Industry: Healthcare

Problem Statement:

How to secure patient records online and send it privately to the intended party
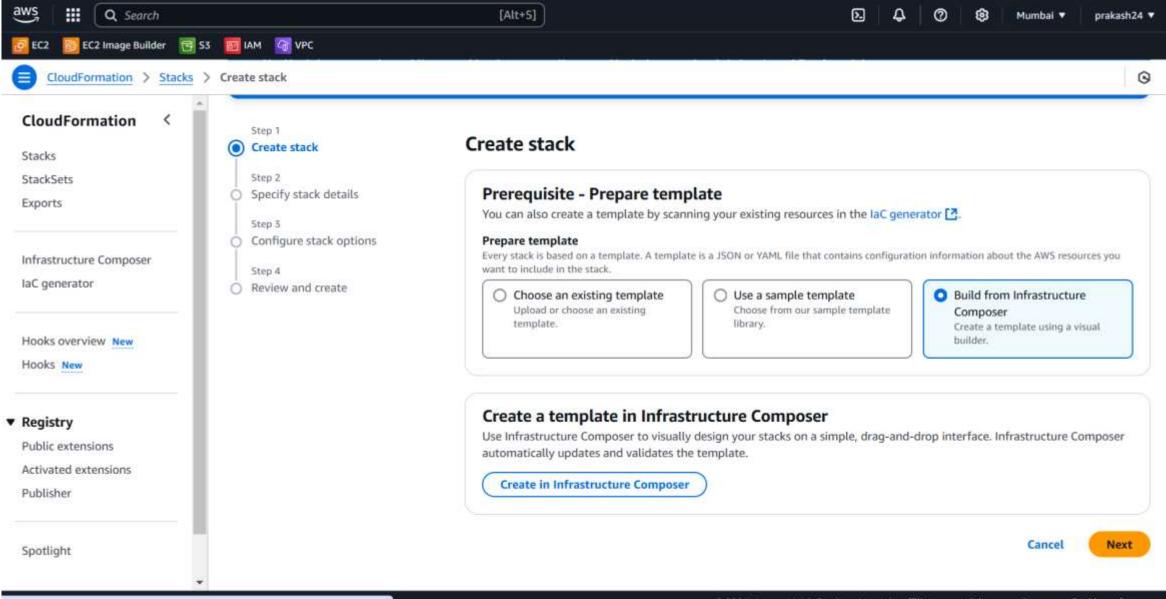
Topics:

In this project, you will be working on a hospital project to send reports online and develop a platform so the patients can access the reports via mobile and push notifications. You will publish the report to an Amazon SNS keeping it secure and private. Your message will be hosted on an EC2 instance within your Amazon VPC. By publishing the messages privately, you can improve the message delivery and receipt through Amazon SNS.
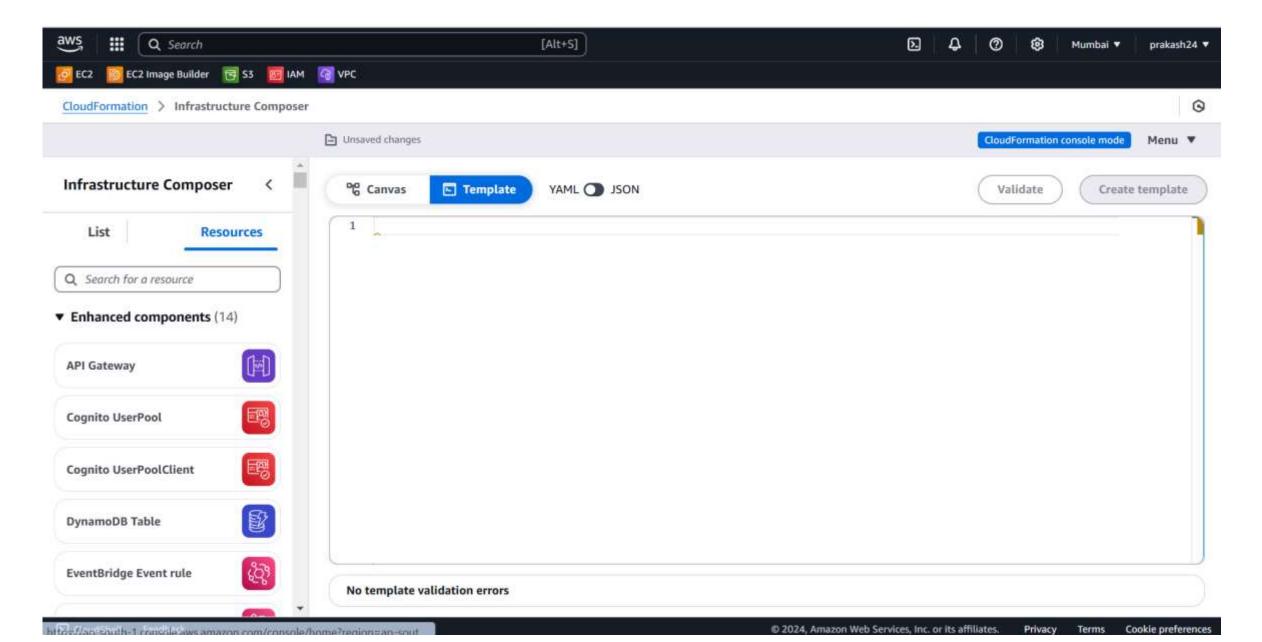
Highlights:

1. AWS CloudFormation to create a VPC
2. Connect VPC with AWS SNS
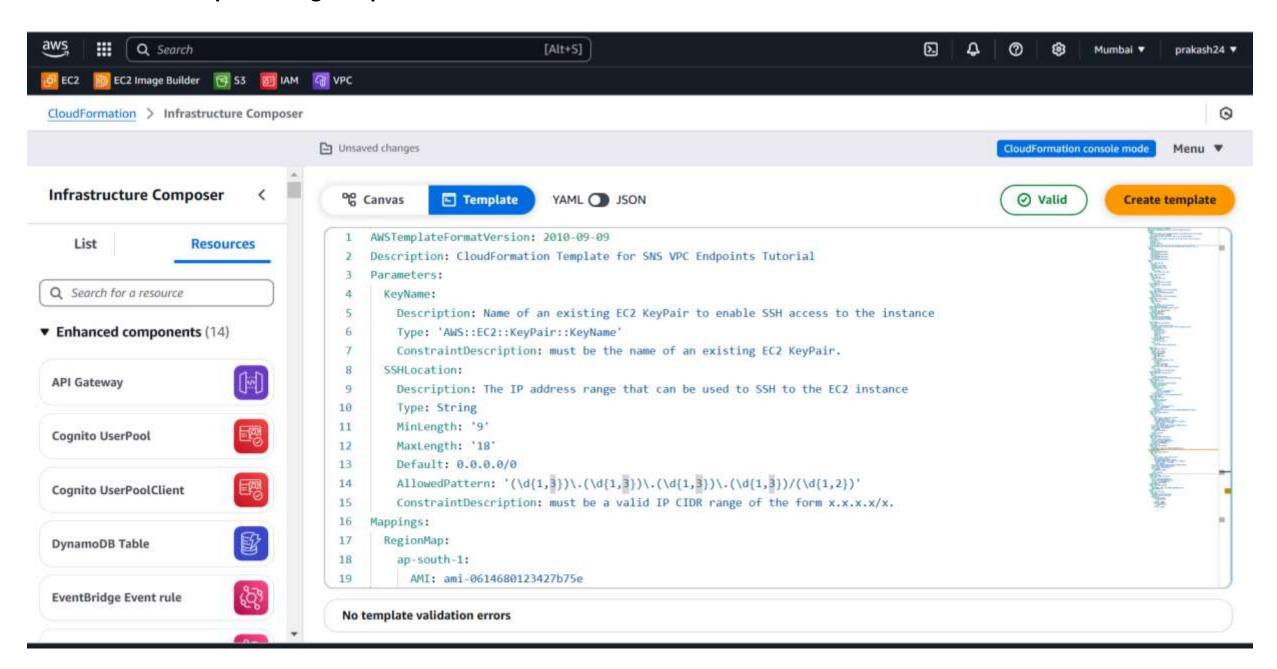3. Publish message privately with SNS
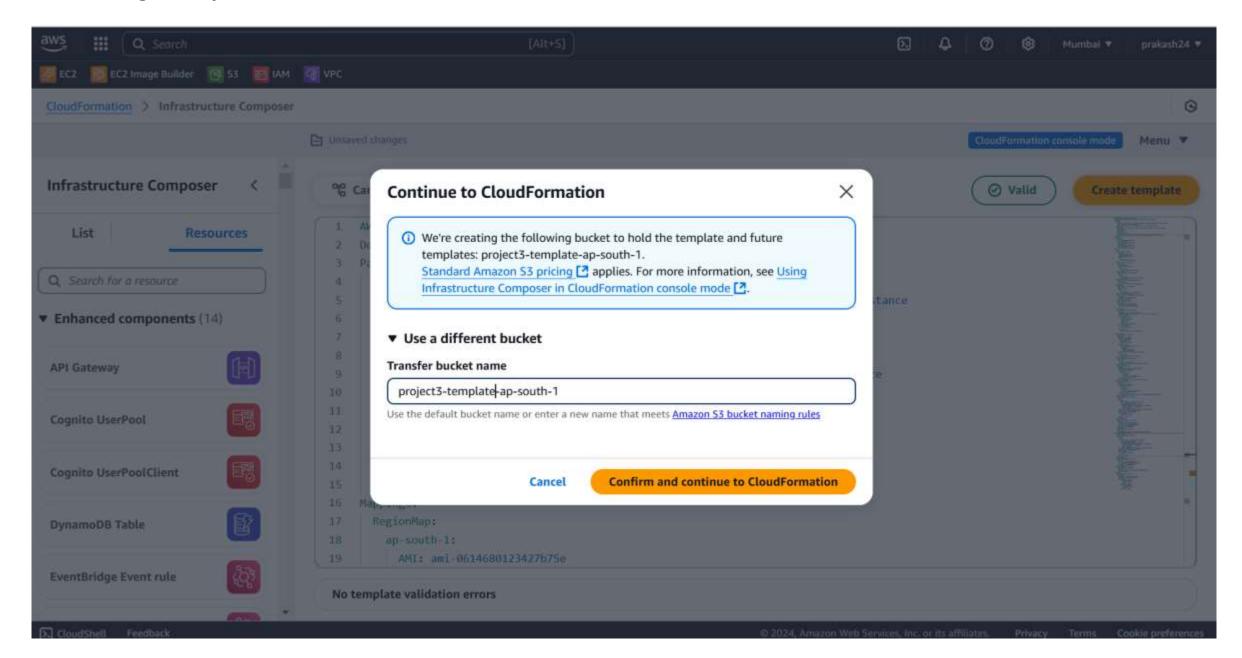
#1- Creating a CloudFormation stack using form composer

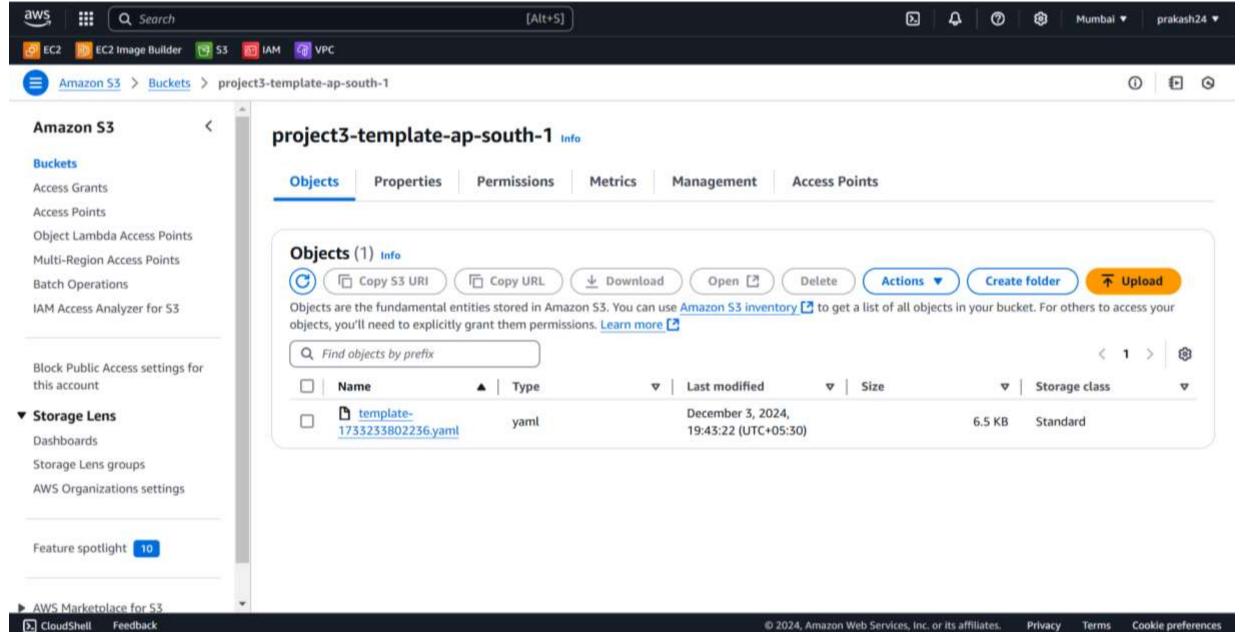# #2- Creating a CloudFormation Template using form composer
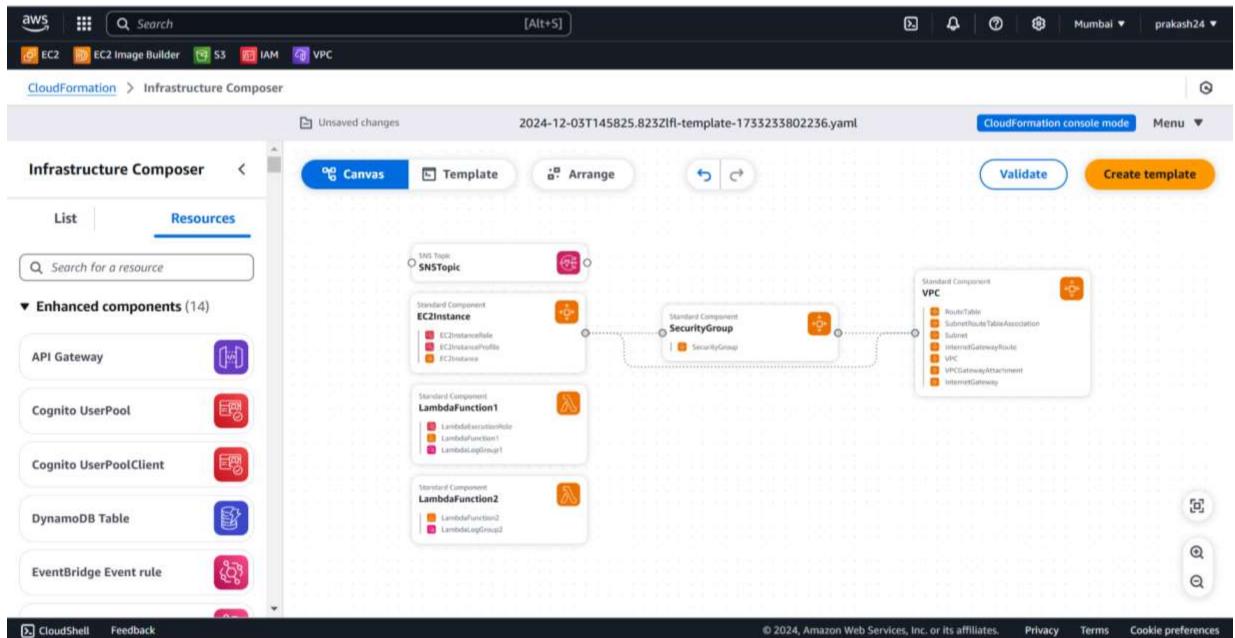
#3- Validated Template using composer

AWS | Q Search [Alt+S] | Mumbai ▾ | prakash24 ▾

EC2 | EC2 Image Builder | S3 | IAM | VPC

CloudFormation > Infrastructure Composer

Unsaved changes | CloudFormation console mode | Menu ▾

Infrastructure Composer

| List | Resources |

Q Search for a resource

▼ **Enhanced components** (14)

- API Gateway
- Cognito UserPool
- Cognito UserPoolClient
- DynamoDB Table
- EventBridge Event rule

Canvas | Template | YAML ◯ JSON | ⊘ Valid | **Create template**

```yaml
1   AWSTemplateFormatVersion: 2010-09-09
2   Description: CloudFormation Template for SNS VPC Endpoints Tutorial
3   Parameters:
4     KeyName:
5       Description: Name of an existing EC2 KeyPair to enable SSH access to the instance
6       Type: 'AWS::EC2::KeyPair::KeyName'
7       ConstraintDescription: must be the name of an existing EC2 KeyPair.
8     SSHLocation:
9       Description: The IP address range that can be used to SSH to the EC2 instance
10      Type: String
11      MinLength: '9'
12      MaxLength: '18'
13      Default: 0.0.0.0/0
14      AllowedPattern: '(\d{1,3})\.(\d{1,3})\.(\d{1,3})\.(\d{1,3})/(\d{1,2})'
15      ConstraintDescription: must be a valid IP CIDR range of the form x.x.x.x/x.
16  Mappings:
17    RegionMap:
18      ap-south-1:
19        AMI: ami-0614680123427b75e
```

No template validation errors
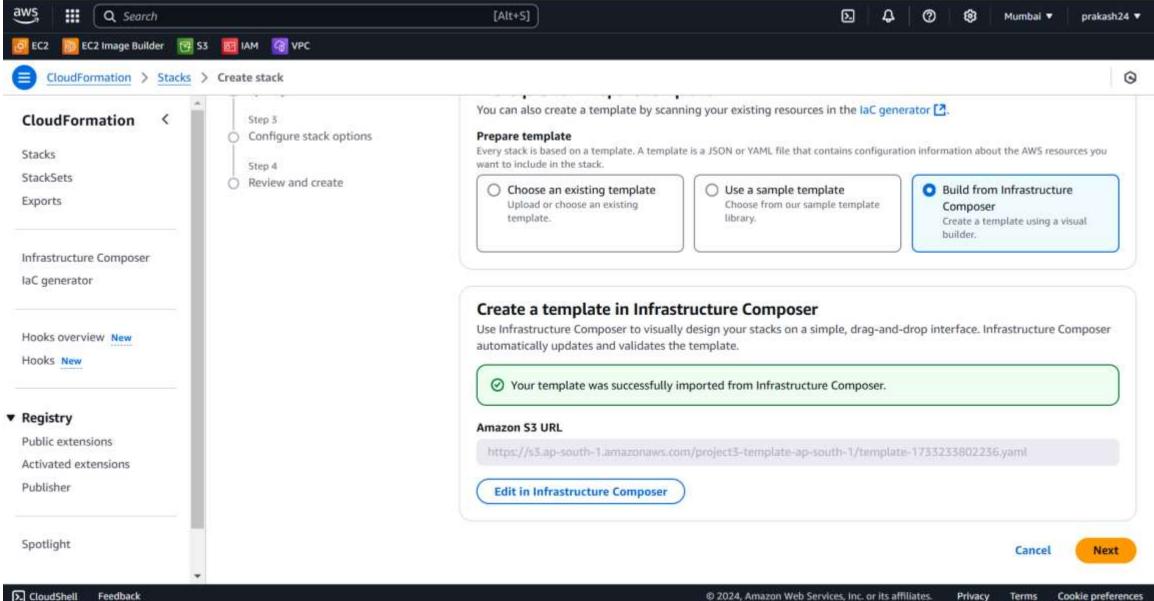
#4- Storing a template in new S3 Bucket

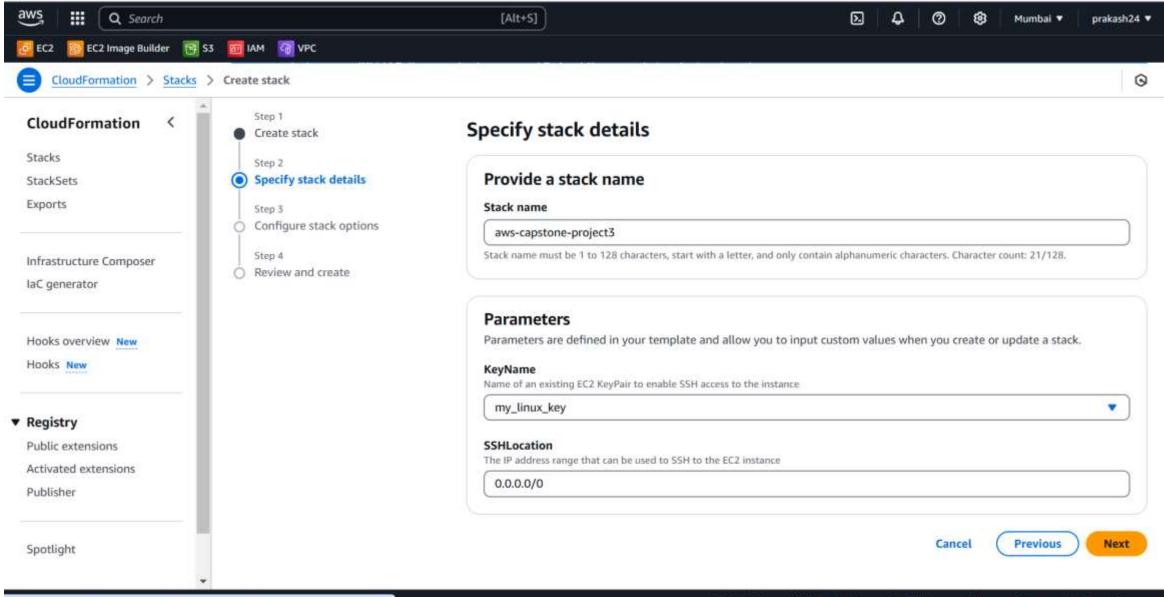# #5-Upload the templated in s3 bucket

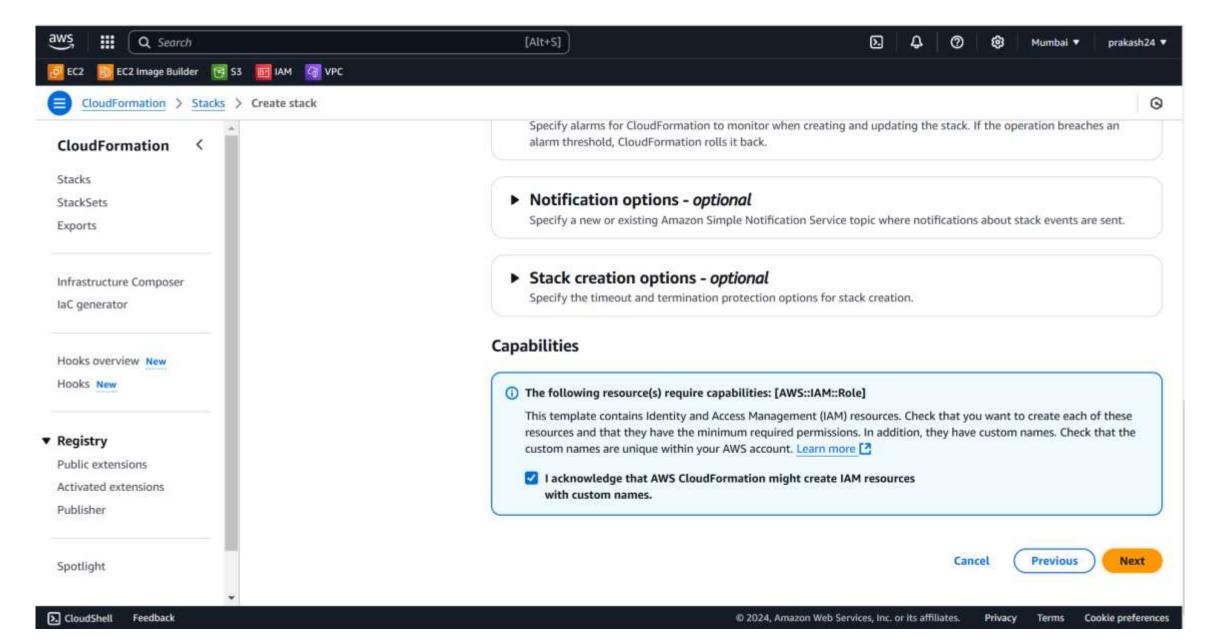# #6- Checking the architecture design using composer
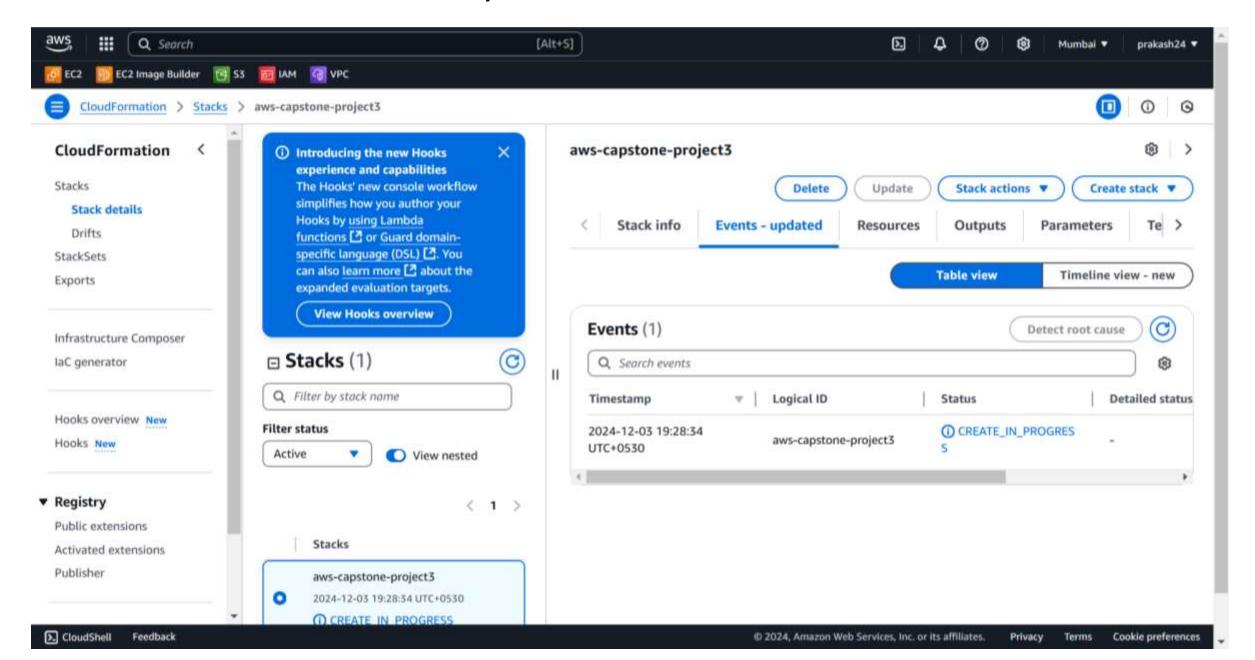
#7 – Move Next step to creating stack

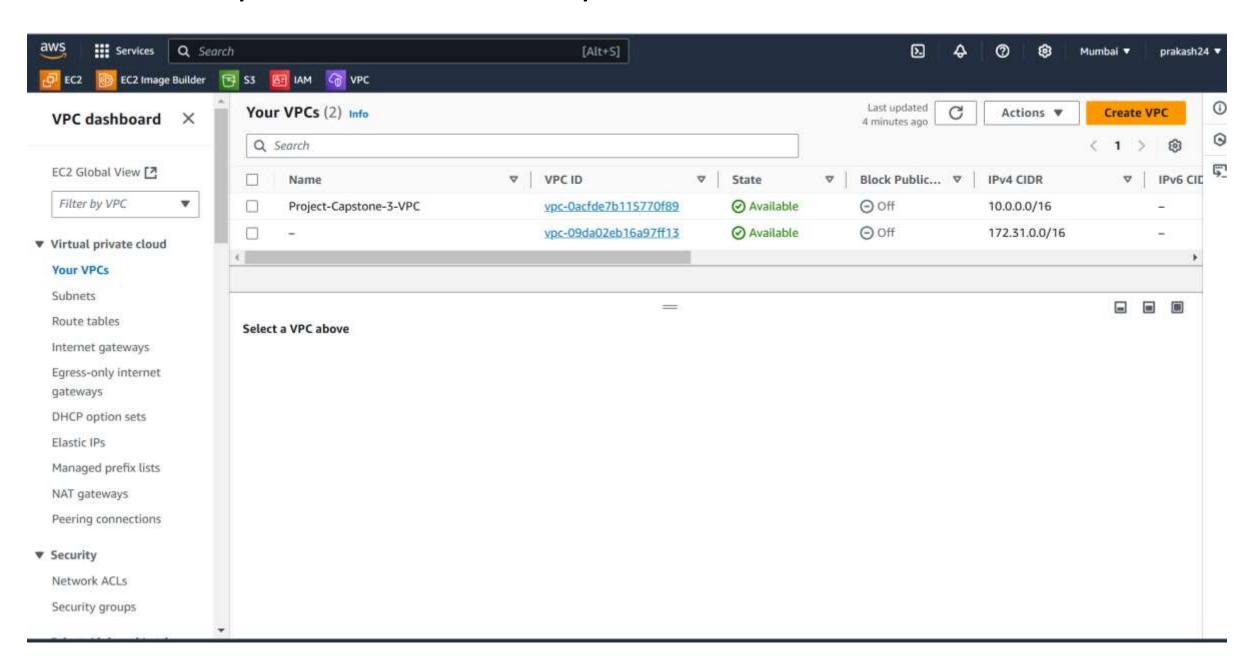**#8 – Providing Stack Name and parameters of KeyName**

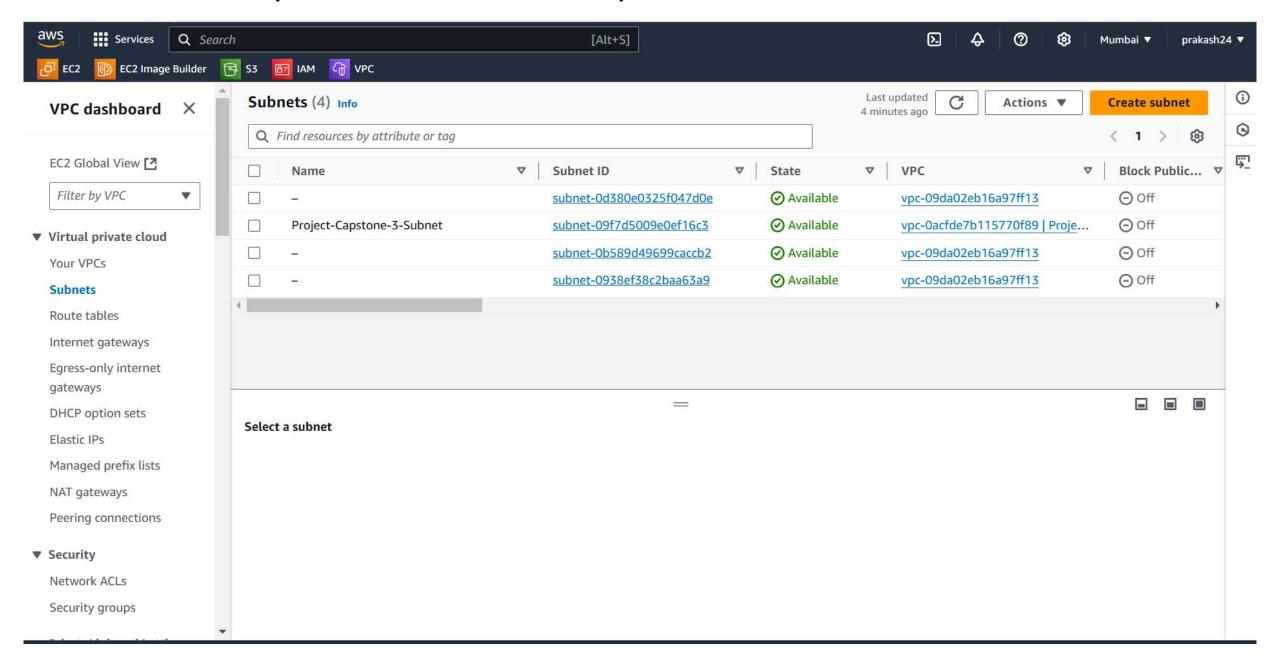**#9 – Accepting a acknowledgement for IAM Role**
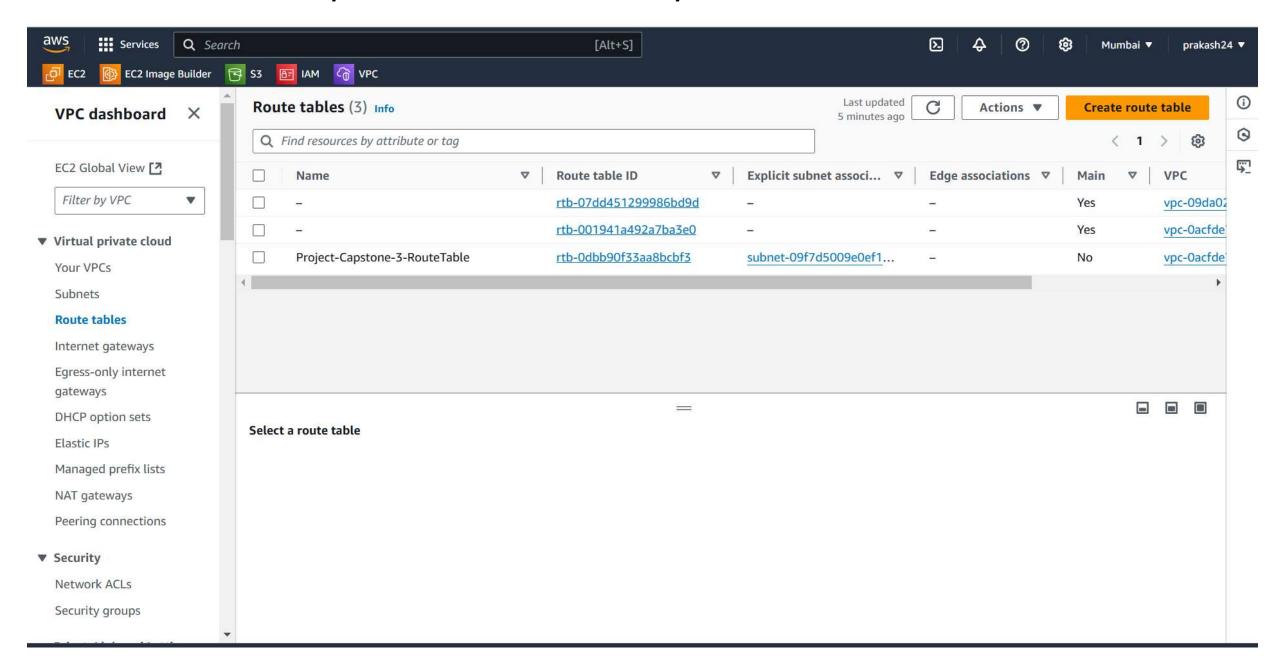
#10 – Create CloudFormation stack successfully

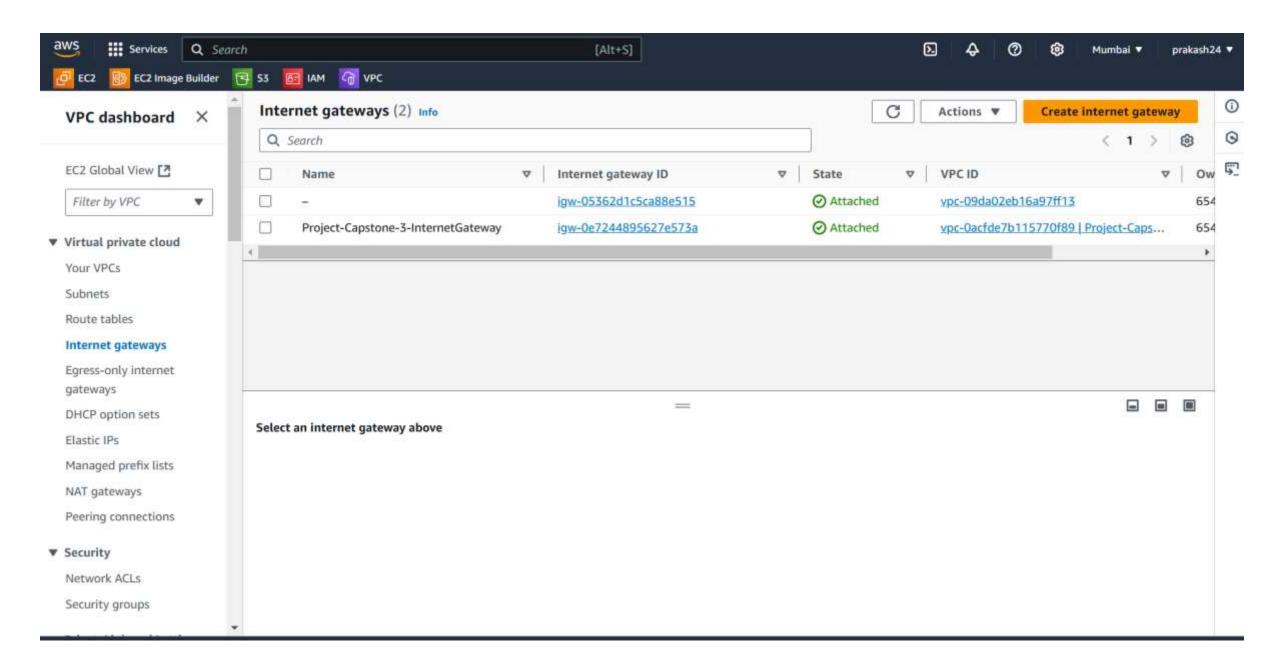# #11 – VPC Created by CloudFormation stack successfully
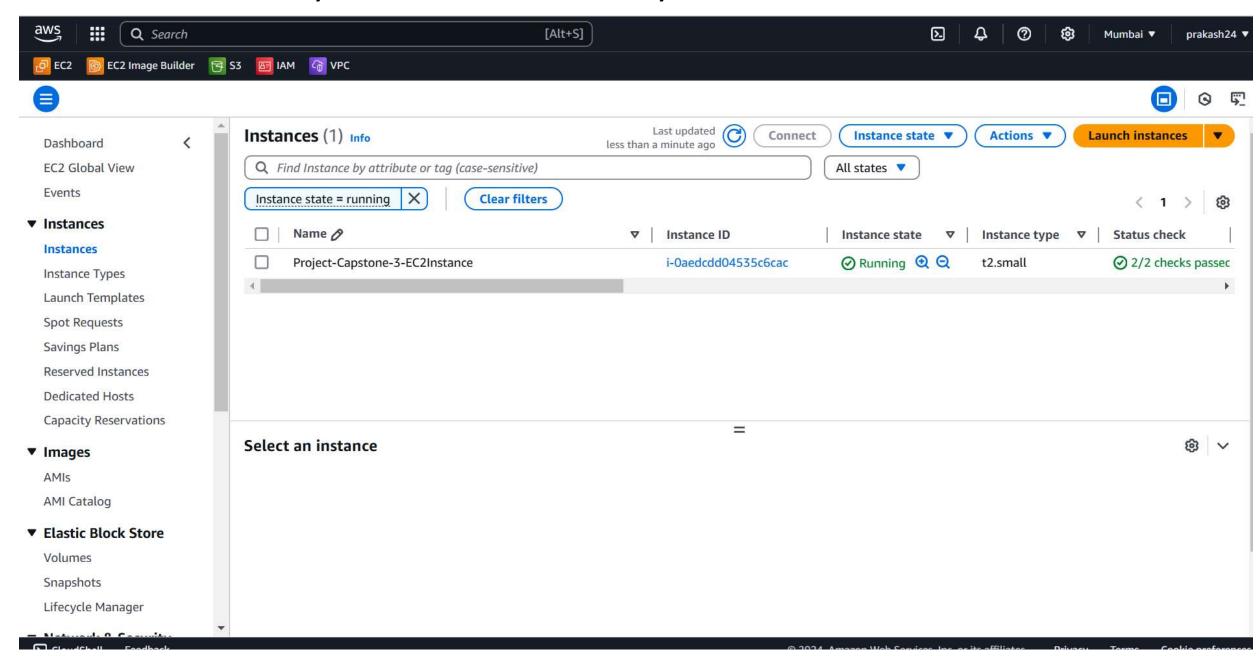
#12 – Subnet Created by CloudFormation stack successfully

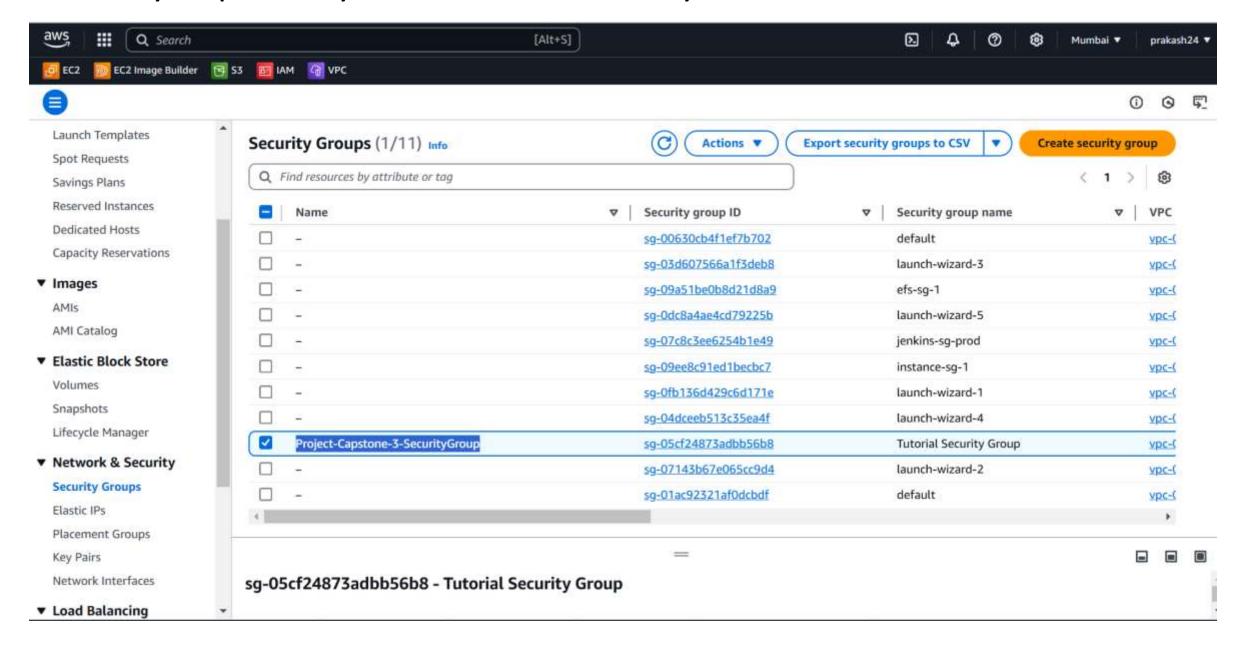## #13 – Route Tables Created by CloudFormation stack successfully

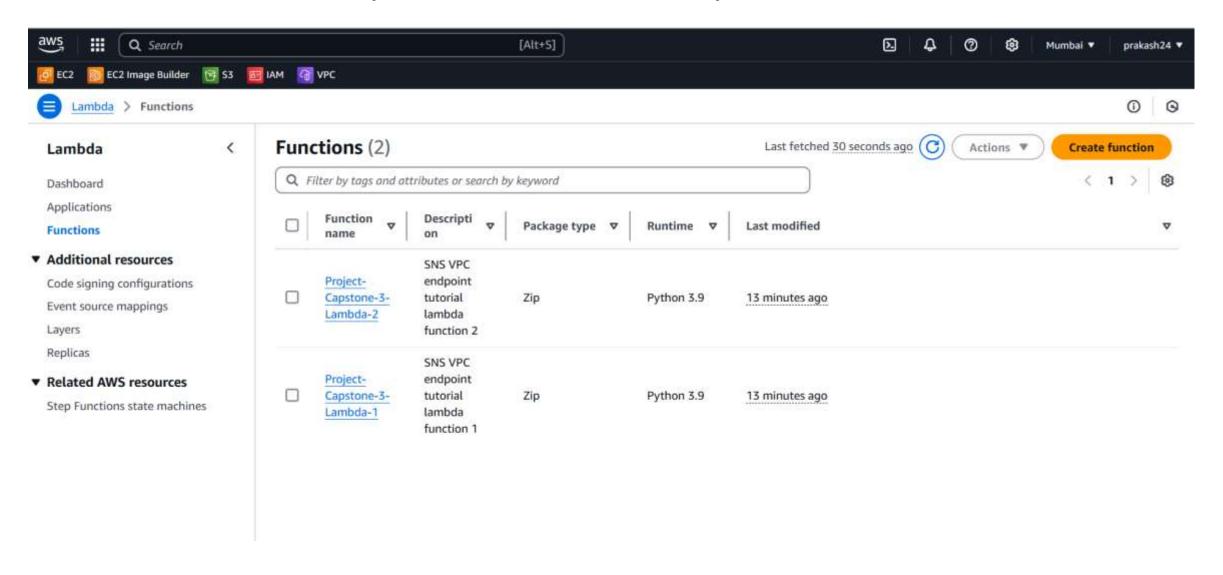## #14– Internet Gateway Created by CloudFormation stack successfully

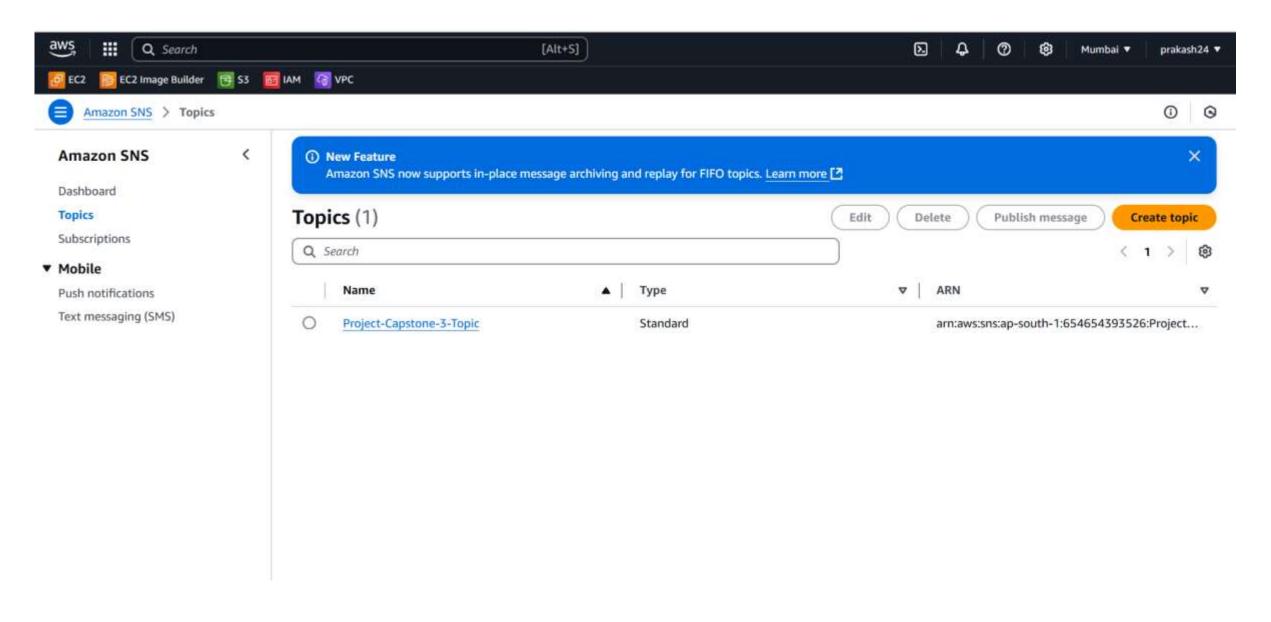# #15– EC2 Instance Created by CloudFormation stack successfully

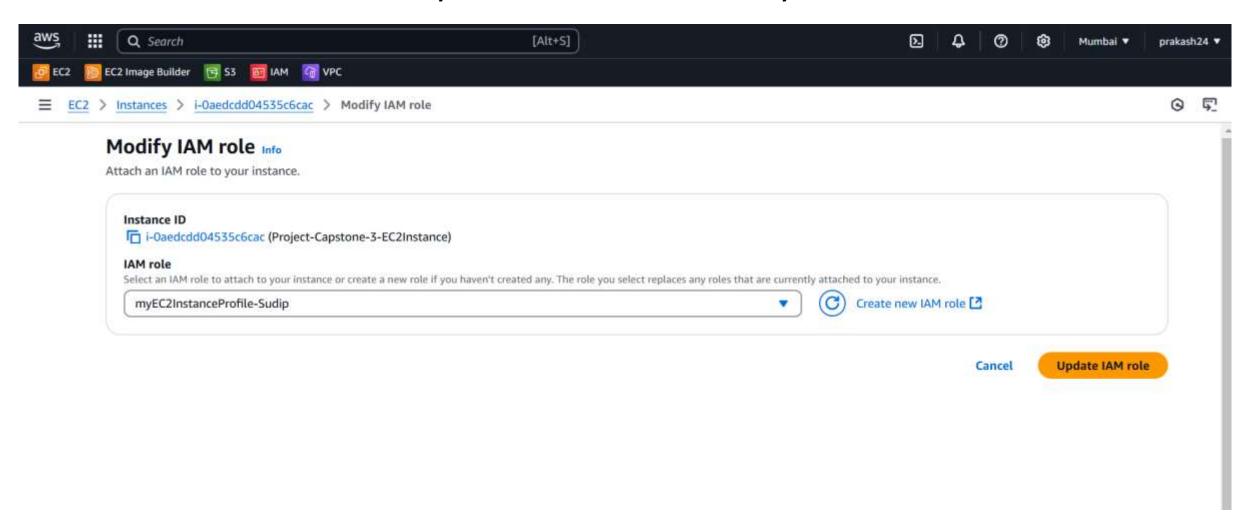# #16– Security Group Created by CloudFormation stack successfully

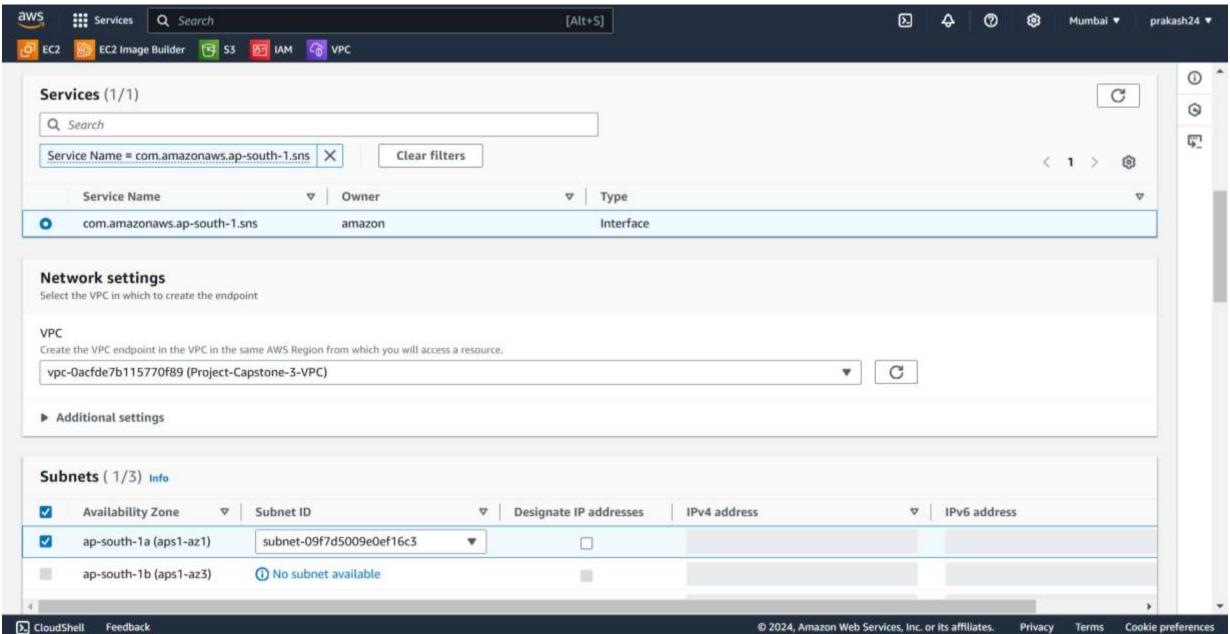**#17– Lambda Function Created by CloudFormation stack successfully**

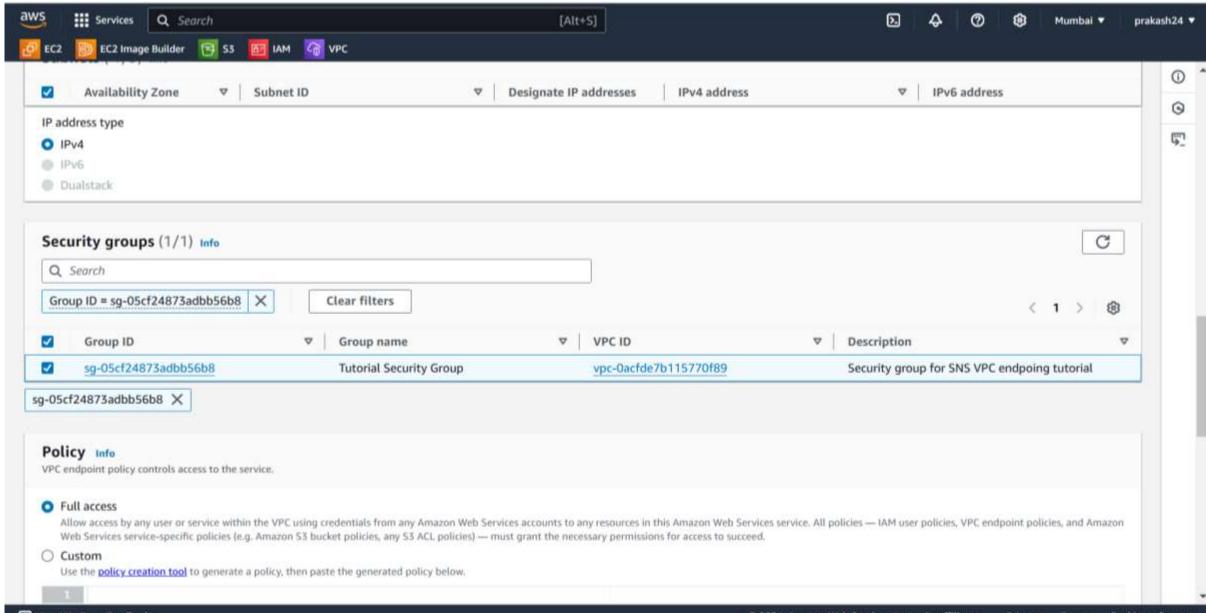# #18 – SNS Topic Created by CloudFormation stack successfully

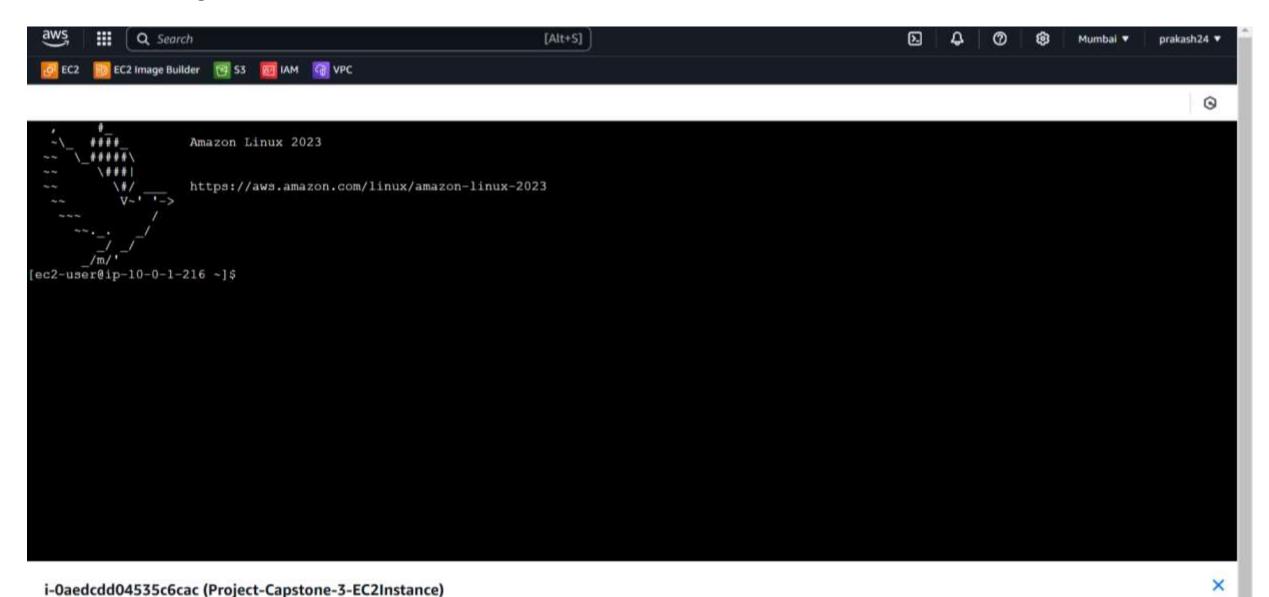**#19 – IAM Role Attach to EC2 Created by CloudFormation stack successfully**

#20– Creating VPC endpoint to access the SNS

#21– Creating VPC endpoint to access the SNS – Part2
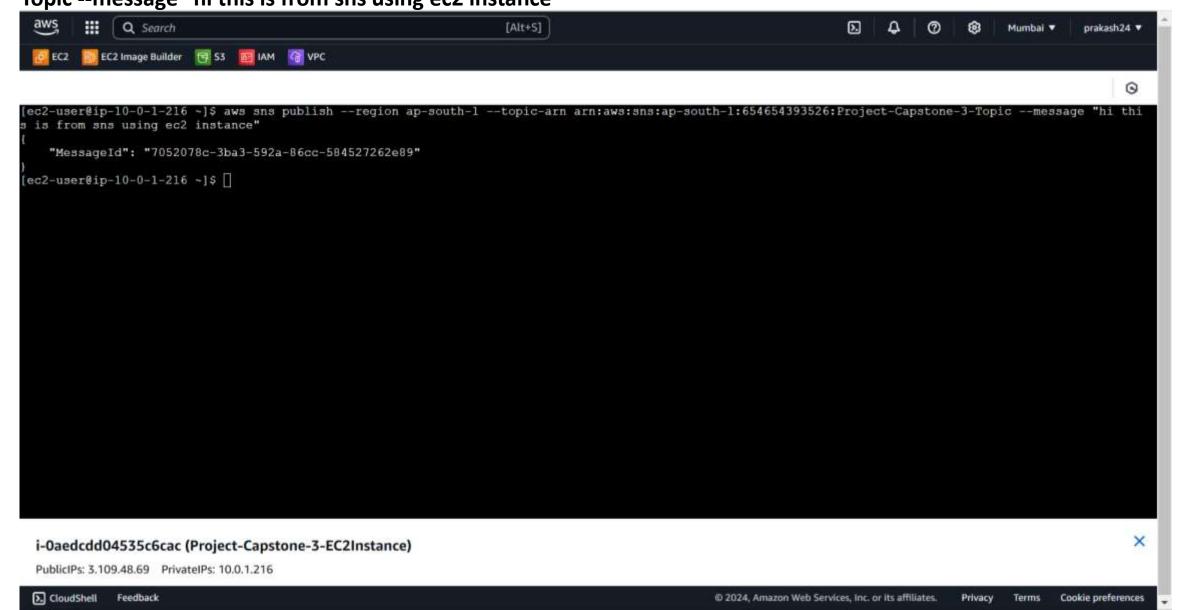
#22– Connecting to ec2 instance

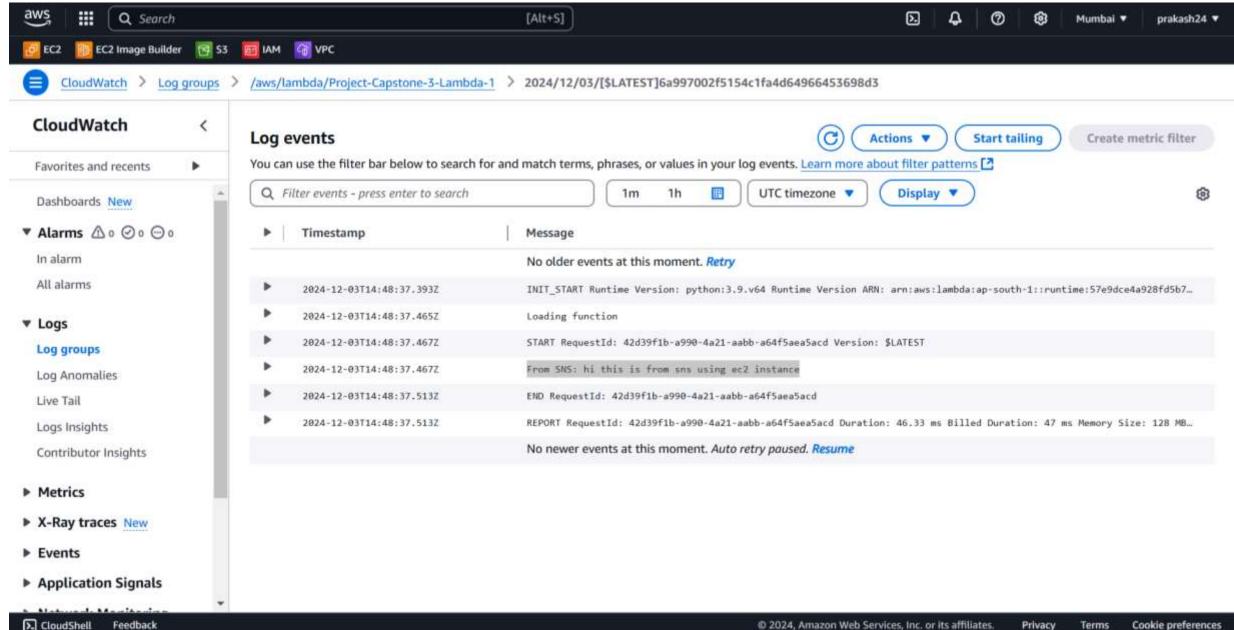## #23– Publishing the SNS topic
 aws sns publish --region ap-south-1 --topic-arn arn:aws:sns:ap-south-1:654654393526:Project-Capstone-3-Topic --message "hi this is from sns using ec2 instance"

#24– checking could watch of lambda function invoked by SNS Topic

#25– Deleting the stack