

Assignment -4

Assignment Date	19 September 2022
Student Name	Sriram M
Student Roll Number	8204191040302
Maximum Marks	2 Marks

Question-1:

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

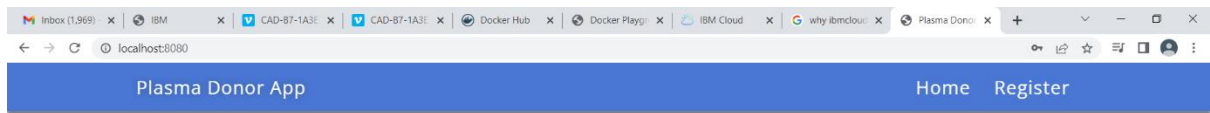
The image displays two screenshots of the Docker Playground interface, showing the process of pulling and running a Docker image.

Top Screenshot:

- The interface shows a session titled "cdr3lgv9_cdr3lj791rrg00aceg6g" with IP address 192.168.0.13.
- The terminal output shows the command `$ docker pull sandeepdoodigani/plasmaapplication` being executed.
- The output indicates that the image was successfully pulled from Docker Hub, showing the image ID `6b9dc3d4cb6e` and the size `105MB`.
- The terminal output also shows the command `$ docker run -p 8080:8080 sandeepdoodigani/plasmaapplication` being executed.
- The output indicates that the container is running successfully, showing the message "Serving Flask app 'app' (lazy loading)".

Bottom Screenshot:

- The interface shows the same session titled "cdr3lgv9_cdr3lj791rrg00aceg6g" with IP address 192.168.0.13.
- The terminal output shows the command `$ docker pull sandeepdoodigani/plasmaapplication` being executed.
- The output indicates that the image was successfully pulled from Docker Hub, showing the image ID `6b9dc3d4cb6e` and the size `105MB`.
- The terminal output also shows the command `$ docker run -p 8080:8080 sandeepdoodigani/plasmaapplication` being executed.
- The output indicates that the container is running successfully, showing the message "Serving Flask app 'app' (lazy loading)".



Question-2:

Create a docker file for the plasma donor application and deploy it in Docker desktop application.

```
Command Prompt - docker run -p 5000:5000 plasmaapplication
You should consider upgrading via the 'C:\Program Files\Python39\python.exe -m pip install --upgrade pip' command.

C:\Users\sivan\Downloads\PDA>docker run -p 8080:8080 plasmaapplication
Traceback (most recent call last):
  File "app.py", line 4, in <module>
    import requests
ModuleNotFoundError: No module named 'requests'

[+] Building 226.5s (13/13) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 260B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/python:3.6
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load build context
=> => transferring context: 4.69kB
=> [1/7] FROM docker.io/library/python:3.6@sha256:f8652afa88c25f6d2235d5474892591867aa4026a7a9a6819d9f300a6f6c
=> CACHED [2/7] WORKDIR /app
=> [3/7] ADD . /app
=> [4/7] COPY requirements.txt /app
=> [5/7] RUN python -m pip install -r requirements.txt
=> [6/7] RUN python -m pip install ibm_db
=> [7/7] RUN python -m pip install requests
=> exporting to image
=> exporting layers
=> writing image sha256:0fd1c7aa55c1acc18bca8ab9d6d93491a1a9562c76c622854c5a2fef49cedb4
=> naming to docker.io/library/plasmaapplication

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\sivan\Downloads\PDA>docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
plasmaapplication   latest          0fd1c7aa55c1   58 seconds ago 1.08GB
<none>              <none>         58a3d128167a5   48 minutes ago 1.08GB
<none>              <none>         4a130ec846d5    19 hours ago   1.08GB
nginx               latest         2d389e545974    2 months ago   142MB
ubuntu             latest         2dc39ba059dc    2 months ago   77.8MB
centos              latest         5d8da3dc9764    14 months ago  231MB

C:\Users\sivan\Downloads\PDA>docker run -p 5000:5000 plasmaapplication
* Serving Flask app 'app' (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on all addresses.
  WARNING: This is a development server. Do not use it in a production deployment.
* Running on http://172.17.0.2:8080/ (Press CTRL+C to quit)
```

Question-3:

Create a IBM container registry and deploy hello world app or plasma donor app.

```
Command Prompt
C:\Users\sivan>ibmcloud
NAME:
  ibmcloud - A command line tool to interact with IBM Cloud
  Find more information at: https://ibm.biz/cli-docs

USAGE:
  [environment variables] ibmcloud [global options] command [arguments...] [command options]

VERSION:
  2.12.1+b8488a1-2022-10-31T15:08:10+00:00

COMMANDS:
  account  Manage accounts, users, orgs and spaces
  api      Set or view target API endpoint
  billing  Retrieve usage and billing information
  catalog  Manage catalog
  cf       Run Cloud Foundry CLI with IBM Cloud CLI context
  config   Write default values to the config
  dev      Create, develop, deploy, and monitor applications
  enterprise Manage enterprise, account groups and accounts.
  iam      Manage identities and access to resources
  login    Log user in
  logout   Log user out
  plugin   Manage plug-ins and plug-in repositories
  regions  List all the regions
  resource Manage resource groups and resources
  resources List all resources
  sl       Manage Classic infrastructure services
  target   Set or view the targeted region, account, resource group, org or space
  update   Update CLI to the latest version
  version  Print the version
  help, h  Show help

Enter 'ibmcloud help [command]' for more information about a command.

ENVIRONMENT VARIABLES:
  IBMCLCLOUD_COLOR=false          Do not colorize output
  IBMCLCLOUD_VERSION_CHECK=false  Do not check latest version for update
  IBMCLCLOUD_HTTP_TIMEOUT=5       A time limit for HTTP requests
  IBMCLCLOUD_API_KEY=api_key_value API Key used for login
  IBMCLCLOUD_CR_VPC_URL=url_value The custom server URL to use when obtaining an instance identity token and IAM token as a VPC VSI compute resource. This value will replace the default server endpoint of the VPC VSI instance identity token service.
  IBMCLCLOUD_CR_TOKEN=cr_token_value Compute resource token used for login. Can either be a token string or a path to a @file.
  IBMCLCLOUD_CR_PROFILE=profile_value The name, ID, or CRN of the linked trusted IAM profile to be used when obtaining the IAM access token. If authenticating as a VPC VSI compute resource, only specifying a trusted profile CRN or ID is supported.
  IBMCLCLOUD_TRACE=true           Print API request diagnostics to stdout
  IBMCLCLOUD_TRACE=path/to/trace.log Append API request diagnostics to a log file
  IBMCLCLOUD_HOME=path/to/dir     Path to config directory
```

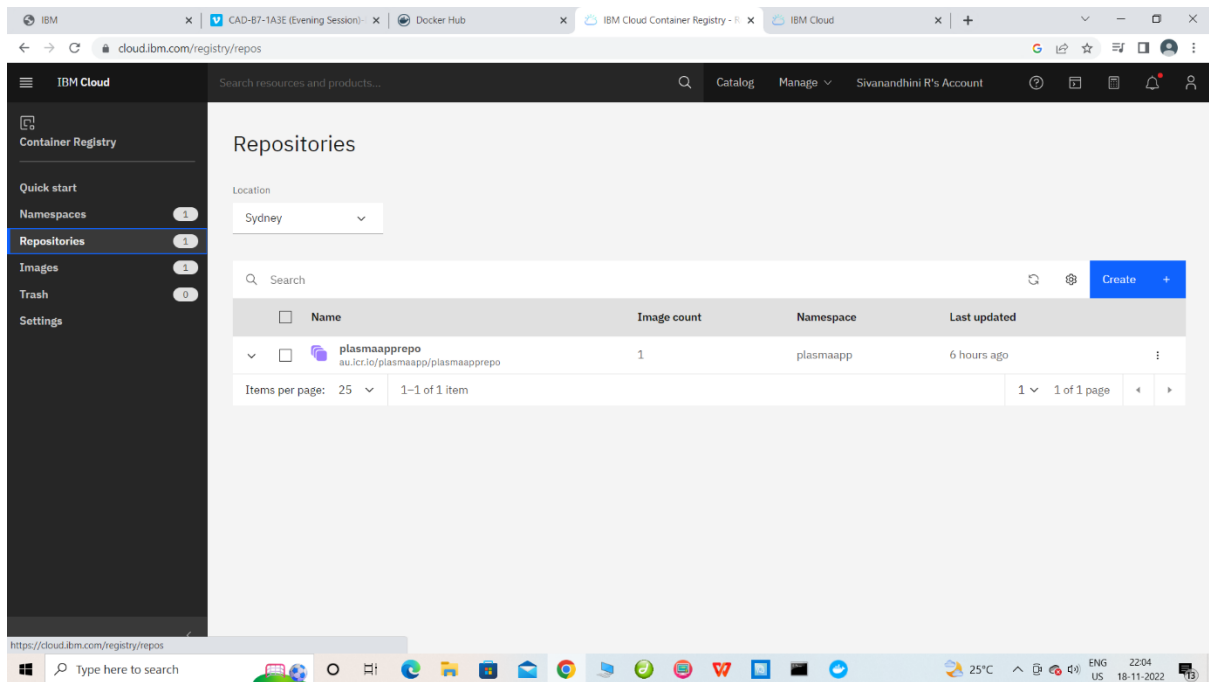
```
Command Prompt
Microsoft Windows [Version 10.0.19043.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sivan>docker login
Authenticating with existing credentials...
Login Succeeded

C:\Users\sivan>docker tag plasmaapplication sivanandhinir/plasmaapplication

C:\Users\sivan>docker push sivanandhinir/plasmaapplication
Using default tag: latest
The push refers to repository [docker.io/sivanandhinir/plasmaapplication]
9ea2d558f0bf: Pushed
09bbab59e936: Pushed
dd5ba96255b7: Pushed
887bea83a1bf: Pushed
e88936f8625a: Pushed
90bec1da78e1: Pushed
aa4c888c19f6: Mounted from library/python
8a9f690a8ba: Mounted from library/python
8e607459ef9f: Mounted from library/python
1e18e7efcc2: Mounted from library/python
c3a8d593ed24: Mounted from library/python
26a504e3be4: Mounted from library/python
8bf422b0de72: Mounted from library/python
31892cc314cb: Mounted from library/python
11936051f93b: Mounted from library/python
latest: digest: sha256:deb054fad6776688bf39751bb520fa3d45cfb073edbb0a34a520c0b7b17e192 size: 3470

C:\Users\sivan>
```



Question-4:

Create a Kubernetes cluster in IBM cloud and deploy hello world image or job portal image and also expose the same app to run in node port.

```

Command Prompt
Login Succeeded

C:\Users\sivan>cd C:\Users\sivan\Downloads\POA
C:\Users\sivan\Downloads\POA>kubectl apply -f deployment.yaml
deployment.apps/flask-node-deployment created
C:\Users\sivan\Downloads\POA>kubectl apply -f service.yaml
service/flask-node-deployment created

C:\Users\sivan\Downloads\POA>kubectl get pods
NAME                                STATUS    READY    STATUS    RESTARTS   AGE
flask-node-deployment-7f988f84fd-dckn7  0/1      ErrImagePull  0          74s

C:\Users\sivan\Downloads\POA>ibmcloud plugin install kubernetes-service
Looking up 'kubernetes-service' from repository 'IBM Cloud'...
Plug-in 'container-service[kubernetes-service/ks] 1.0.459' found in repository 'IBM Cloud'
Attempting to download the binary file...
26.86 MiB / 26.86 MiB [=====] 100.00% 37s
28168192 bytes downloaded
Installing binary...
Plug-in 'container-service 1.0.459' was successfully installed into C:\Users\sivan\bluemix\plugins\container-service. Use 'ibmcloud plugin show container-service' to show its details.

C:\Users\sivan\Downloads\POA>kubectl get service
NAME                                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
flask-node-deployment              ClusterIP   10.102.34.236  <none>         5000/TCP   3m47s
kubernetes                         ClusterIP   10.96.0.1     <none>         443/TCP    13m

C:\Users\sivan\Downloads\POA>

```

820419104068@smartinternz.com

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Login