

# Kubernetes (K8) Faststart - macOS

Inspired by <https://kubernetes.io/docs/tutorials/hello-minikube/>

## Prerequisites

Either [Docker](#) (additional requirements, see notes below) or [VirtualBox](#)

## Tools

**kubectl** is a command line interface for running commands against Kubernetes clusters.

```
brew install kubernetes-cli
```

**Minikube** is a tool that makes it easy to run Kubernetes locally. Minikube runs a single-node Kubernetes cluster inside a VM on your machine.

```
brew cask install minikube
```

## Install and start a Kubernetes cluster

- (VirtualBox) `minikube start`
- (Docker) `minikube start --vm-driver=hyperkit`

## Application deploy

### Create node.js server

```
File: server.js

var http = require('http');

var handleRequest = function(request, response) {
  console.log('Received request for URL: ' + request.url);
  response.writeHead(200);
  response.end('Hello World!');
};

var www = http.createServer(handleRequest);
www.listen(8080);
```

### Create a Docker image

```
File: Dockerfile

FROM node:6.14.2
EXPOSE 8080
COPY server.js .
CMD node server.js
```

Point docker tools to docker registry running in minikube

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

### Build image (remember the trailing '.')

```
docker build -t hello-node:v1 .
```

### Create a Deployment to manage a Pod that has a Container that runs the image (!)

```
kubectl run hello-node --image=hello-node:v1 --port=8080 --image-pull-policy=Never
```

### Make the Pod accessible publicly as a Service

```
kubectl expose deployment hello-node --type=LoadBalancer
```

### See all your hard work - (opens console in local browser)

```
minikube service hello-node
```

### Stop the 'minikube' cluster

```
minikube stop
```

## Other notes

### Minikube and Docker

Minikube requires the 'docker-machine-driver-hyperkit' driver to run with Docker.

**Don't** install using 'brew install ...'. Homebrew installs too much.

Instead

```
curl -LO https://storage.googleapis.com/minikube/releases/latest/docker-machine-driver-hyperkit
&& sudo install -o root -g wheel -m 4755 docker-machine-driver-hyperkit /usr/local/bin/
```