

Project - 3: Publishing Amazon **SNS Messages Privately**

Assignment Submitted By:-Hitesh Chauhan

Course Offered: -Advanced Cloud Computing and Devops

Assignment By: -Intellipaat

Trainer: -Puneet Gavri

Date Of Submission: -16/12/2024

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

Project- 3: Solution

Answer:

Create a CloudFormation stack by using a given CloudFormation template. CloudFormation will create all the required resources using a given YAML script.

This is the Parameter Section.

This is the code below

AWSTemplateFormatVersion: 2010-09-09

Description: CloudFormation Template for SNS VPC Endpoints Tutorial

Parameters:

KeyName:

Description: Name of an existing EC2 KeyPair to enable SSH access to the instance

Type: 'AWS::EC2::KeyPair::KeyName'

ConstraintDescription: must be the name of an existing EC2 KeyPair.

SSHLocation:

Description: The IP address range that can be used to SSH to the EC2 instance

Type: String

MinLength: '9'

MaxLength: '18'

Default: 0.0.0.0/0

AllowedPattern: '(\d{1,3})\.\d{1,3}\.\d{1,3}\.\d{1,3}/(\d{1,2})'

ConstraintDescription: must be a valid IP CIDR range of the form x.x.x.x/x.

Mappings:

RegionMap:

us-east-1:

AMI: [ami-428aa838](#)

us-east-2:

AMI: [ami-710e2414](#)

us-west-1:

AMI: [ami-4a787a2a](#)

us-west-2:

AMI: [ami-7f43f307](#)

ap-northeast-1:

AMI: [ami-c2680fa4](#)

ap-northeast-2:

AMI: [ami-3e04a450](#)

ap-southeast-1:

AMI: [ami-4f89f533](#)

ap-southeast-2:

AMI: [ami-38708c5a](#)

ap-south-1:

AMI: [ami-3b2f7954](#)

ca-central-1:

AMI: [ami-7549cc11](#)

eu-central-1:

AMI: [ami-1b2bb774](#)

eu-west-1:

AMI: [ami-db1688a2](#)

eu-west-2:

AMI: [ami-6d263d09](#)

eu-west-3:

AMI: [ami-5ce55321](#)

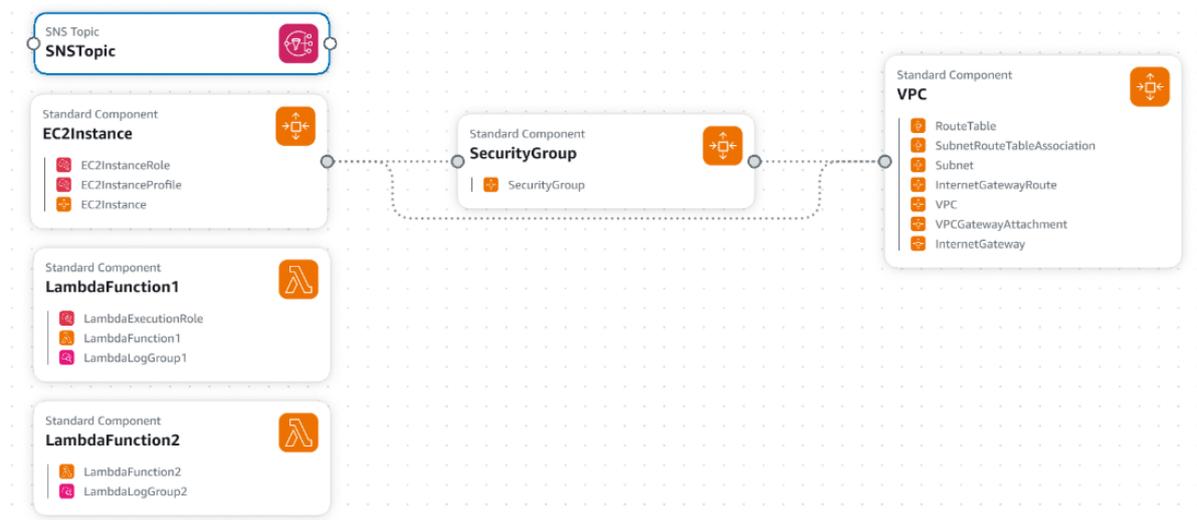
sa-east-1:

AMI: [ami-f1337e9d](#)

```
AWSTemplateFormatVersion: 2010-09-09
Description: CloudFormation Template for SNS VPC Endpoints Tutorial
Parameters:
  KeyName:
    Description: Name of an existing EC2 KeyPair to enable SSH access to the instance
    Type: 'AWS::EC2::KeyPair::KeyName'
    ConstraintDescription: must be the name of an existing EC2 KeyPair.
  SSHLocation:
    Description: The IP address range that can be used to SSH to the EC2 instance
    Type: String
    MinLength: '9'
    MaxLength: '18'
    Default: 0.0.0.0/0
    AllowedPattern: '(\d{1,3})\.\d{1,3}\.\d{1,3}\.\d{1,3}/(\d{1,2})'
    ConstraintDescription: must be a valid IP CIDR range of the form x.x.x.x/x.
Mappings:
  RegionMap:
    us-east-1:
      AMI: ami-428aa838
    us-east-2:
      AMI: ami-710e2414
    us-west-1:
      AMI: ami-4a787a2a
    us-west-2:
      AMI: ami-7f43f307
    ap-northeast-1:
      AMI: ami-c2680fa4
    ap-northeast-2:
      AMI: ami-3e04a450
    ap-southeast-1:
      AMI: ami-4f89f533
    ap-southeast-2:
      AMI: ami-38708c5a
    ap-south-1:
      AMI: ami-3b2f7954
    ca-central-1:
      AMI: ami-7549cc11
```

```
eu-central-1:
  AMI: ami-1b2bb774
eu-west-1:
  AMI: ami-db1688a2
eu-west-2:
  AMI: ami-6d263d09
eu-west-3:
  AMI: ami-5ce55321
sa-east-1:
  AMI: ami-f1337e9d
```

This is Resource Code



Resources:

VPC:

Type: 'AWS::EC2::VPC'

Properties:

CidrBlock: 10.0.0.0/16

EnableDnsSupport: 'true'

EnableDnsHostnames: 'true'

Tags:

- Key: Name

Value: VPCE-Tutorial-VPC

Subnet:

Type: 'AWS::EC2::Subnet'

Properties:

VpcId: !Ref VPC

CidrBlock: 10.0.0.0/24

Tags:

- Key: Name

Value: VPCE-Tutorial-Subnet

InternetGateway:

Type: 'AWS::EC2::InternetGateway'

Properties:

Tags:

- Key: Name

Value: VPCE-Tutorial-InternetGateway

VPCGatewayAttachment:

Type: 'AWS::EC2::VPCGatewayAttachment'

Properties:

VpcId: !Ref VPC

InternetGatewayId: !Ref InternetGateway

RouteTable:

Type: 'AWS::EC2::RouteTable'

Properties:

VpcId: !Ref VPC

Tags:

- Key: Name

Value: VPCE-Tutorial-RouteTable

SubnetRouteTableAssociation:

Type: 'AWS::EC2::SubnetRouteTableAssociation'

Properties:

RouteTableId: !Ref RouteTable

SubnetId: !Ref Subnet

InternetGatewayRoute:

Type: 'AWS::EC2::Route'

Properties:

RouteTableId: !Ref RouteTable

GatewayId: !Ref InternetGateway

DestinationCidrBlock: 0.0.0.0/0

SecurityGroup:

Type: 'AWS::EC2::SecurityGroup'

Properties:

GroupName: Tutorial Security Group

GroupDescription: Security group for SNS VPC endpoint tutorial

VpcId: !Ref VPC

SecurityGroupIngress:

- IpProtocol: '-1'

 - CidrIp: 10.0.0.0/16

- IpProtocol: tcp

 - FromPort: '22'

 - ToPort: '22'

 - CidrIp: !Ref SSHLocation

SecurityGroupEgress:

- IpProtocol: '-1'

 - CidrIp: 10.0.0.0/16

Tags:

- Key: Name

 - Value: VPCE-Tutorial-SecurityGroup

EC2Instance:

Type: 'AWS::EC2::Instance'

Properties:

KeyName: !Ref KeyName

InstanceType: t2.micro

ImageId: !FindInMap

- RegionMap
- !Ref 'AWS::Region'
- AMI

NetworkInterfaces:

- AssociatePublicIpAddress: 'true'

DeviceIndex: '0'

GroupSet:

- !Ref SecurityGroup

SubnetId: !Ref Subnet

IamInstanceProfile: !Ref EC2InstanceProfile

Tags:

- Key: Name

Value: VPCE-Tutorial-EC2Instance

EC2InstanceProfile:

Type: 'AWS::IAM::InstanceProfile'

Properties:

Roles:

- !Ref EC2InstanceRole

InstanceProfileName: EC2InstanceProfile

EC2InstanceRole:

Type: 'AWS::IAM::Role'

Properties:

RoleName: VPCE-Tutorial-EC2InstanceRole

AssumeRolePolicyDocument:

Version: 2012-10-17

Statement:

- Effect: Allow

Principal:

Service: ec2.amazonaws.com

Action: 'sts:AssumeRole'

ManagedPolicyArns:

- 'arn:aws:iam::aws:policy/AmazonSNSFullAccess'

LambdaExecutionRole:

Type: 'AWS::IAM::Role'

Properties:

AssumeRolePolicyDocument:

Version: 2012-10-17

Statement:

- Effect: Allow

Principal:

Service: lambda.amazonaws.com

Action: 'sts:AssumeRole'

ManagedPolicyArns:

- 'arn:aws:iam::aws:policy/service-role/AWSLambdaBasicExecutionRole'

LambdaFunction1:

Type: 'AWS::Lambda::Function'

Properties:

Code:

ZipFile: |

```
from __future__ import print_function
```

```
print('Loading function')
```

```
def lambda_handler(event, context):
```

```
    message = event['Records'][0]['Sns']['Message']
```

```
print("From SNS: " + message)
```

```
return message
```

Description: SNS VPC endpoint tutorial lambda function 1

FunctionName: VPCE-Tutorial-Lambda-1

Handler: index.lambda_handler

Role: !GetAtt

- LambdaExecutionRole

- Arn

Runtime: python3.9

Timeout: '3'

LambdaPermission1:

Type: 'AWS::Lambda::Permission'

Properties:

Action: 'lambda:InvokeFunction'

FunctionName: !Ref LambdaFunction1

Principal: sns.amazonaws.com

SourceArn: !Ref SNSTopic

LambdaLogGroup1:

Type: 'AWS::Logs::LogGroup'

Properties:

LogGroupName: !Sub "/aws/lambda/\${LambdaFunction1}"

RetentionInDays: '7'

LambdaFunction2:

Type: 'AWS::Lambda::Function'

Properties:

Code:

ZipFile: |

```
from __future__ import print_function
print('Loading function')
def lambda_handler(event, context):
    message = event['Records'][0]['Sns']['Message']
    print("From SNS: " + message)
    return message
```

Description: SNS VPC endpoint tutorial lambda function 2

FunctionName: VPCE-Tutorial-Lambda-2

Handler: index.lambda_handler

Role: !GetAtt

- LambdaExecutionRole
- Arn

Runtime: python3.9

Timeout: '3'

LambdaPermission2:

Type: 'AWS::Lambda::Permission'

Properties:

Action: 'lambda:InvokeFunction'

FunctionName: !Ref LambdaFunction2

Principal: sns.amazonaws.com

SourceArn: !Ref SNSTopic

LambdaLogGroup2:

Type: 'AWS::Logs::LogGroup'

Properties:

LogGroupName: !Sub "/aws/lambda/\${LambdaFunction2}"

RetentionInDays: '7'

SNSTopic:

Type: 'AWS::SNS::Topic'

Properties:

DisplayName: VPCE-Tutorial-Topic

TopicName: VPCE-Tutorial-Topic

Subscription:

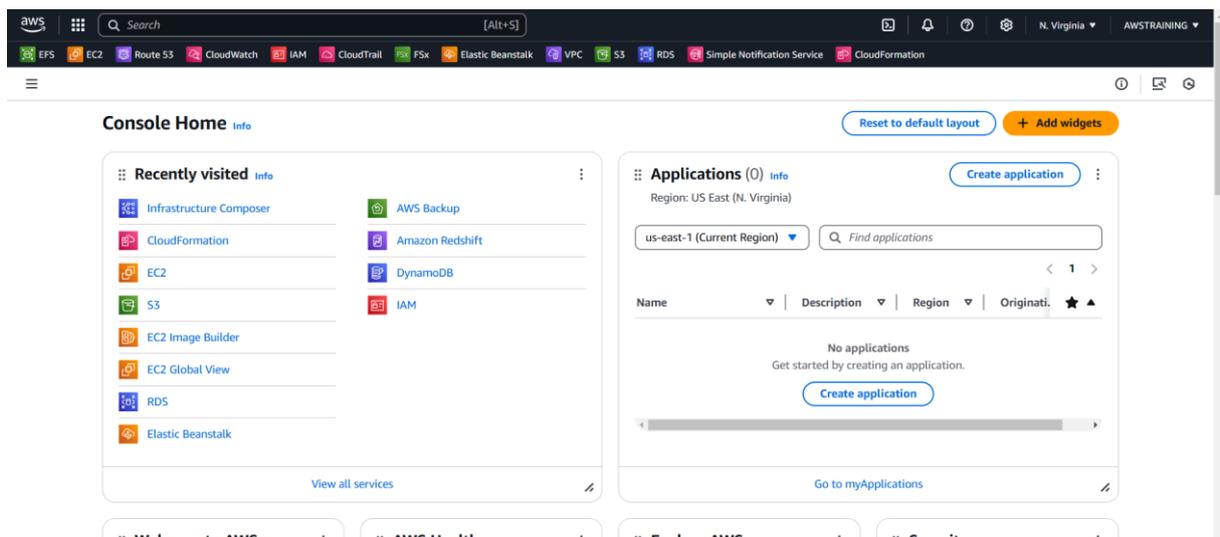
- Endpoint: !GetAtt
- LambdaFunction1
- Arn

Protocol: lambda

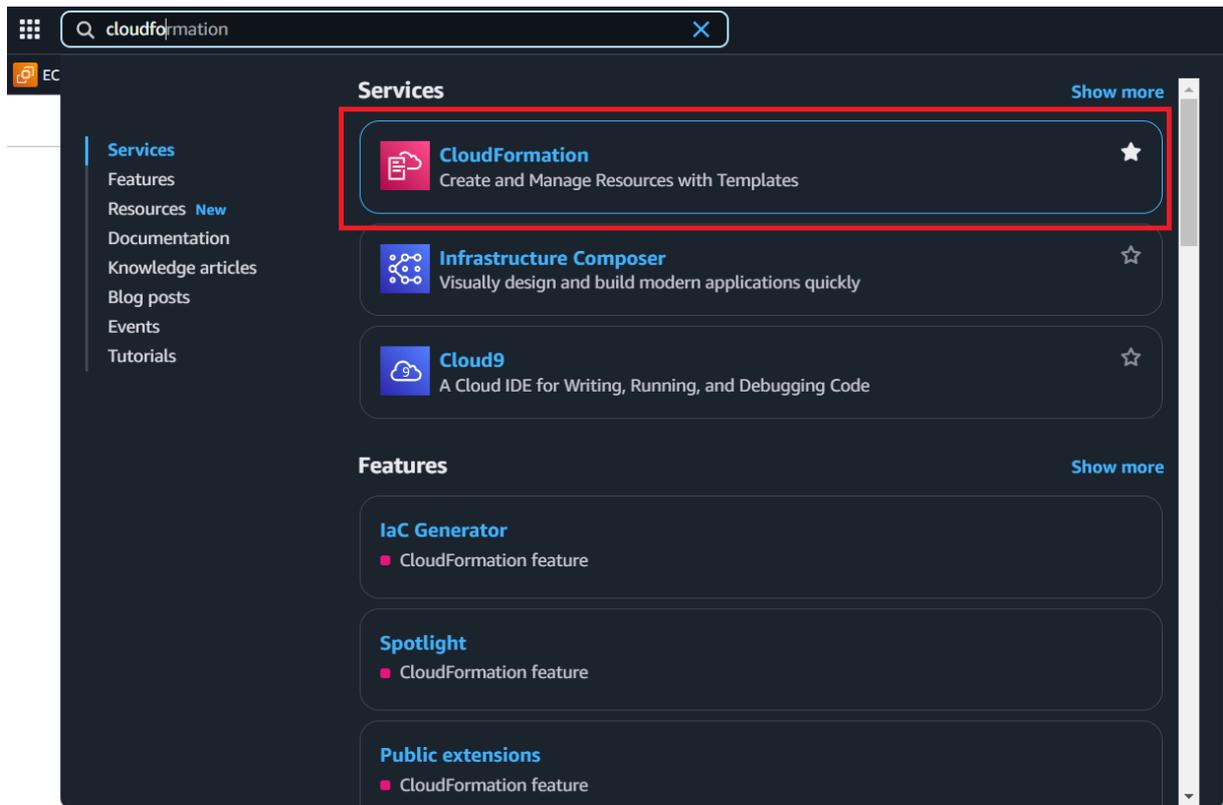
- Endpoint: !GetAtt
- LambdaFunction2
- Arn

Protocol: lambda

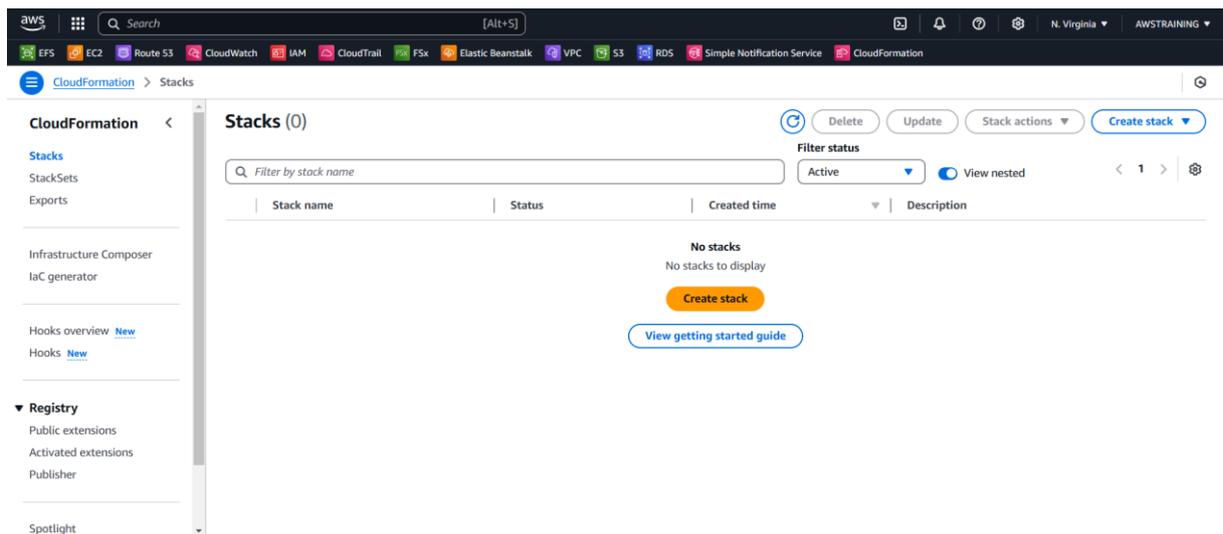
Go to Aws Management Console you will see like this page



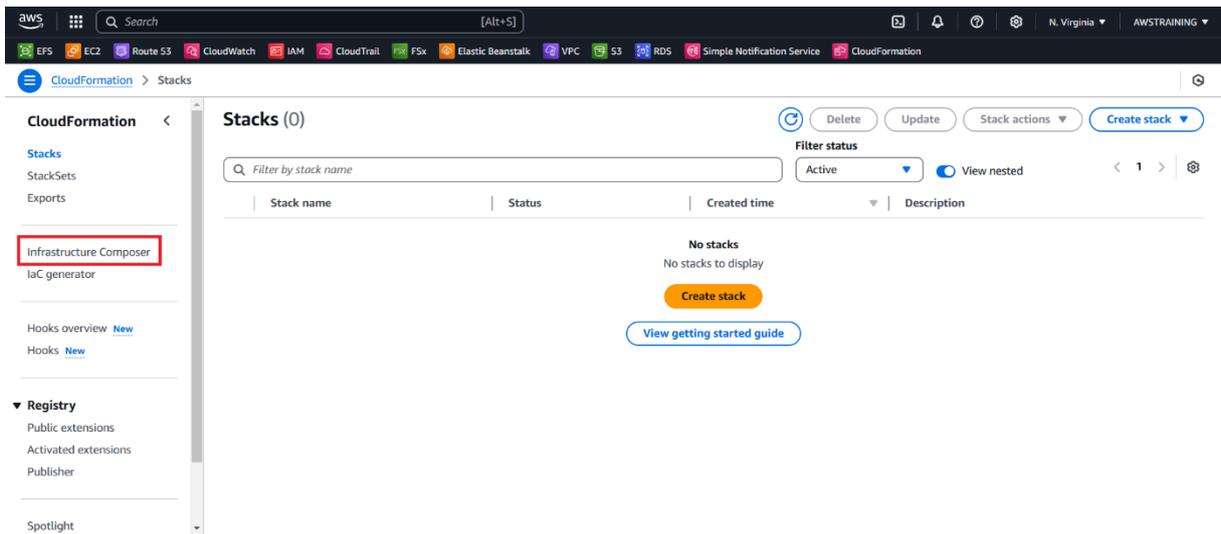
Then Search Cloud Formation



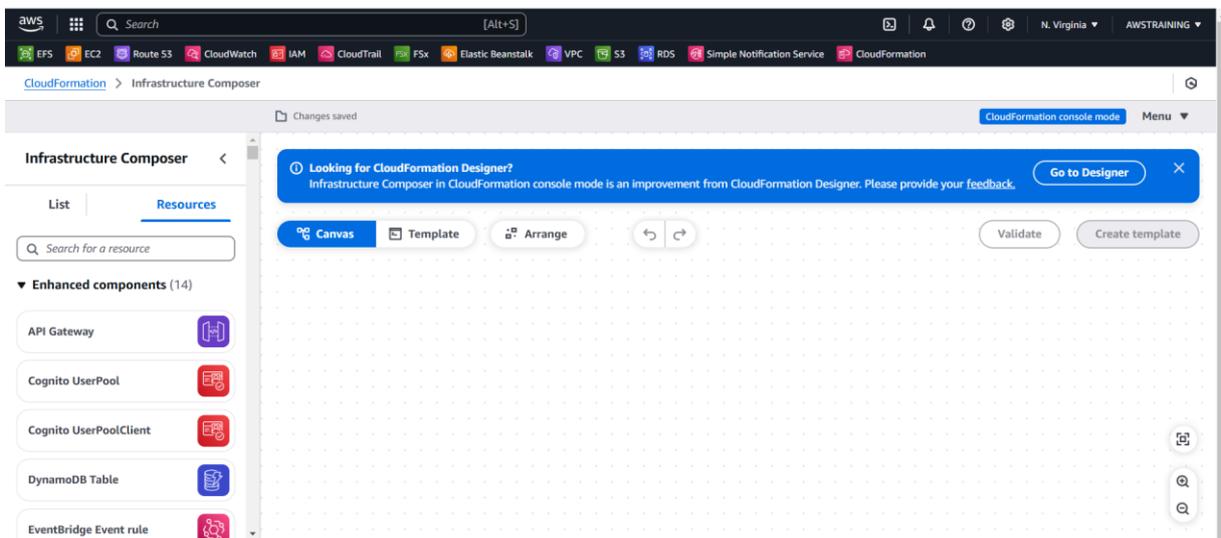
Click the cloud Formation service.



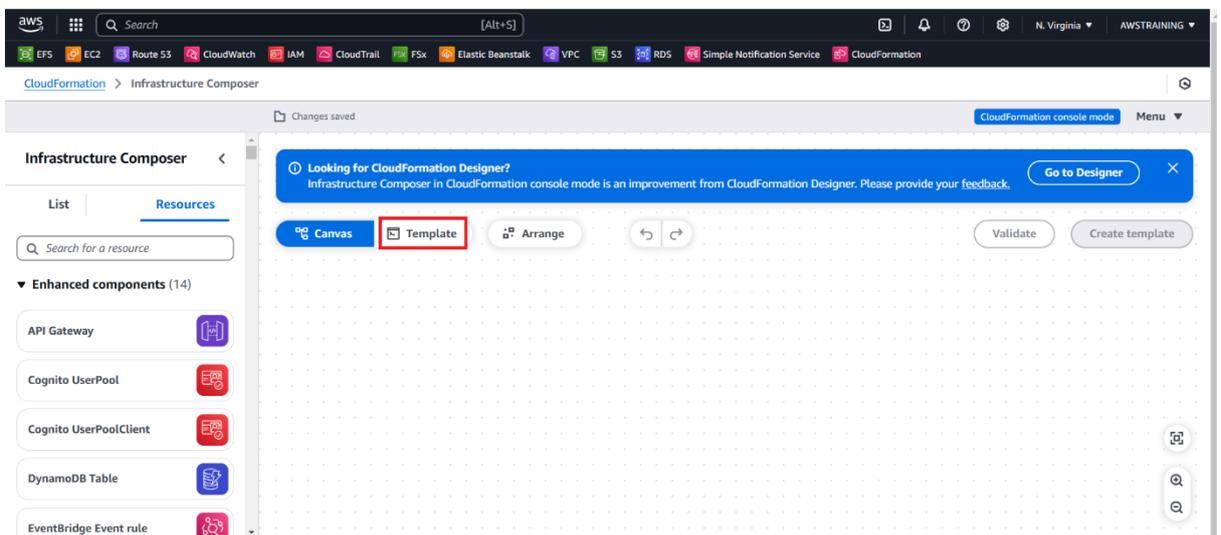
Then Click Infrastructure Composer



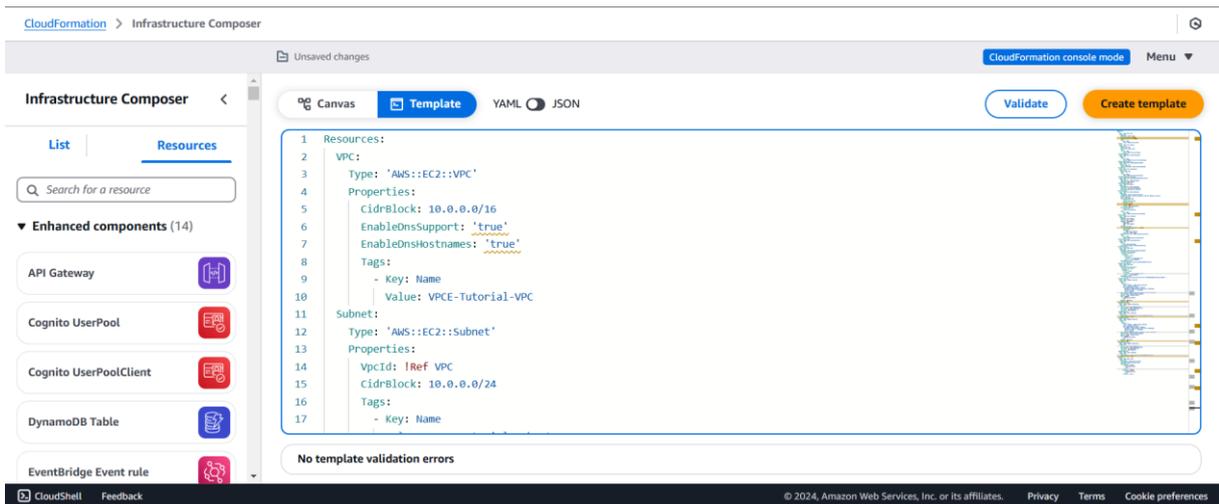
After click the Infrastructure composer you will see this page.



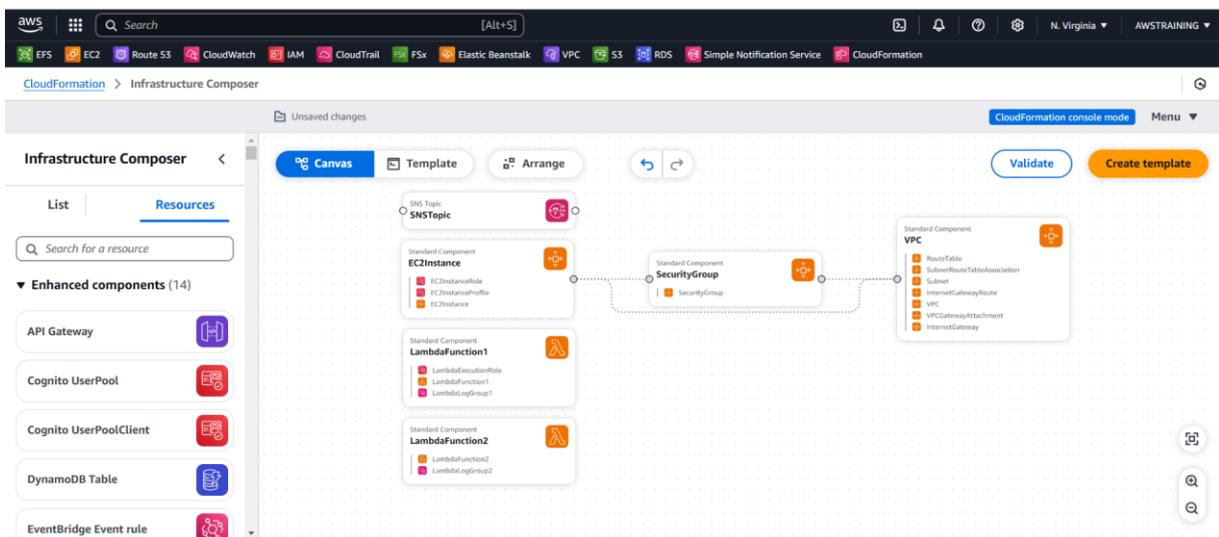
Then Click Templates and paste the code.



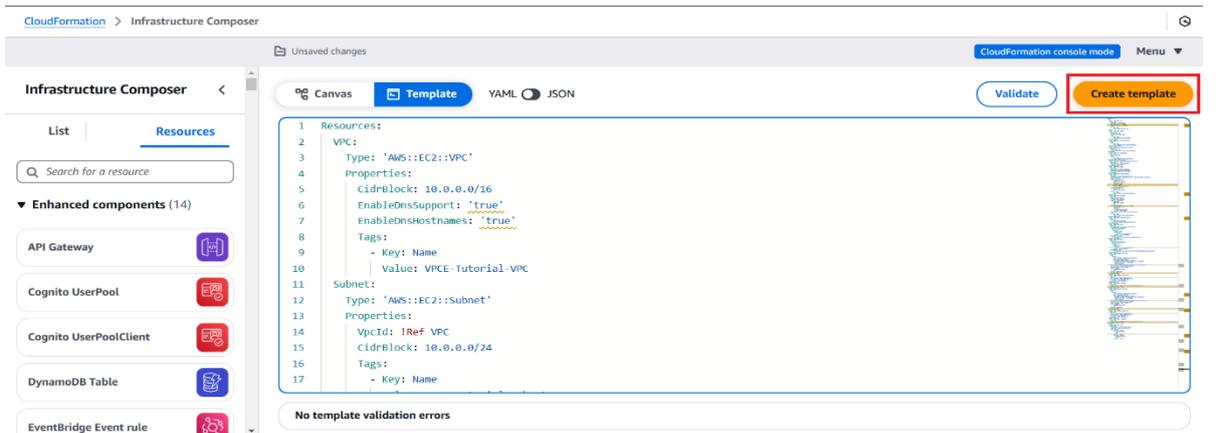
You will see like this page then click canvas



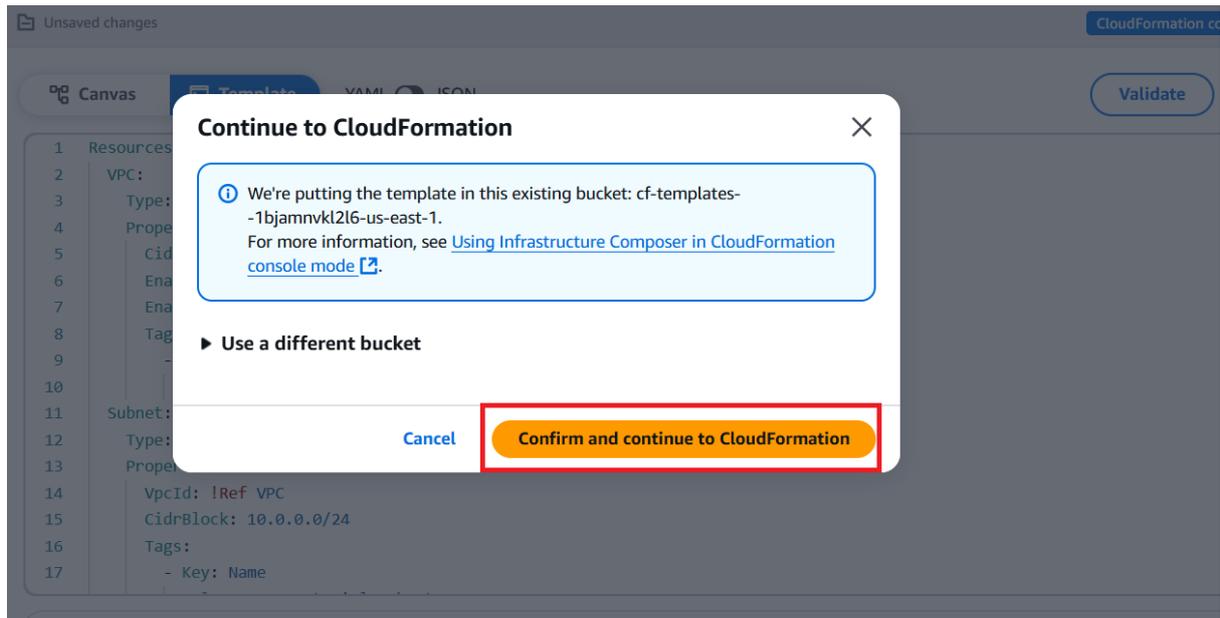
After Click the canvas you will see below architecture of cloud formation code.



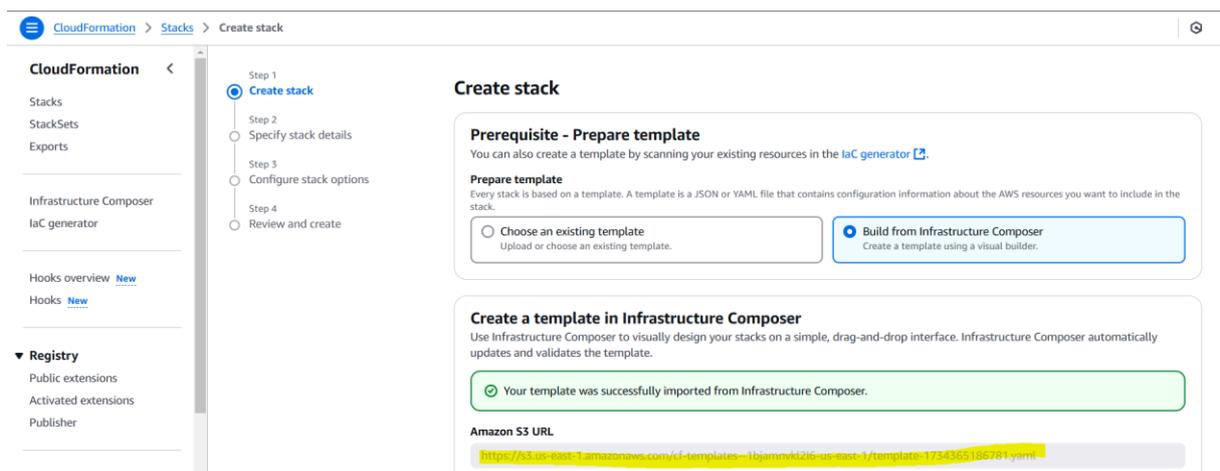
Now Click Create Template



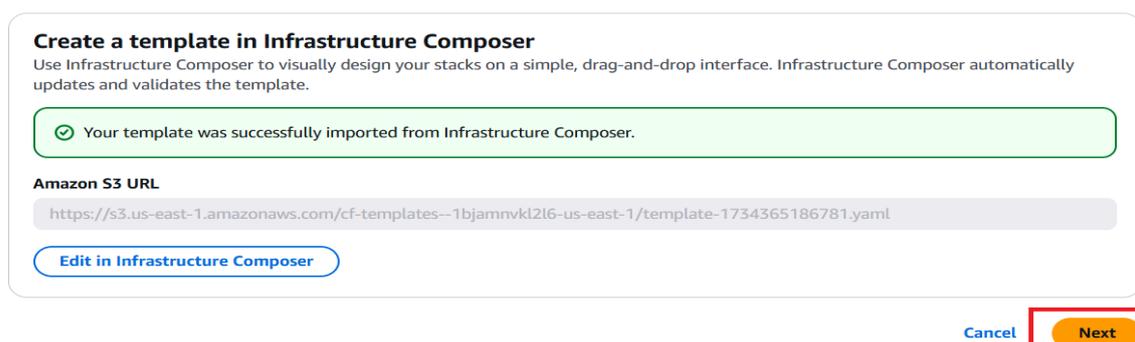
Now Click the Confirm And Continue to cloud formation



After Click the Confirm and Continue to cloud formation then you will this stack creation page.



Click Next



After Click the next you need to specify the stack details then click next.

This Section nothing to do.

In Stack failure options.there is two option.

1.Roll back all stack resources

2.Preserve successfully provisioned resources.

So choosed to Preserve successfully provisioned resources.

And There is another option in stack failure is

Delete newly created resources during a rollback

In this there is two options

1.use deletion policy

2.Preserve successfully provisioned resources.

Chosed to Preserve successfully provisioned resources.

Stack failure options

Behavior on provisioning failure
Specify the roll back behavior for a stack failure. [Learn more](#)

Roll back all stack resources
Roll back the stack to the last known stable state.

Preserve successfully provisioned resources
Preserves the state of successfully provisioned resources, while rolling back failed resources to the last known stable state. Resources without a last known stable state will be deleted upon the next stack operation.

Delete newly created resources during a rollback
Specify whether resources that were created during a failed operation should be deleted regardless of their deletion policy. [Learn more](#)

Use deletion policy
Retains or deletes created resources according to their attached deletion policy.

Delete all newly created resources
Deletes created resources during a rollback regardless of their attached deletion policy.

In advanced options.we nothing to do changes.

Advanced options

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.

▶ **Stack creation options - optional**

Specify the timeout and termination protection options for stack creation.

In Capabilities Check the box and click next

Capabilities

The following resource(s) require capabilities: [AWS::IAM::Role]
This template contains Identity and Access Management (IAM) resources. Check that you want to create each of these resources and that they have the minimum required permissions. In addition, they have custom names. Check that the custom names are unique within your AWS account. [Learn more](#)

I acknowledge that AWS CloudFormation might create IAM resources with custom names.

Cancel

Previous

Next

Then we Need To Review all the things

Create stack ⓘ

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

Review and create

Step 1: Specify template Edit

Prerequisite - Prepare template

Template
-

Template

Template URL
https://s3.us-east-1.amazonaws.com/cf-templates--1bjamvkl2l6-us-east-1/template-1734365467767.yaml

Stack description
CloudFormation Template for SNS VPC Endpoints Tutorial

Step 2: Specify stack details Edit

Provide a stack name

Stack name
CFFORVPC

Parameters (2)

Search

< 1 > ⚙

Key	Value
KeyName	cloudwatch logs
SSHLocation	0.0.0.0/0

Step 3: Configure stack options Edit

Tags

Search tags

< 1 >

Key Value

No tags

There are no tags defined for this stack

Permissions

No permissions

There is no IAM role associated with this stack

Stack failure options

Rollback on failure
Deactivated

Delete newly created resources during a rollback
Activated

Stack policy

No stack policy
There is no stack policy defined

Rollback configuration

Monitoring time
-

CloudWatch alarm ARN
-

Notification options

SNS topic ARN
-

No notification options
There are no notification options defined

Stack creation options

Timeout
-

Termination protection
Deactivated

Quick-create link

Use quick-create links to get stacks up and running quickly from the AWS CloudFormation console with the same basic configuration as this stack. Copy the URL on the link to share. [Learn more](#)

[Open quick-create link](#)

[Create change set](#)

[Cancel](#)

[Previous](#)

[Submit](#)

Then click submit.

After Click the submit you see the event updates

CFFORVPC

Stacks (1)

Filter by stack name

Filter status: Active

View nested

Stacks

CFFORVPC

2024-12-16 21:53:26 UTC+0530

CREATE_IN_PROGRESS

CFFORVPC

Delete Update Stack actions Create stack

Stack info **Events - updated** Resources Outputs Parameters Template

Table view Timeline view - new

Events (1)

Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:26 UTC+0530	CFFORVPC	CREATE_IN_PROGRESS	-

CFFORVPC

Stacks (1)

Filter by stack name

Filter status: Active

View nested

Stacks

CFFORVPC

2024-12-16 21:53:26 UTC+0530

CREATE_IN_PROGRESS

Events (60)

Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:29 UTC+0530	EC2InstanceRole	CREATE_IN_PROGRESS	-
2024-12-16 21:53:28 UTC+0530	VPC	CREATE_IN_PROGRESS	-
2024-12-16 21:53:28 UTC+0530	EC2InstanceRole	CREATE_IN_PROGRESS	-
2024-12-16 21:53:28 UTC+0530	LambdaExecutionRole	CREATE_IN_PROGRESS	-
2024-12-16 21:53:28 UTC+0530	InternetGateway	CREATE_IN_PROGRESS	-
2024-12-16 21:53:26 UTC+0530	CFFORVPC	CREATE_IN_PROGRESS	-

CFFORVPC

Stacks (1)

Filter by stack name

Filter status: Active

View nested

Stacks

CFFORVPC

2024-12-16 21:53:26 UTC+0530

CREATE_IN_PROGRESS

Events (60)

Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:41 UTC+0530	SecurityGroup	CREATE_IN_PROGRESS	-
2024-12-16 21:53:41 UTC+0530	VPCGatewayAttachment	CREATE_IN_PROGRESS	-
2024-12-16 21:53:41 UTC+0530	VPC	CREATE_COMPLETE	-
2024-12-16 21:53:30 UTC+0530	InternetGateway	CREATE_IN_PROGRESS	CONFIGURATION_COMPLETE
2024-12-16 21:53:30 UTC+0530	VPC	CREATE_IN_PROGRESS	-
2024-12-16 21:53:29 UTC+0530	LambdaExecutionRole	CREATE_IN_PROGRESS	-
2024-12-16 21:53:29 UTC+0530	InternetGateway	CREATE_IN_PROGRESS	-

Stacks (1) 🔄

Filter status: Active ▾

🔍 Filter by stack name

View nested

< 1 >

Stacks

CFFORVPC

2024-12-16 21:53:26 UTC+0530

🕒 CREATE_IN_PROGRESS

Events (60) View root cause 🔄

🔍 Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:44 UTC+0530	SecurityGroup	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:43 UTC+0530	RouteTable	🕒 CREATE_IN_PROGRESS	✅ CONFIGURATION_COMPLETE
2024-12-16 21:53:43 UTC+0530	Subnet	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:42 UTC+0530	RouteTable	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:42 UTC+0530	VPCGatewayAttachment	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:41 UTC+0530	Subnet	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:41 UTC+0530	RouteTable	🕒 CREATE_IN_PROGRESS	-

Stacks (1) 🔄

Filter status: Active ▾

🔍 Filter by stack name

View nested

< 1 >

Stacks

CFFORVPC

2024-12-16 21:53:26 UTC+0530

✅ CREATE_COMPLETE

Events (63) View root cause 🔄

🔍 Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:46 UTC+0530	LambdaFunction2	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:46 UTC+0530	SubnetRouteTableAssociation	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:46 UTC+0530	LambdaFunction1	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:45 UTC+0530	Subnet	✅ CREATE_COMPLETE	-
2024-12-16 21:53:45 UTC+0530	LambdaExecutionRole	✅ CREATE_COMPLETE	-
2024-12-16 21:53:45 UTC+0530	InternetGateway	✅ CREATE_COMPLETE	-
2024-12-16 21:53:44 UTC+0530	VPCGatewayAttachment	✅ CREATE_COMPLETE	-

Stacks (1) 🔄

Filter status: Active ▾

🔍 Filter by stack name

View nested

< 1 >

Stacks

CFFORVPC

2024-12-16 21:53:26 UTC+0530

✅ CREATE_COMPLETE

Events (63) View root cause 🔄

🔍 Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:48 UTC+0530	EC2InstanceProfile	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:47 UTC+0530	SubnetRouteTableAssociation	✅ CREATE_COMPLETE	-
2024-12-16 21:53:47 UTC+0530	LambdaFunction1	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:47 UTC+0530	LambdaFunction2	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:47 UTC+0530	SubnetRouteTableAssociation	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:47 UTC+0530	EC2InstanceProfile	🕒 CREATE_IN_PROGRESS	-
2024-12-16 21:53:46 UTC+0530	EC2InstanceRole	✅ CREATE_COMPLETE	-

Stacks (1)



Filter status

Filter by stack name

Active

View nested

< 1 >

Stacks

CFFORVPC
2024-12-16 21:53:26 UTC+0530
CREATE_COMPLETE

Events (63)

View root cause



Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:55 UTC+0530	InternetGatewayRoute	CREATE_COMPLETE	-
2024-12-16 21:53:55 UTC+0530	LambdaFunction1	CREATE_COMPLETE	-
2024-12-16 21:53:55 UTC+0530	LambdaFunction2	CREATE_COMPLETE	-
2024-12-16 21:53:55 UTC+0530	InternetGatewayRoute	CREATE_IN_PROGRESS	-
2024-12-16 21:53:54 UTC+0530	InternetGatewayRoute	CREATE_IN_PROGRESS	-
2024-12-16 21:53:53 UTC+0530	RouteTable	CREATE_COMPLETE	-
2024-12-16 21:53:51 UTC+0530	SecurityGroup	CREATE_COMPLETE	-

Stacks (1)



Filter status

Filter by stack name

Active

View nested

< 1 >

Stacks

CFFORVPC
2024-12-16 21:53:26 UTC+0530
CREATE_COMPLETE

Events (63)

View root cause



Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:53:57 UTC+0530	EC2Instance	CREATE_IN_PROGRESS	-
2024-12-16 21:53:57 UTC+0530	EC2InstanceProfile	CREATE_IN_PROGRESS	CONFIGURATION_COMPLETE
2024-12-16 21:53:56 UTC+0530	LambdaLogGroup1	CREATE_IN_PROGRESS	-
2024-12-16 21:53:56 UTC+0530	LambdaLogGroup2	CREATE_IN_PROGRESS	-
2024-12-16 21:53:55 UTC+0530	SNSTopic	CREATE_IN_PROGRESS	-
2024-12-16 21:53:55 UTC+0530	LambdaLogGroup1	CREATE_IN_PROGRESS	-
2024-12-16 21:53:55 UTC+0530	LambdaLogGroup2	CREATE_IN_PROGRESS	-

Stacks (1)



Filter status

Filter by stack name

Active

View nested

< 1 >

Stacks

CFFORVPC
2024-12-16 21:53:26 UTC+0530
CREATE_COMPLETE

Events (63)

View root cause



Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:54:04 UTC+0530	LambdaPermission1	CREATE_IN_PROGRESS	-
2024-12-16 21:54:04 UTC+0530	LambdaPermission2	CREATE_IN_PROGRESS	-
2024-12-16 21:54:03 UTC+0530	SNSTopic	CREATE_IN_PROGRESS	CONFIGURATION_COMPLETE
2024-12-16 21:54:03 UTC+0530	LambdaLogGroup1	CREATE_COMPLETE	-
2024-12-16 21:54:03 UTC+0530	LambdaLogGroup2	CREATE_COMPLETE	-
2024-12-16 21:54:03 UTC+0530	SNSTopic	CREATE_IN_PROGRESS	-
2024-12-16 21:53:59 UTC+0530	EC2Instance	CREATE_IN_PROGRESS	-

CFFORVPC

Stacks (1)

Filter status: Active

View nested

Stacks

- CFFORVPC
 - 2024-12-16 21:53:26 UTC+0530
 - CREATE_COMPLETE

Events (63)

Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:56:00 UTC+0530	EC2InstanceProfile	CREATE_COMPLETE	-
2024-12-16 21:54:33 UTC+0530	SNSTopic	CREATE_COMPLETE	-
2024-12-16 21:54:10 UTC+0530	EC2Instance	CREATE_COMPLETE	-
2024-12-16 21:54:05 UTC+0530	LambdaPermission2	CREATE_COMPLETE	-
2024-12-16 21:54:05 UTC+0530	LambdaPermission1	CREATE_COMPLETE	-
2024-12-16 21:54:04 UTC+0530	LambdaPermission1	CREATE_IN_PROGRESS	-
2024-12-16 21:54:04 UTC+0530	LambdaPermission2	CREATE_IN_PROGRESS	-

CFFORVPC

Stacks (1)

Filter status: Active

View nested

Stacks

- CFFORVPC
 - 2024-12-16 21:53:26 UTC+0530
 - CREATE_COMPLETE

Stack info | **Events - updated** | Resources | Outputs | Parameters | Template

Table view | Timeline view - new

Events (63)

Search events

Timestamp	Logical ID	Status	Detailed status
2024-12-16 21:56:00 UTC+0530	CFFORVPC	CREATE_COMPLETE	-
2024-12-16 21:56:00 UTC+0530	EC2InstanceProfile	CREATE_COMPLETE	-

The Stack has been created successfully now we need to verify all the things.

Your VPCs (2) Info

Last updated less than a minute ago

Search

Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR
VPCE-Tutorial-VPC	vpc-0c42f0b520e4188f1	Available	Off	10.0.0/16	-
-	vpc-0ca4bd13727b758cb	Available	Off	172.31.0.0/16	-

Subnets (7) Info

Last updated 1 minute ago

Find resources by attribute or tag

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
VPCE-Tutorial-Subnet	subnet-07f4c7128b2b576c1	Available	vpc-0c42f0b520e4188f1 VPCE...	Off	10.0.0/24
-	subnet-0d828a638aec31575	Available	vpc-0ca4bd13727b758cb	Off	172.31.0.0/20
-	subnet-09c8bc6fedafb2bce	Available	vpc-0ca4bd13727b758cb	Off	172.31.32.0/20
-	subnet-0c3a227a64896a22a	Available	vpc-0ca4bd13727b758cb	Off	172.31.64.0/20

Route tables (1/3) Info Last updated 1 minute ago Actions Create route table

Find resources by attribute or tag

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
-	rtb-095aabe9b1593bb7	-	-	Yes	vpc-0ca4bd13727b758cb
VPCE-Tutorial-RouteTable	rtb-01cb081ccf3becffc	subnet-07f4c7128b2b57...	-	No	vpc-0c42f0b520e4188f1 V
-	rtb-06d3471056bc003e8	-	-	Yes	vpc-0c42f0b520e4188f1 V

VPC > Route tables > rtb-01cb081ccf3becffc

rtb-01cb081ccf3becffc / VPCE-Tutorial-RouteTable

Actions

Details Info

Route table ID rtb-01cb081ccf3becffc	Main No	Explicit subnet associations subnet-07f4c7128b2b57c1 / VPCE-Tutorial-Subnet	Edge associations -
VPC vpc-0c42f0b520e4188f1 VPCE-Tutorial-VPC	Owner ID 207567757353		

Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (2) Both Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0eb71c7f57ed45c98	Active	No
10.0.0.0/16	local	Active	No

Internet gateways (2) Info Last updated less than a minute ago Actions Create internet gateway

Search

Name	Internet gateway ID	State	VPC ID	Owner
-	igw-01655718ff8c7f3a5	Attached	vpc-0ca4bd13727b758cb	207567757353
VPCE-Tutorial-InternetGateway	igw-0eb71c7f57ed45c98	Attached	vpc-0c42f0b520e4188f1 VPCE-Tutoria...	207567757353

VPC > Internet gateways > igw-0eb71c7f57ed45c98

igw-0eb71c7f57ed45c98 / VPCE-Tutorial-InternetGateway

Actions

Details Info

Internet gateway ID igw-0eb71c7f57ed45c98	State Attached	VPC ID vpc-0c42f0b520e4188f1 VPCE-Tutorial-VPC	Owner 207567757353
--	-------------------	---	-----------------------

Tags Manage tags

Search tags

Key	Value
aws:cloudf...	CFFORVPC
Name	VPCE-Tutorial-InternetGateway
aws:cloudf...	InternetGateway
aws:cloudf...	arn:aws:cloudformation:us-east-1:207567757353:stack/CFFORVPC/13a3e230-bbca-11ef-900b-0ec39c392a3f

Instances (1) Info Last updated less than a minute ago Connect Instance state Actions Launch instances

Find Instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
VPCE-Tutorial-...	i-057a8c3ab9287d8f0	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1f	ec2-3-238-...

Amazon SNS > Topics

Amazon SNS

- Dashboard
- Topics
- Subscriptions
- Mobile
 - Push notifications
 - Text messaging (SMS)

VPCE-Tutorial-Topic

Details

Name VPCE-Tutorial-Topic	Display name VPCE-Tutorial-Topic
ARN arn:aws:sns:us-east-1:207567757353:VPCE-Tutorial-Topic	Topic owner 207567757353
Type Standard	

Subscriptions (2)

ID	Endpoint	Status	Protocol
1e9c53b4-7a90-4643-b2ed-5c3c0...	arn:aws:lambda:us-east-1:2075677...	Confirmed	LAMBDA
37608a7f-99aa-4a26-baf6-eaf70f...	arn:aws:lambda:us-east-1:2075677...	Confirmed	LAMBDA

We need to subscribe the sns topics. After Confirm the subscription you will notified.

AWS Notification - Subscription Confirmation > Inbox x



VPCE-Tutorial-Topic <no-reply@sns.amazonaws.com>
to me v

You have chosen to subscribe to the topic:
arn:aws:sns:us-east-1:207567757353:VPCE-Tutorial-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](#)



Simple Notification Service

Subscription confirmed!

You have successfully subscribed.

Your subscription's id is:

arn:aws:sns:us-east-1:207567757353:VPCE-Tutorial-Topic:a39f489a-720a-4e74-81ee-121ff13ccfcd

If it was not your intention to subscribe, [click here to unsubscribe](#).

Now We need to connect the ec2 instance from mobaxterm tool.

The screenshot shows the AWS Management Console 'Instances' page. At the top, there are buttons for 'Connect', 'Instance state', 'Actions', and 'Launch instances'. A search bar contains the text 'Find Instance by attribute or tag (case-sensitive)'. Below the search bar is a table of instances. The first instance is highlighted:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
VPCE-Tutorial-...	i-057a8c3ab9287d8f0	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1f	ec2-3-238-

The screenshot shows the 'Instance details' page for instance 'i-057a8c3ab9287d8f0'. The 'Instance summary' section shows:

- Instance ID: i-057a8c3ab9287d8f0
- Public IPv4 address: 3.238.206.37
- Private IPv4 addresses: 10.0.0.144
- Instance state: Running
- Public IPv4 DNS: ec2-3-238-206-37.compute-1.amazonaws.com

Below the summary is the 'Session settings' dialog. It includes a toolbar with various protocols like SSH, Telnet, Rsh, Xdmcp, RDP, VNC, FTP, SFTP, Serial, File, Shell, Browser, Mosh, Aws S3, and WSL. The 'Basic SSH settings' section shows:

- Remote host: 3.238.206.37
- Specify username: ec2-user
- Port: 22

The 'Advanced SSH settings' section is expanded, showing:

- X11-Forwarding:
- Compression:
- Remote environment: Interactive shell
- Execute command: (empty)
- SSH-browser type: SFTP protocol
- Use private key: E:\cloudwatch logs.ppk
- Execute macro at session start: <none>

The 'OK' button is highlighted with a red box.

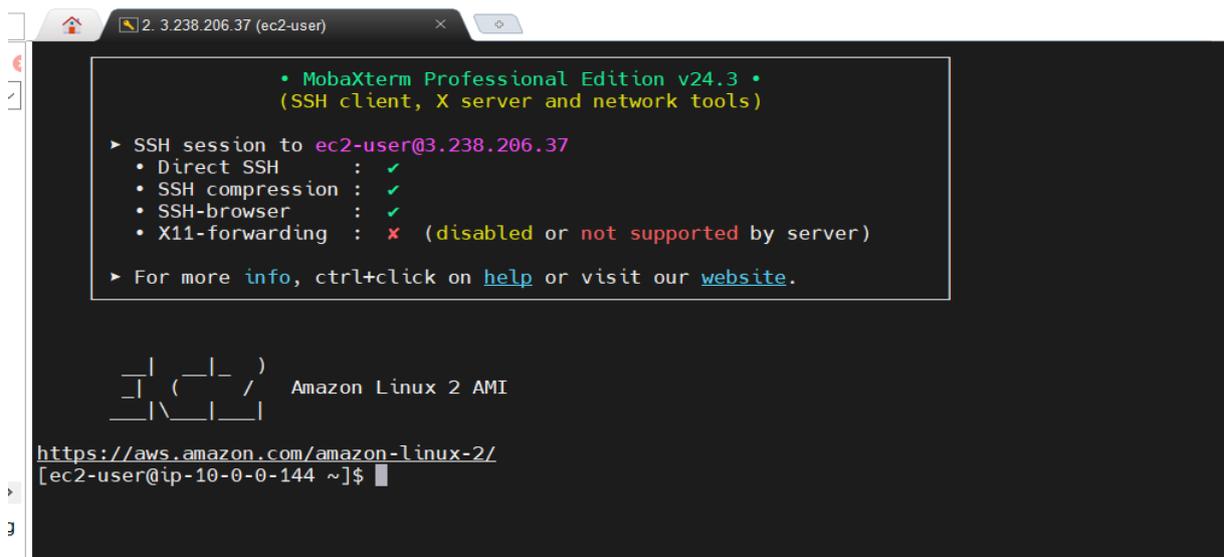
The screenshot shows the MobaXterm interface. The top menu bar includes 'server', 'Tools', 'Settings', 'Macros', and 'Help'. The main window shows a connection to '2. 3.238.206.37 (ec2-user)'. A dialog box is displayed with the following text:

Connexion to 3.238.206.37 (port 22)

It seems to be the first time you connect to this server: the remote server identity is not yet known by MobaXterm.

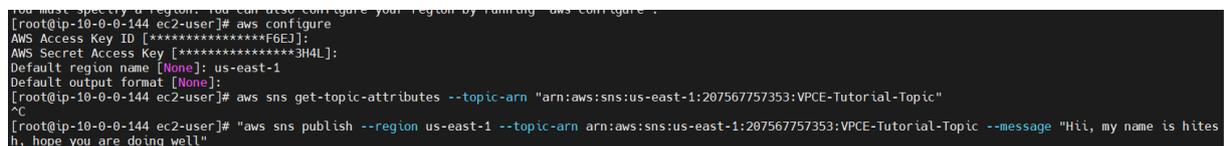
Press "Accept" if you trust this identity and want to carry on connecting. Press "Cancel" if you want to abandon this connection.

The 'Accept' button is highlighted with a red box. There are also 'Cancel' and 'More info...' buttons. At the bottom, there is a checkbox for 'Do not show this message again'.



We need to do aws configure need to configure

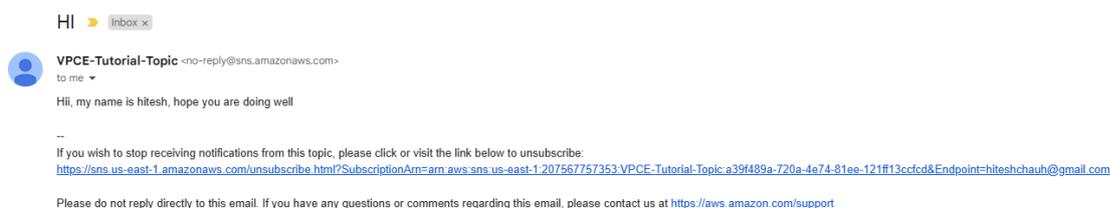
We need provide Access Key And Secret Access key



Then We need to run command **aws sns get-topic-attributes --topic-arn "arn:aws:sns:us-east-1:207567757353:VPCE-Tutorial-Topic"**

Then Run **"aws sns publish --region us-east-1 --topic-arn arn:aws:sns:us-east-1:207567757353:VPCE-Tutorial-Topic --message "Hii, my name is hitesh, hope you are doing well"**

This is the email confirmation.



Note: There is another options if command is not working so go to simple notification service.then subscribe the those topic you will choose manually send the push message.