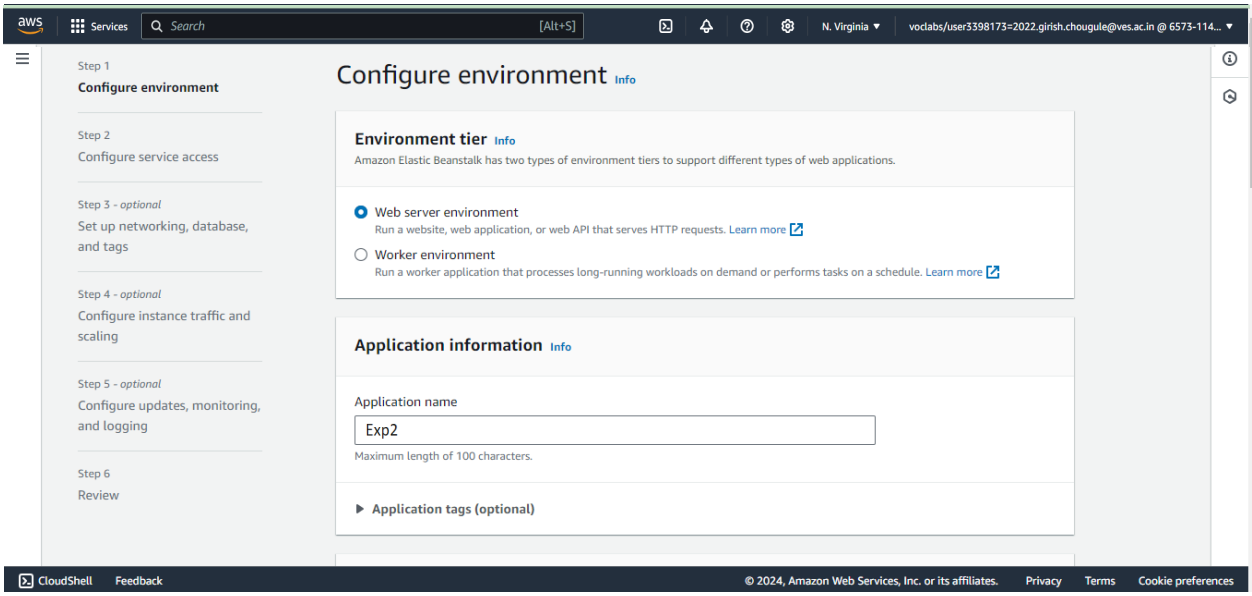
Experiment 2

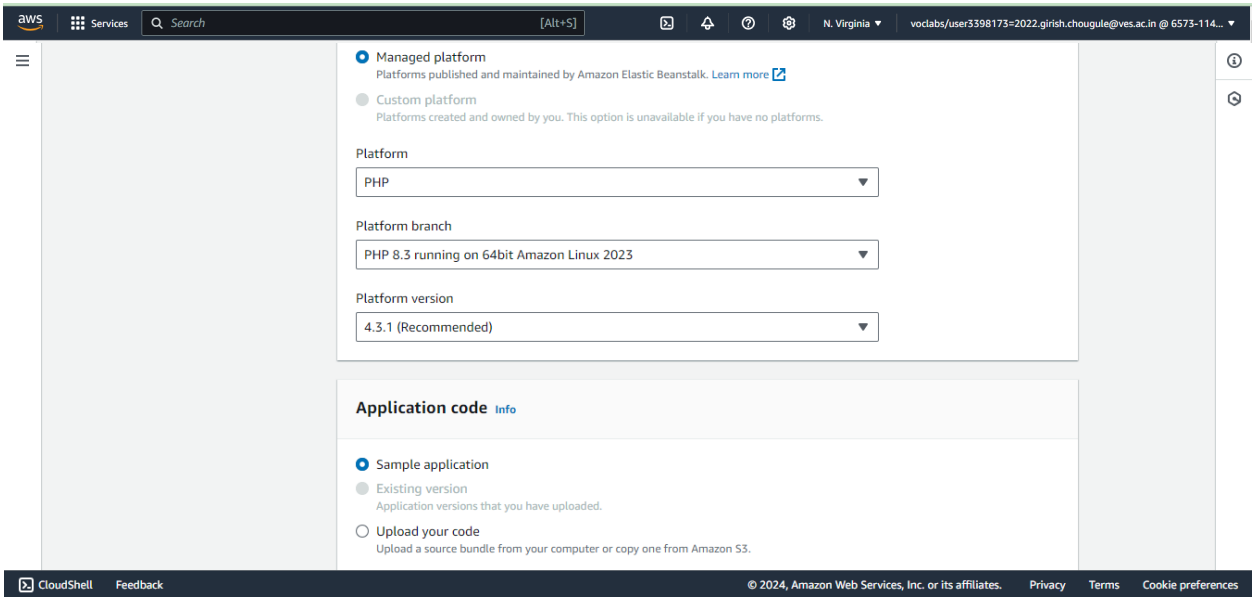
Aim: To Build Your Application using AWS CodeBuild and Deploy on S3 / SEBS using AWS CodePipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy.

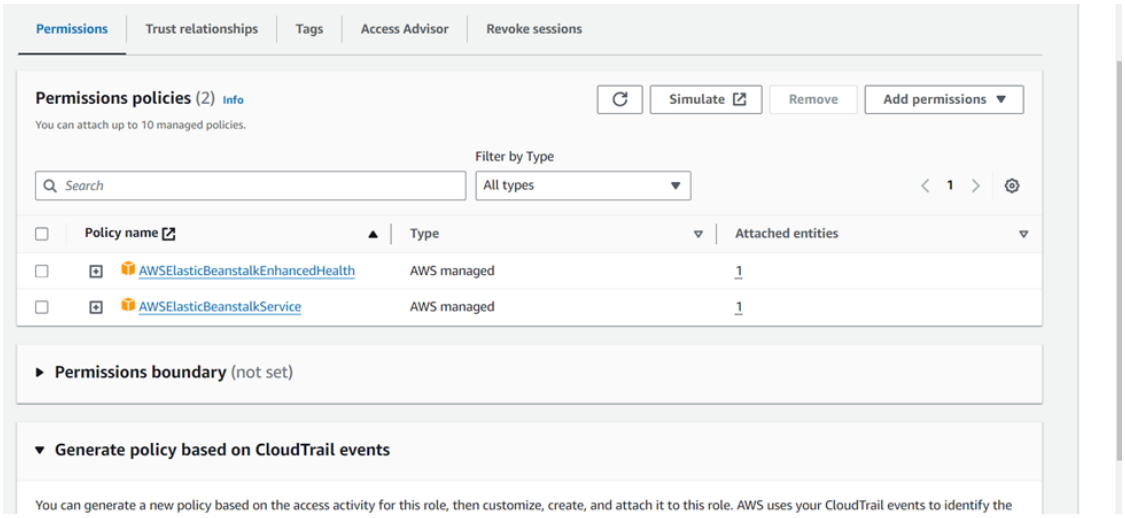
Theory:

Continuous 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 CodePipeline, 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 the sample app's code. You will also use AWS Elastic Beanstalk as the deployment target for the sample app. Your completed pipeline will be able to detect changes made to the source repository
containing the sample app and then automatically update your live sample app.

Output:







August 28, 2024 17:56:37 (UTC+5:30)	INFO	Environment update completed successfully.
August 28, 2024 17:56:37 (UTC+5:30)	INFO	New application version was deployed to running EC2 instances.
August 28, 2024 17:56:15 (UTC+5:30)	INFO	Instance deployment completed successfully.
August 28, 2024 17:56:08 (UTC+5:30)	INFO	Instance deployment: You didn't include a 'composer.json' file in your source bundle. The deployment didn't install Composer dependencies.
August 28, 2024 17:56:04 (UTC+5:30)	INFO	Deploying new version to instance(s).
August 28, 2024 17:55:42 (UTC+5:30)	INFO	Environment update is starting.
August 28, 2024 17:52:57 (UTC+5:30)	INFO	Successfully launched environment: KomalBeanstalk-env
August 28, 2024 17:52:05 (UTC+5:30)	INFO	Added instance [i-0759f922553b2bed7] to your environment.
August 28, 2024 17:51:52 (UTC+5:30)	INFO	Instance deployment completed successfully.
August 28, 2024 17:51:47 (UTC+5:30)	INFO	Instance deployment: You didn't include a 'composer.json' file in your source bundle. The deployment didn't install Composer dependencies.
August 28, 2024 17:51:23 (UTC+5:30)	INFO	Waiting for EC2 instances to launch. This may take a few minutes.
August 28, 2024 17:51:08 (UTC+5:30)	INFO	Created EIP: 65.0.39.79

Conclusion:

Building and deploying an application using AWS CodeBuild, CodePipeline, and CodeDeploy demonstrates the power of automated CI/CD in the cloud. AWS CodeBuild compiles code, runs tests, and prepares software packages, while CodePipeline automates the release process, ensuring faster and consistent deployments. Deploying to S3 or SEBS enables scalable hosting of static and serverless applications, and CodeDeploy manages the deployment to EC2 instances, ensuring minimal downtime and easy rollback. This streamlined approach enhances development efficiency, reduces errors, and accelerates application delivery, showcasing the benefits of cloud-based automation and infrastructure management.