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EXPERIMENT NO - 2

AIM: To Build your application using AWS CodeBuild and Deploy on S3 / SEBS using AWS Code pipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy.

THEORY: Continous deployment allows you to deploy revisions to a production environment automatically without explicit approval from a developer, making the entire software release process automated.

You will create the pipeline using AWS Code Pipeline, a service that Builds, tests and deploys your code every time there is a code change.

You will use your Github account, an Amazon Simple Storage Service (S3) bucket or an AWS CodeCommit repository as the source location for sample app's code.

You will also use AWS Elastic Beanstalk as the deployment target for sample app.

Your completed pipeline will be able to detect changes made to source repository containing the sample app and then automatically update your live sample app.

Your continous deployment pipeline will need a target environment containing virtual servers, or Amazon Ec2 instances; where it will deploy sample code. You will prepare this environment before creating the pipeline.

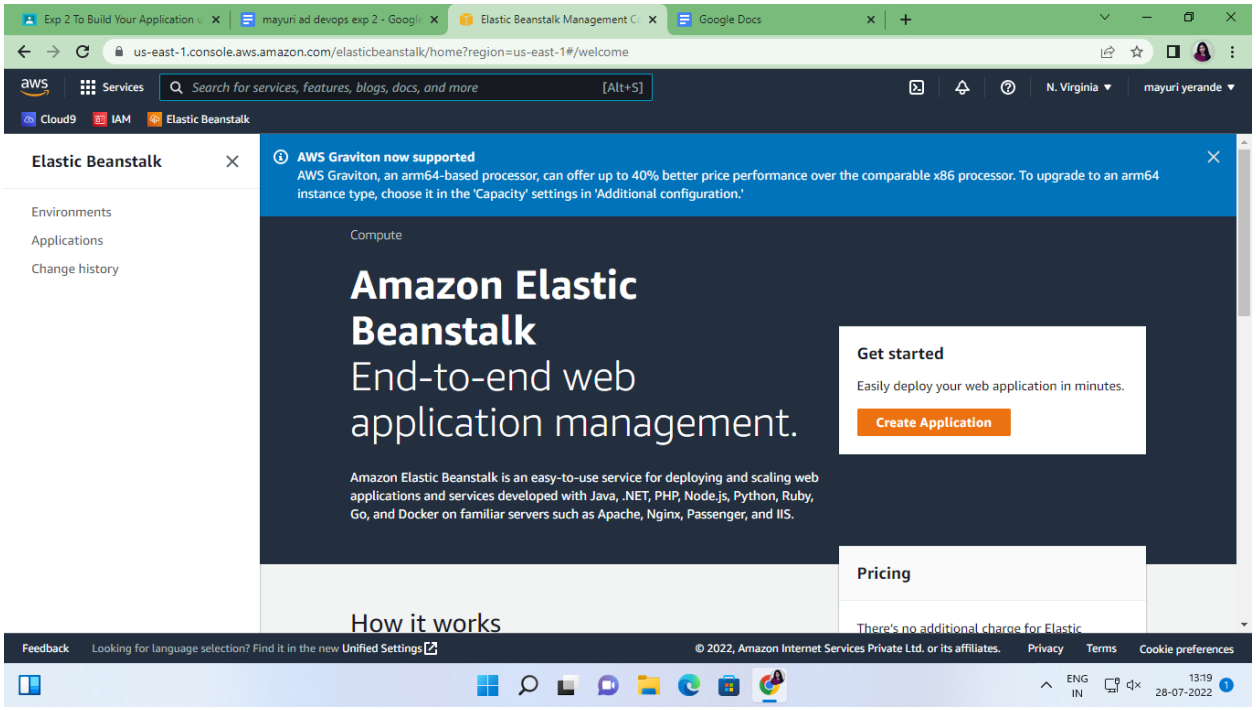
To simplify the process of setting up and configuring EC2 instances for this tutorial, you will spin up a sample environment using AWS Elastic Beanstalk. Elastic Beanstalk lets you easily host web applications without needing to launch, configure or operate virtual servers on your own. It automatically provisions and operates the infrastructure and provides the application stack for you.

Name your web app and choose PHP from the drop-down menu (or any other language) and then click Create Application.

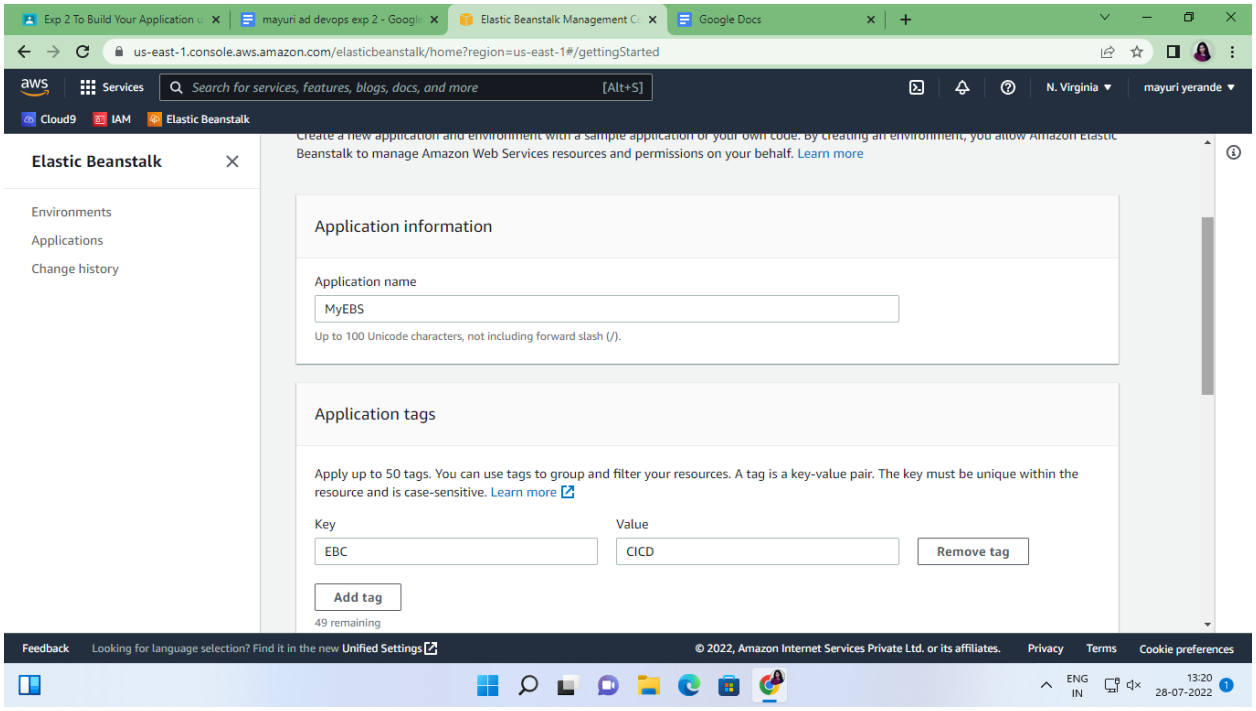
IMPLEMENTATION:

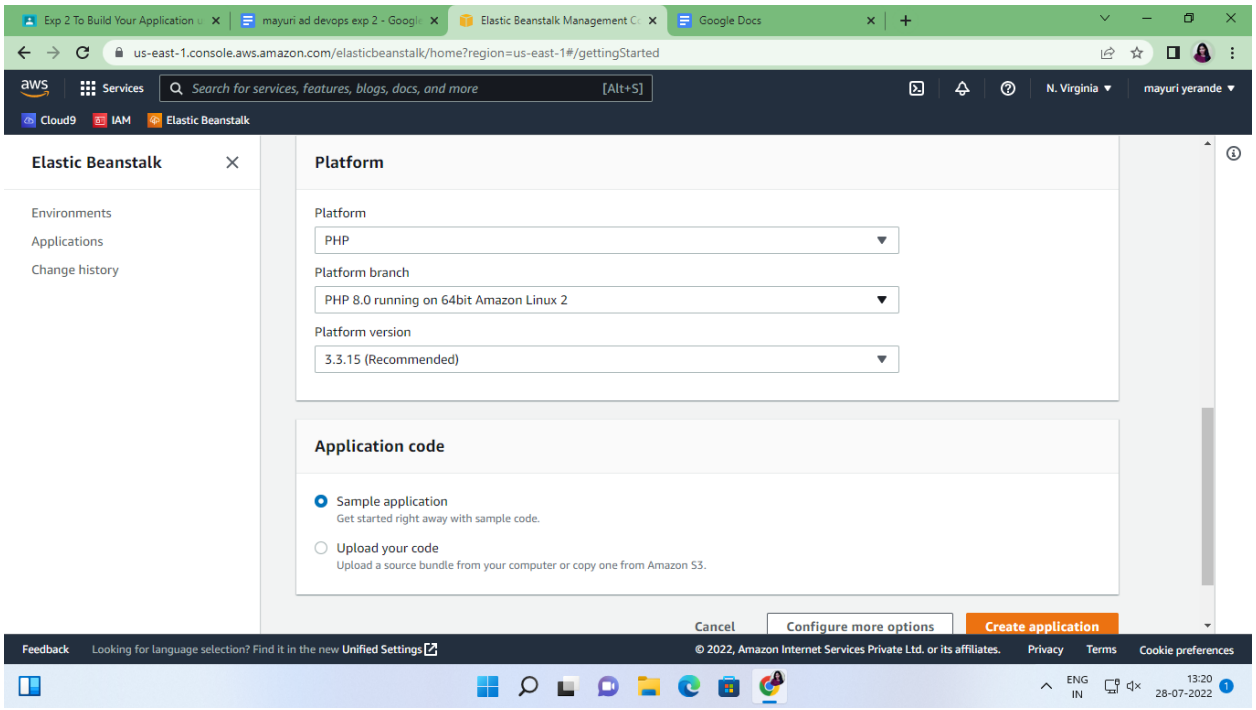
Step1: Create a deployment environment

Your continuous deployment pipeline will need a target environment containing virtual servers, or Amazon EC2 instances, where it will deploy sample code. You will prepare this environment before creating the pipeline. 1) To simplify the process of setting up and configuring EC2 instances for this tutorial, you will spin up a sample environment using AWS Elastic Beanstalk. Elastic Beanstalk lets you easily host web applications without needing to launch, configure, or operate virtual servers on your own. It automatically provisions and operates the infrastructure (e.g. virtual servers, load balancers, etc.) and provides the application stack (e.g. OS, language and framework, web and application server, etc.) for you.



a) Name your web app and choose PHP from the drop-down menu(or any other language you are interested in) and then click Create Application.





b) Elastic Beanstalk will begin creating a sample environment for you to deploy your application to. It will create an Amazon EC2 instance, a security group, an Auto Scaling group, an Amazon S3 bucket, Amazon CloudWatch alarms, and a domain name for your application.

Note: This will take several minutes to complete.

Step2: Get a copy of the sample code

In this step, you will retrieve a copy of the sample app's code and choose a source to host the code. The pipeline takes code from the source and then performs actions on it. You can use one of **three options** as your source: a **GitHub repository, an Amazon S3 bucket, or an AWS CodeCommit repository.** Select your preference and follow the steps below:

a) If you plan to use Amazon S3 as your source, you will retrieve the sample code from the AWS GitHub repository, save it to your computer, and upload it to an Amazon S3 bucket.

- Visit our GitHub repository containing the sample code at https://github.com/imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0
- Click the dist folder.

b. Save the source files to your computer:

- Click the file named aws-codepipeline-s3-aws-codedeploy_linux.zip
- Click View Raw.
- Save the sample file to your local computer.

a. open the Amazon S3 console and create your Amazon S3 bucket:

- Click Create Bucket

- Bucket Name: type a unique name for your bucket, such as awscodepipeline-demobucket- variables. All bucket names in Amazon S3 must be unique, so use one of your own, not one with the name shown in the example.
- Region: In the drop-down, select the region where you will create your pipeline, such as ap- South-1
- Click Create.

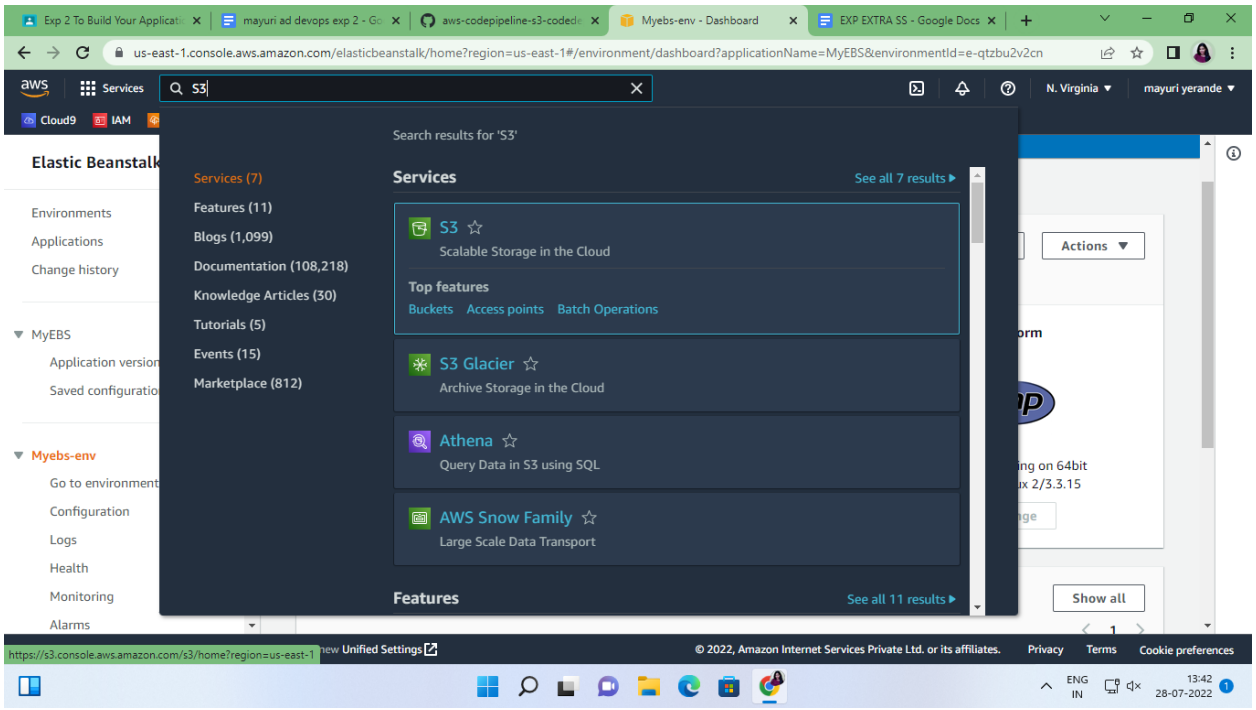
D .The console displays the newly created bucket, which is empty.

- Click Properties.
- Expand Versioning and select Enable Versioning. When versioning is enabled, Amazon S3 saves every version of every object in the bucket.

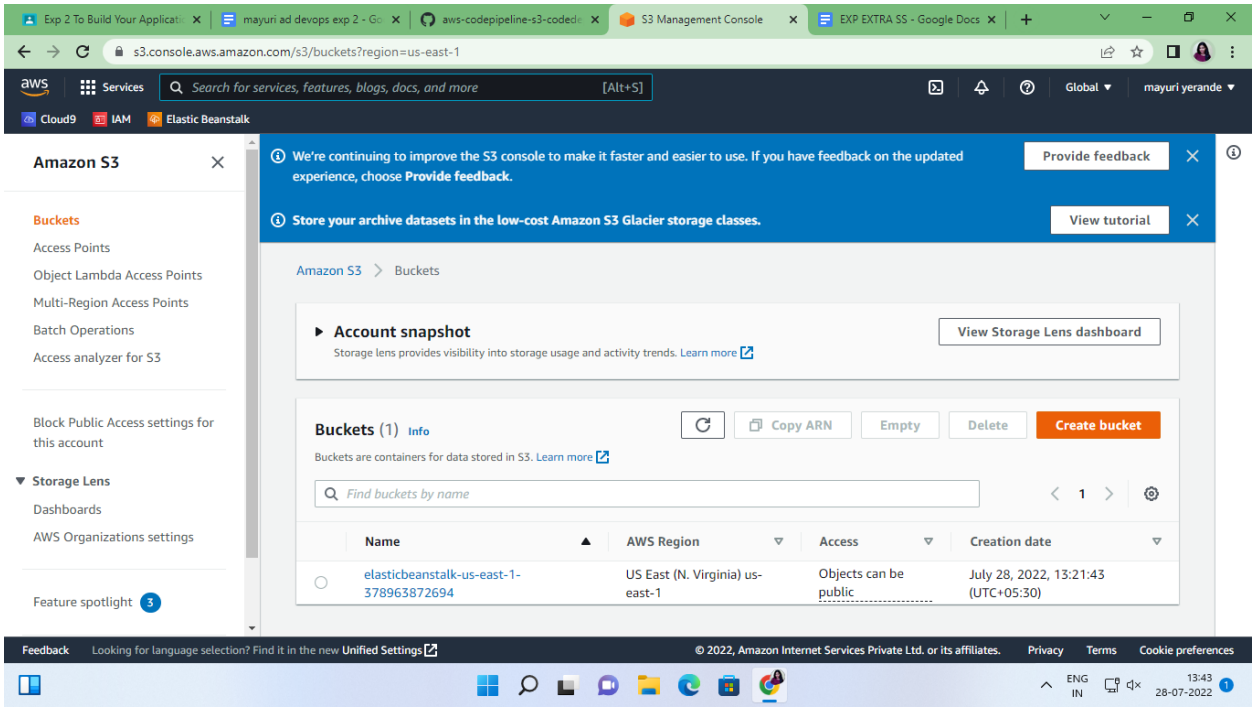
e. You will now upload the sample code to the Amazon S3 bucket:

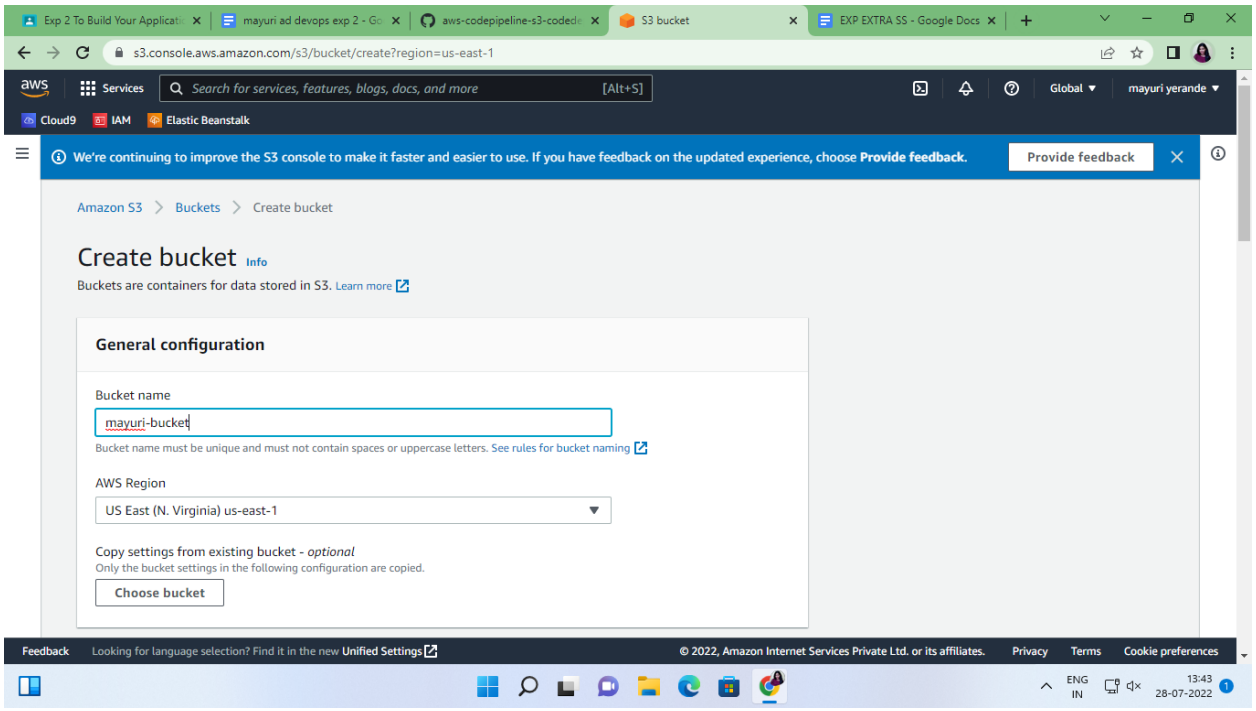
- Click Upload.
- Follow the on-screen directions to upload the .zip file containing the sample code you downloaded from GitHub.

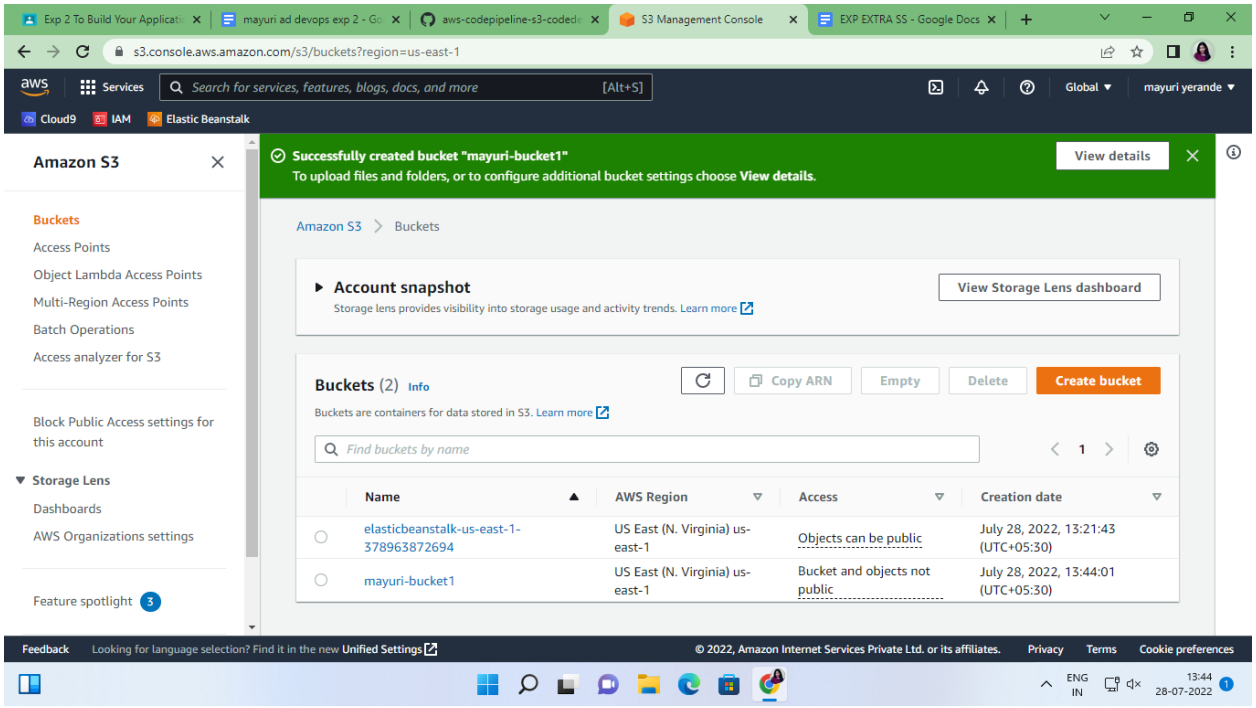
Step 3: Creation of Bucket



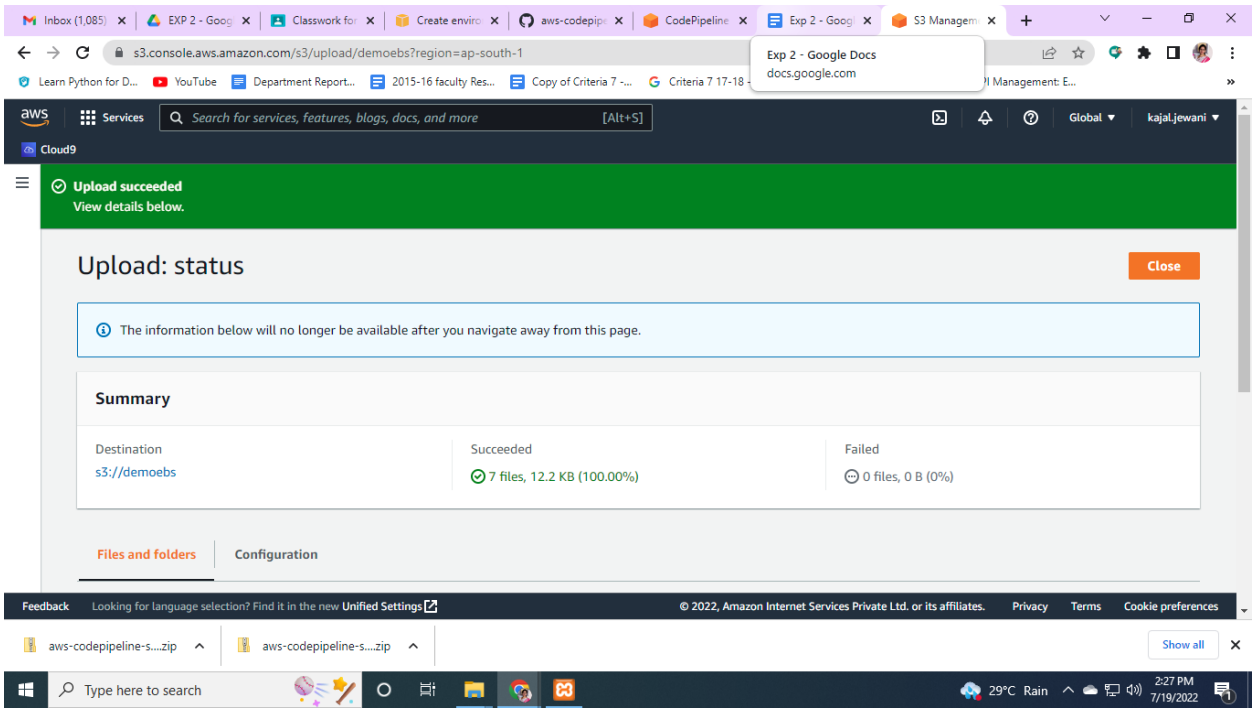
Click on Create Bucket button

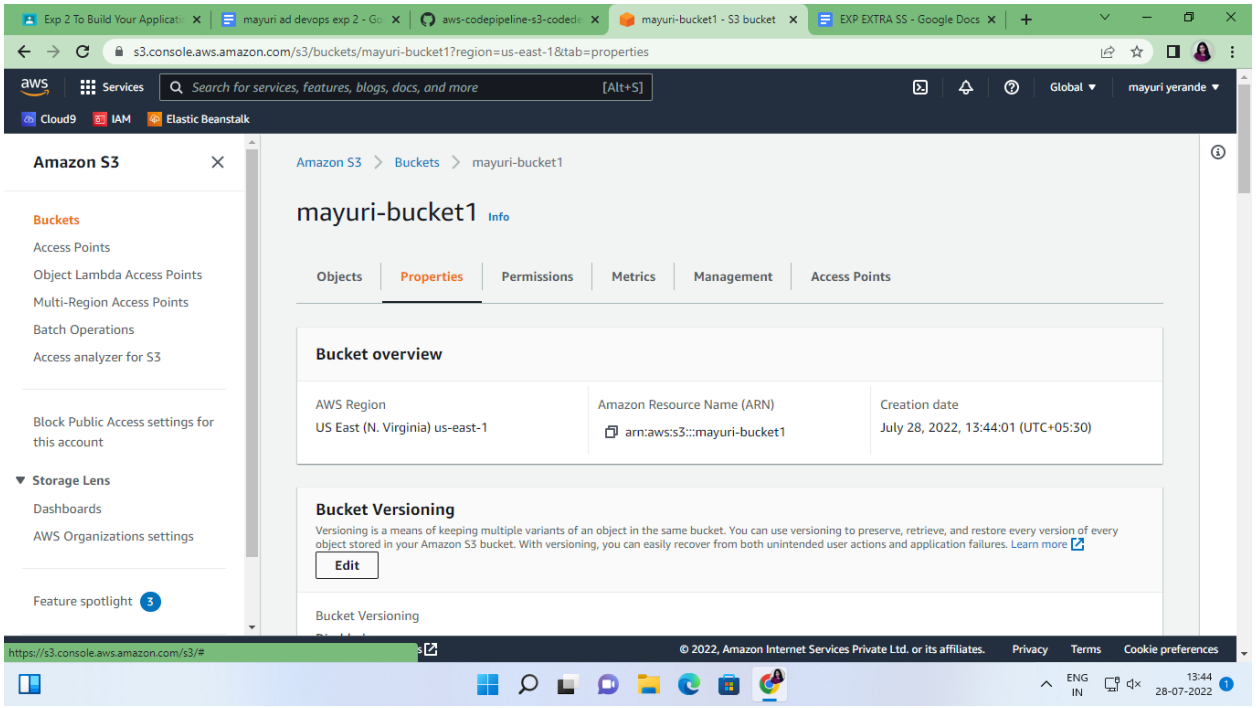




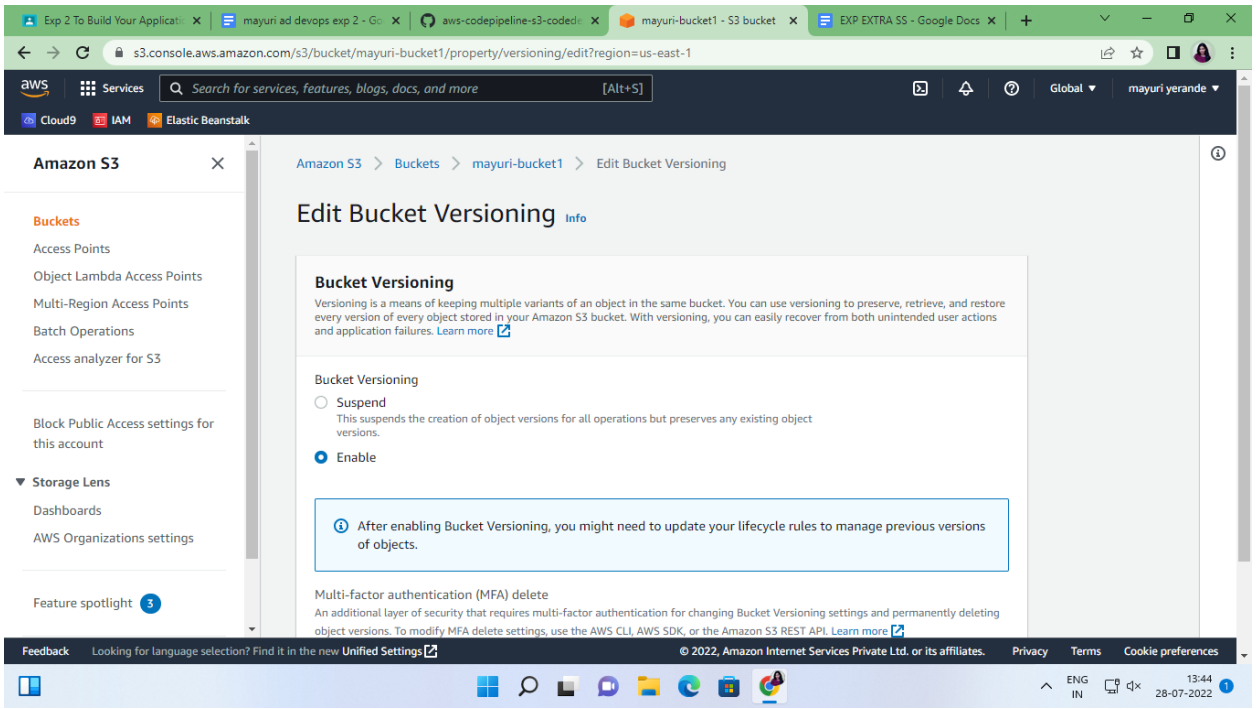


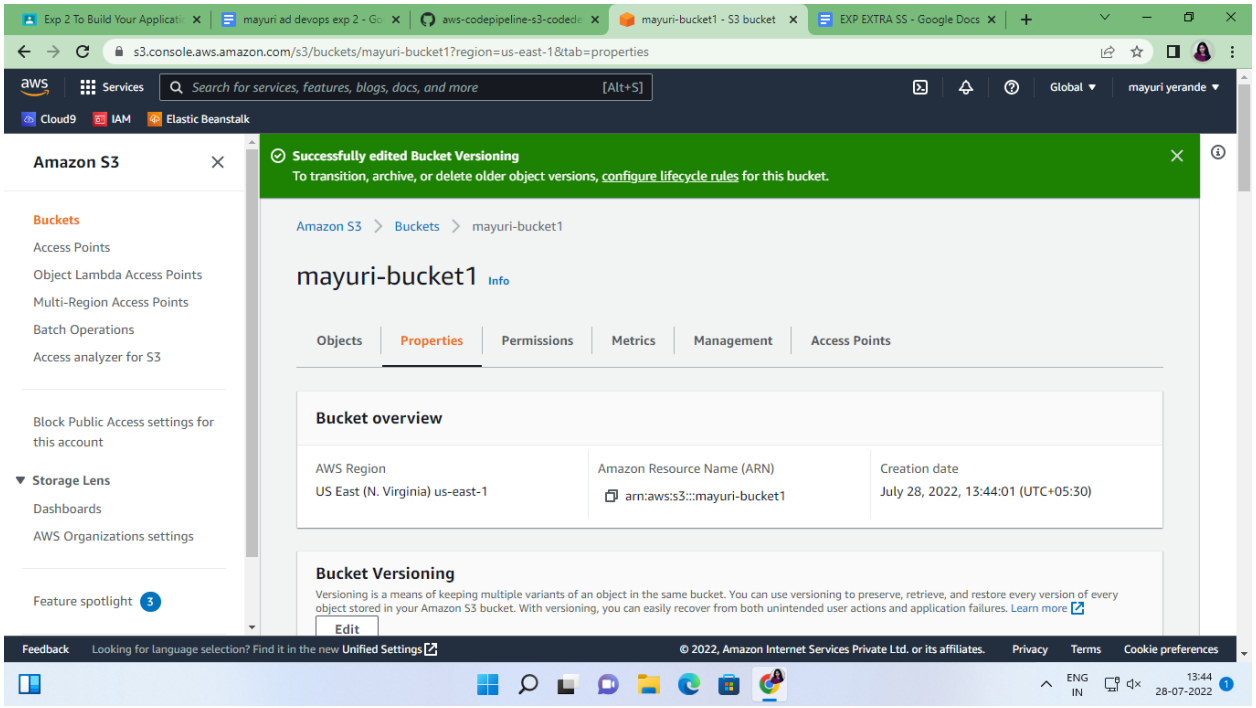
The bucket is created



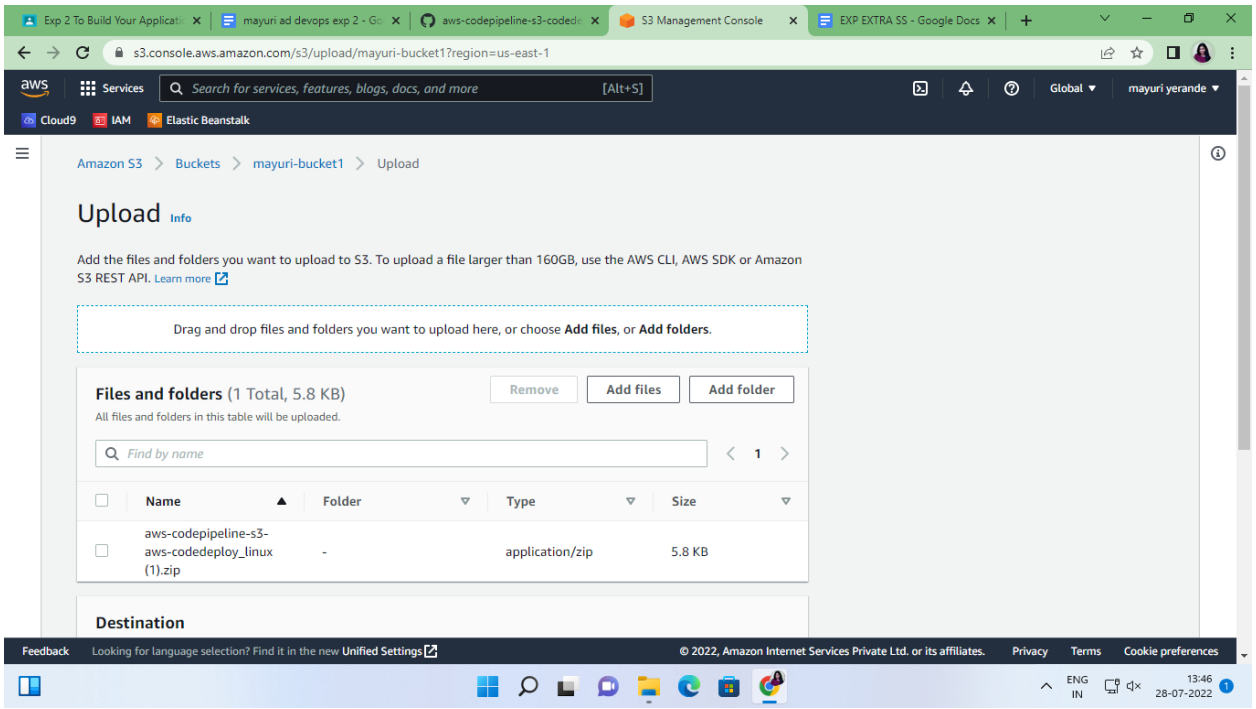


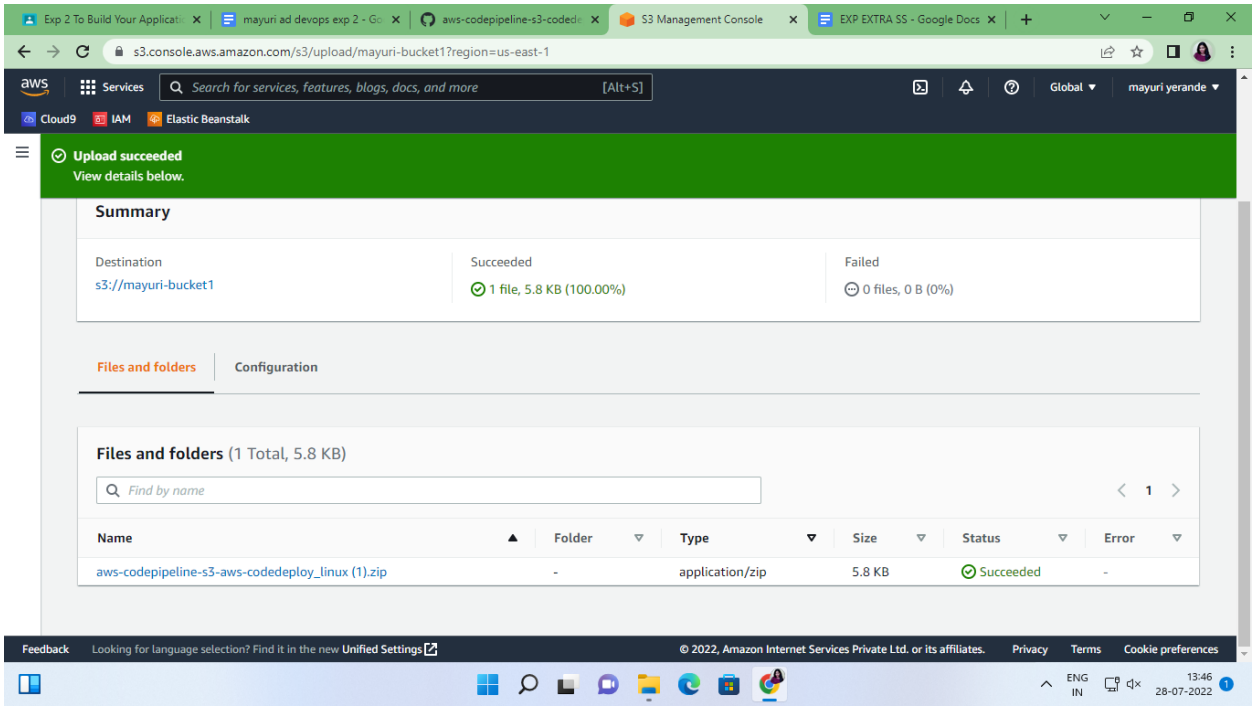
“Enable” Bucket versioning





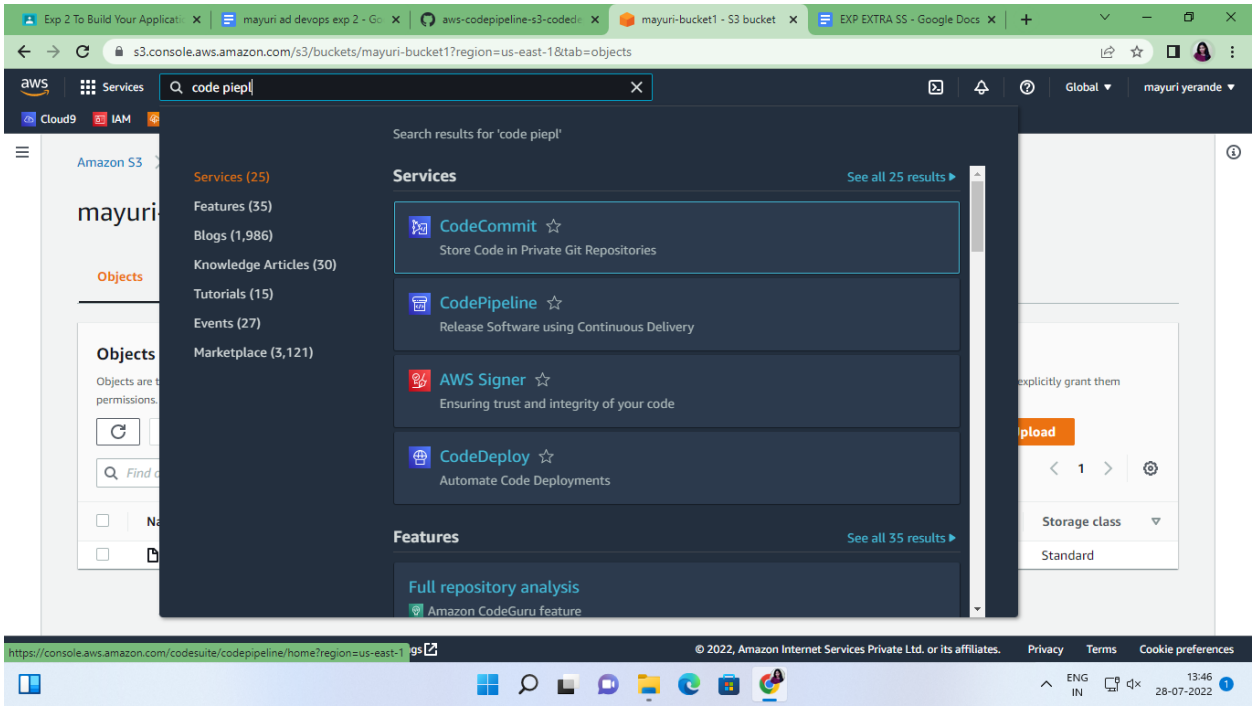
Step 4: Upload files into bucket





Step 5: Create your Pipeline

In this step, you will create and configure a simple pipeline with two actions: source and deploy. You will provide CodePipeline with the locations of your source repository and deployment environment. A true continuous deployment pipeline requires a build stage, where code is compiled and unit tested. CodePipeline lets you plug your preferred build provider into your pipeline. However, in this we will skip the build stage. Goto Pipeline again and create it


s3.console.aws.amazon.com/s3/buckets/mayuri-bucket1?region=us-east-1&tab=objects
code piepl
Search results for 'code piepl'
Services (25)
Features (35)
Blogs (1,986)
Knowledge Articles (30)
Tutorials (15)
Events (27)
Marketplace (3,121)
Services
See all 25 results
CodeCommit
Store Code in Private Git Repositories
CodePipeline
Release Software using Continuous Delivery
AWS Signer
Ensuring trust and integrity of your code
CodeDeploy
Automate Code Deployments
Features
See all 35 results
Full repository analysis
Amazon CodeGuru feature
Amazon S3
Objects
Storage class
Standard
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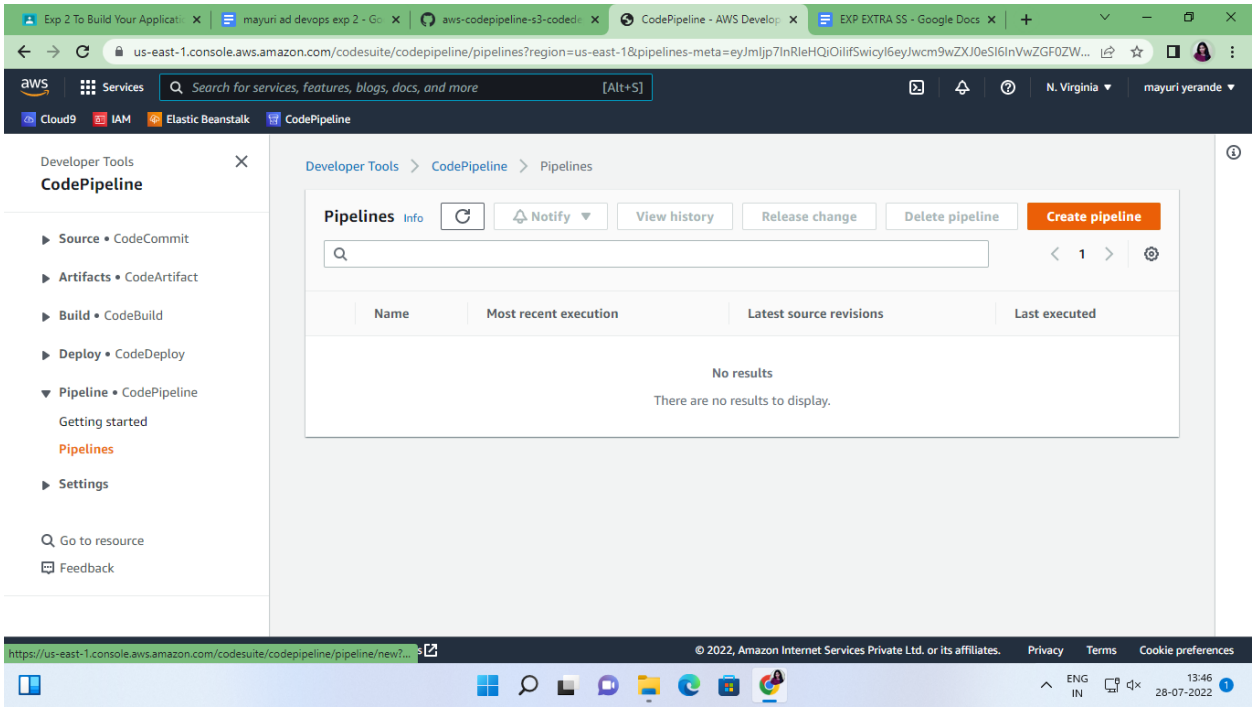
us-east-1.console.aws.amazon.com/codesuite/codepipeline/pipelines?region=us-east-1
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mayuri yerande
Developer Tools
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Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Settings
Go to resource
Feedback
Developer Tools > CodePipeline > Pipelines
Pipelines Info
Notify
View history
Release change
Delete pipeline
Create pipeline
Name
Most recent execution
Latest source revisions
Last executed
No results
There are no results to display.
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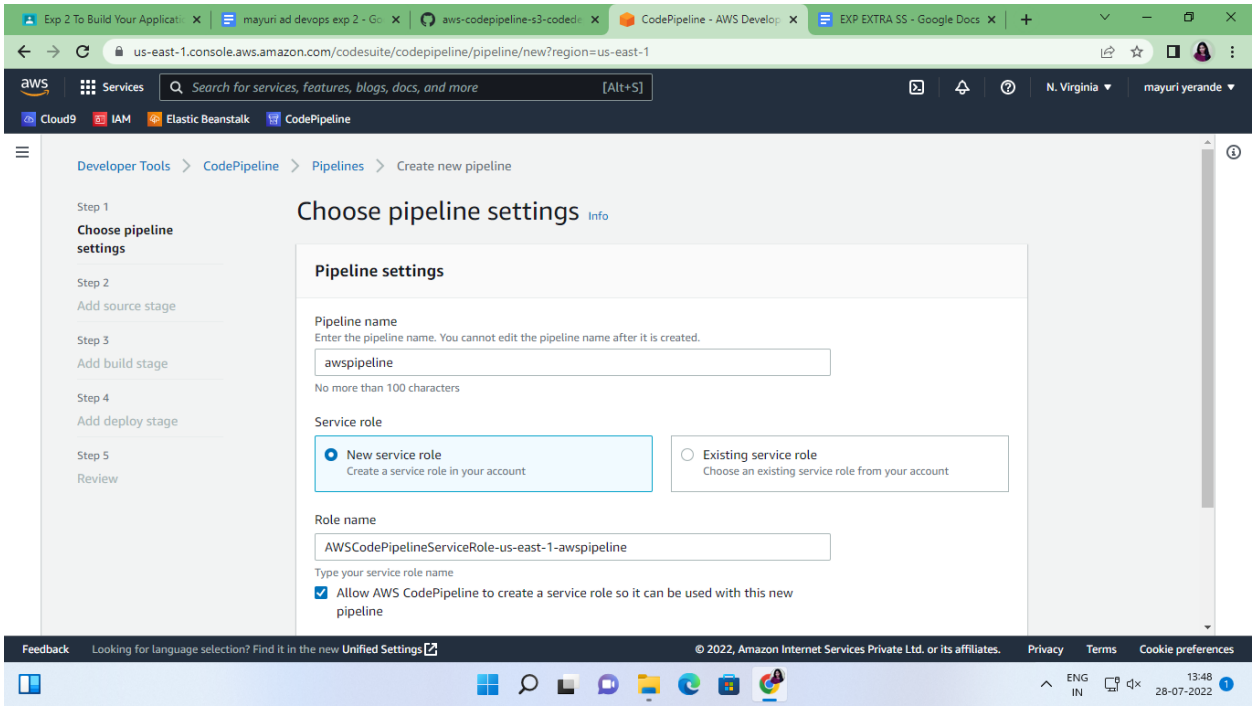
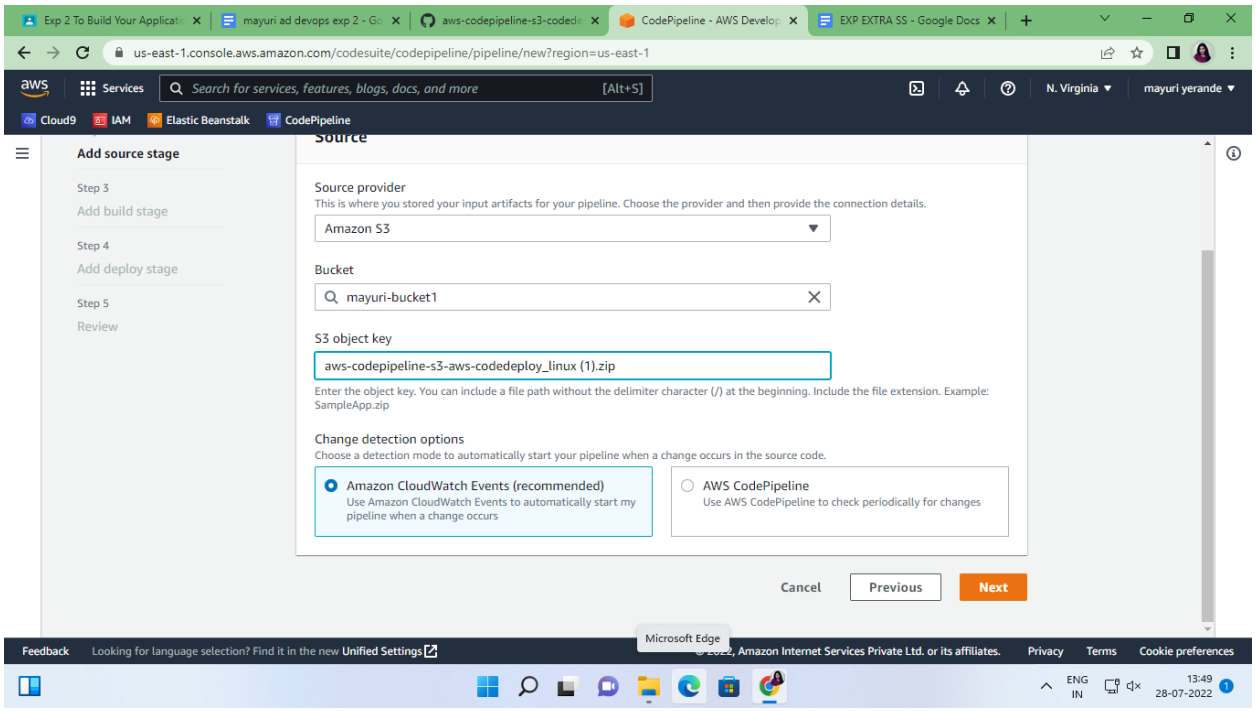
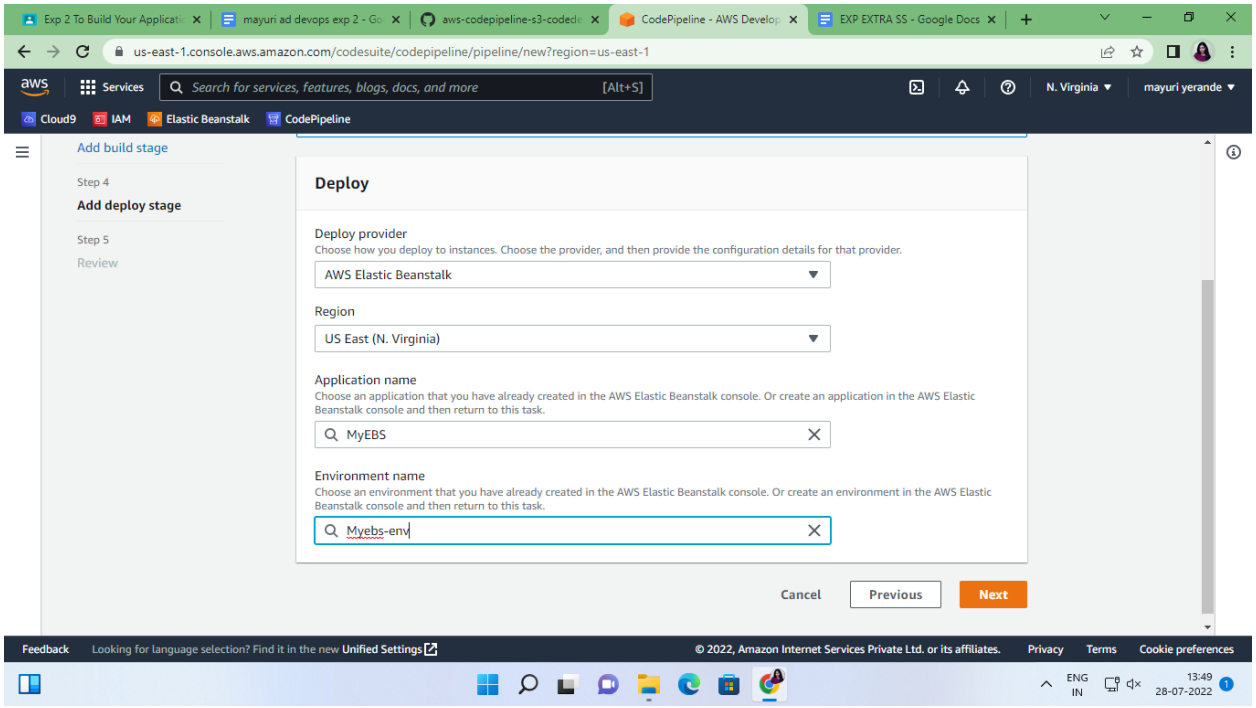
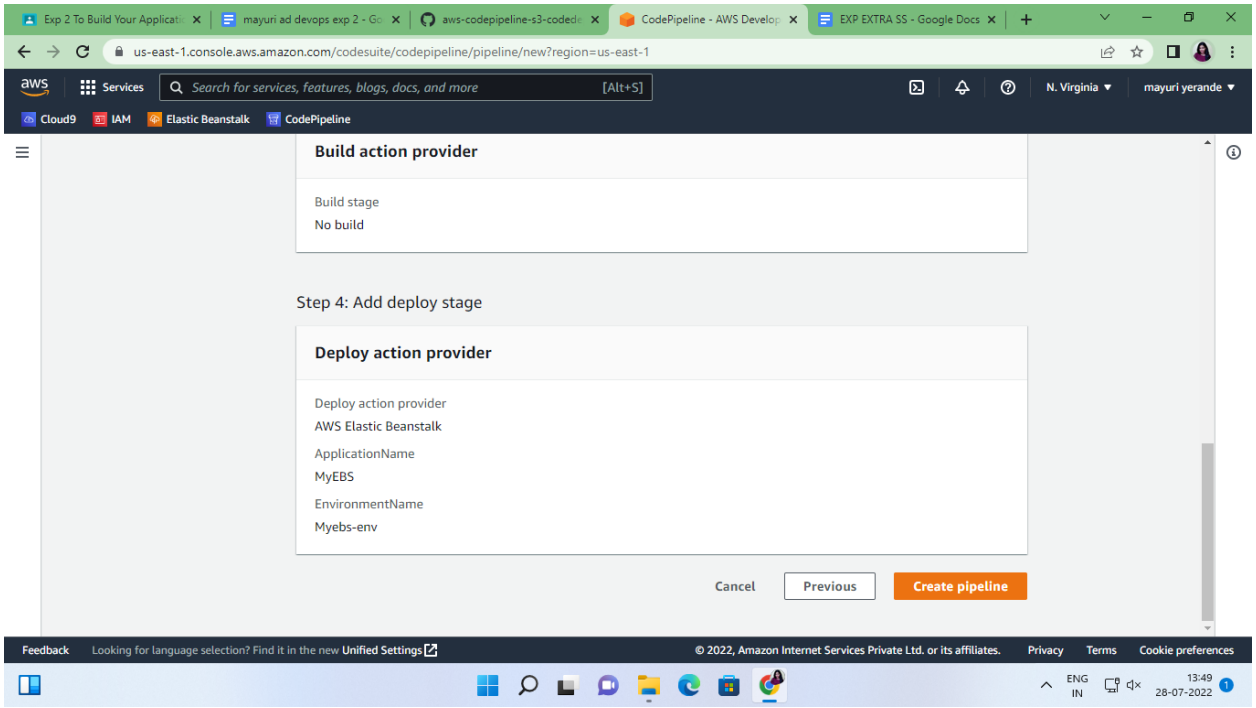


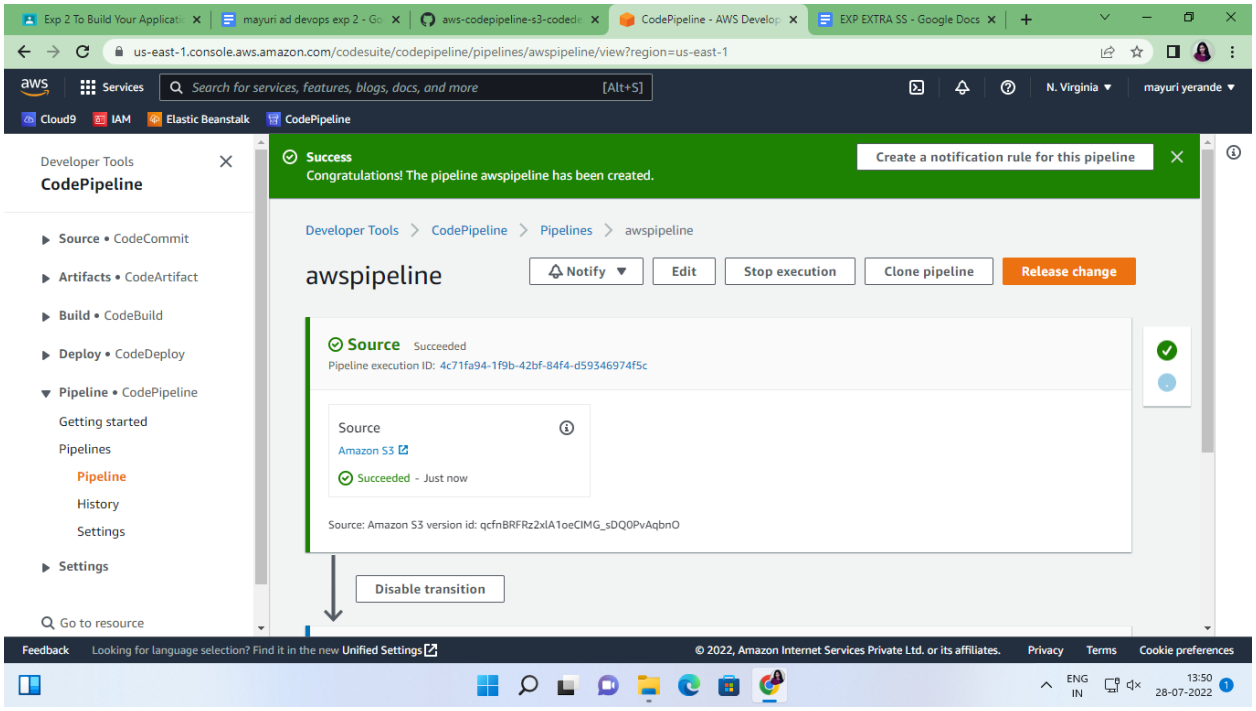
Copy the name of your folder and enter it in “s3 object key” section

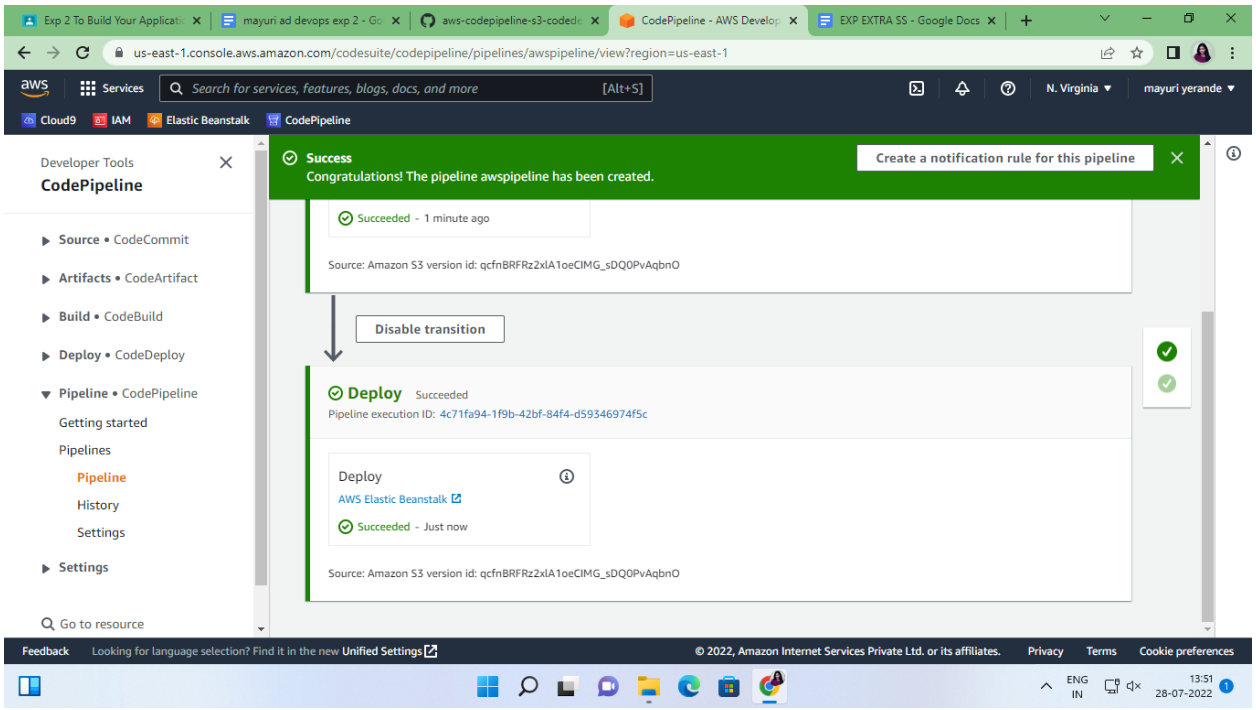



Add build stage
Step 4
Add deploy stage
Step 5
Review
Deploy
Deploy provider
Choose how you deploy to instances. Choose the provider, and then provide the configuration details for that provider.
AWS Elastic Beanstalk
Region
US East (N. Virginia)
Application name
Choose an application that you have already created in the AWS Elastic Beanstalk console. Or create an application in the AWS Elastic Beanstalk console and then return to this task.
MyEBS
Environment name
Choose an environment that you have already created in the AWS Elastic Beanstalk console. Or create an environment in the AWS Elastic Beanstalk console and then return to this task.
Myebs-env
Cancel
Previous
Next


Build action provider
Build stage
No build
Step 4: Add deploy stage
Deploy action provider
Deploy action provider
AWS Elastic Beanstalk
ApplicationName
MyEBS
EnvironmentName
Myebs-env
Cancel
Previous
Create pipeline

Pipeline is created.



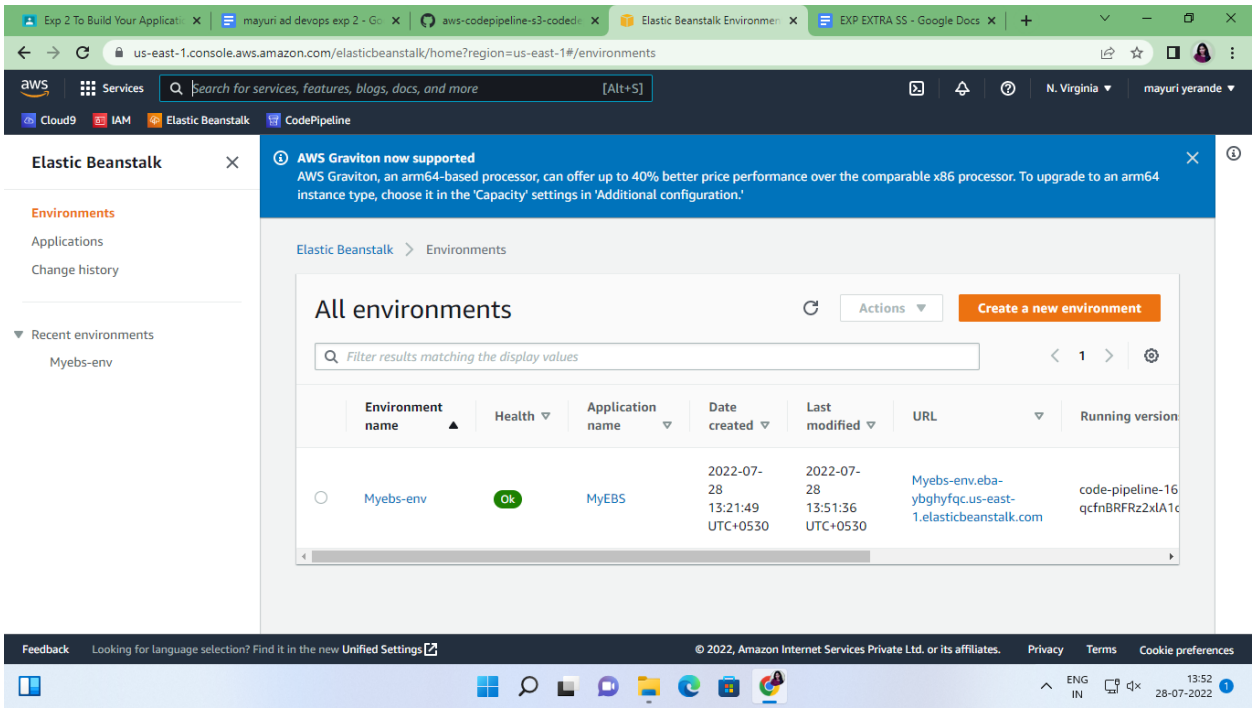


Skip the build stage

In the Deploy Stage:
Deployment provider: Click AWS Elastic Beanstalk. Application name: MYEBS. Environment name: Click Myebs-env. Click Next step.

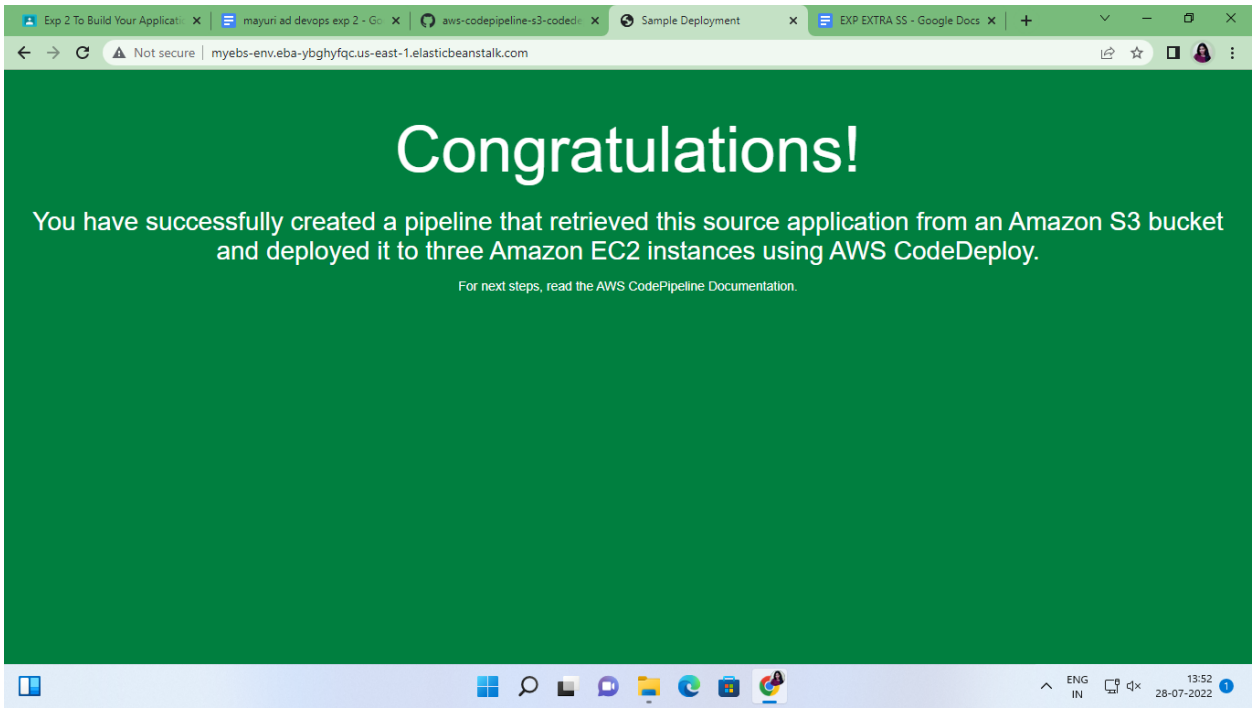
After your pipeline is created, the pipeline status page appears and the pipeline automatically starts to run. You can view progress as well as success and failure messages as the pipeline performs each action.
To verify your pipeline ran successfully, monitor the progress of the pipeline as it moves through each stage. The status of each stage will change from No executions yet to In Progress, and then to either Succeeded or Failed. The pipeline should complete the first run within a few minutes.

Now go to your EBS environment and click on the URL to view the sample website you deployed.



You have successfully created an automated software release pipeline using AWS CodePipeline!

Using CodePipeline, you created a pipeline that uses GitHub, Amazon S3, or AWS CodeCommit as the source location for application code and then deploys the code to an Amazon EC2 instance managed by AWS Elastic Beanstalk.



Step 6: Clean up your resources

To avoid future charges, you will delete all the resources you launched throughout this tutorial, which includes the pipeline, the Elastic Beanstalk application, and the source you set up to host the code.

a. First, you will delete your pipeline:

- In the pipeline view, click Edit.
- Click Delete.

- Type in the name of your pipeline and click Delete.

b. Second, delete your Elastic Beanstalk application:

- Visit the Elastic Beanstalk console.
- Click Actions.
- Then click Terminate Environment.

You have successfully created an automated software release pipeline using AWS CodePipeline! Using CodePipeline, you created a pipeline that uses GitHub, Amazon S3, or AWS CodeCommit as the source location for application code and then deploys the code to an Amazon EC2 instance managed by AWS Elastic Beanstalk. Your pipeline will automatically deploy your code every time there is a code change.

Conclusion: An Application using AWS CodeBuild and Deploy on S3 using AWS CodePipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy is successfully implemented.