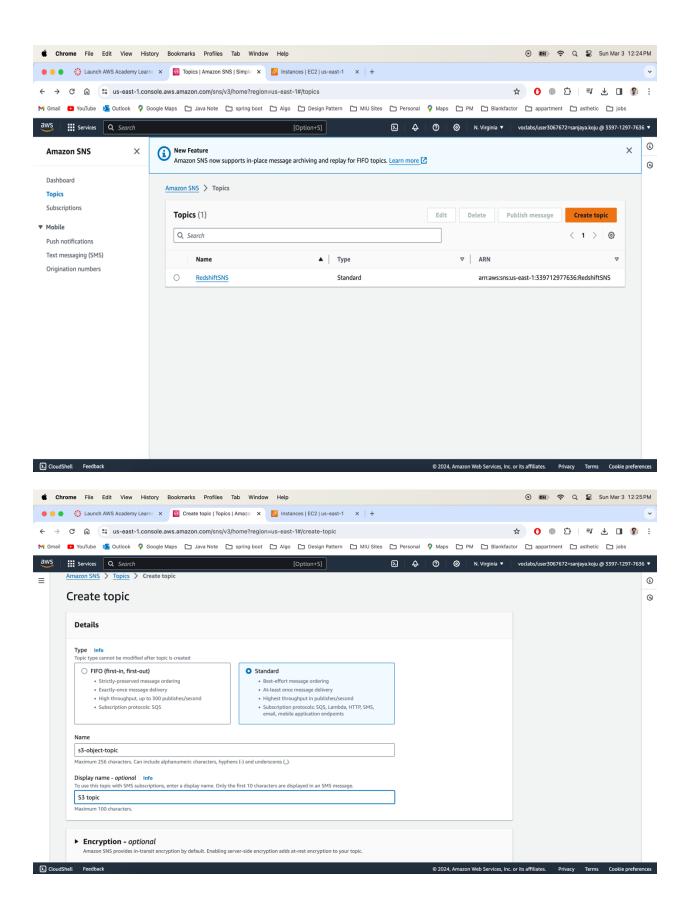Task 1:

Task 2:
SNS: Policy
```
{
 "Version": "2012-10-17",
 "Id": "s3-object-topic",
 "Statement": [
  {
   "Sid": "Statement1",
   "Effect": "Allow",
   "Principal": {
    "Service": "s3.amazonaws.com"
   },
   "Action": "SNS:Publish",
   "Resource": "arn:aws:sns:us-east-1:339712977636:s3-object-topic",
   "Condition": {
    "StringEquals": {
     "AWS:SourceAccount": "339712977636"
    },
    "ArnLike": {
```

```
      "Aws:SourceArn": "arn:aws:s3:::lab3task-1"
    }
   }
  }
 ]
}
```

Launch AWS Academy Learn   Topics | Amazon SNS | Simple   Instances | EC2 | us-east-1   +

us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/topics

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Amazon SNS   ✕

ⓘ **New Feature**
Amazon SNS now supports in-place message archiving and replay for FIFO topics. Learn more ↗   ✕

Dashboard

Topics

Subscriptions

Amazon SNS > Topics

▼ **Mobile**

Push notifications

Text messaging (SMS)

Origination numbers

Topics (1)   Edit   Delete   Publish message   **Create topic**

Q Search   ‹ 1 ›   ⚙

☐	Name ▲	Type ▽	ARN ▽
○	RedshiftSNS	Standard	arn:aws:sns:us-east-1:339712977636:RedshiftSNS

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Launch AWS Academy Learn   Create topic | Topics | Amazon   Instances | EC2 | us-east-1   +

us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/create-topic

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Amazon SNS > Topics > Create topic

Create topic

Details

Type   Info
Topic type cannot be modified after topic is created

○ **FIFO (first-in, first-out)**	● **Standard**
• Strictly-preserved message ordering	• Best-effort message ordering
• Exactly-once message delivery	• At-least once message delivery
• High throughput, up to 300 publishes/second	• Highest throughput in publishes/second
• Subscription protocols: SQS	• Subscription protocols: SQS, Lambda, HTTP, SMS, email, mobile application endpoints

Name

s3-object-topic

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.

S3 topic

Maximum 100 characters.

▶ **Encryption - optional**
Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

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Launch AWS Academy Learn... × | s3-object-topic | Topics | Am... × | Instances | EC2 | us-east-1 × | S3 buckets | S3 | Global × | +

us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/topic/arn:aws:sns:us-east-1:339712977636:s3-object-topic

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Amazon SNS

Dashboard
Topics
Subscriptions

▼ Mobile
  Push notifications
  Text messaging (SMS)
  Origination numbers

ⓘ **New Feature**
Amazon SNS now supports in-place message archiving and replay for FIFO topics. Learn more ⧉

Amazon SNS > Topics > s3-object-topic

s3-object-topic

Edit   Delete   Publish message

Details

Name	Display name
s3-object-topic	S3 topic
ARN	Topic owner
arn:aws:sns:us-east-1:339712977636:s3-object-topic	339712977636
Type	
Standard	

Subscriptions | Access policy | Data protection policy | Delivery policy (HTTP/S) | Delivery status logging | Encryption | Tags | Integrations

Subscriptions (1)

Edit   Delete   Request confirmation   Confirm subscription   Create subscription

Q Search

< 1 >

ID	Endpoint	Status	Protocol
○ 062a78d3-5ad0-4779-9928-98fad7205a0c	sanjayakoju42@gmail.com	⊘ Confirmed	EMAIL

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Launch AWS Academy Learn... × | s3-object-topic | Topics | Am... × | Instances | EC2 | us-east-1 × | S3 buckets | S3 | Global × | +

s3.console.aws.amazon.com/s3/buckets?region=us-east-1&bucketType=general&region=us-east-1

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Amazon S3

Buckets
Access Grants
Access Points
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
IAM Access Analyzer for S3

Block Public Access settings for this account

▼ Storage Lens
  Dashboards
  Storage Lens groups
  AWS Organizations settings

Feature spotlight ⑦

▶ AWS Marketplace for S3

Amazon S3 > Buckets

▶ **Account snapshot**   View Storage Lens dashboard
Storage lens provides visibility into storage usage and activity trends. Learn more ⧉

General purpose buckets   Directory buckets

General purpose buckets (1) Info   ↻   Copy ARN   Empty   Delete   Create bucket
Buckets are containers for data stored in S3.

Q Find buckets by name

< 1 >

Name	AWS Region	Access	Creation date
○ lab3task-1	US East (N. Virginia) us-east-1	Bucket and objects not public	March 3, 2024, 09:36:34 (UTC-08:00)

https://s3.console.aws.amazon.com/s3/buckets/lab3task-1?region=us-east-1&bucketType=general
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Launch AWS Academy Learn   s3-object-topic | Topics | Am   Instances | EC2 | us-east-1   lab3task-1 - S3 bucket | S3 | +

s3.console.aws.amazon.com/s3/buckets/lab3task-1?region=us-east-1&bucketType=general&tab=properties

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Amazon S3   ✕

Buckets
Access Grants
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Object Lambda Access Points
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Block Public Access settings for this account

▼ Storage Lens
  Dashboards
  Storage Lens groups
  AWS Organizations settings

Feature spotlight 7

▶ AWS Marketplace for S3

Amazon S3 > Buckets > lab3task-1

lab3task-1 Info

Objects | Properties | Permissions | Metrics | Management | Access Points

Bucket overview

AWS Region	Amazon Resource Name (ARN)	Creation date
US East (N. Virginia) us-east-1	⧉ arn:aws:s3:::lab3task-1	March 3, 2024, 09:36:34 (UTC-08:00)

Bucket Versioning   Edit

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. Learn more

Bucket Versioning
Disabled
Multi-factor authentication (MFA) delete
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. Learn more
Disabled

Tags (0)   Edit

You can use bucket tags to track storage costs and organize buckets. Learn more

Key	Value

No tags associated with this resource.

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Launch AWS Academy Learn   s3-object-topic | Topics | Am   Instances | EC2 | us-east-1   lab3task-1 - S3 bucket | S3 | +

s3.console.aws.amazon.com/s3/buckets/lab3task-1?region=us-east-1&bucketType=general&tab=properties

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Amazon S3   ✕

Buckets
Access Grants
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Block Public Access settings for this account

▼ Storage Lens
  Dashboards
  Storage Lens groups
  AWS Organizations settings

Feature spotlight 7

▶ AWS Marketplace for S3

Event notifications   Edit   Delete   Create event notification

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.

Create event notification

Amazon EventBridge   Edit

For additional capabilities, use Amazon EventBridge to build event-driven applications at scale using S3 event notifications. Learn more or see EventBridge pricing

Send notifications to Amazon EventBridge for all events in this bucket
Off

Transfer acceleration   Edit

Use an accelerated endpoint for faster data transfers. Learn more

Transfer acceleration
Disabled

Object Lock   Edit

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. Object Lock works only in versioned buckets. Learn more

Object Lock

Launch AWS Academy Learn | s3-object-topic | Topics | Am | Instances | EC2 | us-east-1 | Create event notification - S3 | +

s3.console.aws.amazon.com/s3/bucket/lab3task-1/property/notification/create?region=us-east-1&bucketType=general

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Amazon S3 > Buckets > lab3task-1 > Create event notification

Create event notification Info

To enable notifications, you must first add a notification configuration that identifies the events you want Amazon S3 to publish and the destinations where you want Amazon S3 to send the notifications.

General configuration

Event name

S3 Notification

Event name can contain up to 255 characters.

Prefix - optional

Limit the notifications to objects with key starting with specified characters.

images/

Suffix - optional

Limit the notifications to objects with key ending with specified characters.

.jpg

Event types

Specify at least one event for which you want to receive notifications. For each group, you can choose an event type for all events, or you can choose one or more individual events.

Object creation

☑ All object create events
s3:ObjectCreated:*

☐ Put
s3:ObjectCreated:Put

☐ Post
s3:ObjectCreated:Post

☐ Copy

Launch AWS Academy Learn | s3-object-topic | Topics | Am | Instances | EC2 | us-east-1 | Create event notification - S3 | +

s3.console.aws.amazon.com/s3/bucket/lab3task-1/property/notification/create?region=us-east-1&bucketType=general

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aws | Services | Search [Option+S] | Global ▼ | voclabs/user3067672=sanjaya.koju @ 3397-1297-7636 ▼

object
s3:LifecycleExpiration:DeleteMarkerCreated

Intelligent-Tiering

☐ Intelligent-Tiering archive events
s3:IntelligentTiering

Destination

ⓘ Before Amazon S3 can publish messages to a destination, you must grant the Amazon S3 principal the necessary permissions to call the relevant API to publish messages to an SNS topic, an SQS queue, or a Lambda function. Learn more ↗

Destination

Choose a destination to publish the event. Learn more ↗

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

◉ SNS topic
Fanout messages to systems for parallel processing or directly to people.

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

Specify SNS topic

◉ Choose from your SNS topics

○ Enter SNS topic ARN

SNS topic

s3-object-topic ▼

Cancel   Save changes

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Launch AWS Academy Learn   Policies | IAM | Global   Upload objects - S3 bucket b   s3-object-topic | Topics | Am   Functions - Lambda   +

us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/topic/arn:aws:sns:us-east-1:339712977636:s3-object-topic

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Amazon SNS

New Feature
Amazon SNS now supports in-place message archiving and replay for FIFO topics. Learn more ⧉

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Origination numbers

Amazon SNS > Topics > s3-object-topic

s3-object-topic

Edit   Delete   Publish message

Details

Name
s3-object-topic

Display name
S3 topic

ARN
arn:aws:sns:us-east-1:339712977636:s3-object-topic

Topic owner
339712977636

Type
Standard

Subscriptions | Access policy | Data protection policy | Delivery policy (HTTP/S) | Delivery status logging | Encryption | Tags | Integrations

Subscriptions (1)

Edit   Delete   Request confirmation   Confirm subscription   Create subscription

Search

< 1 >

ID	Endpoint	Status	Protocol
○ 062a78d3-5ad0-4779-9928-98fad7205a0c	sanjayakoju42@gmail.com	✓ Confirmed	EMAIL

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Launch AWS Academy Learn   Policies | IAM | Global   Upload objects - S3 bucket b   Edit topic | s3-object-topic | Functions - Lambda   +

us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/edit-topic/arn:aws:sns:us-east-1:339712977636:s3-object-topic

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S3 topic
Maximum 100 characters.

▶ **Encryption -** *optional*
Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

▼ **Access policy -** *optional* Info
This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.

JSON editor

```
1  {
2    "Version": "2012-10-17",
3    "Id": "s3-object-topic",
4    "Statement": [
5      {
6        "Sid": "Statement1",
7        "Effect": "Allow",
8        "Principal": {
9          "Service": "s3.amazonaws.com"
10       },
11       "Action": "SNS:Publish",
12       "Resource": "arn:aws:sns:us-east-1:339712977636:s3-object-topic",
13       "Condition": {
```

▶ **Data protection policy -** *optional* Info
This policy defines which sensitive data to monitor and to prevent from being exchanged via your topic.

▶ **Delivery policy (HTTP/S) -** *optional* Info
The policy defines how Amazon SNS retries failed deliveries to HTTP/S endpoints. To modify the default settings, expand this section.

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Task 3:


```
1  import { S3Client } from '@aws-sdk/client-s3';
2  import { GetObjectCommand } from '@aws-sdk/client-s3';
3  import { getSignedUrl } from '@aws-sdk/s3-request-presigner';
4  const s3 = new S3Client({ region: 'us-east-1' });
5  export const handler = async (event) => {
6  const params = { Bucket: 'lab3task-1', Key: 'lab-1.pdf' };
7  const command = new GetObjectCommand(params);
8  const url = await getSignedUrl(s3, command, { expiresIn: 3600 });
9  return url;
10 }
11
```

https://lab3task-1.s3.us-east-1.amazonaws.com/lab-1.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Content-Sha256=UNSIGNED-PAYLOAD&X-Amz-Credential=ASIAU6GDYVLS0ZIMWTV5%2F20240303%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20240303T221238Z&X-Amz-Expires=3600&X-Amz-Security-Token=IQoJb3JpZ2luX2VjEG8aCXVzLWhc3QtMSJGME0CIHoXc%2BQpbPyDd0wyiyuBJjGcW1UEH%2BHjmxdFIfXWuH0yAiBYa91tk%2B95WDQkzq3hHz4wbr6UM1%2FGq2ucihJX%2Fhxf8CrkAghnEAAaDDMzOTcxMjk3NzYzNiIM1vkuRVyaUnRaBEg8KsECEX0eapJPhyasj4G2AZtRjmN%2BB24Ucvk9tCnRm2P3HdEQ3uY%2BJv7%2FRtPwjm9ZS5hQncTfP6v10PLb%2FZQfvCqt66WrxBARW1T4DjMGnD0%2Bu3BsnJ%2BrCNtKnn%2FoTRxATh2Fo52bJWEJT6hIsGnHVeLlbx1cQhtNGlUk9R0Dkz66ffdUVyHYhAmcQvKmh3%2Fs5coebbUvIIWuqbzN6Pp70VTBvqGMj%2FaZ7g88K3oPz8QL%2BJK%2FmckZ7U8f9tP%2FcKFVElyeSYveeVvrDt31O2%2BmN4qfxnQCXF1NCJO8OA8BUnd%2Bi%2F6hL0hqxTfAlaXBRnd59VX4eZyv9gqcbP7QMSHNiiolevrtohZKgruLBcpHM08ahmj%289euvA0BJaMTCn7km0iTLls1M48WJqDi4DJEJsAKXTn0nmB5ZnA5uD8ikm%2B71a3qU0wxMNXrx68G0p8BbQG4Wfm91AqK9yhzxZ1u2%2BUJ75tvbeKuno%2BhAdPwcIJYSgDJvCG%2F4DevUXGDLUK2dwlO2w8H1bo8t%2FVzS0vGTOTdQpDYiUgEDPKfD%2B98Mef0wparQOcwhtN6dzBE%2F6pQ0eckYJ7bPiD81kTZr18CIaoQsvKvk7NjexM76dVOOMldSxoovdocITo4zHi1UZziGY1IyRxM3Q8L%2FLPxoAA5&X-Amz-Signature=9caa3ba81e543c7d42a9d6e803e38ada54a0d2fce52b782de6da8793f19b9cd1&X-Amz-SignedHeaders=host&x-id=GetObject