Case study:-5

Jenkins pipelines for streamlined web application deployment

Problem Statement: The objective is to create a Jenkins Pipeline Job to enhance the deployment process for a web application. This pipeline will consist of stages such as cloning the repository, building a Docker image, creating a container, and exposing it on port 8082. Additionally, there is a need to seamlessly push the resulting Docker image to Docker Hub for centralized storage and accessibility. Tasks To Be Performed:

GitHub Repository: https://github.com/Amanintellipaat/jenkins-casestudy

1. Implement a Jenkins Pipeline Job with stages to clone the specified Git repository.

2. Integrate a stage to build a Docker image, encapsulating the web application's code and dependencies.

3. Orchestrate the deployment of a Docker container, configuring it to expose the application on port 8082

4. Extend the pipeline to perform a push operation, sending the created Docker image to Docker Hub for centralized storage and accessibility.

Answer:

- Jenkins install and configured

-
- Docker installed on the Jenkins service.

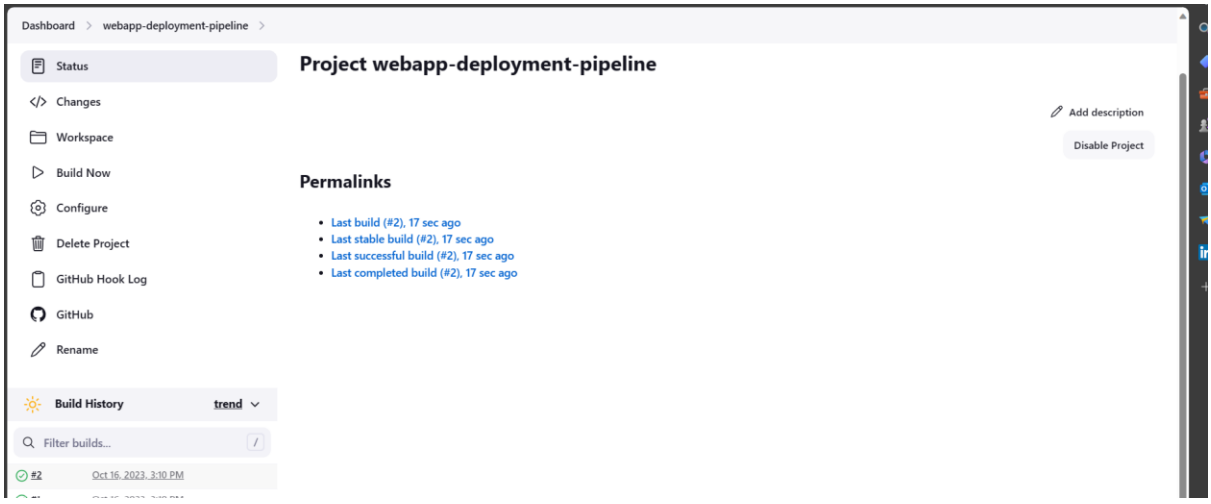
```
https://download.docker.com/linux/debian/gpg
   28  docker build -t myjenkins-blueocean:2.414.2-1 .
   29  sudo apt install openjdk-11-jdk -y
   30  https://pkg.jenkins.io/debian/jenkins.io-2023.key
   31  sudo apt-get update
   32  sudo apt-get install jenkins
   33  sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/
> /etc/apt/sources.list.d/jenkins.list'
   34  wget -q -O - https://pkg.jenkins.io/debian/jenkins.io.key | sudo
apt-key add -
   35  sudo apt update
   36  sudo apt install jenkins
   37  sudo systemctl start jenkins
   38  sudo systemctl enable jenkins
   39  sudo cat /var/lib/jenkins/secrets/initialAdminPassword
   40  ls
   41  history
ubuntu@ip-172-31-35-78:~$
```

i-0b792d53153eac18b (docker-slave)

- So now we implements the Jenkins pipelines in the job

Jenkin server create a “new item “ pipeline

Name : webapp-deployment-pipeline



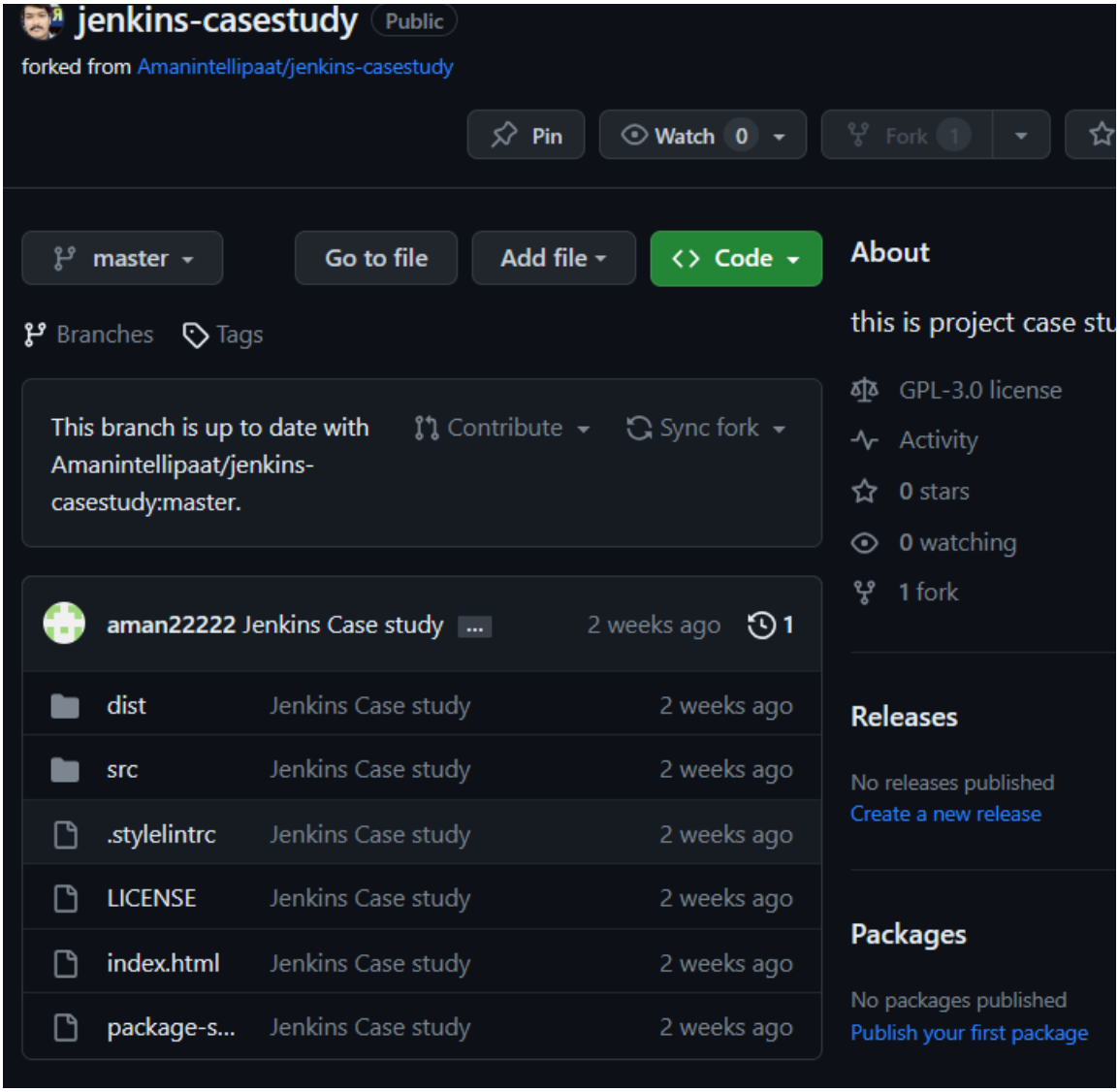
Let configure the pipeline

With Jenkins file

```
pipeline {
    agent any

    stages {
        stage('Clone Repository') {
            steps {
                checkout([$class: 'GitSCM', branches: [[name: '*/main']], doGenerateSubmoduleConfigurations: false, extensions: [], submoduleCfg: [], userRemoteConfigs: [[url: 'https://github.com/Amanintellipaat/jenkins-casestudy.git']]])
            }
        }

        stage('Build Docker Image') {
            steps {
                sh 'docker build -t my-webapp .'
            }
        }

        stage('Deploy Docker Container') {
            steps {
                sh 'docker run -d -p 8082:80 my-webapp'
            }
        }

        stage('Push Docker Image to Docker Hub') {
            steps {
                sh 'docker login -u your-docker-hub-username -p your-docker-hub-password'
                sh 'docker tag my-webapp your-docker-hub-username/my-webapp:latest'
                sh 'docker push your-docker-hub-username/my-webapp:latest'
            }
        }
    }
}
```

Now send it to docker file to clone it.

- Now trigger the job
- Git repository create the clone



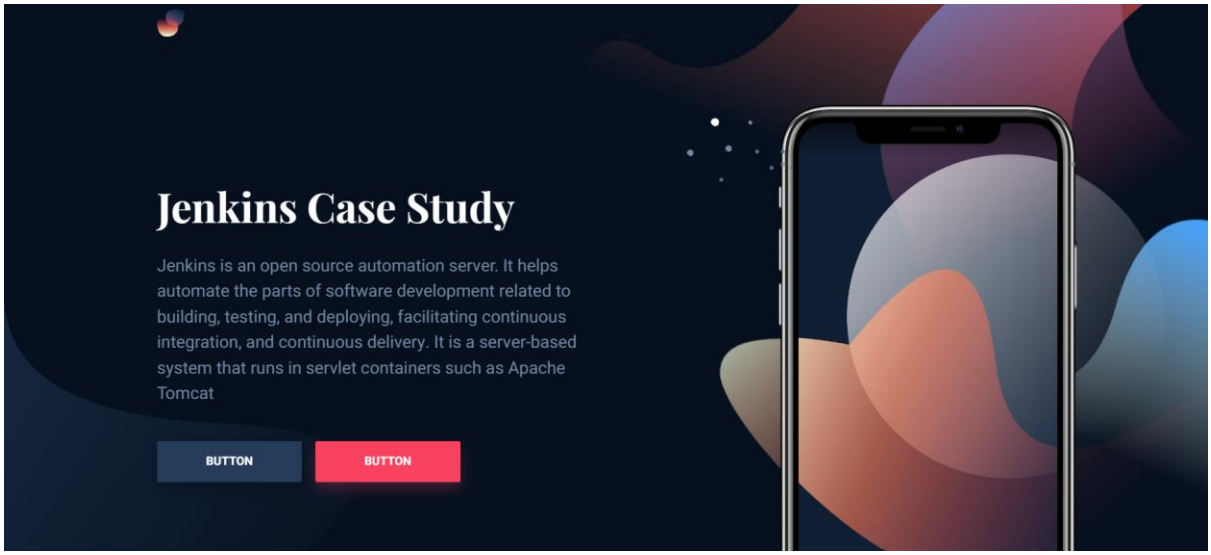
-
- Docker images to web application code

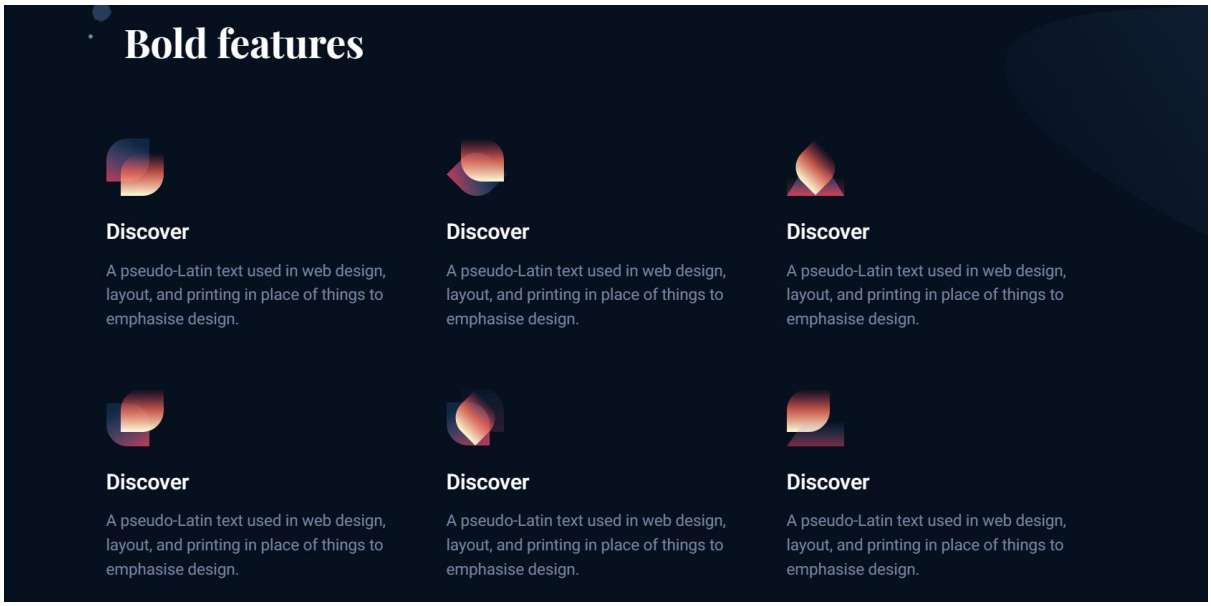
```
ubuntu@ip-172-31-35-78:~$ ls
docker-compose.yml  jenkins-casestudy  snap
dockerfile.sh       jenkinsfile.sh
ubuntu@ip-172-31-35-78:~$
```

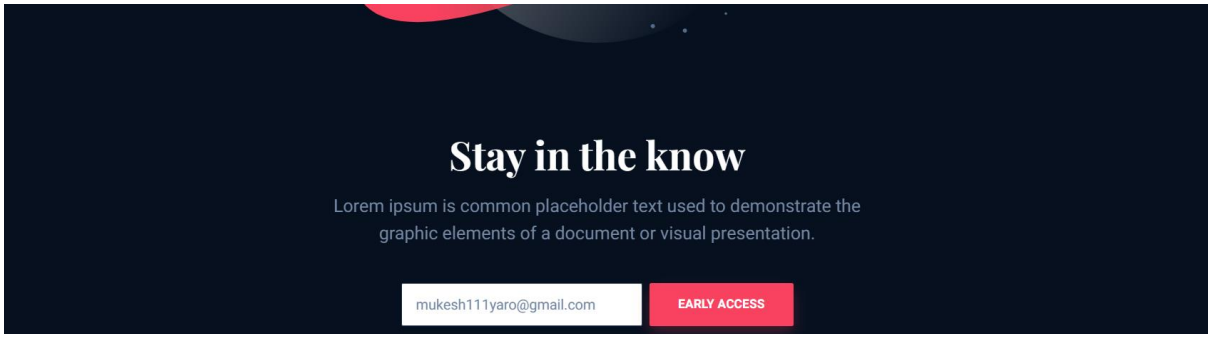
-
- Application on portal 8082

So we finally you get web site of Jenkins

Look like it


Jenkins Case Study
Jenkins is an open source automation server. It helps automate the parts of software development related to building, testing, and deploying, facilitating continuous integration, and continuous delivery. It is a server-based system that runs in servlet containers such as Apache Tomcat
BUTTON
BUTTON


Bold features
Discover
A pseudo-Latin text used in web design, layout, and printing in place of things to emphasise design.
Discover
A pseudo-Latin text used in web design, layout, and printing in place of things to emphasise design.
Discover
A pseudo-Latin text used in web design, layout, and printing in place of things to emphasise design.
Discover
A pseudo-Latin text used in web design, layout, and printing in place of things to emphasise design.
Discover
A pseudo-Latin text used in web design, layout, and printing in place of things to emphasise design.
Discover
A pseudo-Latin text used in web design, layout, and printing in place of things to emphasise design.


Stay in the know
Lorem ipsum is common placeholder text used to demonstrate the graphic elements of a document or visual presentation.
mukesh111yaro@gmail.com
EARLY ACCESS

**********completed**********