

Auf - 106

Kubernetes local setup By Minikube

- 1) Install 'minikube' based on your operating system.
- 2) Install 'kubectl' and 'kompose'
- 3) Create a project and dockerize it using docker-compose file:

```
[ankitrajput@197BLRMB25769 app_docker_compose % cat my-docker-compose.yml
version: "3"
services:
  backend:
    image: ankitrajput/simplespringapp:1.0
    restart: always
    ports:
      - "8080:8080"
    labels:
      kompose.service.type: LoadBalancer
ankitrajput@197BLRMB25769 app_docker_compose % ]
```

NOTE

- 4) Convert the 'docker-compose' file to Kubernetes 'service' and 'deployment' files using 'kompose'

```
[ankitrajput@197BLRMB25769 temp % kompose -f my-docker-compose.yml convert
INFO Kubernetes file "backend-service.yaml" created
INFO Kubernetes file "backend-deployment.yaml" created
ankitrajput@197BLRMB25769 temp % ]
```

- 5) Now, define 'ingress' service which will act as load-balancer for the application:

```

ankitrajput@197BLRMB25769 app_docker_compose % cat ingress-service.yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: ingress-service
  annotations:
    nginx.ingress.kubernetes.io/rewrite-target: /$1
spec:
  rules:
  - http:
    paths:
    - path: /(.*)
      pathType: Prefix
      backend:
        service:
          name: backend
          port:
            number: 8080
ankitrajput@197BLRMB25769 app_docker_compose %

```

b) Now, start the 'minikube' and deploy the application

```

[ankitrajput@197BLRMB25769 app_docker_compose % minikube start --vm=true
└─
  minikube v1.15.1 on Darwin 18.15.7
  Automatically selected the hyperkit driver
  Starting control plane node minikube in cluster minikube
  Creating hyperkit VM (CPUs=2, Memory=4000MB, Disk=20000MB) ...
  Preparing Kubernetes v1.19.4 on Docker 19.03.13 ...
  Verifying Kubernetes components...
  Enabled addons: storage-provisioner, default-storageclass
  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
[ankitrajput@197BLRMB25769 app_docker_compose % minikube addons enable ingress
└─
  Verifying ingress addon...
  ★ The 'ingress' addon is enabled
[ankitrajput@197BLRMB25769 app_docker_compose % kubectl apply -f backend-deployment.yaml
└─
  deployment.apps/backend created
[ankitrajput@197BLRMB25769 app_docker_compose % kubectl apply -f backend-service.yaml
└─
  service/backend created
[ankitrajput@197BLRMB25769 app_docker_compose % kubectl apply -f ingress-service.yaml
└─
  ingress.networking.k8s.io/ingress-service created
[ankitrajput@197BLRMB25769 app_docker_compose % kubectl get ingress
└─
  Warning: extensions/v1beta1 Ingress is deprecated in v1.14+, unavailable in v1.22+; use networking.k8s.io/v1 Ingress
  NAME     CLASS   HOSTS   ADDRESS   PORTS   AGE
  ingress-service <none> *       80       14s
[ankitrajput@197BLRMB25769 app_docker_compose % kubectl get ingress
└─
  Warning: extensions/v1beta1 Ingress is deprecated in v1.14+, unavailable in v1.22+; use networking.k8s.io/v1 Ingress
  NAME     CLASS   HOSTS   ADDRESS   PORTS   AGE
  ingress-service <none> *       80       28s
[ankitrajput@197BLRMB25769 app_docker_compose % kubectl get ingress
└─
  Warning: extensions/v1beta1 Ingress is deprecated in v1.14+, unavailable in v1.22+; use networking.k8s.io/v1 Ingress
  NAME     CLASS   HOSTS   ADDRESS   PORTS   AGE
  ingress-service <none> *       192.168.64.11 80       47s
[ankitrajput@197BLRMB25769 app_docker_compose % curl --request GET '192.168.64.11'
└─
  hello friends its working!
[ankitrajput@197BLRMB25769 app_docker_compose % curl --request GET '192.168.64.11/topics'
└─
  [{"id": "spring", "name": "springFramework", "description": "spring framework is awesome"}, {"id": "java", "name": "core java", "description": "java is very best in it's field"}, {"id": "javascript", "name": "basic javascript", "description": "javascript is not so good"}]
[ankitrajput@197BLRMB25769 app_docker_compose % minikube delete deployment backend
└─
  X Exiting due to MK_USAGE: Usage: minikube delete

[ankitrajput@197BLRMB25769 app_docker_compose % minikube stop
└─
  Stopping node "minikube" ...
  1 nodes stopped.
[ankitrajput@197BLRMB25769 app_docker_compose % minikube delete
└─
  Deleting "minikube" in hyperkit ...
  Removed all traces of the "minikube" cluster.
[ankitrajput@197BLRMB25769 app_docker_compose %

```

