Minikube

Install Kubernetes CLI

> brew install kubernetes-cli

Install kubectl

> brew install kubectl

Enabling shell autocompletion

> brew install bash-completion

> kubectl completion bash > $(brew --prefix)/etc/bash_completion.d/kubectl

Install Minikube

Minikube runs a single-node Kubernetes cluster inside a VM on your laptop for users looking to try out Kubernetes or develop with it day-to-day.

Install minikube

> curl -Lo minikube https://storage.googleapis.com/minikube/releases/v0.26.1/minikube-darwin-amd64 && chmod +x minikube && sudo mv minikube /usr /local/bin/

Start minikube

> minikube start

Start a Version of Kubernetes with Pod Security Policies Enabled

>minikube start --extra-config=apiserver.enable-admission-plugins=PodSecurityPolicy --addons=pod-security-policy --driver=docker --alsologtostderr --kubernetes-version=v1.21.5

Other commands:

Command (minikube <command>	Description
start	Start minikube cluster
stop	Stop minikube cluster
status	Get status of minikube
dashboard	Opens/displays the kubernetes dashboard URL for your local cluster
ssh	Log into or run a command on a machine with SSH; similar to 'docker-machine ssh'
load image <image>:<tag>	Load a docker image into minikube
help	Display help

Running a Sample

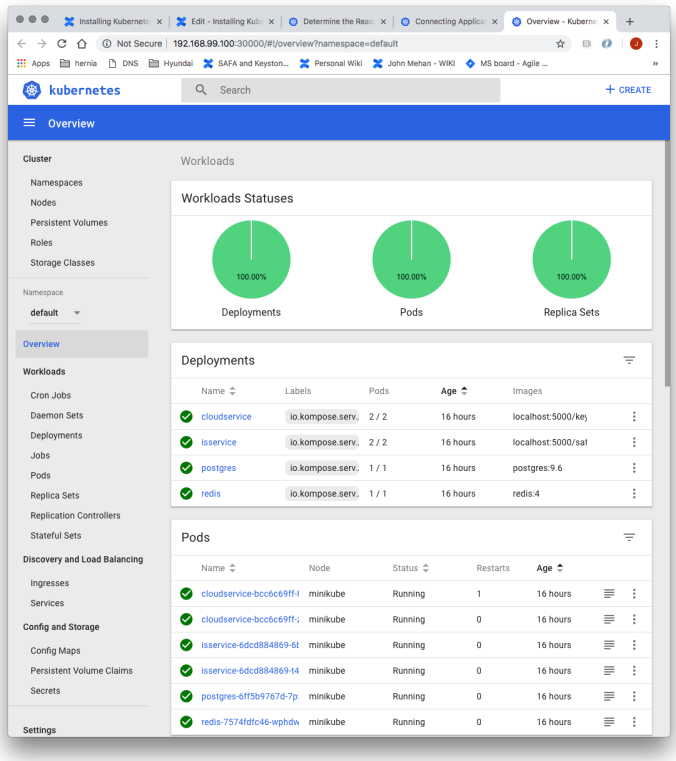
```
$ minikube start
Starting local Kubernetes cluster...
Running pre-create checks...
Creating machine...
Starting local Kubernetes cluster...

$ kubectl run hello-minikube --image=k8s.gcr.io/echoserver:1.4 --port=8080
deployment "hello-minikube" created
$ kubectl expose deployment hello-minikube --type=NodePort
service "hello-minikube" exposed

# We have now launched an echoserver pod but we have to wait until the pod is up before curling/accessing it
# via the exposed service.
# To check whether the pod is up and running we can use the following:
$ kubectl get pod
NAME                              READY     STATUS              RESTARTS   AGE
hello-minikube-3383150820-vctvh   0/1       ContainerCreating   0          3s
# We can see that the pod is still being created from the ContainerCreating status
$ kubectl get pod
NAME                              READY     STATUS    RESTARTS   AGE
hello-minikube-3383150820-vctvh   1/1       Running   0          13s
# We can see that the pod is now Running and we will now be able to curl it:
$ curl $(minikube service hello-minikube --url)
CLIENT VALUES:
client_address=192.168.99.1
command=GET
real path=/
...
$ kubectl delete services hello-minikube
service "hello-minikube" deleted
$ kubectl delete deployment hello-minikube
deployment "hello-minikube" deleted
$ minikube stop
Stopping local Kubernetes cluster...
Stopping "minikube"...
```

Open up the Dashboard

> minikube dashboard



Tips and Tricks

Set Docker Host to Minikube

```
eval $(minikube docker-env)
```

This above command will do the following:

```
export DOCKER_TLS_VERIFY="1"
export DOCKER_HOST="tcp://127.0.0.1:58211"
export DOCKER_CERT_PATH="/Users/john/.minikube/certs"
export MINIKUBE_ACTIVE_DOCKERD="minikube"
```

Copying Images to Minikube

```
minikube image load cybersecuritydome/kafka-stream-operator:22.0.1-SNAPSHOT
```

References

Reference	URL

Installing Kubernetes	https://kubernetes.io/docs/tasks/tools/install-kubectl/
Minikube	https://github.com/kubernetes/minikube/releases
Getting started with Minikube	https://kubernetes.io/docs/getting-started-guides/minikube/#installation
Minikube Quickstart	https://kubernetes.io/docs/getting-started-guides/minikube/#quickstart