

Amazon Simple Notification Service

BY GROUP NO:1

SHIVAM SHARMA-145

SAURAV RAGHUVANSHI-141

INTRODUCTION TO AWS

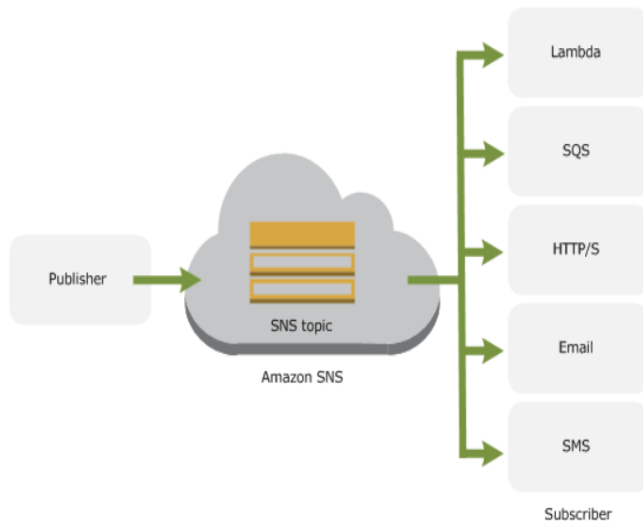
Managing the unique and groundbreaking changes in both technology and business over the past decade has created an ongoing IT infrastructure challenge for many senior technology executives. Indeed, over the past ten years, the typical business application architecture has evolved from a desktop-centric installation, then to client/server solutions, and now to loosely coupled web services and service-oriented architectures (SOA). Each evolutionary step has built on the previous one while adding new challenges, dimensions, and opportunities for IT departments and their business partners.

Recently, virtualization has become a widely accepted way to reduce operating costs and increase the reliability of enterprise IT. In addition, grid computing makes a completely new class of analytics, data crunching, and business intelligence tasks possible that were previously cost and time prohibitive. Along with these technology changes, the speed of innovation and unprecedented acceleration in the introduction of new products has fundamentally changed the way markets work. Along with the wide acceptance of software as a service (SaaS) offerings, these changes have paved the way for the latest IT infrastructure challenge: cloud computing.

Amazon Web Services (AWS) is Amazon's cloud web hosting platform that offers flexible, reliable, scalable, easy-to-use, and cost-effective solutions. This tutorial covers various important topics illustrating how AWS works and how it is beneficial to run your website on Amazon Web Services.

PROJECT DESCRIPTION:

Amazon Simple Notification Service (Amazon SNS) is a web service that coordinates and manages the delivery or sending of messages to subscribing endpoints or clients. In Amazon SNS, there are two types of clients—publishers and subscribers—also referred to as producers and consumers. Publishers communicate asynchronously with subscribers by producing and sending a message to a topic, which is a logical access point and communication channel. Subscribers (that is, web servers, email addresses, Amazon SQS queues, AWS Lambda functions) consume or receive the message or notification over one of the supported protocols (that is, Amazon SQS, HTTP/S, email, SMS, Lambda) when they are subscribed to the topic.



When using Amazon SNS, you (as the owner) create a topic and control access to it by defining policies that determine which publishers and subscribers can communicate with the topic. A publisher sends messages to topics that they have created or to topics they have permission to publish to. Instead of including a specific destination address in each message, a publisher sends a message to the topic. Amazon SNS matches the topic to a list of subscribers who have subscribed to that topic, and delivers the message to each of those subscribers. Each topic has a unique name that identifies the Amazon SNS endpoint for publishers to post messages and subscribers to register for notifications. Subscribers receive all messages published to the topics to which they subscribe, and all subscribers to a topic receive the same messages.

Getting Started with Amazon SNS:

Step 1: Create a S3 Bucket

We're gradually updating the design of the Amazon S3 console. You will notice some updated screens as we improve the performance and user interface. To help us improve the experience, [give feedback](#) on the recent updates.

Amazon S3

Buckets (1)

Copy ARN

Empty

Delete

Create bucket

< 1 >

	Name	Region	Access	Bucket created
<input type="radio"/>	sauravdata	US East (N. Virginia) us-east-1	Not Public	2020-03-17T18:07:34.000Z

Step 2: Upload the Data

Upload

Create folder

Download

Actions

US East (N. Virginia)

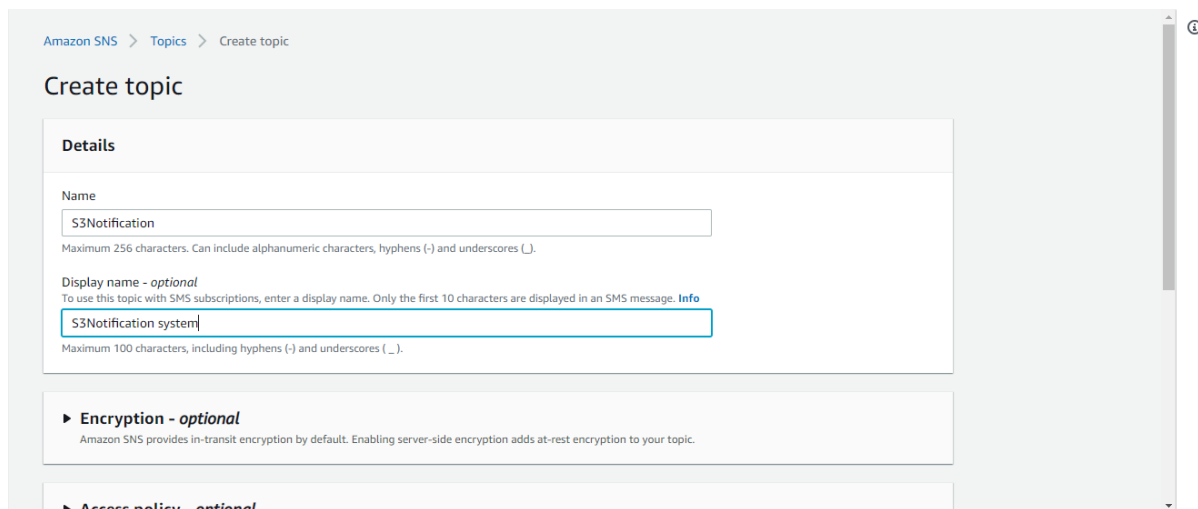
Viewing 1 to 4

<input type="checkbox"/> Name	Last modified	Size	Storage class
<input type="checkbox"/> states.csv	Mar 17, 2020 11:39:14 PM GMT+0530	6.5 KB	Standard
<input type="checkbox"/> usda_2015_apples.xlsx	Mar 17, 2020 11:39:15 PM GMT+0530	19.6 KB	Standard
<input type="checkbox"/> usda_2015_apricots.xlsx	Mar 17, 2020 11:39:15 PM GMT+0530	19.5 KB	Standard
<input type="checkbox"/> usda_2015_bananas.xlsx	Mar 17, 2020 11:39:15 PM GMT+0530	15.4 KB	Standard

Viewing 1 to 4

Step 3: Create a Topic

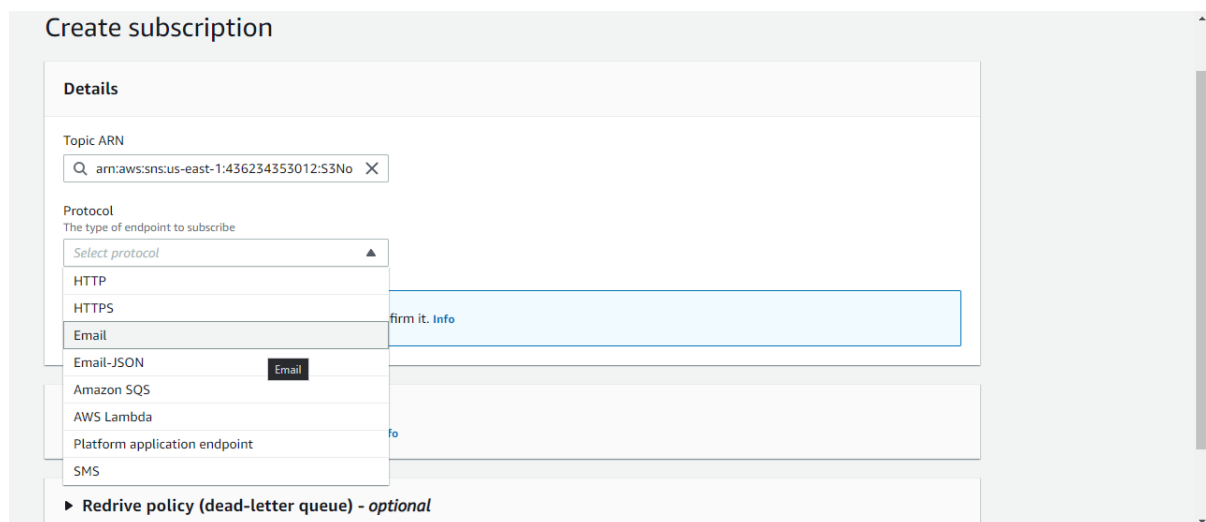
- Sign in to the [Amazon SNS console](#).
- In the **Create topic** section, enter a **Topic name**, for example **S3Notification**.
- Choose **Create topic**.
- The topic is created and the **S3Notification** page is displayed.
- The topic's **Name**, **ARN**, (optional) **Display name**, and **Topic owner's** AWS account ID are displayed in the **Details** section.
- Copy the topic ARN to the clipboard.



The screenshot shows the 'Create topic' page in the Amazon SNS console. The breadcrumb navigation at the top reads 'Amazon SNS > Topics > Create topic'. The main heading is 'Create topic'. Below this is a 'Details' section with a 'Name' field containing 'S3Notification' and a 'Display name - optional' field containing 'S3Notification system'. To the right of the 'Display name' field is a blue 'Info' link. Below the 'Details' section are two expandable sections: 'Encryption - optional' and 'Access policy - optional'.

Step 4: Create a Subscription for an Endpoint to the Topic

- On the navigation panel, choose **Subscriptions**.
- On the **Subscriptions** page, choose **Create subscription**.
- On the **Create subscription** page, do the following:
 - Enter the **Topic ARN** of the topic you created earlier, for example:



The screenshot shows the 'Create subscription' page in the Amazon SNS console. The main heading is 'Create subscription'. Below this is a 'Details' section with a 'Topic ARN' field containing 'arn:aws:sns:us-east-1:436234353012:S3No' and a 'Protocol' dropdown menu. The dropdown menu is open, showing options: HTTP, HTTPS, Email, Email-JSON, Amazon SQS, AWS Lambda, Platform application endpoint, and SMS. To the right of the 'Protocol' dropdown is a blue 'Info' link. Below the 'Details' section is an expandable section: 'Redrive policy (dead-letter queue) - optional'.

- For **Protocol**, choose an endpoint type, for example **Email**.
- For **Endpoint**, enter an email address that can receive notifications, for example:

Create subscription

Details

Topic ARN

Protocol
 The type of endpoint to subscribe

Endpoint
 An email address that can receive notifications from Amazon SNS.

After your subscription is created, you must confirm it. [Info](#)

► **Subscription filter policy - optional**
 This policy filters the messages that a subscriber receives. [Info](#)

- Choose **Create subscription**.
- The subscription is created and the **Subscription: fd0ff077-d63f-4289-933b-02f3f19285fe** page is displayed.
- The subscription's **ARN**, **Endpoint**, **Topic**, **Status (Pending confirmation at this stage)**, and **Protocol** are displayed in the **Details** section.

Subscription to S3Notification created successfully.
 The ARN of the subscription is arn:aws:sns:us-east-1:436234353012:S3Notification:fd0ff077-d63f-4289-933b-02f3f19e85fe.

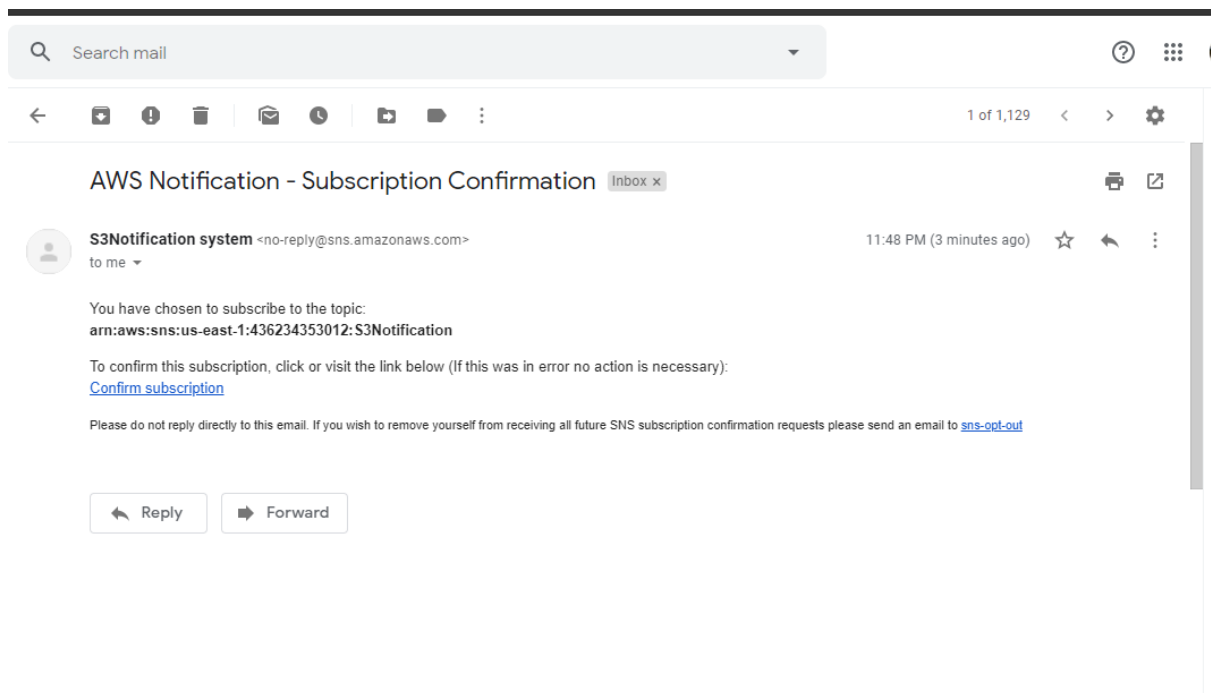
Amazon SNS > Topics > S3Notification > Subscription: fd0ff077-d63f-4289-933b-02f3f19e85fe

Subscription: fd0ff077-d63f-4289-933b-02f3f19e85fe [Edit](#) [Delete](#)

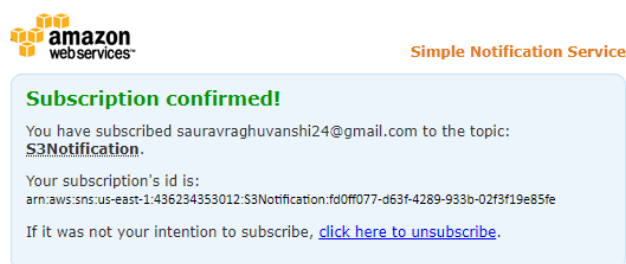
Details

ARN arn:aws:sns:us-east-1:436234353012:S3Notification:fd0ff077-d63f-4289-933b-02f3f19e85fe	Status ⌚ Pending confirmation
Endpoint sauravraghuvanshi24@gmail.com	Protocol EMAIL
Topic S3Notification	

- In your email client, check the email address that you specified and choose **Confirm subscription** in the email from Amazon SNS.



- In your web browser, a subscription confirmation with your subscription ID is displayed.



Step 5: Publish a Message to the Topic

- On the navigation panel, choose **Topics**.
- On the **Topics** page, choose the topic you created earlier and then choose **Publish message**.
- On the **Publish message to topic** page, do the following:
 - In the **Message details** section, enter the **Subject**, for example:

Amazon SNS > Topics > S3Notification > Publish message

Publish message to topic

Message details

Topic ARN
arn:aws:sns:us-east-1:436234353012:S3Notification

Subject - *optional*

Maximum 100 printable ASCII characters

Time to Live (TTL) - *optional*
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. [Info](#)

Message body

Message structure

☒ Identical payload for all delivery protocols.
 ☐ Custom payload for each delivery protocol.

- In the **Message body** section, do one of the following :
 - Choose **Identical payload for all delivery protocols** and then enter the message, for example:

Message structure

☒ **Identical payload for all delivery protocols.**
The same payload is sent to endpoints subscribed to the topic, regardless of their delivery protocol.
☐ **Custom payload for each delivery protocol.**
Different payloads are sent to endpoints subscribed to the topic, based on their delivery protocol.

Message body to send to the endpoint

1 Hello S3

- In the **Message attributes** section, add any attributes that you want Amazon SNS to match with the subscription attribute **Filter Policy** to decide whether the subscribed endpoint is interested in the published message.

Access policy

This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic. [Info](#)

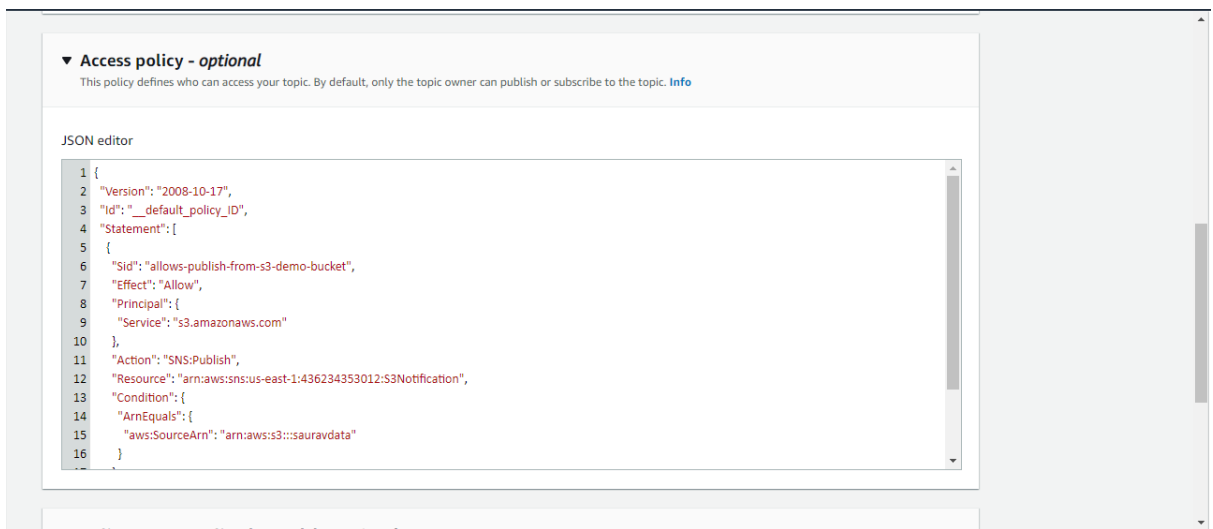
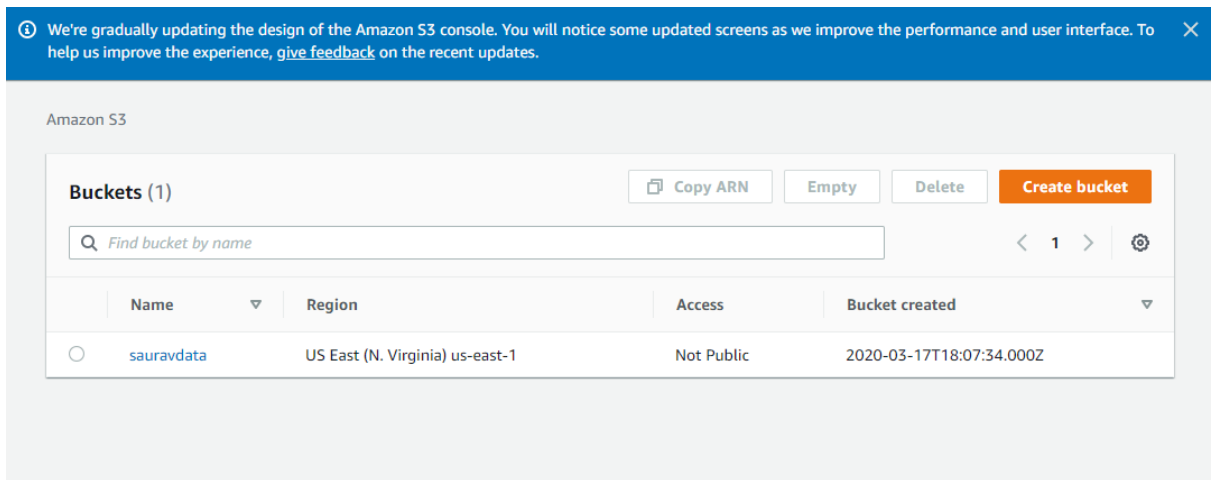
```

{
  "Sid": "__default_statement_ID",
  "Effect": "Allow",
  "Principal": {
    "AWS": "*"
  },
  "Action": [
    "SNS:GetTopicAttributes",
    "SNS:SetTopicAttributes",
    "SNS:AddPermission",
    "SNS:RemovePermission",
    "SNS:DeleteTopic",
    "SNS:Subscribe",
    "SNS:ListSubscriptionsByTopic",
    "SNS:Publish",
    "SNS:Receive"
  ]
}

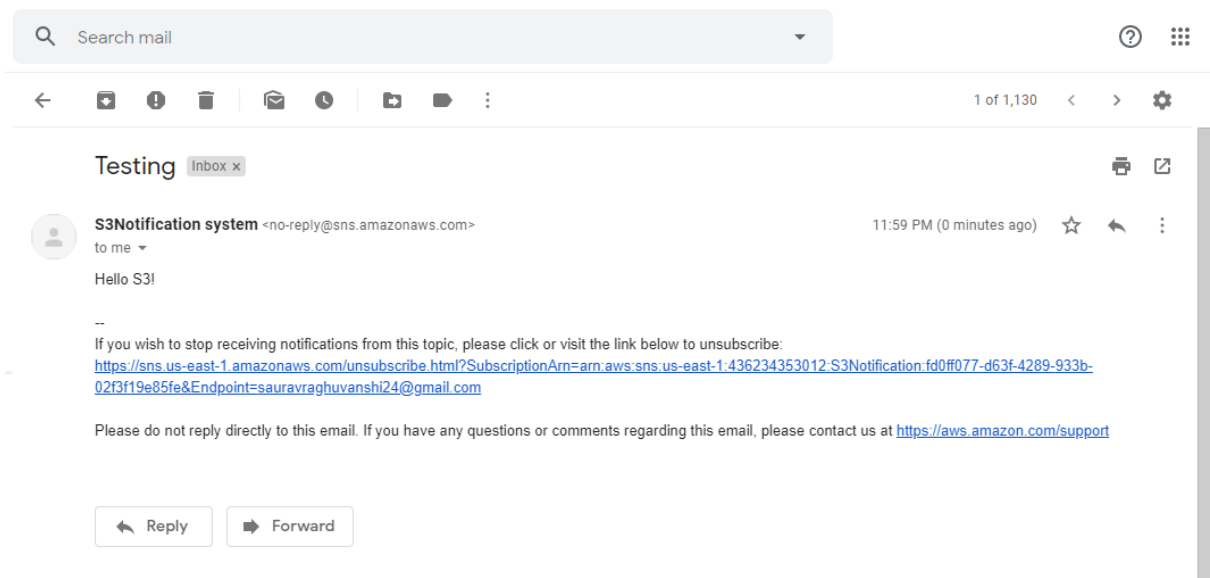
```

○ Choose **Publish message**.

- The message is published to the topic and the **MyTopic** page is displayed.
- The topic's **Name**, **ARN**, (optional) **Display name**, and **Topic owner's AWS account ID** are displayed in the **Details** section.



- In your email client, check the email address that you specified earlier and read the email from Amazon SNS.



Step 6: Delete the Subscription and Topic

- On the navigation panel, choose **Subscriptions**.
- On the **Subscriptions** page, choose a *confirmed* subscription and then choose **Delete**.
- In the **Delete subscription** dialog box, choose **Delete**.
 - The subscription is deleted.
- On the navigation panel, choose **Topics**.

Name	Last modified	Size	Storage class
states.csv	Mar 17, 2020 11:39:14 PM GMT+0530	6.5 KB	Standard
usda_2015_apples.xlsx	Mar 17, 2020 11:39:15 PM GMT+0530	19.6 KB	Standard
usda_2015_apricots.xlsx	Mar 17, 2020 11:39:15 PM GMT+0530	19.5 KB	Standard
usda_2015_bananas.xlsx	Mar 17, 2020 11:39:15 PM GMT+0530	15.4 KB	Standard

- On the **Topics** page, choose a topic and then choose **Delete**.

Events

➕ Add notification Delete Edit

Name	Events	Filter	Type
New event			

Name ⓘ

e.g. MyEmailEventForPut

Events ⓘ

☐ PUT ☒ All object delete events

☐ POST ☐ Restore initiated

☐ COPY ☐ Restore completed

☐ Multipart upload completed ☐ Replication time missed threshold

☐ All object create events ☐ Replication time completed after threshold

☐ Object in RRS lost ☐ Replication time not tracked

☒ Permanently deleted ☐ Replication time failed

☒ Delete marker created

Requester pays

The requester (instead of the bucket owner) will pay for requests and data transfer.

[Learn more](#)

☐ Disabled

Prefix ⓘ

e.g. images/

Suffix ⓘ

e.g. .jpg

Send to ⓘ

SNS Topic

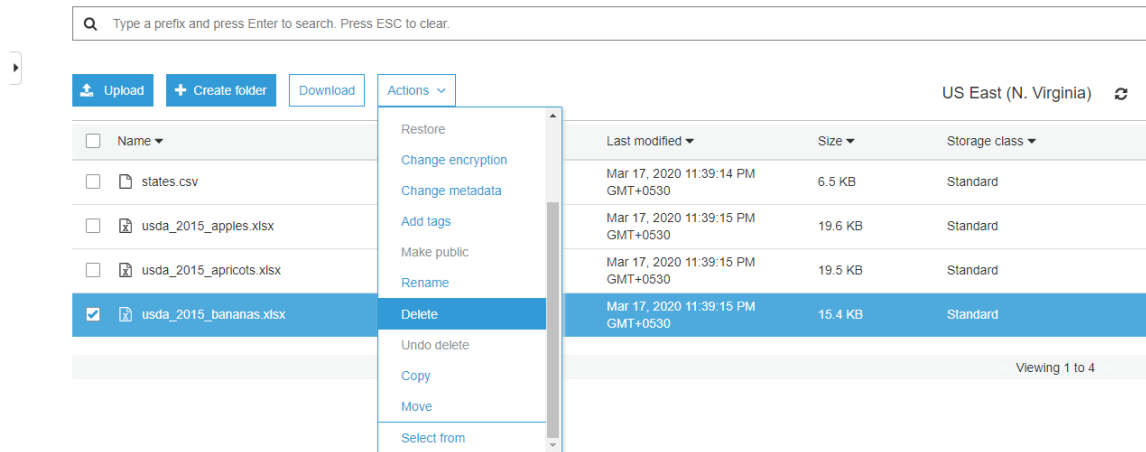
SNS

S3Notification

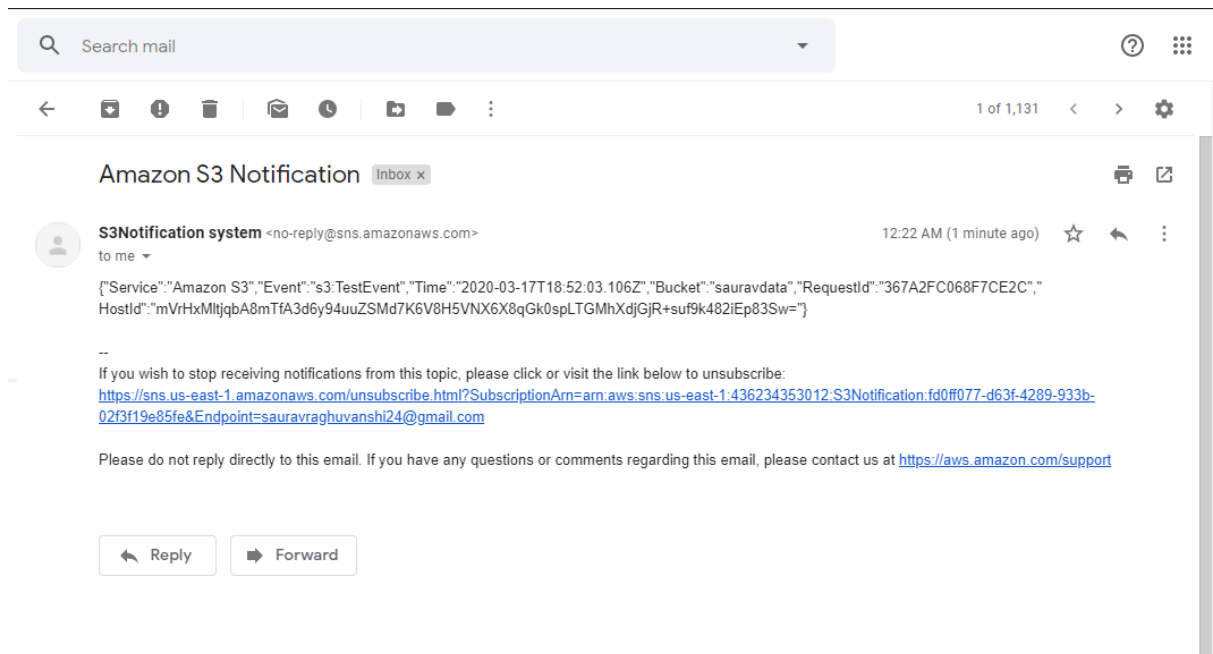
0 Active notifications

Cancel Save

- On the **Delete topic** *S3Notification* dialog box, enter delete me and then choose **Delete**.



- The topic is deleted.



REFERENCES:

- <https://docs.aws.amazon.com/sns/latest/dg/welcome.html>
- <https://docs.aws.amazon.com/sns/latest/dg/sns-getting-started.html>