**CI/CD 2nd Project : web(dockerfile) server**

Flow: git🡪GitHub🡪Jenkins🡪ansible🡪Docker Hub🡪Docker host

1. Developer push **Docker file** to GitHub
2. Same code move to Jenkins (either Jenkin pull it or GitHub push to Jenkin)
3. On Jenkin server Test Build and deliver to Ansible Server
4. From Jenkins execute the command to build image, retag and push to Docker hub …. Above 3 command run on ansible server
5. Jenkins trigger the playbook , which is on Ansible server
6. Playbook create container on Linux/Docker hosts

Steps to do:

1. Assume GitHub and Docker Hub account ready( from github.com and Dockerhub.com)
2. Launch 3 ec2 (1 for Jenkins , 1 for ansible, 1 for webhost)
3. On Jenkins: install Jenkins and git
4. On Ansible: install ansible and docker
5. Configuration:
6. Web hook connection between GitHub and Jenkins pc
7. Password less ssh connection between Jenkins and ansible pc
8. Password less ssh connection between ansible and Docker host pc
9. Write a playbook to create a container using said image on ansible
10. In Jenkins pc, 3 more steps:
11. Install publish over ssh plugins
12. Add ssh server as Jenkins and ansible
13. Create your item/task/projects

Technical steps:

GitHub 🡨----🡪 Jenkins web hook:

generate token on Jenkins pc:: right top: account🡪configure🡪API Token🡪 save

Add new token

Go to Jenkins server-----🡪configure --🡪 API Token:

Generate -🡪 copy the token and Apply save

**On Github::**

**Setting of your repo 🡪 webhook 🡪 Add webhook**

**Payload url**

http://pub ip of jenkins:8080/github-webhook/

**🡨 Copy url of Jenkins and paste to GitHub…..**

**Content type**

Application / json

**🡨**

**Secret**

Token

**🡨 Paste Jenkins token**

**Add webhook**

* Install **publish over ssh** plugins…..
* Manage Jenkins-------configure system--------goto end
* Ssh server: 🡨 click

Add

**Ssh server 🡨 Add Jenkins pc as ssh server**

**Jenkins**

**Name**

Ip addr of jenkins

**Hostname**

Ec2-user or any

**Username**

**Remote Dir**

**Advance 🡨 click for password**

**Use password base authentication**

Test Configurstion

Apply

save

Add

**Again save for ansible server 🡨 Add Ansible pc as ssh server**

**Now create job/item/project from Jenkins……**

**SCM**

https://github.com/xxxxA/Cxxxx/testat6pm.git

**Git url 🡨** Git repo url

**Git**

**Build Trigger**

**GitHub hook trigger for GITScm pooling**

**Build**

Add build step

**Send files or execute commands over ssh**

**Ssh server**

**Name : Jenkins 🡨-------Advance**

rsync –avh /var/lib/jenkins/workspace/<jk project/item name>/Dockerfile ec2-user@<ip of ansible>:/home/ec2-user

**Exe command**

Apply

Save

**Execute below …. From Jenkins but executed on ansible server: must login to dockerhub)**

docker image build -t myimage:v1 .

docker image tag myimage:v1 <docker a/c>/myimage:v1

docker image push <docker a/c>/myimage:v1

**Post build Actions:**

**Send build artefacts over ssh**

**Ssh server**

Ansible

**Name**

Ansible-playbook /path to pb/docker.yaml

**Exec code**

**Sample playbook::**

#vi docker.yaml

-hosts: <docker host tag name>

tasks:

-shell: docker run -itd --name testcon -p 8080:80 myimage:v1

**Sample Dockerfile::**

**#vi Dockerfile**

FROM centos:latest

MAINTAINER name at sdlc

RUN yum -y install httpd

COPY index.html /var/www/html/

CMD [“/usr/sbin/httpd”, “-D”, “FOREGROUND”]

EXPOSE 80

Test/check web site … using pub ip of webhost

**CI/CD project 2B: with docker**

**Now if developer update/modify the Docker file ……. What happen…**

When image build with same name Docker hub can’t accept the image (already it is there ... the old one)

And so many other issues

Next ….

on Jenkins:

----Static----

docker image build -t myimage:v1 .

docker image tag myimage:v1 <docker a/c>/myimage:v1

docker image push <docker a/c>/myimage:v1

----Dynamic----

docker image build -t $JOB\_NAME:v1.$BUILD\_ID

docker image tag $JOB\_NAME:v1.$BUILD\_ID <docker a/c>/$JOB\_NAME:v1.$BUILD\_ID

docker image push <docker a/c>/$JOB\_NAME:v1.$BUILD\_ID

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docker image tag $JOB\_NAME:v.$BUILD\_ID <docker a/c>/$JOB\_NAME:latest

docker image push <docker a/c>/$JOB\_NAME:latest

----To delete useless image from ansible

docker image rmi $JOB\_NAME:v1.$BUILD\_ID <docker a/c>/$JOB\_NAME:v1.$BUILD\_ID <docker a/c>/$JOB\_NAME:latest

**On Ansible:**

vi docker.yaml

-hosts: <docker host tag name>

tasks:

-shell: docker run -itd --name testcon -p 8080:80 myimage:v1

After Jenkins dynamic ... ansible task also be dynamic.....

# vi docker.yaml

-hosts: <docker host tag name>

tasks:

-shell: docker run -itd --name testcon -p 8080:80 myimage:v1

----------------------------------------

vi docker.yaml

-hosts: <docker host tag name>

tasks:

-name: stop container

shell: docker container stop testcon

-name: remove container

shell: docker container rm testcon

-name: remove docker image

shell: docker image rmi <docker a/c>/myimage

-name: create new container

-shell: docker run -itd --name mycontainer -p 8080:80 myimage:v1