

Assignment – 2 - CloudFormation-SNS

Problem Statement:

You work for XYZ Corporation.

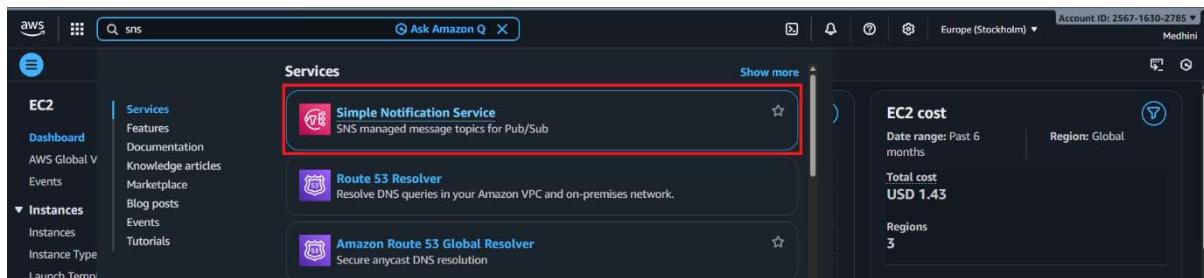
Your team is asked to deploy similar architecture multiple times for testing, development, and production purposes. Implement CloudFormation for the tasks assigned to you below.

Tasks To Be Performed:

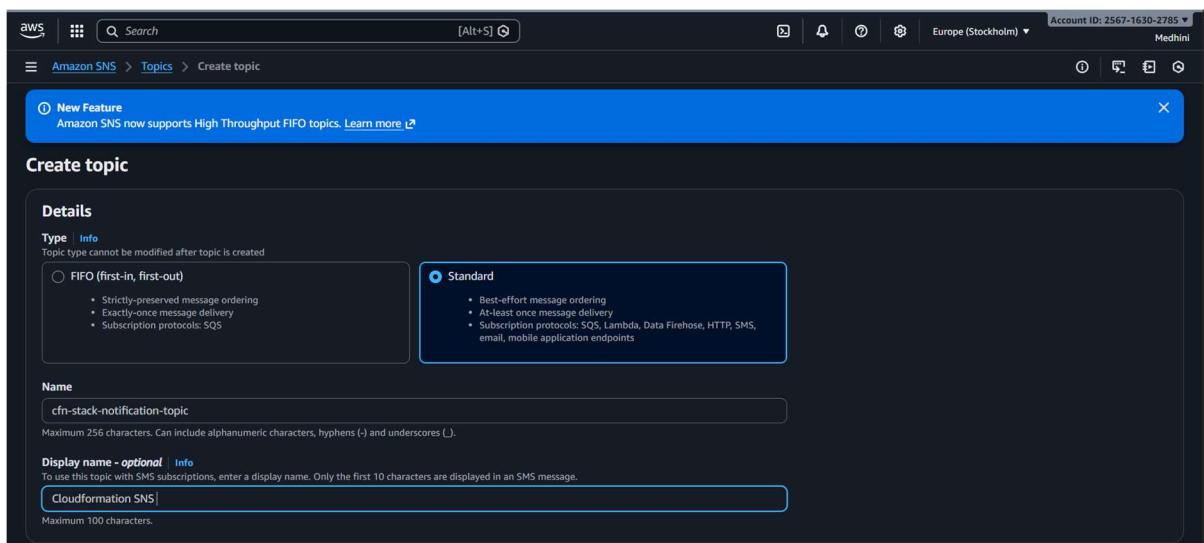
1. Use the template from CloudFormation task 1.
2. Add Notification to the CloudFormation stack using SNS so that you get a notification via mail for every step of the stack creation process

Step 1: Login to AWS and search for SNS

- AWS Console: **Simple Notification Service (SNS)**
- Click **Topics**
- Click **Create topic**



The screenshot shows the AWS Services page. The search bar at the top has "sns" typed into it. On the left, there's a sidebar with EC2, Dashboard, AWS Global V, Events, Instances, and Launch Temp. Under Services, there are links to Features, Documentation, Knowledge articles, Marketplace, Blog posts, Events, Tutorials, and a "Show more" button. The "Simple Notification Service" card is highlighted with a red box. It contains the text "SNS managed message topics for Pub/Sub" and a star icon. Below it are cards for "Route 53 Resolver" and "Amazon Route 53 Global Resolver". On the right side of the page, there are sections for "EC2 cost" (Date range: Past 6 months, Total cost: USD 1.43), "Region: Global", and "Regions 3".



The screenshot shows the "Create topic" page in the AWS SNS console. At the top, there's a blue banner with a "New Feature" message: "Amazon SNS now supports High Throughput FIFO topics. Learn more ↗". Below that, the page title is "Create topic". There are two main sections for topic type: "FIFO (first-in, first-out)" and "Standard". The "FIFO" section is selected and contains a list of bullet points: "Strictly-preserved message ordering", "Exactly-once message delivery", and "Subscription protocols: SQS, Lambda, Data Firehose, HTTP, SMS, email, mobile application endpoints". The "Standard" section is also present. Below these sections, there are fields for "Name" (containing "cfn-stack-notification-topic") and "Display name - optional" (containing "Cloudformation SNS"). A note at the bottom says "To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message." and "Maximum 100 characters."

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Step 2: Create Email Subscription

1. Open the SNS topic you just created
2. Click **Create subscription**

Subscription details:

- **Protocol:** Email
- **Endpoint:** Your email address

Click **Create subscription**

Note:

Check your email and **CONFIRM the subscription**, otherwise notifications won't work.

Go to your email and confirm subscription

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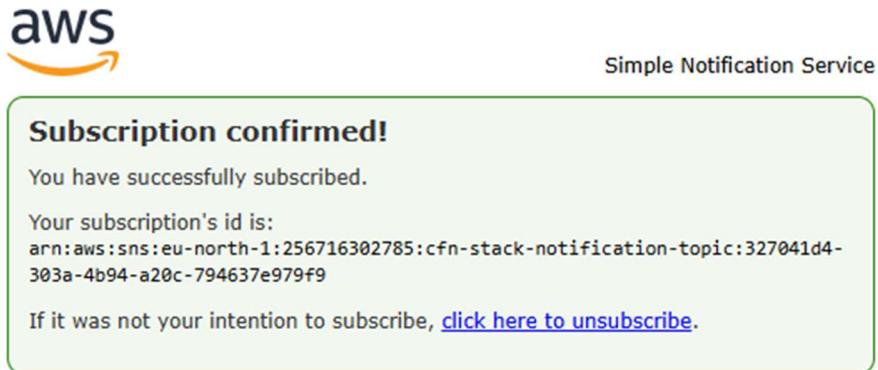
AWS Notification - Subscription Confirmation Inbox ×

 **Cloudformation SNS** <no-reply@sns.amazonaws.com>
to me ▾

You have chosen to subscribe to the topic:
`arn:aws:sns:eu-north-1:256716302785:cfn-stack-notification-topic`

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](#)

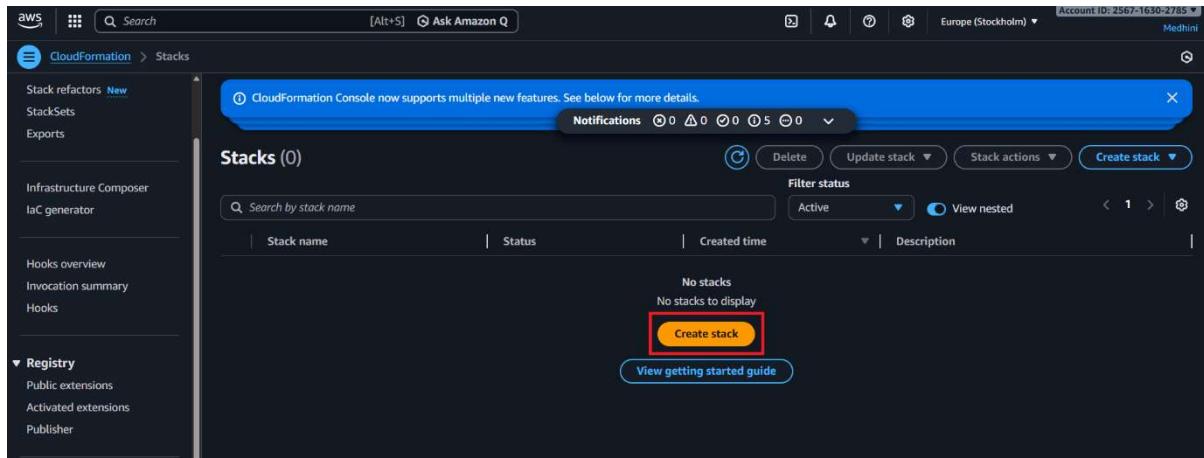


Step 3: Create / Update CloudFormation Stack

If you are creating a NEW stack

1. Go to **CloudFormation**
2. Click **Create stack**
3. Choose:
 - Template is ready
 - Upload your **Task 1 template**
4. Click **Next**

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Create one yaml file on your Laptop Notepad

The below code creates:

- **1 EC2 instance**
- **1 Security Group**
- **SSH access (port 22)**

AWSTemplateFormatVersion: '2010-09-09'

Description: Task 1 - Simple EC2 instance using CloudFormation

Resources:

MySecurityGroup:

Type: AWS::EC2::SecurityGroup

Properties:

GroupDescription: Allow SSH access

SecurityGroupIngress:

- IpProtocol: tcp

FromPort: 22

ToPort: 22

CidrIp: 0.0.0.0/0

MyEC2Instance:

Type: AWS::EC2::Instance

Properties:

InstanceType: t2.micro

ImageId: ami-0f5ee92e2d63afc18 # Amazon Linux 2 (ap-south-1)

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SecurityGroups:

- !Ref MySecurityGroup

Tags:

- Key: Name

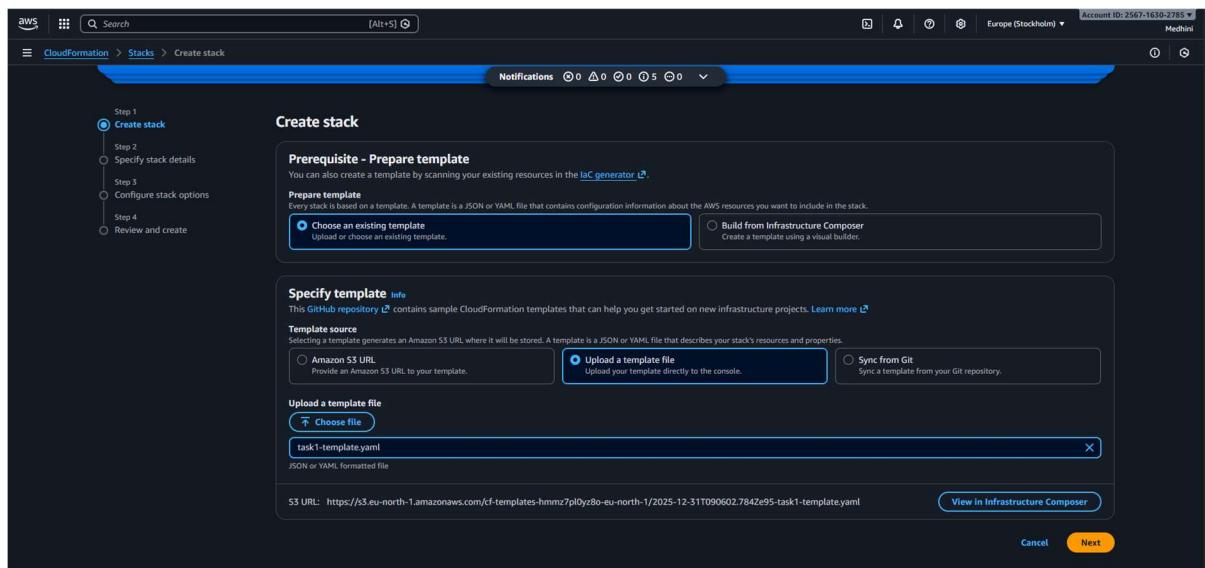
Value: Task1-EC2

Update this code on notepad and save files as “All types”

```
AWSTemplateFormatVersion: '2010-09-09'
Description: Task 1 - Simple EC2 instance using CloudFormation

Resources:
  MySecurityGroup:
    Type: AWS::EC2::SecurityGroup
    Properties:
      GroupDescription: Allow SSH access
      SecurityGroupIngress:
        - IpProtocol: tcp
          FromPort: 22
          ToPort: 22
          CidrIp: 0.0.0.0/0

  MyEC2Instance:
    Type: AWS::EC2::Instance
    Properties:
      InstanceType: t2.micro
      ImageId: ami-0f5ee92e2d63afc18 # Amazon Linux 2 (ap-south-1)
      SecurityGroups:
        - !Ref MySecurityGroup
      Tags:
        - Key: Name
          Value: Task1-EC2
```



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CloudFormation Console now supports multiple new features. See below for more details.

Notifications 0 0 0 0 0 0 0

Step 1 Create stack
Step 2 Specify stack details
Step 3 Configure stack options
Step 4 Review and create

Provide a stack name

Stack name task1-stack

Stack name must contain only letters (a-z, A-Z), numbers (0-9), and hyphens (-) and start with a letter. Max 128 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

CloudFormation Console now supports multiple new features. See below for more details.

Notifications 0 0 0 0 0 0 0

Step 1 Create stack
Step 2 Specify stack details
Step 3 Configure stack options
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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.

Add new tag

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.

IAM role name Sample-role-name Remove

ID : *arn:aws:sns:eu-north-1:256716302785:cfn-stack-notification-topic:327041d4-303a-4b94-a20c-794637e979f9* from the “SNS” you have created and select it

CloudFormation Console now supports multiple new features. See below for more details.

Notifications 0 0 0 0 0 0 0

Step 1 Create stack
Step 2 Specify stack details
Step 3 Configure stack options
Step 4 Review and create

Additional settings

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.

SNS topic ARN - optional

arn:aws:sns:eu-north-1:256716302785:cfn-stack-notification-topic

Add SNS topic Create new SNS topic

▶ Stack creation options - optional

Specify the timeout and termination protection options for stack creation.

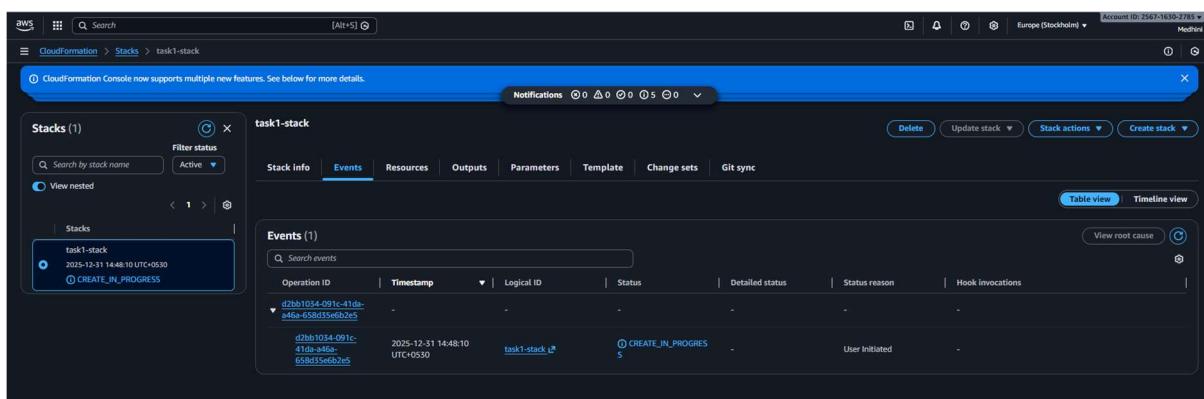
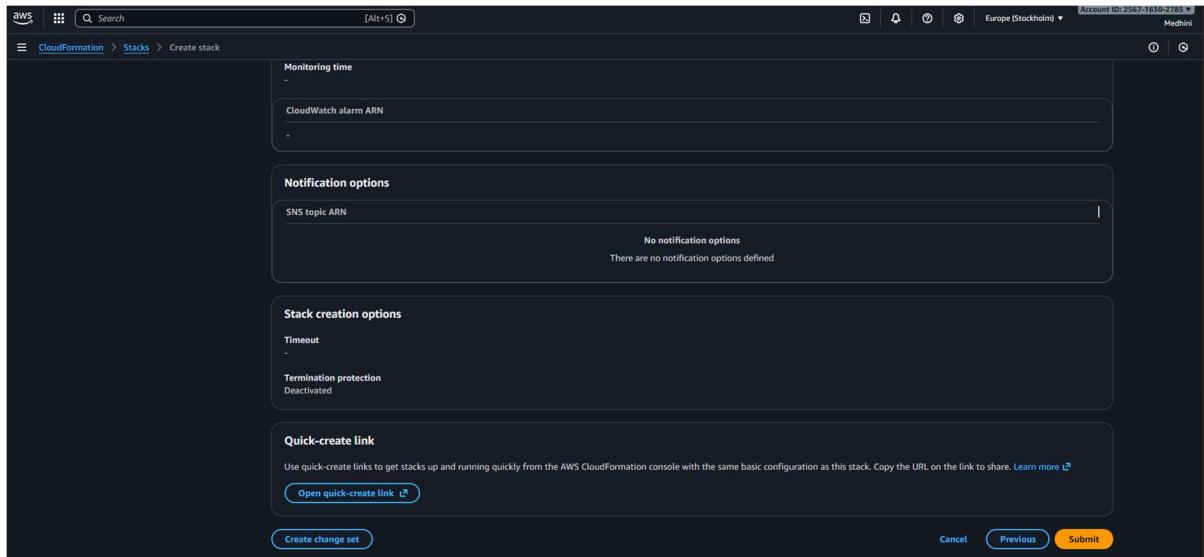
Role arn:aws:iam::eu-north-1:256716302785:cfn-stack-notification-topic:327041d4-303a-4b94-a20c-794637e979f9 is invalid or cannot be assumed

Cancel Previous Next

Click on next

Review and click on submit

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Stack has been created and verified the email notification

