Day 9 Exercises

Exercise 1

Time: 20 mins.

1. Download and install Kubernetes
2. Enable dashboard
3. Obtain token
4. Login in dashboard

Answer

1. Goto the https://microk8s.io/docs/install-alternatives site or follow your instructor indications and install microk8s
2. Review that the service is started
3. use microk8s start if not or if you are in doubt
4. microk8s enable dashboard (in linux use sudo)
5. microk8s dashboard-proxy
6. copy the token
7. open the fiven URL as part of the response of the last command
8. If needed acept to continue due the self signed certificated
9. use the token value to login

Exercise 2

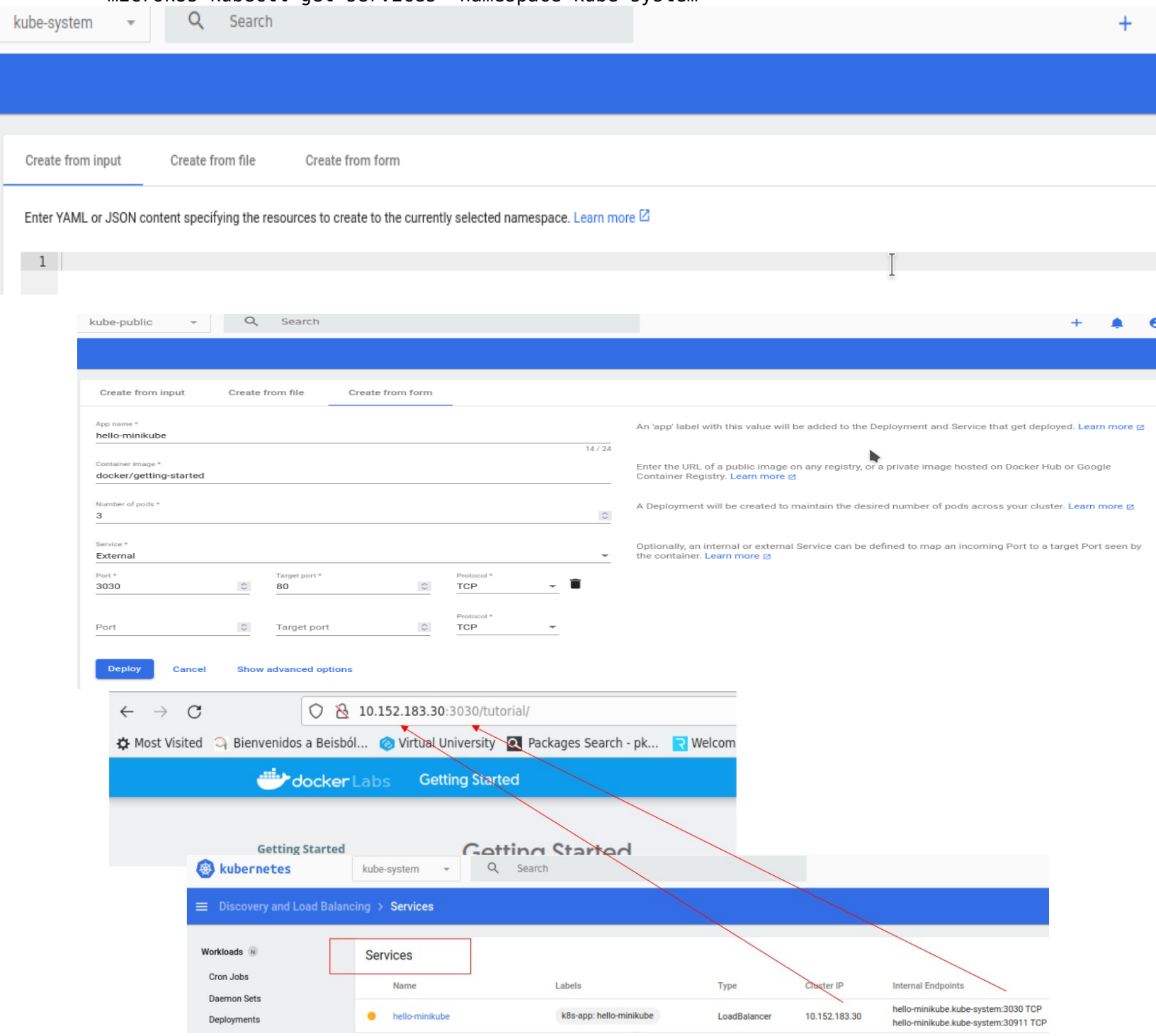
Time: 15 mins.

Creating your first service

1. List the active services for the system namespace
2. Create a service using the docker getting-started image
3. Make the service to expose a port to reach it
4. Create 3 pods on your services

Answer

```
microk8s kubectl get services –namespace kube-system
```



Exercise 3

Time 60 min

1. Create the followin Dockerfile in your exercise directory

```
FROM alpine as HUGO

ENV HUGO_VERSION="0.81.0"

RUN apk add --update wget

# Install Hugo.
RUN wget --quiet https://github.com/gohugoio/hugo/releases/download/v${HUGO_VERSION}/hugo_${HUGO_VERSION}_Linux-64bit.tar.gz && \
    tar -xf hugo_${HUGO_VERSION}_Linux-64bit.tar.gz && \
    mv hugo /usr/local/bin/hugo && \
    rm -rf hugo_${HUGO_VERSION}_Linux-64bit.tar.gz

COPY . /hugo-site

# Use Hugo to build the static site files.
RUN hugo -v --source=/hugo-site --destination=/hugo-site/public

FROM bitnami/nginx:latest
COPY --from=HUGO /hugo-site/public/ /opt/bitnami/nginx/html/

# The container will listen on port 8080 (non-privileged) using the TCP protocol.
EXPOSE 8080
```

2. build the docker image
3. review that the image is recognized by docker
4. Run instance in docker
5. Review the website is running

6. create the following deployment.yaml file

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: hugo-site
  labels:
    app: hugo-site
    tier: frontend
spec:
  replicas: 2
  selector:
    matchLabels:
      app: hugo-site
      tier: frontend
  template:
    metadata:
      labels:
        app: hugo-site
        tier: frontend
    spec:
      containers:
      - name: hugosite
        image: eduk8s-labs-w08-s119-registry.kube-prod-blue5-bf4a136.kubeacademy.esp.vmware.com/hugo-site:v1
        securityContext:
          runAsNonRoot: true
        ports:
- containerPort: 8080
```

7. create the kubernet deployment

8. create the service using service.yaml

```
apiVersion: v1
kind: Service
metadata:
  name: hugo-site
  labels:
    app: hugo-site
    tier: frontend
spec:
  type: ClusterIP
  ports:
  - protocol: TCP
    port: 80
    targetPort: 8080
  selector:
    app: hugo-site
    tier: frontend
```

9. Create the service
10. list services
11. Access your site
12. List your endpoint

Answer

docker build -t hugo-site:v1 .

Docker images hugo-site:v1

docker run -d --rm --name hugo -p 8080:8080 hugo-site:v1

Go to the localhost:8080 on browser

Create the yaml file

microk8s kubectl apply -f deployment.yaml

Create service.yaml

microk8s kubectl apply -f service.yaml

microk8s kubectl get service

use the browser

microk8s kubectl get endpoints