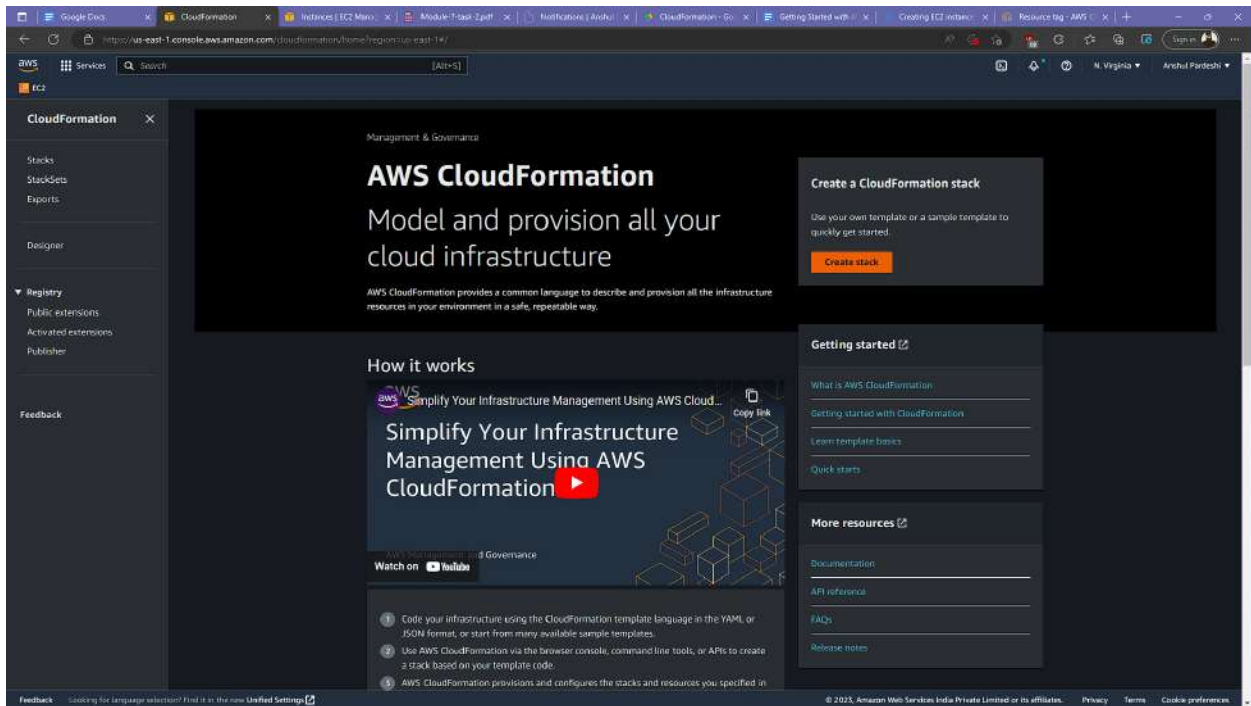


Module-7: Cloud Formation Assignment - 2

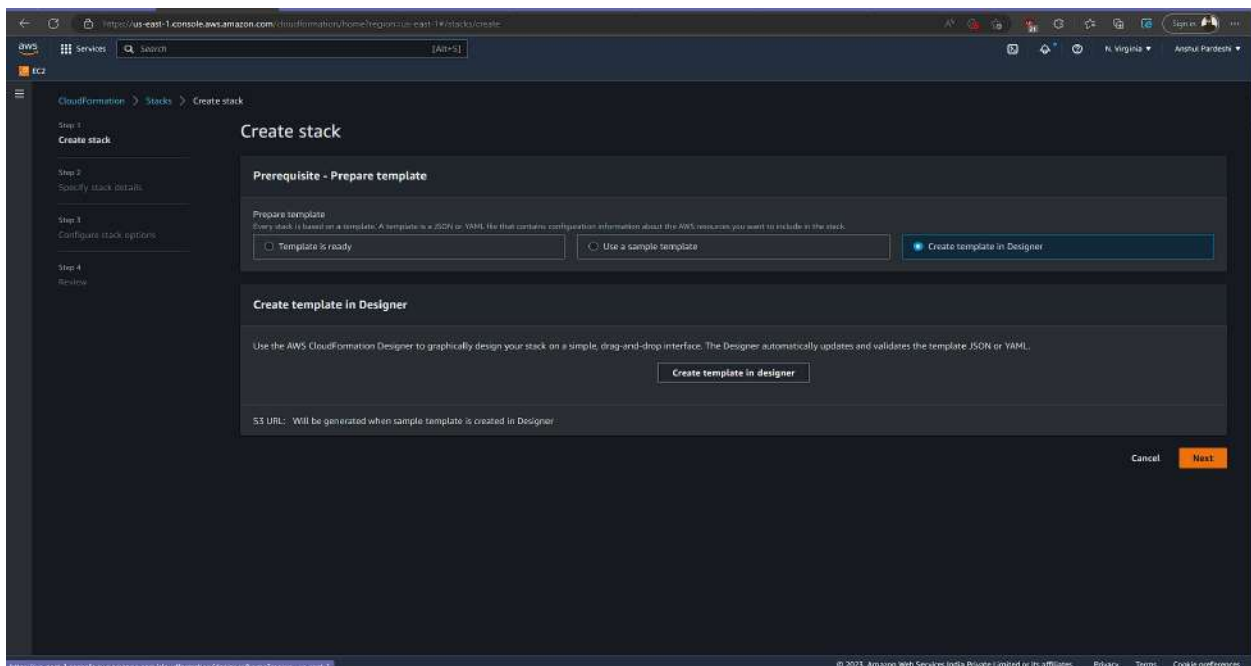
You have been asked to:

1. Create a template with 1 VPC and 1 Public Subnet
2. Launch an Amazon Linux EC2 instance in the public subnet and tag the instance as “CFInstance”.

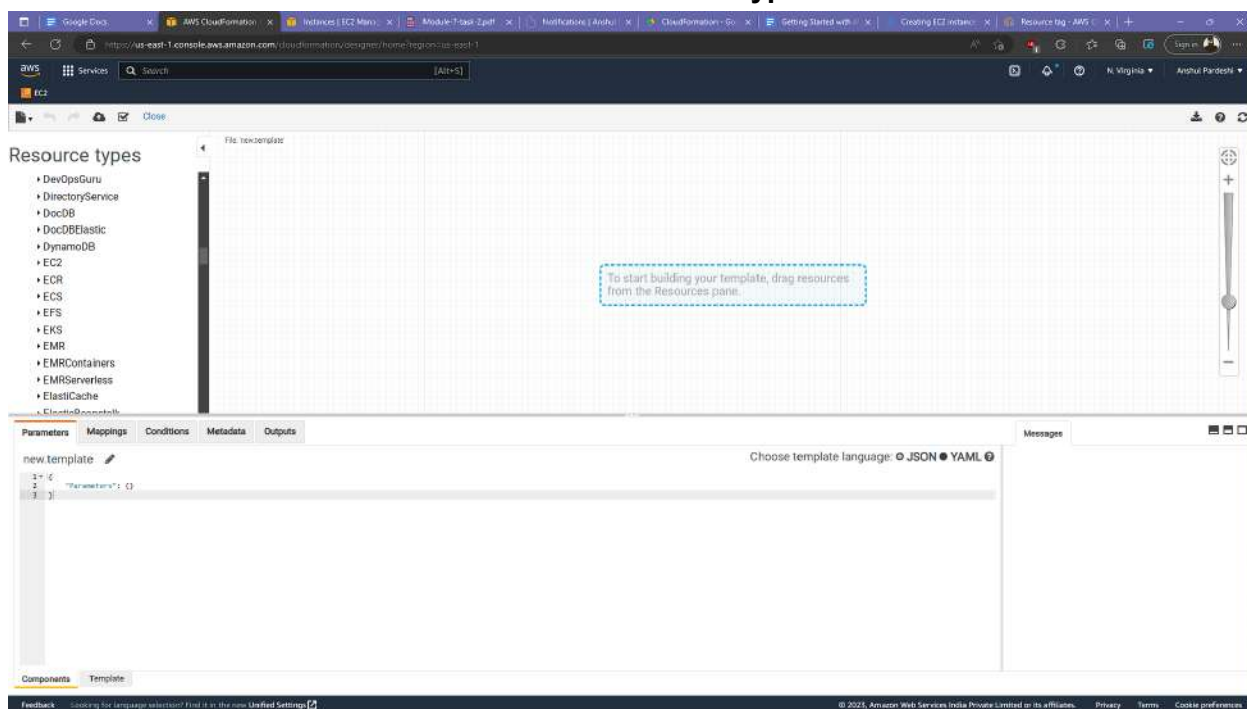
Go to the Cloud Formation dashboard and click on designer.



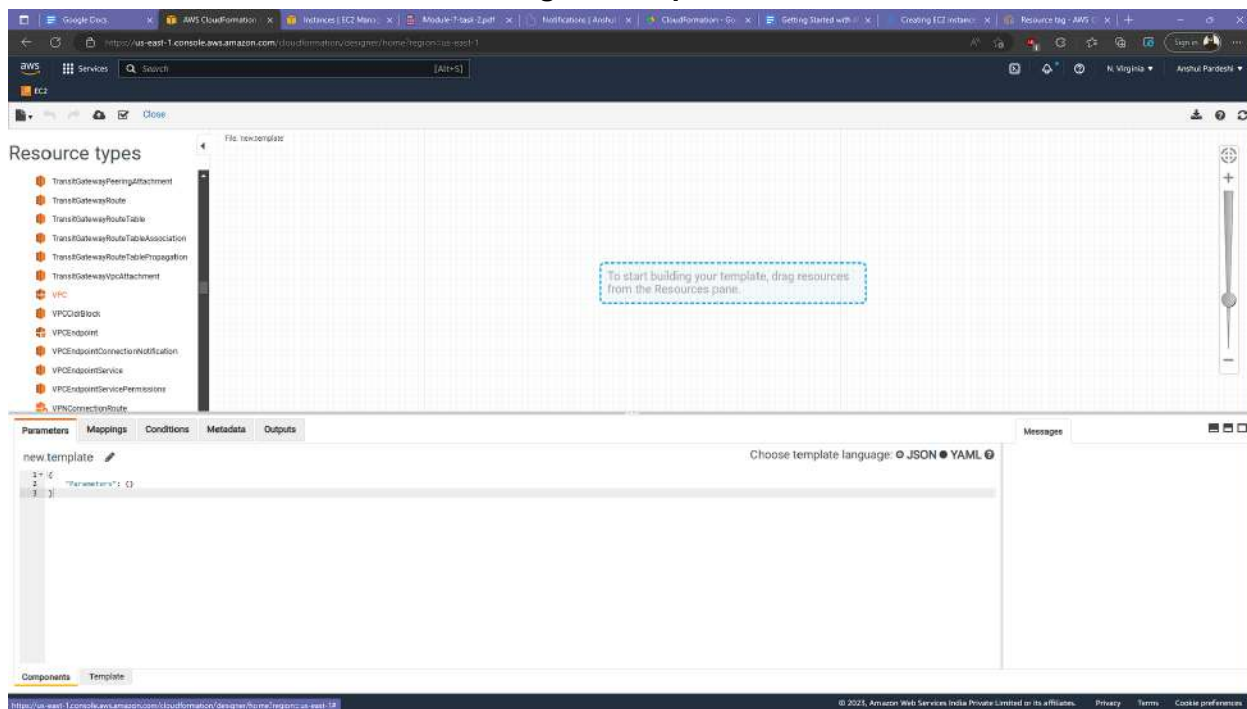
Choose create template in designer.



Go to Ec2 in resource types.



Drag and drop VPC.



Drag and drop Subnet.

The screenshot shows the AWS CloudFormation console interface. On the left, the 'Resource types' panel lists various AWS resources. A 'Subnet' resource is being dragged from this list onto the main canvas. The canvas displays a visual representation of the template, with a red box indicating the placement of the 'Subnet' resource. Below the canvas, the 'Properties' tab is active, showing the JSON template for the 'EC2VPC1VUWH' resource. The template includes a 'Resources' section with a 'Subnet' resource defined. The 'Choose template language' dropdown is set to 'JSON'.

```
1: {
2:   "Resources": {
3:     "EC2VPC1VUWH": {
4:       "Type": "AWS::EC2::VPC",
5:       "Properties": {}
6:     }
7:   }
8: }
```

Drag and drop EC2.

The screenshot shows the AWS CloudFormation console interface. On the left, the 'Resource types' panel lists various AWS resources. An 'EC2' resource is being dragged from this list onto the main canvas. The canvas displays a visual representation of the template, with a red box indicating the placement of the 'EC2' resource. Below the canvas, the 'Properties' tab is active, showing the JSON template for the 'EC2S28Y97' resource. The template includes a 'Resources' section with an 'EC2' resource defined. The 'Choose template language' dropdown is set to 'JSON'.

```
1: {
2:   "Resources": {
3:     "EC2S28Y97": {
4:       "Type": "AWS::EC2::Instance",
5:       "Properties": {}
6:     }
7:   }
8: }
```

Select VPC and add properties as follows.

The screenshot shows the AWS CloudFormation console with the 'VPC' resource selected. The 'Properties' tab is active, displaying the following configuration:

```
1 - Resources:
2 - VPC:
3 - Type: AWS::EC2::VPC
4 - Properties:
5 - CidrBlock: 10.0.0.0/16
6 - EnableDnsSupport: true
7 - EnableDnsHostnames: true
8 - InstanceTenancy: default
```

The 'Choose template language' dropdown is set to 'JSON'. The 'Template' tab is also visible at the bottom.

Select Subnet and add properties as follows.

The screenshot shows the AWS CloudFormation console with the 'PublicSubnet' resource selected. The 'Properties' tab is active, displaying the following configuration:

```
1 - Resources:
2 - PublicSubnet:
3 - Type: AWS::EC2::Subnet
4 - Properties:
5 - AvailabilityZone: us-east-1a
6 - VpcId: Ref VPC
7 - CidrBlock: 10.0.1.0/24
8 - MapPublicIpOnLaunch: true
```

The 'Choose template language' dropdown is set to 'JSON'. The 'Template' tab is also visible at the bottom.

Select EC2 and add properties as follows. Tag as given as CFinstance.

The screenshot shows the AWS CloudFormation console with the 'MyNewEC2Instance' resource selected. The 'Properties' tab is active, displaying the following configuration:

- 1 - Resources:
- 2 - MyNewEC2Instance:
- 3 - Type: AWS::EC2::Instance
- 4 - Properties:
- 5 - ImageId: ami-0b0e379e91
- 6 - InstanceType: t2.micro
- 7 - SubnetId: Ref: PublicSubnet
- 8 - KeyName: Ref: CloudFormation
- 9 - Tags:
- 10 - Key: "ForAssignment"
- 11 - Value: "CFinstance"

The 'Tags' section is expanded, showing the tag 'ForAssignment' with the value 'CFinstance'. The 'Resource types' list on the left includes Host, IPAM, IPAMAllocation, IPAMPool, IPAMScope, Instance, InternetGateway, KeyPair, LaunchTemplate, LocalGatewayRoute, LocalGatewayRouteTableVPCAssociation, NatGateway, and NetworkAd.

Create Stack.

This screenshot is identical to the one above, showing the AWS CloudFormation console with the 'MyNewEC2Instance' resource selected. The 'Properties' tab is active, displaying the same configuration:

- 1 - Resources:
- 2 - MyNewEC2Instance:
- 3 - Type: AWS::EC2::Instance
- 4 - Properties:
- 5 - ImageId: ami-0b0e379e91
- 6 - InstanceType: t2.micro
- 7 - SubnetId: Ref: PublicSubnet
- 8 - KeyName: Ref: CloudFormation
- 9 - Tags:
- 10 - Key: "ForAssignment"
- 11 - Value: "CFinstance"

The 'Tags' section is expanded, showing the tag 'ForAssignment' with the value 'CFinstance'. The 'Resource types' list on the left includes Host, IPAM, IPAMAllocation, IPAMPool, IPAMScope, Instance, InternetGateway, KeyPair, LaunchTemplate, LocalGatewayRoute, LocalGatewayRouteTableVPCAssociation, NatGateway, and NetworkAd.

Next.

CloudFormation > Stacks > Create stack

Step 1: Create stack

Step 2: Specify stack details

Step 3: Configure stack options

Step 4: Review

Prerequisite - Prepare template

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.

☒ Template is ready ☐ Use a sample template ☐ Create template in Designer

Specify template

A template is a JSON or YAML file that describes your stack's resources and properties.

Template source

Selecting a template generates an Amazon S3 URL, where it will be stored.

☒ Amazon S3 URL ☐ Upload a template file

Amazon S3 URL

`https://s3-external-1.amazonaws.com/cf-templates-1md9we07lwnq-us-east-1/20230107F3-MyNewEC2instancesetb2g01yr`

Amazon S3 template URL

S3 URL: `https://s3-external-1.amazonaws.com/cf-templates-1md9we07lwnq-us-east-1/20230107F3-MyNewEC2instancesetb2g01yr`

[View in Designer](#)

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

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Give it a name.

CloudFormation > Stacks > Create stack

Step 1: Create stack

Step 2: Specify stack details

Step 3: Configure stack options

Step 4: Review for assignmentCF

Specify stack details

Stack name

Stack name

`for-assignmentCF`

Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

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](#)

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Next

The screenshot shows the 'Next' step in the AWS CloudFormation console. The interface is dark-themed. At the top, there's a navigation bar with the AWS logo, a search bar, and a user profile. The main content area is divided into sections: 'IAM role - optional' with a dropdown for 'IAM role name' and a 'Remove' button; 'Stack failure options' with radio buttons for 'Roll back all stack resources' (selected) and 'Preserve successfully provisioned resources'; and 'Advanced options' with expandable sections for 'Stack policy', 'Rollback configuration', 'Notification options', and 'Stack creation options'. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons. The footer contains a feedback link, a language selection note, and copyright information.

IAM role - optional
Choose the IAM role for CloudFormation to use for all operations performed on the stack.

IAM role name Remove

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.

Advanced options
You can set additional options for your stack, like notification options and a stack policy. [Learn more](#)

Stack policy
Defines the resources that you want to protect from unintentional updates during a stack update.

Rollback configuration
Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back. [Learn more](#)

Notification options

Stack creation options

Cancel Previous Next

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Submit

The screenshot shows the 'Submit' step in the AWS CloudFormation console. The interface is dark-themed. At the top, there's a navigation bar with the AWS logo, a search bar, and a user profile. The main content area is divided into sections: 'Rollback configuration' with fields for 'Monitoring time' and 'CloudWatch alarm ARN'; 'Notification options' with a field for 'SNS topic ARN' and a message 'No notification options. There are no notification options defined.'; and 'Stack creation options' with fields for 'Timeout' and 'Termination protection' (set to 'Disabled'). At the bottom left, there's a 'Quick-create link' and a 'Create change set' button. At the bottom right, there are 'Cancel', 'Previous', and 'Submit' buttons. The footer contains a feedback link, a language selection note, and copyright information.

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
Disabled

Quick-create link

Create change set

Cancel Previous Submit

Feedback [Looking for language selection? Find it in the new Unified Settings.](#)

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Wait for it.

The screenshot shows the AWS CloudFormation console for the 'for-assignmentCF' stack. The 'Events' tab is selected, showing a single event with the status 'CREATE_IN_PROGRESS'. The left sidebar shows the stack list with 'for-assignmentCF' highlighted.

Timestamp	Logical ID	Status	Status reason
2023-01-10 21:09:44 UTC+0530	for-assignmentCF	CREATE_IN_PROGRESS	User initiated

Vpc, Subnet and ec2 instance in that subnet has been created.

The screenshot shows the AWS CloudFormation console for the 'for-assignmentCF' stack. The 'Events' tab is selected, showing a list of 11 events. The stack status is now 'CREATE_COMPLETE'. The left sidebar shows the stack list with 'for-assignmentCF' highlighted.

Timestamp	Logical ID	Status	Status reason
2023-01-10 21:11:30 UTC+0530	for-assignmentCF	CREATE_COMPLETE	-
2023-01-10 21:11:28 UTC+0530	MyNewEC2Instance	CREATE_COMPLETE	-
2023-01-10 21:10:16 UTC+0530	MyNewEC2Instance	CREATE_IN_PROGRESS	Resource creation initiated
2023-01-10 21:10:15 UTC+0530	MyNewEC2Instance	CREATE_IN_PROGRESS	-
2023-01-10 21:10:13 UTC+0530	PublicSubnet	CREATE_COMPLETE	-
2023-01-10 21:10:09 UTC+0530	PublicSubnet	CREATE_IN_PROGRESS	Resource creation initiated
2023-01-10 21:10:07 UTC+0530	PublicSubnet	CREATE_IN_PROGRESS	-
2023-01-10 21:10:03 UTC+0530	VPC	CREATE_COMPLETE	-
2023-01-10 21:09:51 UTC+0530	VPC	CREATE_IN_PROGRESS	Resource creation initiated
2023-01-10 21:09:48 UTC+0530	VPC	CREATE_IN_PROGRESS	-
2023-01-10 21:09:44 UTC+0530	for-assignmentCF	CREATE_IN_PROGRESS	User initiated

This is the instance when filtered with a given keypair.

The screenshot displays the AWS Management Console interface for the EC2 service. The left-hand navigation pane shows various AWS services, with 'EC2' selected. The main content area is titled 'Instances (2) Info'. A search bar at the top of the instance list contains the text 'Find instance by attribute or tag (case sensitive)'. Below the search bar, a filter is applied: 'for:assignment = CFInstance'. The instance list table shows two instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
-	i-07a690adac20a16e	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
-	i-0c6d414a7accba3	Running	t2.micro	Initializing	No alarms	us-east-1a	ac2-54-91-193-151.co...	54-91-193-151	-

Below the table, there is a large dark grey area with the text 'Select an instance' and a magnifying glass icon. The bottom of the console shows the footer with copyright information: '© 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences'.

Complete YAML File:

```
Resources:
  VPC:
    Type: AWS::EC2::VPC
    Properties:
      CidrBlock: 10.0.0.0/16
      EnableDnsSupport: true
      EnableDnsHostnames: true
      InstanceTenancy: default
  PublicSubnet:
    Type: AWS::EC2::Subnet
    Properties:
      AvailabilityZone: us-east-1a
      VpcId: !Ref VPC
      CidrBlock: 10.0.1.0/16
      MapPublicIpOnLaunch: true
  MyNewEC2Instance:
    Type: AWS::EC2::Instance
    Properties:
      ImageId: ami-0b5eea76982371e91
      InstanceType: t2.micro
      SubnetId: !Ref PublicSubnet
      KeyName: for-cloudformation
      Tags:
        - Key: "forassignment"
          Value: "CFinstance"
```