**Project Steps:**

**Step-01 Setup Jenkins CICD.**

* Create one freestyle project.
* In **SCM** select Git and paste github URL.
* In the **Build trigger**s select Github hook trigger for GITScm polling.
* And build the job.

**Step-02: Setup git-webhook with Jenkins.**

* Go to **the Github UI** and select the project repository.
* Right-click on the project repo and open settings.
* In left side navigation pane -> click on **webhooks**.
* Click on add webhook its asking for auth do this.
* In **Payload URL**: <Jenkins public-ip:8080/github-webhook/>.
* Scroll down and select **individual events** inside the event tab**.**
* Select **Pull requests** and **pushes** & click on **add webhook.**
* **Verify webhook:** changes in the repo and the Jenkins pipeline will be triggered automatically.

**Step-03: Setup Sonar project.**

* Go to Sonaqube server and click on manual/github
* Create a project click on **Project display name** & **project key** (onix-website)**->Main** branch name. setup
* Click the analyze repo using Jenkins and select github as devops platform.
* Click on configure analysis ->continue -> continue-> click on other.
* Copy the **project key** and paste into Notepad for leter use, And finish.
* Go to the **My account** and click on **security** & Generate **tokens**.
* Copy token and paste it in notepad for leter use.

**Step-04: Configure SonarQube with Jenkins**

* Go to Jenkins dashboard and install **SonarQube-scanner plugin, And ssh2 easy plugin**
* Go to the tools and configure **SonarQube scanner.**
* Go to configure **system-> SonarQube server->click on add SonarQube ->name(sonarscanner)->server url->authenticate with sonartoken.**
* Now Go to the **Jenkins job**->click on add build stage->select sonar scanner.( **add project key).**
* **Build the pipeline.**
* **After sucessfull scanning deploy project on docker.**

**Step-05: Configure Jenkins & Docker.**

* Go the Jenkins server and switch to Jenkins user>>sudo su Jenkins-> ssh ubuntu@<dockerserver public-ip> {Permission denied}.
* **To fix the issue, go to the Docker server.**
* Switch to **root user>> sudo su &** From root user execute cmds>> nano /etc/ssh/sshd\_config.

[ PubKeyAuthentication yes,

And change PasswordAuthentication yes ]. Ctrl+x+y Enter.

* **And** Restart sshd service>> sudo systemctl restart sshd.
* Setp passwd for docker VM ubuntu user>> **passwd ubuntu {123}**
* **And Verify Go to Jenkins** server> Jenkins user>> sudo su Jenkins> ssh ubuntu@dockerserver public-ip{ask for passwd} and login succesfull.
* **In Jenkins server setup sshkey >>** ssh-keygen>>enter
* **Copy this key into docker server>>** ssh-copy-id ubuntu@dockerserpub-ip.
* **Now successfully login from Jenkins to docker server.**