

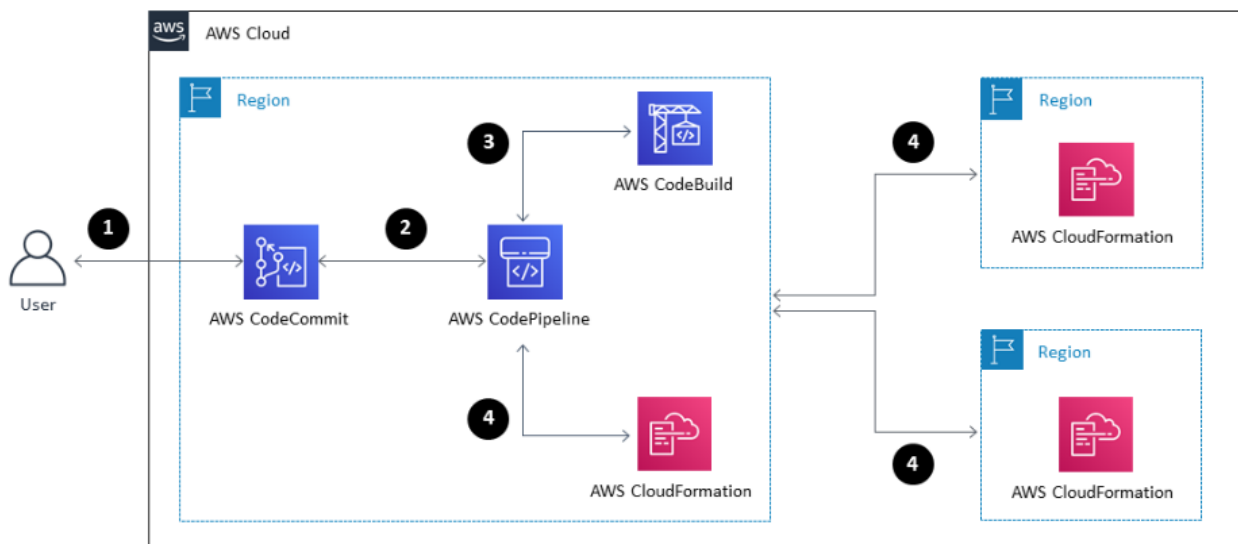
Project: Three Stages CI/CD Pipeline to deploy application code in multiple AWS Region

The project involves setting up a three-stage CI/CD pipeline to deploy a given application in multiple AWS Region. The pipeline will utilize:

1. **AWS CodeCommit** for source code management and version control.
2. **AWS CodeBuild** to build the code and run tests.
3. **AWS CloudFormation** as the deploy provider to provision and manage the infrastructure

Diagram

Architecture



This pattern's multiple-Region architecture and workflow comprise the following steps.

1. You send your code to a CodeCommit repository.
2. Upon receiving any code update or commit, CodeCommit invokes a CloudWatch event, which in turn starts a CodePipeline job.
3. CodePipeline engages the CI that is handled by CodeBuild. The following tasks are performed.
 - Testing of the AWS CloudFormation templates
 - Packaging of the AWS CloudFormation templates for each Region included in the deployment. For example, this pattern deploys in parallel to three AWS Regions, but for demo purpose we will do two in this project. so CodeBuild packages the AWS CloudFormation

templates into two S3 buckets, one in each specified Region. The S3 buckets are used by CodeBuild as artifact repositories only.

4. CodeBuild packages the artifacts as input for the next Deploy phase, which runs in parallel in the two AWS Regions. If you specify a different number of Regions, CodePipeline will deploy to those Regions

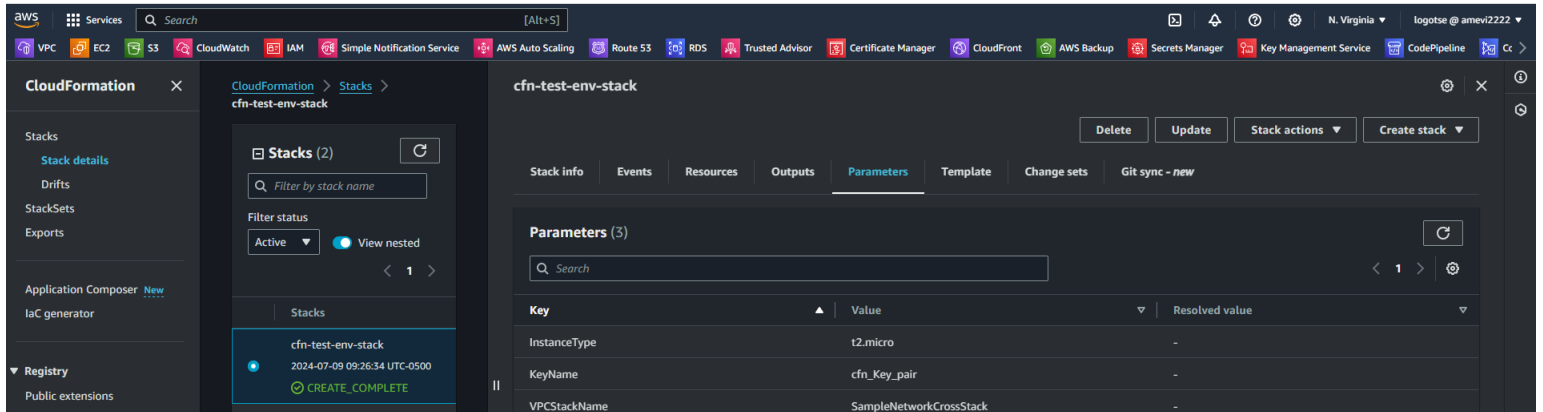
Screenshot of the CICD Pipeline from the console

The screenshot displays the AWS CodePipeline console for a pipeline named "theBigPipeline". The pipeline is in the "QUEUED" state. The console shows the following stages and actions:

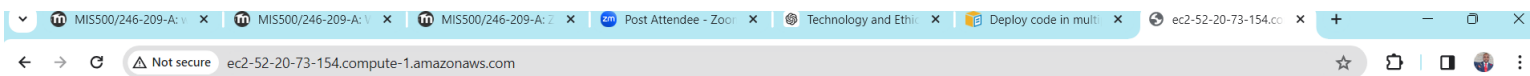
- Source** (Succeeded):
 - Action: [AWS CodeCommit](#)
 - Status: Succeeded - 12 hours ago
 - Link: [1982f890](#)
 - View details button
 - Source description: [1982f890](#) Source: first commit of the buildspec & the ec2-cfn template
- Build** (Succeeded):
 - Action: [AWS CodeBuild](#)
 - Status: Succeeded - 12 hours ago
 - Link: [1982f890](#)
 - View details button
 - Source description: [1982f890](#) Source: first commit of the buildspec & the ec2-cfn template
- Deploy** (Succeeded):
 - Action: [AWS CloudFormation](#)
 - Status: Succeeded - 12 hours ago
 - Link: [1982f890](#)
 - View details button
 - Source description: [1982f890](#) Source: first commit of the buildspec & the ec2-cfn template
- approvalstage** (Manual approval):
 - Action: Manual approval
 - Status: Approved - 12 hours ago
 - Link: [1982f890](#)
 - View details button
- DeployToProd** (Succeeded):
 - Action: [AWS CloudFormation](#)
 - Status: Succeeded - 12 hours ago
 - Link: [1982f890](#)
 - View details button
 - Source description: [1982f890](#) Source: first commit of the buildspec & the ec2-cfn template

The console also shows a "Disable transition" button between the Source and Build stages, and a "Start rollback" button for the Deploy stage. The left sidebar contains navigation links for Source, Artifacts, Build, Deploy, and Pipeline settings.

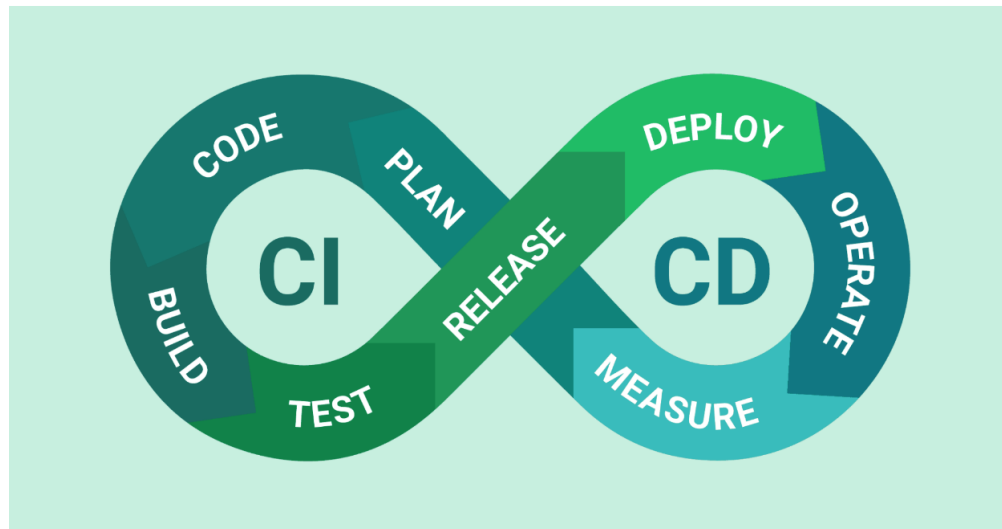
Stack created in the first region (us-east-1)



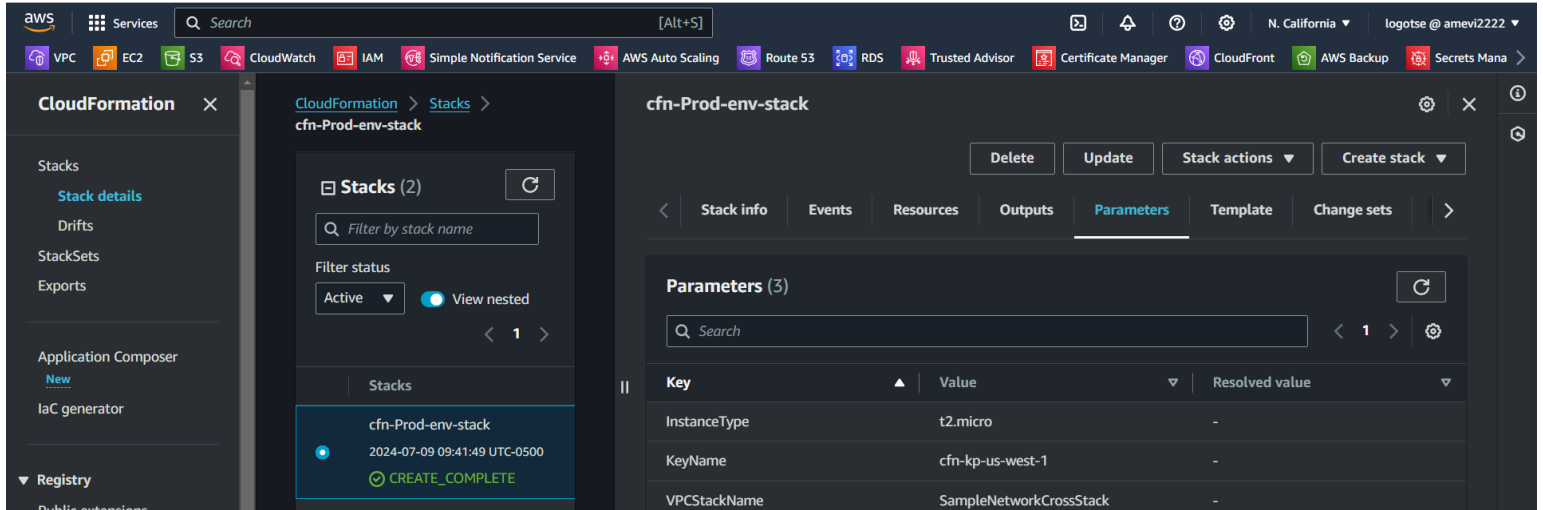
Application Code successfully deployed to east 1



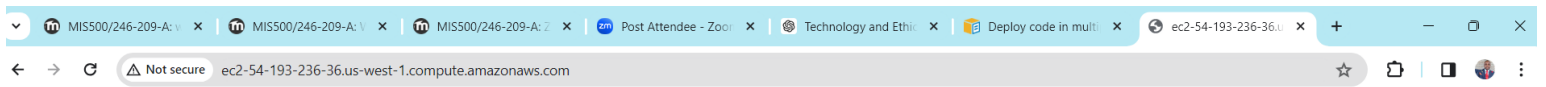
This website was deployed in us-east-1 using CI/CD pipeline and CloudFormation as deploy provider



Stack created in the 2nd region (us-west-1)



Application Code successfully deployed to east 1



This website was deployed in us-west-1 using CI/CD pipeline and CloudFormation as deploy provider

