**DevOps Project-1**

* **Jenkins Setup on Ubuntu:**

apt-get update -y

sudo apt install openjdk-11-jdk -y

wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -

sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > \

/etc/apt/sources.list.d/jenkins.list'

sudo apt-get update -y

sudo apt-get install jenkins -y

systemctl start jenkins

systemctl enable jenkins

**Maven Installation on Jenkins Server:**

cd /opt

wget https://mirrors.estointernet.in/apache/maven/maven-3/3.8.2/binaries/apache-maven-3.8.2-bin.tar.gz

tar -xvf apache-maven-3.8.2-bin.tar.gz

cd apache-maven-3.8.2/

vim .bashrc

* Add these 2 lines

export MVN\_HOME=/opt/apache-maven-3.8.2/

export PATH=$PATH:/opt/apache-maven-3.8.2/bin

source ~/.bashrc

**Nexus Setup on Amazon Linux:**

sudo su -

yum update -y

yum install java-1.8\* -y

cd /opt

wget https://download.sonatype.com/nexus/3/latest-unix.tar.gz

tar -xvf latest-unix.tar.gz

mv nexus-3.33.1-01/ nexus

#As a good security practice, Nexus is not advised to run nexus service as a root user, so create a new user called nexus and grant sudo access to manage nexus services as follows.

useradd nexus

* Give the sudo access to nexus user

visudo

nexus ALL=(ALL) NOPASSWD: ALL

* Change the owner and group permissions to /opt/nexus and /opt/sonatype-work directories.

chown -R nexus:nexus /opt/nexus

chown -R nexus:nexus /opt/sonatype-work

chmod -R 775 /opt/nexus

chmod -R 775 /opt/sonatype-work

* Open /opt/nexus/bin/nexus.rc file and uncomment run\_as\_user parameter and set as nexus user.

vi /opt/nexus/bin/nexus.rc

run\_as\_user="nexus"

* Create nexus as a service

ln -s /opt/nexus/bin/nexus /etc/init.d/nexus

* Switch as a nexus user and start the nexus service as follows.

su - nexus

* Enable the nexus services

sudo systemctl enable nexus

* Start the nexus service

sudo systemctl start nexus

* Access the Nexus server from Laptop/Desktop browser.

<http://IPAddess/Hostname:8081/>

* **Sonarqube Setup on Ubuntu:**

cd /opt

wget https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-7.9.6.zip

apt install unzip

unzip sonarqube-7.9.6.zip

mv sonarqube-7.9.6 sonarqube

adduser sonar

* Give the sudo access to sonar user

visudo

sonar ALL=(ALL) NOPASSWD: ALL

* Change the owner and group permissions to /opt/sonarqube-/ directory.

chown -R sonar:sonar /opt/sonarqube/

chmod -R 775 /opt/sonarqube/

su - sonar

cd /opt/sonarqube/bin/linux-x86-64

./sonar.sh start

* **Tomcat Setup on Ubuntu:**

apt-get update -y

sudo apt install openjdk-11-jdk -y

cd /opt

wget https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.52/bin/apache-tomcat-9.0.52.tar.gz

tar -xvf apache-tomcat-9.0.52.tar.gz

mv apache-tomcat-9.0.52 tomcat

cd tomcat/

cd conf/

* vim tomcat-users.xml

<role rolename="manager-gui"/>

<role rolename="manager-script"/>

<role rolename="manager-jmx"/>

<role rolename="manager-status"/>

<user username="admin" password="admin" roles="manager-gui, manager-script, manager-jmx, manager-status"/>

<user username="deployer" password="deployer" roles="manager-script"/>

<user username="tomcat" password="s3cret" roles="manager-gui"/>

* vi /opt/tomcat/webapps/manager/META-INF/context.xml

Comment this line

<!--

<Valve className="org.apache.catalina.valves.RemoteAddrValve"

allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />

-->

* vim /opt/tomcat/webapps/host-manager/META-INF/context.xml

Comment this line

<!--

<Valve className="org.apache.catalina.valves.RemoteAddrValve"

allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />

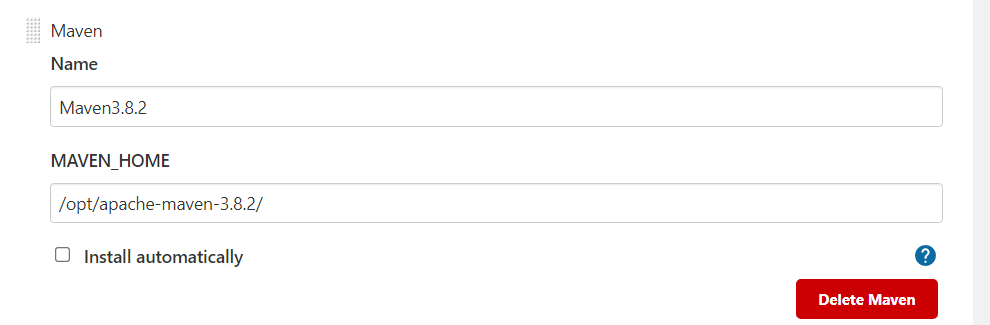
-->

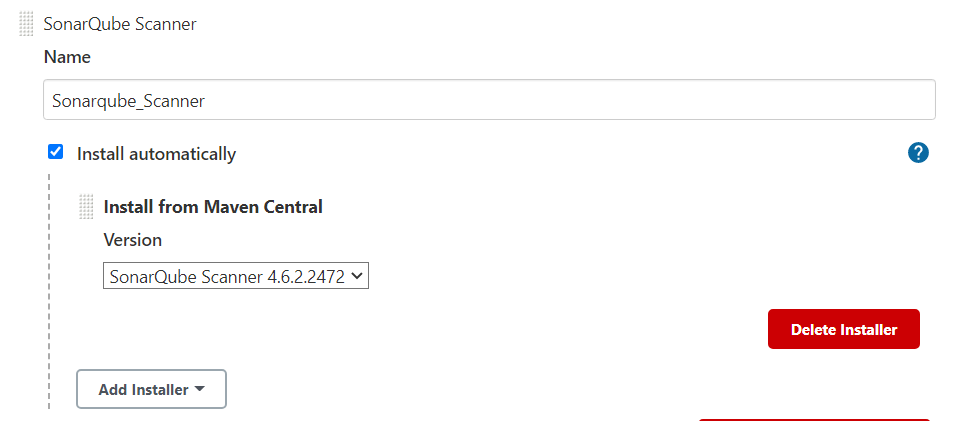
cd bin

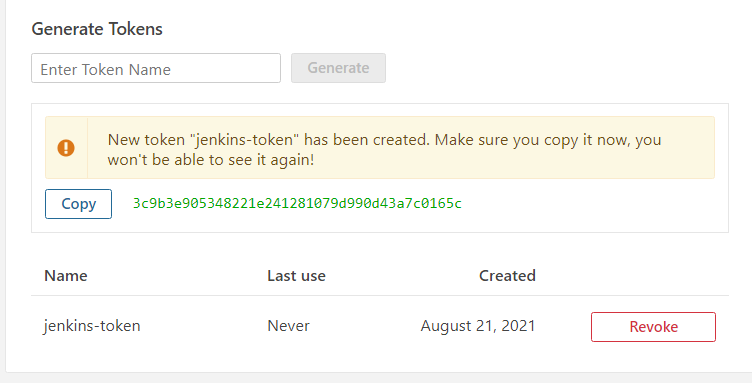
./startup.sh

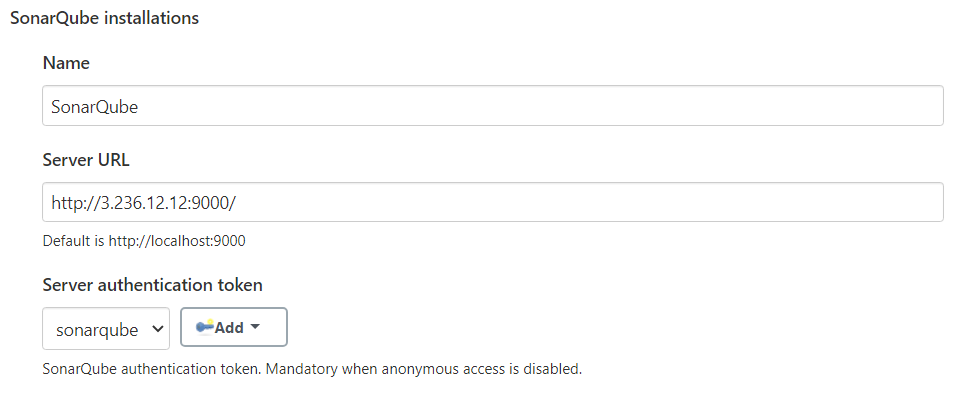
* **Jenkins Job:**

Maven Project: <https://github.com/GirijalaAditya/maven_project.git>









* Add this file in pom.xml

<distributionManagement>

<repository>

<id>nexus</id>

<name> Releases Nexus Repository</name>

<url>http://3.235.140.90:8081/repository/maven-webapp-release/</url>

</repository>

<snapshotRepository>

<id>nexus</id>

<name>Snapshot Nexus Repository </name>

<url>http://3.235.140.90:8081/repository/maven-webapp-release/</url>

</snapshotRepository>

</distributionManagement>

* In Jenkins server,

cd /opt/apache-maven-3.8.2/conf

vim settings.xml

* Add this in <servers> block

<server>

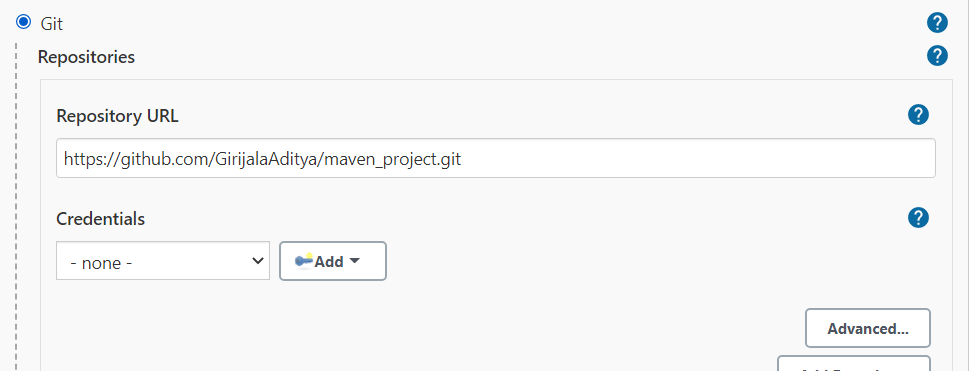
<id>nexus</id>

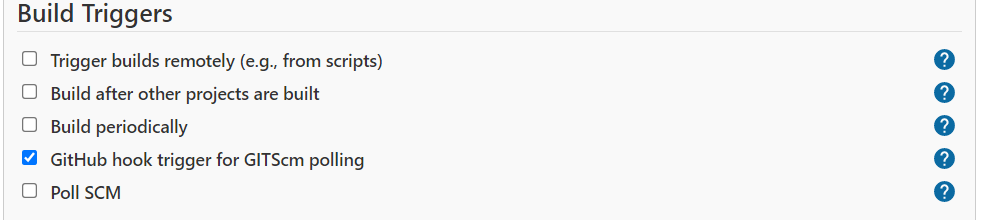
<username>aditya</username>

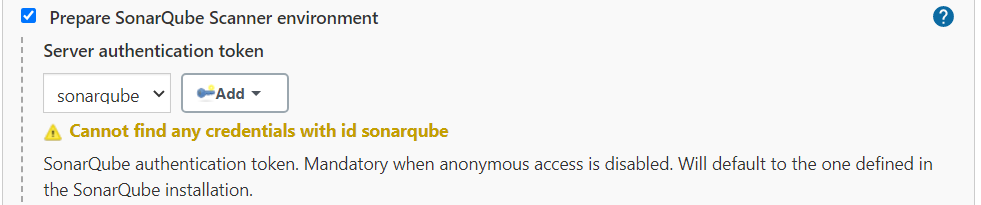
<password>aditya</password>

</server>

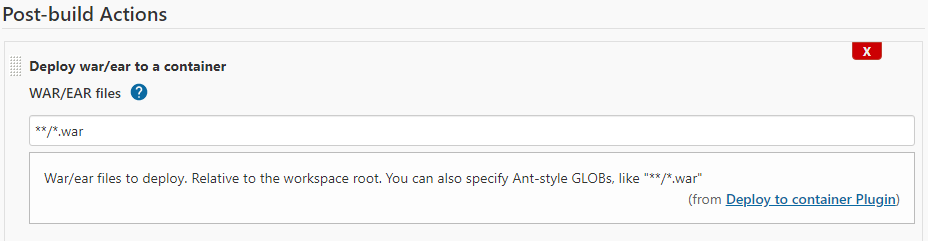
* **Job Setup:**

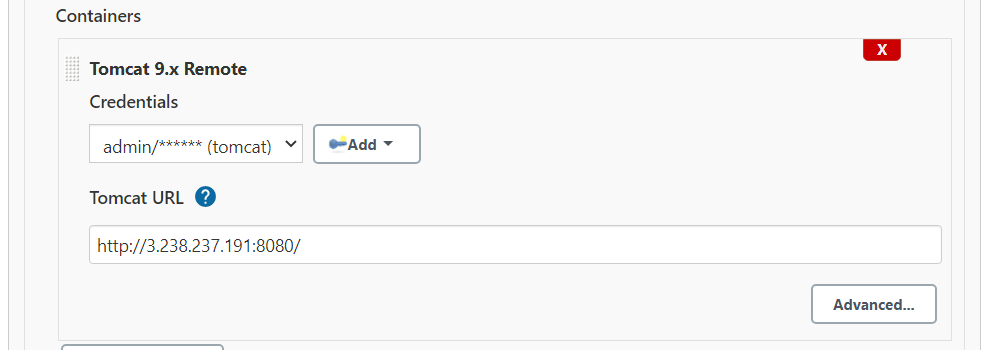




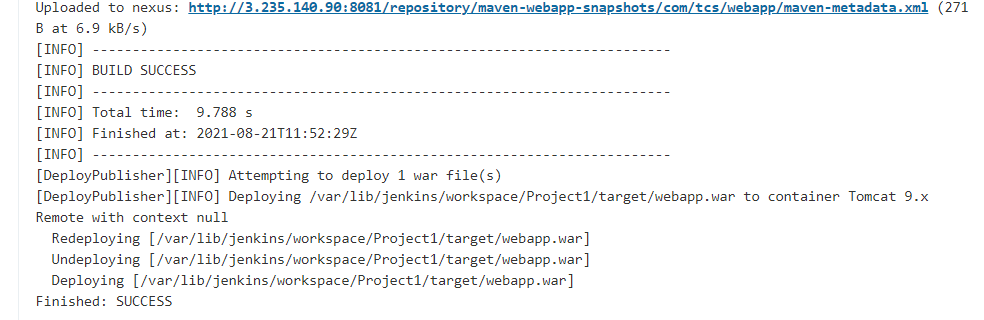








* **Outputs:**





* **Declarative Pipeline:**

pipeline

{

agent any

tools

{

maven 'Maven3.8.2'

}

stages

{

stage("Code Checkout")

{

steps

{

git branch: 'main', url: 'https://github.com/GirijalaAditya/maven\_project.git'

}

}

stage("Code Build")

{

steps

{

sh "mvn clean package"

}

}

stage("SonarQube Analysis")

{

steps

{

withSonarQubeEnv('SonarQube')

{

sh "mvn sonar:sonar"

}

}

}

stage("Nexus Upload")

{

steps

{

sh "mvn deploy"

}

}

stage("Deploy to Tomcat")

{

steps

{

deploy adapters: [tomcat9(credentialsId: 'tomcat', path: '', url: 'http://3.238.237.191:8080/')], contextPath: null, war: '\*\*/\*.war'

}

}

}

}