Classwork TASK

Nano dockerfile

COPY ./requirements.txt ./app/

workdir /app

RUN pip install -r requirements.txt

COPY . /app

ENV FLASK\_APP=application.py

CMD flask run --host=0.0.0.0

EXPOSE 5000

Build image from dockerfile

Docker build -t deploy8:latest .

Run a container from the image…

Docker run deploy8:latest

Retag image

docker tag deploy8:latest syip11/deploy8:0.1

Push to dockerhub

docker push syip11/deploy8:0.1

Create a cluster with load balancer

k3d cluster create -p "8081:8080@loadbalancer"

Create a deployment yaml file for your flask app.

**apiVersion: apps/v1**

**kind: Deployment**

**metadata:**

**name: helloworld-deployment**

**spec:**

**selector:**

**matchLabels:**

**app: flask**

**replicas: 2 # tells deployment to run 1 pods matching the template**

**template: # create pods using pod definition in this template**

**metadata:**

**labels:**

**app: flask**

**spec:**

**containers:**

**- name: flask**

**image: syip11/deploy8:latest**

**ports:**

**- containerPort: 5000**

**---**

**apiVersion: v1**

**kind: Service**

**metadata:**

**name: helloworld-service**

**spec:**

**type: LoadBalancer**

**ports:**

**- port: 8080**

**protocol: TCP**

**targetPort: 5000**

**selector:**

**app: flask**

1. kubectl expose deployment helloworld-deployment --port 8080 --target-port 80 --type=LoadBalancer

**kubectl create -f manifest.yaml**

**Kubectl delete clustername**

**k3d node create agent01 -C clustername**

**DEPLOYMENT 8**

k3d cluster create wishlist-cluster -p “8081:8081@loadbalancer” -p “8082:8082@loadbalancer” -p “8083:8083@loadbalancer”

kind: Deployment

apiVersion: apps/v1

metadata:

name: wishlist-deployment

labels:

app: wishlist

spec:

replicas: 3 #We always want more than 1 replica for HA

selector:

matchLabels:

app: wishlist

template:

metadata:

labels:

app: wishlist

spec:

containers:

- name: wishlist #1st container

image: karthequian/wishlist:1.0 #Dockerhub image

ports:

- containerPort: 8080 #Exposes the port 8080 of the container

env:

- name: PORT #Env variable key passed to container that is read by app

value: "8080" # Value of the env port.

- name: catalog #2nd container

image: karthequian/wishlist-catalog:1.0

ports:

- containerPort: 8081

env:

- name: PORT

value: "8081"

- name: auth #3rd container

image: karthequian/wishlist-auth:1.0

ports:

- containerPort: 8082

env:

- name: PORT

value: "8082"

---

kind: Service

apiVersion: v1

metadata:

name: wishlist-service

namespace: default

spec:

type: LoadBalancer

selector:

app: wishlist

ports:

- name: wishlist-port

protocol: TCP

port: 8081

targetPort: 8080

- name: wishlist-auth-port

protocol: TCP

port: 8082

targetPort: 8081

- name: wishlist-catalog-port

protocol: TCP

port: 8083

targetPort: 8082

Create the service and pods

**kubectl create -f wishlist-deployment.yaml**