**Assignment - 1**

* Set up a CI/CD pipeline using the tools Jenkins.
* It should deploy a simple HTML web application to a server on a code push to a repository.
* The deployed web application should be reachable on any web browser.

**Assignment - 2**

* Build CI / CD Pipeline using Jenkins and deploy the real-world Web Application in AWS Cloud

**Goals:** CI/CD Pipelines will help you learn, server automation, continuous integration, building pipelines, configuration of tools, automated testing, code quality improvement, and distributed systems in Jenkins through intensive.

Technologies Used:

* + Jenkins
  + AWS Cloud
  + Git
  + Docker

**Assignment - 3**

* Deploy a Java Web Application to Tomcat Server Using Jenkins

Prerequisites:

* Tomcat Server up and running.
* Jenkins Server up and running.
* A Java Project.
* Add Tomcat user credentials in Jenkins Secrets.
  + **Java Project** https://github.com/Shivarajunayak/Java-Web-Apps.git

**Assignment - 4**

* Deploy a Flask Application to a Kubernetes Cluster using Jenkins and ArgoCD.

Prerequisites.

* + - Jenkins Server up and running.
    - Docker and git installed inside Jenkins Server.
    - Docker Hub account.
    - GitHub Account.
    - Kubernetes Cluster running
    - Basic Understanding of Jenkins, Docker, and Kubernetes.

Reference:

* Fork the below two Repositories.
* Python-Source-Code Repository: <https://github.com/Shivarajunayak/Python-Source-Code.git>
* K8s-Manifests Repository: <https://github.com/Shivarajunayak/K8s-Manifests.git>

An End-to-End Node-Todo web application Project deployed on AWS  
  
Build a CI/CD Pipeline using Jenkins, SonarQube, Docker and AWS  
  
We'll use Jenkins, SonarQube, Docker, and AWS to build an automated CI/CD pipeline for our web application. This pipeline will build, test, analyze, and deploy our project to our AWS EC2 instance.  
  
The tools used in this project:  
➡️Github  
➡️Jenkins  
➡️SonarQube  
➡️Docker  
  
1. Create two EC2 instances with a security group that allows all traffic from the internet.  
2. Install Jenkins, SonarQube, and Docker  
3. Jenkins and SonarQube integration.  
4. Add build steps in configuring the pipeline to analysis and deployment.  
5. Deployed Node Todo Web App on AWS