

Kubernetes in Docker (KinD)

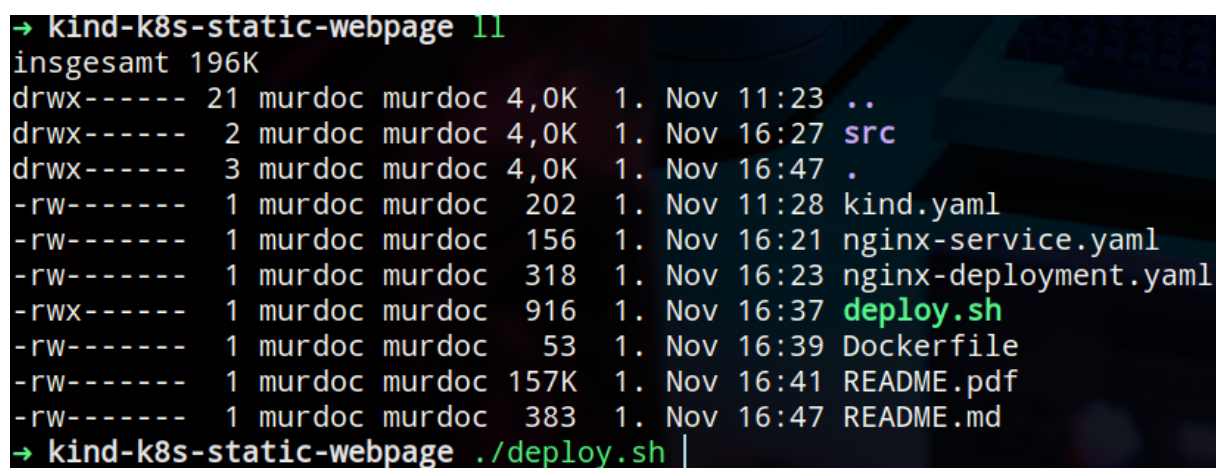
This project compiles a local Docker container and then deploys it to the kind cluster. Afterwards, the application and the service are deployed in the KinD-k8s cluster.

Prerequisites

The following components must be installed:

- docker
- kind
- kubectl

Deploy

A terminal window showing a directory listing for 'kind-k8s-static-webpage' and a deployment command. The listing shows files like 'src', 'kind.yaml', 'nginx-service.yaml', 'nginx-deployment.yaml', 'deploy.sh', 'Dockerfile', 'README.pdf', and 'README.md'. The command at the bottom is 'kind-k8s-static-webpage ./deploy.sh |'.

```
→ kind-k8s-static-webpage ll
insgesamt 196K
drwx----- 21 murdoc murdoc 4,0K 1. Nov 11:23 ..
drwx----- 2 murdoc murdoc 4,0K 1. Nov 16:27 src
drwx----- 3 murdoc murdoc 4,0K 1. Nov 16:47 .
-rw----- 1 murdoc murdoc 202 1. Nov 11:28 kind.yaml
-rw----- 1 murdoc murdoc 156 1. Nov 16:21 nginx-service.yaml
-rw----- 1 murdoc murdoc 318 1. Nov 16:23 nginx-deployment.yaml
-rwx----- 1 murdoc murdoc 916 1. Nov 16:37 deploy.sh
-rw----- 1 murdoc murdoc 53 1. Nov 16:39 Dockerfile
-rw----- 1 murdoc murdoc 157K 1. Nov 16:41 README.pdf
-rw----- 1 murdoc murdoc 383 1. Nov 16:47 README.md
→ kind-k8s-static-webpage ./deploy.sh |
```

Abbildung 1: image_2021-11-01-16-48-39

Start the deployment with

```
deploy.sh
```

Destroy cluster

Getting rid of a KinD cluster

```
kind delete cluster
```

kubectl

```
→ kind-k8s-static-webpage k get all -A
```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
default	pod/nginx-deployment-7c85dc44d4-4nsqv	1/1	Running	0	22m
default	pod/nginx-deployment-7c85dc44d4-9bflx	1/1	Running	0	22m
kube-system	pod/coredns-558bd4d5db-d872f	1/1	Running	0	22m
kube-system	pod/coredns-558bd4d5db-xn6f8	1/1	Running	0	22m
kube-system	pod/etcd-kind-control-plane	1/1	Running	0	22m
kube-system	pod/kindnet-hx2tg	1/1	Running	0	22m
kube-system	pod/kindnet-jqmmh	1/1	Running	0	22m
kube-system	pod/kindnet-p6s48	1/1	Running	0	22m
kube-system	pod/kube-apiserver-kind-control-plane	1/1	Running	0	22m
kube-system	pod/kube-controller-manager-kind-control-plane	1/1	Running	0	22m
kube-system	pod/kube-proxy-45lmp	1/1	Running	0	22m
kube-system	pod/kube-proxy-fb2j8	1/1	Running	0	22m
kube-system	pod/kube-proxy-mmvr5	1/1	Running	0	22m
kube-system	pod/kube-scheduler-kind-control-plane	1/1	Running	0	22m
local-path-storage	pod/local-path-provisioner-547f784dff-t8csl	1/1	Running	0	22m

NAMESPACE	NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
default	service/kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	23m
default	service/nginx-service	NodePort	10.96.173.59	<none>	80:32427/TCP	22m
kube-system	service/kube-dns	ClusterIP	10.96.0.10	<none>	53/UDP,53/TCP,9153/TCP	23m

NAMESPACE	NAME	DESIRED	CURRENT	READY	UP-TO-DATE	AVAILABLE	NODE SELECTOR	AGE
kube-system	daemonset.apps/kindnet	3	3	3	3	3	<none>	22m
kube-system	daemonset.apps/kube-proxy	3	3	3	3	3	kubernetes.io/os=linux	23m

NAMESPACE	NAME	READY	UP-TO-DATE	AVAILABLE	AGE
default	deployment.apps/nginx-deployment	2/2	2	2	22m
kube-system	deployment.apps/coredns	2/2	2	2	23m
local-path-storage	deployment.apps/local-path-provisioner	1/1	1	1	22m

NAMESPACE	NAME	DESIRED	CURRENT	READY	AGE
default	replicaset.apps/nginx-deployment-7c85dc44d4	2	2	2	22m
kube-system	replicaset.apps/coredns-558bd4d5db	2	2	2	22m
local-path-storage	replicaset.apps/local-path-provisioner-547f784dff	1	1	1	22m

```
→ kind-k8s-static-webpage | (master) kind-k8s-static-webpage
```

Abbildung 2: image_2021-11-01-16-59-07,p