Master, Slaves should have 15GB EBS Volume.

Jenkins Pre-Req:

1. apt update && apt install -y openjdk-11-jdk

2. apt install -y maven jq unzip net-tools

3. curl https://get.docker.com | bash && usermod -a -G docker ubuntu

4. Terraform

5. Packer

6. Ansible - sudo apt update && sudo apt install software-properties-common -y && sudo add-apt-repository --yes --update ppa:ansible/ansible && sudo apt install ansible -y

Disable Hostkey Checking & Create ansibleadmin user

sudo useradd -m ansibleadmin --shell /bin/bash

sudo mkdir -p /home/ansibleadmin/.ssh

sudo chown -R ansibleadmin /home/ansibleadmin/

sudo touch /home/ansibleadmin/.ssh/authorized\_keys

sudo usermod -aG sudo ansibleadmin

echo 'ansibleadmin ALL=(ALL) NOPASSWD: ALL' | sudo tee -a /etc/sudoers

echo 'ssh-rsa xdhe…' | sudo tee /home/ansibleadmin/.ssh/authorized\_keys

8. AWS CLI 2.0

9. Trivy Scanner

wget https://github.com/aquasecurity/trivy/releases/download/v0.42.0/trivy\_0.42.0\_Linux-64bit.deb

sudo dpkg -i trivy\_0.42.0\_Linux-64bit.deb

**Once the above steps are completed, convert the machine into an AMI.**

Installing Jenkins Version2.401.2

curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee \

/usr/share/keyrings/jenkins-keyring.asc > /dev/null

echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \

https://pkg.jenkins.io/debian-stable binary/ | sudo tee \

/etc/apt/sources.list.d/jenkins.list > /dev/null

sudo apt-get update

#Below step is only needed if you get error about key in the previous step.

sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys <KEYNUMBER>

sudo apt-get update

sudo apt-cache madison jenkins | grep -i 2.401.2 #Not needed.

sudo apt-get install jenkins=2.401.2 -y

Plugins for Jenkins:

1. Pipeline: AWS Steps Version 1.43

2. Docker Version 1.5

3. SonarQube Scanner Version 2.17.1 and configure it in Jeninks Configure System.

4. Sonarqube qualitygate

5. Blue Ocean

6. Multibranch Scan Webhook Trigger

7. Slack Notification

8. Ansible

9. Give master server label as MASTER

Following Jenkins Credentials also need to be created:

ubuntu (slave-credentials)

jenkins (GitHubAccess)

Sonarqubeadmintoken with Secret test

SlackToken with Secret text

Assign S3 Full Access Role to both Dev and Prod Jenkins Slaves.

Assign Admin Role to Jenkins Master

Make sure you also add label MASTER to Jenkins Primary.

For Slaves:

1. Create a EC2 Role which will be used later. Eg: devsecopsb38-jenkins-slave-role. Assign the below policy to the role. Make sure you have replaced the dev and prod account numbers and also create the

{

"Version": "2012-10-17",

"Statement": {

"Effect": "Allow",

"Action": "sts:AssumeRole",

"Resource": [

"arn:aws:iam::<dev-account-number>:role/[DevSecOpsB38JenkinsAssumeRole](https://us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/roles/details/DevSecOpsB37JenkinsAssumeRole)",

"arn:aws:iam::<prod-account-number>:role/[DevSecOpsB38JenkinsAssumeRole](https://us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/roles/details/DevSecOpsB37JenkinsAssumeRole)"

]

}

}

1. Using the above role create two EC2 Instances t2.medium with the above role assigned.
2. Sonarqube webhook should be in following format

http://jenkins.awsb55.xyz:8080/sonarqube-webhook/