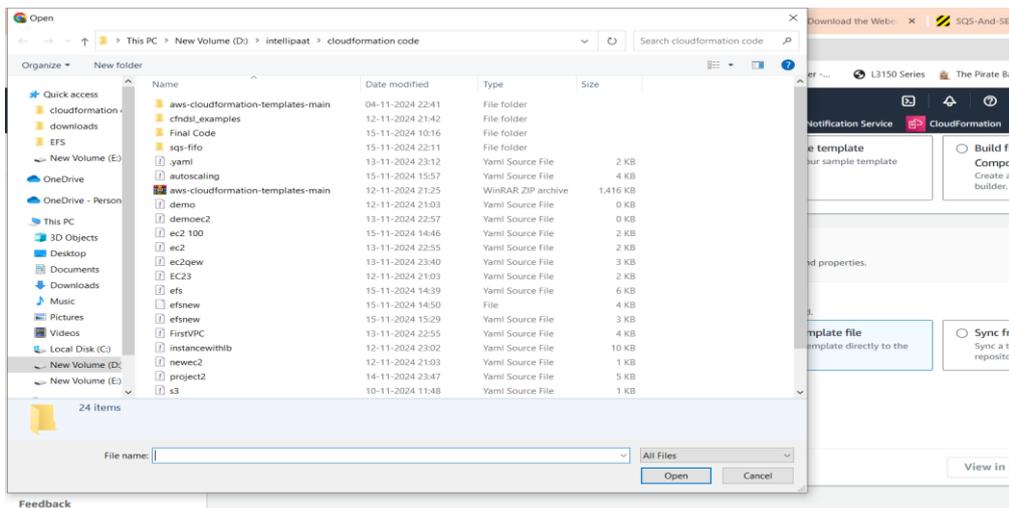
Sync from Git

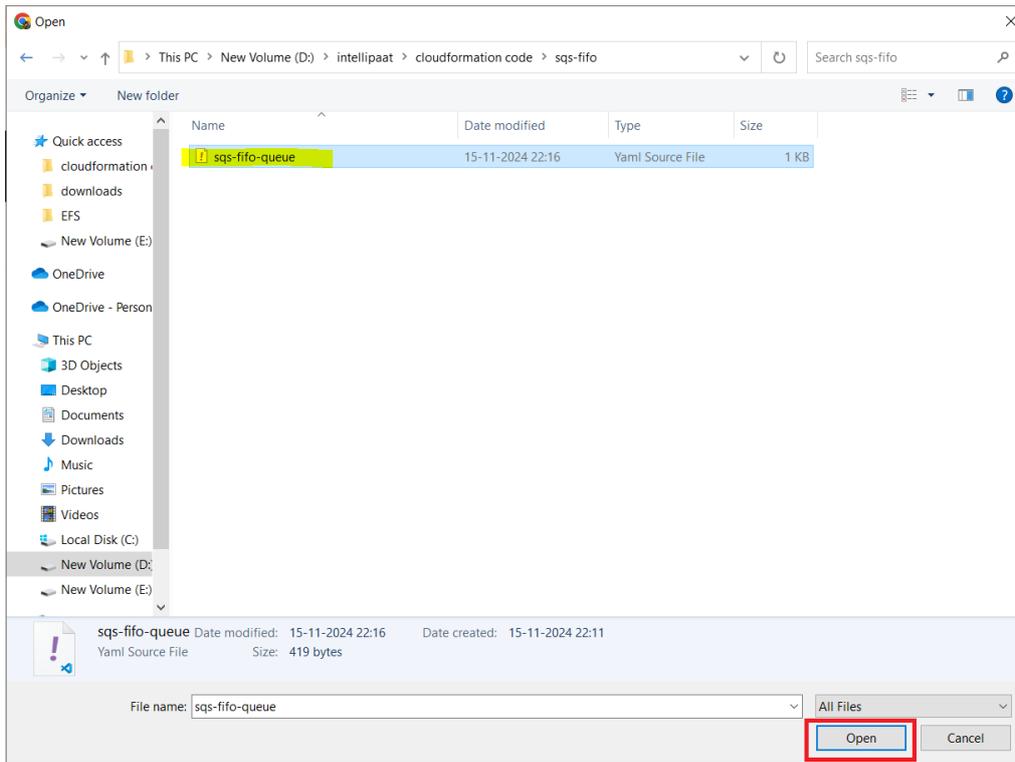
Sync a template from your Git repository.

Upload a template file

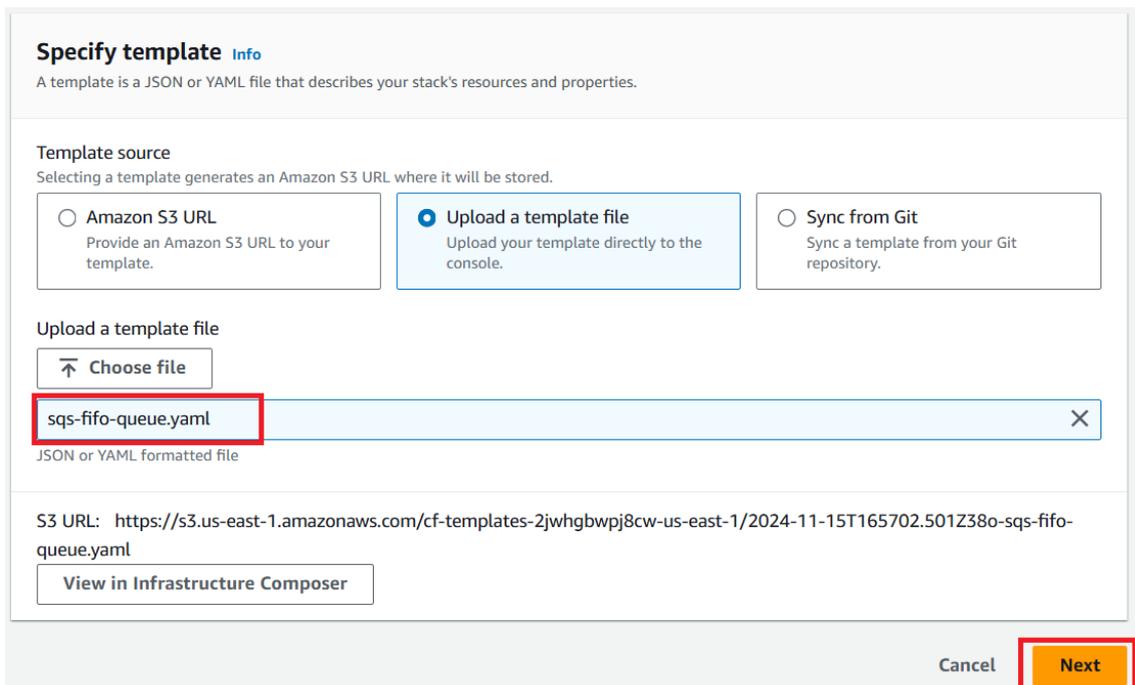
JSON or YAML formatted file

S3 URL: Will be generated when template file is uploaded





Click Open



Click Next.

Stack Name **myfifoqueue**

Then Click Next

CloudFormation > Stacks > Create stack

Step 1
[Create stack](#)

Step 2
Specify stack details

Step 3
[Configure stack options](#)

Step 4
[Review and create](#)

Specify stack details

Provide a stack name

Stack name

Stack name must be 1 to 128 characters, start with a letter, and only contain alphanumeric characters. Character count: 11/128.

Parameters

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

No parameters

There are no parameters defined in your template

Cancel Previous **Next**

After You Will see Configure stack options

CloudFormation > Stacks > Create stack

Step 1
[Create stack](#)

Step 2
[Specify stack details](#)

Step 3
Configure stack options

Step 4
[Review and create](#)

Configure stack options

Tags - optional

Tags (key-value pairs) are used to apply metadata to AWS resources, which can help in organizing, identifying, and categorizing those resources. You can add up to 50 unique tags for each stack.

No tags associated with the stack.

You can add 50 more tag(s)

Permissions - optional

Specify an existing AWS Identity and Access Management (IAM) service role that CloudFormation can assume.

IAM role - optional

Choose the IAM role for CloudFormation to use for all operations performed on the stack.

Then After You will failure option.

Behaviour On Provision Failure

You need to choose **Roll back all stack resources**

Stack failure options

Behavior on provisioning failure

Specify the roll back behavior for a stack failure. [Learn more](#)

- Roll back all stack resources**
Roll back the stack to the last known stable state.
- Preserve successfully provisioned resources**
Preserves the state of successfully provisioned resources, while rolling back failed resources to the last known stable state. Resources without a last known stable state will be deleted upon the next stack operation.

Delete newly created resources during a rollback

Specify whether resources that were created during a failed operation should be deleted regardless of their deletion policy. [Learn more](#)

- Use deletion policy**
Retains or deletes created resources according to their attached deletion policy.
- Delete all newly created resources**
Deletes created resources during a rollback regardless of their attached deletion policy.

Then You will see Advanced Options.Nothing to do on this section.

Then Click Next

Advanced options

You can set additional options for your stack, like notification options and a stack policy. [Learn more](#)

- Stack policy - optional**
Defines the resources that you want to protect from unintentional updates during a stack update.
- Rollback configuration - optional**
Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back.
- Notification options - optional**
Specify a new or existing Amazon Simple Notification Service topic where notifications about stack events are sent.
- Stack creation options - optional**
Specify the timeout and termination protection options for stack creation.

Cancel Previous **Next**

After Click The next you need to review the templates Then Submit

CloudFormation > Stacks > Create stack

Step 1
[Create stack](#)

Step 2
[Specify stack details](#)

Step 3
[Configure stack options](#)

Step 4
Review and create

Review and create

Step 1: Specify template Edit

Prerequisite - Prepare template

Template
Template is ready

Template

Template URL
`https://s3.us-east-1.amazonaws.com/cf-templates-2jwhgbwpj8cw-us-east-1/2024-11-15T170221.172Zv63-sqs-fifo-queue.yaml`

Stack description
CloudFormation template to create an SQS FIFO sqsQueue

Step 2: Specify stack details Edit

Provide a stack name

Stack name
myfifqueue

Parameters

Search

< 1 > ⚙️

Key	Value
No parameters	

There are no parameters defined in your template

Step 3: Configure stack options

Edit

Tags

Search tags

< 1 >

Key



Value



No tags

There are no tags defined for this stack

Permissions

No permissions

There is no IAM role associated with this stack

Stack failure options

Rollback on failure

Activated

Delete newly created resources during a rollback

Deactivated

Stack policy

No stack policy

There is no stack policy defined

Rollback configuration

Monitoring time

-

CloudWatch alarm ARN

-

Notification options

SNS topic ARN

No notification options

There are no notification options defined

Stack creation options

Timeout
-

Termination protection
Deactivated

Quick-create link

Use quick-create links to get stacks up and running quickly from the AWS CloudFormation console with the same basic configuration as this stack. Copy the URL on the link to share. [Learn more](#)

[Open quick-create link](#)

[Create change set](#) [Cancel](#) [Previous](#) [Submit](#)

After Submit Template will creating the resources like fifo queue.

CloudFormation > ... > myfifoqueue

Stacks (1)

Filter by stack name

Filter status: Active View nested

Stacks

- myfifoqueue
2024-11-15 22:35:40 UTC+0530
CREATE_IN_PROGRESS

myfifoqueue

Delete Update Stack actions Create stack

Stack info **Events - updated** Resources Outputs Parameters Template Chan

Table view Timeline view - new

Events (1) Detect root cause

Search events

Timestamp	Logical ID	Status	Detailed status
2024-11-15 22:35:40 UTC+0530	myfifoqueue	CREATE_IN_PROGRESS	-

CloudFormation > ... > myfifoqueue

Stacks (1)

Filter by stack name

Filter status: Active View nested

Stacks

- myfifoqueue
2024-11-15 22:35:40 UTC+0530
CREATE_IN_PROGRESS

myfifoqueue

Delete Update Stack actions Create stack

Stack info **Events - updated** Resources Outputs Parameters Template Ch

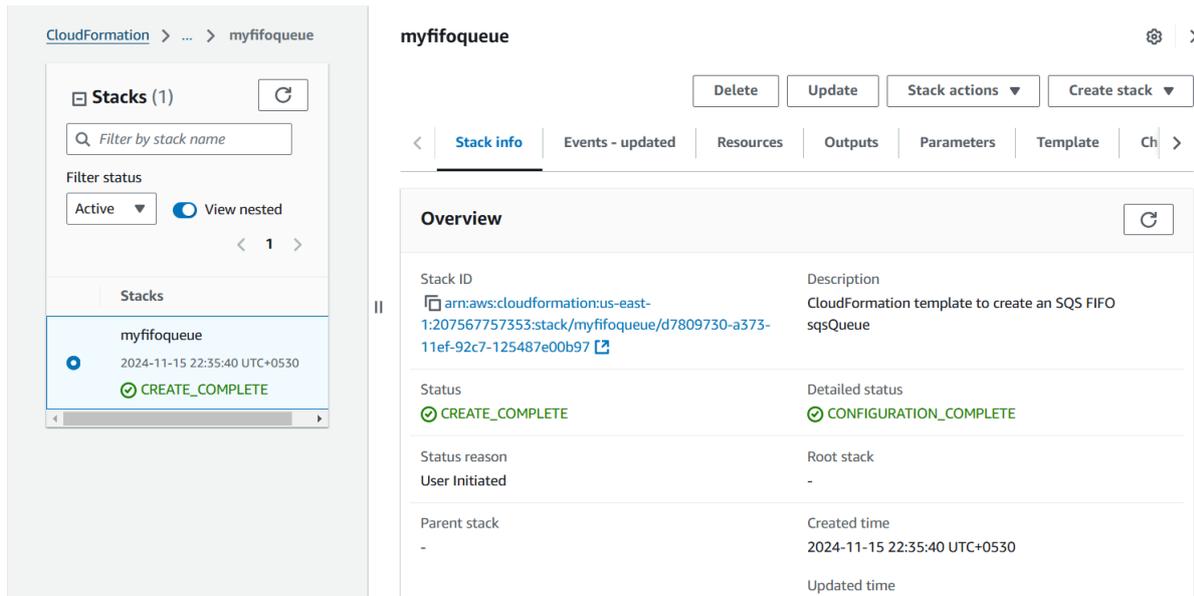
Table view Timeline view - new

Events (5) Detect root cause

Search events

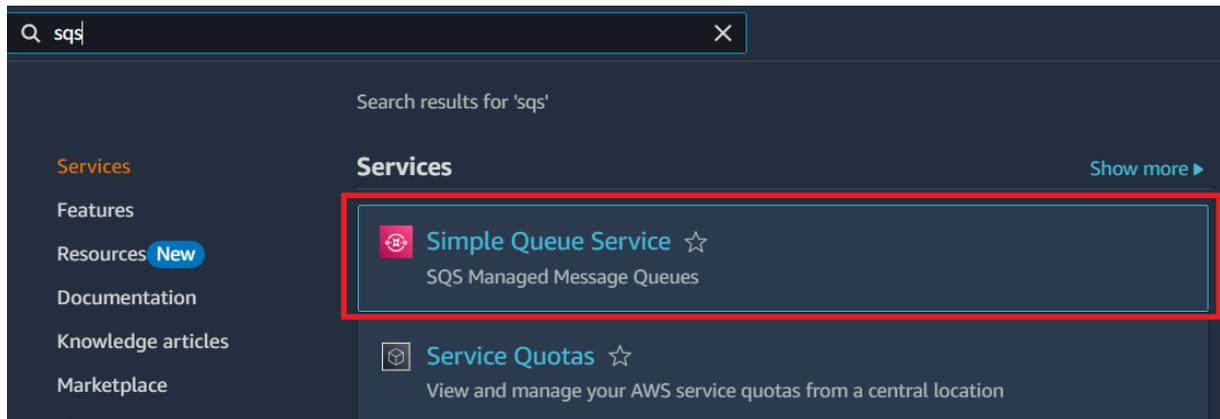
Timestamp	Logical ID	Status	Detailed status
2024-11-15 22:35:44 UTC+0530	myfifoqueue	CREATE_IN_PROGRESS	CONFIGURATION_COMPLETE
2024-11-15 22:35:44 UTC+0530	MyFIFOQueue	CREATE_IN_PROGRESS	CONFIGURATION_COMPLETE
2024-11-15 22:35:43 UTC+0530	MyFIFOQueue	CREATE_IN_PROGRESS	-
2024-11-15 22:35:42 UTC+0530	MyFIFOQueue	CREATE_IN_PROGRESS	-

You will see the resource configuration has been completed.

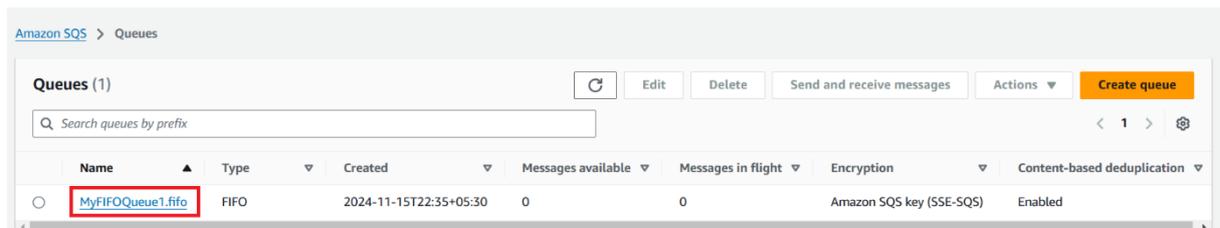


Then After Go to Simple Queue Service for check the resource create or not for the verify the same.

Verify Queue Creation.

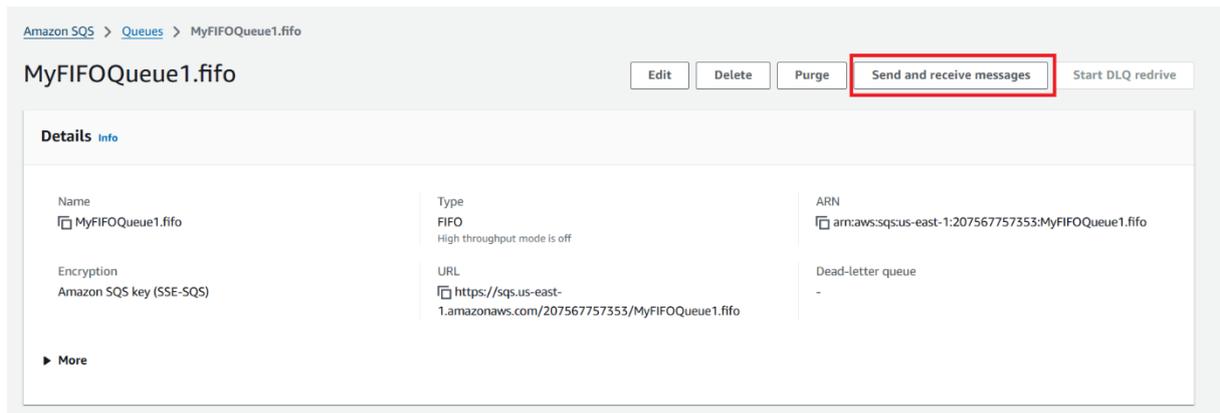


Resource has been created through cloudformation template.



Once the stack is created, go to the SQS Console in AWS.

Verify that there is a new FIFO queue called MyFIFOQueue1.fifo in the list of queues.

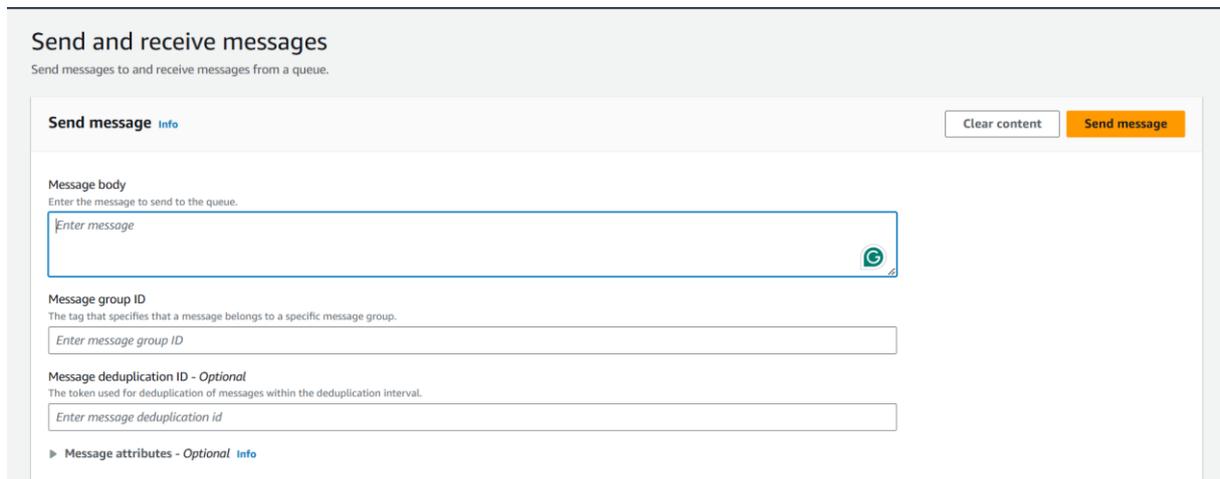


Test the SQS Queue by Sending Messages.

Send a Message to the FIFO Queue.

In the SQS Console, select MyFIFOQueue1.fifo from your list of queues.

Click on Send and receive messages.



Test the SQS Queue by Sending Messages.

Send a Message to the FIFO Queue.

In the SQS Console, select MyFIFOQueue1.fifo from your list of queues.

Click on Send and receive messages.

Enter Message Details. In the Message body section, type a sample message like "Test message - 1".

Enter a Message Group ID like "Group - 1". For FIFO queues, Message Group ID is required to ensure the messages are processed in the order they're sent within that group. Click Send message.

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.

Message group ID
The tag that specifies that a message belongs to a specific message group.

Message deduplication ID - Optional
The token used for deduplication of messages within the deduplication interval.

▶ [Message attributes - Optional](#) [Info](#)

Send and receive messages

Send messages to and receive messages from a queue.

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.

Message group ID
The tag that specifies that a message belongs to a specific message group.

Message deduplication ID - Optional
The token used for deduplication of messages within the deduplication interval.

▶ [Message attributes - Optional](#) [Info](#)

Message: 0b37d307-e95d-4ef5-8ba4-7f638f1480a7 ×

ID	MD5 of message body	MD5 of message attributes
0b37d307-e95d-4ef5-8ba4-7f638f1480a7	0ddc5d05496a2f8ec59f287ea27b78a4	-
Sequence number		
18890056919711727872		

Done

Send Additional Messages for Testing.

Send a few more messages, changing the Message body (e.g., "Test message - 2", "Test message - 3") but using the same Message Group ID.

This will help demonstrate the FIFO behaviour of the queue when messages are processed.

Receive messages [Info](#) Edit poll settings Stop polling **Poll for messages**

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

Messages (0) View details Delete

< 1 > ⚙️

ID	Sent	Size	Receive count
No messages. To view messages in the queue, poll for messages.			

Poll for messages

Receive messages [Info](#) Edit poll settings Stop polling Poll for messages

Messages available: 1 | Polling duration: 30 | Maximum message count: 10 | Polling progress: 23% (1 receives/second)

Messages (1) View details Delete

< 1 > ⚙️

ID	Sent	Size	Receive count
<input type="checkbox"/> 0b37d307-e95d-4ef5-8ba4-7f638f1480a7	2024-11-15T22:43+05:30	16 bytes	1

Receive messages [Info](#) Edit poll settings Stop polling Poll for messages

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

Messages (1) View details Delete

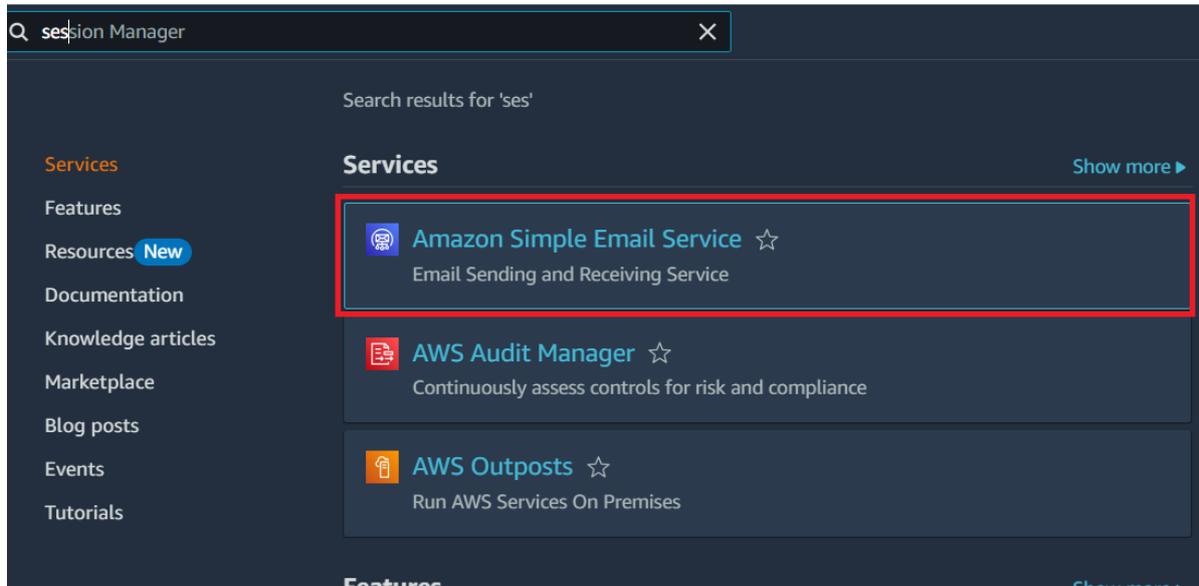
< 1 > ⚙️

ID	Sent	Size	Receive count
<input type="checkbox"/> 0b37d307-e95d-4ef5-8ba4-7f638f1480a7	2024-11-15T22:43+05:30	16 bytes	3

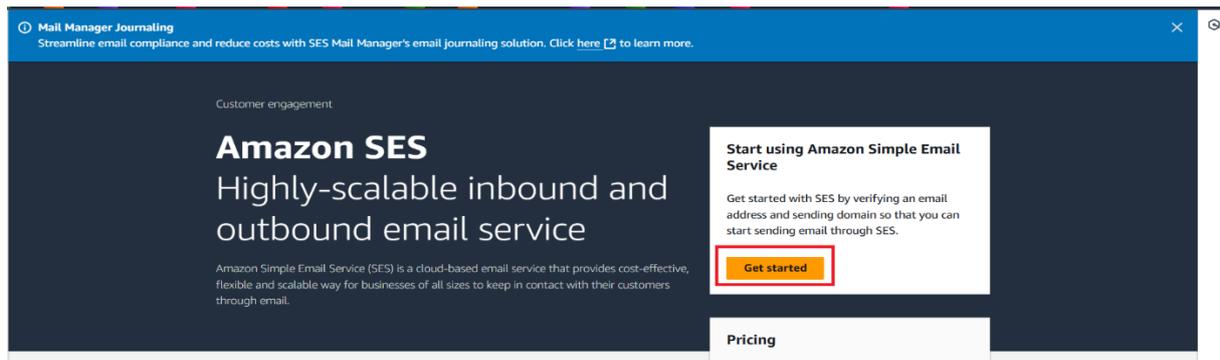
2. Registering Your Email in Amazon SES and Sending a Test Email.

Register Your Email in Amazon SES. Open the SES Console.

Log in to your AWS Management Console. Go to the SES (Simple Email Service).



Click Get Started.

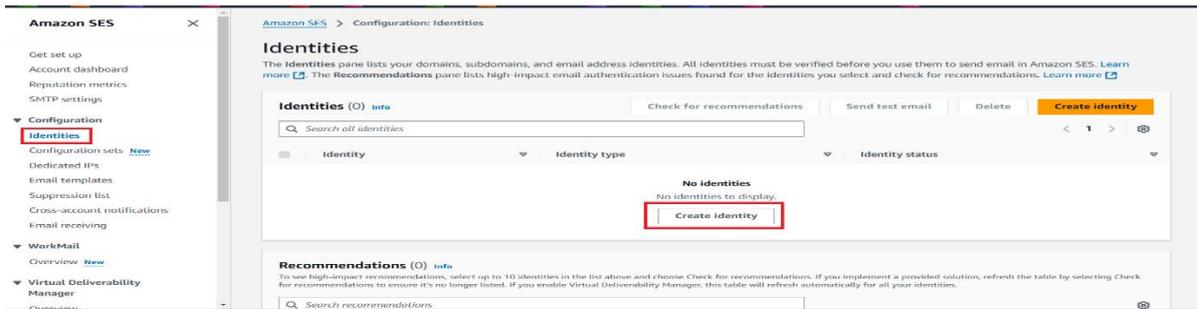


In the left sidebar, click on Verified Identities.

Click Create Identity and choose Email Address.

Enter the email address you want to verify (e.g., your-email@example.com) and click Create Identity.

AWS will send a verification email to the specified address.



Create identity

An *identity* is a domain, subdomain, or email address you use to send email through Amazon SES. Identity verification at the domain level extends to all email addresses under one verified domain identity.

Identity details [Info](#)

Identity type

Domain

To verify ownership of a domain, you must have access to its DNS settings to add the necessary records.

Email address

To verify ownership of an email address, you must have access to its inbox to open the verification email.

i Sending email from an email address identity without having the domain identity verified will result in your message being quarantined or rejected depending on the domain's DMARC policy. [Learn more about DMARC and how to look up a domain's DMARC policy.](#)

Email address

Email address can contain up to 320 characters, including plus signs (+), equals signs (=) and underscores (_).

Assign a default configuration set

Enabling this option ensures that the assigned configuration set is applied to messages sent from this identity by default whenever a configuration set isn't specified at the time of sending.

Tags - optional [Info](#)

You can add one or more tags to help manage and organize your resources, including identities.

No tags associated with the resource.

[Add new tag](#)

You can add 50 more tags.

Cancel

[Create identity](#)

Action required
To verify ownership of this identity, check your inbox for a verification request email and click the link provided. Resend

Amazon SES > Configuration: Identities > hiteshchauh@gmail.com

hiteshchauh@gmail.com Delete Send test email

Summary

Identity status Verification pending	Amazon Resource Name (ARN) arn:aws:ses:us-east-1:207567757353:identity/hiteshchauh@gmail.com	AWS Region US East (N. Virginia)
--	---	-------------------------------------

Recommendations

Recommendations are available only for verified domain identities.

Confirm the Verification Email.

Open your email inbox.

Find the verification email from AWS and click the link to confirm your email address.

Go back to the SES console and refresh the page to confirm that your email status shows as Verified.

Amazon Web Services – Email Address Verification Request in region US East (N. Virginia) Inbox

Amazon Web Services <no-reply-aws@amazon.com> 10:52 PM (0 minutes ago) Star Refresh Reply More

to me

Dear Amazon Web Services Customer,

We have received a request to authorize this email address for use with Amazon SES and Amazon Pinpoint in region US East (N. Virginia). If you requested this verification, please go to the following URL to confirm that you are authorized to use this email address:

https://email-verification-us-east-1.amazonaws.com/?Context=207567757353&X-Amz-Date=20241115T172248Z&Identity-IdentityName=hiteshchauh%40gmail.com&X-Amz-Algorithm=AWS4-HMAC-SHA256&Identity-IdentityType=EmailAddress&X-Amz-SignedHeaders=host&X-Amz-Credential=AKIAWM67ZIEFRDEC3HF%2F20241115%2Fus-east-1%2Fses%2Faws4_request&Operation=ConfirmVerification&Namespace=Bacon&X-Amz-Signature=47bec2640894fe4f6de27b9b868d30fec4cb90459943bca9b4946da8d29486

Your request will not be processed unless you confirm the address using this URL. This link expires 24 hours after your original verification request.

If you did NOT request to verify this email address, do not click on the link. Please note that many times, the situation isn't a phishing attempt, but either a misunderstanding of how to use our service, or someone setting up email-sending capabilities on your behalf as part of a legitimate service, but without having fully communicated the procedure first.

To learn more about sending email from Amazon Web Services, please refer to the Amazon SES Developer Guide at <http://docs.aws.amazon.com/ses/latest/DeveloperGuide/Welcome.html> and Amazon Pinpoint Developer Guide at <http://docs.aws.amazon.com/pinpoint/latest/ug/welcome.html>

Sincerely,

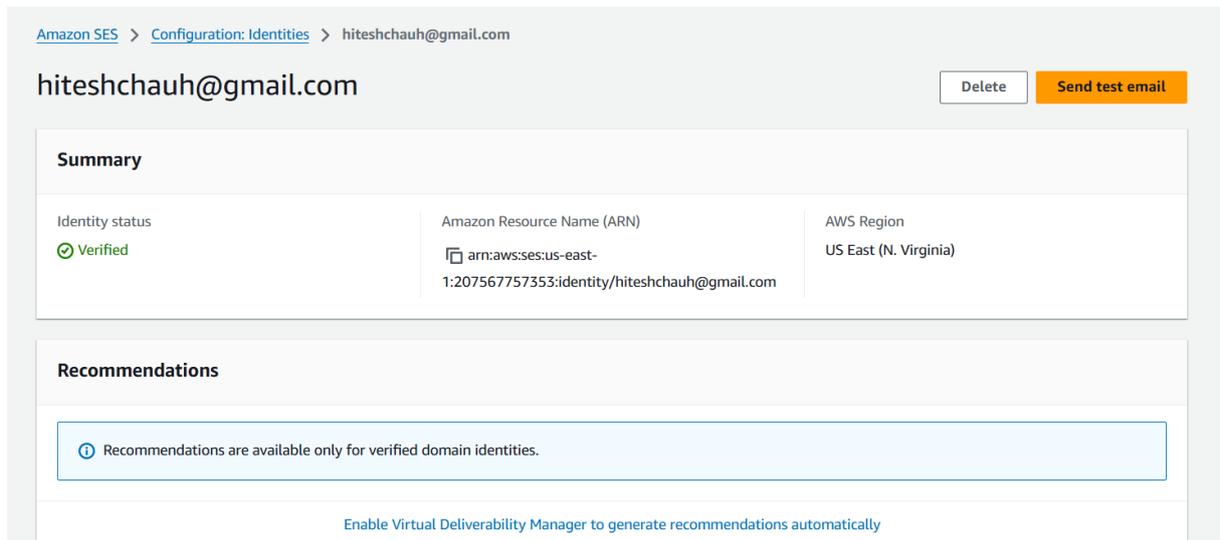
The Amazon Web Services Team

 About AWS Contact Us Support English

Amazon Q Products Solutions Pricing Documentation Learn Partner Network AWS Marketplace Customer Enablement Events

Congratulations!

You have successfully verified an email address. You can now start sending email from this address.

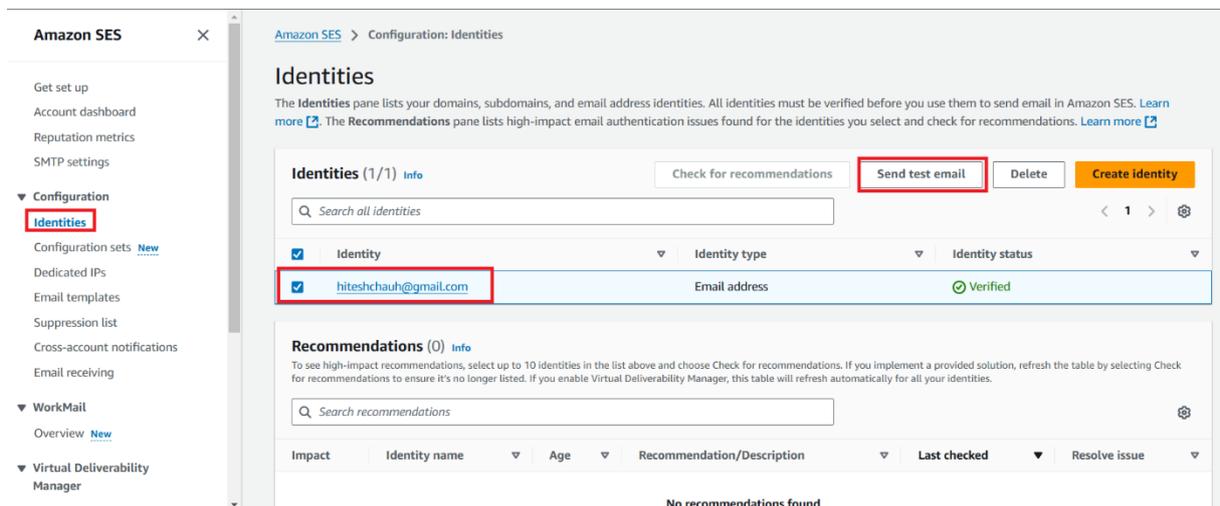


Send a Test Email Using SES.

Send a Test Email.

In the SES Console, click on Verified Identities and select the email you just verified.

Click Send a Test Email.



Send a Test Email Using SES.

Send a Test Email.

In the SES Console, click on Verified Identities and select the email you just verified.

Click Send a Test Email.

Enter Email Details. Email format: Choose Simple.

From address: Enter your own verified email address.

Scenario: Successful delivery

Subject: Type a subject for the email, such as "Test Email from SES".

Body: Type a sample message for the email, such as "Hello, this is a test email from Amazon SES."

Send test email [Info](#)

The Amazon SES mailbox simulator lets you test how your application handles different email sending scenarios. Emails that you send to the mailbox simulator do not count towards your sending quota or your bounce and complaint rates. [Learn more](#)

Message details

Email format

Formatted
Choose this option if you want to construct a simple test message using the form provided. SES takes the information entered in the form and parses it into email format for you.

Raw
Choose this option if you want to send a more complex test message, such as one that uses HTML or includes attachments. This option requires you to format the entire message yourself.

From-address

hiteshchauh@gmail.com

Scenario [Info](#)
Choose the email sending scenario that you want to simulate. Each scenario corresponds to a different recipient email address managed by the mailbox simulator. To specify a custom recipient, select Custom.

Custom
Use a recipient address of your own

Custom recipient
While your account is in the Amazon SES sandbox, you can only send test emails to other verified identities. If you've verified an identity at the domain level, you can send a test email to any email address under that verified domain.

hiteshchauh@gmail.com

Subject

Test Email from SES

Body - optional

Hello, this is a test email from Amazon SES

Configuration set - optional [Info](#)

my-first-configuration-set

[▶ Additional configurations - optional](#)

Cancel [Send test email](#)

Verify the Test Email. Check your email inbox for the test email from SES. It should arrive within a few moments.

