



Project-3

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Project: [Jenkins-Maven-Docker-Sonarqube-ECR-SES]

Project: **Build Java Application thru Maven and Push artifacts to ECR by Jenkins pipe and SES Build-Notify, dockerise sonarqube scanner for vulnerability check**

[Github + Jenkins + Maven + Docker + Sonarqube + ECR + SES]

Reference Video: <https://youtu.be/Np1qFULjUko> [BC Reddy Devops]

Step 1: Application code files in Github

Step 2: Launch two EC2 (Amazon Linux2) servers 1st for [Jenkins + Java+Maven + Docker], 2nd for [Java + Docker]

Step 3: Open Ports 22, 80, 8080 ports in 1st EC2 and 22, 80, 9000 in 2nd EC2

Step 4: Jenkins, [Java11-openjdk + Maven + Docker] all are installed in 1st EC2 (in /opt folder)

Step 5: Install [same Java11-openjdk + Docker] in 2nd EC2

Step 6: Install and configure Git, JDK, Maven, Sonar, Git, Docker credentials in Jenkins dashboard

Step 7: Create Pipeline Job and build (Maven), scan (Sonar) & push Artifacts to ECR and Notified with SES

Required files: pom.xml, Jenkinsfile, src/main and dump folders with Maven related project files

Github Repo:

Task-1 (Git & Docker) on 1st EC2 & 2nd EC2

1. `sudo yum update -y`
2. `Sudo yum install git -y`
3. `sudo amazon-linux-extras install docker -y`
4. `sudo systemctl start docker, sudo systemctl enable docker, sudo systemctl status docker`
5. `sudo usermod -a -G docker ec2-user`
6. `/var/run/docker.sock`

Task-2 (Maven) on 1st EC2

1. `cd /opt`
2. `wget https://dlcdn.apache.org/maven/maven-3/3.9.3/binaries/apache-maven-3.9.3-bin.tar.gz`
3. `ls`
4. `tar -xvzf apache-maven-3.9.3-bin.tar.gz`
5. `ls`
6. `mv apache-maven-3.9.3 maven3`
7. `rm -rf apache-maven-3.9.3-bin.tar.gz`
8. `export PATH=$PATH:/opt/maven3/bin/`

Task-3 (Jenkins) on 1st EC2

1. `amazon-linux-extras install java-openjdk11 -y` [on both EC2s]
2. `sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo`
3. `sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key`
4. `yum install fontconfig java-11-openjdk`
5. `yum install jenkins`
6. `systemctl start jenkins`
7. `systemctl enable jenkins`
8. `systemctl status jenkins`
9. `cat /var/lib/jenkins/secrets/initialAdminPassword` [login into Jenkins dashboard public IP:8080]

Create Pipeline Job and run the build in Jenkins dashboard and check the Artifacts image in ECR and scan report in Sonar and get build status email notification by SES

Note: here Sonarqube will be created thru Dockerfile on 2nd EC2