# Container Orchestration using Kubernetes

## solution

- Step 1: Ensure, all your pods are up and running before starting this project.

```
edureka@kmaster:~$ kubectl get pods --all-namespaces
NAMESPACE     NAME                                    READY     STATUS    RESTARTS   AGE
kube-system   calico-node-5894z                       2/2       Running   10         2h
kube-system   calico-node-mjw6w                       2/2       Running   0          25m
kube-system   etcd-kmaster                            1/1       Running   6          2h
kube-system   kube-apiserver-kmaster                  1/1       Running   7          2h
kube-system   kube-controller-manager-kmaster         1/1       Running   6          2h
kube-system   kube-dns-86f4d74b45-d8fl7               3/3       Running   15         2h
kube-system   kube-proxy-28d8l                        1/1       Running   5          2h
kube-system   kube-proxy-lxc7j                        1/1       Running   0          25m
kube-system   kube-scheduler-kmaster                  1/1       Running   6          2h
kube-system   kubernetes-dashboard-7d5dcdb6d9-q9plq   1/1       Running   5          2h
```

- Step 2: Build a deployment-backend.yaml for your Mongo DB, with the following code.

```
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: mongo
spec:
  replicas: 1
  template:
    metadata:
      labels:
        app: mongo
    spec:
      containers:
        - name: mongo
          image: mongo
          ports:
            - containerPort: 27017
```

- Step 2: Run the following code in the terminal:

```
kubectl create -f deploy-backend.yaml
```

```
edureka@kmaster:~$ kubectl create -f deploy-backend.yaml
deployment.extensions "mongo" created
```

- Step 3: Next, we will create a service for this deployment, run the following command:

```
kubectl create service clusterip mongo --tcp=27017:27017
```

```
edureka@kmaster:~$ kubectl create service clusterip mongo --tcp=27017:27017
service "mongo" created
```

- Step 2: Build a deployment-frontend.yaml for your front-end website, with the following code.

```
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: front-end
spec:
  replicas: 1
  template:
    metadata:
      labels:
        app: front-end
    spec:
      containers:
        - name: front-end
          image: devopsedu/employee
          ports:
            - containerPort: 8888
```

- Step 3: Run the following command on the terminal:

```
kubectl create -f deploy-frontend.yaml
```

```
edureka@kmaster:~$
edureka@kmaster:~$ kubectl create -f deployment-frontend.yaml
deployment.extensions "front-end" created
```

- Step 4: Next, we will create a service for this deployment, run the following command:

```
kubectl create service nodeport front-end --tcp=80:8888
```

```
edureka@kmaster:~$ kubectl create service nodeport front-end --tcp=80:8888
service "front-end" created
```

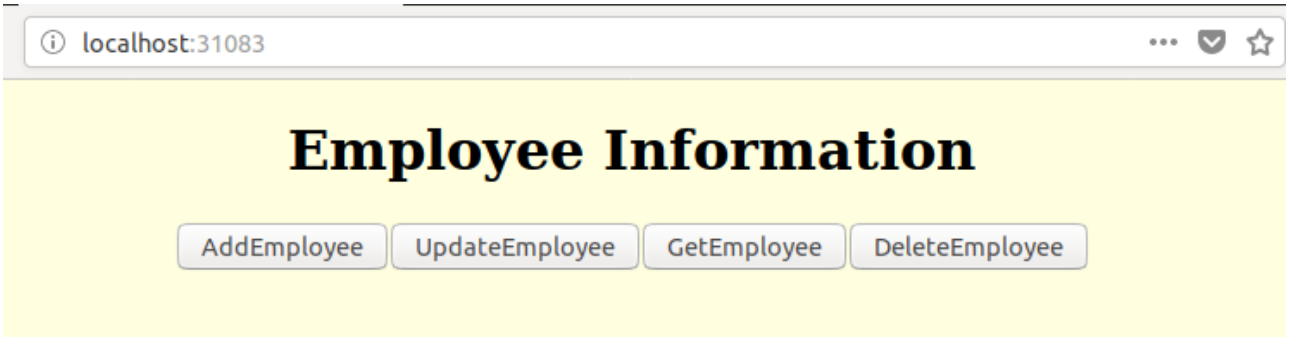
- Step 5: Enter the following command, to get the port number, where your front end will run.

```
kubectl get svc front-end
```

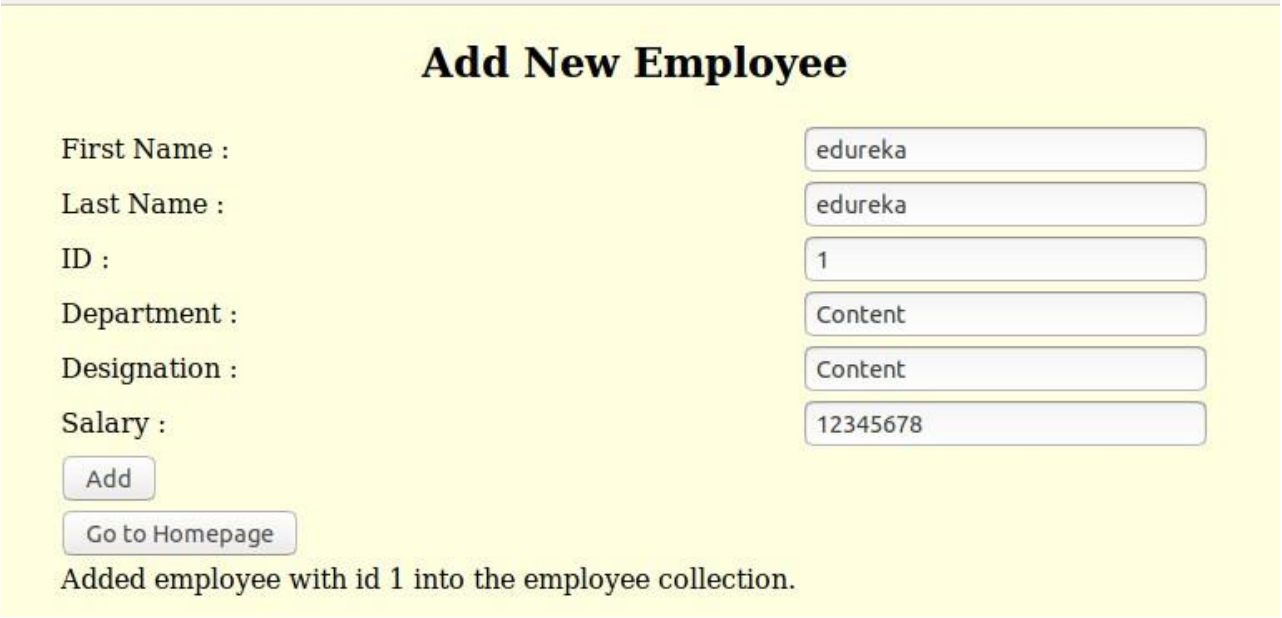
```
edureka@kmaster:~$ kubectl get svc front-end
NAME        TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)        AGE
front-end   NodePort    10.98.150.188   <none>        80:31083/TCP   6m
```

- Step 6: Copy this port number, and execute on the browser. You will be able to see the website.

```
http://localhost:<port-number>
```



- Step 7: Next, let's check our website's connectivity with the database




Our website has successfully connected to the database!