

DOKCER PROJECT

STEP-1: LAUNCH AN INSTANCE WITH T2.LARGE

STEP-2: INSTALL JENKINS, GIT, DOCKER & TRIVY

STEP-3: INSTALL THE FOLLOWING JENKINS PLUGINS

- ◆ SONAR SCANNER
- ◆ NODEJS
- ◆ OWASP DEPENDENCY CHECK
- ◆ DOCKER PIPELINE
- ◆ Eclipse Temurin

STEP-4: CONFIGURE ALL THE PLUGINS INTO JENKINS

STEP-5: WRITE A PIPELINE

TRIVY INSTALLATION:

- ◆ `wget https://github.com/aquasecurity/trivy/releases/download/v0.18.3/trivy_0.18.3_Linux-64bit.tar.gz`
- ◆ `tar zxvf trivy_0.18.3_Linux-64bit.tar.gz`
- ◆ `sudo mv trivy /usr/local/bin/`
- ◆ `export PATH=$PATH:/usr/local/bin/`
- ◆ `source .bashrc`

JENKINS INSTALLATION:

- ◆ `amazon-linux-extras install java-openjdk11 -y`
- ◆ `sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo`
- ◆ `sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key`
- ◆ `yum install jenkins -y`
- ◆ `systemctl start jenkins`

GIT & DOCKER INSTALLATION:

- ◆ `yum install git docker -y`
- ◆ `systemctl start docker`
- ◆ `chmod 777 /var/run/docker.sock`

SETUP SONAR USING DOCKER:

```
docker run -d --name sonar -p 9000:9000 sonarqube:lts-community
```

After creating the sonar container, access the sonarqube with 9000 port number.

Login to the sonar dashboard with the following and credentials

- ◆ username: admin
- ◆ password: admin

A screenshot of the SonarQube login interface. It features a light gray background with the title "Log in to SonarQube" centered at the top. Below the title are two input fields: the first is labeled "Login" and the second is labeled "Password". At the bottom right of the form are two buttons: "Log in" and "Cancel".

Log in to SonarQube

Login

Password

Log in Cancel

After entering the credentials we have to set a new password.

CONFIGURE ALL THE PLUGINS INTO JENKINS:

Goto your Sonarqube Server. Click on Administration ----> Security ----> Users → Click on Tokens and Update Token ----> Give it a name ----> and click on Generate Token.

copy Token

Goto Jenkins Dashboard ----> Manage Jenkins ----> Credentials ----> Add Secret Text with id **sonar-token**.

Goto Jenkins Dashboard → Manage Jenkins → Credentials → Add Secret Text.

Add sonarqube

Now, go to Dashboard --> Manage Jenkins -----> System and Add sonar servers with the name of **mysonar**

Click on Apply and Save

The Configure option is used in Jenkins to configure different server.

Click on add **SonarQube Scanner**

Name: mysonar

click on install automatically and proceed with default version.

In the Sonarqube Dashboard add a quality gate also

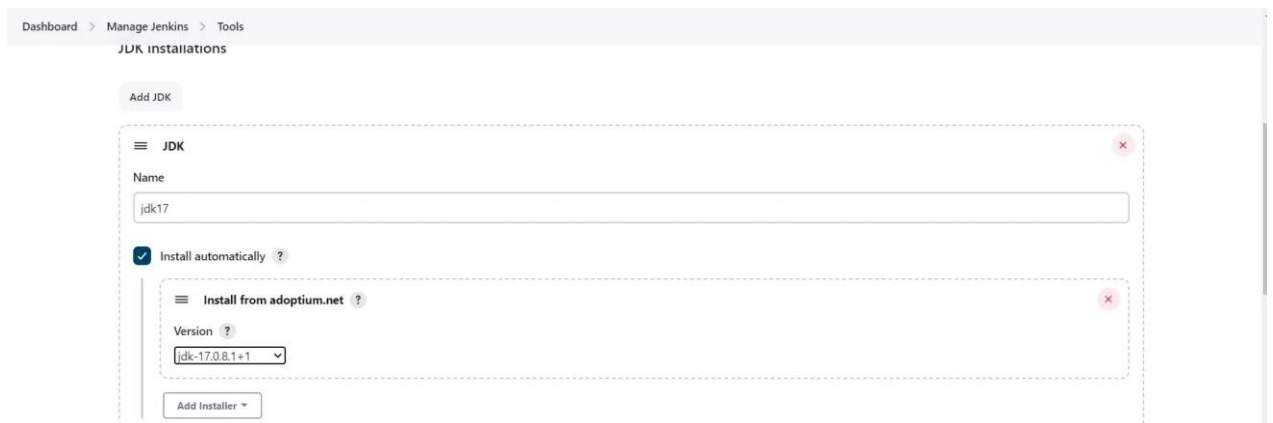
Administration → Configuration →Webhooks

Click on Create

Name: Jenkins

URL: <http://jenkins-public-ip:8080>/sonarqube-webhook/

Now configure NodeJs, Java & DP-Check



NodeJS

Name

node16

☒ Install automatically ?

Install from nodejs.org

Version

NodeJS 16.2.0

For the underlying architecture, if available, force the installation of the 32bit package. Otherwise the build will fail

☐ Force 32bit architecture

Global npm packages to install

Specify list of packages to install globally -- see npm install -g. Note that you can fix the packages version by using the syntax 'packageName@version'

Dependency-Check installations

Add Dependency-Check

Dependency-Check

Name

DP-Check

☒ Install automatically ?

Install from github.com

Version

dependency-check 6.5.1

Add Installer ▾

Click on Apply and Save here.

START WRITING DECLARATIVE PIPELINE:

```
pipeline {
    agent any
```

```
tools {  
    jdk 'jdk17'  
    nodejs 'node16'  
}  
  
environment {  
    SCANNER_HOME = tool 'mysonar'  
}  
  
stages {  
    stage("Clean WS") {  
        steps {  
            cleanWs()  
        }  
    }  
  
    stage("Code") {  
        steps {  
            git "https://github.com/Hruday143/ZOMATO-PROJECT.git"  
        }  
    }  
  
    stage("Sonarqube Analysis") {  
        steps {  
            withSonarQubeEnv('mysonar') {  
                sh """"$SCANNER_HOME/bin/sonar-scanner \  
                    -Dsonar.projectName=zomato \  
                    -Dsonar.projectKey=zomato""""  
            }  
        }  
    }  
}
```

```
}

stage("Quality Gates") {

    steps {

        script {

            waitForQualityGate abortPipeline: false, credentialsId: 'sonar-token'

        }

    }

}

stage("Install Dependencies") {

    steps {

        sh 'npm install'

    }

}

stage("OWASP") {

    steps {

        dependencyCheck additionalArguments: '--scan ./ --disableYarnAudit --
disableNodeAudit', odcInstallation: 'DP-Check'

        dependencyCheckPublisher pattern: '**/dependency-check-report.xml'

    }

}

stage("Trivy") {

    steps {

        sh 'trivy fs . > trivyfs.txt'

    }

}

stage("Build") {

    steps {
```

```
    sh 'docker build -t image1 .'
```

```
  }
```

```
}
```

```
stage("Tag & Push") {
```

```
  steps {
```

```
    script {
```

```
      withDockerRegistry(credentialsId: 'DockerHub-password') {
```

```
        sh 'docker tag image1 hruday143/mydockerproject:myzomatoimage'
```

```
        sh 'docker push hruday143/mydockerproject:myzomatoimage '
```

```
      }
```

```
    }
```

```
  }
```

```
}
```

```
stage("Scan the Image") {
```

```
  steps {
```

```
    sh 'trivy image hruday143/mydockerproject:myzomatoimage '
```

```
  }
```

```
}
```

```
stage("Container") {
```

```
  steps {
```

```
    sh 'docker run -d --name zomato -p 3000:3000
```

```
hruday143/mydockerproject:myzomatoimage'
```

```
  }
```

```
}
```

```
}
```

```
}
```

