**CI/CD automation Jenkins with GitHub, Maven, SonarQube, Nexus and Tomcat with free style pipeline**

* **Tools Used:**GitHub — Source Code Management  
  Maven — Build Tool  
  Jenkins — Continuous Integration (CI/CD)  
  SonarQube — Code Quality and Code Analysis  
  Nexus —Repository Manager  
  Tomcat — Application Server
* **Pre-requisites:**  
  Tools like Jenkins, SonarQube, Nexus, Tomcat Server is installed and the server is up and running  
  Jenkins CI/CD — SonarQube Jenkins Integration  
  Jenkins CI/CD — Nexus Jenkins Integration  
  Jenkins CI/CD —Tomcat Server Integration  
  Make sure the following Jenkins Plugins are installed for this lab setup in the Jenkins Server —  
  ***“SonarQube Scanner for Jenkins, Nexus artifact Uploader, Deploy to container”***
* **In this project , we need four instances**
* Create **Jenkins, SonarQube, Nexus, Tomcat** instances
* Jenkins instance details
* Give security group for Jenkins server
* Connect SSH into terminal
* In terminal, install the java version 11 for Jenkins
* Install Jenkins
* Start the Jenkins
* Copy the public IP and browse it with port number
* Copy the password path from the Jenkins page
* Paste it into terminal
* We will get a password copy that password
* Paste it into Jenkins page
* Choose installed plugins
* Give credentials
* **SonarQube instance**
* Add security groups for SonarQube
* Connect SSH into terminal
* Install java version
* Install SonarQube
* Start the SonarQube
* Copy the public IP of instance and browse it with port number
* **Nexus instance**
* add security groups for Nexus
* connect SSH into terminal
* download the nexus tar file from browser
* extract that file
* start Nexus
* copy the public IP of instance and browse it with port number
* we will get Nexus page and sing in
* **Tomcat instance**
* Add security groups for Tomcat instance
* Connect SSH into terminal
* Install the Java version 11
* Copy link of tomcat tar file from browser and download filr into terminal
* Extract the tar file
* Start the Tomcat
* Copy the public IP and browse it with port number and click on the manager app
* In terminal, find the ‘context.xml’ from apache-tomcat directory
* Go to editor page of
* Go to editor page of
* Go to ‘conf’ directory and go to vi editor mode the tomcat-server.xml and add some content.
* Go to browser and refresh the page
* Give credentials
* **Integrate SonarQube with Jenkins**
* Go to Jenkins page
* Go to manage Jenkins and plugin manager
* Search for Sonar Scanner plugin and installed without restart
* Go to configure system and select SonarQube