

## Assignment -4

### Docker And Kubernetes

Assignment Date	21 October 2022
Student Name	Mr. Jayson J
Student Roll Number	911719104017
Maximum Marks	2 Marks

#### Question-1:

##### 1. Pull an image from docker hub and run it in docker Playground

The screenshot shows the Docker Labs 'Using Docker Compose' tutorial page. The sidebar on the left contains links for 'Getting Started', 'Our Application', 'Updating our App', 'Sharing our App', 'Persisting our DB', 'Using Bind Mounts', 'Multi-Container Apps', 'Using Docker Compose' (highlighted), 'Image Building Best Practices', and 'What Next?'. The main content area is titled 'Using Docker Compose' and includes a search bar. Below the title, it says 'And now, we'll start migrating a service at a time into the compose file.' followed by 'Defining the App Service'. A text block states 'To remember, this was the command we were using to define our app container.' and shows a code block with the following command:

```
docker run -dp 3000:3000 \
-w /app -v "${PWD}:/app" \
--network todo-app \
-e MYSQL_HOST=mysql \
-e MYSQL_USER=root \
-e MYSQL_PASSWORD=secret \
-e MYSQL_DB=todos \
node:12-alpine \
sh -c "yarn install && yarn run dev"
```

Below the code block, it says 'If you are using PowerShell then use this command.' and shows another code block with the same command, but with single quotes around the paths and environment variables.

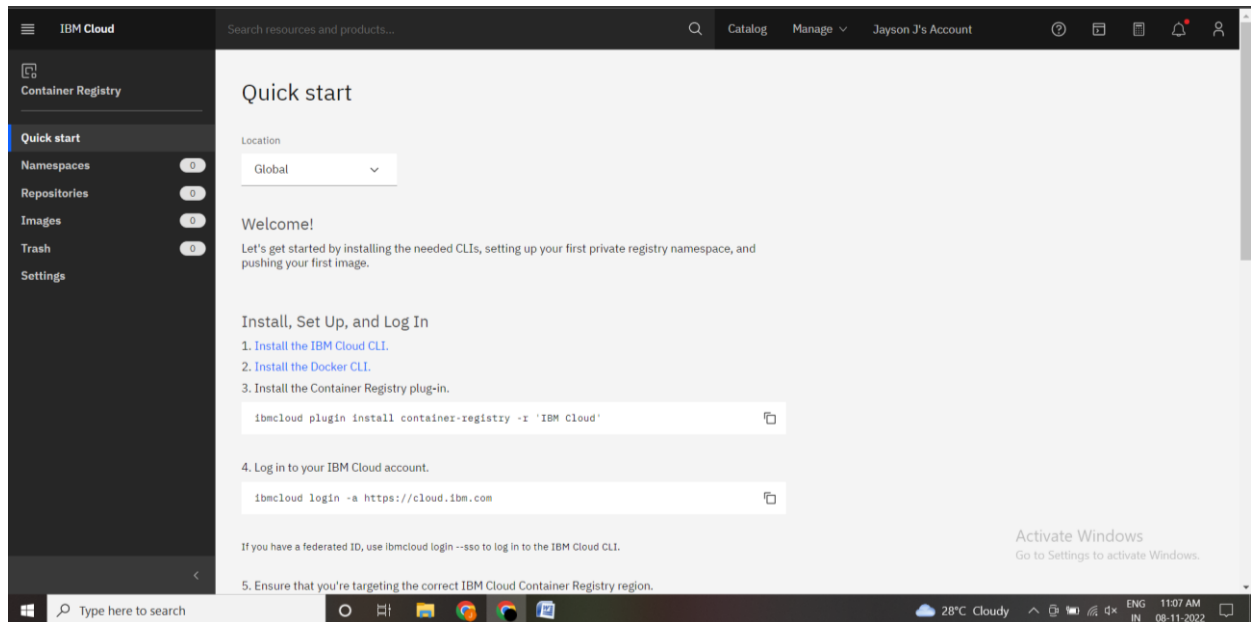
```
docker run -dp 3000:3000 `
-w /app -v "${PWD}:/app" `
--network todo-app `
-e MYSQL_HOST=mysql `
-e MYSQL_USER=root `
-e MYSQL_PASSWORD=secret `
-e MYSQL_DB=todos `
node:12-alpine `
sh -c "yarn install && yarn run dev"
```

The right sidebar contains a 'Table of contents' with links to 'Installing Docker Compose', 'Creating our Compose File', 'Defining the App Service', 'Defining the MySQL Service', 'Running our Application Stack', 'Seeing our App Stack in Docker Dashboard', 'Tearing it All Down', and 'Recap'.

**2. Create a docker file for the Hello world application and deploy it in Docker desktop application.**

```
FROM python:3.8-alpine
LABEL maintainer="Kunal Malhotra, kunal.malhotra1@ibm.com"
RUN mkdir /app
WORKDIR /app
COPY . /app
RUN pip install -r requirements.txt
EXPOSE 5000
ENTRYPOINT [ "python" ]
CMD [ "app.py" ]
```

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



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

