

Bo Lontum

Mini-project-Assign.

CloudFormation

Mini-project Assignment

MINI-PROJECT

Each student will describe a section of the network template (will be provided!).

Step 1

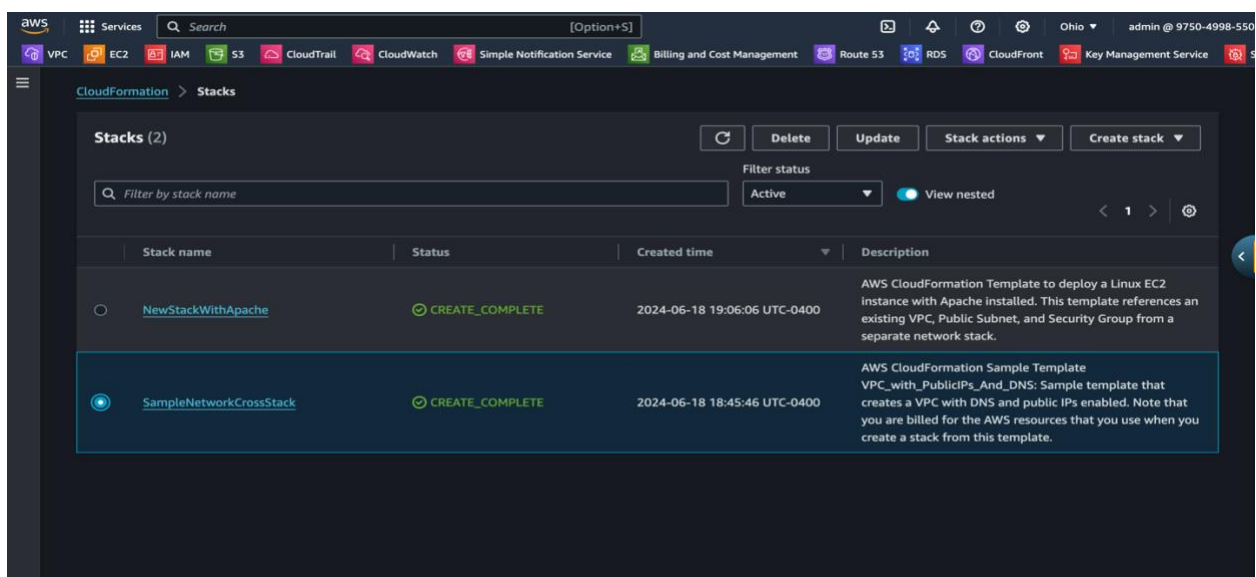
- Deploy a sample network configuration stack with the network template provided.
- For stackname use: SampleNetworkCrossStack

Step 2

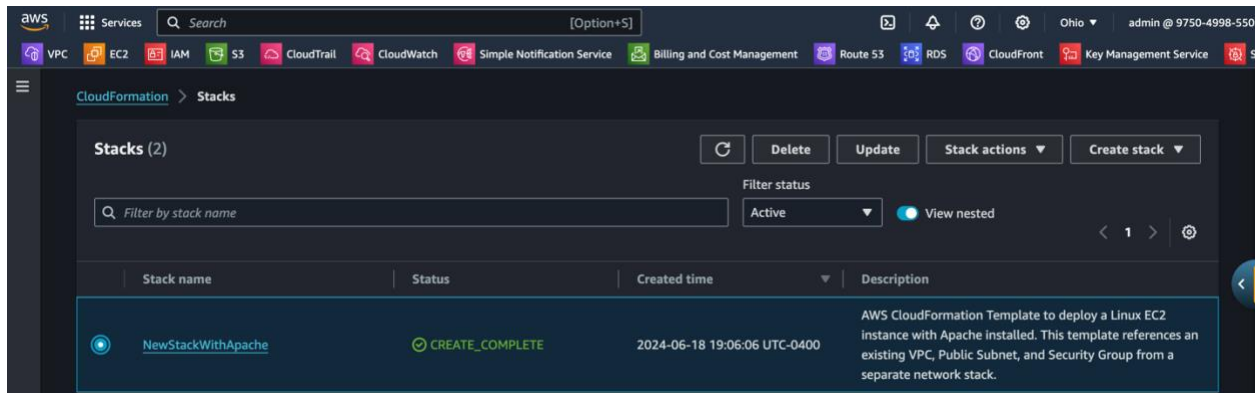
Deploy a new stack that will setup Apache on a Linux EC2 instance and reference the sample network stack previously created.

- Deploy template in us-west-2 region. Allocate an Elastic IP address using resources.
- Reference all available variables from SampleNetworkCrossStack
- Create a Mapping function to dynamically choosing regions.
- Create parameters for requesting user inputs as much as possible.
- Output the values of the private IPv4 address and DNS name of the EC2 instance.
- Log in into the ec2 server afterward and provide screenshots Apache message. Create a Git repo `apache-web-cfn` and upload templates.

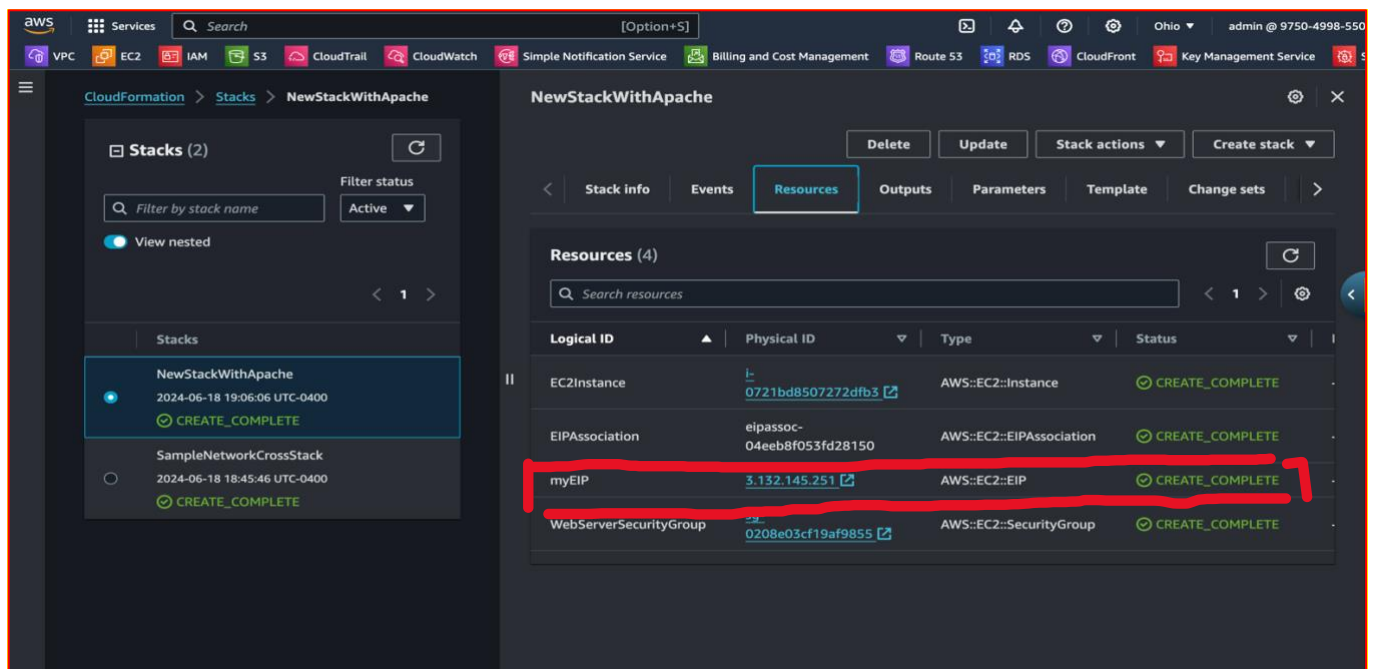
1) Highlighted is Step 1. Deployed sample Named SamplNetworkCrossStack



2) Deployment of the Apache Named NewstackWithApache using Linus



3) Deployment with Elastic-Ip included in US East



4) Used the Below Variables to Reference in the NewApacheStack

The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks' list shows two stacks: 'NewStackWithApache' and 'SampleNetworkCrossStack'. The 'SampleNetworkCrossStack' is selected, and its 'Outputs' tab is active. The 'Outputs' tab displays a table with 4 columns: Key, Value, Description, and Export name.

Key	Value	Description	Export name
PublicSubnet	subnet-0bf639905181eca6b	The subnet ID to use for public web servers	SampleNetworkCrossStack-SubnetID
VPCId	vpc-0129c5f2be1c92947	VPC ID	SampleNetworkCrossStack-VPCID
WebServerSecurityGroup	sg-08119d5297b90fe65	The security group ID to use for public web servers	SampleNetworkCrossStack-SecurityGroupID

5) Mapping fuction to Dynamically choose Region as well as AMI

The screenshot shows the AWS CloudFormation console with the 'NewStackWithApache' stack selected. The 'Template' tab is active, displaying the CloudFormation template code. The code includes a 'Mappings' section for region-specific AMIs, a 'Resources' section for an EC2 instance and an Elastic IP, and a 'UserData' section.

```
Mappings:
  RegionMap:
    us-east-1:
      AMI: "ami-08a0d1e16fc3f61ea"
    us-west-1:
      AMI: "ami-0ca1f30768d0cf0e1"
    us-east-2:
      AMI: "ami-033fabdd332044f06"
    us-west-2:
      AMI: "ami-0b20a6f09484773af"

Resources:
  myEIP:
    Type: 'AWS::EC2::EIP'

  EC2Instance:
    Type: 'AWS::EC2::Instance'
    Properties:
      InstanceType: !Ref InstanceType
      ImageId: !FindInMap
        - RegionMap
        - !Ref "AWS::Region"
        - AMI
      KeyName: !Ref KeyName
      NetworkInterfaces:
        - DeviceIndex: '0'
          SubnetId: !Ref PublicSubnet
          GroupSet:
            - !GetAtt WebServerSecurityGroup.GroupId
          AssociatePublicIpAddress: 'true'
      UserData:
        Fn::Base64: !Sub |
```

6) Parameters for Requesting User Input As much as possible

The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks' list shows two stacks: 'NewStackWithApache' (UPDATE_COMPLETE) and 'SampleNetworkCrossStack' (CREATE_COMPLETE). The main panel displays the 'Parameters' tab for the 'NewStackWithApache' stack. It lists 7 parameters with their keys, values, and resolved values.

Key	Value	Resolved value
AMIId	ami-033fabdd332044f06	-
EnvironmentTag	Test	-
InstanceNameTag	MyApacheServer	-
InstanceType	t2.micro	-
KeyName	FormationKeypay	-
PublicSubnet	subnet-0bf639905181eca6b	-
VPC	vpc-0129c5f2be1c92947	-

7) Output of the Value of Private IPV4 address and DNS name of the EC2 instance

The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks' list shows two stacks: 'NewStackWithApache' (UPDATE_COMPLETE) and 'SampleNetworkCrossStack' (CREATE_COMPLETE). The main panel displays the 'Outputs' tab for the 'NewStackWithApache' stack. It lists 4 outputs with their keys, values, descriptions, and export names. Red checkmarks are placed next to the 'PrivateIPAddress' and 'PublicDNSName' outputs.

Key	Value	Description	Export name
InstanceId	i-0721bd8507272dfb3	The ID of the EC2 instance	NewStackWithApache-InstanceId
InstancePublicIp	3.132.145.251	The public IP address of the EC2 instance	NewStackWithApache-InstancePublicIP
PrivateIPAddress	10.0.0.31	The private IP address of the EC2 instance	NewStackWithApache-PrivateIp
PublicDNSName	ec2-3-132-145-251-us-east-2.compute.amazonaws.com	The public DNS name of the EC2 instance	NewStackWithApache-PublicDnsName

8) Apache Message

This Is a great mini-project on Cloudformation.We face difficulties, yet we survive them, thanks to cloudSpace Aca (Blue)

