

## Task 4

Create a Kubernetes deployment in Minikube, define and apply deployment and service configurations in file.txt and expose.txt and expose the service to match the deployment pod label.

1. Open file.txt and adding Deployment YAML.

```
bala2005@Toxin:~$ vim file.txt
```

```
bala2005@Toxin: ~  
apiVersion: apps/v1  
kind: Deployment  
metadata:  
  labels:  
    app: test  
    name: test  
spec:  
  replicas: 1  
  selector:  
    matchLabels:  
      app: test  
  template:  
    metadata:  
      labels:  
        app: test  
    spec:  
      containers:  
      - name: test  
        image: balachandran2005/task2  
        imagePullPolicy: Always  
        ports:  
        - containerPort: 80  
          name: http  
          protocol: TCP
```

2. Open expose.txt and adding Service YAML.

```
bala2005@Toxin:~$ vim expose.txt
```

```
bala2005@Toxin: ~  
apiVersion: v1  
kind: Service  
metadata:  
  name: test-service # Corrected the name field  
  labels:  
    app: test  
spec:  
  selector:  
    app: test # Ensures it matches the label in the corresponding deployment/pod  
  ports:  
    - name: http  
      port: 80  
      protocol: TCP  
      targetPort: 80  
  type: NodePort # Exposes service on a node port
```

3. Applying the files.

```
bala2005@Toxin:~$ kubectl apply -f file.txt  
deployment.apps/test unchanged  
bala2005@Toxin:~$ kubectl apply -f expose.txt  
service/test-service unchanged
```

4. Finding the Minikube Service URL.

```
bala2005@Toxin:~$ minikube service test-service
```

| NAMESPACE | NAME         | TARGET PORT | URL                       |
|-----------|--------------|-------------|---------------------------|
| default   | test-service | http/80     | http://192.168.49.2:31135 |

```
Starting tunnel for service test-service.
```

| NAMESPACE | NAME         | TARGET PORT | URL                    |
|-----------|--------------|-------------|------------------------|
| default   | test-service |             | http://127.0.0.1:43727 |

```
Opening service default/test-service in default browser...  
http://127.0.0.1:43727  
! Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```

5. Final Output in the URL <http://127.0.0.1:43727>

