

# Cloudformation with SNS

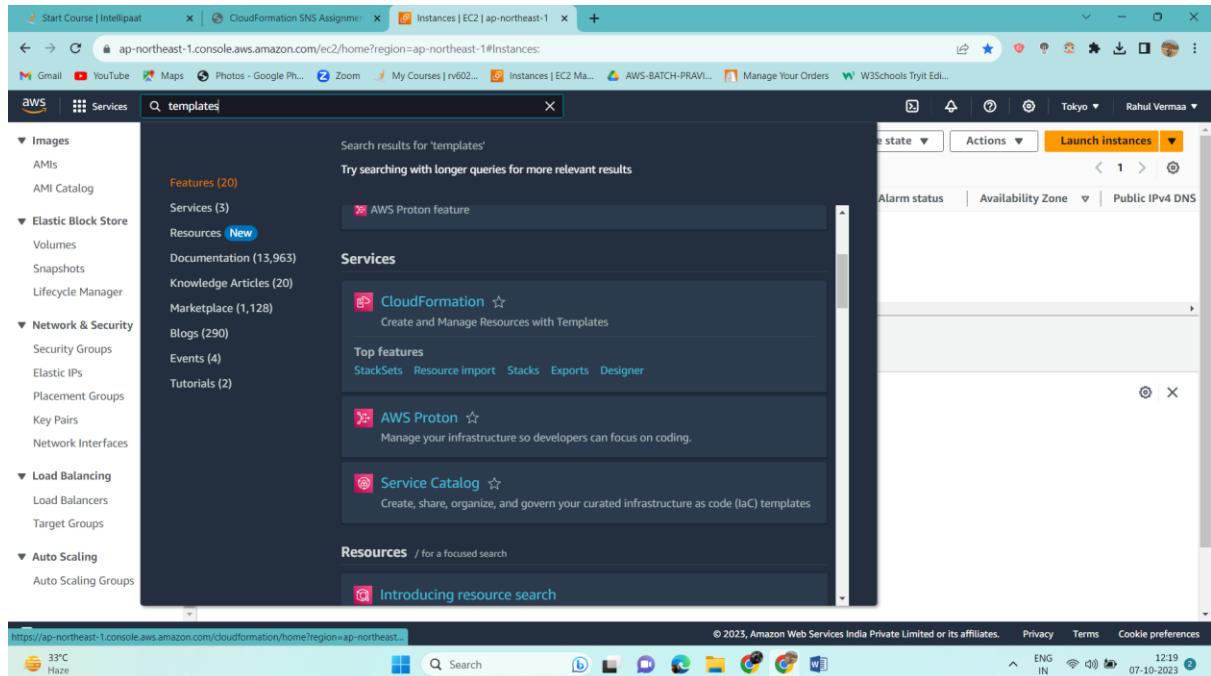
## Problem Statement:

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.

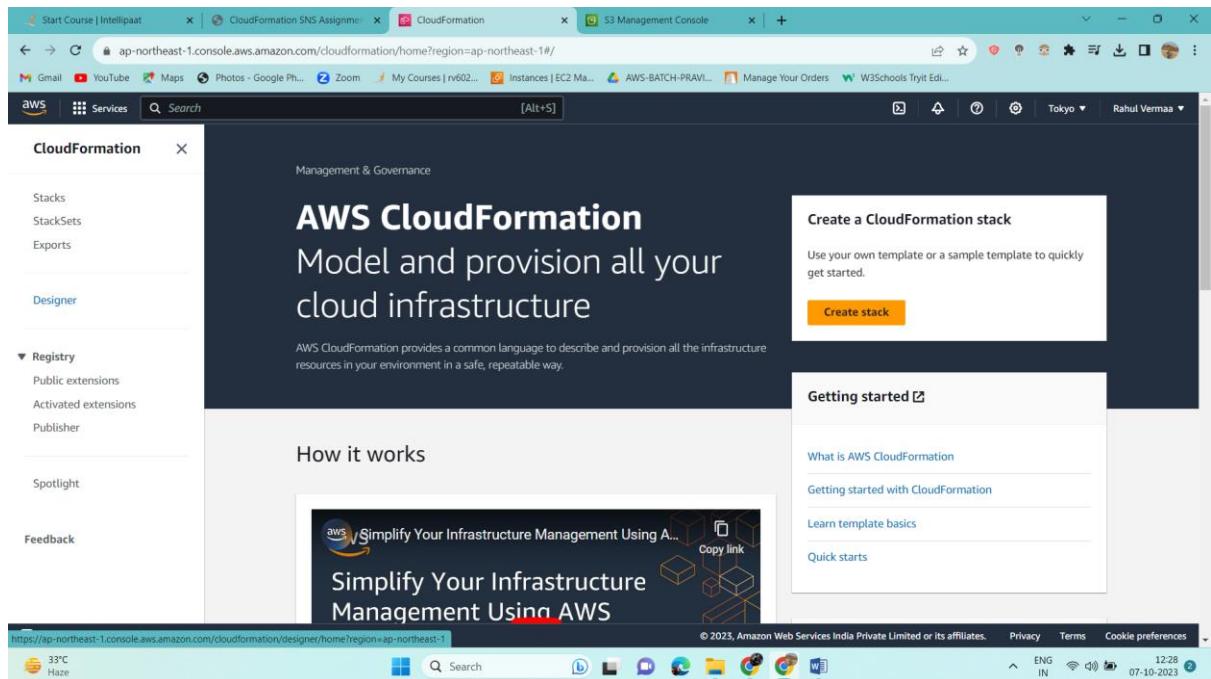
## Tasks To Be Performed:

1. Use the template from CloudFormation task 1.
2. Add Notification to the CloudFormation stack using SNS so that you get a notification via mail for every step of the stack creation process.

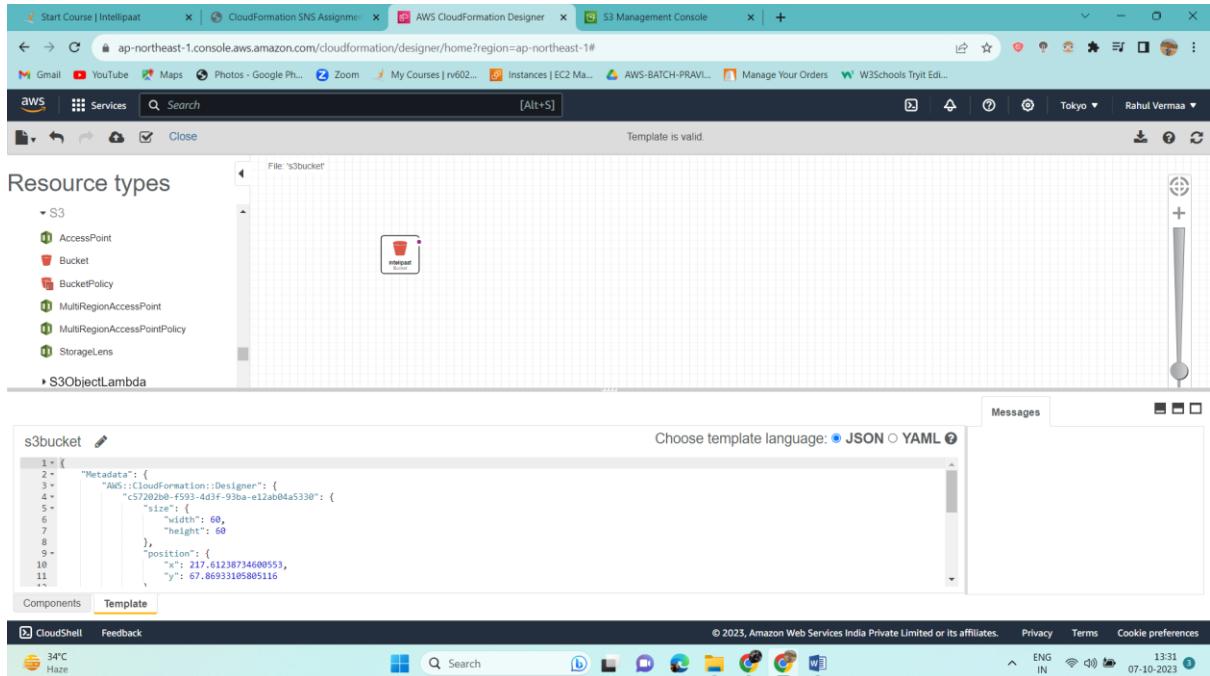
# Search cloudformation or templates in AWS console



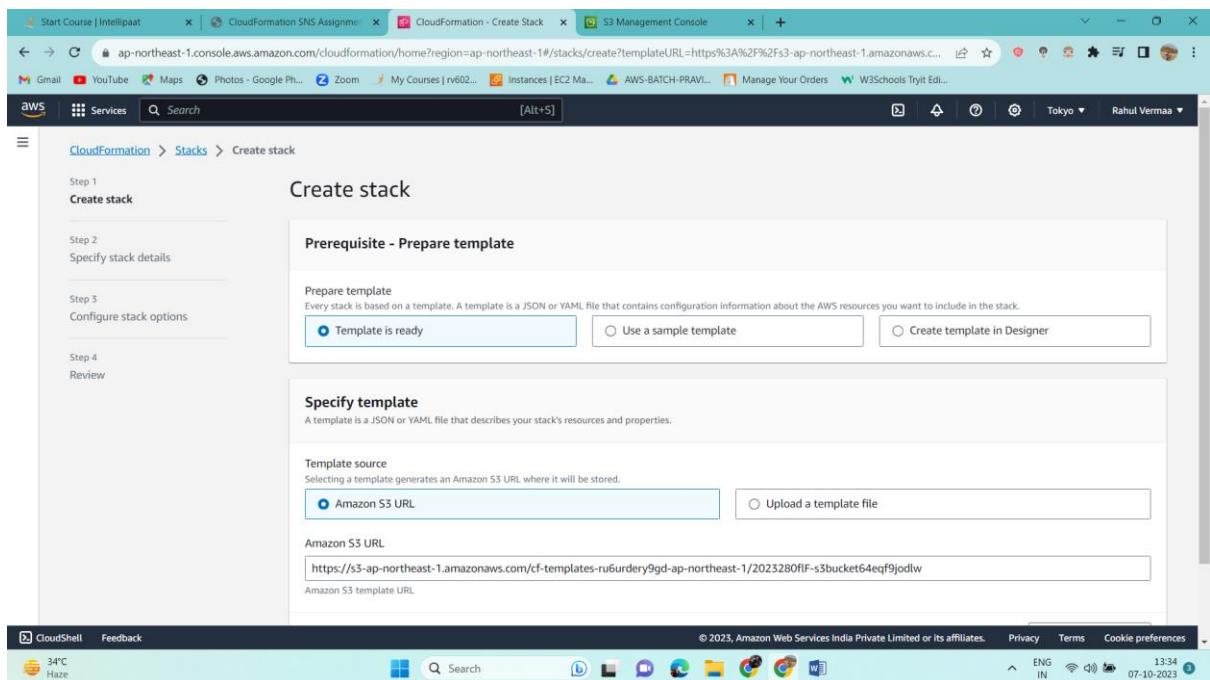
## Now click on designers to create template



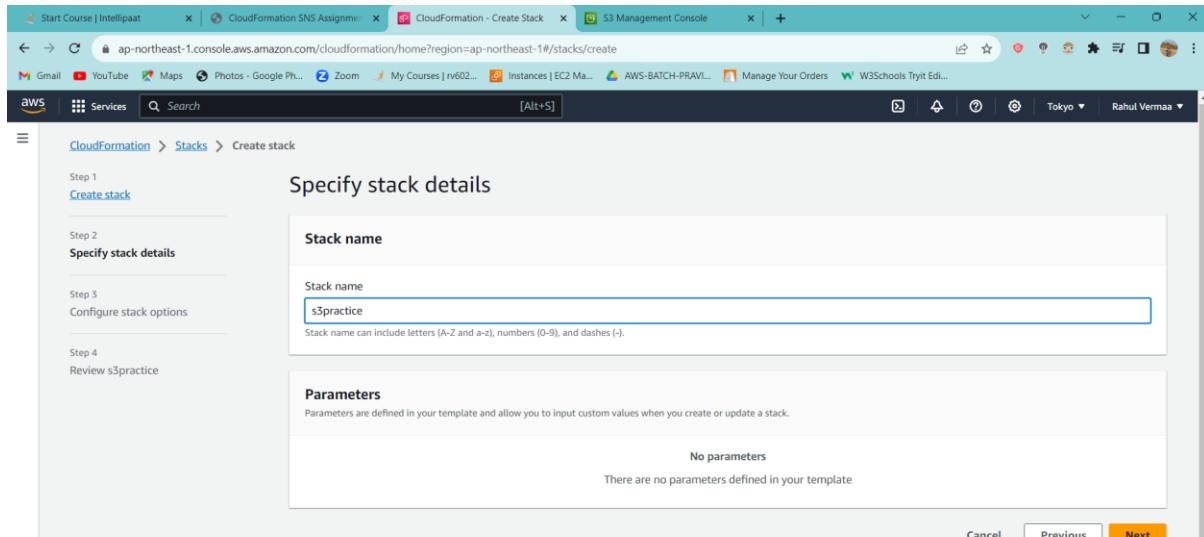
Just drag and drop S3 edit name and click on validate to check the format



Now let's launch this template click on create stack (cloud symbol with up arrow) It'll redirect us to create a stack page and just click on next as we already have template ready.



## As we haven't provide any parameter



CloudFormation - Create Stack

Specify stack details

Stack name

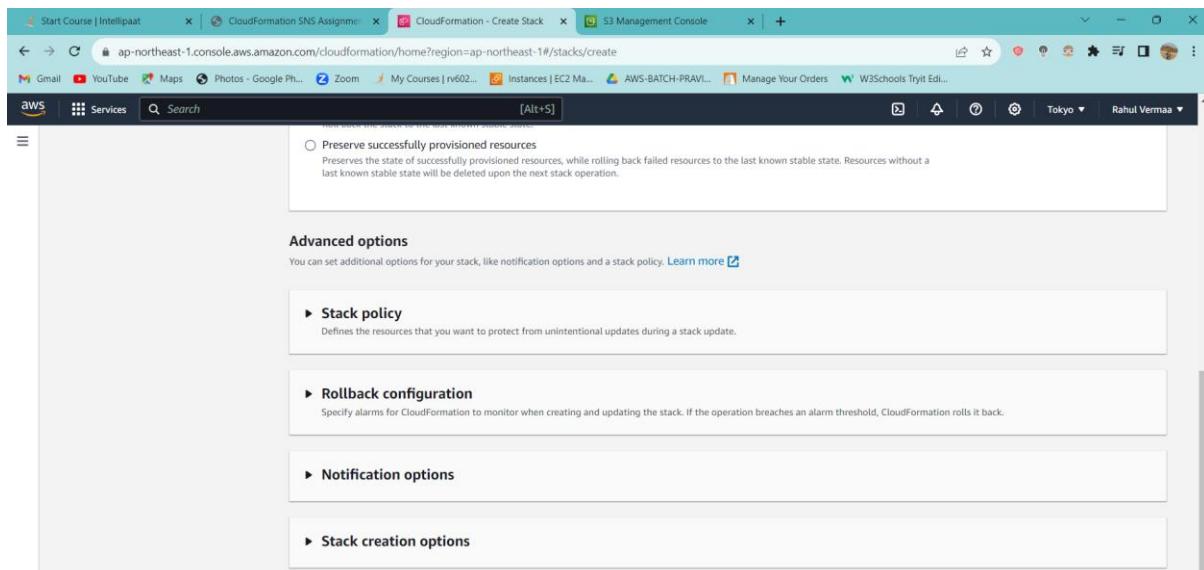
Stack name: s3practice

Parameters

No parameters

Cancel Previous Next

## Select options and click on next button



CloudFormation - Create Stack

Advanced options

Preserve successfully provisioned resources

Stack policy

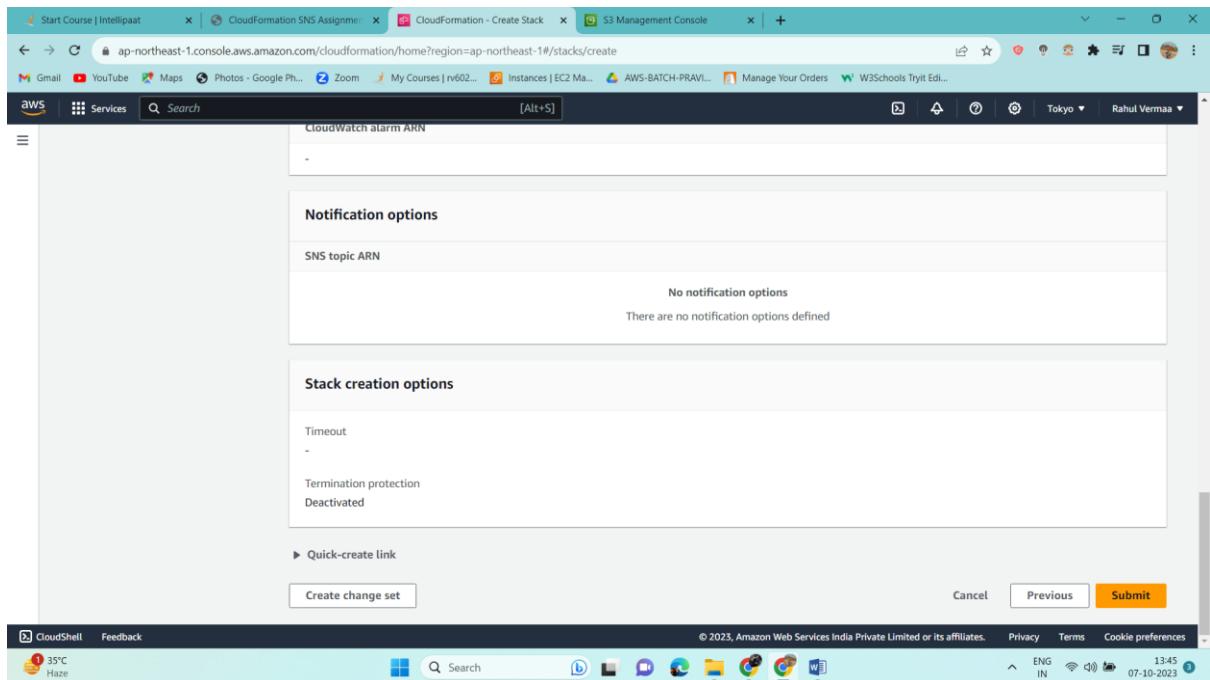
Rollback configuration

Notification options

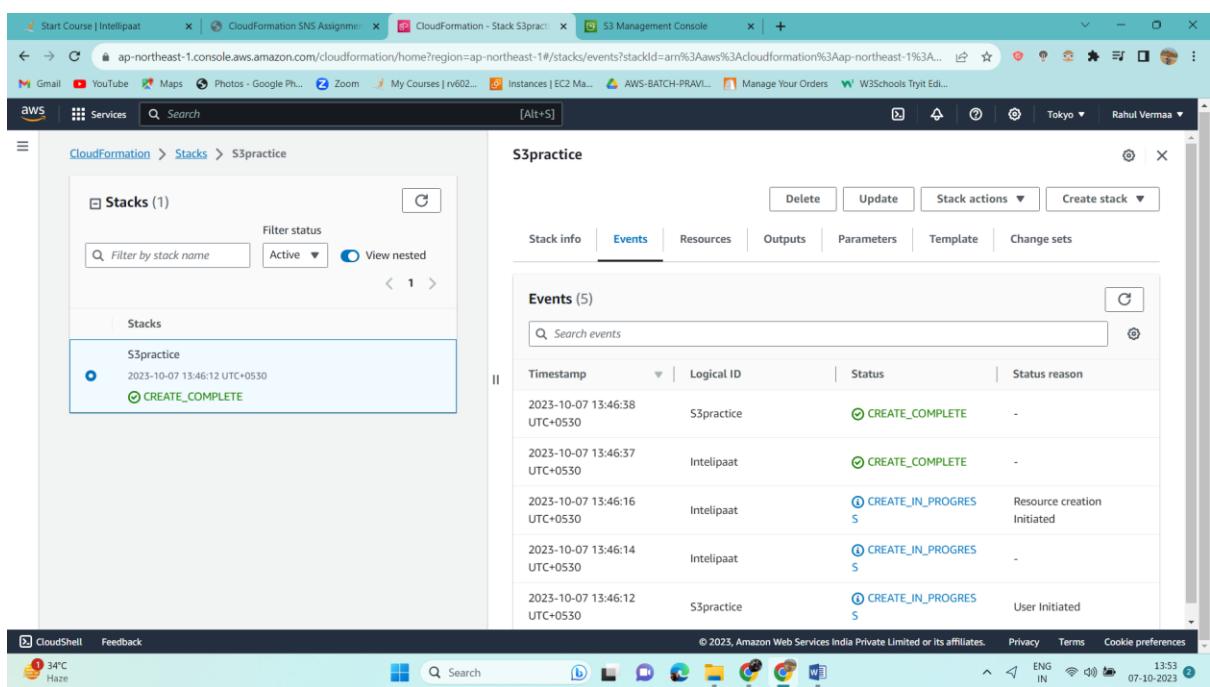
Stack creation options

Cancel Previous Next

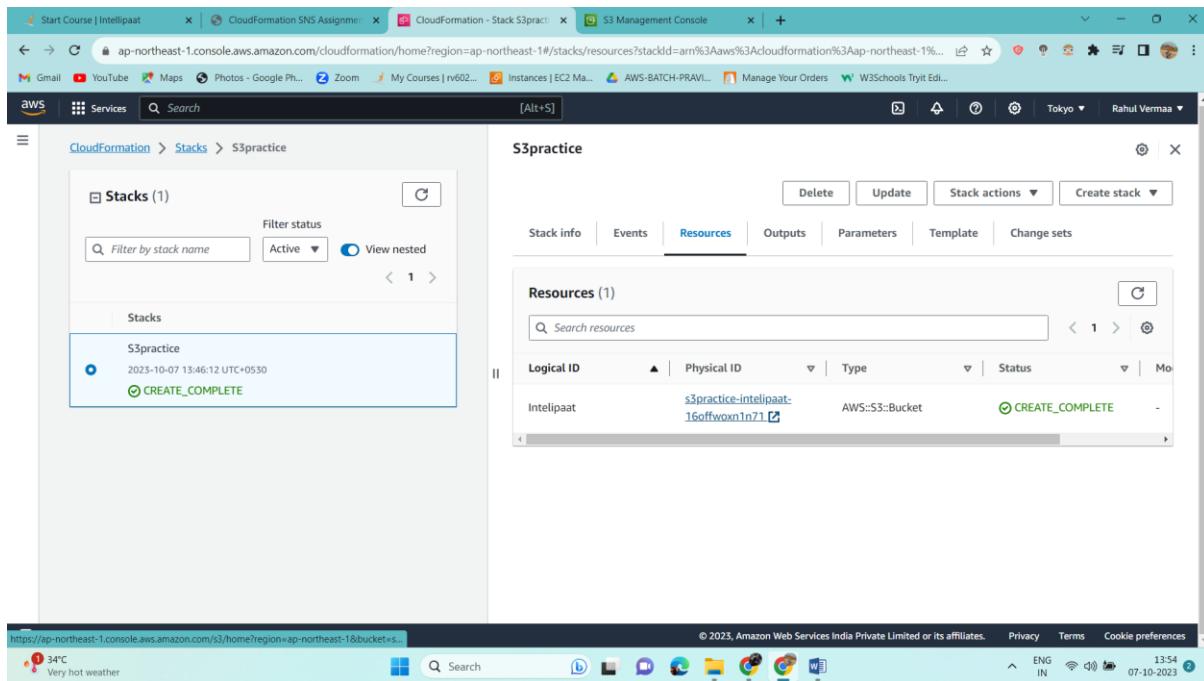
Now it'll show you review page after reviewing and click on submit button



Our stack is created now

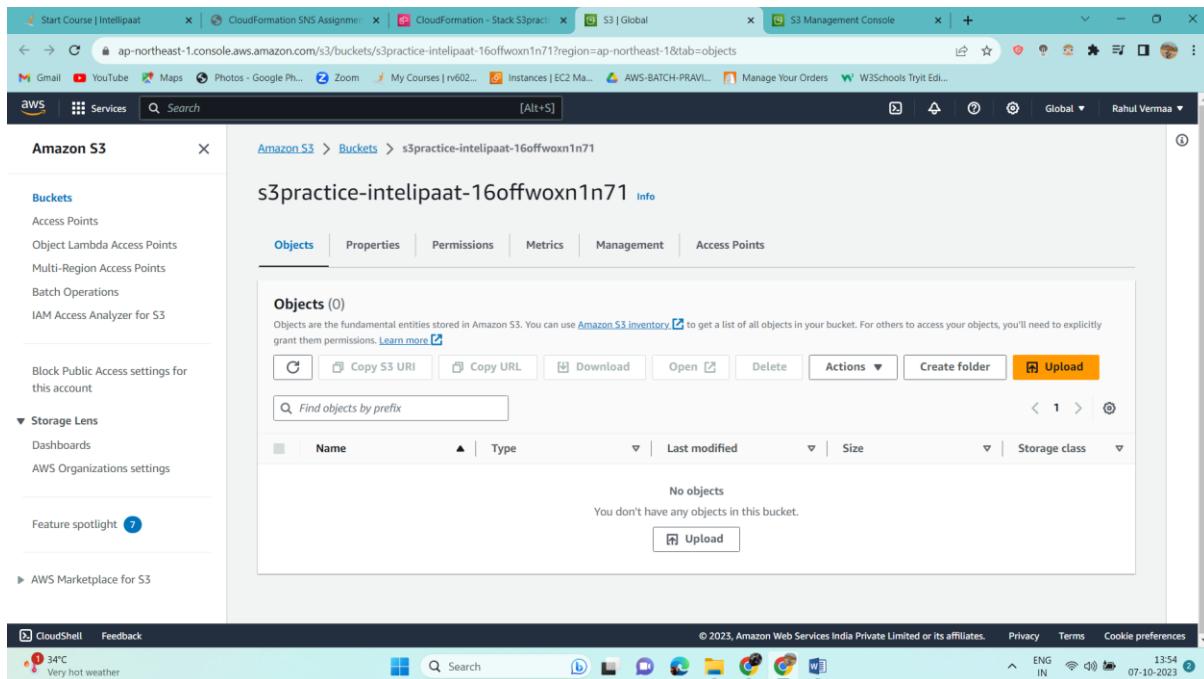


Now go to resources to jump on to your s3 bucket



The screenshot shows the AWS CloudFormation S3 practice stack resources page. The left sidebar shows a single stack named 'S3practice'. The main content area is titled 'S3practice' and shows the 'Resources' tab selected. It lists one resource: 'Intelpaat' (Logical ID), which is an AWS::S3::Bucket (Physical ID). The status is 'CREATE\_COMPLETE'. The browser address bar shows the URL for the S3 bucket.

And we are redirected to the s3 page in a new tab



The screenshot shows the AWS S3 bucket page for 's3practice-intelpaat-16offwoxn1n71'. The left sidebar shows the 'Amazon S3' navigation menu with 'Buckets' selected. The main content area shows the bucket 's3practice-intelpaat-16offwoxn1n71' with the 'info' tab selected. The 'Objects' tab is active, showing '0' objects. The browser address bar shows the URL for the S3 bucket.

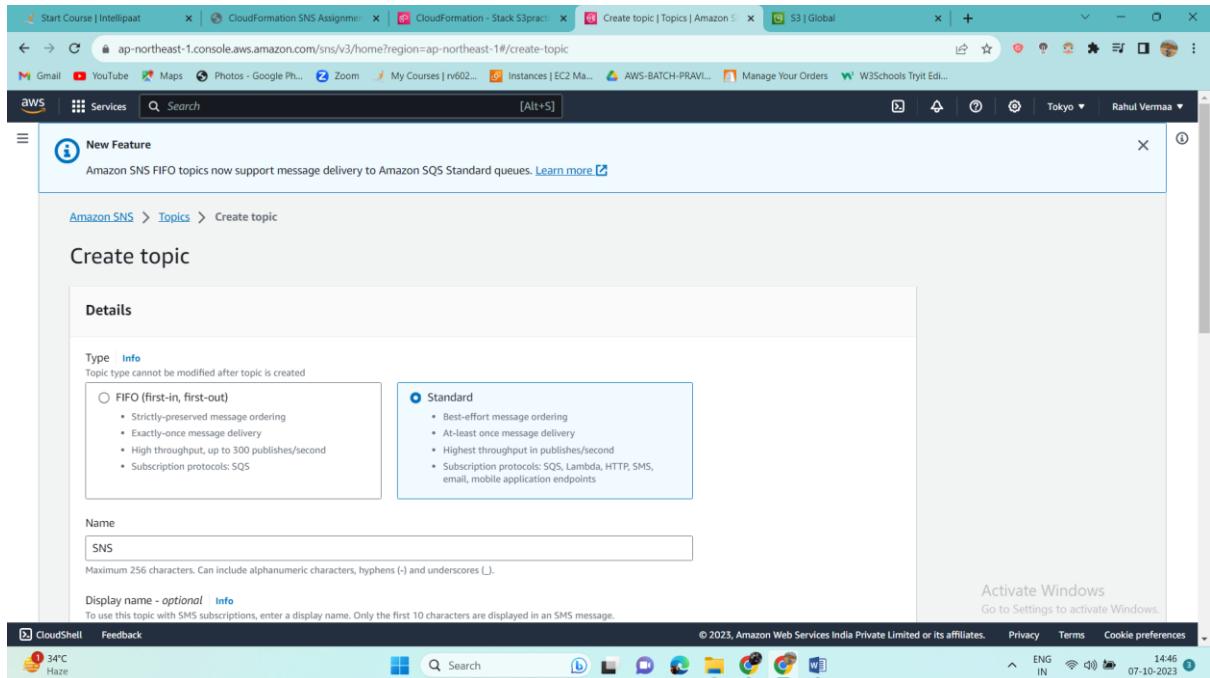
Now we will Add Notification to the CloudFormation stack using SNS so that we will get a notification via mail for every step of the stack creation process.

The screenshot shows the AWS CloudFormation console with a search bar for 'sns'. The search results are displayed in two sections: 'Services' and 'Features'. Under 'Services', 'Simple Notification Service' is listed as the top result. The description for 'Simple Notification Service' is: 'SNS managed message topics for Pub/Sub'. Under 'Features', 'Events' is listed, with 'ElastiCache feature' as the sub-item. To the right of the search results, a CloudFormation stack status table is shown. The table has columns for 'Parameters', 'Template', and 'Change sets'. The status for the stack is 'CREATE\_COMPLETE'. The browser address bar shows the URL for the SNS service: <https://ap-northeast-1.console.aws.amazon.com/sns/home?region=ap-northeast-1>.

## Create topic

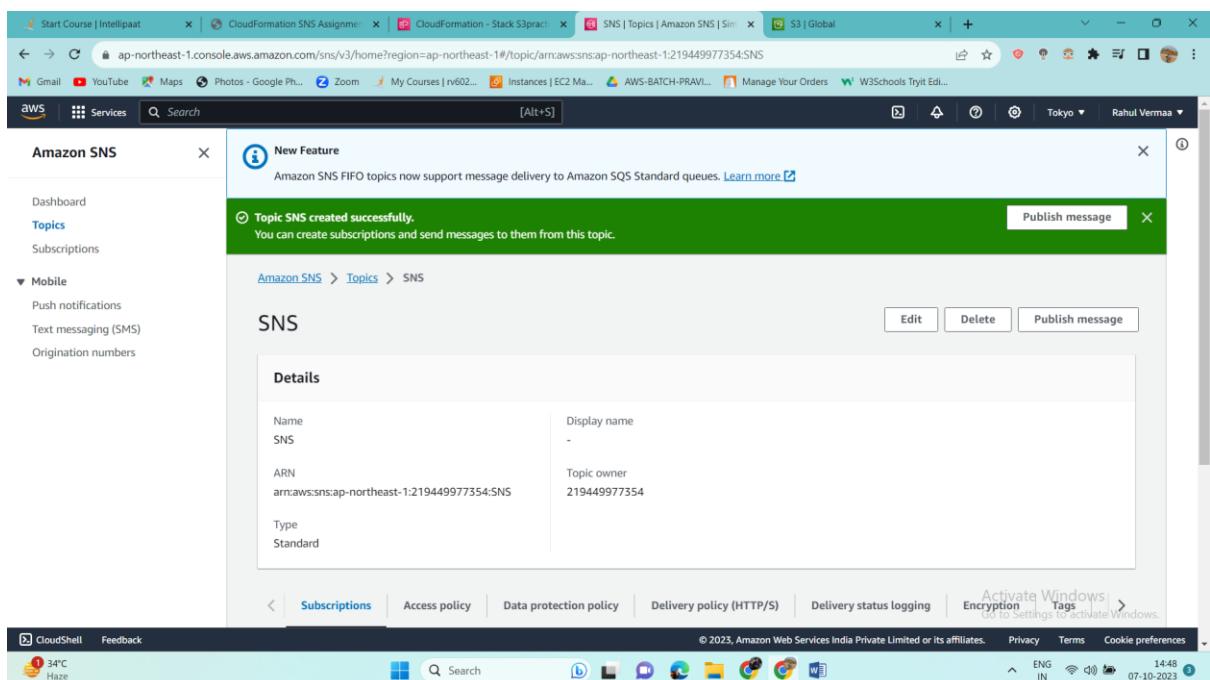
The screenshot shows the AWS Amazon SNS console with a search bar for 'Search'. A 'New Feature' message is displayed, stating: 'Amazon SNS FIFO topics now support message delivery to Amazon SQS Standard queues. [Learn more](#)'. The main section is titled 'Topics' and shows a table with columns for 'Name', 'Type', and 'ARN'. The table is currently empty, showing 'No topics'. Below the table, a message says 'To get started, create a topic.' with a 'Create topic' button. The browser address bar shows the URL for the SNS service: <https://ap-northeast-1.console.aws.amazon.com/sns/v3/home?region=ap-northeast-1#topics>.

Select standard define name select options and click on create topic button



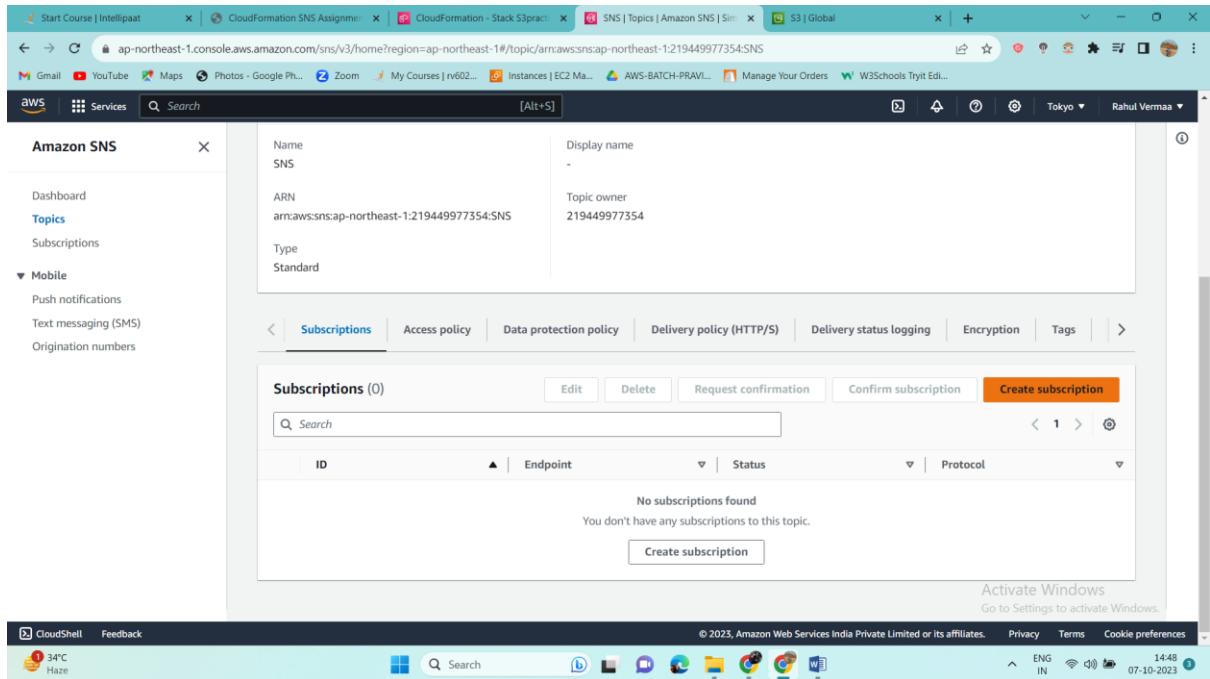
The screenshot shows the 'Create topic' page in the AWS SNS console. The 'Standard' topic type is selected. The topic name is 'SNS'. The 'Display name - optional' field is empty. The 'Create topic' button is visible at the bottom.

Now our topic is created sucessfully



The screenshot shows the 'Topics' page in the AWS SNS console. A green success message states 'Topic SNS created successfully. You can create subscriptions and send messages to them from this topic.' The 'Publish message' button is visible.

## Afterwards will create subscirption

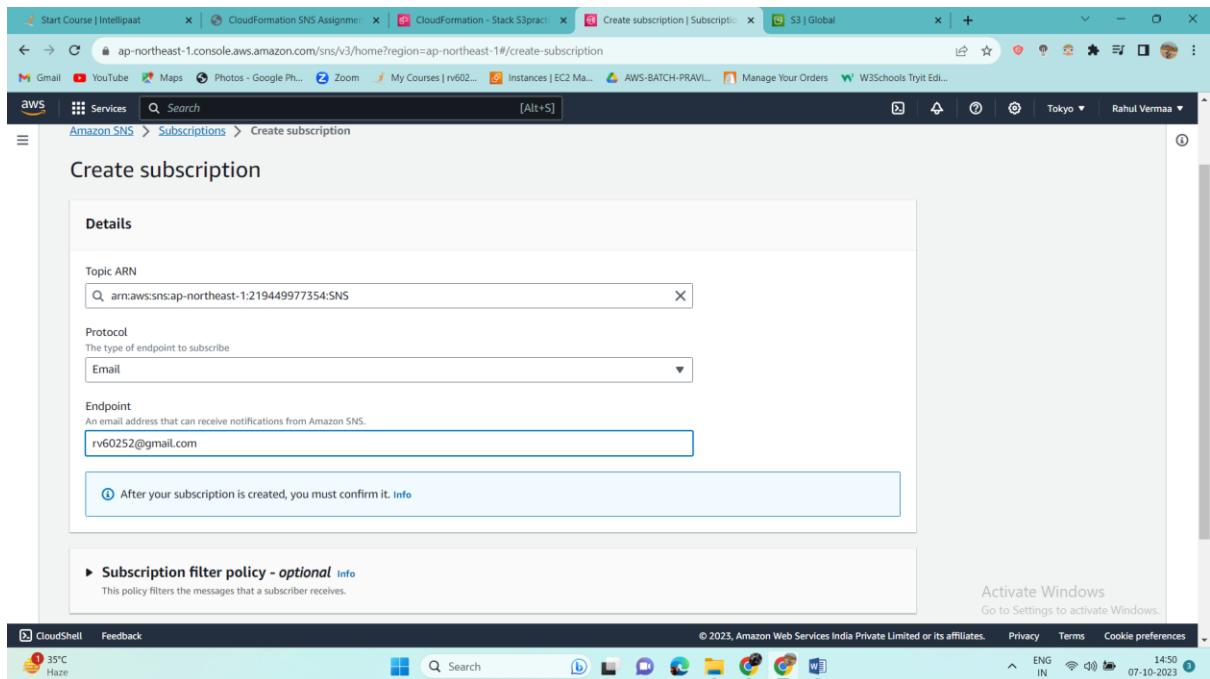


The screenshot shows the AWS SNS console for a topic named 'sns'. The topic details are as follows:

- Name: sns
- ARN: arn:aws:sns:ap-northeast-1:219449977354:sns
- Type: Standard

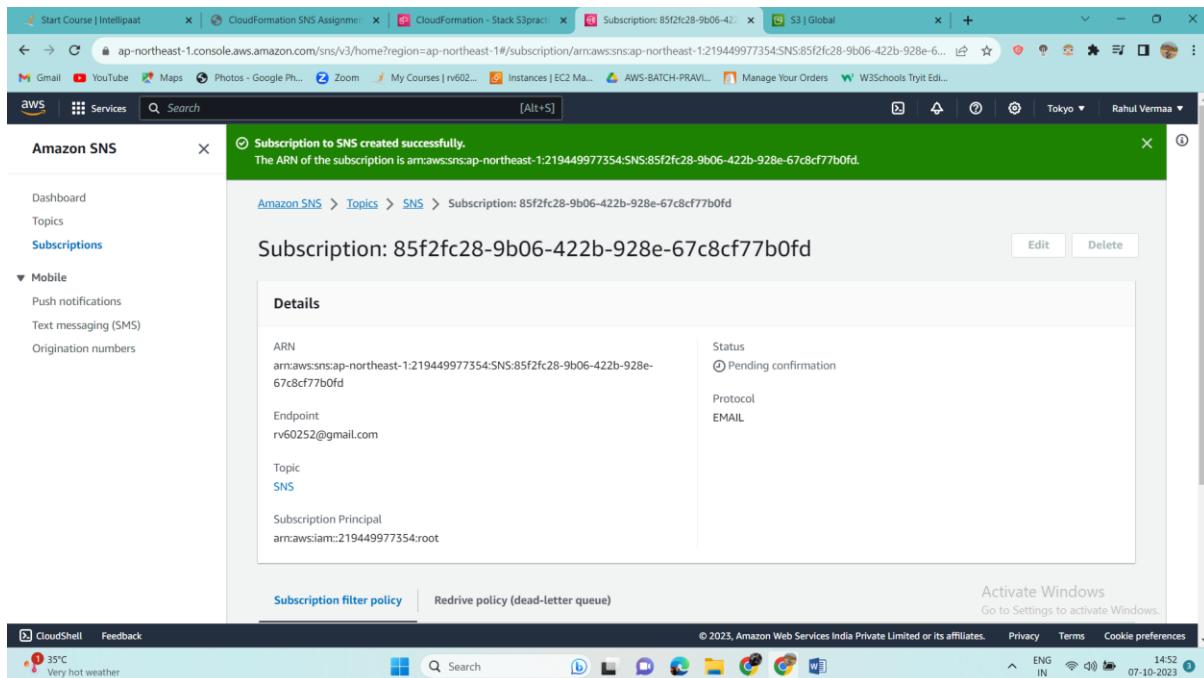
The 'Subscriptions' tab is selected, showing 0 subscriptions. There is a 'Create subscription' button at the top of the list.

Select protocol- Email and enter your email id to get notifications and click on create subscription button



The screenshot shows the 'Create subscription' wizard. Step 1: Details. The Topic ARN is set to arn:aws:sns:ap-northeast-1:219449977354:sns. The Protocol is set to Email, and the Endpoint is rv60252@gmail.com. A note at the bottom of the step says: "After your subscription is created, you must confirm it." Step 2: Subscription filter policy - optional. A note at the top of the step says: "This policy filters the messages that a subscriber receives." Both steps have an 'Info' link.

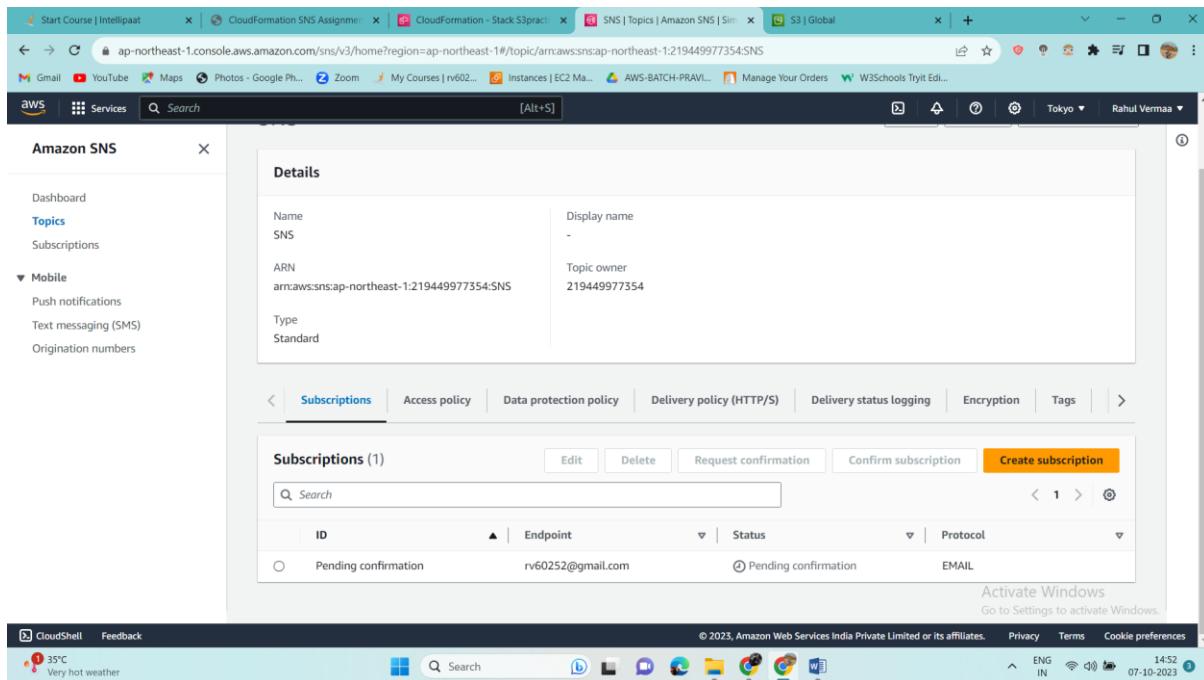
## Now our subscription is created



The screenshot shows the AWS SNS console with a success message: "Subscription to SNS created successfully. The ARN of the subscription is arn:aws:sns:ap-northeast-1:219449977354:SNS:85f2fc28-9b06-422b-928e-67c8cf77b0fd." Below this, the "Subscription: 85f2fc28-9b06-422b-928e-67c8cf77b0fd" details are displayed, including the ARN, endpoint, topic, and status (Pending confirmation). The status is shown with a pending confirmation icon.

Now we just have to confirm it through our email id

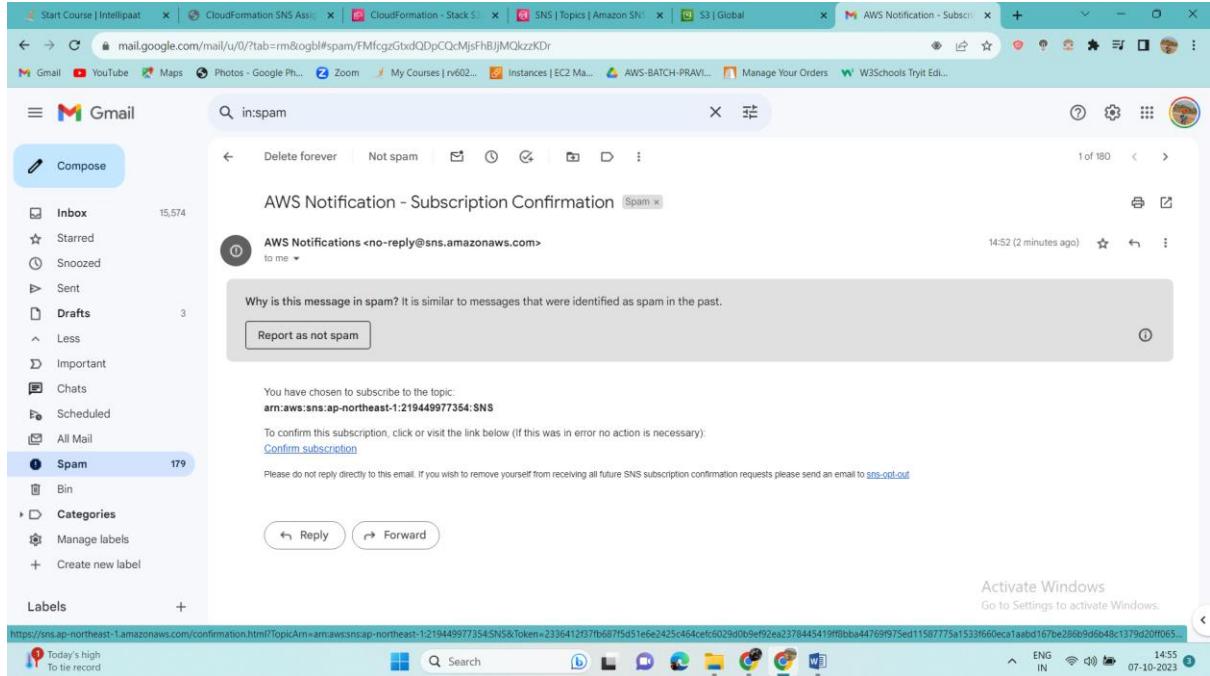
Otherwise it's going to show us pending confirmation



The screenshot shows the AWS SNS console for the "SNS" topic. The "Subscriptions" tab is selected, showing one subscription entry. The subscription details are: ID: Pending confirmation, Endpoint: rv60252@gmail.com, Status: Pending confirmation, and Protocol: EMAIL. The status "Pending confirmation" is highlighted with a pending confirmation icon.

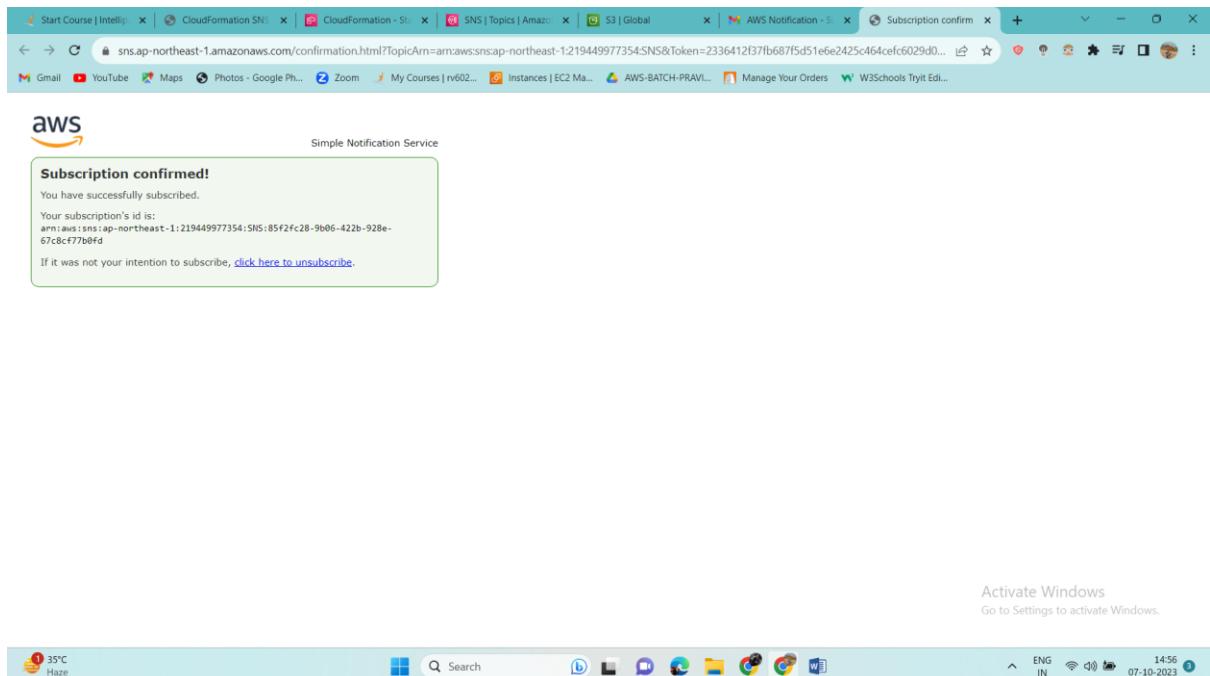
I have opened my gmail account [rv60252@gmail.com](mailto:rv60252@gmail.com)

And now I'll give the confirmation



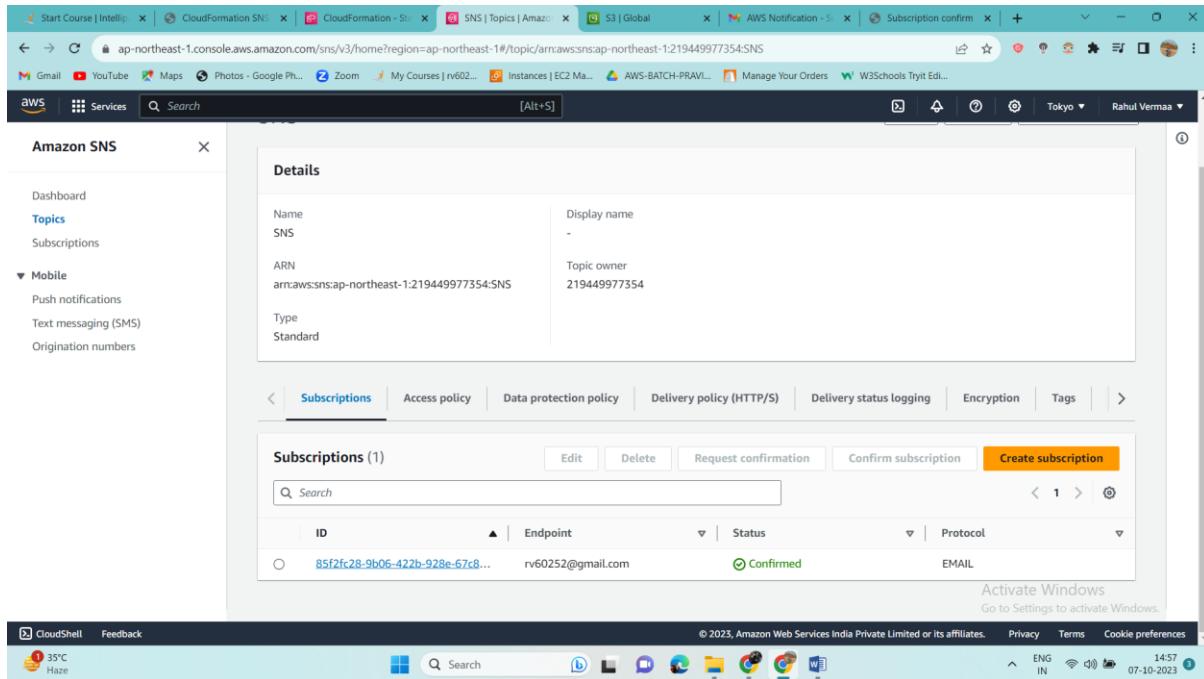
The screenshot shows a Gmail inbox with the search term 'in:spam' applied. The results list an email from 'AWS Notifications <no-reply@sns.amazonaws.com>' with the subject 'AWS Notification - Subscription Confirmation'. The email is marked as 'Spam'. The message content includes a note about being identified as spam in the past, a 'Report as not spam' button, and a link to 'Confirm subscription'. The email is timestamped '14:52 (2 minutes ago)'. The left sidebar shows the 'Spam' folder is selected, with 179 messages. The bottom status bar shows the URL 'https://sns.ap-northeast-1.amazonaws.com/confirmation.html?TopicArn=arn:aws:sns:ap-northeast-1:219449977354:SNS&Token=2336412f37fb687f5d51e6e2425c464cef6029d0b9ef92ea2378445419f6bb44769f975ed11587775a1533f660eca1a0d167be20609d648c1379d2ff065'.

And it's done



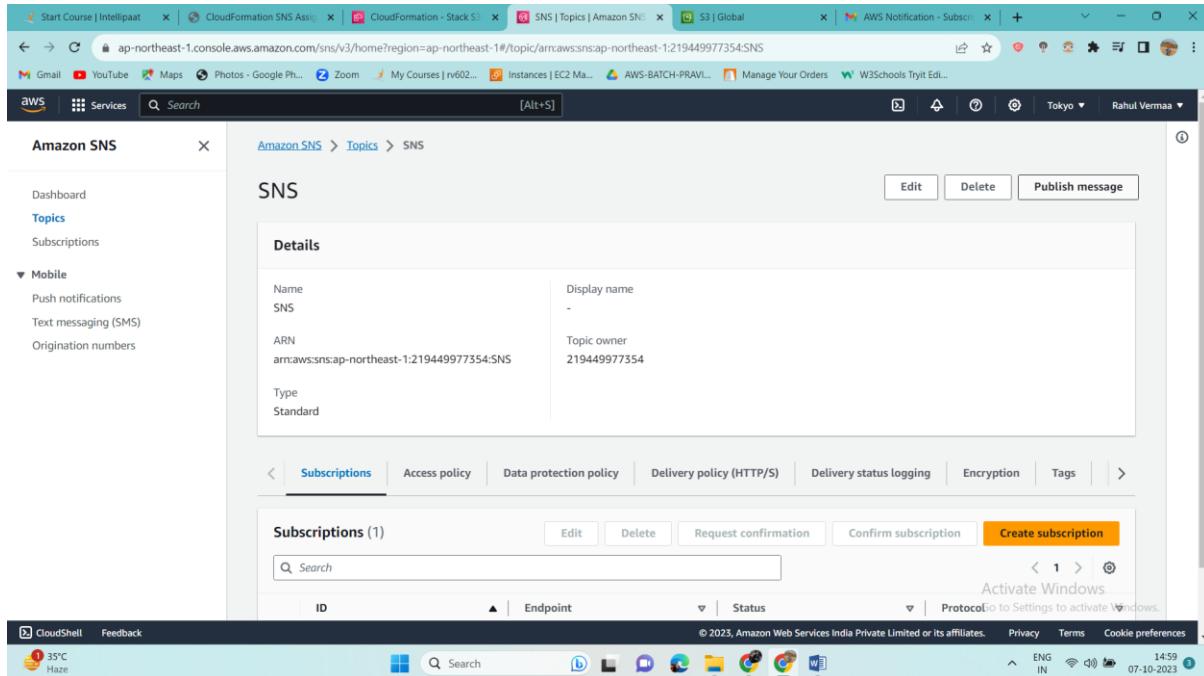
The screenshot shows a browser window displaying the AWS Simple Notification Service (SNS) confirmation page. The URL in the address bar is 'https://sns.ap-northeast-1.amazonaws.com/confirmation.html?TopicArn=arn:aws:sns:ap-northeast-1:219449977354:SNS&Token=2336412f37fb687f5d51e6e2425c464cef6029d0...'. The page content is a green box with the heading 'Subscription confirmed!' and the message 'You have successfully subscribed. Your subscription's id is: arn:aws:sns:ap-northeast-1:219449977354:SNS:85f2fc28-9b06-422b-928e-67c8cf77b0fd'. It also includes a link 'If it was not your intention to subscribe, [click here to unsubscribe](#)'. The bottom status bar shows the URL 'https://sns.ap-northeast-1.amazonaws.com/confirmation.html?TopicArn=arn:aws:sns:ap-northeast-1:219449977354:SNS&Token=2336412f37fb687f5d51e6e2425c464cef6029d0...' and the time '14:56 07-10-2023'.

## Now subscription status is showing confirmed



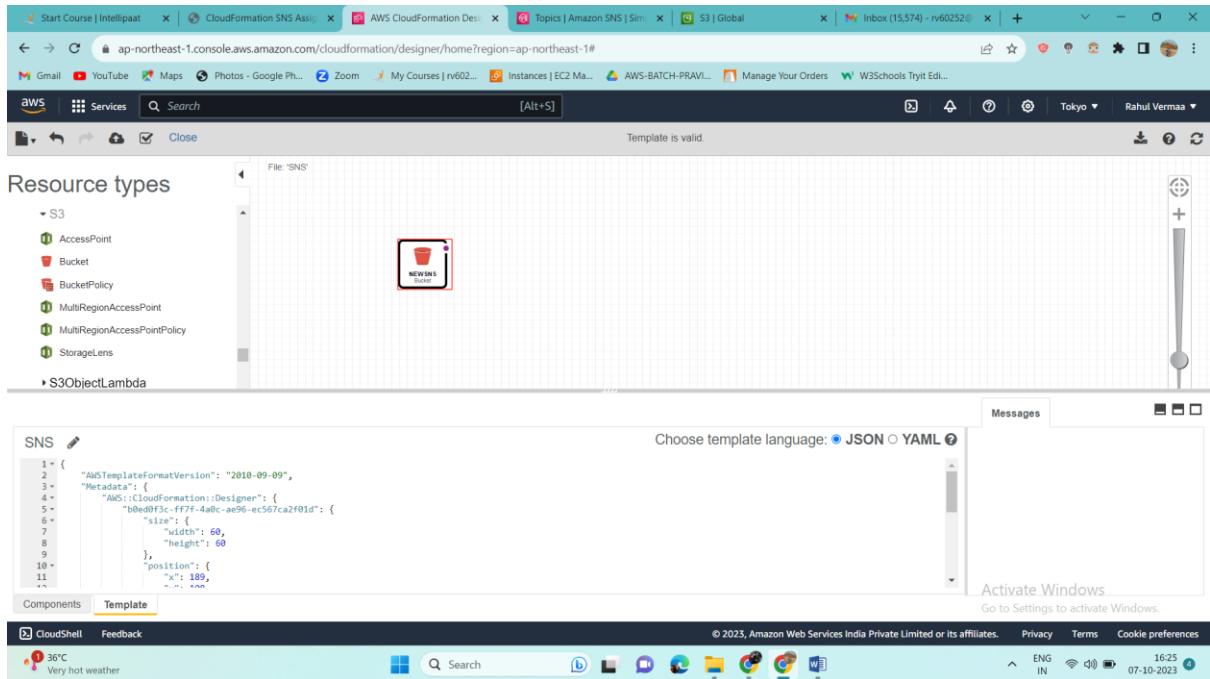
The screenshot shows the AWS SNS console for a topic named 'SNS'. The 'Subscriptions' tab is selected, showing one subscription with the ID '85f2fc28-9b06-422b-928e-67c8...' and the endpoint 'rv60252@gmail.com'. The status of this subscription is 'Confirmed' and the protocol is 'EMAIL'. The 'Details' section shows the topic's ARN as 'arn:aws:sns:ap-northeast-1:219449977354:SNS' and the type as 'Standard'. The 'Topics' section in the sidebar is also visible.

## Now let's publish a message to our email id



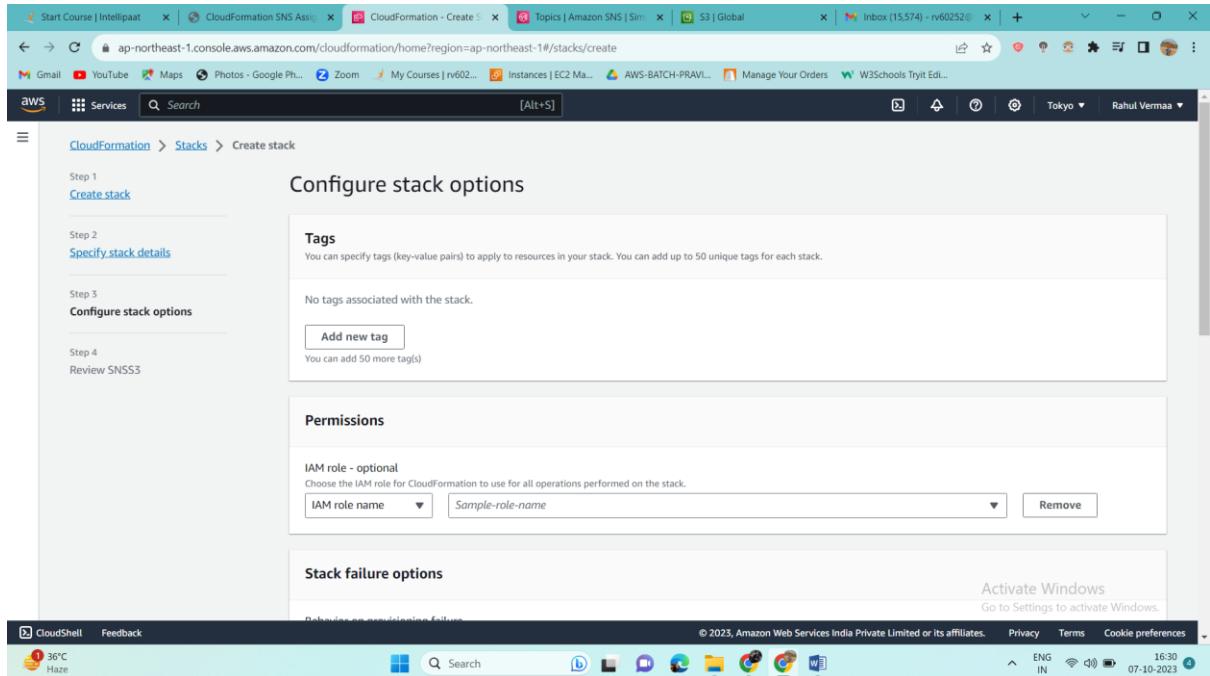
The screenshot shows the AWS SNS console for the same 'SNS' topic. The 'Publish message' button is highlighted in yellow. The 'Subscriptions' tab is selected, showing the same subscription with ID '85f2fc28-9b06-422b-928e-67c8...' and endpoint 'rv60252@gmail.com'. The status is 'Confirmed' and the protocol is 'EMAIL'. The 'Details' section shows the topic's ARN as 'arn:aws:sns:ap-northeast-1:219449977354:SNS' and the type as 'Standard'. The 'Topics' section in the sidebar is also visible.

## Now let's to create new s3



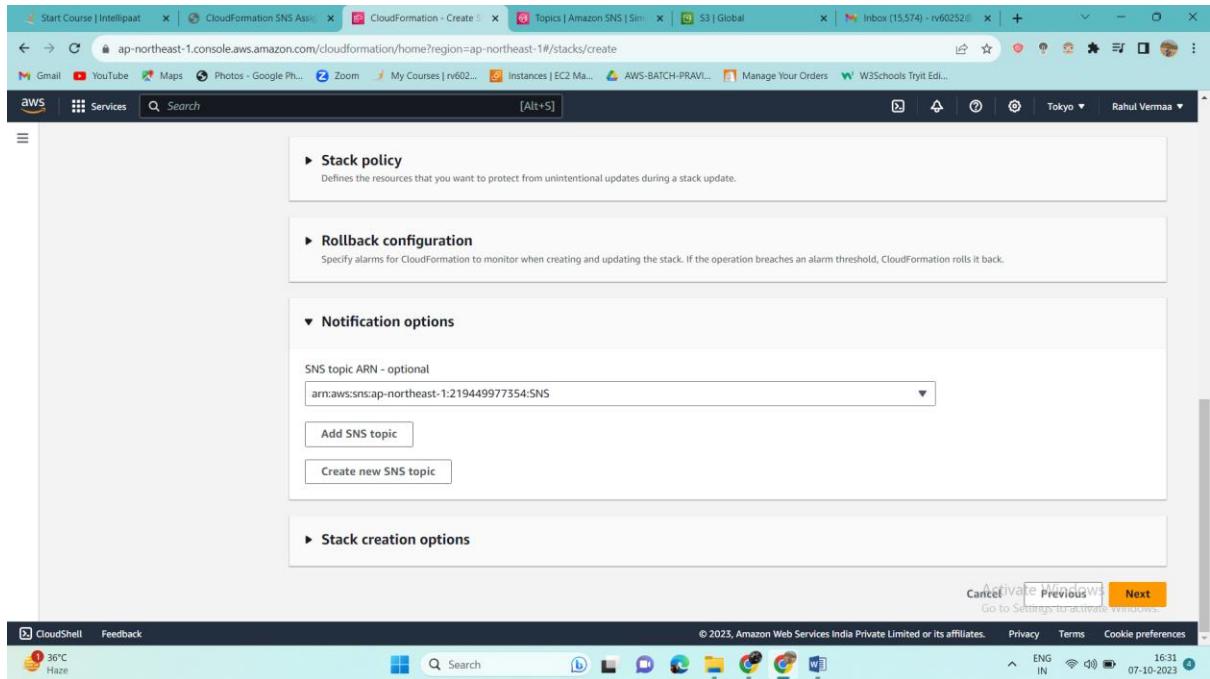
The screenshot shows the AWS CloudFormation Designer interface. On the left, a sidebar titled 'Resource types' lists various AWS services, with 'S3' expanded to show 'Bucket', 'BucketPolicy', and 'MultiRegionAccessPoint'. A central workspace displays a diagram with a red bucket icon labeled 'NEW S3 Bucket'. The status bar at the bottom of the workspace says 'Template is valid.' On the right, there's a vertical toolbar with a '+' button for adding resources. A message bar at the top right says 'Choose template language: JSON (YAML)'. Below the workspace, a code editor shows the CloudFormation template for the S3 bucket. The template language is set to JSON. The code includes metadata for the CloudFormation Designer, such as size and position, and the bucket's name and region. The status bar at the bottom right shows the date and time as 07-10-2023 16:25.

## Now while configuring stack

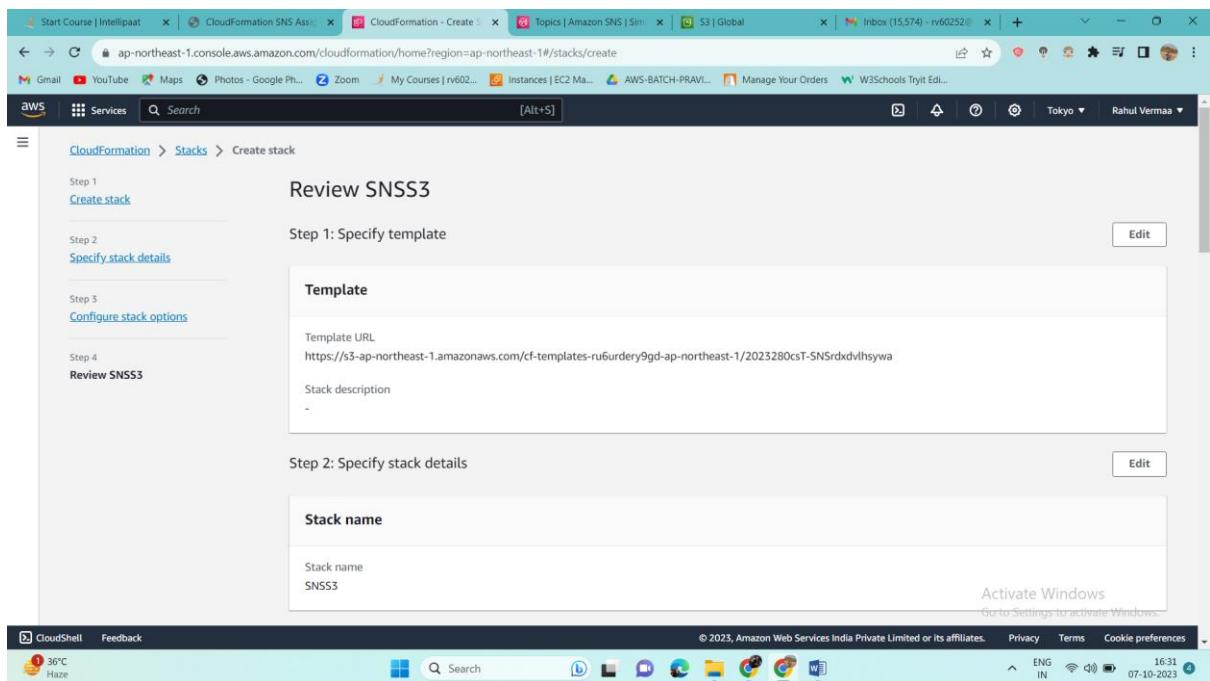


The screenshot shows the 'Create stack' wizard in the AWS CloudFormation console. The current step is 'Configure stack options'. The left sidebar shows the steps: Step 1 (Create stack), Step 2 (Specify stack details), Step 3 (Configure stack options), and Step 4 (Review SNS53). The main area is titled 'Configure stack options'. It contains sections for 'Tags' (with a note that up to 50 unique tags can be added) and 'Permissions' (with a note that an IAM role is optional and a dropdown for 'IAM role name' with 'Sample-role-name' selected). Below these is a 'Stack failure options' section with a note about default actions. The status bar at the bottom right shows the date and time as 07-10-2023 16:30.

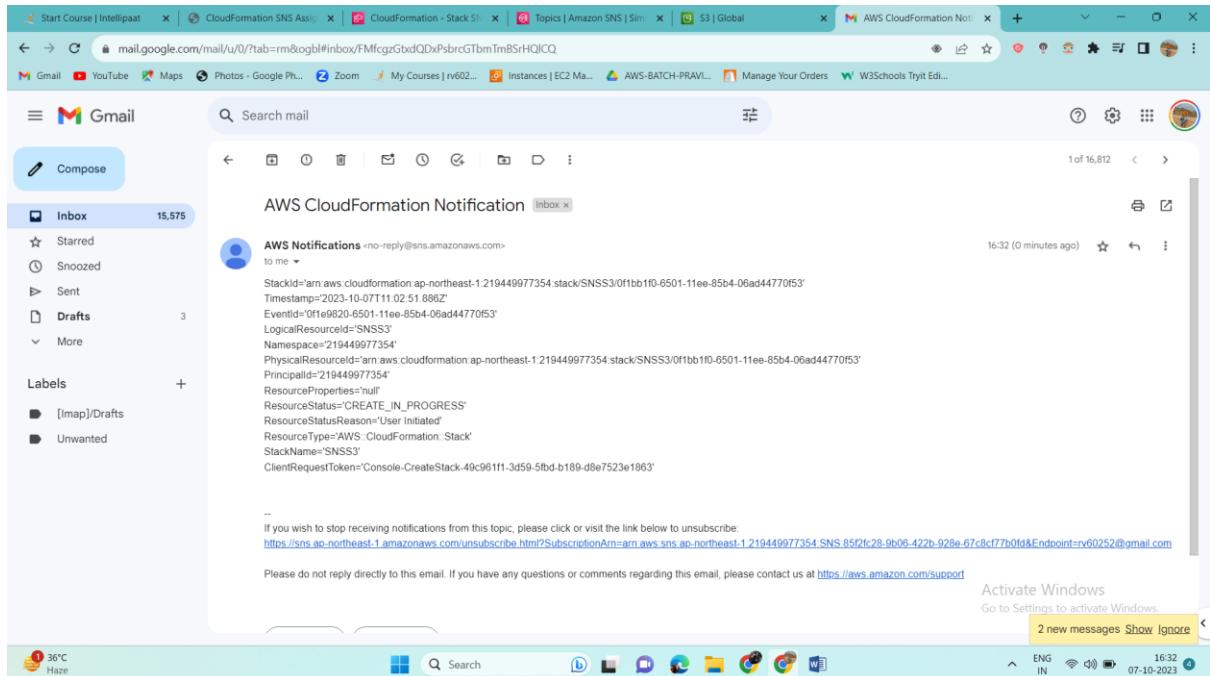
# Select your topic from notification option



# And it's done review it and create stack



## Now we'll start getting emails for this



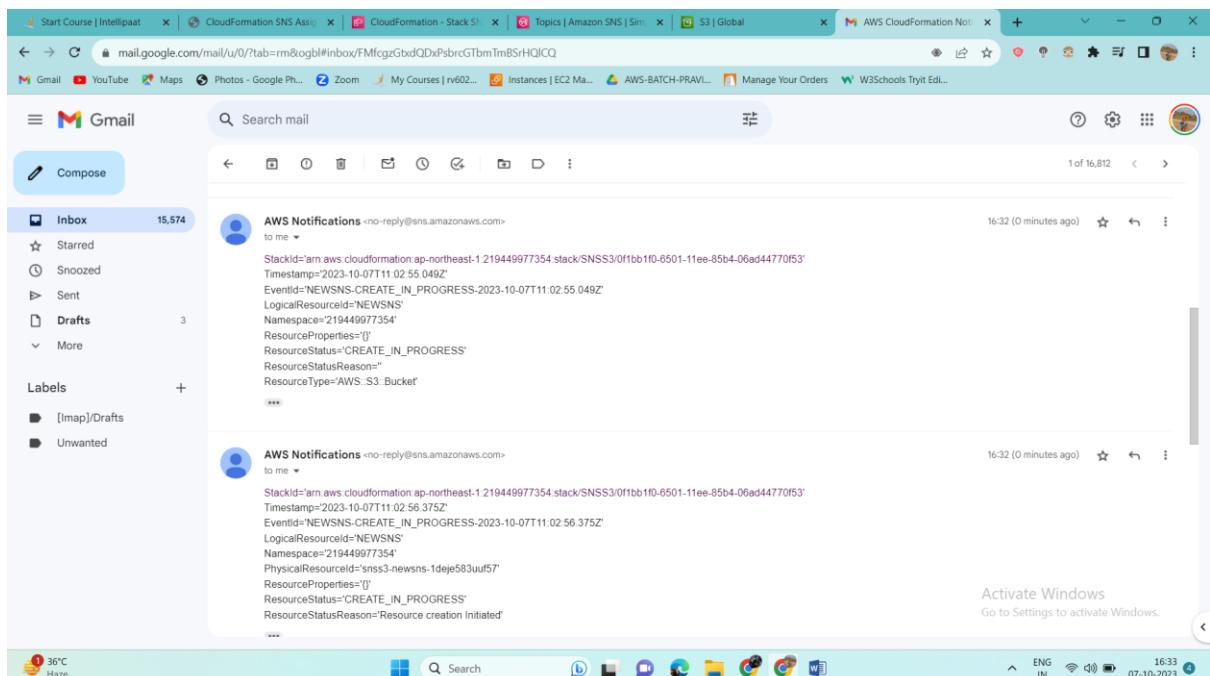
The screenshot shows a Gmail inbox with 15,575 messages. The first message is an AWS CloudFormation notification from 'AWS Notifications <no-reply@sns.amazonaws.com>' to the user. The message subject is 'AWS CloudFormation Notification' and it is from the 'Inbox'. The message content is as follows:

```
StackId='arn:aws:cloudformation:ap-northeast-1:219449977354:stack/SNSS3/0f1bb1f0-6501-11ee-85b4-06ad44770f53'
Timestamp='2023-10-07T11:02:51.886Z'
EventId='0f1e0820-6501-11ee-85b4-06ad44770f53'
LogicalResourceId='SNSS3'
Namespace='219449977354'
PhysicalResourceId='arn:aws:cloudformation:ap-northeast-1:219449977354:stack/SNSS3/0f1bb1f0-6501-11ee-85b4-06ad44770f53'
PrincipalId='219449977354'
ResourceProperties='{"Name": "SNSS3"}'
ResourceStatus='CREATE_IN_PROGRESS'
ResourceStatusReason='User Initiated'
ResourceType='AWS::CloudFormation::Stack'
StackName='SNSS3'
ClientRequestToken='Console-CreateStack-49c961f1-3d59-5fb-d189-d8e7523e1863'
```

If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe:  
<https://sns.ap-northeast-1.amazonaws.com/unsubscribe.html?SubscriptionArn=arn:aws:sns:ap-northeast-1:219449977354:SNS:85fc28-9b06-422b-920e-67c8cf77b0fd&EndpointId=r6025@gmail.com>

Please do not reply directly to this email. If you have any questions or comments regarding this email, please contact us at <https://aws.amazon.com/support>

The message was sent 16:32 (0 minutes ago). The Gmail interface shows a 'Compose' button, a search bar, and a toolbar with various icons. The status bar at the bottom right shows '16:32 07-10-2023' and 'ENG IN'. A tooltip for 'Activate Windows' is visible on the right.



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```
StackId='arn:aws:cloudformation:ap-northeast-1:219449977354:stack/SNSS3/0f1bb1f0-6501-11ee-85b4-06ad44770f53'
Timestamp='2023-10-07T11:02:55.049Z'
EventId='NEWSNS-CREATE_IN_PROGRESS-2023-10-07T11:02:55.049Z'
LogicalResourceId='NEWSNS'
Namespace='219449977354'
ResourceProperties='{"Name": "NEWSNS"}'
ResourceStatus='CREATE_IN_PROGRESS'
ResourceStatusReason=''
ResourceType='AWS::S3::Bucket'
```

...

The second message is another AWS CloudFormation notification from 'AWS Notifications <no-reply@sns.amazonaws.com>' to the user. The message subject is 'AWS CloudFormation Notification' and it is from the 'Inbox'. The message content is as follows:

```
StackId='arn:aws:cloudformation:ap-northeast-1:219449977354:stack/SNSS3/0f1bb1f0-6501-11ee-85b4-06ad44770f53'
Timestamp='2023-10-07T11:02:56.375Z'
EventId='NEWSNS-CREATE_IN_PROGRESS-2023-10-07T11:02:56.375Z'
LogicalResourceId='NEWSNS'
Namespace='219449977354'
PhysicalResourceId='sns3-newsns-1deje583uuif57'
ResourceProperties='{"Name": "NEWSNS"}'
ResourceStatus='CREATE_IN_PROGRESS'
ResourceStatusReason='Resource creation initiated'
```

...

The message was sent 16:32 (0 minutes ago). The Gmail interface shows a 'Compose' button, a search bar, and a toolbar with various icons. The status bar at the bottom right shows '16:33 07-10-2023' and 'ENG IN'. A tooltip for 'Activate Windows' is visible on the right.