

Booster_CI_CD_Project

Create CI/CD pipeline using jenkinsfile to deploy simple django web app as a microservice running on docker container locally

Medhat Ashraf Alhaddad

Medhat.alhaddad@gmail.com

GitHub

https://github.com/MEDHAT-ALHADDAD/Booster_CI_CD_Project

requirements

1- Fork this repo to your account

2- write dockerfile inside the forked repo to create new image from base image ubuntu and install python3.6 and pip3 and copy the source code files of the app to this image and configure it to start the server when creating container (check the below section for steps to start the django server)

3- configure ubuntu slave to use it for the pipeline

4- create slck workspace and integrate it with jenkins

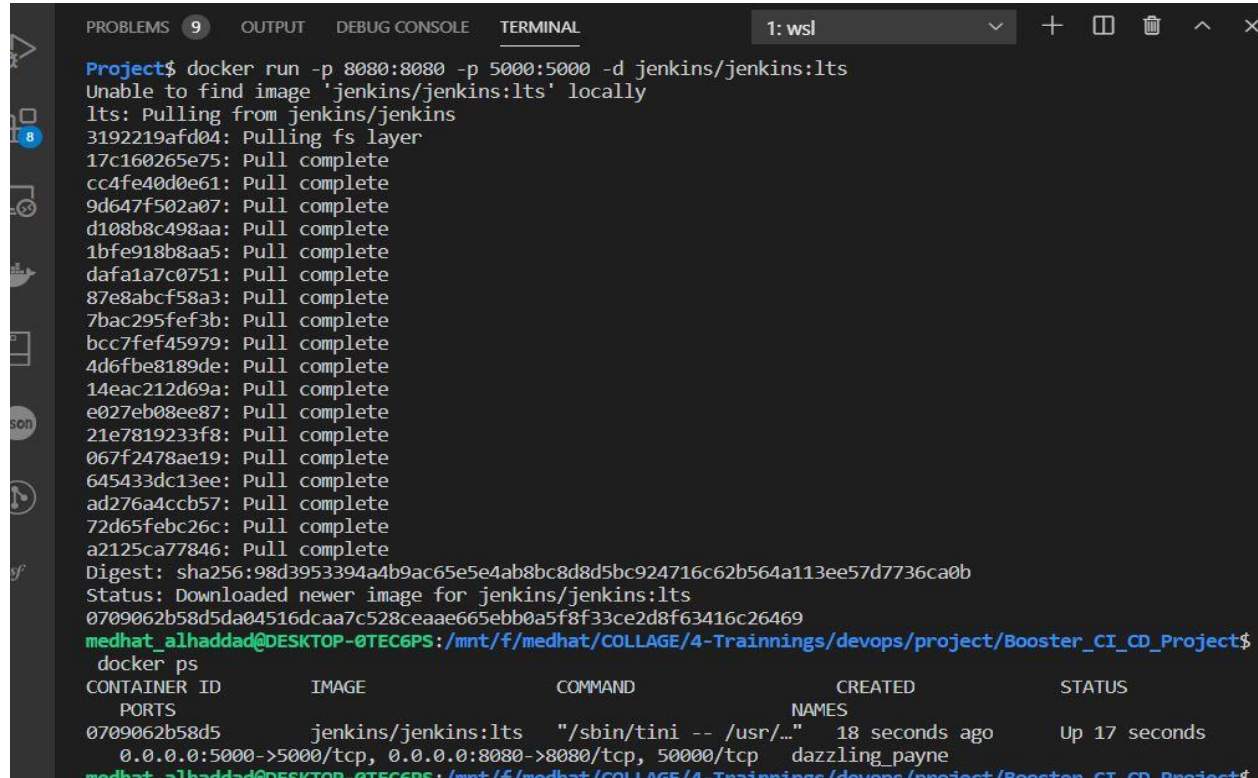
5- install any plugin from your choice to create statistics about builds

6- write jenkinsfile with the following four stages for both dev and master branch

- preparation: checkout the code
- build image: build image using the dockerfile
- push image: push the built image to docker registry(docker hub)
- deploy: deploy a container from the pushed image
- notification: send slack message with the build status

7- configure job in jenkins using multibranch pipeline type with the forked git repo url

Screenshots:



```
Project$ docker run -p 8080:8080 -p 5000:5000 -d jenkins/jenkins:lts
Unable to find image 'jenkins/jenkins:lts' locally
lts: Pulling from jenkins/jenkins
3192219afd04: Pulling fs layer
17c160265e75: Pull complete
cc4fe40d0e61: Pull complete
9d647f502a07: Pull complete
d108b8c498aa: Pull complete
1bfe918b8aa5: Pull complete
dafa1a7c0751: Pull complete
87e8abcf58a3: Pull complete
7bac295fef3b: Pull complete
bcc7fef45979: Pull complete
4d6fbe8189de: Pull complete
14eac212d69a: Pull complete
e027eb08ee87: Pull complete
21e7819233f8: Pull complete
067f2478ae19: Pull complete
645433dc13ee: Pull complete
ad276a4ccb57: Pull complete
72d65febc26c: Pull complete
a2125ca77846: Pull complete
Digest: sha256:98d3953394a4b9ac65e5e4ab8bc8d8d5bc924716c62b564a113ee57d7736ca0b
Status: Downloaded newer image for jenkins/jenkins:lts
0709062b58d5da04516dcaa7c528ceaae665ebb0a5f8f33ce2d8f63416c26469
medhat_alhaddad@DESKTOP-0TEC6PS:/mnt/f/medhat/COLLAGE/4-Trainings/devops/project/Booster_CI_CD_Project$
docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
PORTS              NAMES
0709062b58d5       jenkins/jenkins:lts  "/sbin/tini -- /usr/..."  18 seconds ago     Up 17 seconds
0.0.0.0:5000->5000/tcp, 0.0.0.0:8080->8080/tcp, 50000/tcp    dazzling_payne
medhat_alhaddad@DESKTOP-0TEC6PS:/mnt/f/medhat/COLLAGE/4-Trainings/devops/project/Booster_CI_CD_Project$
```

SlaveDockerFile

```

1  FROM ubuntu
2  USER root
3  RUN apt-get update -qq
4  RUN mkdir -p jenkins_home
5  RUN chmod 777 jenkins_home
6  RUN useradd -ms /bin/bash jenkins
7
8  RUN apt-get install -qq apt-transport-https ca-certificates curl gnupg2 software-p
9  RUN curl -fsSL https://download.docker.com/linux/debian/gpg | apt-key add -
10 RUN add-apt-repository \
11     "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
12         focal \
13         stable"
14 RUN apt-get update -qq
15 RUN apt-get install -y docker-ce docker-ce-cli containerd.io
16 RUN usermod -aG docker jenkins
17
18 RUN apt-get update -qq
19 RUN apt-get install python 3.6
20 RUN apt-get -qq install python3-pip
21 RUN apt-get install openjdk-8-jdk -qq
22 RUN apt-get install openssh-server -qq
23
24 USER jenkins
25 WORKDIR jenkins_home
26 CMD ["/bin/bash"]

```

PROBLEMS 9

OUTPUT

DEBUG CONSOLE

TERMINAL

1: wsl

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✖

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```

0.0.0.0:5000->5000/tcp, 0.0.0.0:8080->8080/tcp, 50000/tcp  dazzling_payne
medhat_alhaddad@DESKTOP-0TEC6PS:/mnt/f/medhat/COLLAGE/4-Trainings/devops/project/Booster_CI_CD_Project$
docker exec -it 0709062b58d5da0 bash
jenkins@0709062b58d5:/#

```

```

medhat_alhaddad@DESKTOP-0TEC6PS:/mnt/f/medhat/COLLAGE/4-Trainings/devops/project/Booster_CI_CD_Project$
docker build -f SlaveDockerFile . -t slave
Sending build context to Docker daemon 133.1kB
Step 1/20 : FROM ubuntu
latest: Pulling from library/ubuntu
54ee1f796a1e: Pull complete
f7bfea53ad12: Pull complete
46d371e02073: Pull complete
b66c17bbf772: Pull complete
Digest: sha256:31dfb10d52ce76c5ca0aa19d10b3e6424b830729e32a89a7c6eee2cda2be67a5
Status: Downloaded newer image for ubuntu:latest
--> 4e2eef94cd6b
Step 2/20 : USER root
--> Running in a71ed144dad7
Removing intermediate container a71ed144dad7
--> e7b6449bb548
Step 3/20 : RUN apt-get update -qq

```

```

medhat_alhaddad@DESKTOP-0TEC6PS: /mnt/r/medhat/COLLAGES/4-Trainings/devops/project/Booster_CI_CD_Project$
ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/medhat_alhaddad/.ssh/id_rsa): ./ssh
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in ./ssh.
Your public key has been saved in ./ssh.pub.
The key fingerprint is:
SHA256:uhXEcVM4M2S7cAP0iJH/yiUAVHnoKiE3rYiGWwSPK/E medhat_alhaddad@DESKTOP-0TEC6PS
The key's randomart image is:
+---[RSA 2048]-----+
|  ...O+. +++.      |
|  o . ++.*.++.     |
|  o + o.o+ +.+o    |
|  o * o o.. o o    |
|  oo = . .S. .     |
|  *.E . ...o       |
|  .. . ...+        |
|      oo           |
|  .                |
+---[SHA256]-----+
medhat_alhaddad@DESKTOP-0TEC6PS: /mnt/r/medhat/COLLAGES/4-Trainings/devops/project/Booster_CI_CD_Project$

```

Scope:


ID:

Description:

Username:

Private Key: ☒ Enter directly

Key:

 Concealed for Confidentiality
 Replace

Passphrase:

Save

```

medhat_alhaddad@DESKTOP-0TEC6PS:/mnt/f/medhat/COLLAGE/4-Trainings/devops/project/Booster_CI_CD_Project$
docker inspect bridge
[
  {
    "Name": "bridge",
    "Id": "65e216785c7e894bcff0af354e946413c89cef5a1182081f4f88daf976b087ff",
    "Created": "2020-09-08T21:26:59.409607Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": null,
      "Config": [
        {
          "Subnet": "172.17.0.0/16",
          "Gateway": "172.17.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
  }
]

```

of executors

Remote root directory

Labels

Usage

Launch method

Host

Credentials [Add](#)

Host Key Verification Strategy

[Advanced...](#)

Availability

Node Properties

☐ Disable deferred wipeout on this node

☒ Environment variables

List of variables

Name	Value
JAVA_HOME	/usr/lib/jvm/java-8-openjdk-amd64

[Save](#)

☒ Environment variables

List of variables

Name	Value
JAVA_HOME	/usr/lib/jvm/java-8-openjdk-amd64

[Save](#)

```

79bde4d54386: Waiting
80ae5eleccd8: Waiting
6d32133e8ce1: Pushed
24d470c6cc7c: Pushed
cdec99512f73: Pushed
5f1ac4f2cede: Pushed
24a7c2c9bc62: Layer already exists
46a6fbcfe6ac: Layer already exists
001e4a80973b: Layer already exists
2ba5b91ca2b0: Layer already exists
2f37d1102187: Layer already exists
79bde4d54386: Layer already exists
80ae5eleccd8: Pushed
940ee442a0c1: Pushed
v1.0: digest: sha256:4eacd95d1fad55b96dbfde5f011671384f899fac5043fa4279a9263ec4a7ea7 size: 2835
[Pipeline] }
[Pipeline] // withCredentials
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy)
[Pipeline] sh
+ docker run -d -p 6000:3000 engysamy/dajngoo_dev:v1.0
7b48c364a1a62372f352943f87e1e2f023e8aff6ff89b0b9a2d080a2223674fa4
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS

```

6) Message sent to slack when build start

BUILDSTART: Job 'project/master'
[28](http://localhost:8080/job/project/job/master/28/console)

BUILDSTART: Job 'project/dev'
[39](http://localhost:8080/job/project/job/dev/39/console)

BUILDSTART: Job 'project/dev'
[40](http://localhost:8080/job/project/job/dev/40/console)

jenkins APR 5:33 PM

BUILDSTART: Job 'pip1 [1]'(http://localhost:8080/job/pip1/1/console)

5:35 BUILDSTART: Job 'pip1 [2]'(http://localhost:8080/job/pip1/2/console)


```

79bde4d54386: Preparing
93e76ce3645b: Waiting
24a7c2c9bc62: Waiting
46a6fbcfe6ac: Waiting
001e4a80973b: Waiting
2ba5b91ca2b0: Waiting
2f37d1102187: Waiting
79bde4d54386: Waiting
2da53b84b4c4: Pushed
478b51a7f7e9: Pushed
a7563be517f2: Pushed
a1268997915d: Pushed
24a7c2c9bc62: Layer already exists
46a6fbcfe6ac: Layer already exists
001e4a80973b: Layer already exists
2ba5b91ca2b0: Layer already exists
2f37d1102187: Layer already exists
79bde4d54386: Layer already exists
93e76ce3645b: Pushed
3709d90e6ff6: Pushed
v1.0: digest: sha256:56626cf684a1298dd2ea02f7dc0a48dada66db2d8f7eaa9b72da878d3fa21ebd size: 2833
[Pipeline] }
[Pipeline] // withCredentials
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy)
[Pipeline] sh

```


django


View [release notes](#) for Django 3.0




The install worked successfully! Congratulations!

You are seeing this page because `DEBUG=True` is in your settings file and you have not configured any URLs.

[Django Documentation](#)
Topics, references, & how-to's

[Tutorial: A Polling App](#)
Get started with Django

[Django Community](#)
Connect, get help, or contribute

