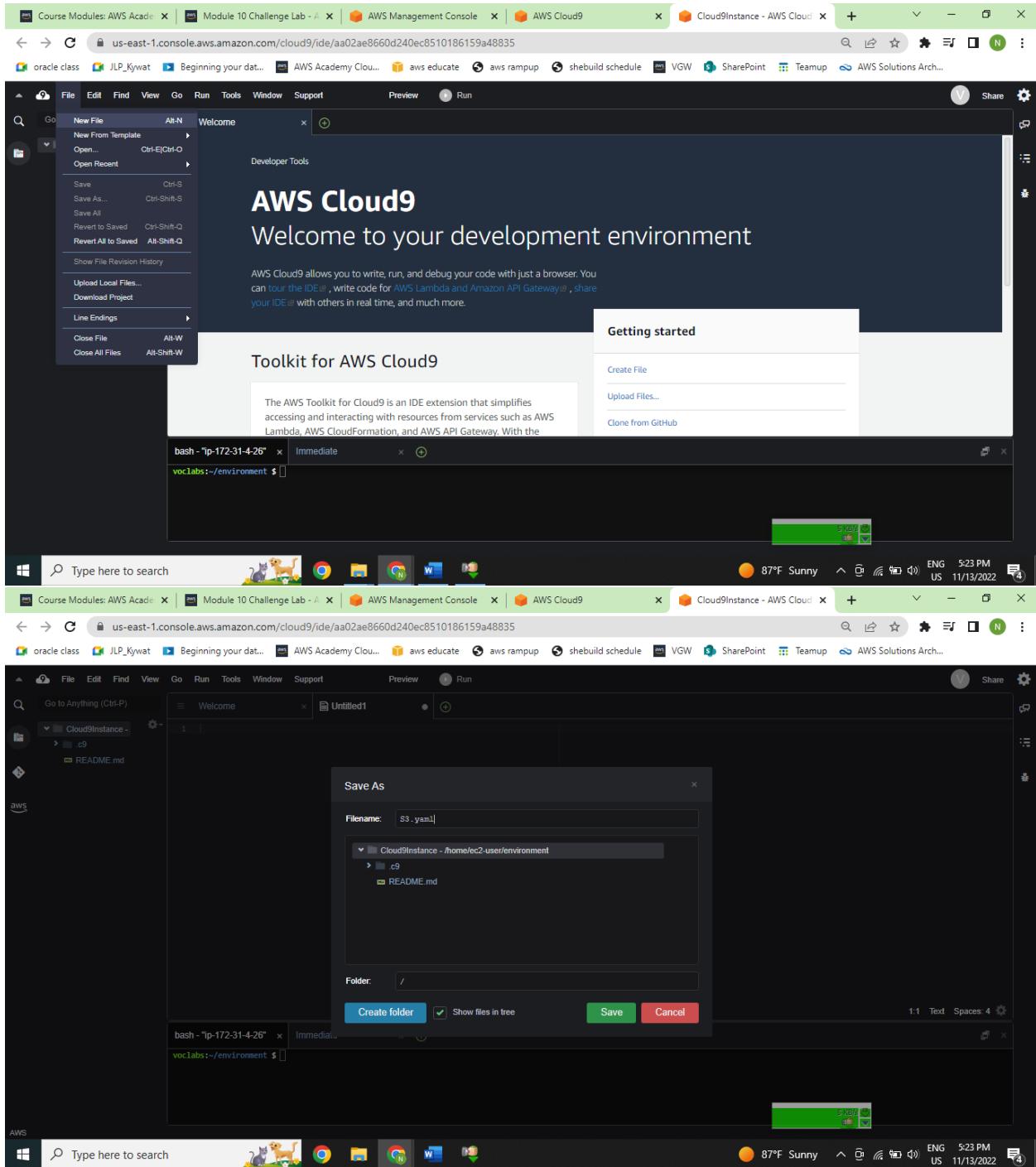


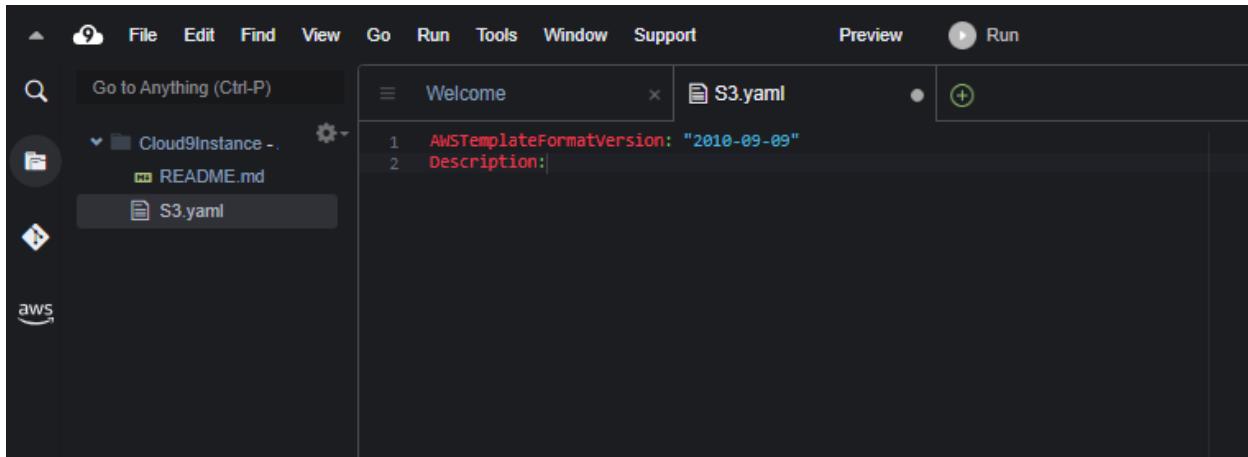
Module 10 Challenge Lab - Automating Infrastructure Deployment

The screenshot shows the AWS Cloud9 interface. On the left, there's a sidebar with 'AWS Cloud9' at the top, followed by 'Environments' and 'Documentation'. The main area is titled 'Environments (1)' and shows a table with one row:

Name	Cloud9 IDE	Environment type	Connection	Permission	Owner ARN
Cloud9Instance	Open	EC2 instance	Secure Shell (SSH)	Owner	arn:aws:sts::033689435753:assumed-role/voclabs/user2211147=Nwe_Nwe_Htay_Win

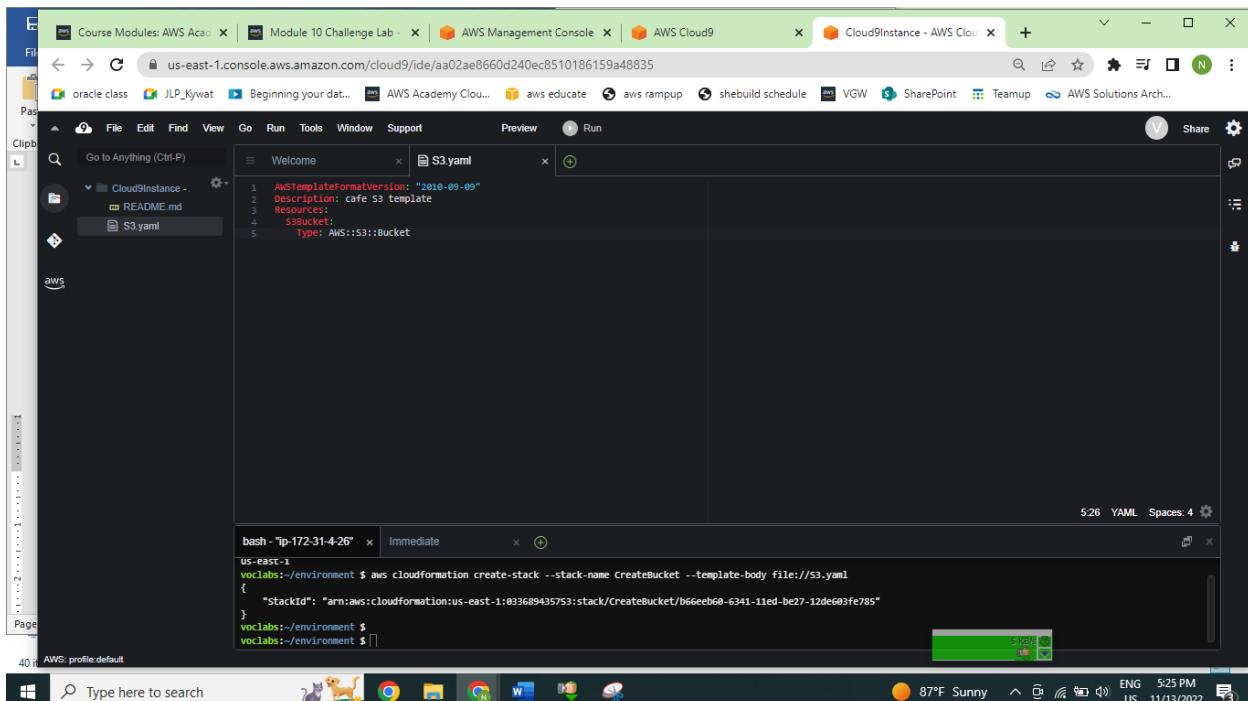
At the bottom of the screen, there's a taskbar with various icons and a system tray showing the date and time.





The screenshot shows the AWS Cloud9 IDE interface. The left sidebar displays a file tree with 'Cloud9Instance' containing 'README.md' and 'S3.yaml'. The main editor window shows the 'S3.yaml' file content:

```
AWSTemplateFormatVersion: "2010-09-09"
Description:
```



The terminal window in the foreground shows the following command being run:

```
aws cloudformation create-stack --stack-name CreateBucket --template-body file://S3.yaml
```

The terminal output shows the stack creation process:StackId: arn:aws:cloudformation:us-east-1:033689435753:stack/CreateBucket/b66eeb60-6341-11ed-be27-12de603fe785

CLI

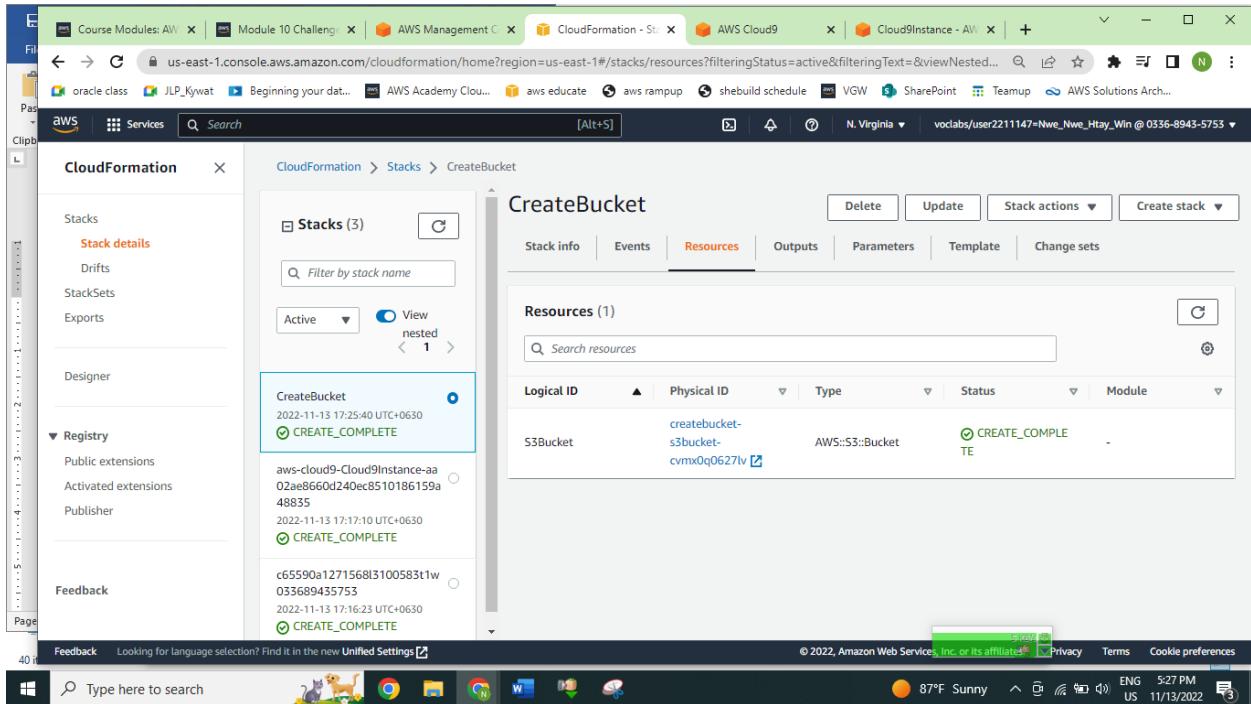
```
aws configure get region
aws cloudformation create-stack --stack-name CreateBucket --template-body file://S3.yaml
```

```
bash - "ip-172-31-4-26"  x  Immediate  x  +  
vclabs:~/environment $ aws configure get region  
vclabs:~/environment $ aws configure get region  
us-east-1  
vclabs:~/environment $ aws cloudformation create-stack --stack-name CreateBucket --template-body file://S3.yaml  
{  
    "StackId": "arn:aws:cloudformation:us-east-1:033689435753:stack/CreateBucket/b66eeb60-6341-11ed-be27-12de603fe785"  
}  
vclabs:~/environment $  
vclabs:~/environment $
```

The screenshot shows the AWS CloudFormation console interface. On the left, there's a sidebar with navigation links for CloudFormation, Stacks, StackSets, Exports, Designer, Registry (Public extensions, Activated extensions, Publisher), and Feedback. The main area is titled 'CloudFormation > Stacks' and displays a table of stacks. The table has columns for Stack name, Status, Created time, and Description. There are three entries:

Stack name	Status	Created time	Description
CreateBucket	CREATE_COMPLETE	2022-11-13 17:25:40 UTC+0630	cafe S3 template
aws-cloudformation-lab	CREATE_COMPLETE	2022-11-13 17:17:10 UTC+0630	-
c65590a1271568131005831tw033689435753	CREATE_COMPLETE	2022-11-13 17:16:23 UTC+0630	template to start the CloudFormation challenge lab

At the bottom of the browser window, the address bar shows the URL: https://us-east-1.console.aws.amazon.com/cloudformation/home?region=us-east-1#/stacks/stackinfo?filteringStatus=active&filteringText=&viewNested=true&hideStacks=false&stackId=arn%3Aaws%3ACloudFormation%3Aus-east-1%3A033689435753. The taskbar at the bottom of the screen shows various application icons.

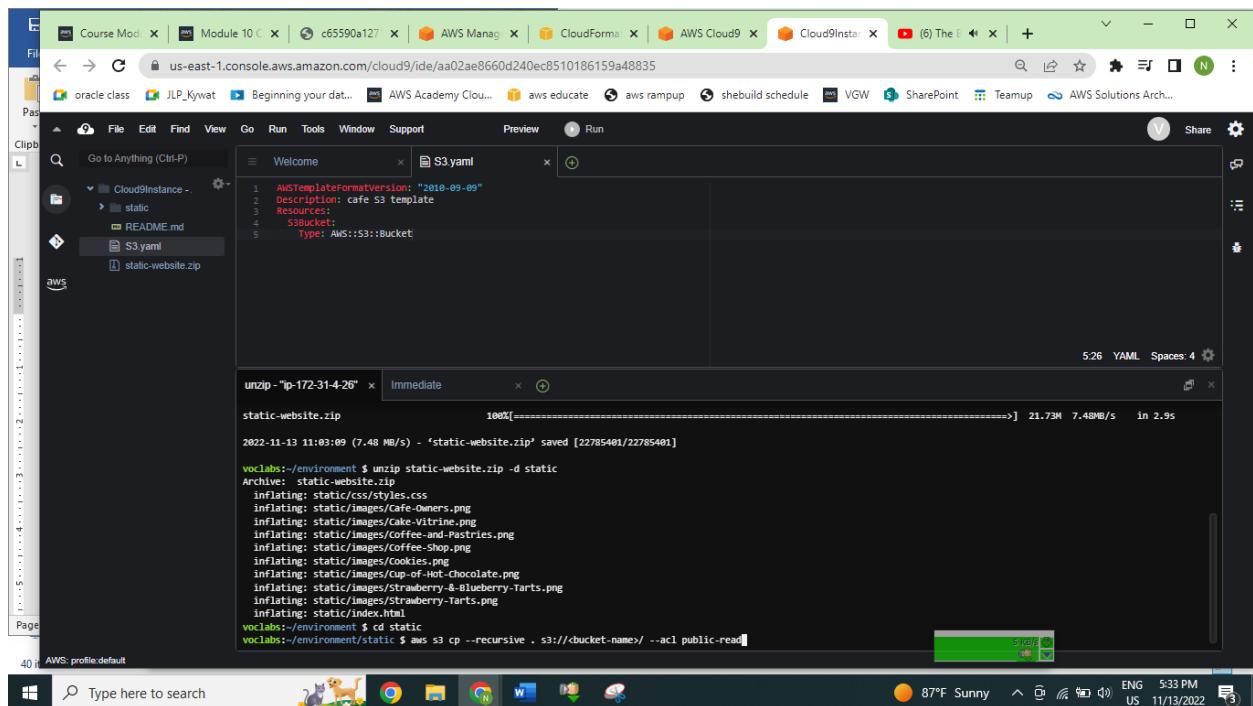


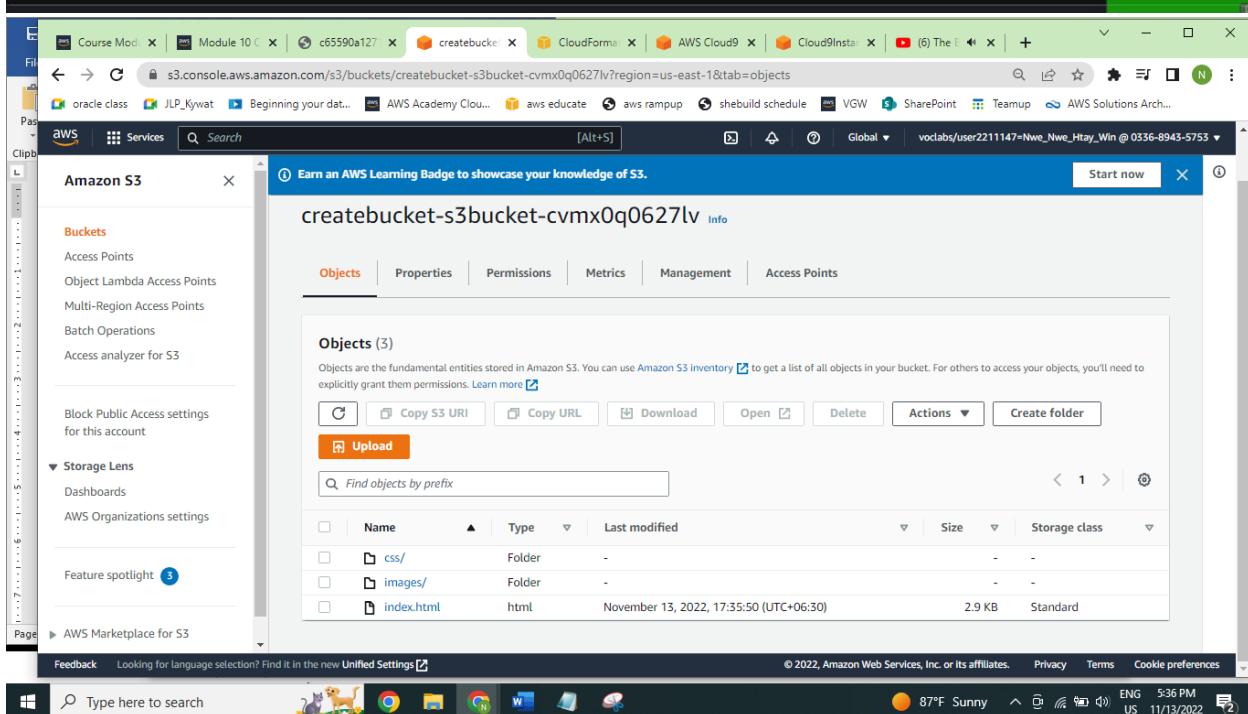
Task 2: Configuring the bucket as a website and updating the stack

```
wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-200-ACACAD-2-16750/14-lab-mod10-challenge-CFn/s3/static-website.zip  
unzip static-website.zip -d static  
cd static  
aws s3 cp --recursive . s3://<bucket-name>/ --acl public-read
```

```
bucketname  
createbucket-s3bucket-cvmx0q0627lv
```

```
aws s3 cp --recursive . s3:/createbucket-s3bucket-cvmx0q0627lv --acl public-read
```



```
python3.6 - "ip-172-31-4-x" Immediate +  
infating: static/images/Cup-of-Hot-Chocolate.png  
infating: static/images/Strawberry-&-Blueberry-Tarts.png  
infating: static/images/Strawberry-Tarts.png  
infating: static/index.html  
voclabs:~/environment $ cd static  
voclabs:~/environment/static $ aws s3 cp --recursive . s3://<bucket-name>/ --acl public-read  
bash: bucket-name: No such file or directory  
voclabs:~/environment/static $ aws s3 cp --recursive . s3://createbucket-s3bucket-cvmx0q0627lv/ --acl public-read  
upload: css/styles.css to s3://createbucket-s3bucket-cvmx0q0627lv/css/styles.css  
upload: ./index.html to s3://createbucket-s3bucket-cvmx0q0627lv/index.html  
upload: images/Coffee-Shop.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Coffee-Shop.png  
upload: images/Cookies.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cookies.png  
upload: images/Strawberry-&-Blueberry-Tarts.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Strawberry-&-Blueberry-Tarts.png  
upload: images/Coffee-and-Pastries.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Coffee-and-Pastries.png  
upload: images/Strawberry-Tarts.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Strawberry-Tarts.png  
upload: images/Cafe-Owners.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cafe-Owners.png  
upload: images/Cake-Vitrine.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cake-Vitrine.png  
upload: images/Cup-of-Hot-Chocolate.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cup-of-Hot-Chocolate.png  
voclabs:~/environment/static $  
  


The screenshot shows a web browser window with multiple tabs open. The active tab is the AWS S3 console, specifically the 'Objects' view for the bucket 'createbucket-s3bucket-cvmx0q0627lv'. The browser's address bar shows the URL: s3.console.aws.amazon.com/s3/buckets/createbucket-s3bucket-cvmx0q0627lv?region=us-east-1&tab=objects. The S3 interface lists three objects: 'css/' (Folder), 'images/' (Folder), and 'index.html' (HTML). The 'index.html' object was uploaded on November 13, 2022, at 17:35:50 (UTC+06:30) and is 2.9 KB in size. The browser's status bar at the bottom right shows the date and time as 11/13/2022 5:36 PM.


```

The screenshot shows a web browser window with multiple tabs open. The active tab is the AWS CloudFormation User Guide for AWS S3 resources, specifically the section on AWS::S3::Bucket.

The left sidebar contains a navigation tree:

- Route 53 Recovery
- Readiness
- Route 53 Resolver
- RUM
- Amazon S3
 - AWS::S3::AccessPoint
 - AWS::S3::Bucket
 - AWS::S3::BucketPolicy
 - AWS::S3::MultiRegionAccessPoint
 - AWS::S3::MultiRegionAccessPointPolicy
 - AWS::S3::StorageLens
 - Amazon S3 Object Lambda
 - Amazon S3 on Outposts
 - Amazon SageMaker
- CloudWatch Application Insights

The main content area lists various AWS services:

- ASK
- Athena
- Audit Manager
- AWS Auto Scaling
- AWS Backup
- AWS Batch
- BillingConductor
- AWS Budgets
- AWS Certificate Manager
- Chatbot
- AWS Cloud9
- CloudFormation
- CloudFront
- AWS Cloud Map
- CloudTrail
- CloudWatch
- CloudWatch Application Insights

Below the sidebar, there is a search bar and a link to the AWS Properties for S3 Bucket page.

The right sidebar includes links for "Feedback" and "Preferences".

The status bar at the bottom shows the date and time as 11/13/2022 and 5:37 PM.

The screenshot shows a web browser window with multiple tabs open. The active tab is the AWS CloudFormation User Guide for AWS Attribute Deletion Policy.

The left sidebar contains a navigation tree:

- CreationPolicy
- DeletionPolicy**
- DependsOn
- Metadata
- UpdatePolicy
- UpdateReplacePolicy
- Intrinsic functions
- Pseudo parameters
- Transform reference
- CloudFormation helper scripts
- Sample templates
- Code examples
- Troubleshooting
- Release history
- AWS glossary

The main content area displays JSON and YAML code snippets for defining deletion policies.

JSON

```
    "DeletionPolicy" : "Retain"
```

YAML

```
AWSTemplateFormatVersion: '2010-09-09'
Resources:
  myS3Bucket:
    Type: AWS::S3::Bucket
    DeletionPolicy: Retain
```

DeletionPolicy options

On this page

- JSON
- YAML**
- DeletionPolicy options

The status bar at the bottom shows the date and time as 11/13/2022 and 5:39 PM.

Add deletion policy

The screenshot shows a code editor interface with a dark theme. The top menu bar includes File, Edit, Find, View, Go, Run, Tools, Window, Support, Preview, and Run. A search bar at the top left says "Go to Anything (Ctrl-P)". The left sidebar shows a file tree for a "Cloud9Instance" directory, containing static, css, images, index.html, README.md, S3.yaml (which is selected), and static-website.zip. The main editor area displays the content of S3.yaml:

```
1 AWSTemplateFormatVersion: "2010-09-09"
2 Description: cafe s3 template
3 Resources:
4   S3Bucket:
5     Type: AWS::S3::Bucket
6     DeletionPolicy: Retain
```

The screenshot shows a web browser window with multiple tabs open. The active tab is "docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-properties-s3-websiteconfiguration.html". The page title is "AWS CloudFormation - AWS Documentation". The left sidebar has a navigation tree with categories like Tiering, TopicConfiguration, Transition, VersioningConfiguration, WebsiteConfiguration, AWS::S3::BucketPolicy, AWS::S3::MultiRegionAccessPoint, AWS::S3::MultiRegionAccessPointPolicy, AWS::S3::StorageLens, Amazon S3 Object Lambda, Amazon S3 on Outposts, and Amazon SageMaker. The main content area shows the "WebsiteConfiguration" type as a list of RoutingRule. It includes a note about "Update requires: No interruption". Below this is a section titled "Examples" with a sub-section "Configure a static website with a routing rule". The text describes how to use Fn::GetAtt values to provide outputs for redirects. It also mentions metrics configuration and CloudWatch request metrics. There are JSON and YAML tabs at the bottom of the examples section. The right sidebar has links for "Syntax", "Properties", and "Examples". The bottom of the screen shows a Windows taskbar with various pinned icons.

The screenshot shows a browser window displaying the AWS CloudFormation User Guide. The URL is docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-properties-s3-websiteconfiguration.html. The page content is the YAML section for website configuration, showing a code snippet for creating an S3 bucket with website hosting enabled. The sidebar on the left lists various AWS services and features, and the right sidebar provides links for Syntax, Properties, and Examples.

```
Resources:
  S3Bucket:
    Type: 'AWS::S3::Bucket'
    Properties:
      AccessControl: PublicRead
      BucketName: public-bucket
      MetricsConfigurations:
        - Id: EntireBucket
      WebsiteConfiguration:
        IndexDocument: index.html
        ErrorDocument: error.html
        RoutingRules:
          - RoutingRuleCondition:
              ErrorCodeReturnedEquals: '404'
            KeyPrefixEquals: out1/
            RedirectRule:
```

Add website config

The screenshot shows a code editor with two tabs: "Welcome" and "S3.yaml". The "S3.yaml" tab contains the following AWS CloudFormation YAML template:

```
AWSTemplateFormatVersion: "2010-09-09"
Description: cafe S3 template
Resources:
  S3Bucket:
    Type: AWS::S3::Bucket
    DeletionPolicy: Retain
    Properties:
      WebsiteConfiguration:
        IndexDocument: index.html
```

Added output

The screenshot shows the AWS Cloud9 IDE interface. On the left is a file tree with a folder named 'Cloud9Instance -' containing 'static' (with 'css' and 'images' subfolders), 'index.html', 'README.md', 'S3.yaml', and 'static-website.zip'. The main workspace has three tabs: 'Welcome', 'S3.yaml', and 'README.md'. The 'S3.yaml' tab displays the following AWS CloudFormation YAML template:

```
AWSTemplateFormatVersion: "2010-09-09"
Description: cafe S3 template
Resources:
  S3Bucket:
    Type: AWS::S3::Bucket
    DeletionPolicy: Retain
    Properties:
      WebsiteConfiguration:
        IndexDocument: index.html
Outputs:
  WebsiteURL:
    Value: !GetAtt
      - S3Bucket
      - WebsiteURL
    Description: URL for website hosted on S3
```

Below the workspace is a terminal window titled 'bash - "ip-172-31-4-26"' showing the command 'ls'.

AWSTemplateFormatVersion: "2010-09-09"

Description: cafe S3 template

Resources:

S3Bucket:

Type: AWS::S3::Bucket

DeletionPolicy: Retain

Properties:

WebsiteConfiguration:

IndexDocument: index.html

Outputs:

WebsiteURL:

Value: !GetAtt

- S3Bucket

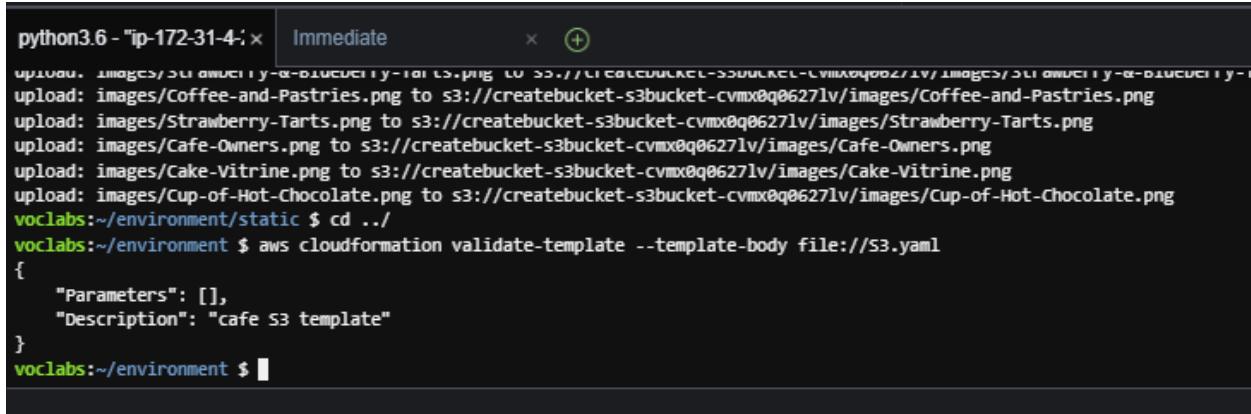
- WebsiteURL

Description: URL for website hosted on S3

///

Run commands

```
cd ../
aws cloudformation validate-template --template-body file://S3.yaml
```

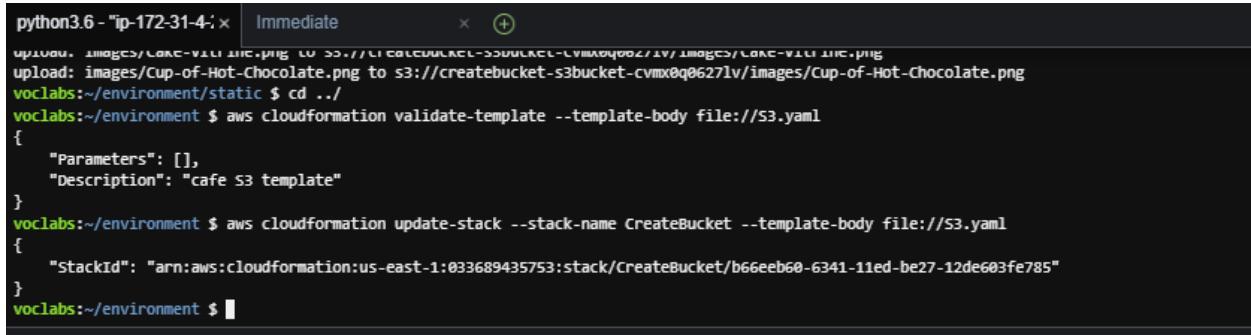


A terminal window titled "python3.6 - "ip-172-31-4-1.x" Immediate". The output shows several "upload" commands for images from a local directory to an S3 bucket, followed by the command "aws cloudformation validate-template --template-body file://S3.yaml", which returns a success message.

```
upload: images/Coffee-and-Pastries.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Coffee-and-Pastries.png
upload: images/Strawberry-Tarts.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Strawberry-Tarts.png
upload: images/Cafe-Owners.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cafe-Owners.png
upload: images/Cake-Vitrine.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cake-Vitrine.png
upload: images/Cup-of-Hot-Chocolate.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cup-of-Hot-Chocolate.png
vclabs:~/environment/static $ cd ..
vclabs:~/environment $ aws cloudformation validate-template --template-body file://S3.yaml
{
    "Parameters": [],
    "Description": "cafe S3 template"
}
vclabs:~/environment $
```

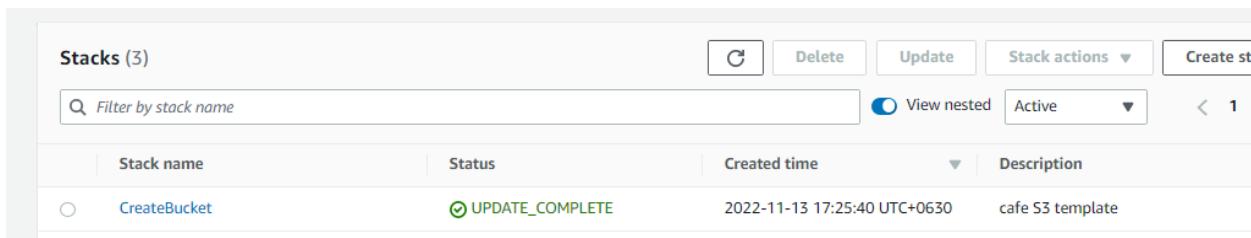
```
aws cloudformation update-stack --stack-name CreateBucket --template-body file://S3.yaml
```

Create stack



A terminal window titled "python3.6 - "ip-172-31-4-1.x" Immediate". The output shows an "upload" command for an image, followed by the command "aws cloudformation validate-template --template-body file://S3.yaml", then "aws cloudformation update-stack --stack-name CreateBucket --template-body file://S3.yaml", and finally a success message indicating the stack ID.

```
upload: images/Cup-of-Hot-Chocolate.png to s3://createbucket-s3bucket-cvmx0q0627lv/images/Cup-of-Hot-Chocolate.png
vclabs:~/environment/static $ cd ..
vclabs:~/environment $ aws cloudformation validate-template --template-body file://S3.yaml
{
    "Parameters": [],
    "Description": "cafe S3 template"
}
vclabs:~/environment $ aws cloudformation update-stack --stack-name CreateBucket --template-body file://S3.yaml
{
    "StackId": "arn:aws:cloudformation:us-east-1:033689435753:stack/CreateBucket/b66eeb60-6341-11ed-be27-12de603fe785"
}
vclabs:~/environment $
```



The AWS CloudFormation console displays a table of stacks. There are three stacks listed: "CreateBucket" with a status of "UPDATE_COMPLETE" and a creation time of 2022-11-13 17:25:40 UTC+0630. The table includes columns for Stack name, Status, Created time, and Description.

Stack name	Status	Created time	Description
CreateBucket	UPDATE_COMPLETE	2022-11-13 17:25:40 UTC+0630	cafe S3 template

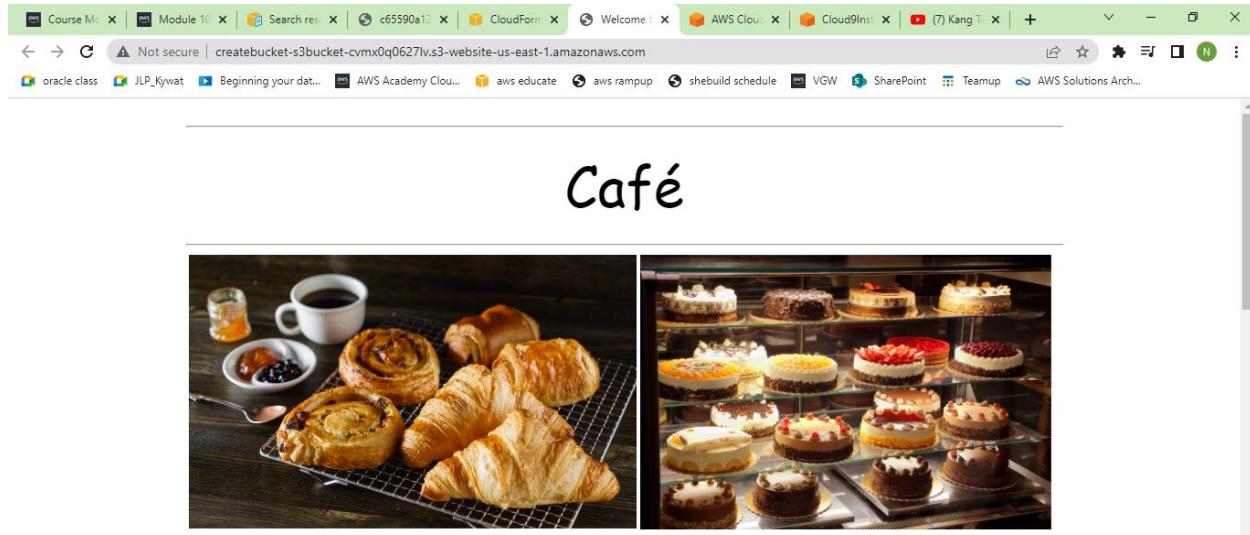
Cloud Formation Stack updated completely

The screenshot shows the AWS CloudFormation console with the 'CreateBucket' stack selected. The left sidebar shows navigation options like Stacks, Registry, and Feedback. The main area displays the 'CreateBucket' stack details, including its status as 'UPDATE_COMPLETE'. It lists three outputs: 'WebsiteURL' with the value <http://createbucket-s3bucket-cvmx0q0627lv.s3-website-us-east-1.amazonaws.com>, which is described as 'URL for website hosted on S3'.

Get that link

Run that link

A screenshot of a Windows desktop showing a browser window. The address bar contains the URL <http://createbucket-s3bucket-cvmx0q0627lv.s3-website-us-east-1.amazonaws.com>. The browser interface includes a search bar, taskbar icons, and system status indicators at the bottom.



Task 3

Frank bakes a rich variety of

Type here to search

85°F Clear ENG 6:01 PM US 11/13/2022

How would you rate your experience with this service console? ★ ★ ★ ★ ★

Feedback Looking for language selection? Find it in the new Unified Settings

CodeCommit

Source • CodeCommit

- Getting started
- Repositories**
- Approval rule templates
- Artifacts • CodeArtifact
- Build • CodeBuild
- Deploy • CodeDeploy
- Pipeline • CodePipeline
- Settings

Go to resource Feedback

Feedback Looking for language selection? Find it in the new Unified Settings

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83°F Clear ENG 6:23 PM US 11/13/2022

Name	Description	Last modified	Clone URL
CFTemplatesRepo	Repository for store CloudFormation templates	1 hour ago	HTTPS SSH HTTPS (GRC)

How would you rate your experience with this service console? ☆ ☆ ☆ ☆

CodeCommit

- Source • CodeCommit
- Getting started
- Repositories
- Code**
 - Pull requests
 - Commits
 - Branches
 - Git tags
 - Settings
 - Approval rule templates
- Artifacts • CodeArtifact
- Build • CodeBuild
- Deploy • CodeDeploy
- Pipeline • CodePipeline

CFTemplatesRepo

CFTemplatesRepo / templates Info

Name

- ..
- start-lab.yaml
- template1.yaml
- template2.yaml

Add file ▾

Feedback Looking for language selection? Find it in the new Unified Settings

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83°F Clear ENG 6:24 PM US 11/13/2022

How would you rate your experience with this service console? ☆ ☆ ☆ ☆

CodeCommit

- Source • CodeCommit
- Getting started
- Repositories
- Code**
 - Pull requests
 - Commits
 - Branches
 - Git tags
 - Settings
 - Approval rule templates
- Artifacts • CodeArtifact
- Build • CodeBuild
- Deploy • CodeDeploy
- Pipeline • CodePipeline

CFTemplatesRepo

CFTemplatesRepo / templates / start-lab.yaml Info

```
1 AWSTemplateFormatVersion: 2010-09-09
2 Description: template to start the CloudFormation challenge lab
3
4 Resources:
5
6   Cloud9:
7     Type: AWS::Cloud9::EnvironmentEC2
8     Properties:
9       InstanceType: t2.micro
10      Name: Cloud9Instance
11
12   MyRepo:
13     Type: AWS::CodeCommit::Repository
14     Properties:
15       RepositoryName: CFTemplatesRepo
16       RepositoryDescription: Repository for store CloudFormation templates
17       Code:
18         S3:
19           Bucket: !Ref repoBucket
20           Key: midLabRepo.zip
21
22   repoBucket:
23     Type: AWS::S3::Bucket
```

Feedback Looking for language selection? Find it in the new Unified Settings

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83°F Clear ENG 6:25 PM US 11/13/2022

The screenshot shows the AWS CodeCommit service console. The left sidebar navigation includes 'Source' (CodeCommit), 'Getting started', 'Repositories', 'Code' (selected), 'Pull requests', 'Commits', 'Branches', 'Git tags', 'Settings', 'Approval rule templates', and sections for 'Artifacts', 'Build', 'Deploy', and 'Pipeline'. The main content area displays the 'CFTemplatesRepo / templates' folder. The 'Info' tab is selected. The file list shows three files: 'start-lab.yaml', 'template1.yaml', and 'template2.yaml'. At the top right, there are buttons for 'Notify', 'main' (dropdown), 'Create pull request', 'Clone URL' (highlighted in blue), 'Clone HTTPS', 'Clone SSH', 'Clone HTTPS (GRC)', and 'Connection steps'. The bottom of the screen shows a Windows taskbar with various icons and a system tray indicating 83°F, Clear, ENG, 6:27 PM, and 11/13/2022.

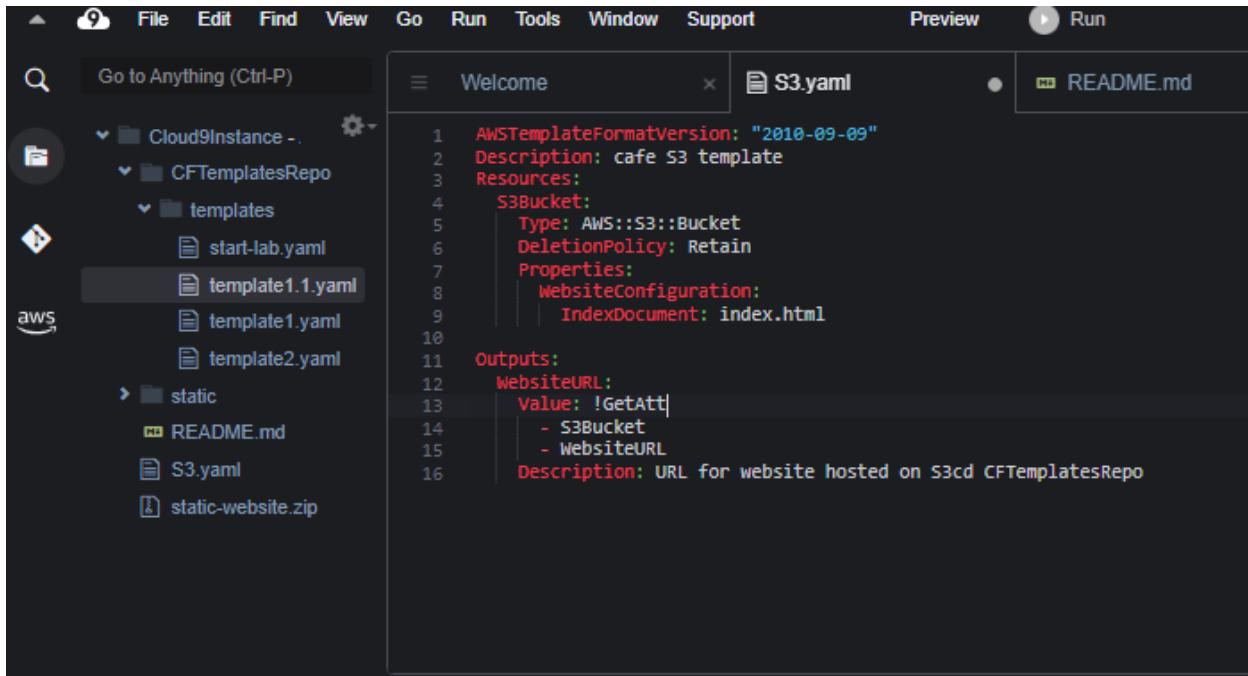
Clone https

<https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo>

```
git - "ip-172-31-4-26"  x  Immediate  x  +
}
voclabs:~/environment $ update-stack
bash: update-stack: command not found
voclabs:~/environment $ update-stack arn:aws:cloudformation:us-east-1:033689435753:stack/CreateBucket/b66eeb60-6341-11ed-be27-12de603fe785
bash: update-stack: command not found
voclabs:~/environment $ update-stack arn:aws:cloudformation:us-east-1:033689435753:stack/CreateBucket/b66eeb60-6341-11ed-be27-12de603fe785
bash: update-stack: command not found
voclabs:~/environment $ https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
bash: https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo: No such file or directory
voclabs:~/environment $ git clone https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
Cloning into 'CFTemplatesRepo'...
remote: Counting objects: 6

bash - "ip-172-31-4-26"  x  Immediate  x  +
voclabs:~/environment $ git clone https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
bash: https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo: No such file or directory
voclabs:~/environment $ git clone https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
Cloning into 'CFTemplatesRepo'...
remote: Counting objects: 6, done.
Unpacking objects: 100% (6/6), 1.52 KiB | 520.00 KiB/s, done.
voclabs:~/environment $ cd CFTemplatesRepo
voclabs:~/environment/CFTemplatesRepo (main) $ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
voclabs:~/environment/CFTemplatesRepo (main) $
```



```
AWSTemplateFormatVersion: "2010-09-09"
Description: cafe S3 template
Resources:
  S3Bucket:
    Type: AWS::S3::Bucket
    DeletionPolicy: Retain
    Properties:
      WebsiteConfiguration:
        IndexDocument: index.html
Outputs:
  WebsiteURL:
    Value: !GetAtt
      - S3Bucket
      - WebsiteURL
Description: URL for website hosted on S3cd CFTemplatesRepo
```

The screenshot shows the Cloud9 IDE interface. On the left, there's a sidebar with project files: 'Cloud9Instance -', 'CFTemplatesRepo', 'templates' (containing 'cafe-network.yaml'), 'static', 'README.md', 'S3.yaml', and 'static-website.zip'. The main area is a code editor with tabs for 'Welcome', 'S3.yaml', 'README.md', and 'cafe-network.yaml'. The 'cafe-network.yaml' tab is active, displaying the following AWS CloudFormation YAML template:

```
1 AwSTemplateFormatVersion: 2010-09-09
2 Description: Network layer for the cafe
3
4 Resources:
5   VPC:
6     Type: AWS::EC2::VPC
7     Properties:
8       CidrBlock: 10.0.0.0/16
9       EnableDnsSupport: true
10      EnableDnsHostnames: true
11      Tags:
12        - Key: Name
13        - Value: Cafe VPC
14
15   IGW:
16     Type: AWS::EC2::InternetGateway
17     Properties:
18       Tags:
19         - Key: Name
20         - Value: Cafe IGW
21
22   VPCtoIGWConnection:
23     Type: AWS::EC2::VPCGatewayAttachment
24     DependsOn: VPC
```

Add description

Screenshot of the AWS CodePipeline console showing the Pipelines list and a detailed view of the CafeNetworkPipeline.

Pipelines List

The Pipelines list shows two pipelines:

Name	Most recent execution	Latest source revisions	Last executed
CafeAppPipeline	✖ Failed	SourceAction - cc63a2cf: Initial commit by AWS CodeCommit	1 hour ago
CafeNetworkPipeline	✖ Failed	SourceAction - cc63a2cf: Initial commit by AWS CodeCommit	1 hour ago

Detailed Pipeline View: CafeNetworkPipeline

The pipeline consists of two stages:

- Source**: Succeeded. Pipeline execution ID: 5b678738-401f-4671-b783-06034f41926c. Step: SourceAction (AWS CodeCommit). Status: Success - 1 hour ago (cc63a2cf).
- Deploy**: Failed. Pipeline execution ID: 5b678738-401f-4671-b783-06034f41926c. Step: RunChangeSet (AWS Lambda). Status: Failed.

Buttons available in the pipeline view include: Notify, Edit, Stop execution, Clone pipeline, Release change, Disable transition, and Retry.

The image consists of three vertically stacked screenshots of the AWS CloudWatch Pipeline interface, showing the configuration of a pipeline named "CafeNetworkPipeline".

Screenshot 1 (Top): Shows the "Source" stage configuration. The "SourceAction" is set to "AWS CodeCommit" with the commit ID "cc651a2cf". The "Output artifact" is "SourceOutput", "BranchName" is "main", and "RepositoryName" is "CTemplatesRepo". A "Done" button is visible at the bottom right.

Screenshot 2 (Middle): Shows the "Deploy" stage configuration. The "Action execution ID" is "8e6a19ce-c066-447c-8094-a21ece01e7e2". The "Input artifact" is "SourceOutput", "Output artifact" is "DeployedOutput", and "ActionMode" is "CREATE_UPDATE". Other parameters include "Capabilities" (CAPABILITY_NAMED_IAM, CAPABILITY_AUTO_EXPAND), "ChangeSetName" (pipeline-changeset), "RoleArn" (arn:aws:iam::033689435753:role/CustomCFnRole), "StackName" (update-cafe-network), and "TemplatePath" (SourceOutput:templates/cafe-network.yaml). A "Done" button is visible at the bottom right.

Screenshot 3 (Bottom): Shows the "Deploy" stage configuration again, identical to Screenshot 2, but with a note below stating "cc651a2cf SourceActions: Initial commit by AWS CodeCommit".

Git status

```
23 |     Type: AWS::EC2::VPCGatewayAttachment
24 |     DependsOn:
25 |
bash - "ip-172-31-4-26"  x  Immediate  x  (●)
nothing to commit, working tree clean
voclabs:~/environment/CFTemplatesRepo (main) $ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    templates/cafe-network.yaml

nothing added to commit but untracked files present (use "git add" to track)
voclabs:~/environment/CFTemplatesRepo (main) $
```

git add templates/cafe-network.yaml

S

```
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    templates/cafe-network.yaml

nothing added to commit but untracked files present (use "git add" to track)
voclabs:~/environment/CFTemplatesRepo (main) $ git add templates/cafe-network.yaml
voclabs:~/environment/CFTemplatesRepo (main) $ git commit -m 'initial commit of network template' templates/cafe-network.yaml
[main 718888f] initial commit of network template
committer: EC2 Default User <ec2-user@ip-172-31-4-26.ec2.internal>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

  git config --global user.name "Your Name"
  git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

  git commit --amend --reset-author

1 file changed, 72 insertions(+)
create mode 100644 templates/cafe-network.yaml
voclabs:~/environment/CFTemplatesRepo (main) $
```

```
bash - "ip-172-31-4-26"  x | Immediate      x  +  
nothing added to commit but untracked files present (use "git add" to track)  
voclabs:~/environment/CFTemplatesRepo (main) $ git add templates/cafe-network.yaml  
voclabs:~/environment/CFTemplatesRepo (main) $ git commit -m 'initial commit of network template'  
[main 718888f] initial commit of network template  
Committer: EC2 Default User <ec2-user@ip-172-31-4-26.ec2.internal>  
Your name and email address were configured automatically based  
on your username and hostname. Please check that they are accurate.  
You can suppress this message by setting them explicitly:  
  
git config --global user.name "Your Name"  
git config --global user.email you@example.com  
  
After doing this, you may fix the identity used for this commit with:  
  
git commit --amend --reset-author  
  
1 file changed, 72 insertions(+)  
create mode 100644 templates/cafe-network.yaml  
voclabs:~/environment/CFTemplatesRepo (main) $ git status  
On branch main  
Your branch is ahead of 'origin/main' by 1 commit.  
(use "git push" to publish your local commits)  
  
nothing to commit, working tree clean  
voclabs:~/environment/CFTemplatesRepo (main) $
```

Push it

```
git push
```

```
git commit --amend --reset-author  
  
1 file changed, 72 insertions(+)  
create mode 100644 templates/cafe-network.yaml  
voclabs:~/environment/CFTemplatesRepo (main) $ git status  
On branch main  
Your branch is ahead of 'origin/main' by 1 commit.  
(use "git push" to publish your local commits)  
  
nothing to commit, working tree clean  
voclabs:~/environment/CFTemplatesRepo (main) $ git push  
Enumerating objects: 6, done.  
Counting objects: 100% (6/6), done.  
Compressing objects: 100% (3/3), done.  
Writing objects: 100% (4/4), 816 bytes | 816.00 KiB/s, done.  
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0  
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo  
cc63a2c..718888f main -> main  
voclabs:~/environment/CFTemplatesRepo (main) $
```

The screenshot shows the AWS CodePipeline console with the URL us-east-1.console.aws.amazon.com/codesuite/codepipeline/pipelines?region=us-east-1&pipelines-meta=eyJmIjp7InRleHQiOiIifSwicl6eyJwcm9wZXJ0e.... The page displays a list of pipelines:

Name	Most recent execution	Latest source revisions	Last executed
CafeAppPipeline	Failed	SourceAction - 718888f8: initial commit of network template	Just now
CafeNetworkPipeline	In progress	SourceAction - 718888f8: initial commit of network template	Just now

Now CafeNetworkPipeline is in progress

The screenshot shows the details of the CafeNetworkPipeline in the AWS CodePipeline console. The pipeline consists of two stages: Source and Deploy.

Source Stage:
SourceAction: AWS CodeCommit
Status: Succeeded - 1 minute ago (718888f8)
Description: 718888f8 SourceAction: initial commit of network template

Deploy Stage:
RunChangeSet: AWS CloudFormation
Status: Succeeded - Just now
Description: 718888f8 SourceAction: initial commit of network template

Now succeeded

AWS Course Modules | Module 10 | Search results | c65590a12 | CodePipeline | AWS CloudWatch Metrics | Cloud9 Instances | (7) Kang T. | update-status | + | - | X

us-east-1.console.aws.amazon.com/codesuite/codepipeline/pipelines?region=us-east-1&pipelines-meta=eyJmIjp7InRleHQjOjIifSwicl6eyJwcm9wZXJ0eSI6In... | oracle class | JLP_Kyaw | Beginning your dat... | AWS Academy Clou... | aws educate | aws rampup | shebuild schedule | VGW | SharePoint | Teamup | AWS Solutions Arch...

AWS Services Search [Alt+S] N. Virginia v vocabs/user2211147=Nwe_Nwe_Htay_Win @ 0336-8943-5753 ▾

Developer Tools > CodePipeline > Pipelines

Pipelines Info C Notify View history Release change Delete pipeline Create pipeline

Name	Most recent execution	Latest source revisions	Last executed
CafeAppPipeline	Failed	SourceAction - 718888f8: initial commit of network template	1 minute ago
CafeNetwork Pipeline	Succeeded	SourceAction - 718888f8: initial commit of network template	Just now

Feedback Looking for language selection? Find it in the new Unified Settings. © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Type here to search

CloudFormation > Stacks

Stacks (4)

Stack name	Status	Created time	Description
update-cafe-network	CREATE_COMPLETE	2022-11-13 18:39:37 UTC+0630	Network layer for the cafe
CreateBucket	UPDATE_COMPLETE	2022-11-13 17:25:40 UTC+0630	cafe S3 template
aws-cloud9-Cloud9Instance-aa02ae8660d240ec8510186159a48835	CREATE_COMPLETE	2022-11-13 17:17:10 UTC+0630	-
c65590a127156813100583t1w033689435753	CREATE_COMPLETE	2022-11-13 17:16:23 UTC+0630	template to start the CloudFormation challenge

CloudFormation > Stacks > update-cafe-network

Resources (7)

Logical ID	Physical ID	Type	Status	Module
PublicSubnet	subnet-0bdddd139e3e4707d5	AWS::EC2::Subnet	CREATE_COMPLETE	-
VPC	vpc-0c69ef4334986d2a8	AWS::EC2::VPC	CREATE_COMPLETE	-
VPCToIGWConnection	update-VPCTo-1ASTDQK82XNT6	AWS::EC2::VPCGatewayAttachment	CREATE_COMPLETE	-

Add

Outputs:

PublicSubnet:

Description: The subnet ID to use for public web servers

Value:

Ref: PublicSubnet

```

Export:
Name:
'Fn::Sub': '${AWS::StackName}-SubnetID'
VpcId:
Description: The VPC ID
Value:
Ref: VPC
Export:
Name:
'Fn::Sub': '${AWS::StackName}-VpcID'

```

```

Course M... | Module 10... | Search res... | c65590a12... | Your VPCs... | CloudForm... | Cloud9Inst... | Kang T... | update-sta... | + |
← → C us-east-1.console.aws.amazon.com/cloud9/ide/aa02ae8660d240ec8510186159a48835
oracle class JLP Kywat Beginning your dat... AWS Academy Clou... aws educate aws rampup shebuild schedule VGW SharePoint Teamup AWS Solutions Arch...
File Edit Find View Go Run Tools Window Support Preview Run
Go to Anything (Ctrl-P)
Cloud9Instance - CFTemplatesRepo templates
aws static README.md S3.yaml static-website.zip
Welcome S3.yaml README.md cafe-network.yaml
67 DependsOn:
68   - PublicRouteTable
69   - PublicSubnet
70 Properties:
71   RouteTableId: !Ref PublicRouteTable
72   SubnetId: !Ref PublicSubnet
73 Outputs:
74   PublicSubnet:
75     Description: The subnet ID to use for public web servers
76     Value:
77       Ref: PublicSubnet
78     Export:
79       Name:
80         'Fn::Sub': '${AWS::StackName}-SubnetID'
81   VpcId:
82     Description: The VPC ID
83     Value:
84       Ref: VPC
85     Export:
86       Name:
87         'Fn::Sub': '${AWS::StackName}-VpcID'
87:45 YAML Spaces: 2
bash - ip-172-31-4-26* Immediate +
Writing objects: 100% (4/4), 816 bytes | 816.00 Kib/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
  cc63a2c..f1888bf main -> main
voclabs:~/environment/CFTemplatesRepo (main) $ update-cafe-network stack
bash: update-cafe-network: command not found
voclabs:~/environment/CFTemplatesRepo (main) $ 

```

git commit -m 'update template' templates/cafe-network.yaml

```

voclabs:~/environment/CFTemplatesRepo (main) $ git commit -m 'update template' templates/cafe-network.yaml
[main e1bfff0] update template
Committer: EC2 Default User <ec2-user@ip-172-31-4-26.ec2.internal>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

  git config --global user.name "Your Name"
  git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

  git commit --amend --reset-author

1 file changed, 15 insertions(+)
voclabs:~/environment/CFTemplatesRepo (main) $ 

```

```

1 file changed, 15 insertions(+)
voclabs:~/environment/CFTemplatesRepo (main) $ git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 521 bytes | 521.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
    718888f..e1bfff0  main -> main
voclabs:~/environment/CFTemplatesRepo (main) $ 

```

Git push

The screenshot shows the AWS CloudFormation console interface. On the left, there's a sidebar with navigation links like 'Stacks', 'Drifts', 'StackSets', 'Exports', 'Designer', 'Registry', 'Public extensions', 'Activated extensions', and 'Publisher'. The main area displays the 'CloudFormation > Stacks > update-cafe-network' view. The 'Stacks (4)' section lists three stacks: 'update-cafe-network' (status: UPDATE_COMPLETE, created: 2022-11-13 18:39:37 UTC+0630), 'CreateBucket' (status: UPDATE_COMPLETE, created: 2022-11-13 17:25:40 UTC-0630), and two others with shorter names. To the right, the 'Outputs' tab is selected, showing a table with two rows:

Key	Value	Description	Export name
PublicSubnet	subnet-0bdd139e3e4707d5	The subnet ID to use for public web servers	update-cafe-network-SubnetID
VpcId	vpc-0c69ef4334986d2a8	The VPC ID	update-cafe-network-VpcID

```

AWSTemplateFormatVersion: 2010-09-09
Description: Cafe application

Parameters:
  LatestAmiId:
    Type: 'AWS::SSM::Parameter::Value<AWS::EC2::Image::Id>'
    Default: '/aws/service/ami-amazon-linux-latest/amzn2-ami-hvm-x86_64-gp2'
  CafeNetworkParameter:
    Type: String
    Default: update-cafe-network
  InstanceTypeParameter:
    Type: String
    Default: t2.small
    AllowedValues:
      - t2.micro
      - m1.small
      - m1.large
    Description: Enter t2.micro, t2.small, t3.micro and t3.small.
  Mappings:
    RegionMap:
      us-east-1:

```

InstanceTypeParameter:

Type: String

Default: t2.small

AllowedValues:

- t2.micro
- t2.small
- t3.micro
- t3.small

Description: Enter t2.micro, t2.small, t3.micro and t3.small.

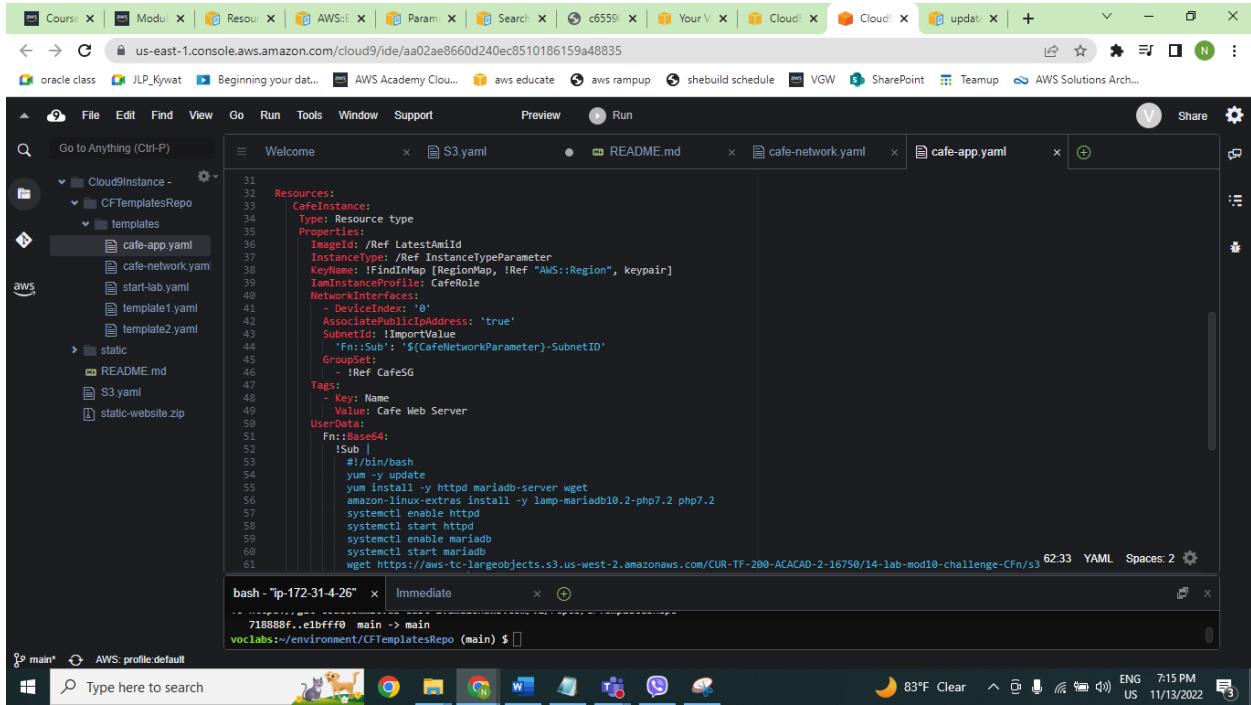
The screenshot shows a browser window displaying the AWS CloudFormation User Guide. The left sidebar contains a navigation tree for the User Guide, including sections like 'What is CloudFormation?', 'Setting up', 'Getting started', 'Security', 'Best practices', 'Continuous delivery', and 'Working with templates'. Under 'Working with templates', there are subsections for 'Template formats', 'Template anatomy' (with 'Format version', 'Description', 'Metadata', 'Parameters', and 'Rules'), and 'Example YAML' and 'Example JSON'. The 'Example YAML' section shows a snippet of YAML code defining an EC2 instance with an image ID. The 'Example JSON' section shows a snippet of JSON code defining the same resource. To the right of the examples, there is a sidebar titled 'On this page' with links to 'Syntax' and 'Examples'. The top of the browser window shows a toolbar with various tabs and icons, and the bottom shows the Windows taskbar with system status information.

Add these

NetworkInterfaces:

- DeviceIndex: '0'
- AssociatePublicIpAddress: 'true'
- SubnetId: !ImportValue
- 'Fn::Sub': '\${CafeNetworkParameter}-SubnetID'
- GroupSet:

- !Ref CafeSG



```
31 Resources:
32   CafeInstance:
33     Type: Resource type
34     Properties:
35       ImageId: !Ref LatestAmiId
36       InstanceType: !Ref InstanceTypeParameter
37       KeyName: !FindInMap [RegionMap, !Ref "AWS::Region", keypair]
38       IamInstanceProfile: !Ref IAMRole
39       NetworkInterfaceCount: 1
40       DeviceIndex: '0'
41       AssociatePublicIpAddress: 'true'
42       SubnetId: !ImportValue
43         'Fn::Sub': '${CafeNetworkParameter}-SubnetID'
44       GroupSet:
45         - !Ref CafeSG
46       Tags:
47         - Key: Name
48           Value: Cafe Web Server
49       UserData:
50         Fn::Base64:
51           !Sub |
52             #!/bin/bash
53             yum -y update
54             yum install -y httpd mariadb-server wget
55             amazon-linux-extras install -y lamp-mariadb10.2-php7.2 php7.2
56             systemctl enable httpd
57             systemctl start httpd
58             systemctl enable mariadb
59             systemctl start mariadb
60             wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-200-ACACAD-2-16750/14-lab-mod10-challenge-CFn/s3
61
```

To see the updates, run this command

```
aws cloudformation validate-template --template-body file:///home/ec2-user/environment/CFTemplatesRepo/templates/cafe-app.yaml
```

AWSTemplateFormatVersion: 2010-09-09

Description: Cafe application

Parameters:

LatestAmiId:

Type: 'AWS::SSM::Parameter::Value<AWS::EC2::Image::Id>'

Default: '/aws/service/ami-amazon-linux-latest/amzn2-ami-hvm-x86_64-gp2'

CafeNetworkParameter:

Type: String

Default: update-cafe-network

InstanceTypeParameter:

Type: String

Default: t2.small

AllowedValues:

- t2.micro
- t2.small
- t3.micro
- t3.small

Description: Enter t2.micro, t2.small, t3.micro and t3.small.

Mappings:

RegionMap:

us-east-1:

"keypair": "vokey"

us-west-2:

"keypair": "cafe-oregon"

Resources:

CafeInstance:

Type: AWS::EC2::Instance

Properties:

ImageId: /Ref LatestAmild

InstanceType: /Ref InstanceTypeParameter

KeyName: !FindInMap [RegionMap, !Ref "AWS::Region", keypair]

IamInstanceProfile: CafeRole

NetworkInterfaces:

- DeviceIndex: '0'

```
AssociatePublicIpAddress: 'true'

SubnetId: !ImportValue
'Fn::Sub': '${CafeNetworkParameter}-SubnetID'

GroupSet:
- !Ref CafeSG

Tags:
- Key: Name
  Value: Cafe Web Server

UserData:
Fn::Base64:
!Sub |
#!/bin/bash
yum -y update
yum install -y httpd mariadb-server wget
amazon-linux-extras install -y lamp-mariadb10.2-php7.2 php7.2
systemctl enable httpd
systemctl start httpd
systemctl enable mariadb
systemctl start mariadb
wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-200-ACACAD-2-16750/14-lab-mod10-challenge-CFn/s3/cafe-app.sh
chmod +x cafe-app.sh
./cafe-app.sh

CafeSG:
Type: 'AWS::EC2::SecurityGroup'

Properties:
GroupDescription: Enable SSH, HTTP access
VpcId: !ImportValue
'Fn::Sub': '${CafeNetworkParameter}-VpcID'
```

Tags:

- Key: Name

- Value: CafeSG

SecurityGroupIngress:

- IpProtocol: tcp

- FromPort: '80'

- ToPort: '80'

- CidrIp: 0.0.0.0/0

- IpProtocol: tcp

- FromPort: '22'

- ToPort: '22'

- CidrIp: 0.0.0.0/0

Outputs:

WebServerPublicIP:

Value: !GetAtt 'CafeInstance.PublicIp'

```
30     "keypair": "cafe-oregon"
31
32 Resources:
33   CafeInstance:
34     Type: AWS::EC2::Instance
35     Properties:
36       ImageId: /Ref LatestAmiId
37       InstanceType: /Ref InstanceTypeParameter
38       KeyName: !FindInMap [RegionMap, !Ref "AWS::Region", keypair]
39       IamInstanceProfile: CafeRole
40       NetworkInterfaces:
41         - DeviceIndex: '0'
42           AssociatePublicIpAddress: 'true'
43
44     "ParameterKey": "CafeNetworkParameter",
45     "DefaultValue": "update-cafe-network",
46     "NoEcho": false
47   },
48   {
49     "ParameterKey": "InstanceTypeParameter",
50     "DefaultValue": "t2.small",
51     "NoEcho": false,
52     "Description": "Enter t2.micro, t2.small, t3.micro and t3.small."
53   },
54   {
55     "ParameterKey": "LatestAmiId",
56     "DefaultValue": "/aws/service/ami-amazon-linux-latest/amzn2-ami-hvm-x86_64-gp2",
57     "NoEcho": false
58   }
59 ],
60 "Description": "Cafe application"
61
voclabs:~/environment/CFTemplatesRepo (main) $
```

```
git add templates/cafe-app.yaml
```

```
git commit -m 'add new file'
```

```
git push
```

```
32 Resources:
33   CafeInstance:
34     Type: AWS::EC2::Instance
35     Properties:
36       ImageId: !Ref LatestAmiId
37       InstanceType: !Ref InstanceTypeParameter
38       KeyName: !FindInMap [RegionMap, !Ref "AWS::Region", keypair]
39       IamInstanceProfile: CafeRole
40       NetworkInterfaces:
41         - DeviceIndex: '0'
42           AssociatePublicIpAddress: 'true'

bash -"ip-172-31-4-26"  x  Immediate  x  +
```

```
git config --global user.name "Your Name"
git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

git commit --amend --reset-author

1 file changed, 85 insertions(+)
create mode 100644 templates/cafe-app.yaml
vclabs:~/environment/CFTemplatesRepo (main) $ git push
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 1.26 KiB | 646.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/CFTemplatesRepo
  e1bfff0..e4a7a73  main -> main
vclabs:~/environment/CFTemplatesRepo (main) $
```

Screenshot of the AWS CloudFormation console showing the Pipelines section.

Pipelines

Name	Most recent execution	Latest source revisions	Last executed
CafeAppPipeline	In progress	SourceAction - e4a7a735: add new file	Just now
CafeNetworkPipeline	Succeeded	SourceAction - e4a7a735: add new file	Just now

Screenshot of the AWS CloudFormation console showing the Stacks section.

Stacks (5)

Stack name	Status	Created time	Description
update-cafe-app	ROLLBACK_COMPLETE	2022-11-13 19:29:43 UTC+0630	Cafe application
update-cafe-network	UPDATE_COMPLETE	2022-11-13 18:39:37 UTC+0630	Network layer for the cafe
CreateBucket	UPDATE_COMPLETE	2022-11-13 17:25:40 UTC+0630	cafe S3 template
aws-cloud9-Cloud9Instance-aa0ae8660d240ec8510186159a48835	CREATE_COMPLETE	2022-11-13 17:17:10 UTC+0630	-
c65590a127156813100583t1w033689435753	CREATE_COMPLETE	2022-11-13 17:16:23 UTC+0630	template to start the CloudFormation challenge

The screenshot shows the AWS CloudFormation console with the 'Stacks' page open. The left sidebar includes sections for 'Stacks' (Stack details, Drifts, StackSets, Exports), 'Designer', and 'Registry' (Public extensions, Activated extensions, Publisher). The main area displays a table titled 'Stacks (5)' with columns for 'Stack name', 'Status', 'Created time', and 'Description'. The stacks listed are:

Stack name	Status	Created time	Description
update-cafe-app	ROLLBACK_COMPLETE	2022-11-13 19:29:43 UTC+0630	Cafe application
update-cafe-network	UPDATE_COMPLETE	2022-11-13 18:39:37 UTC+0630	Network layer for the cafe
CreateBucket	UPDATE_COMPLETE	2022-11-13 17:25:40 UTC+0630	cafe S3 template
aws-cloud9-Cloud9Instance-aa02ae8660d240ec8510186159a48835	CREATE_COMPLETE	2022-11-13 17:17:10 UTC+0630	-
c65590a127156813100583t1w033689435753	CREATE_COMPLETE	2022-11-13 17:16:23 UTC+0630	template to start the CloudFormation challenge

At the bottom, there is a 'Feedback' section and a system status bar indicating 83°F Clear, ENG US, 7:33 PM, and 11/13/2022.

Delete and push back from bash

Now, EC2

The screenshot shows the AWS EC2 console with the 'Instances' page open. The left sidebar includes sections for 'New EC2 Experience' (Tell us what you think), 'EC2 Dashboard', 'EC2 Global View', 'Events', 'Tags', 'Limits', and 'Instances' (Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations). The main area displays a table titled 'Instances (2) info' with columns for 'Name', 'Instance ID', 'Instance state', 'Instance type', 'Status check', 'Alarm status', and 'Availability Zone'. The instances listed are:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
aws-cloud9-Cl...	i-08ad6cab5c989a852	Running	t2.micro	2/2 checks passed	No alarms	us-east-1f
Cafe Web Server	i-01519f892a37ad8b7	Running	t2.small	Initializing	No alarms	us-east-1a

At the bottom, there is a 'Feedback' section and a system status bar indicating 91°F Sunny, ENG US, 2:13 PM, and 11/14/2022.

Screenshot of the AWS CodePipeline console showing the execution of the "CafeAppPipeline".

The pipeline consists of two stages:

- Source**: Succeeded. Pipeline execution ID: 4c9417fb-5571-4425-bfe8-20171cf1f0ce.
 - SourceAction (AWS CodeCommit): Succeeded (~ 1 minute ago).
8ddd3e9b
- Deploy**: Succeeded. Pipeline execution ID: 4c9417fb-5571-4425-bfe8-20171cf1f0ce.

Buttons at the top right include: Notify, Edit, Stop execution, Clone pipeline, and Release change.

Screenshot of the AWS CodePipeline console showing the list of pipelines.

The Pipelines table displays the following information:

Name	Most recent execution	Latest source revisions	Last executed
CafeAppPipeline	Succeeded	SourceAction – 8ddd3e9b: add new file	Just now
CafeNetwork Pipeline	Succeeded	SourceAction – 8ddd3e9b: add new file	1 minute ago

Buttons at the top right include: Info, Notify, View history, Release change, Delete pipeline, and Create pipeline.

Screenshot of the AWS CloudFormation console showing the Stacks page. The left sidebar shows navigation options like Stacks, StackSets, Exports, Designer, Registry, and Feedback. The main content area displays a table of 5 stacks:

Stack name	Status	Created time	Description
update-cafe-app	CREATE_COMPLETE	2022-11-14 14:12:15 UTC+0630	Cafe application
update-cafe-network	UPDATE_COMPLETE	2022-11-14 13:41:15 UTC+0630	Network layer for the cafe
CreateBucket	UPDATE_COMPLETE	2022-11-14 13:07:26 UTC+0630	cafe S3 template
aws-cloud9-Cloud9Instance-0c3d1f359b2443669fb8d32b7d17e2b2	CREATE_COMPLETE	2022-11-14 13:00:56 UTC+0630	-
c65590a127156813100583t1w033689435753	CREATE_COMPLETE	2022-11-14 13:00:01 UTC+0630	template to start the CloudFormation challenge

Screenshot of the AWS EC2 console showing the Security Groups page. The left sidebar shows navigation options like Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security (Security Groups selected), Load Balancing, and Target Groups. The main content area displays a table of 4 security groups:

Name	Security group ID	Security group name	VPC ID	Description
aws-cloud9-Cloud9...	sg-0eefffdc414e89bbe	aws-cloud9-Cloud9Ins...	vpc-0eefb4692e7dc805f1	Security group for AW...
-	sg-03b5ae9b6d9501175	default	vpc-086108f5153649401	default VPC security gr...
-	sg-0db512709ae35ed14	default	vpc-0eefb4692e7dc805f1	default VPC security gr...
CafeSG	sg-0e71862c5c7a27c48	update-cafe-app-Cafe...	vpc-086108f5153649401	Enable SSH, HTTP access

Screenshot of the AWS Management Console showing the EC2 Instances page. The instance 'Cafe Web Server' (i-01519f892a37ad8b7) is selected. The instance summary shows a Public IPv4 address of 3.231.102.139 and an Instance state of Running.

Get IP address and run

Screenshot of a web browser displaying the website at 3.231.102.139/cafè. The page shows a menu bar with Home, About Us, Contact Us, Menu, and Order History. Below the menu are two images: one of pastries (a tray of croissants and swirl buns) and another of various cakes in a display case.

Run this to copy deployment to another region

```
aws cloudformation create-stack --stack-name update-cafe-network --template-body file:///home/ec2-user/environment/CFTemplatesRepo/templates/cafe-network.yaml --region us-west-2
```

```

Everything up-to-date
voclabs:~/environment/CFTemplatesRepo (main) $ aws cloudformation create-stack --stack-name update-cafe-network --template-body file:///home/ec2-user/environment/CFTemplatesRepo/templates/cafe-network.yaml --region us-west-2
{
  "StackId": "arn:aws:cloudformation:us-west-2:033689435753:stack/update-cafe-network/0eada590-63f2-11ed-a2d7-02199641a49b"
}
voclabs:~/environment/CFTemplatesRepo (main) $ 

```

Change region and check your stack

The screenshot shows the AWS CloudFormation console with the 'CloudFormation' service selected. The left sidebar has sections for 'Stacks', 'StackSets', 'Exports', 'Designer', 'Registry' (with 'Public extensions', 'Activated extensions', and 'Publisher' listed), and 'Feedback'. The main area displays a table of stacks:

Stack name	Status	Created time	Description
update-cafe-network	CREATE_COMPLETE	2022-11-14 14:27:59 UTC+0630	Network layer for the cafe
c65590a127156813100583t1w033689435753second	CREATE_COMPLETE	2022-11-14 13:00:44 UTC+0630	parameters for region2

At the bottom, there's a search bar, a toolbar with various icons, and a status bar showing '91°F Sunny' and the date '11/14/2022'.

In west2 vpc

The screenshot shows the AWS VPC console with the title "Your VPCs (2) Info". A table lists two VPCs:

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
Cafe VPC	vpc-0fb14535bed2a562b	Available	10.0.0.0/16	-
-	vpc-0baaac847911eb7b7	Available	172.31.0.0/16	-

A sidebar on the left provides navigation links for VPC management, including "Your VPCs", "Subnets", "Route tables", "Internet gateways", "Egress-only internet gateways", "Carrier gateways", "DHCP option sets", "Elastic IPs", "Managed prefix lists", and "Endpoints".

Create keypair in Oregon

The screenshot shows the AWS EC2 console with the title "Key pairs (1) Info". A table lists one key pair:

Name	Type	Created	Fingerprint	ID
cafe-oregon	rsa	2022/11/14 14:34 GMT+6:30	d2:89:8d:93:c4:d7:8e:c7:c6:2d:29:e0:41:...	key-0cec

A sidebar on the left provides navigation links for EC2 management, including "Instances", "Instances New", "Instance Types", "Launch Templates", "Spot Requests", "Savings Plans", "Reserved Instances", "Dedicated Hosts", and "Scheduled Instances".

In cloud9, keypair

Café-orgeon

The screenshot shows a terminal window with several tabs open. The main tab displays a CloudFormation template named `cafe-app.yaml`. The template includes sections for `AllowedValues`, `Mappings`, `RegionMap`, and `Resources`, specifically defining a security group named `CafeSG`. Below the template editor, a command-line interface is shown running a `git push` command to update a CloudFormation stack named `update-cafe-network` in the `us-west-2` region. The output of the command shows the `StackId` of the newly created stack.

```

    ...
    AllowedValues:
    ...
    Mappings:
    ...
    RegionMap:
    ...
    Resources:
    ...
    CafeSG:
      Type: 'AWS::EC2::SecurityGroup'

nothing to commit, working tree clean
voclabs:~/environment/CFTemplatesRepo (main) $ git push
Everything up-to-date
voclabs:~/environment/CFTemplatesRepo (main) $ aws cloudformation create-stack --stack-name update-cafe-network --template-body file:///C:/Users/voclab/Cloud9Instance/Cloud9Instance/templates/cafe-network.yaml --region us-west-2
{
  "StackId": "arn:aws:cloudformation:us-west-2:033689435753:stack/update-cafe-network/0eada590-63f2-11ed-a2d7-02199641a49b"
}
  
```

[c65590a1271568l3100583t1w033689435753.htmlbucket-1lvxabto27u89](#)

The screenshot shows the AWS S3 console. On the left, a sidebar lists various S3 features like Buckets, Access Points, and Storage Lens. The main area shows an `Account snapshot` and a table of existing buckets. One bucket, `c65590a1271568l3100583t1w033689435753.htmlbucket-1lvxabto27u89`, is highlighted and has its properties shown in a modal. At the bottom, a terminal window shows the command used to create the bucket and the resulting `StackId`.

Name	AWS Region	Access	Creation date
createbucket-s3bucket-uiph54t4it4il	US East (N. Virginia) us-east-1	Objects can be public	November 14, 2022, 13:07:3
c65590a1271568l3100583t1w033689435753-repobucket-1055u31b0jti	US East (N. Virginia) us-east-1	Public	November 14, 2022, 13:00:1
c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89	US East (N. Virginia) us-east-1	Public	November 14, 2022, 13:00:1
c65590a1271568l3100583t1w03-pipelinetemplatestore-1peutqc48iw5q	US East (N. Virginia) us-east-1	Objects can be public	November 14, 2022, 13:00:1

```

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Type here to search
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92°F Sunny ENG 2:42 PM US 11/14/2022 3

voclabs:~/environment/CFTemplatesRepo (main) $ aws CloudFormation create-stack --stack-name update-cafe-network --template-body file:///C:/Users/voclab/Cloud9Instance/Cloud9Instance/templates/cafe-network.yaml --region us-west-2
{
  "StackId": "arn:aws:cloudformation:us-west-2:033689435753:stack/update-cafe-network/0eada590-63f2-11ed-a2d7-02199641a49b"
}
voclabs:~/environment/CFTemplatesRepo (main) $ aws s3 cp templates/cafe-app.yaml s3://c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89/cafe-app.yaml
upload: templates/cafe-app.yaml to s3://c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89/cafe-app.yaml
voclabs:~/environment/CFTemplatesRepo (main) $
  
```

Screenshot of the AWS S3 console showing the bucket list and a specific object's properties.

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- Access analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

Buckets (4) Info

Buckets are containers for data stored in S3. Learn more

Name	AWS Region	Access	Creation date
createbucket-s3bucket-uiphs4it4il	US East (N. Virginia) us-east-1	Objects can be public	November 14, 2022, 13:07:33
c65590a1271568l3100583t1w033689435753-repobucket-1055u31b0jti	US East (N. Virginia) us-east-1	⚠️ Public	November 14, 2022, 13:00:11
c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89	US East (N. Virginia) us-east-1	⚠️ Public	November 14, 2022, 13:00:11
c65590a1271568l3100583t1w03-pipelinetemplatestore-1peutqc48iw5q	US East (N. Virginia) us-east-1	Objects can be public	November 14, 2022, 13:00:11

cafe-app.yaml Info

Properties | Permissions | Versions

Object overview

Owner	s3://c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89/cafe-app.yaml
AWS Region	US East (N. Virginia) us-east-1
Last modified	November 14, 2022, 14:44:08 (UTC+06:30)
Size	2.3 KB
Type	yaml
Key	https://c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89.s3.amazonaws.com/cafe-app.yaml

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Copy URL

Screenshot of the AWS CloudFormation 'Create stack' wizard Step 1: Prerequisite - Prepare template.

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://c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89.s3.amazonaws.com/cafe-app.yaml`

S3 URL: `https://c65590a1271568l3100583t1w033689435753-htmlbucket-1lvxabto27u89.s3.amazonaws.com/cafe-app.yaml`

Step 3
Configure stack options

Step 4
Review NweStack

Parameters

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

CafeNetworkParameter
update-cafe-network

InstanceTypeParameter
Enter t2.micro, t2.small, t3.micro or t3.small. Default is t2.small.
t3.micro

LatestAmild
/aws/service/ami-amazon-linux-latest/amzn2-ami-hvm-x86_64-gp2

Cancel Previous Next



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92°F Sunny ENG 2:51 PM US 11/14/2022

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



NweStack

Events (1)

Timestamp	Logical ID	Status	Status reason
2022-11-14 14:51:35 UTC+0630	NweStack	CREATE_IN_PROGRESS	User Initiated

Now it replicates and show its processes

NweStack

Events (8)

Timestamp	Logical ID	Status	Status reason
2022-11-14 14:51:54 UTC+0630	NweStack	CREATE_COMPLETE	-
2022-11-14 14:51:52 UTC+0630	CafelInstance	CREATE_COMPLETE	-
2022-11-14 14:51:49 UTC+0630	CafelInstance	CREATE_IN_PROGRESS	Resource creation Initiated
2022-11-14 14:51:47	CafelInstance	CREATE_IN_PROGRESS	-
2022-11-14 14:51:44 UTC+0630	CafelInstance	CREATE_IN_PROGRESS	-
2022-11-14 14:51:41 UTC+0630	CafelInstance	CREATE_IN_PROGRESS	-
2022-11-14 14:51:38 UTC+0630	CafelInstance	CREATE_IN_PROGRESS	-

Screenshot of the AWS Management Console showing the EC2 Instances page. A single instance, "Cafe Web Server" (i-00fcfa16605ee8397), is listed as "Running" with an "t3.micro" instance type. The "Launch Instances" button is visible at the top right.

Screenshot of a web browser displaying the "Café" website. The URL is 54.188.166.65/cafe/. The page features a large "Café" title, a "Server Information" section with IP Address: 54.188.166.65, Region/Availability Zone: us-west-2a, and Instance ID: i-00fcfa16605ee8397. Below this is a navigation menu with links to Home, About Us, Contact Us, Menu, and Order History. Two images are displayed: a tray of pastries (croissants and swirl buns) and a display case filled with various cakes.

Now it runs in west-2a