

ASSIGNMENT – 4

DOCKER AND KUBERNETES

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Maximum Marks	2 marks

Question-1: pull an image from docker hub and run it in docker playground.

1) pull an image form docker hub

```
PowerShell
Loading personal and system profiles took 541ms.
+ assignment 4 git:(main) docker pull docker/getting-started
Using default tag: latest
latest: Pulling from docker/getting-started
df9b9388f04a: Pull complete
5867cba5fcdb: Pull complete
4b639e65cb3b: Pull complete
061ed9e2b976: Pull complete
bc19f3e8eeb1: Pull complete
4071be97c256: Pull complete
79b586f1a54b: Pull complete
0c9732f525d6: Pull complete
Digest: sha256:b558be874169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aae
Status: Downloaded newer image for docker/getting-started:latest
docker.io/docker/getting-started:latest
+ assignment 4 git:(main) |
```

2)run it in docker playground

```
Digest: sha256:b558be874169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aae
Status: Downloaded newer image for docker/getting-started:latest
docker.io/docker/getting-started:latest
+ assignment 4 git:(main) docker run -d -p 80:80 docker/getting-started
ee6d34bd49e20106c8d3a3cc85bab0bde9c96a667bb3112bc896358efd6d2f68
+ assignment 4 git:(main) D|
```



```
sha256: 1a2b733b900318139e8a7b4362a7722e7b1d4a00000000000000000000000000 28.33MB / 28.33MB
sha256: 3b1e70f70eaa0a00c2b0b0c35a000a0070a3000200750000000000000000000 2.35MB / 2.35MB
sha256: 8a1f9a00000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 1a71555e000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 55a0077f000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 00000111733071870a1901a700000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 1071360c00f8c360c000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 00000200000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 1a9a010e30e7a0e7177f21270407f000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 1a9a732b00000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 55a0077f00000000000000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 271a7c27000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 00000000000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
sha256: 00000000000000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 00000117000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 00000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 00000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 00000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
extracting sha256: 00000000000000000000000000000000000000000000000000000 2.35MB / 2.35MB
[2/3] WORKDIR /app
[3/3] COPY requirements.txt /
[4/4] RUN pip install -r requirements.txt
[5/5] COPY
exporting to image
>> exporting layers
>> writing image sha256:9a000000000000000000000000000000000000000000000000000
>> sending to docker.io:flaskapp
0.00
```

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
- Flaskapp git:(main) |

Images on disk Last refresh: about 16 hours ago 5.54 MB total size 5.54 MB / 5.54 MB in use

Images

An image is a read-only template with instructions for creating a Docker container. [Learn more](#)

LOCAL REMOTE REPOSITORIES

<input type="checkbox"/>	NAME	TAG	STATUS	CREATED	SIZE	ACTIONS
<input type="checkbox"/>	flaskapp 9a00	latest	Unused	less than a minute a	932.41 MB	▶ ⋮ 🗑
<input type="checkbox"/>	alpine 9a00	latest	In use	3 months ago	5.54 MB	▶ ⋮ 🗑

Question-3: Create a IBM container registry and deploy hello world app or jobportalapp

1) create a IBM container registry

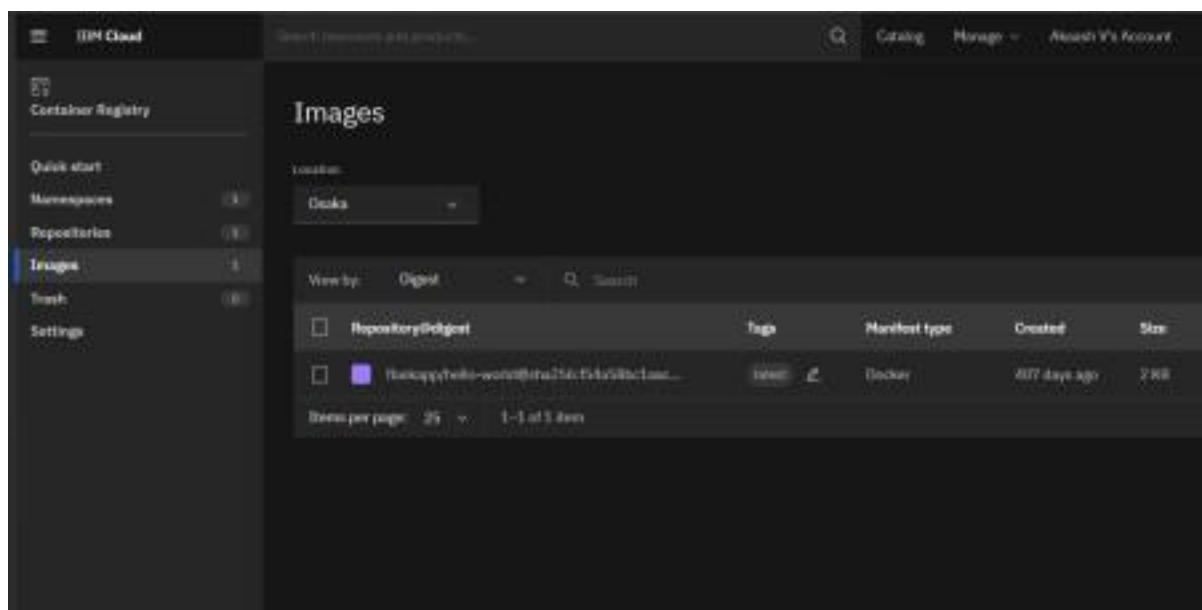
```
+ - git:(main) x ibmcloud
NAME:
  C:\Program Files\IBM\Cloud\bin\ibmcloud.exe - A command line tool to interact with IBM Cloud
  Find more information at: https://ibm.biz/cli-docs

USAGE:
  [environment variables] C:\Program Files\IBM\Cloud\bin\ibmcloud.exe [global options] command [arguments.
  ptions]

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
  cr           Manage IBM Cloud Container Registry content and configuration.
  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
```

2) deploy hello world or jobportal



Question-4: Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in note port

1)Creating a Kubernetes cluster in IBM cloud

