

TASK 3 - Minikube Deployment Task

1) Installation of kubectl :

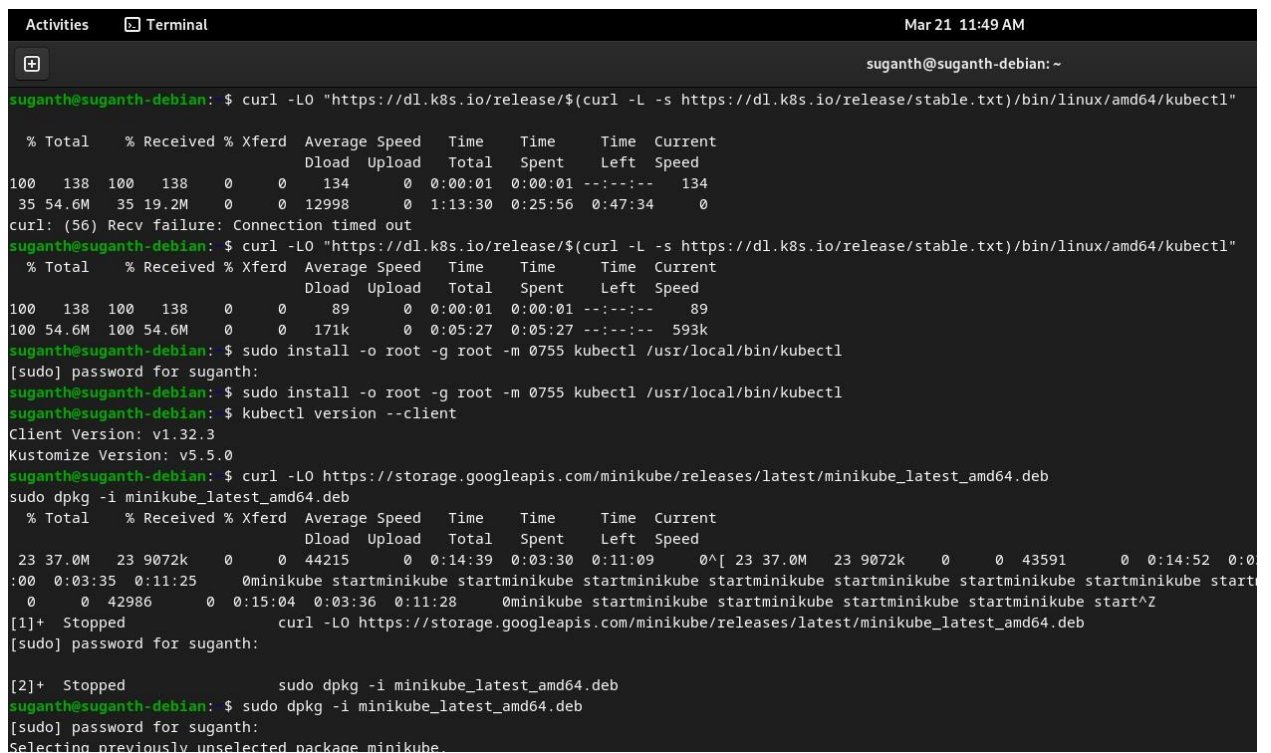
COMMAND:

```
curl -LO "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl"
```

```
sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl
```

```
kubectl version --client
```

SCREENSHOT :



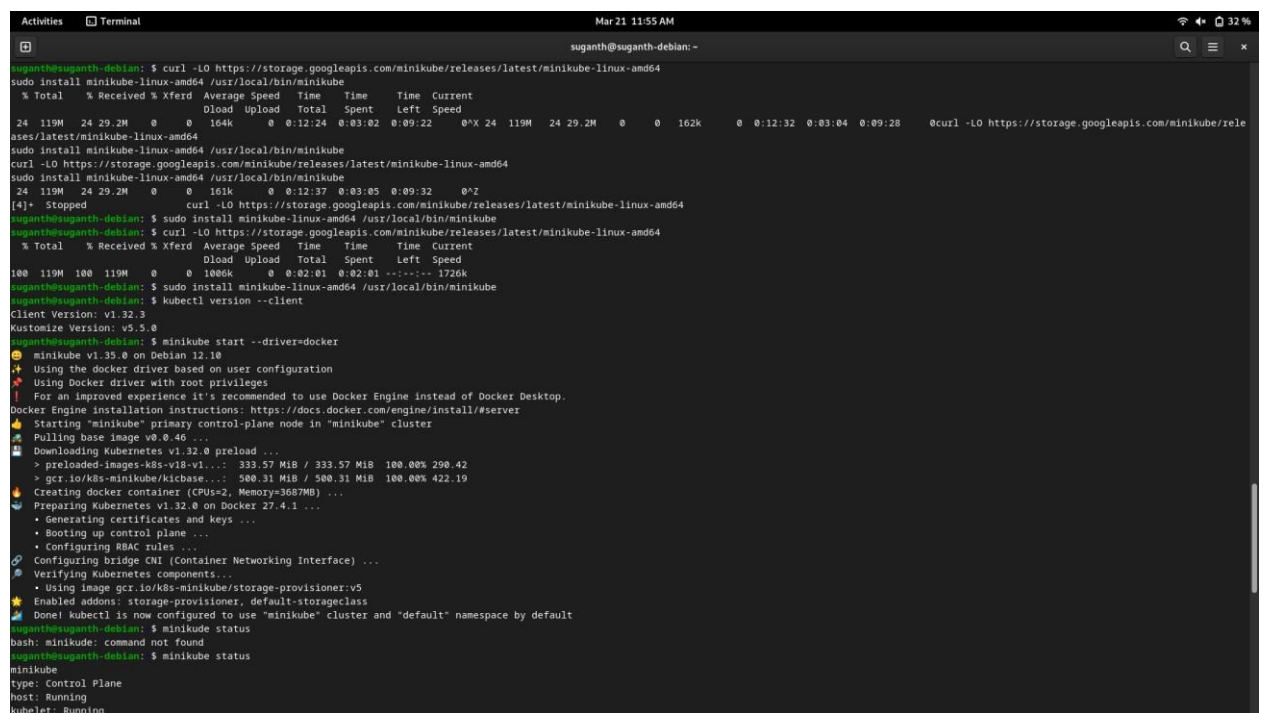
```
Activities Terminal Mar 21 11:49 AM
suganth@suganth-debian: ~
suganth@suganth-debian: $ curl -LO "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl"
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 138 100 138 0 0 134 0 0:00:01 0:00:01 --:--:-- 134
35 54.6M 35 19.2M 0 0 12998 0 1:13:30 0:25:56 0:47:34 0
curl: (56) Recv failure: Connection timed out
suganth@suganth-debian: $ 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 Time Current
Dload Upload Total Spent Left Speed
100 138 100 138 0 0 89 0 0:00:01 0:00:01 --:--:-- 89
100 54.6M 100 54.6M 0 0 171k 0 0:05:27 0:05:27 --:--:-- 593k
suganth@suganth-debian: $ sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl
[sudo] password for suganth:
suganth@suganth-debian: $ sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl
suganth@suganth-debian: $ kubectl version --client
Client Version: v1.32.3
Kustomize Version: v5.5.0
suganth@suganth-debian: $ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube_latest_amd64.deb
sudo dpkg -i minikube_latest_amd64.deb
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
23 37.0M 23 9072k 0 0 44215 0 0:14:39 0:03:30 0:11:09 0^[ 23 37.0M 23 9072k 0 0 43591 0 0:14:52 0:0
:00 0:03:35 0:11:25 0minikube startminikube startminikube startminikube startminikube startminikube startminikube start
0 0 42986 0 0:15:04 0:03:36 0:11:28 0minikube startminikube startminikube startminikube startminikube start^Z
[1]+ Stopped curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube_latest_amd64.deb
[sudo] password for suganth:
[2]+ Stopped sudo dpkg -i minikube_latest_amd64.deb
suganth@suganth-debian: $ sudo dpkg -i minikube_latest_amd64.deb
[sudo] password for suganth:
Selecting previously unselected package minikube.
```

2) Installation of Minikube:

COMMAND:

```
sudo apt install -y curl apt-transport-https conntrack curl -LO
https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64 sudo
install minikube-linux-amd64 /usr/local/bin/minikube minikube start --driver=docker
minikube status
```

SCREENSHOT :



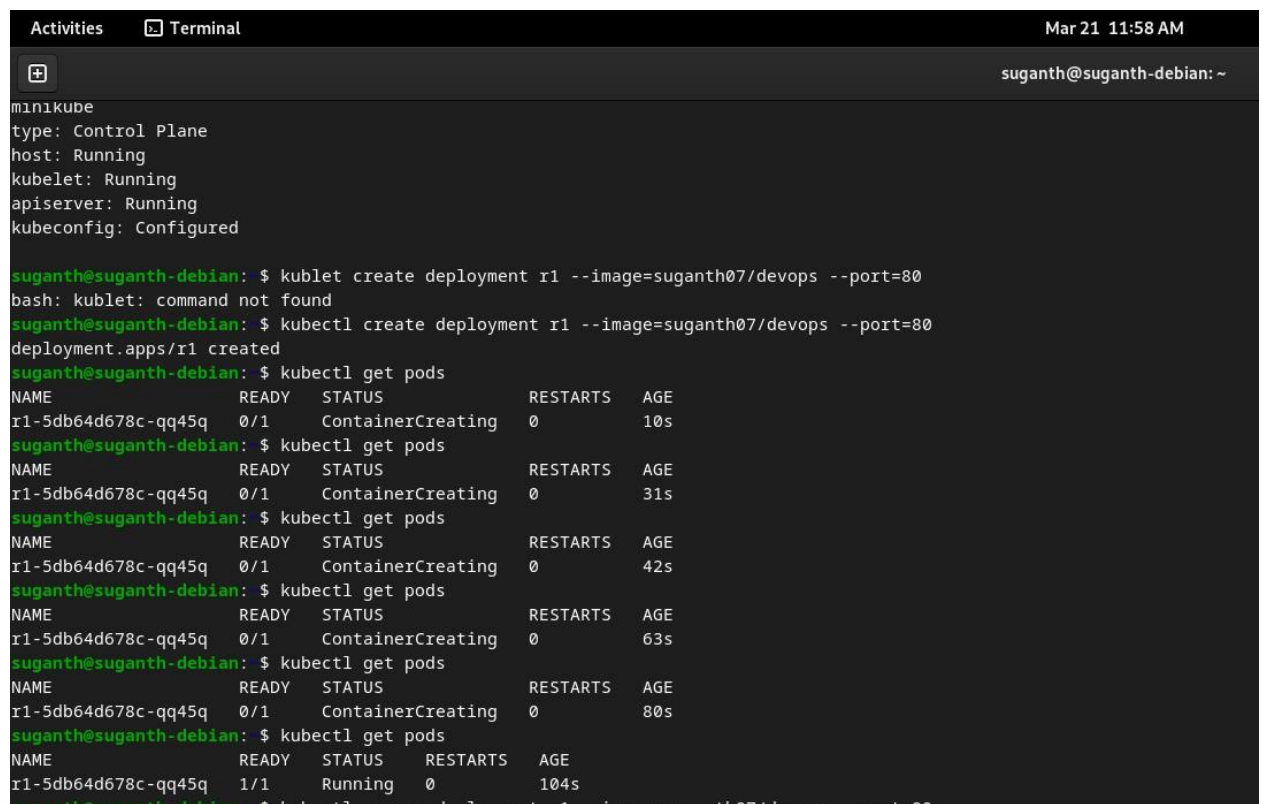
```
Activities Terminal Mar 21 11:55 AM
suganth@suganth-debian: ~
suganth@suganth-debian: ~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube
suganth@suganth-debian: ~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube
suganth@suganth-debian: ~$ sudo install minikube-linux-amd64 /usr/local/bin/minikube
suganth@suganth-debian: ~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
suganth@suganth-debian: ~$ sudo install minikube-linux-amd64 /usr/local/bin/minikube
suganth@suganth-debian: ~$ kubectl version --client
Client Version: v1.32.3
Kustomize Version: v5.5.0
suganth@suganth-debian: ~$ minikube start --driver=docker
🔧 minikube v1.35.0 on Debian 12.10
👉 Using the docker driver based on user configuration
👉 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
📥 Polling base image v0.0.46 ...
📥 Downloading Kubernetes v1.32.0 preload ...
> preloaded-images-k8s-v18-v1...: 333.57 MiB / 333.57 MiB 100.00% 290.42
> gcr.io/k8s-minikube/kicbase...: 500.31 MiB / 500.31 MiB 100.00% 422.19
🔥 Creating docker container (CPU=2, Memory=3687MB) ...
📦 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
suganth@suganth-debian: ~$ minikube status
bash: minikube: command not found
suganth@suganth-debian: ~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
```

3) Then Create a deployment for the docker hub image using this command and get the pods.

COMMAND:

```
kubectl create deployment r1 --image=suganth07/devops --  
port=80 kubectl get pods
```

SCREENSHOT :



The screenshot shows a terminal window with the following content:

```
Activities Terminal Mar 21 11:58 AM  
suganth@suganth-debian: ~  
minikube  
type: Control Plane  
host: Running  
kubelet: Running  
apiserver: Running  
kubeconfig: Configured  
  
suganth@suganth-debian: $ kubectl create deployment r1 --image=suganth07/devops --port=80  
bash: kubectl: command not found  
suganth@suganth-debian: $ kubectl create deployment r1 --image=suganth07/devops --port=80  
deployment.apps/r1 created  
suganth@suganth-debian: $ kubectl get pods  
NAME READY STATUS RESTARTS AGE  
r1-5db64d678c-qq45q 0/1 ContainerCreating 0 10s  
suganth@suganth-debian: $ kubectl get pods  
NAME READY STATUS RESTARTS AGE  
r1-5db64d678c-qq45q 0/1 ContainerCreating 0 31s  
suganth@suganth-debian: $ kubectl get pods  
NAME READY STATUS RESTARTS AGE  
r1-5db64d678c-qq45q 0/1 ContainerCreating 0 42s  
suganth@suganth-debian: $ kubectl get pods  
NAME READY STATUS RESTARTS AGE  
r1-5db64d678c-qq45q 0/1 ContainerCreating 0 63s  
suganth@suganth-debian: $ kubectl get pods  
NAME READY STATUS RESTARTS AGE  
r1-5db64d678c-qq45q 0/1 ContainerCreating 0 80s  
suganth@suganth-debian: $ kubectl get pods  
NAME READY STATUS RESTARTS AGE  
r1-5db64d678c-qq45q 1/1 Running 0 104s  
suganth@suganth-debian: $ kubectl expose deployment r1 --image=suganth07/devops --port=80
```

4) Then expose the deployment in that same port and run the service using minikube.

COMMAND:

kubectl expose deployment r1 --port=80 --type=NodePort

minikube service r1

SCREENSHOT:

```
suganth@suganth-debian:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
r1-5db64d678c-q45q                 0/1     ContainerCreating   0           10s
suganth@suganth-debian:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
r1-5db64d678c-q45q                 0/1     ContainerCreating   0           31s
suganth@suganth-debian:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
r1-5db64d678c-q45q                 0/1     ContainerCreating   0           42s
suganth@suganth-debian:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
r1-5db64d678c-q45q                 0/1     ContainerCreating   0           63s
suganth@suganth-debian:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
r1-5db64d678c-q45q                 0/1     ContainerCreating   0           88s
suganth@suganth-debian:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
r1-5db64d678c-q45q                 1/1     Running       0           104s
suganth@suganth-debian:~$ kubectl expose deployment r1 --image=suganth87/devops --port=80
error: unknown flag: --image
See 'kubectl expose --help' for usage.
suganth@suganth-debian:~$ kubectl expose deployment r1 --port=80 --type=NodePort
service/r1 exposed
suganth@suganth-debian:~$ minikube service r1
bash: minikube: command not found
suganth@suganth-debian:~$ minikube service r1
-----|-----|-----|-----|
| NAMESPACE | NAME | TARGET PORT | URL |
|-----|-----|-----|-----|
| default | r1 | 80 | http://192.168.49.2:32396 |
|-----|-----|-----|-----|
$ Starting tunnel for service r1.
-----|-----|-----|-----|
| NAMESPACE | NAME | TARGET PORT | URL |
|-----|-----|-----|-----|
| default | r1 | | http://127.0.0.1:36565 |
|-----|-----|-----|-----|
🔌 Opening service default/r1 in default browser...
! Because you are using a Docker driver on linux, the terminal needs to be open to run it.
Opening in existing browser session.
^[[1;20minikube status
```

5) Now our image will be hosted locally on the given url . Go to the browser and search for it.

SCREENSHOT :

