Creating and Subscribing to SNS Topics, Adding SNS event for S3 bucket

English ▾

Your last attempt on **05-Jan-2025** View all

Required Points	10
Lab Duration	00:30:00
Average Start time	Less than a minute

Start Guided Lab →

Lab Overview Lab Steps

Cloud Architect, Cloud Administrator

Storage, Administrator

Lab Steps

Task 1: Sign in to AWS Management Console

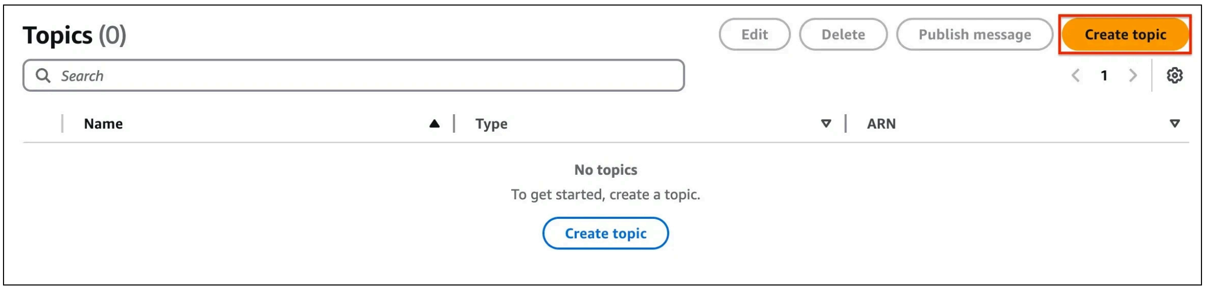
1. Click on the **Open Console** button, and you will get redirected to AWS Console in a new browser tab.
2. On the AWS sign-in page,
   - Leave the Account ID as default. Never edit/remove the 12-digit Account ID present in the AWS Console. Otherwise, you cannot proceed with the lab.
   - Now copy your **UserName** and **Password** in the Lab Console to the **IAM Username and Password** in AWS Console and click on the **Sign-in** button.

3. Once Signed In to the AWS Management Console, make the default AWS Region as **US East (N. Virginia) us-east-1.**

> **Note :** If you face any issues, please go through **FAQs and Troubleshooting for Labs**.

Task 2: Create SNS Topic

1. Make sure you are in the **US East (N. Virginia) us-east-1** Region.
2. Navigate to SNS by clicking on the **Services** menu available under the **Application Integration** section.
3. Click on **Topics** in left panel. Click **Create topic**



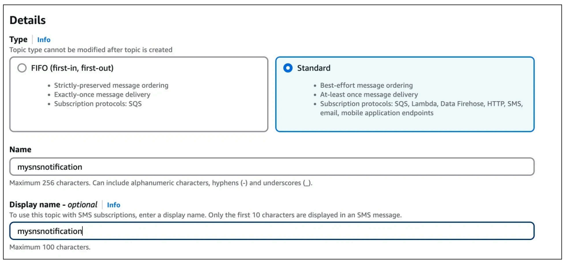
Topics (0)

Name	Type	ARN

No topics

To get started, create a topic.

5. Select the Type as **Standard**.
6. Under **Details**:
   - Name : Enter ***mysnsnotification***
   - Display name : Enter ***mysnsnotification***



Details

Type | Info

Topic type cannot be modified after topic is created

○ FIFO (first-in, first-out)
- Strictly-preserved message ordering
- Exactly-once message delivery
- Subscription protocols: SQS

● Standard
- Best-effort message ordering
- At-least once message delivery
- Subscription protocols: SQS, Lambda, Data Firehose, HTTP, SMS, email, mobile application endpoints

Name

mysnsnotification

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_).

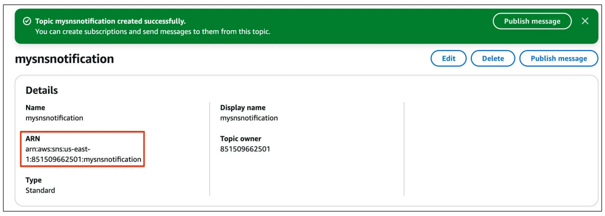
Display name - *optional* | Info

To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message.

mysnsnotification

Maximum 100 characters.

7. Leave other options as default and click on **Create topic**.
8. An SNS topic is now created.



Topic mysnsnotification created successfully.
You can create subscriptions and send messages to them from this topic.

mysnsnotification

Details

Name
mysnsnotification

ARN
arn:aws:sns:us-east-1:851509662501:mysnsnotification

Type
Standard

Display name
mysnsnotification

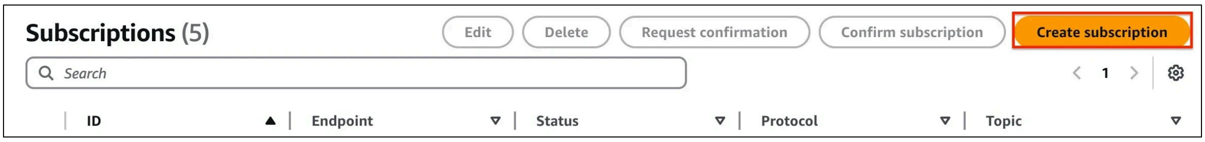
Topic owner
851509662501

9. **Copy the ARN and save it for later.**

Task 3: Subscribe to SNS Topic

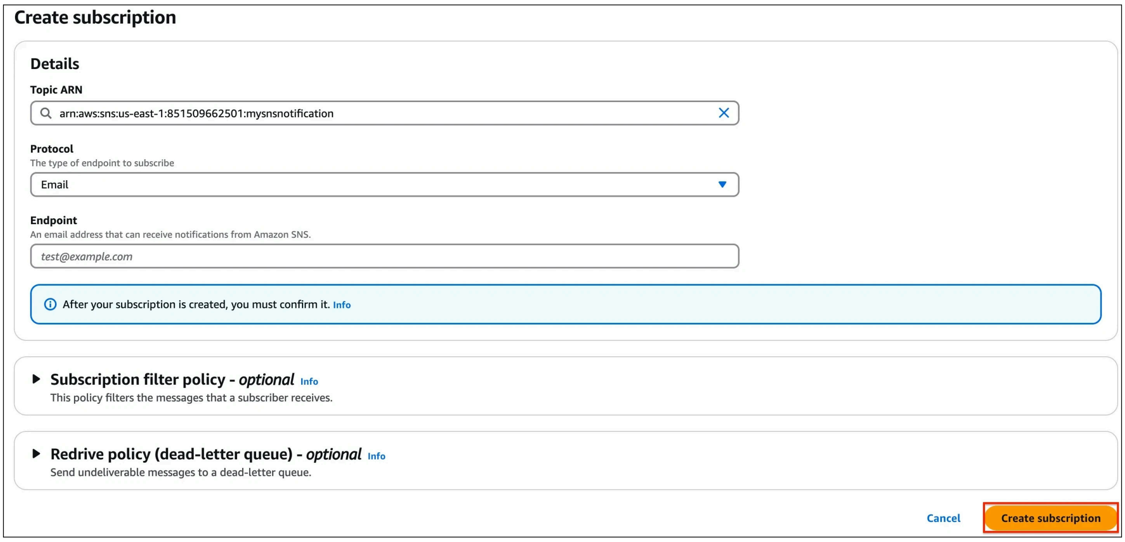
In this task, we are going to subscribe an email address to the SNS Topic created in the previous task

1. Once the SNS topic is created, scroll down below and click on **Create Subscription**



2. Under Details:

- Protocol : Select **Email**
- Endpoint : Enter **<your Mail ID>**
- Leave other settings as default and click on **create subscription.**



Create subscription

Details

Topic ARN

arn:aws:sns:us-east-1:851509662501:mysnsnotification

Protocol
The type of endpoint to subscribe

Email

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

test@example.com

ⓘ After your subscription is created, you must confirm it. Info

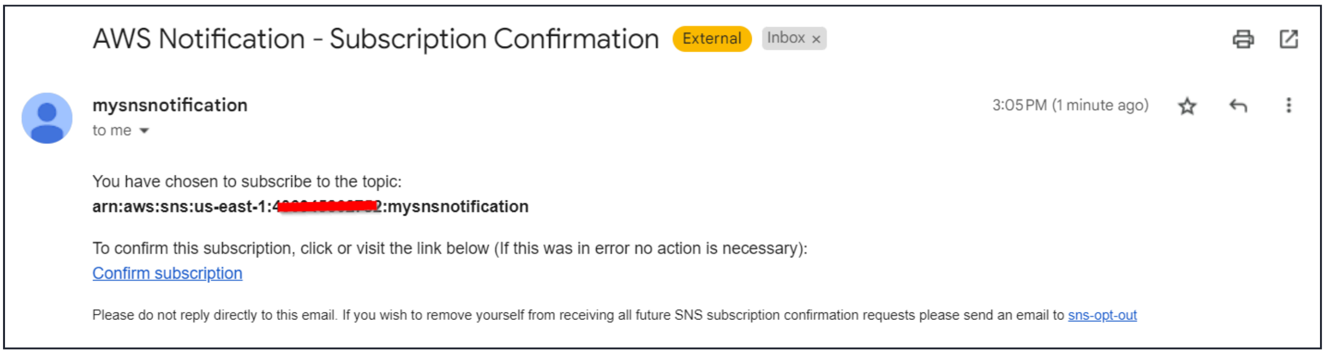
▶ Subscription filter policy - *optional* Info
This policy filters the messages that a subscriber receives.

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

Cancel Create subscription

- **Note: Make sure you give a valid email address, as you will receive an SNS notification to this email address.**
- **Check your Spam box if you don't see the email in your Inbox.**

3. You will receive an email confirming your subscription to your email.



AWS Notification - Subscription Confirmation External Inbox ×

mysnsnotification
to me ▾

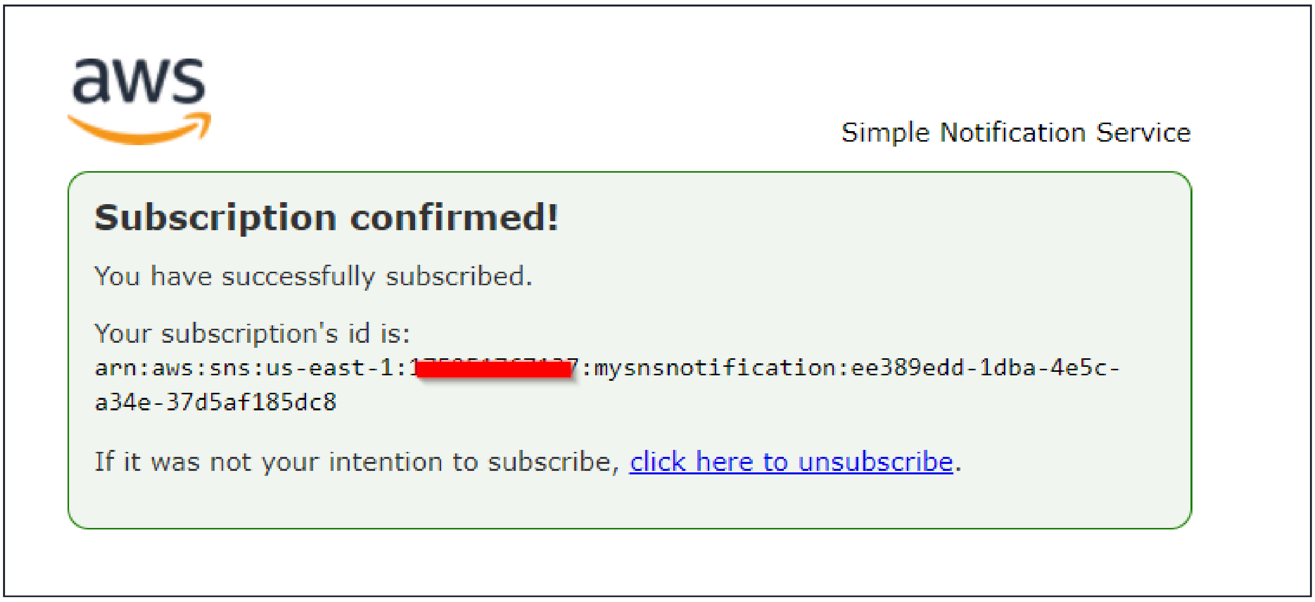
3:05 PM (1 minute ago)

You have chosen to subscribe to the topic:
arn:aws:sns:us-east-1:[redacted]:mysnsnotification

To confirm this subscription, click or visit the link below (If this was in error no action is necessary):
Confirm subscription

Please do not reply directly to this email. If you wish to remove yourself from receiving all future SNS subscription confirmation requests please send an email to sns-opt-out

4. Click on **Confirm subscription**.



Subscription confirmed!

You have successfully subscribed.

Your subscription's id is:
arn:aws:sns:us-east-1:[redacted]:mysnsnotification:ee389edd-1dba-4e5c-a34e-37d5af185dc8

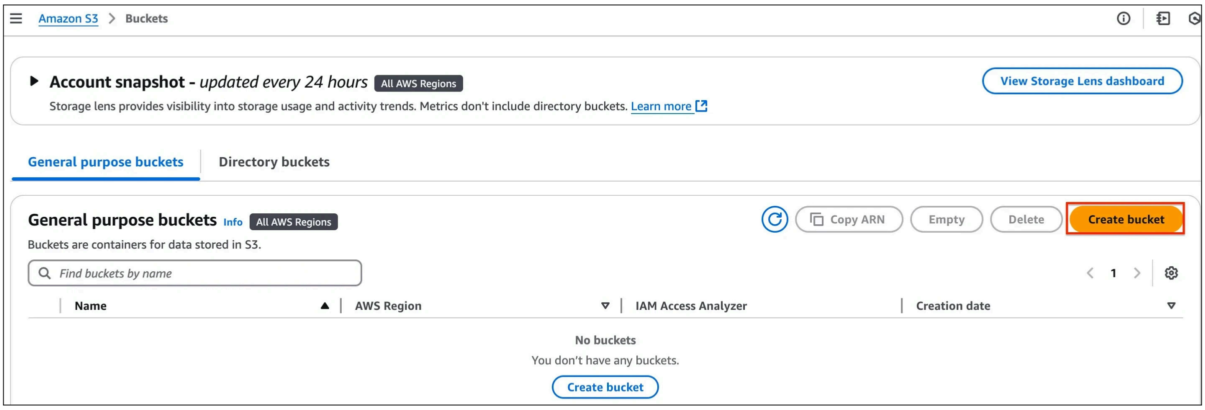
If it was not your intention to subscribe, click here to unsubscribe.

5. Your email address is now subscribed to the SNS Topic **mysnsnotification**.

Task 4: Create an S3 Bucket

1. Navigate to **AWS S3** by clicking on **Services** in the top left corner. S3 is available under **Storage**.

2. In the S3 dashboard, click on the **Create Bucket** button and fill in the bucket details.



Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. Learn more

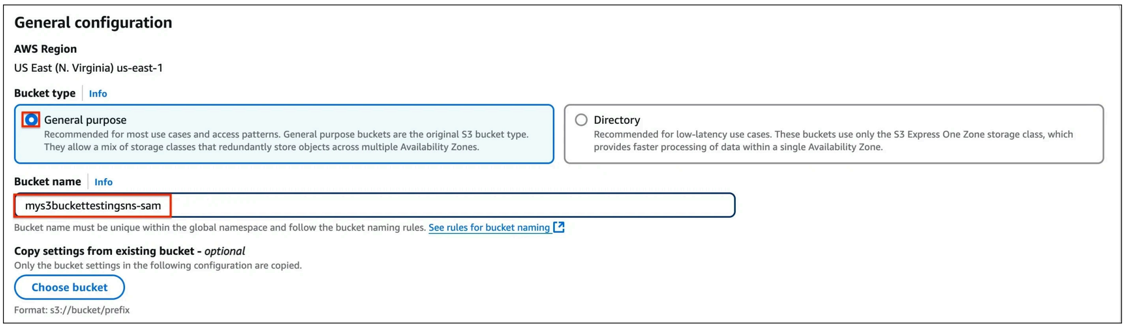
Buckets are containers for data stored in S3.

No buckets

You don't have any buckets.

3. In the **General Configuration**:

- Select Bucket type : **General purpose**
- Bucket name: Enter ***mys3buckettestingsns-{yourname}***
- Example **:** ***mys3buckettestingsns-sam***
  (**Note:** The Bucket Name must be unique across all existing bucket names in Amazon S3)
- Region: Select **US East (N. Virginia) us-east-1** from dropdown.



General configuration

AWS Region

US East (N. Virginia) us-east-1

Bucket type | Info

● General purpose
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

○ Directory
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name | Info

mys3buckettestingsns-sam

Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

Format: s3://bucket/prefix

4. Object ownership: Select **ACLs disabled (recommended)** option

5. Leave all other settings as default and click on **Create bucket**.

6. Select the created bucket and click **Copy content** on the top. Save the ARN.

Task 5: Update SNS Topic Access Policy

In this task, we are going to update the Access Policy of the SNS topic to enable it to send notification events based on S3 bucket event

1. Navigate back to the **SNS** page.

2. Click on **Topics**.

3. Click on ***mysnsnotification***.

4. Click on **Edit** in the top right corner to edit the **Access Policy** of the SNS topic.

5. Expand **Access Policy.**

6. Update the SNS policy as shown below:

- **Note: Here we need to update two things after pasting the below policy.**
- Remove the old SNS policy and add the new policy to the SNS topic
- **SNS Topic ARN** in the Resources section below
- **S3 bucket ARN** in the Condition section below.

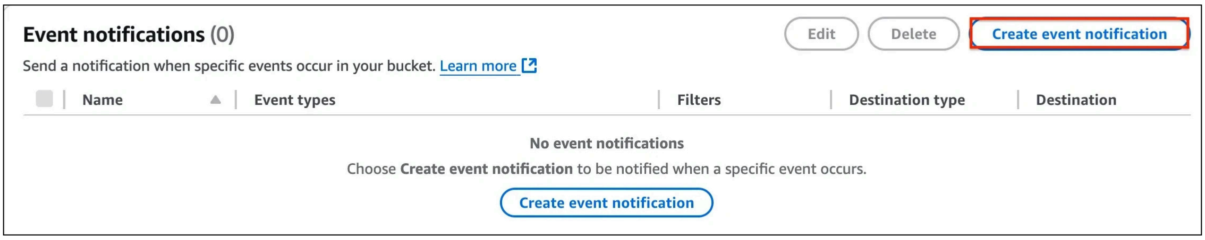
```
{
    "Version": "2008-10-17",
    "Id": "__default_policy_ID",
    "Statement": [
        {
            "Sid": "__default_statement_ID",
            "Effect": "Allow",
            "Principal": {
                "AWS": "*"
            },
            "Action": [
                "SNS:GetTopicAttributes",
                "SNS:SetTopicAttributes",
                "SNS:AddPermission",
                "SNS:RemovePermission",
                "SNS:DeleteTopic",
                "SNS:Subscribe",
                "SNS:ListSubscriptionsByTopic",
                "SNS:Publish",
                "SNS:Receive"
            ],
            "Resource": "<Your_SNS_Topic_ARN>",
            "Condition": {
                "ArnLike": {
                    "aws:SourceArn": "<Your_Bucket_ARN>"
                }
            }
        }
    ]
}
```

7. **Note:** Make sure to update the bucket ARN and SNS topic in the above policy.
8. Click on **Save Changes**.
9. Now, your SNS topic has access to send notification events based on S3 bucket events.

Task 6: Create S3 Event

In this task, we are going to enable event notifications in the S3 bucket that was created in a previous step

1. Navigate back to the S3 page.
2. Click on the S3 bucket that you have created in the above step.
3. Go to the **Properties** tab and scroll down to **Event notifications**.
4. Click on **Create event notification** button.



Event notifications (0)

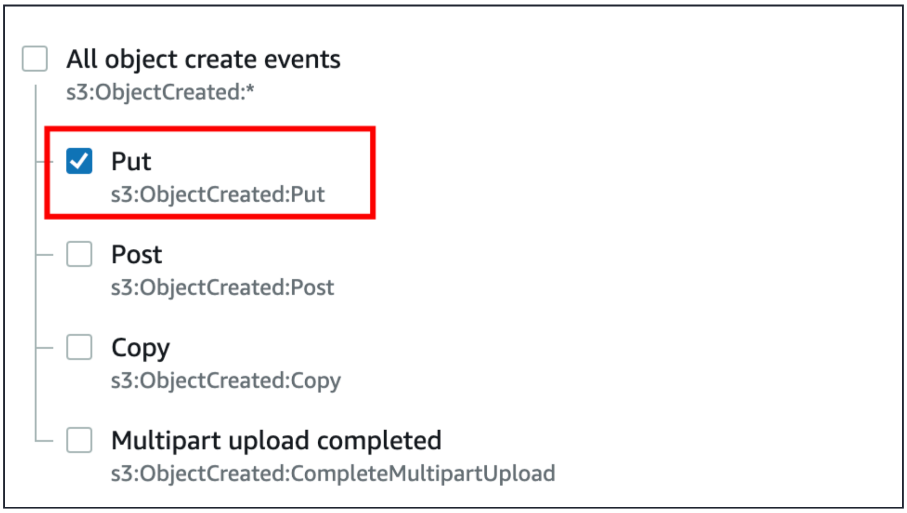
Send a notification when specific events occur in your bucket. Learn more

Name	Event types	Filters	Destination type	Destination

No event notifications

Choose **Create event notification** to be notified when a specific event occurs.

- Event name : Enter ***myemaileventforput***
- Event types : Check **PUT**



☐ All object create events
s3:ObjectCreated:*

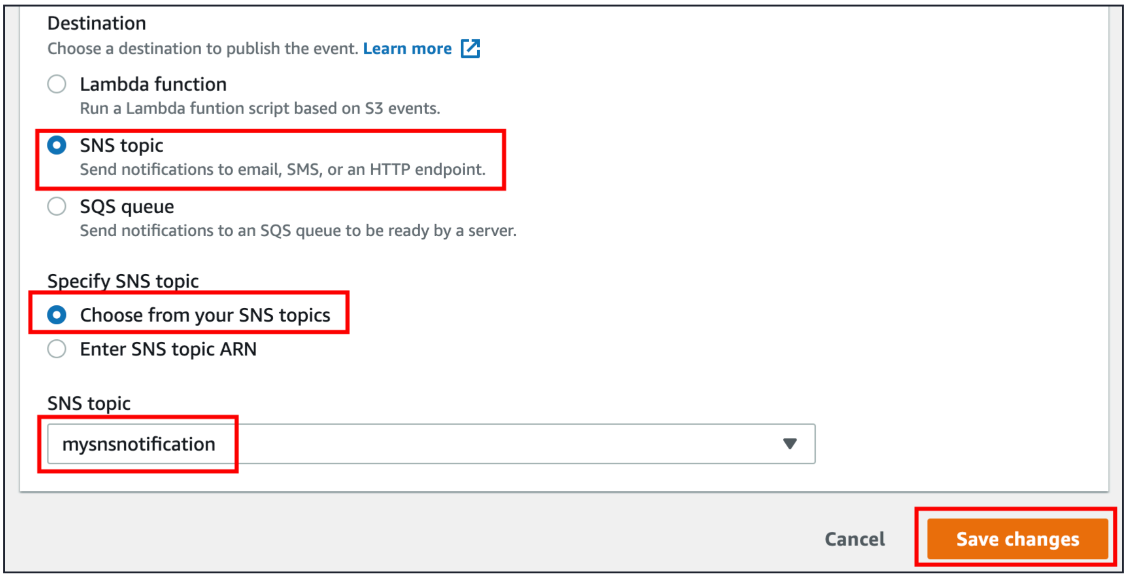
☑ Put
s3:ObjectCreated:Put

☐ Post
s3:ObjectCreated:Post

☐ Copy
s3:ObjectCreated:Copy

☐ Multipart upload completed
s3:ObjectCreated:CompleteMultipartUpload

- Under Destination, select **SNS Topic**
- Under SNS topic, select topic name created earlier.
- Click on **Save changes.**



Destination
Choose a destination to publish the event. Learn more

○ Lambda function
Run a Lambda funtion script based on S3 events.

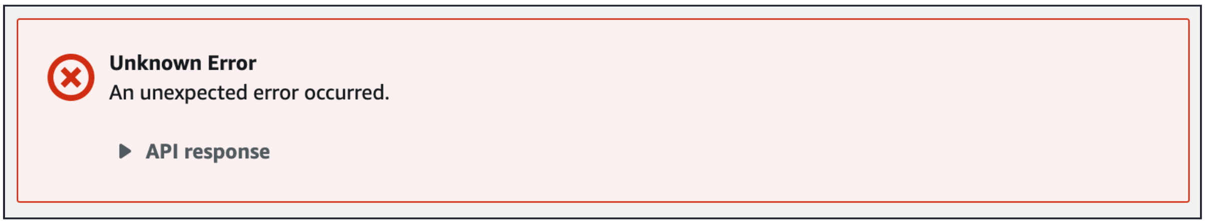
● SNS topic
Send notifications to email, SMS, or an HTTP endpoint.

○ SQS queue
Send notifications to an SQS queue to be ready by a server.

Specify SNS topic
● Choose from your SNS topics
○ Enter SNS topic ARN

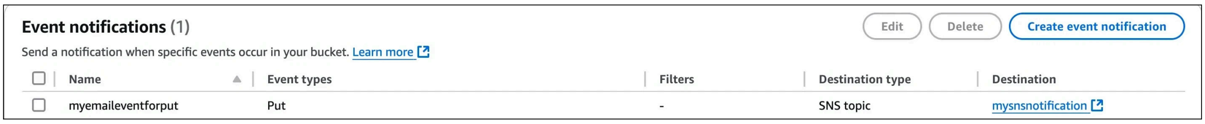
SNS topic
mysnsnotification ▼

5. **Note:** If you are getting the below error, make sure to check that you have added PUT as condition above and completed Task 5 i.e. Updating the SNS Access Policy.



Unknown Error
An unexpected error occurred.

6. Now the S3 bucket has been enabled event notifications for putting new objects through our SNS topic.



Event notifications (1)

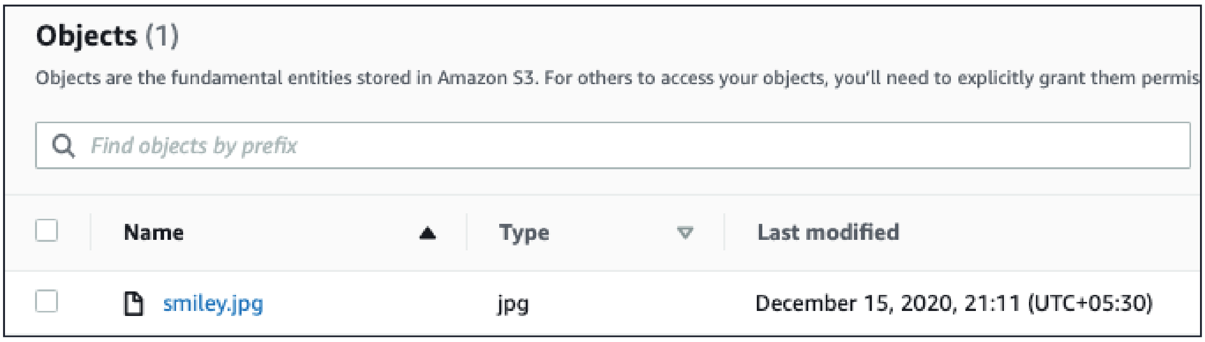
Send a notification when specific events occur in your bucket. Learn more

☐	Name	Event types	Filters	Destination type	Destination
☐	myemaileventforput	Put	-	SNS topic	mysnsnotification

Task 7: Testing the SNS Notification

In this task, we are going to test the setup of event notifications and verify that notifications are being sent successfully

1. Open your S3 bucket **mys3buckettestingsns**.
2. In the bucket, under **Objects,** click on **Upload**
3. Now click on **Add Files** and upload an image from your local system.
4. Once the image is successfully uploaded to the S3 bucket, click on **Close**. Now you can see the uploaded image under **Objects**.



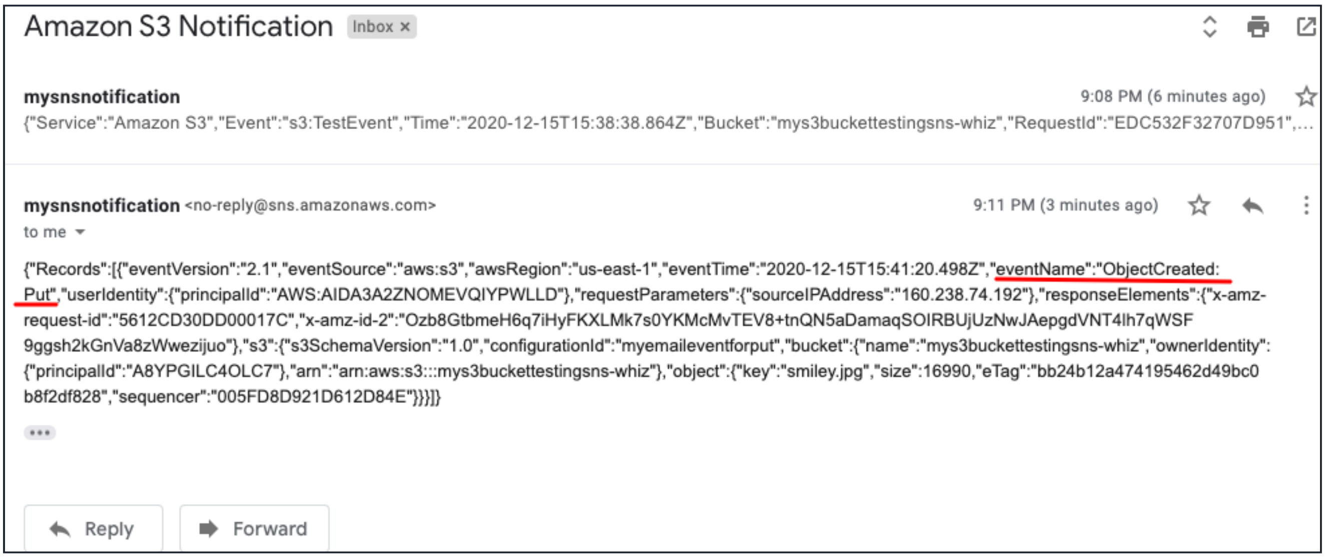
Objects (1)

Objects are the fundamental entities stored in Amazon S3. For others to access your objects, you'll need to explicitly grant them permis

Find objects by prefix

□	Name ▲	Type ▽	Last modified
□	smiley.jpg	jpg	December 15, 2020, 21:11 (UTC+05:30)

5. **You have successfully received an SNS notification based on the PUT object event in S3 bucket.**



Amazon S3 Notification

mysnsnotification 9:08 PM (6 minutes ago)

{"Service":"Amazon S3","Event":"s3:TestEvent","Time":"2020-12-15T15:38:38.864Z","Bucket":"mys3buckettestingsns-whiz","RequestId":"EDC532F32707D951",...

mysnsnotification <no-reply@sns.amazonaws.com> 9:11 PM (3 minutes ago)

to me

```
{"Records":[{"eventVersion":"2.1","eventSource":"aws:s3","awsRegion":"us-east-1","eventTime":"2020-12-15T15:41:20.498Z","eventName":"ObjectCreated:
Put","userIdentity":{"principalId":"AWS:AIDA3A2ZNOMEVQIYPWLLD"},"requestParameters":{"sourceIPAddress":"160.238.74.192"},"responseElements":{"x-amz-
request-id":"5612CD30DD00017C","x-amz-id-2":"Ozb8GtbmeH6q7iHyFKXLMk7s0YKMcMvTEV8+tnQN5aDamaqSOIRBUjUzNwJAepgdVNT4lh7qWSF
9ggsh2kGnVa8zWwezijuo"},"s3":{"s3SchemaVersion":"1.0","configurationId":"myemaileventforput","bucket":{"name":"mys3buckettestingsns-whiz","ownerIdentity":
{"principalId":"A8YPGILC4OLC7"},"arn":"arn:aws:s3:::mys3buckettestingsns-whiz"},"object":{"key":"smiley.jpg","size":16990,"eTag":"bb24b12a474195462d49bc0
b8f2df828","sequencer":"005FD8D921D612D84E"}}}]}
```

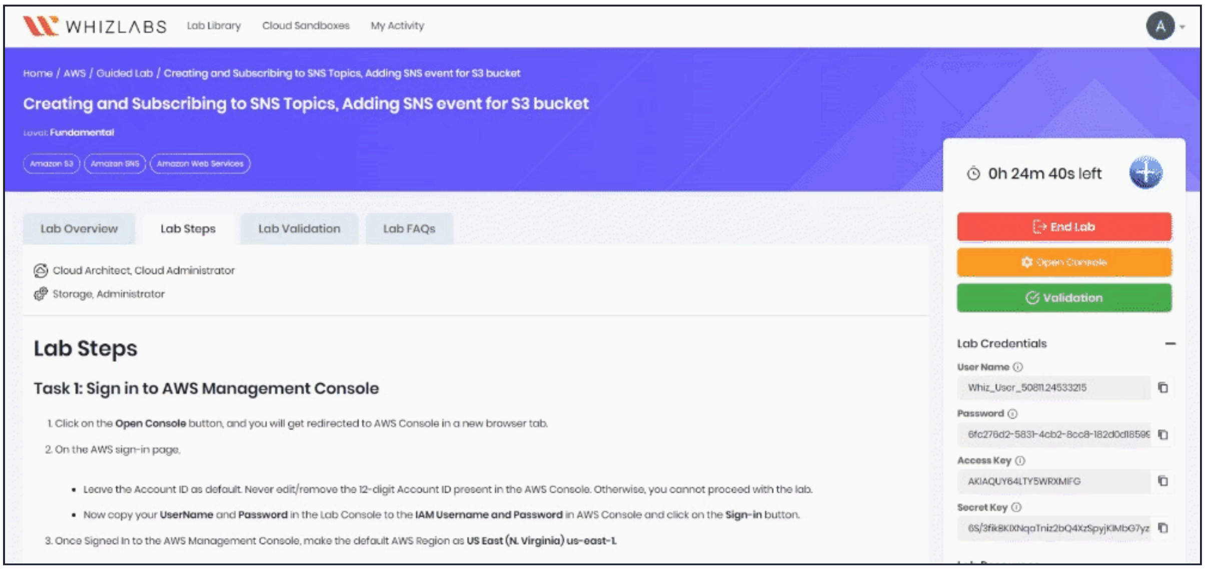
6. Go to your mailbox. You should have received an email from SNS.

Do you know?

Amazon SNS service now supports message filtering based on message attributes. With this feature, customers can now subscribe to a topic and receive only a subset of messages based on specific message attributes. This can help reduce the amount of processing needed for applications that receive high volumes of messages, as well as provide more granular control over which messages are processed by which subscribers

Task 8: Validation Test

1. Once the lab steps are completed, please click on the **Validation** button on the right side panel.
2. This will validate the resources in the AWS account and displays whether you have completed this lab successfully or not.
3. Sample output :



Creating and Subscribing to SNS Topics, Adding SNS event for S3 bucket

Level: Fundamental

Cloud Architect, Cloud Administrator

Storage, Administrator

Lab Steps

Task 1: Sign in to AWS Management Console

1. Click on the **Open Console** button, and you will get redirected to AWS Console in a new browser tab.
2. On the AWS sign-in page,
   - Leave the Account ID as default. Never edit/remove the 12-digit Account ID present in the AWS Console. Otherwise, you cannot proceed with the lab.
   - Now copy your **UserName** and **Password** in the Lab Console to the **IAM Username and Password** in AWS Console and click on the **Sign-in** button.
3. Once Signed In to the AWS Management Console, make the default AWS Region as **US East (N. Virginia) us-east-1.**

0h 24m 40s left

User Name: Whiz_User_50811.24533215

Password: 6fc276d2-5831-4cb2-8cc8-182d0d18599

Access Key: AKIAQUY64LTY5WRXMIFG

Secret Key: 6S/3fik8KIXNqaTniz2bQ4XzSpyjKIMbG7yz

Completion and Conclusion

1. You have successfully used the AWS management console to create an Amazon SNS Topic.
2. You have successfully subscribed to an SNS topic using your email address.
3. You have successfully created an S3 bucket event to get SNS notifications sent to your email address.

End Lab

1. Sign out of AWS Account.

2. You have successfully completed the lab.

3. Once you have completed the steps, click on **End Lab** from your whizlabs dashboard.