**Assignment -4**

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| Assignment Date | 22 October 2022 |
| Student Name | Nandhini |
| Role | Team Lead |
| Student Roll Number | 92172019102091 |
| Maximum Marks | 2 Marks |
| Team ID | PNT2022TMID16927 |

**Question-1:**

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

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| **Solution:** |
| * Pull an image *uifd/ui-for-docker* from the docker hub * This image is used for viewing and managing the docker engine * Use docker pull image\_name and docker run -it image\_name commands to * run the above image in the Docker Playground |
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**Question-2:**

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

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| **Solution:**   * Create a docker file for build and deploy flask app. * Use docker build -t image\_name . in the current directory to start building the * docker image and deploy in our local docker * Use docker run -p 5000:5000 image\_name to run in local system   **CODE**  FROM ubuntu/apache2  FROM python  COPY ./requirements.txt /flaskApp/requirements.txt  WORKDIR /flaskApp  RUN pip install -r requirements.txt  COPY . /flaskApp  ENTRYPOINT [ "python" ]  CMD ["app.py" ] |

**Question-3:**

Create a IBM container registry and deploy hello world app or job portal app.

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| **Solution:**   * Log into IBM cloud * Create a container registry * Using IBM Cloud CLI, install the container registry plugin in our system * Push our docker image into the created container registry using docker push * So, our job portal app is deployed in the IBM container registry     OUTPUT:  “HELLO WORLD” |

**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 nodeport.

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| **Solution:**   * Log into IBM cloud * Create a kubernete * Using IBM Cloud CLI, install the ks plugin in our system * Create a cluster in the kubernetes * Now, go to the kubernetes dashboard where we need to create a service based on a * yml file (given below) * In that file, we have to mention *which image we are going to use* and the *app name* * Take the public IP address and Nodeport since we exposed the *flask app in nodeport* * Finally, we got the url address where our flask app is hosted   CODE:  apiVersion: v1  kind: Service  metadata:  name: job-portal-app  spec:  selector:  app: job-portal-app  ports:  - port: 5000  type: NodePort  ---  apiVersion: apps/v1  kind: Deployment  metadata:  name: job-portal-app  labels:  app: job-portal-app  spec:  selector:  matchLabels:  app: job-portal-app  replicas: 1  template:  metadata:  labels:  app: job-portal-app  spec:  containers:  - name: job-portal-app  image: image\_name  ports:  - containerPort: 5000  env:  - name: DISABLE\_WEB\_APP  value: "false" |