

TASK 3 – MiniKube

Step 1: MiniKube Start

Start the minikube using

“ minikube start ”

And check the status If the minikube is installed or not.

```
thrishal@PTOP-21KHW221:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
nginx          latest   53a18edff889   6 weeks ago   192MB
ubuntu         latest   a8bdc4851cbc   7 weeks ago   78.1MB
hello-world    latest   74cc54e27dc4   8 weeks ago   10.1kB

thrishal@PTOP-21KHW221:~$ minikube start
👉 minikube v1.35.0 on Ubuntu 24.04 (amd64)
🔧 Automatically selected the docker driver
🔧 Using Docker driver with root privileges
💡 For an improved experience it's recommended to use Docker Engine instead of Docker Desktop.
Docker Engine installation instructions: https://docs.docker.com/engine/install/#server
🔥 Starting "minikube" primary control-plane node in "minikube" cluster
📥 Pulling base image v0.0.46 ...
📥 Downloading Kubernetes v1.32.0 preload ...
   > preloaded-images-k8s-v18-v1... 333.57 MiB / 333.57 MiB 100.00% 637.36
   > gcr.io/k8s-minikube/kicbase... 500.31 MiB / 500.31 MiB 100.00% 945.15
🔥 Creating docker container (CPUs=2, Memory=2200MB) ...
🔧 Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
   * Generating certificates and keys ...
   * Booting up control plane ...
   * Configuring RBAC rules ...
🔧 Configuring bridge CNI (Container Networking Interface) ...
🔧 Verifying Kubernetes components...
   * Using image gcr.io/k8s-minikube/storage-provisioner:v5
   * Enabled addons: storage-provisioner, default-storageclass
🔥 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default

thrishal@PTOP-21KHW221:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
```

Step 2: Install kubectl

Install kubectl and get nodes present in it and show the docker images. Create deployment named r1 and get pods.

```
thrishal@PTOP-21KHW221:~$ curl -LO "https://dl.k8s.io/release/${curl -L -s https://dl.k8s.io/release/stable.txt}/bin/linux/amd64/kubectl"
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 138 100 138 0 0 288 0 --:--:-- --:--:-- 279
100 54.6M 100 54.6M 0 0 4185k 0 0:00:13 0:00:13 --:--:-- 5149k

thrishal@PTOP-21KHW221:~$ chmod +x kubectl
thrishal@PTOP-21KHW221:~$ sudo mv kubectl /usr/local/bin/
[sudo] password for thrishal:
Client Version: v1.32.3
Kustomize Version: v5.5.0

thrishal@PTOP-21KHW221:~$ source <(kubectl completion bash) >> ~/.bashrc
source ~/.bashrc

thrishal@PTOP-21KHW221:~$ kubectl get nodes
NAME STATUS ROLES AGE VERSION
minikube Ready control-plane 6m24s v1.32.0

thrishal@PTOP-21KHW221:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
nginx          latest   53a18edff889   6 weeks ago   192MB
ubuntu         latest   a8bdc4851cbc   7 weeks ago   78.1MB
hello-world    latest   74cc54e27dc4   8 weeks ago   10.1kB
gcr.io/k8s-minikube/kicbase v0.0.46 e72c6be9b29 2 months ago 1.21GB

thrishal@PTOP-21KHW221:~$ kubectl create deployment r1 --image=thrishal012/devops-image --port=80
error: invalid argument "80" for "--port" flag: strconv.ParseInt: parsing "80": invalid syntax
See 'kubectl create deployment --help' for usage

thrishal@PTOP-21KHW221:~$ kubectl create deployment r1 --image=thrishal012/devops-image --port=80
deployment.apps/r1 created

thrishal@PTOP-21KHW221:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
r1-647b6577f9-f4096 1/1 Running 0 47s

thrishal@PTOP-21KHW221:~$ minikube service r1
❌ Exiting due to SVC_NOT_FOUND: Service 'r1' was not found in 'default' namespace.
You may select another namespace by using 'minikube service r1 -n <namespace>'. Or list out all the services using 'minikube service list'

thrishal@PTOP-21KHW221:~$ kubectl expose deployment r1 --port=80 --type=NodePort
service/r1 exposed

thrishal@PTOP-21KHW221:~$ minikube service r1
```

NAMESPACE	NAME	TARGET PORT	URL
default	r1	80	http://192.168.49.2:30136

Step 3: Exposing

Expost the deployment and show the services in minikube and copy the url shown.

```
See 'kubectl create deployment --help' for usage.
thrishah@APTOP-21H4K221:~$ kubectl create deployment r1 --image=thrishah1012/devops-image --port=80
deployment.apps/r1 created
thrishah@APTOP-21H4K221:~$ kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
r1-4c7b677f9-fv896   1/1     Running   0          47s
thrishah@APTOP-21H4K221:~$ minikube service r1
✖ Exiting due to SVC_NOT_FOUND: Service 'r1' was not found in 'default' namespace.
You may select another namespace by using 'minikube service r1 -n <namespace>'. Or list out all the services using 'minikube service list'
thrishah@APTOP-21H4K221:~$ kubectl expose deployment r1 --port=80 --type=NodePort
service/r1 exposed
thrishah@APTOP-21H4K221:~$ minikube service r1

```

NAMESPACE	NAME	TARGET PORT	URL
default	r1	80	http://192.168.49.2:38136

```

Starting tunnel for service r1.

```

NAMESPACE	NAME	TARGET PORT	URL
default	r1		http://127.0.0.1:36515

```

Opening service default/r1 in default browser...
http://127.0.0.1:36515
! Because you are using a Docker driver on Linux, the terminal needs to be open to run it.

```

Step 4: Output

Paste the url copied in the browser and it will display the webpage.

