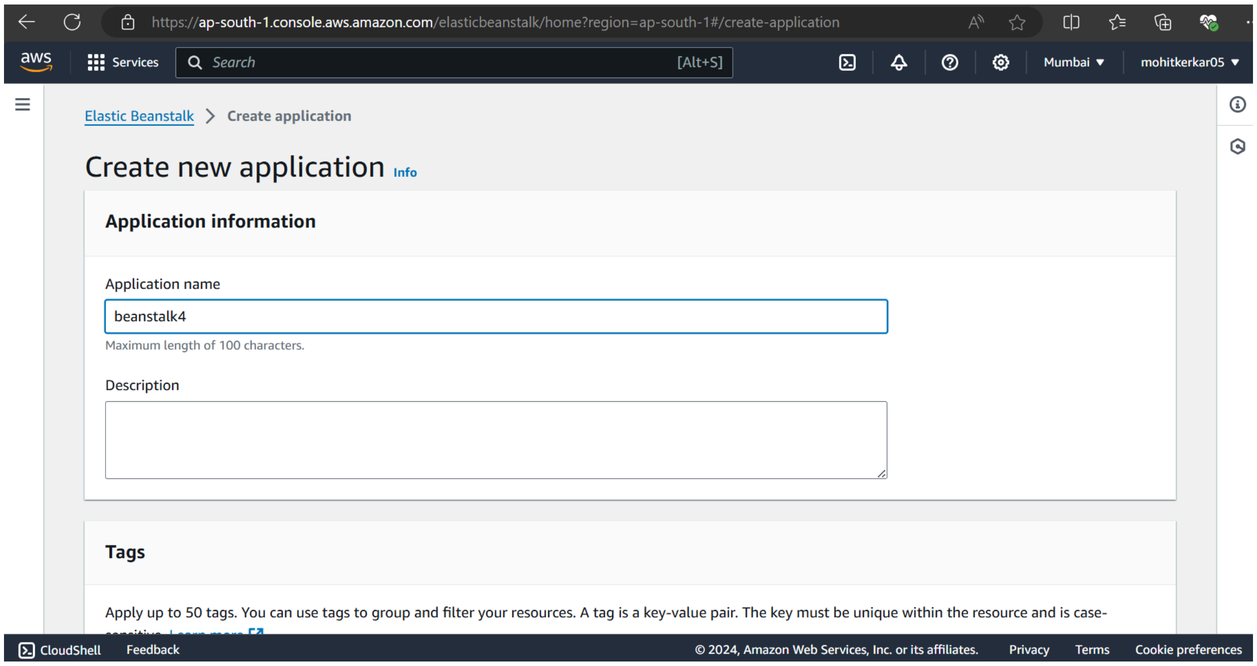
Name: Mohit Kerkar   Div: D15C   Roll No: 23

<u>Exp 02:To Build Your Application using AWS CodeBuild and Deploy on S3 / SEBS using AWS CodePipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy.</u>

Step 1: Create our ElasticBeanstalk Environment
Login into your AWS account and navigate to services. Search for Elastic Beanstalk service and click on create application. Give your application a suitable name. For the platform, select PHP. Rest of the configuration settings are to be kept as default.


https://ap-south-1.console.aws.amazon.com/elasticbeanstalk/home?region=ap-south-1#/create-application

Elastic Beanstalk > Create application

Create new application Info

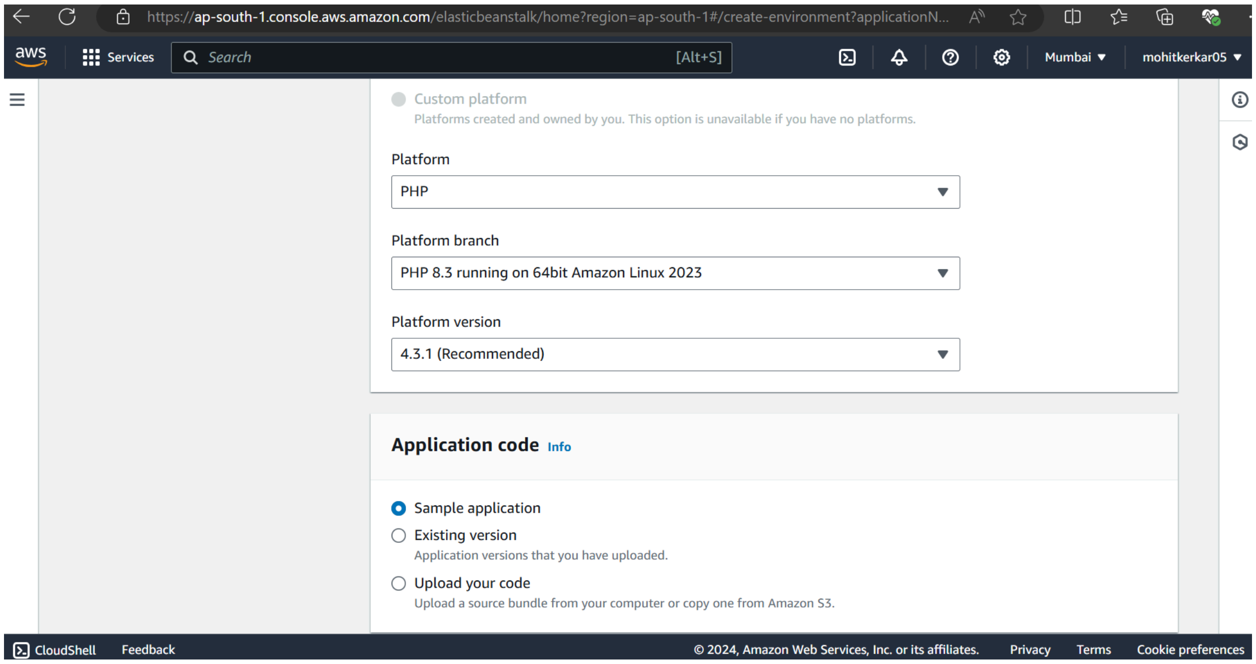
Application information

Application name
beanstalk4
Maximum length of 100 characters.

Description

Tags

Apply up to 50 tags. You can use tags to group and filter your resources. A tag is a key-value pair. The key must be unique within the resource and is case-


https://ap-south-1.console.aws.amazon.com/elasticbeanstalk/home?region=ap-south-1#/create-environment?applicationN...

Custom platform
Platforms created and owned by you. This option is unavailable if you have no platforms.

Platform
PHP

Platform branch
PHP 8.3 running on 64bit Amazon Linux 2023

Platform version
4.3.1 (Recommended)

Application code Info

[✓ Sample application]
Existing version
Application versions that you have uploaded.
Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.

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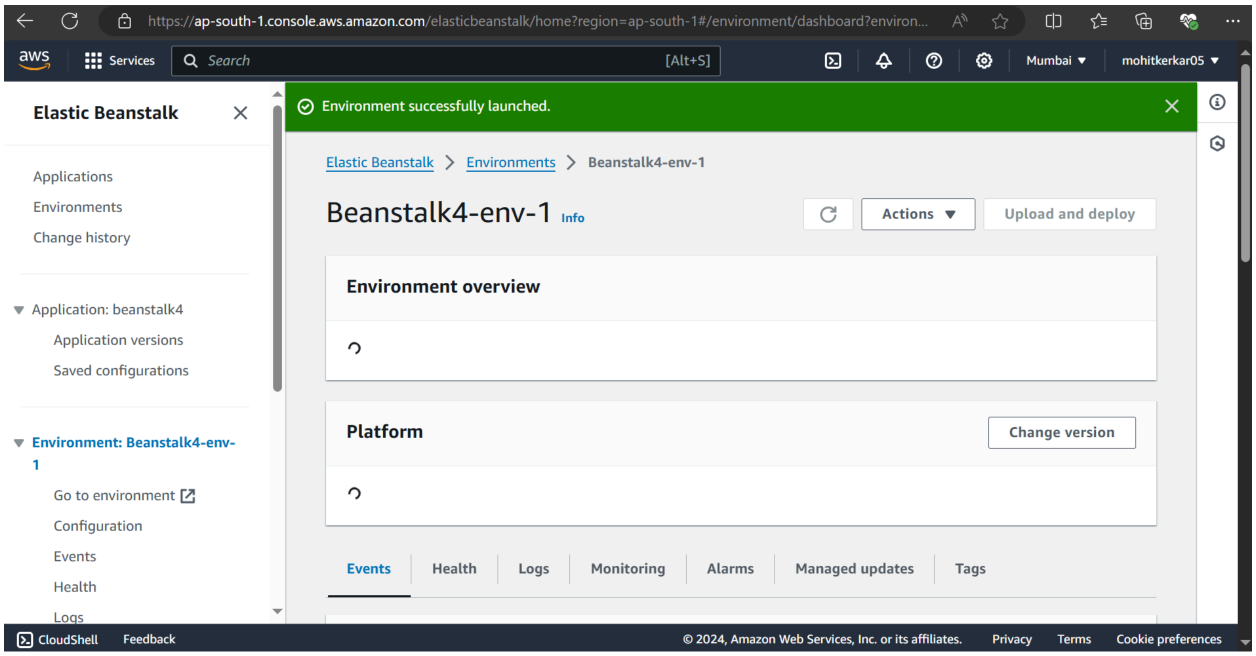
Now, while creating the environment, we are asked to provide an IAM role with the necessary EC2 permissions. We are supposed to make sure that we have made an existing IAM role with the following set of permissions:

1. AWSElasticBeanStalkWebTier
2. AWSElasticBeanStalkWorkerTier
3. AWSElasticBeanStalkMulticontainerDocker

We can skip the steps to follow after the initial few steps mentioned above and move straight to review the settings of our environment. After reviewing everything properly, our environment can successfully be created.


https://ap-south-1.console.aws.amazon.com/elasticbeanstalk/home?region=ap-south-1#/environment/dashboard?environ...

Environment successfully launched.

Elastic Beanstalk > Environments > Beanstalk4-env-1

Beanstalk4-env-1 Info

Environment overview

Platform

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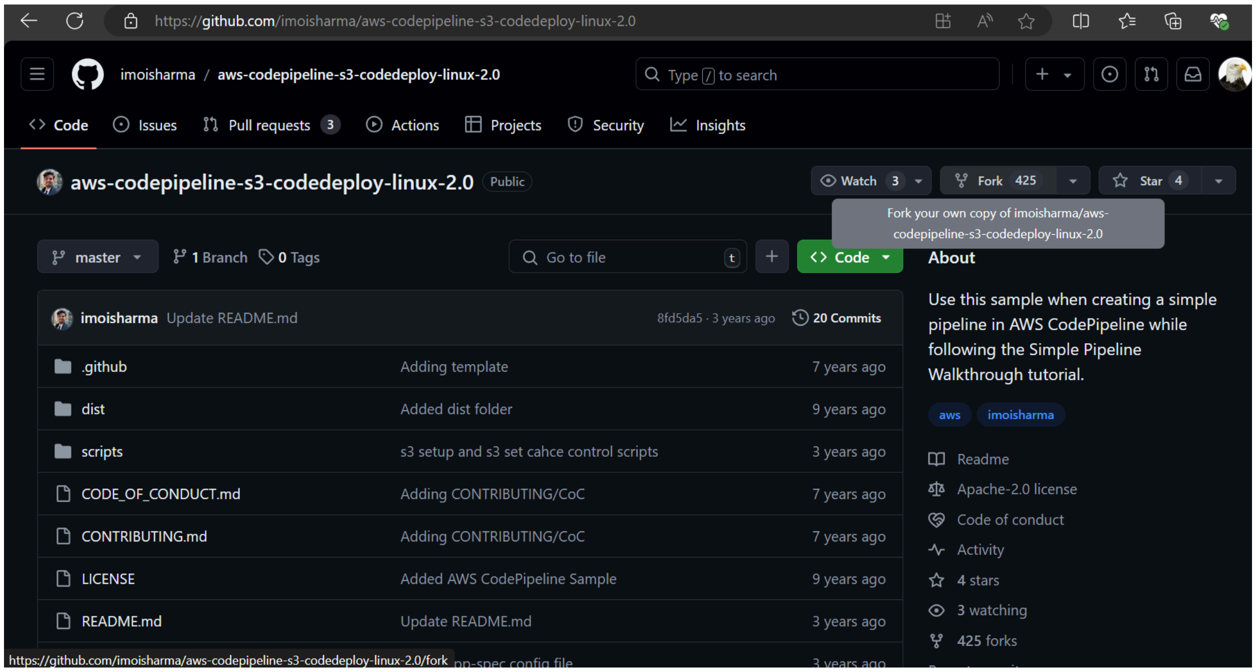
Step 2: Fork the required repository onto our github account

The repository to be forked is - imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0

This step is necessary for the execution of the steps to follow. It will be helpful in the creation of a pipeline.



https://github.com/imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0

imoisharma / aws-codepipeline-s3-codedeploy-linux-2.0

aws-codepipeline-s3-codedeploy-linux-2.0 Public

Watch 3 Fork 425 Star 4

Fork your own copy of imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0

master 1 Branch 0 Tags

imoisharma Update README.md 8fd5da5 · 3 years ago 20 Commits

.github	Adding template	7 years ago
dist	Added dist folder	9 years ago
scripts	s3 setup and s3 set cahce control scripts	3 years ago
CODE_OF_CONDUCT.md	Adding CONTRIBUTING/CoC	7 years ago
CONTRIBUTING.md	Adding CONTRIBUTING/CoC	7 years ago
LICENSE	Added AWS CodePipeline Sample	9 years ago
README.md	Update README.md	3 years ago

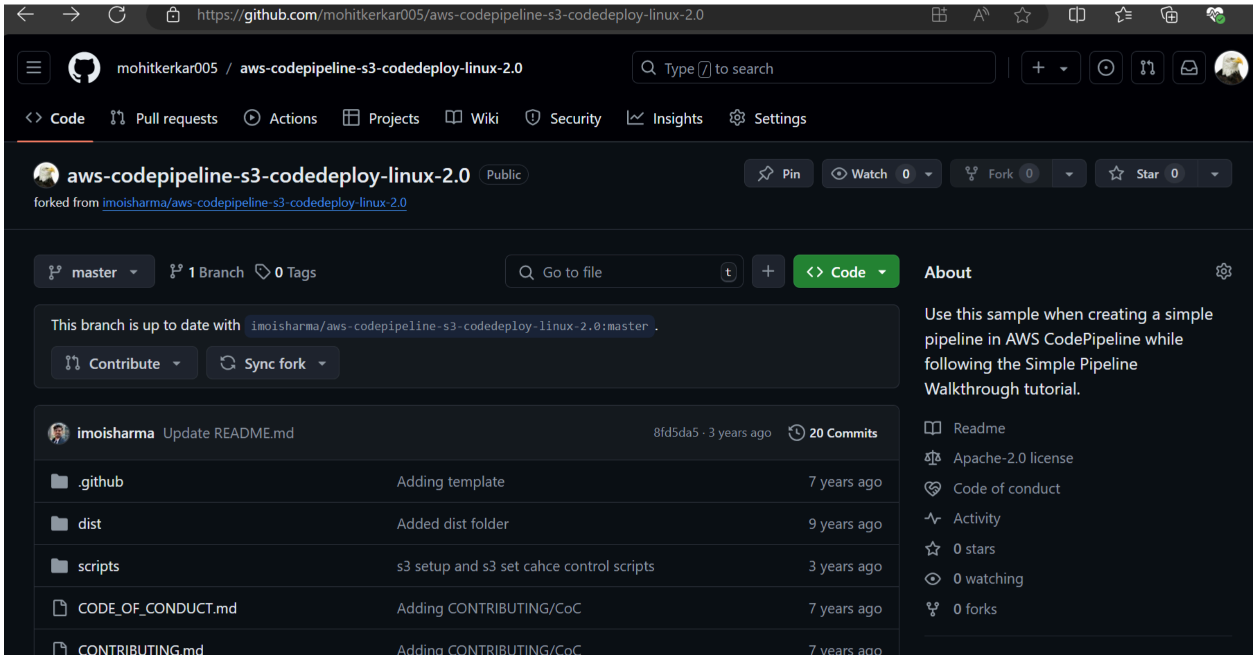
About

Use this sample when creating a simple pipeline in AWS CodePipeline while following the Simple Pipeline Walkthrough tutorial.

aws imoisharma

Readme · Apache-2.0 license · Code of conduct · Activity · 4 stars · 3 watching · 425 forks

https://github.com/imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0/fork



https://github.com/mohitkerkar005/aws-codepipeline-s3-codedeploy-linux-2.0

mohitkerkar005 / aws-codepipeline-s3-codedeploy-linux-2.0

aws-codepipeline-s3-codedeploy-linux-2.0 Public

forked from imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0

Pin Watch 0 Fork 0 Star 0

master 1 Branch 0 Tags

This branch is up to date with `imoisharma/aws-codepipeline-s3-codedeploy-linux-2.0:master`.

Contribute Sync fork

imoisharma Update README.md 8fd5da5 · 3 years ago 20 Commits

.github	Adding template	7 years ago
dist	Added dist folder	9 years ago
scripts	s3 setup and s3 set cahce control scripts	3 years ago
CODE_OF_CONDUCT.md	Adding CONTRIBUTING/CoC	7 years ago
CONTRIBUTING.md	Adding CONTRIBUTING/CoC	7 years ago

About

Use this sample when creating a simple pipeline in AWS CodePipeline while following the Simple Pipeline Walkthrough tutorial.

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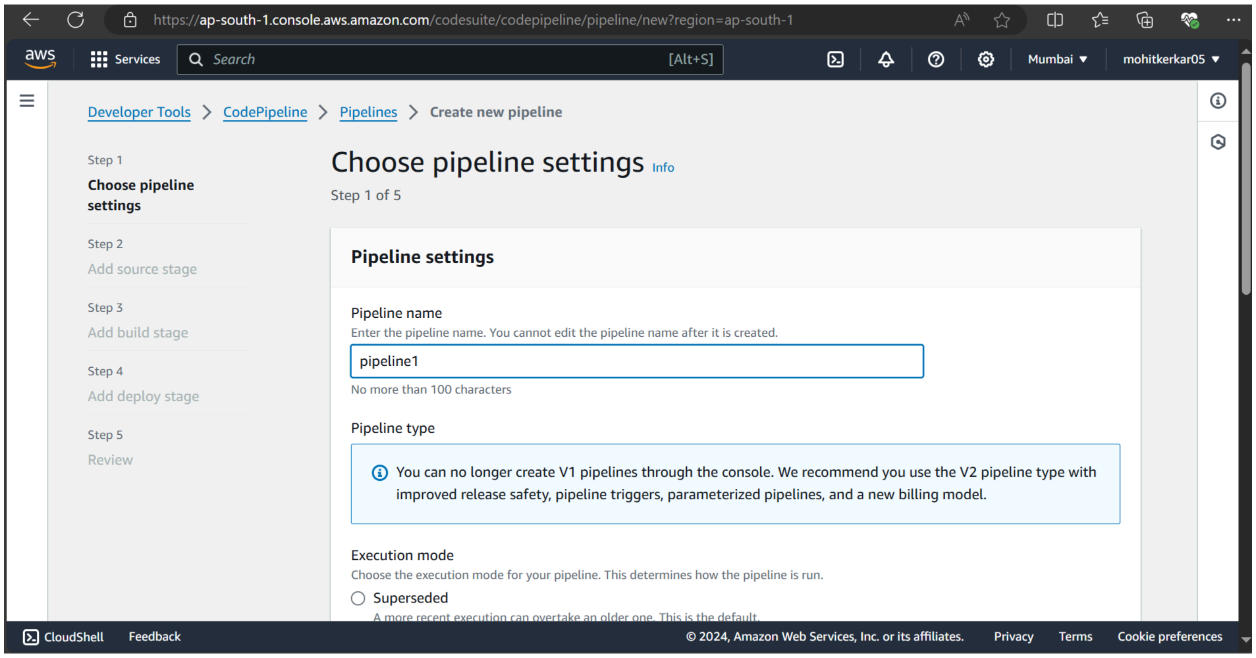
Step 3: Creation of the Pipeline

Navigate to Codepipeline inside Developer Tools. Give a suitable name to the pipeline you want to create.



https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=ap-south-1

Developer Tools > CodePipeline > Pipelines > Create new pipeline

Step 1 Choose pipeline settings
Step 2 Add source stage
Step 3 Add build stage
Step 4 Add deploy stage
Step 5 Review

Choose pipeline settings Info

Step 1 of 5

Pipeline settings

Pipeline name

Enter the pipeline name. You cannot edit the pipeline name after it is created.

pipeline1

No more than 100 characters

Pipeline type

You can no longer create V1 pipelines through the console. We recommend you use the V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model.

Execution mode

Choose the execution mode for your pipeline. This determines how the pipeline is run.

Superseded

A more recent execution can overtake an older one. This is the default.

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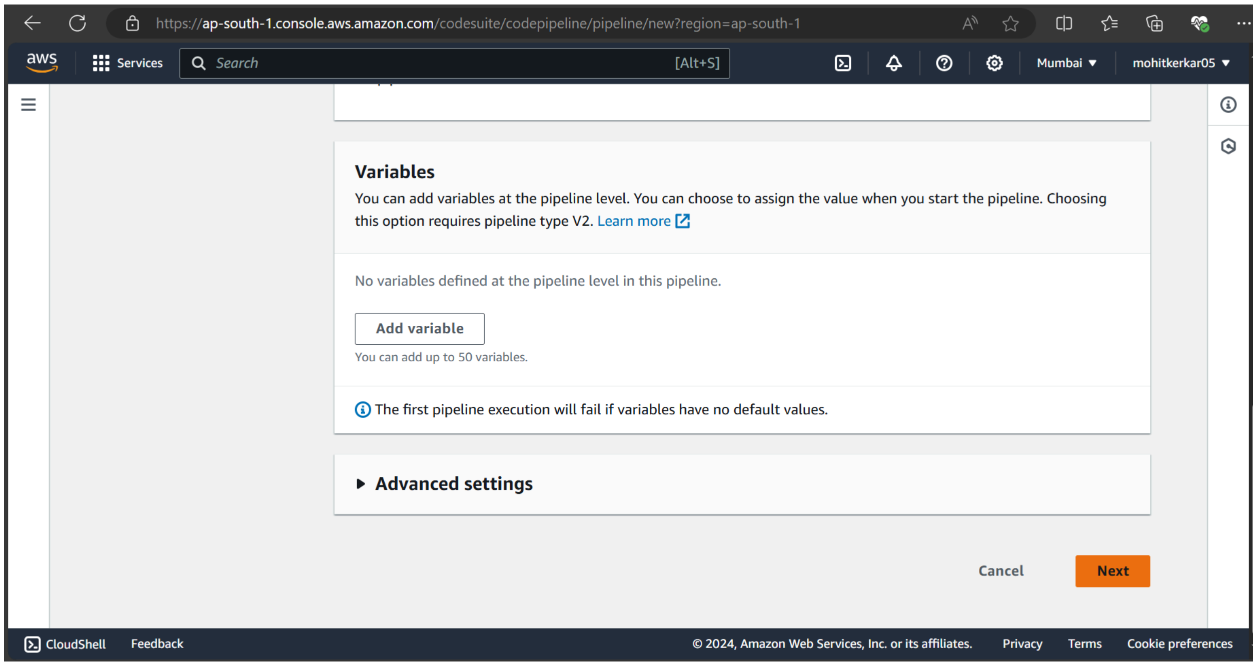
And click on next …



https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=ap-south-1

Variables

You can add variables at the pipeline level. You can choose to assign the value when you start the pipeline. Choosing this option requires pipeline type V2. Learn more

No variables defined at the pipeline level in this pipeline.

Add variable

You can add up to 50 variables.

The first pipeline execution will fail if variables have no default values.

Advanced settings

Cancel Next

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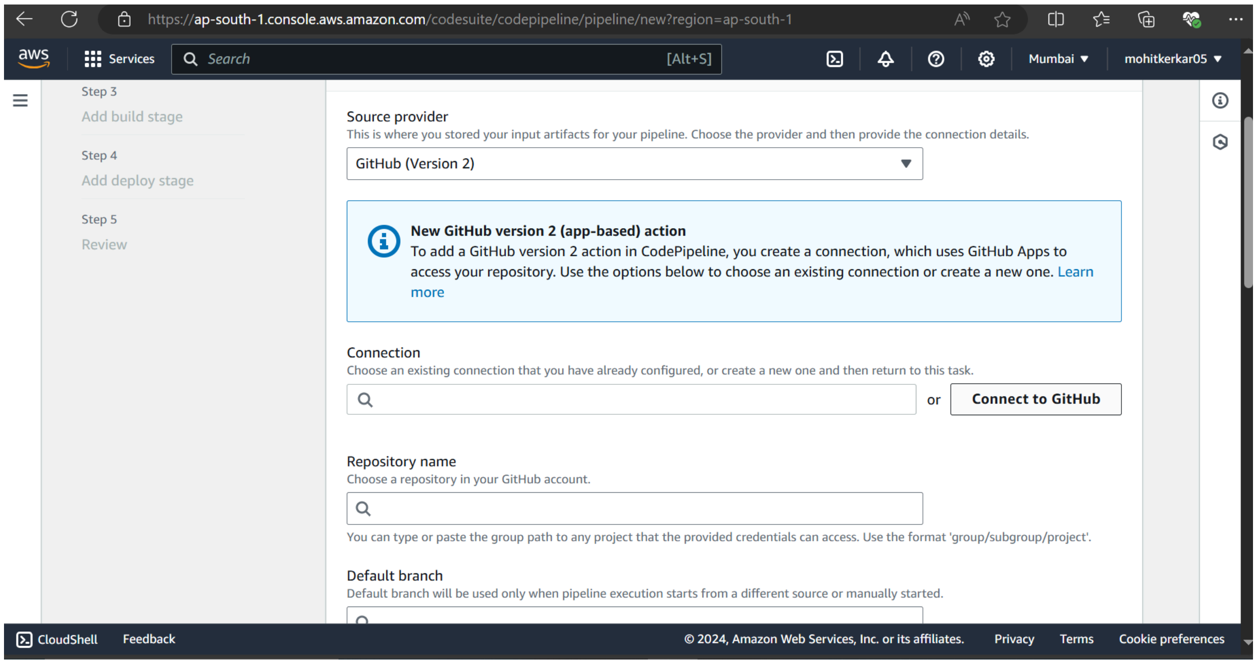
Step 4: Github connection

In this step, we are supposed to create a github connection and add our existing repository over here i.e the one we forked earlier



Source provider
This is where you stored your input artifacts for your pipeline. Choose the provider and then provide the connection details.
GitHub (Version 2)

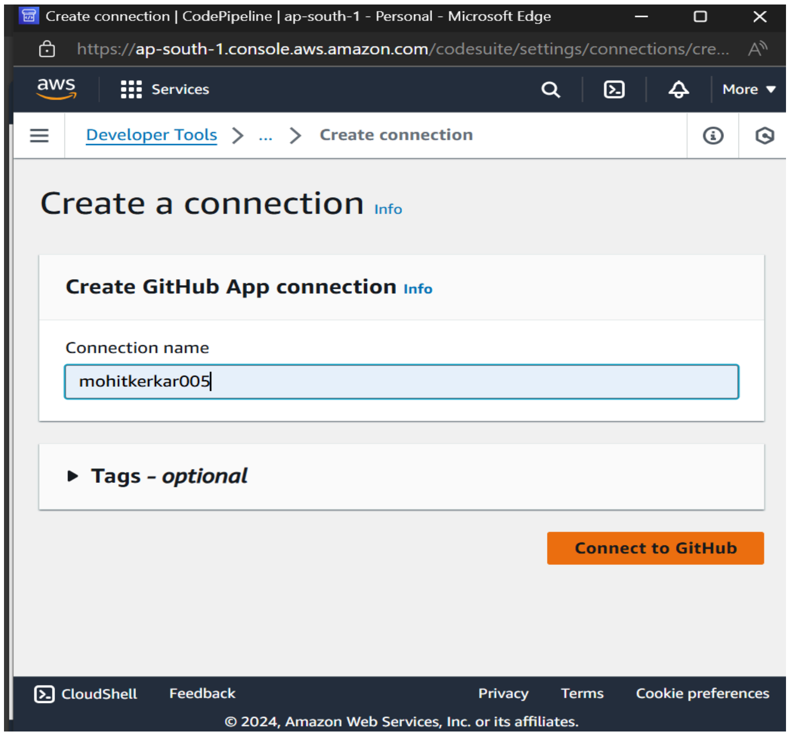
New GitHub version 2 (app-based) action
To add a GitHub version 2 action in CodePipeline, you create a connection, which uses GitHub Apps to access your repository. Use the options below to choose an existing connection or create a new one. Learn more

Connection
Choose an existing connection that you have already configured, or create a new one and then return to this task.

Repository name
Choose a repository in your GitHub account.
You can type or paste the group path to any project that the provided credentials can access. Use the format 'group/subgroup/project'.

Default branch
Default branch will be used only when pipeline execution starts from a different source or manually started.

We are supposed to enter our github username so as to proceed towards making the connection



Create a connection

Create GitHub App connection

Connection name
mohitkerkar005

Create connection | CodePipeline | ap-south-1 - Personal - Microsoft Edge
https://ap-south-1.console.aws.amazon.com/codesuite/settings/connections/cre...
Services
More
Developer Tools > ... > Create connection
Info
Tags - optional
Connect to GitHub
CloudShell
Feedback
Privacy
Terms
Cookie preferences
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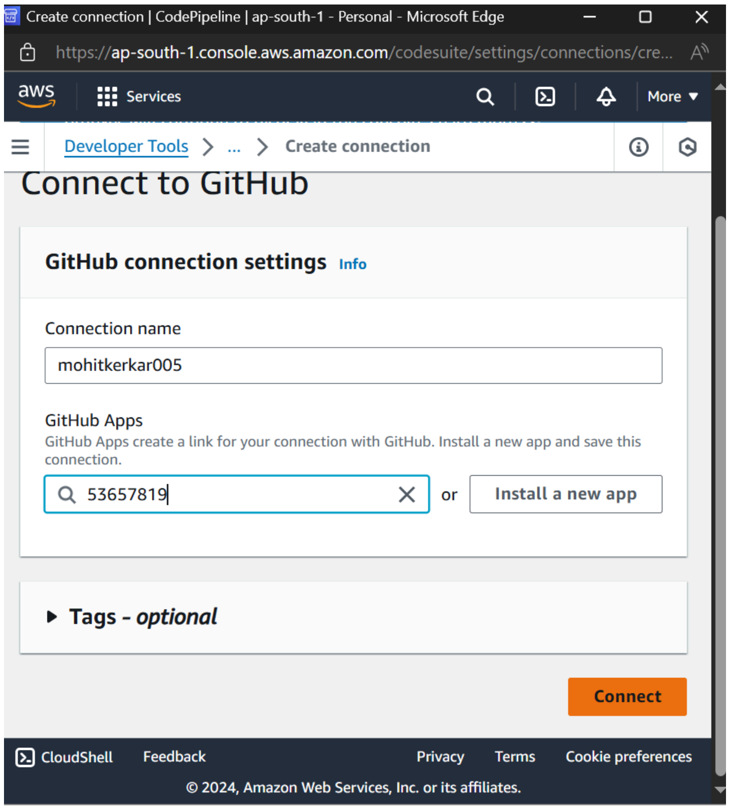
Now to finalize our connection, we are to install an application which connects AWS to our github account and repository.



Create connection | CodePipeline | ap-south-1 - Personal - Microsoft Edge

https://ap-south-1.console.aws.amazon.com/codesuite/settings/connections/cre...

Developer Tools > ... > Create connection

Connect to GitHub

GitHub connection settings Info

Connection name: mohitkerkar005

GitHub Apps
GitHub Apps create a link for your connection with GitHub. Install a new app and save this connection.

53657819 or Install a new app

Tags - *optional*

Connect

CloudShell Feedback Privacy Terms Cookie preferences
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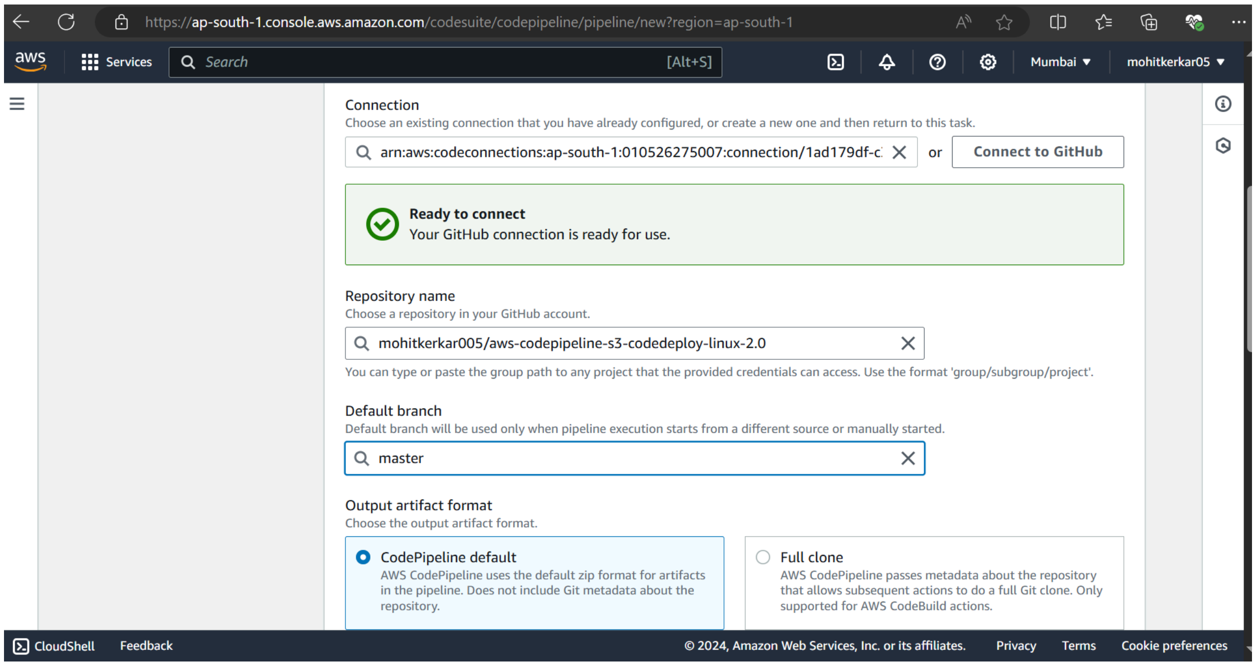
Post the establishment of the connection, this is the message that is displayed. We can further select the branch of our repository that we want to connect.



https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=ap-south-1

Connection
Choose an existing connection that you have already configured, or create a new one and then return to this task.
arn:aws:codeconnections:ap-south-1:010526275007:connection/1ad179df-c or Connect to GitHub

Ready to connect
Your GitHub connection is ready for use.

Repository name
Choose a repository in your GitHub account.
mohitkerkar005/aws-codepipeline-s3-codedeploy-linux-2.0
You can type or paste the group path to any project that the provided credentials can access. Use the format 'group/subgroup/project'.

Default branch
Default branch will be used only when pipeline execution starts from a different source or manually started.
master

Output artifact format
Choose the output artifact format.
[✓ CodePipeline default] AWS CodePipeline uses the default zip format for artifacts in the pipeline. Does not include Git metadata about the repository.
Full clone: AWS CodePipeline passes metadata about the repository that allows subsequent actions to do a full Git clone. Only supported for AWS CodeBuild actions.

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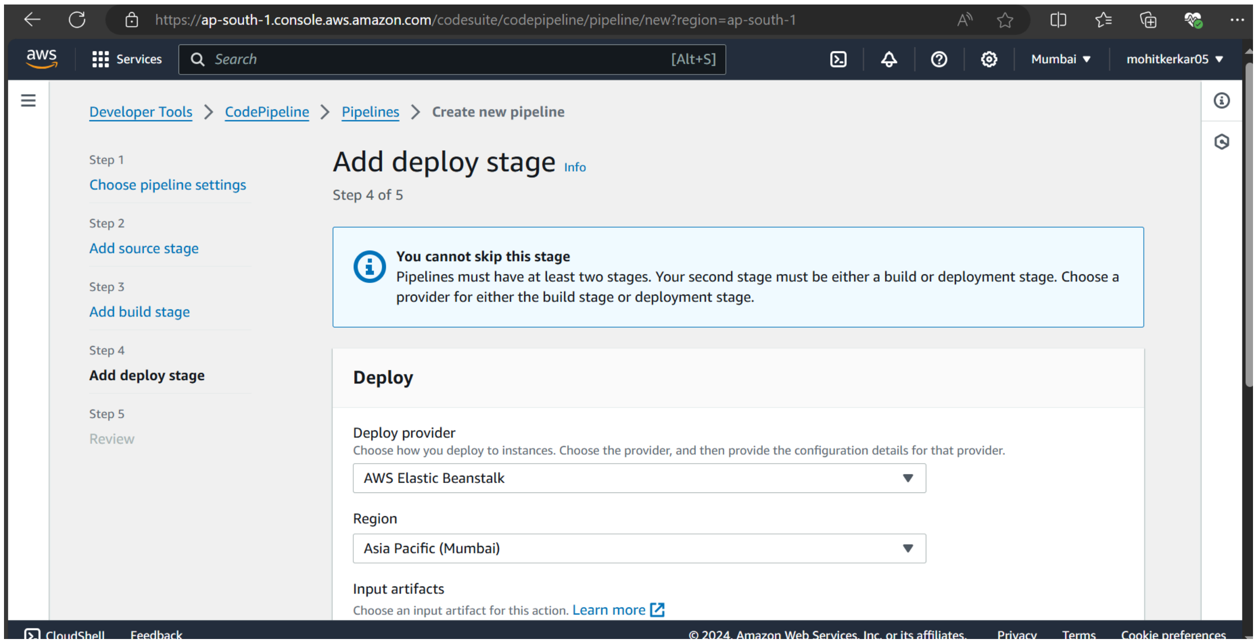
Step 5: Deployment stage:
We are expected to skip the build stage and move towards the deployment step. In the deployment step we are supposed to choose the Elastic Beanstalk application and the environment that we created earlier and proceed with our pipeline creation


https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=ap-south-1

Developer Tools > CodePipeline > Pipelines > Create new pipeline

Step 1 Choose pipeline settings
Step 2 Add source stage
Step 3 Add build stage
Step 4 Add deploy stage
Step 5 Review

Add deploy stage Info
Step 4 of 5

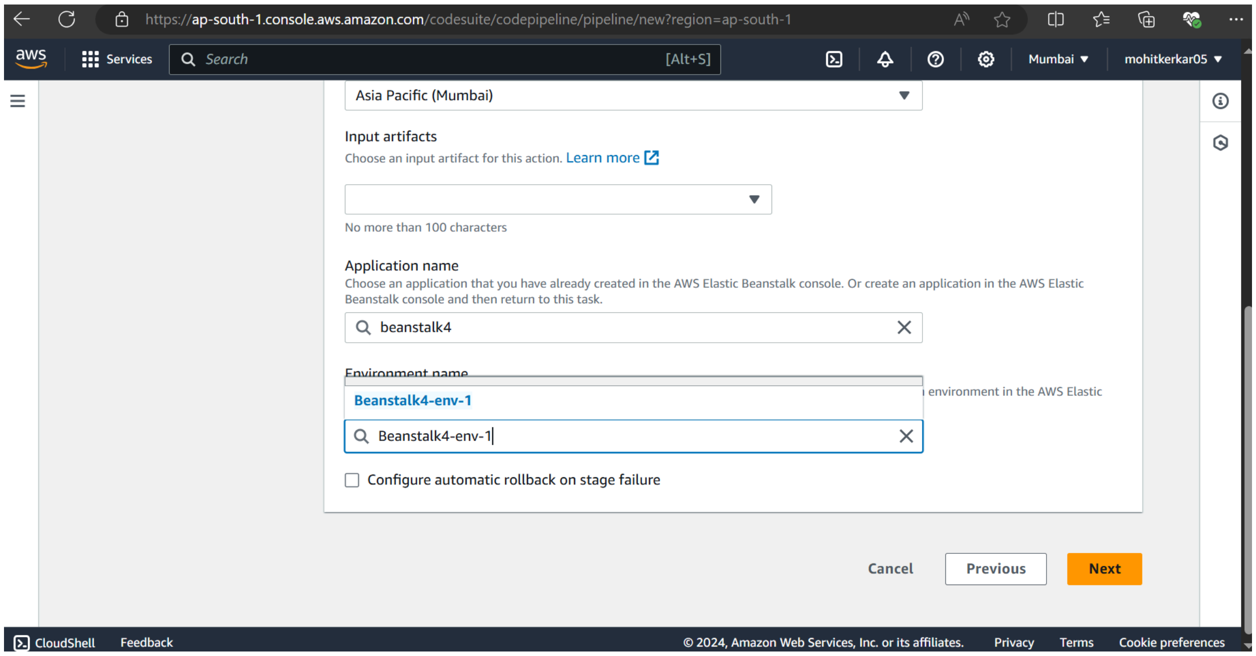
You cannot skip this stage
Pipelines must have at least two stages. Your second stage must be either a build or deployment stage. Choose a provider for either the build stage or deployment stage.

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
Asia Pacific (Mumbai)

Input artifacts
Choose an input artifact for this action. Learn more


https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=ap-south-1

Asia Pacific (Mumbai)

Input artifacts
Choose an input artifact for this action. Learn more

No more than 100 characters

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.
beanstalk4

Environment name
Beanstalk4-env-1
Beanstalk4-env-1

Configure automatic rollback on stage failure

Cancel Previous Next

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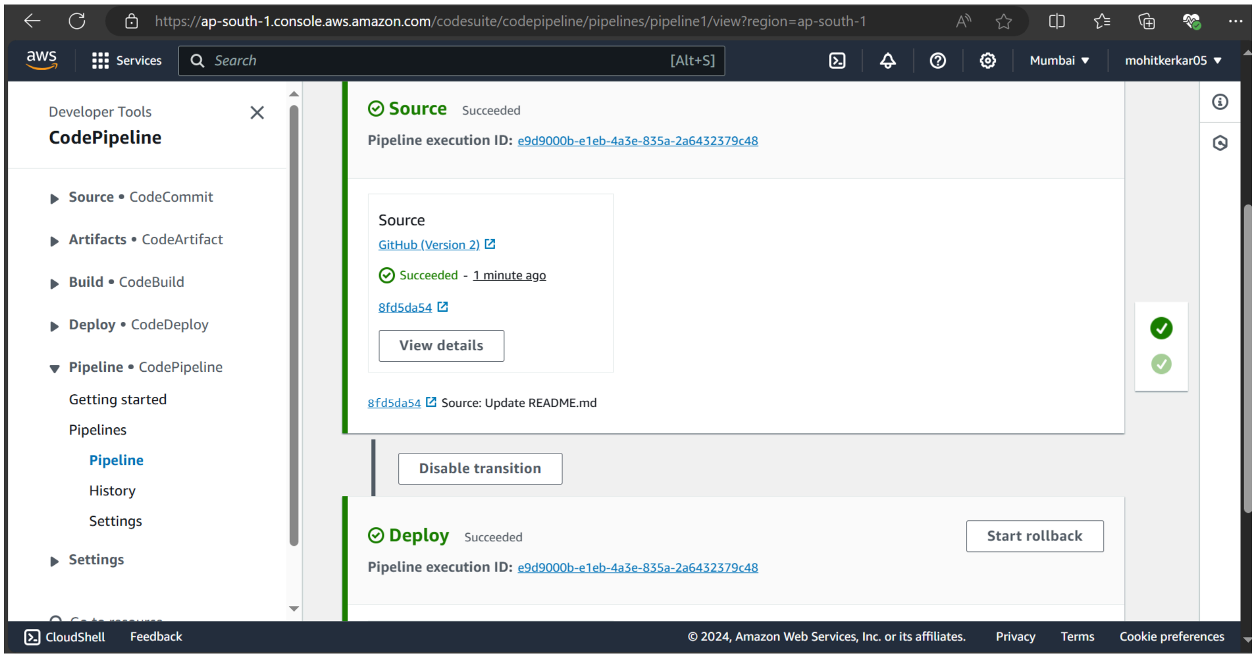
Step 6: Post deployment stage: When all the stages run successfully, this is what is displayed onto the screen. It shows us that our application and our environment have successfully been deployed using a dedicated pipeline created



https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/pipeline1/view?region=ap-south-1

Developer Tools
CodePipeline

- Source • CodeCommit
- Artifacts • CodeArtifact
- Build • CodeBuild
- Deploy • CodeDeploy
- Pipeline • CodePipeline
  - Getting started
  - Pipelines
    - Pipeline
    - History
    - Settings
- Settings

Source Succeeded
Pipeline execution ID: e9d9000b-e1eb-4a3e-835a-2a6432379c48

Source
GitHub (Version 2)
Succeeded - 1 minute ago
8fd5da54
View details

8fd5da54 Source: Update README.md

Disable transition

Deploy Succeeded
Start rollback
Pipeline execution ID: e9d9000b-e1eb-4a3e-835a-2a6432379c48

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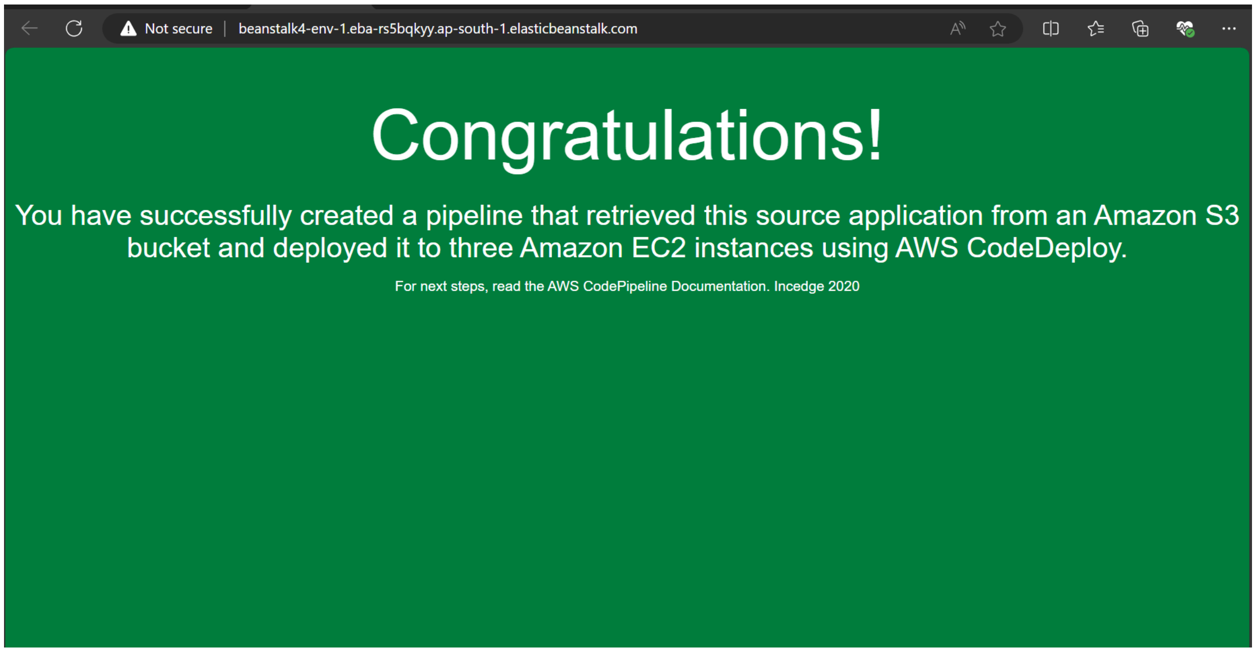

Not secure | beanstalk4-env-1.eba-rs5bqkyy.ap-south-1.elasticbeanstalk.com

Congratulations!

You have successfully created a pipeline that retrieved this source application from an Amazon S3 bucket and deployed it to three Amazon EC2 instances using AWS CodeDeploy.

For next steps, read the AWS CodePipeline Documentation. Incedge 2020

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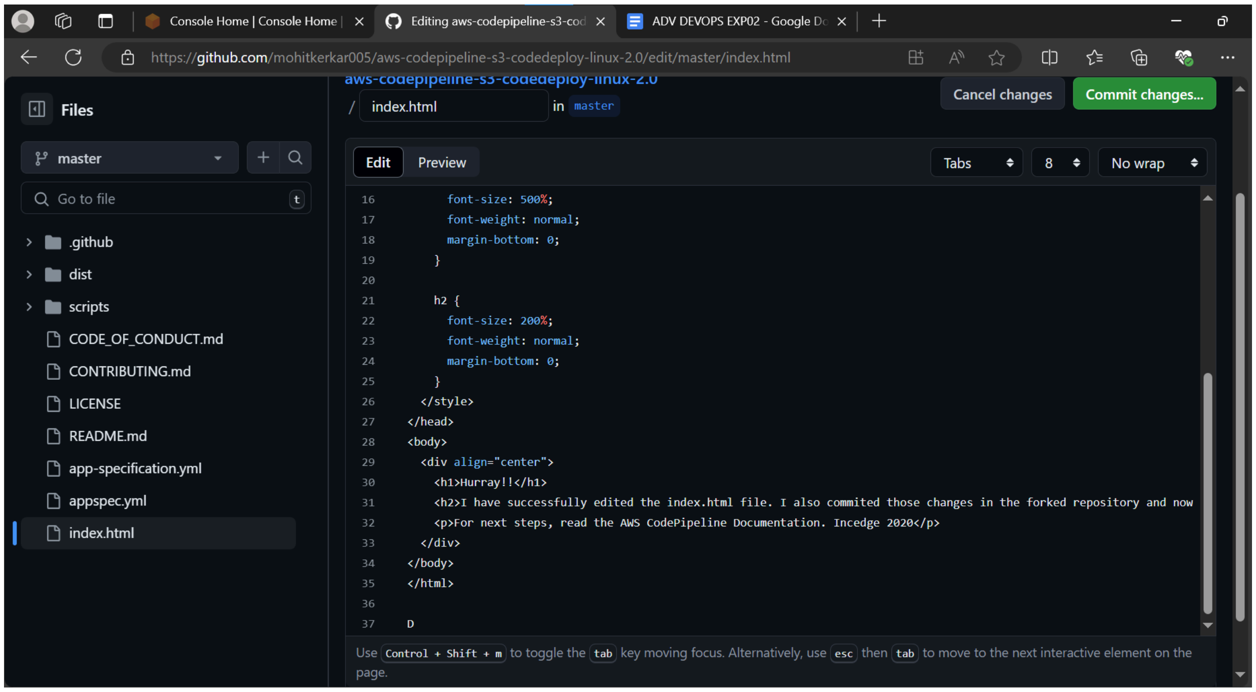
Step 7: Committing changes to your github code
Now, we will go to our forked repository and make some changes to the index.html file. On making the desired changes, we are supposed to commit those changes on our forked repository. Write a good commit message so as to recognize it when it appears on the pipeline.


Console Home | Console Home
Editing aws-codepipeline-s3-cod
ADV DEVOPS EXP02 - Google Do
https://github.com/mohitkerkar005/aws-codepipeline-s3-codedeploy-linux-2.0/edit/master/index.html
Files
master
Go to file
.github
dist
scripts
CODE_OF_CONDUCT.md
CONTRIBUTING.md
LICENSE
README.md
app-specification.yml
appspec.yml
index.html
aws-codepipeline-s3-codedeploy-linux-2.0
index.html in master
Cancel changes
Commit changes...
Edit
Preview
Tabs
8
No wrap

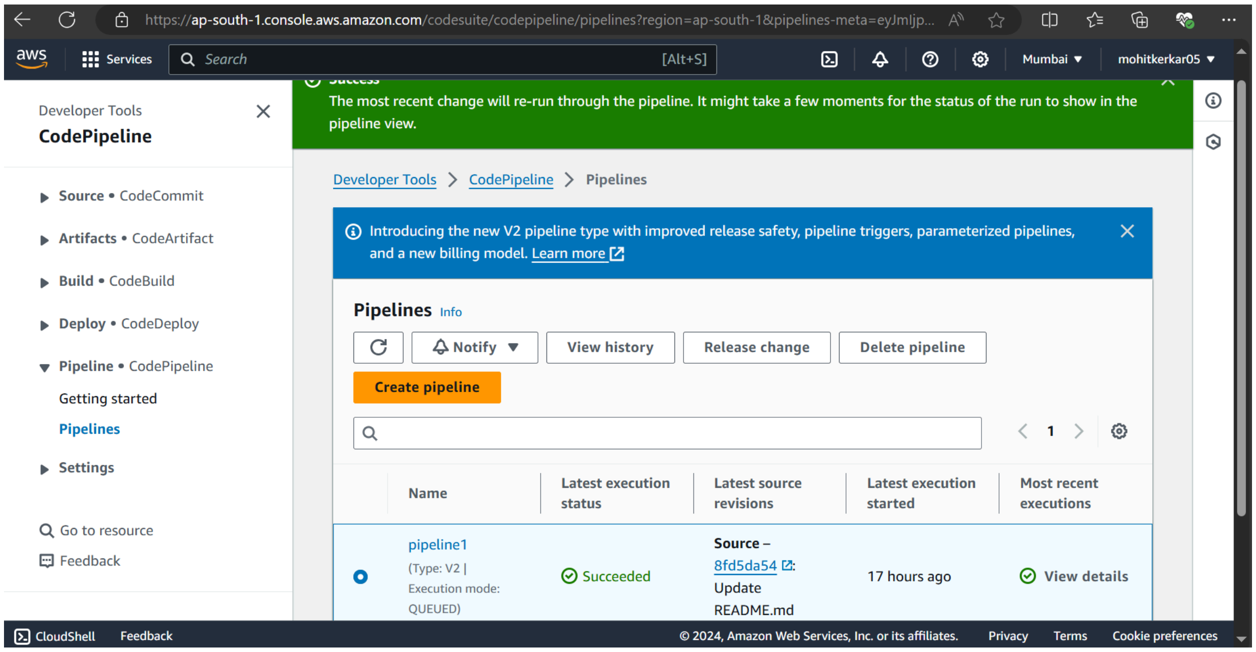
```
            font-size: 500%;
            font-weight: normal;
            margin-bottom: 0;
          }

          h2 {
            font-size: 200%;
            font-weight: normal;
            margin-bottom: 0;
          }
        </style>
      </head>
      <body>
        <div align="center">
          <h1>Hurray!!</h1>
          <h2>I have successfully edited the index.html file. I also commited those changes in the forked repository and now
          <p>For next steps, read the AWS CodePipeline Documentation. Incedge 2020</p>
        </div>
      </body>
      </html>

      D
```

Use Control + Shift + m to toggle the tab key moving focus. Alternatively, use esc then tab to move to the next interactive element on the page.

Step 8: Apply the newly made changes in index.html onto our pipeline
Come back to the Codepipeline section and select the pipeline through which we successfully created and deployed our application. Click on the release change option to apply the latest changes/commits from our github repository to our pipeline



Success
The most recent change will re-run through the pipeline. It might take a few moments for the status of the run to show in the pipeline view.

Introducing the new V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model. Learn more

	Name	Latest execution status	Latest source revisions	Latest execution started	Most recent executions
●	pipeline1 (Type: V2 | Execution mode: QUEUED)	✓ Succeeded	Source – 8fd5da54: Update README.md	17 hours ago	✓ View details

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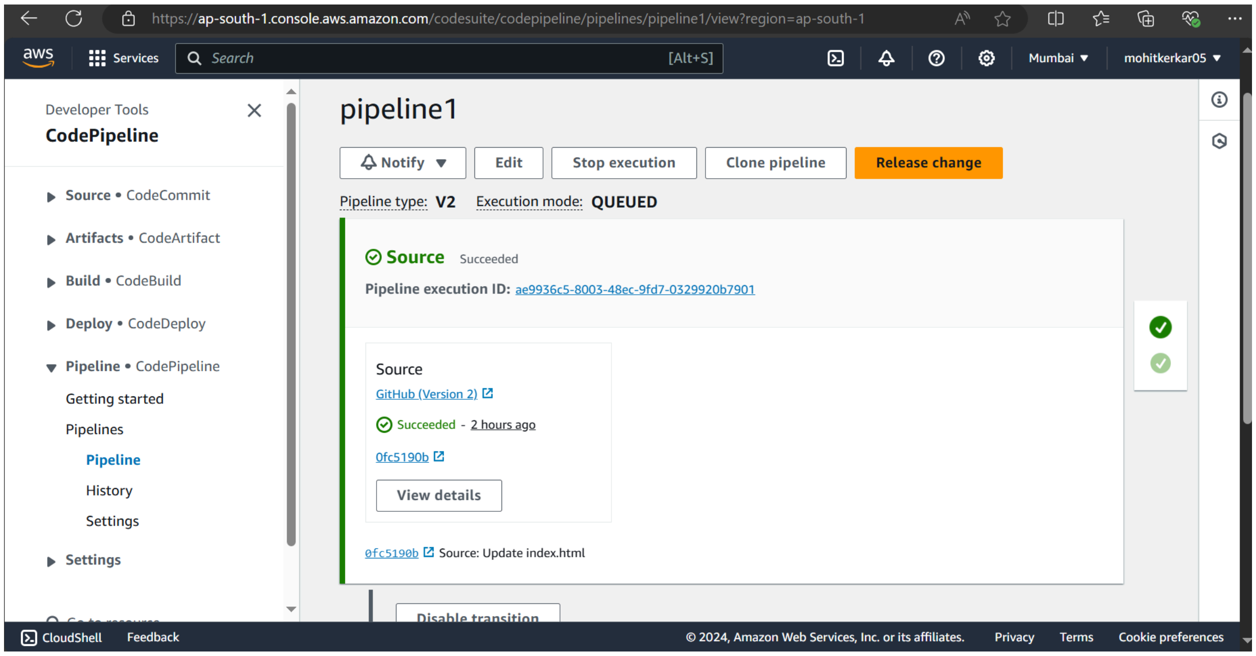
Once the changes have been applied, we see the commit message that we wrote for the latest commit on our repository being reflected on our pipeline. Over here, it would be seen somewhere near the bottom of the image that is attached. “Update index.html” was the latest commit message in the github repository


https://ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/pipeline1/view?region=ap-south-1

pipeline1

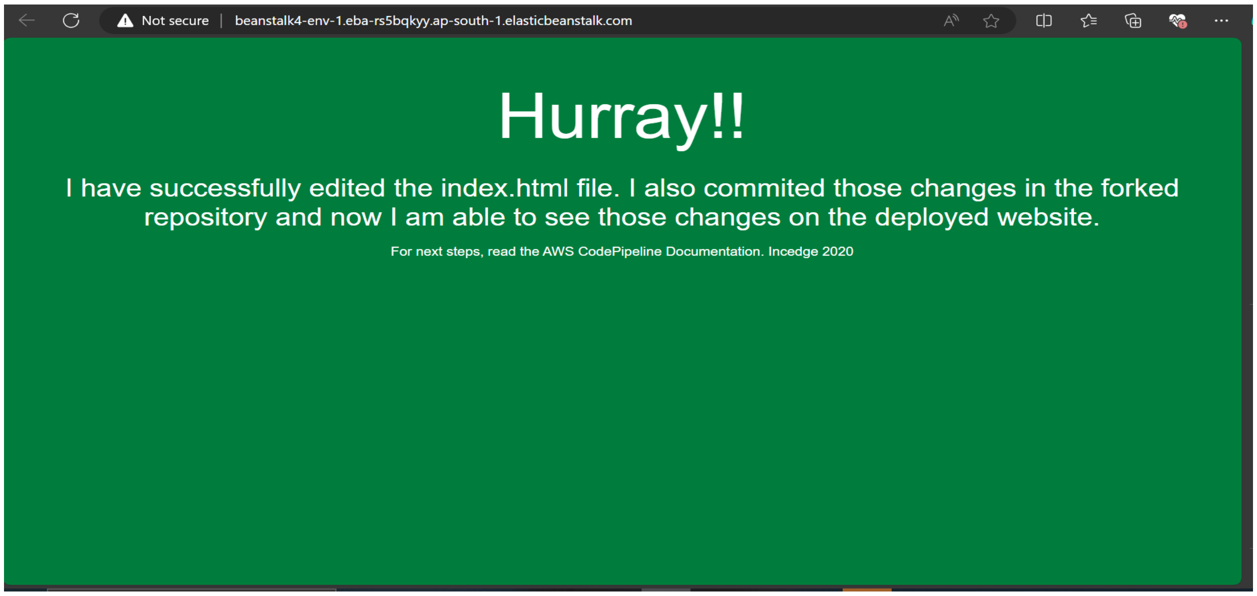
Pipeline type: V2 Execution mode: QUEUED

Source Succeeded
Pipeline execution ID: ae9936c5-8003-48ec-9fd7-0329920b7901

Source
GitHub (Version 2)
Succeeded - 2 hours ago
0fc5190b

0fc5190b Source: Update index.html

Step 9: Open the Domain of our Elastic Beanstalk environment
Now, we navigate back to our Elastic Beanstalk environment and open the environment domain of our deployed application
The text in this image is clearly distinguishable from the earlier website’s text meaning that the changes that we made to our code in index.html has successfully been applied to the website that we deployed


Not secure | beanstalk4-env-1.eba-rs5bqkyy.ap-south-1.elasticbeanstalk.com

Hurray!!

I have successfully edited the index.html file. I also commited those changes in the forked repository and now I am able to see those changes on the deployed website.

For next steps, read the AWS CodePipeline Documentation. Incedge 2020