

# CI/CD DG ASSIGNMENT

## RESOURCES:

- <https://medium.com/swlh/build-your-first-automated-test-integration-with-pytest-jenkins-and-docker-ec738ec43955>
- Jenkins Tutorial - Trigger builds with Webhooks in Jenkins - [https://www.youtube.com/watch?v=9b-K9aG06ow&feature=emb\\_logo](https://www.youtube.com/watch?v=9b-K9aG06ow&feature=emb_logo)
- <https://aws.amazon.com/blogs/devops/setting-up-a-ci-cd-pipeline-by-integrating-jenkins-with-aws-codebuild-and-aws-codedeploy>
- CI CD Pipeline Using Jenkins - <https://www.youtube.com/watch?v=m0a2CzgLNsc>
- <https://github.com/austinloveless/LambdaCI-CDDemo>  
<https://www.youtube.com/watch?v=Wd-xhOKkMcU>
- <https://medium.com/@jonah.jones/one-click-jenkins-cicd-in-less-than-4-minutes-using-cloudformation-and-docker-abb4a26785e2>

## ARNs:

Stack ARN: arn:aws:cloudformation:us-east-

1:001082169132:stack/priyalambdafunction/737ac500-7283-11eb-bf38-0a2d95c2b2ab

Lambda Function: arn:aws:lambda:us-east-1:001082169132:function:priyalambdafunction-PriyaJenkinsLambdaFunction-Y5KIVLILXSDE

## GITHUB REPOSITORY:

<https://github.com/priya-roy16/cicd-calc>

## STEPS:

- Install Docker Desktop and Jenkins
- Start Jenkins.exe on localhost (8080) and enter your username and password to login (If you don't have one, you can set it up but selecting "Create a new user" in Jenkins Wizard)
- Create a simple python script which performs addition, subtraction, multiplication and division for two numbers.
- Create unit testcases for all the 4 operations.
- Install library pytest using "pip install pytest"
- Create a Dockerfile and Jenkinsfile. The Dockerfile would be used to run the test case files and install the required files mentioned in requirements.txt. The Jenkinsfile would contain the stages of pipeline.

- Create two stages in the Jenkinsfile. The first stage would be used to run the unittests. The second stage would create a stack which would create a lambda function. The ARNs of the stack and lambda function are mentioned above.
- Before running the Jenkins pipeline, install the necessary Docker and AWS plugins and set the AWS Environment variables in the “Manage Jenkins” option.
- Create a pipeline and select “Github Project” in General settings and provide the Github URL. In the pipeline option, select “Pipeline script from SCM”, “Git” from SCM, provide the repository name and credentials, select the particular branch and enter the Script Path to “Jenkinsfile”.
- Build the pipeline. (Make sure that the Docker Desktop is running)