# Kubenetes setup (Linux)

Install curl if not already installed:

```
sudo apt install curl
```

Install docker if not already installed”

```
sudo apt install docker.io
```

Install kubectl:

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/`curl -s https://storage.googleapis.com/kubernetes-release/release/stable.txt`/bin/linux/amd64/kubectl

chmod +x ./kubectl

sudo mv ./kubectl /usr/local/bin/kubectl
```

Install Minikube:

```
curl -Lo minikube https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64 \
&& chmod +x minikube

sudo mkdir -p /usr/local/bin/

sudo install minikube /usr/local/bin/

start minikube

sudo minikube start –vm-driver=none (if you install on a laptop

sudo minikube start
```

Create deployment:

```
sudo kubectl create deployment hello-minikube
--image=k8s.gcr.io/echoserver:1.10

sudo kubectl expose deployment hello-minikube --type=NodePort --port=8080

check pod status

sudo kubectl get pod
```

Start/Stop Commands:

```
sudo minikube start/stop (start / stop cluster)

sudo kubectl delete services hello-minikube
```

changing number of replica:

```
sudo kubectl scale deployment hello-minikube –replicas=2

sudo kubectl get pod
```

kill a pod:

```
sudo kubectl delete pods hello-minikube-797f975945-9b7cl
```

To clean up / delete a cluster:

```
sudo kubectl delete services hello-minikube

sudo kubectl delete deployment hello-minikube
```

https://kubernetes.io/docs/setup/learning-environment/minikube/

https://kubernetes.io/docs/reference/kubectl/cheatsheet/

Selenium docker on Kubenetes

After you have a minikube cluster:

create a service for selenium hub:
sudo kubectl run selenium-hub --image selenium/hub:3.10.0 --port 4444

spin up Chrome nodes:
sudo kubectl run selenium-node-chrome --image selenium/node-chrome:3.10.0
--env="HUB_PORT_4444_TCP_ADDR=selenium-hub" --env="HUB_PORT_4444_TCP_PORT=4444"
spin up Firefox nodes:
kubectl run selenium-node-firefox --image selenium/node-firefox:3.10.0
--env="HUB_PORT_4444_TCP_ADDR=selenium-hub" --env="HUB_PORT_4444_TCP_PORT=4444"

scale up:
Sudo kubectl scale deployment selenium-node-firefox --replicas=4

expose selenium hub services
kubectl expose deployment selenium-hub --type=NodePort
to find the port:
sudo minikube service selenium-hub --url

to access selenium hub console:
http://10.0.0.28:31482/grid/console

To determine the url to access the grid in your code:
sudo kubectl describe service selenium-hub
(selenium-hub is your deployment name)

https://medium.com/@subbarao.pilla/k8s-selenium-grid-selenium-grid-with-docker-on-kubernetes-42af8b9a2cba

Note:

Each time the deployment is started, it remembers information like the number of replicas etc from last time it was running, service url, url to point to for the selenium hub etc

Setup Selenium for Python on Linux

https://opensource.com/article/17/6/set-path-linux

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