

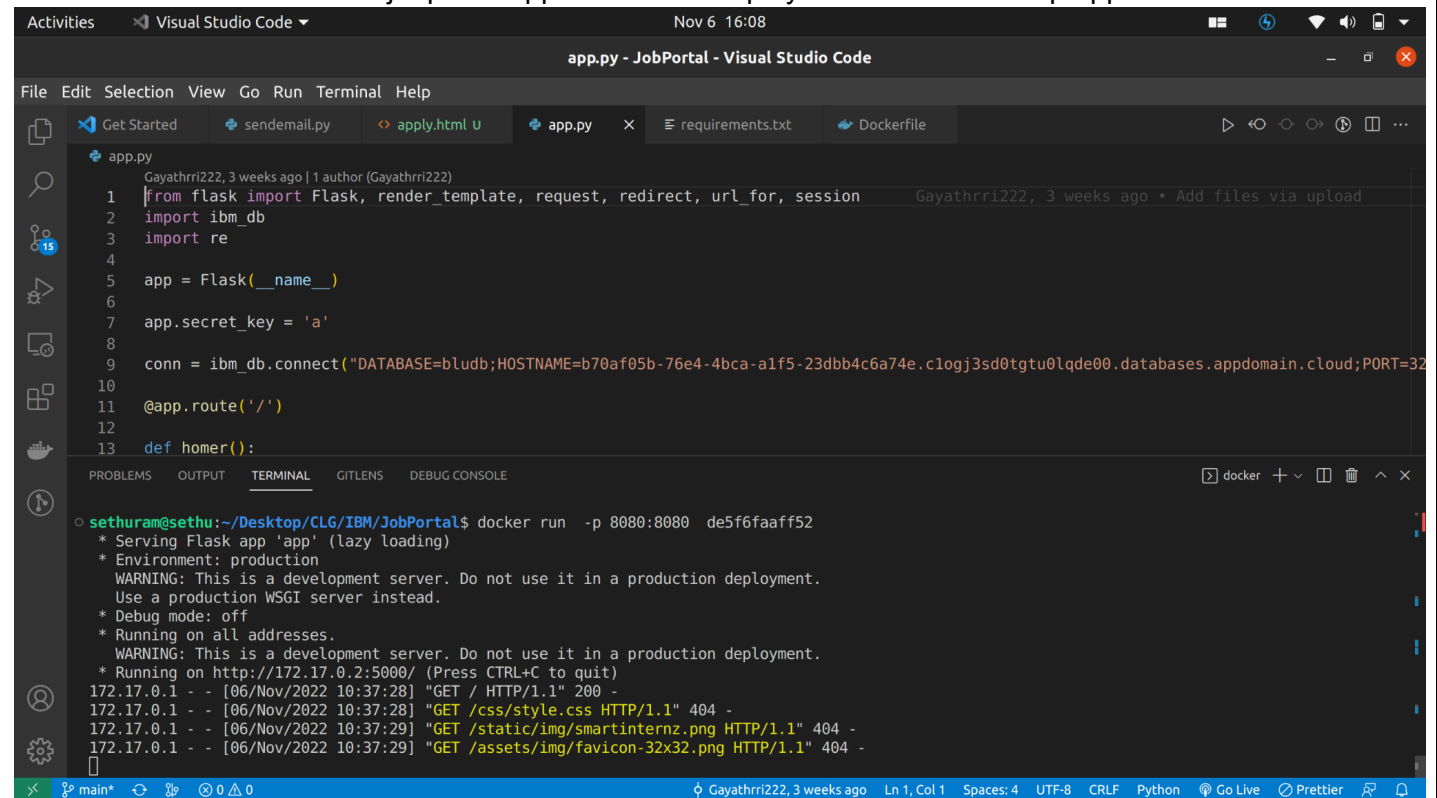
## Assignment - 4

Assignment Date	8 October 2022
Student Name	Sethuram S V
Student Roll Number	917719C088
Maximum Marks	2 Marks

1. Pull an Image from docker hub and run it in docker playground:

```
Activities Terminal Nov 6 13:56 sethuran@sethu: ~  
sethuran@sethu:~$ docker ps  
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES  
sethuran@sethu:~$ docker images  
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE  
mongo         latest   d98599fd65     3 months ago   696MB  
mongo         <none>   aad77ae58e0c   15 months ago  682MB  
redis         latest   aa4d65e670d6   15 months ago  105MB  
mongo-express latest   f8fe1b7702e7   16 months ago  136MB  
hello-world   latest   d1165f221234   20 months ago  13.3kB  
redis         4.0      191c4017dcdd   2 years ago    89.3MB  
sethuran@sethu:~$ docker run hello-world  
  
Hello from Docker!  
This message shows that your installation appears to be working correctly.  
  
To generate this message, Docker took the following steps:  
1. The Docker client contacted the Docker daemon.  
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.  
   (amd64)  
3. The Docker daemon created a new container from that image which runs the  
   executable that produces the output you are currently reading.  
4. The Docker daemon streamed that output to the Docker client, which sent it  
   to your terminal.  
  
To try something more ambitious, you can run an Ubuntu container with:  
$ docker run -it ubuntu bash  
  
Share images, automate workflows, and more with a free Docker ID:  
https://hub.docker.com/  
  
For more examples and ideas, visit:  
https://docs.docker.com/get-started/  
  
sethuran@sethu:~$ docker run mongo  
{ "t": { "$date": "2022-11-06T08:26:09.463+00:00" }, "s": "I", "c": "NETWORK", "id": 4915701, "ctx": "-", "msg": "Initialized wire specification", "att  
r": { "spec": { "incomingExternalClient": { "minWireVersion": 0, "maxWireVersion": 13 }, "incomingInternalClient": { "minWireVersion": 0, "maxWireVersion":
```

## 2.Create a docker file for the jobportal application and deploy it in Docker desktop application:



```
File Edit Selection View Go Run Terminal Help
app.py - JobPortal - Visual Studio Code
Get Started sendemail.py apply.html U app.py x requirements.txt Dockerfile
app.py
Gayathrri222, 3 weeks ago | 1 author (Gayathrri222)
1 from flask import Flask, render_template, request, redirect, url_for, session
2 import ibm_db
3 import re
4
5 app = Flask(__name__)
6
7 app.secret_key = 'a'
8
9 conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=b70af05b-76e4-4bca-a1f5-23dbb4c6a74e.clogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=32
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11 @app.route('/')
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13 def homer():
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```

### 3. Create a IBM container registry and deploy helloworld app or jobportalapp:

```
Activities Terminal Nov 6 16:26
sethuram@sethu: ~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI

sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$ ibmcloud cr namespace-add sethuram52001
No resource group is targeted. Therefore, the default resource group for the account ('Default') is targeted.

Adding namespace 'sethuram52001' in resource group 'Default' for account Sethuram Venkatesan's Account in registry icr.io...

Successfully added namespace 'sethuram52001'

OK
sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$ ibmcloud cr login
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.

OK
sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$ docker pull hello-world
Using default tag: latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:e18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$ docker tag hello-world icr.io/sethuram52001/ibmsmartintern:hello-world
sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$ docker push icr.io/sethuram52001/ibmsmartintern:hello-world
The push refers to repository [icr.io/sethuram52001/ibmsmartintern]
e07ee1baac5f: Pushed
hello-world: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525
sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$ ibmcloud cr image-list
Listing images...

Repository          Tag          Digest          Namespace      Created      Size      Security status
icr.io/sethuram52001/ibmsmartintern hello-world    f54a58bc1aac     sethuram52001  1 year ago  2.5 kB    -

OK
sethuram@sethu:~/Downloads/IBM_Cloud_CLI_2.12.1_amd64/Bluemix_CLI$
```

Activities Google Chrome Nov 6 16:26

cloud.ibm.com/registry/images

IBM Cloud Search resources and products... Catalog Manage Sethuram Venkatesan'...

Container Registry

Quick start

Namespaces 1

Repositories 1

Images 1

Trash 0

Settings

## Images

Location: Global

View by: Digest Search Create +

<input type="checkbox"/> Repository@digest	Tags	Manifest type	Created	Size	Se st
<input type="checkbox"/> sethuram52001/ibmsmartintern@sha256:f54a58bc1aac...	hello-world	Docker	408 days ago	2 KB	

Items per page: 25 1-1 of 1 item 1 1 of 1 page

4. Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport:

The image shows two screenshots of the IBM Kubernetes console interface. The top screenshot displays the 'Deployments' page, and the bottom screenshot displays the 'Pods' page. Both screenshots show a sidebar with navigation options and a main content area with a table of resources.

**Top Screenshot: Deployments**

The 'Deployments' page shows a table with the following data:

Name	Images	Labels	Pods	Created
hello-world	Show all	Show all	1 / 1	a.m

**Bottom Screenshot: Pods**

The 'Pods' page shows a table with the following data:

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)
hello-world-ccfdb8f84-6rsjb	Show all	Show all	10.144.195.52	CrashLoopBackOff	3	-	-

The URL bar in the bottom screenshot shows: `https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdjp7uuf05artqh5h0/service/#/pod?namespace=default`