

## 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|
```



```
Flaskapp - Powershell
> sha256 1a2b7f33b688316139e4a07b4362a7782e7b1d4a085a0f348a4c3888388379d 18.58MB / 18.58MB
> sha256 381e7ef7f7a5a09a0d12b8b02d8bc35a093a0979a388a286775a83e8a0f3852 2.35KB / 2.35KB
> sha256 8a2f9431aaa42b35e8b0f5e0915e725833a6a0b786278a7b56a0177a734ea 2.22KB / 2.22KB
> sha256 1a71555e0b78c365c8e061d24bc1ade72802f15a098a179900228499a9a2e 58.43KB / 58.43KB
> sha256 55a09727fcd16fcbab93132b08a758e21acc8ef08a8ef8ef1843e88e3981e 54.58KB / 54.58KB
> sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 1071365c03f8c368c88d1a278c7294e73091f210438c0179889428f99a9d42e 2.5e
> sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 1a94813e33e7a8ef177f21279407f05c7e278a931f0798a0026a94023f6a4 8.23e
> extracting sha256 1a2b7f33b688316139e4a07b4362a7782e7b1d4a085a0f348a4c3888388379d 18.58MB / 18.58MB
> extracting sha256 55a09727fcd16fcbab93132b08a758e21acc8ef08a8ef8ef1843e88e3981e 54.58KB / 54.58KB
> sha256 271a4227f0b5a04c8f43c94850aef238358d10a70007a011c0a06a1d385a5 28.80MB / 28.80MB
> sha256 880a186c70905b8b536d11af3ee51e708076361f9fa35e08a395d35a886 234B / 234B
> sha256 4330b34a8293d18d9c1d1902f4a030f21801a7b8a1e0d0c5d0c0f6a4d1e 3.80MB / 3.80MB
> extracting sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> extracting sha256 4880071173736718276e1797e4f08b0d2ef6c71c70980c338e6c2a238e0402e 196.79MB / 196.79MB
> [1/3] WORKDIR /app
> [3/3] COPY requirements.txt /
> [5/5] RUN pip install -r requirements.txt
> [5/5] COPY
> exporting to image
> to exporting layers
> writing image sha256:9c60223d7f40cc136a477c2b02080f2c31f406c04a8e077e497b08a0710831e
> sending to daemon 3a11b8a97118a000

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 9c60223d7f40cc136a477c2b02080f2c31f406c04a8e077e497b08a0710831e	latest	Unused	less than a minute a	932.41 MB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>
<input type="checkbox"/>	alpine 9c602244728	latest	In use	3 months ago	5.54 MB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>

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

1) create a IBM container registry

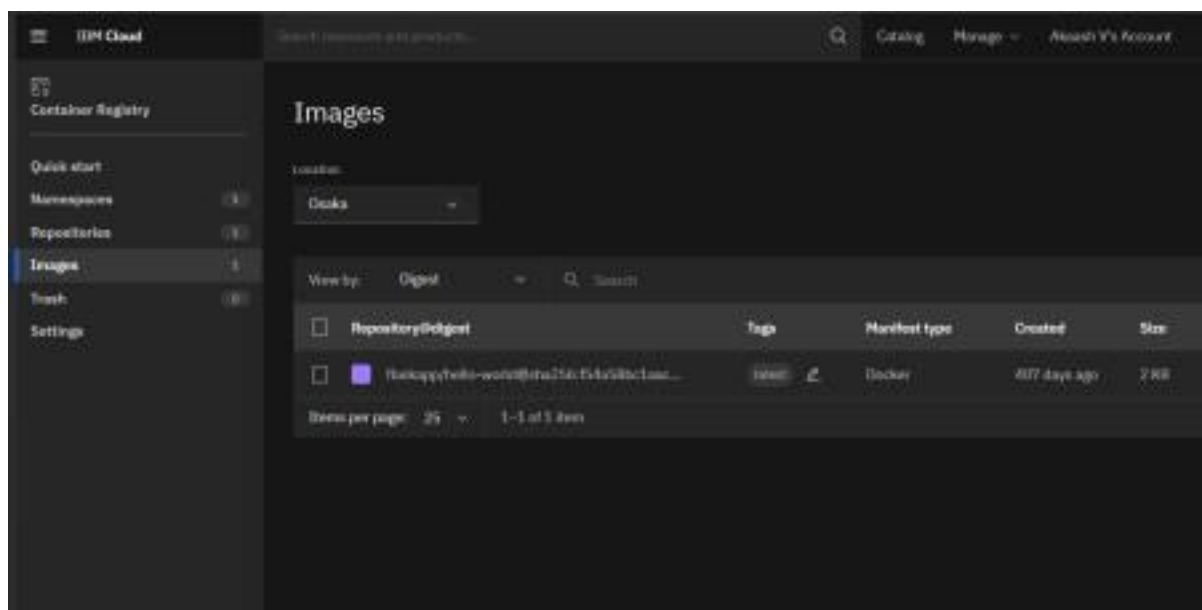
```
+ - git:(main) x ibmcloud
NAME:
  C:\Program Files\IBM\Cloud\bin\ibmcloud.exe - A command line tool to interact with IBM Cloud
  Find more information at: https://ibm.biz/cli-docs

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

