

## Assignment – 2 - CloudFormation-SNS

### Problem Statement:

You work for XYZ Corporation.

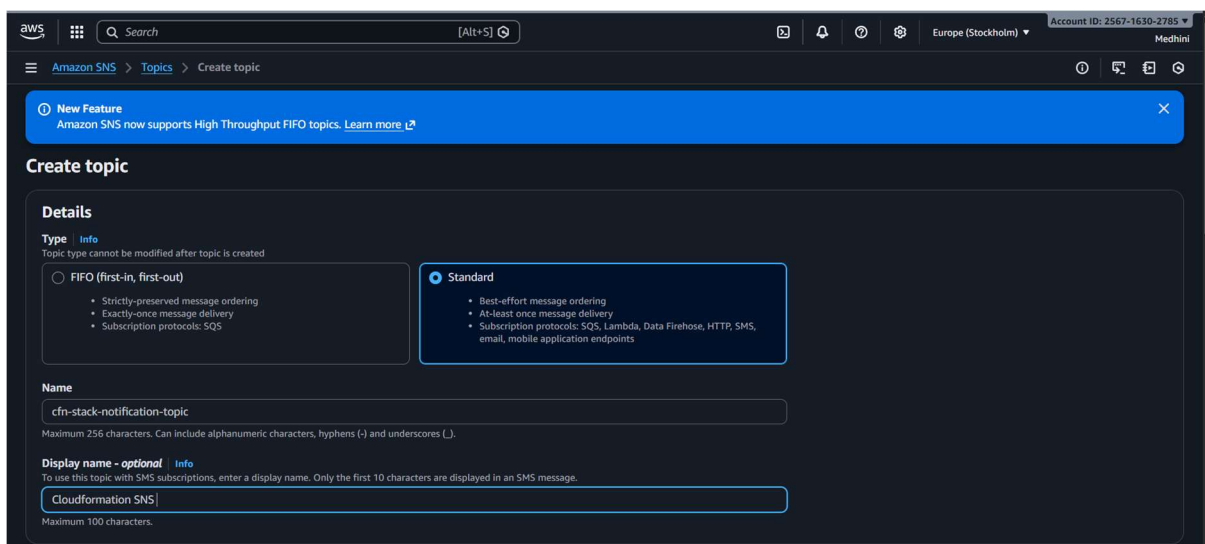
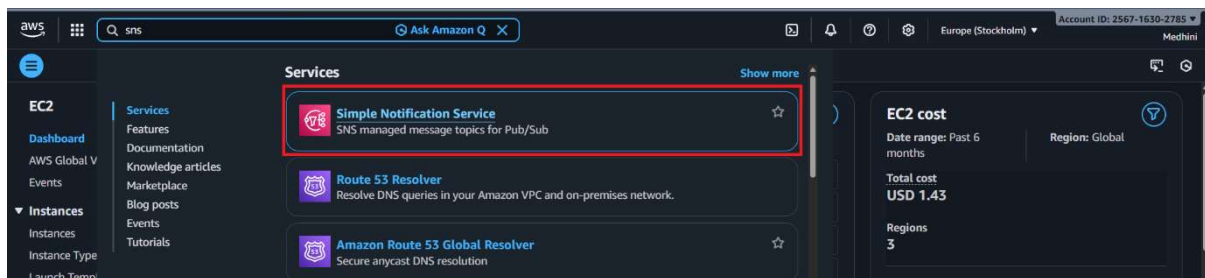
Your team is asked to deploy similar architecture multiple times for testing, development, and production purposes. Implement CloudFormation for the tasks assigned to you below.

### 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**



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### Step 2: Create Email Subscription

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

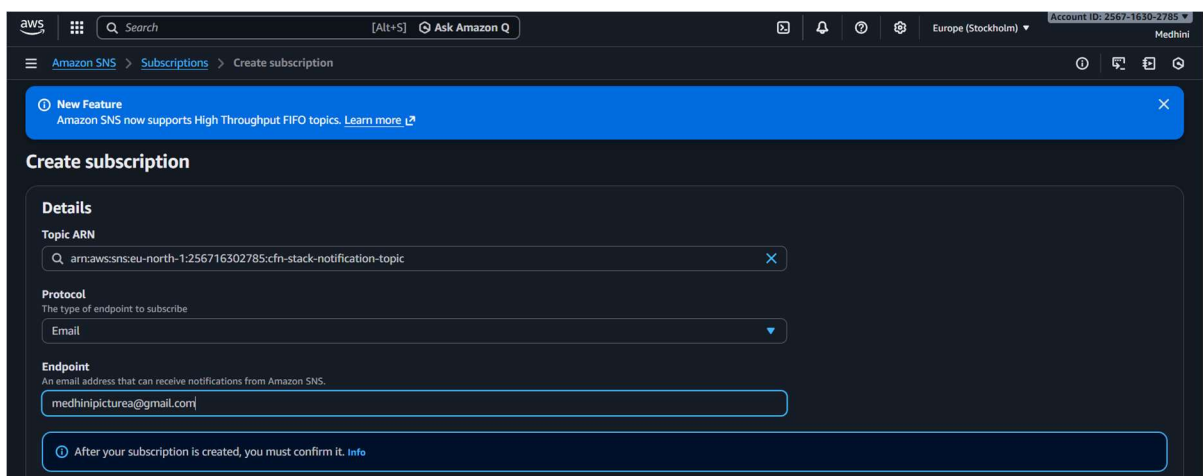
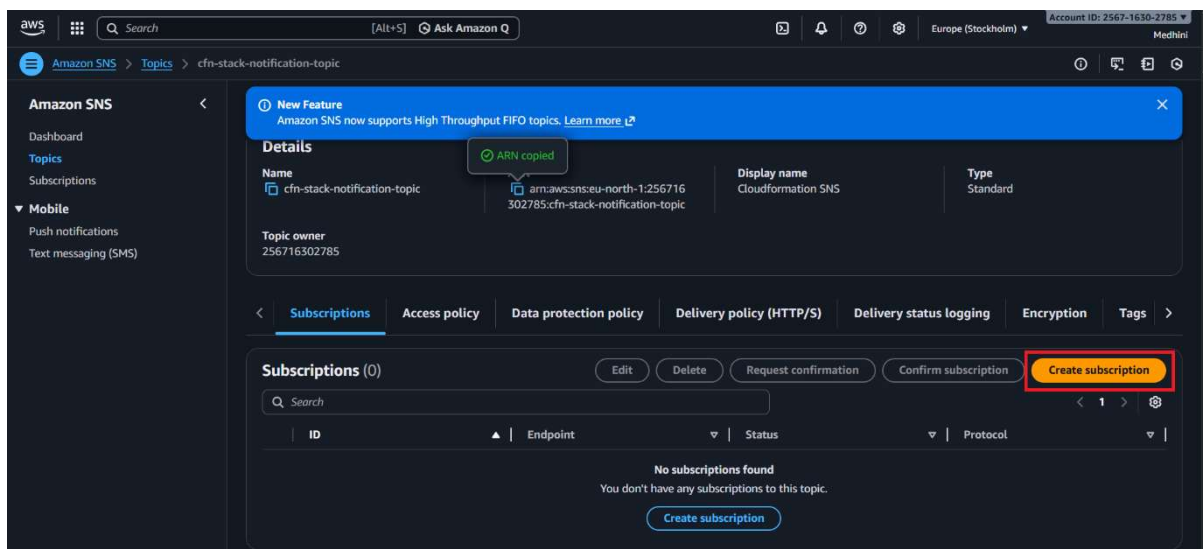
#### Subscription details:

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

Click **Create subscription**

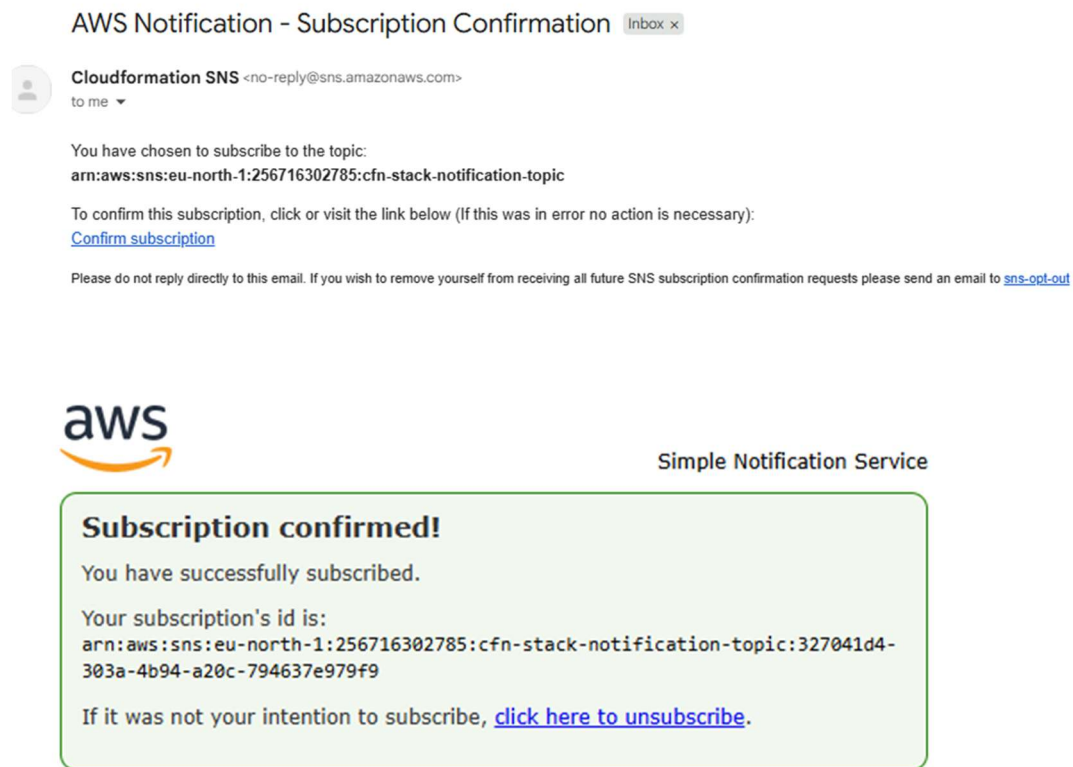
#### Note:

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



Go to your email and confirm subscription

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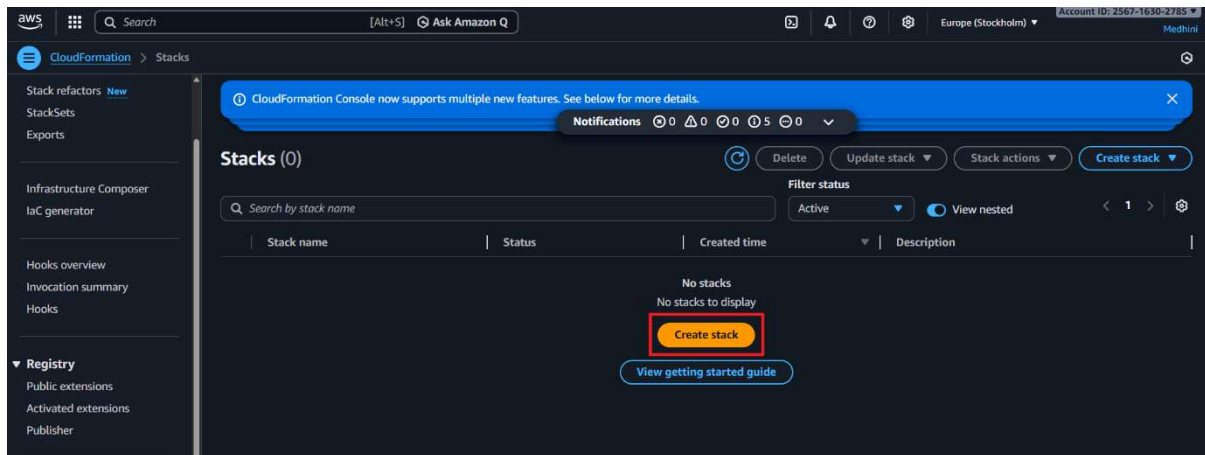


### Step 3: Create / Update CloudFormation Stack

#### 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”

```
task1-template.yaml
File Edit View
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
```

Step 1: Create stack

Step 2: Specify stack details

Step 3: Configure stack options

Step 4: Review and create

### Create stack

**Prerequisite - Prepare template**

You can also create a template by scanning your existing resources in the [IaC generator](#).

**Prepare template**

Every stack is based on a template. A template is a JSON or YAML file that contains configuration information about the AWS resources you want to include in the stack.

☒ Choose an existing template  
Upload or choose an existing template.

☐ Build from Infrastructure Composer  
Create a template using a visual builder.

**Specify template**

This [GitHub repository](#) contains sample CloudFormation templates that can help you get started on new infrastructure projects. [Learn more](#)

**Template source**

Selecting a template generates an Amazon S3 URL where it will be stored. A template is a JSON or YAML file that describes your stack's resources and properties.

☐ Amazon S3 URL  
Provide an Amazon S3 URL to your template.

☒ Upload a template file  
Upload your template directly to the console.

☐ Sync from Git  
Sync a template from your Git repository.

**Upload a template file**

[Choose file](#)

task1-template.yaml

JSON or YAML, formatted file

S3 URL: <https://s3.eu-north-1.amazonaws.com/cf-templates-hmmz7pl0y28o-eu-north-1/2025-12-31T090602.784Ze95-task1-template.yaml>

[View in Infrastructure Composer](#)

[Cancel](#) [Next](#)

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This screenshot shows the 'Specify stack details' step in the AWS CloudFormation console. On the left, a progress bar indicates four steps: 'Create stack', 'Specify stack details' (current), 'Configure stack options', and 'Review and create'. The main area is titled 'Specify stack details' and contains two sections. The first section, 'Provide a stack name', has a text input field with 'task1-stack' entered. Below the field, a note states: '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.' The second section, 'Parameters', shows 'No parameters' and 'There are no parameters defined in your template'. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons.

This screenshot shows the 'Configure stack options' step in the AWS CloudFormation console. The progress bar on the left shows the current step is 'Configure stack options'. The main area is titled 'Configure stack options' and contains two sections. The first section, 'Tags - optional', explains that tags are key-value pairs used for metadata and that up to 50 unique tags can be added per stack. It shows 'No tags associated with the stack.' and an 'Add new tag' button. The second section, 'Permissions - optional', explains that an IAM role is assumed for all operations. It has a sub-section 'IAM role - optional' with a dropdown menu showing 'Sample-role-name' and a 'Remove' button.

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

This screenshot shows the 'Additional settings' step in the AWS CloudFormation console. The progress bar on the left shows the current step is 'Additional settings'. The main area is titled 'Additional settings' and contains several sections. The 'Notification options - optional' section is expanded, showing a dropdown menu for 'SNS topic ARN - optional' with the value 'arn:aws:sns:eu-north-1:256716302785:cfn-stack-notification-topic:327041d4-303a-4b94-a20c-794637e979f9' selected. Below this are 'Add SNS topic' and 'Create new SNS topic' buttons. At the bottom, a red error message states: 'Role arn:aws:sns:eu-north-1:256716302785:cfn-stack-notification-topic:327041d4-303a-4b94-a20c-794637e979f9 is invalid or cannot be assumed'. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons.

Click on next

Review and click on submit

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The screenshot shows the 'Create stack' page in the AWS CloudFormation console. The page is divided into several sections: 'Monitoring time' with a 'CloudWatch alarm ARN' field; 'Notification options' with an 'SNS topic ARN' field and a message 'No notification options. There are no notification options defined.'; 'Stack creation options' with 'Timeout' and 'Termination protection' (Deactivated) fields; and 'Quick-create link' with a description and an 'Open quick-create link' button. At the bottom, there are 'Create change set', 'Cancel', 'Previous', and 'Submit' buttons.

The screenshot shows the 'task1-stack' page in the AWS CloudFormation console. The 'Events' tab is selected, displaying a table of events. The table has columns for Operation ID, Timestamp, Logical ID, Status, Detailed status, Status reason, and Hook invocations. One event is visible with the status 'CREATE\_IN\_PROGRESS' and reason 'User Initiated'.

Operation ID	Timestamp	Logical ID	Status	Detailed status	Status reason	Hook invocations
d2bb1034-091c-41da-a46a-658d35e6b2a5	2025-12-31 14:48:10 UTC+0530	task1-stack	CREATE_IN_PROGRESS	5	User Initiated	-

Stack has been created and verified the email notification

The screenshot shows an email notification from AWS CloudFormation SNS. The email contains the following details:

StackId=arn:aws:cloudformation:eu-north-1:256716302785:stack/task1-stack/5f612e10-e628-11f0-83f0-0a1f7b5a6b2d  
Timestamp=2025-12-31T09:18:10.024Z  
EventId=9fecf6c0-e629-11f0-94b8-0a82efbc6609  
LogicalResourceId=task1-stack  
Namespace=256716302785  
PhysicalResourceId=arn:aws:cloudformation:eu-north-1:256716302785:stack/task1-stack/5f612e10-e628-11f0-83f0-0a1f7b5a6b2d  
PrincipalId=256716302785  
ResourceProperties=null  
ResourceStatus=CREATE\_IN\_PROGRESS  
ResourceStatusReason=User Initiated  
DetailedStatus=  
ResourceType=AWS::CloudFormation::Stack  
StackName=task1-stack  
ClientRequestToken=Console-CreateStack-4a705008-333d-307a-3dae-eedc8b6cd90b

If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe:  
<https://sns.eu-north-1.amazonaws.com/unsubscribe.html?SubscriptionArn=arn:aws:sns:eu-north-1:256716302785:cf-stack-notification-topic:327041d4-303a-4b94-a20c-794637e979f9&Endpoint=medhinpicturea@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>