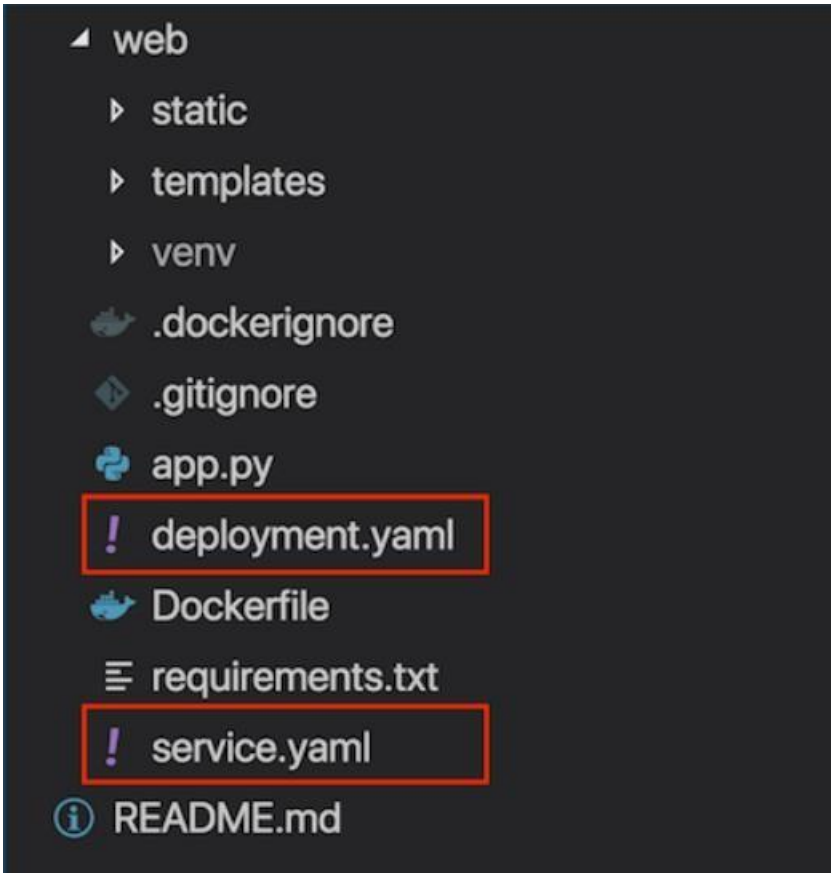
DEPLOY IN KUBERNETES CLUSTER

Date	19 November 2022
Team ID	PNT2022TMID32723
Project Name	Plasma Donor application

STEP 1:

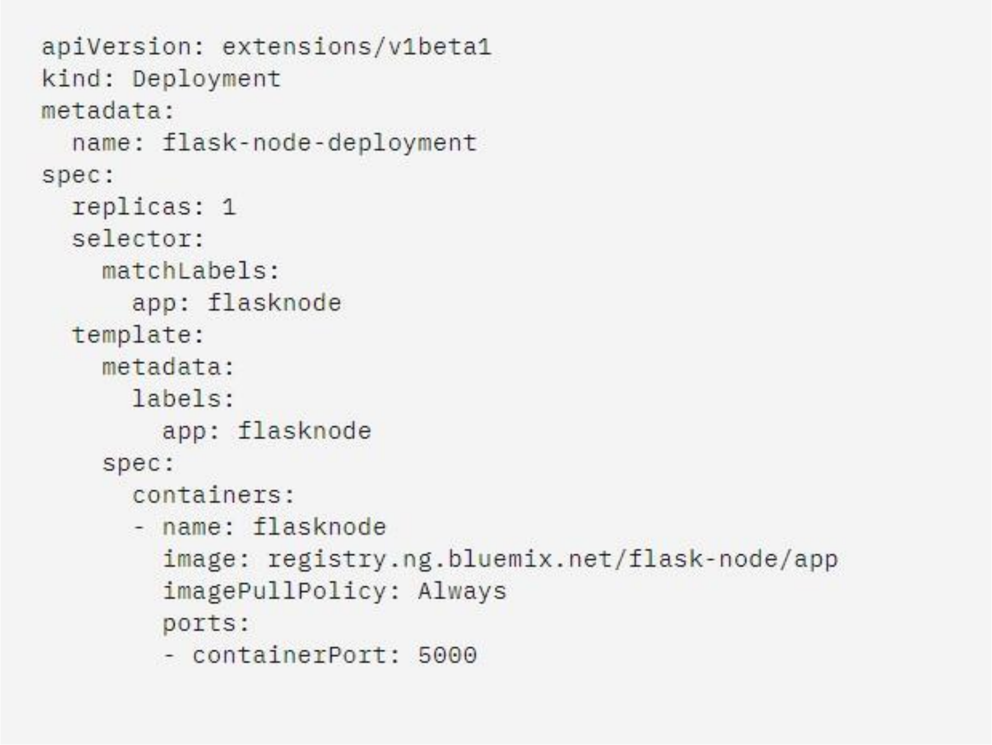
Go to project repository, then create the Deployment.yaml and Service.yaml files.



```
web
  static
  templates
  venv
  .dockerignore
  .gitignore
  app.py
  deployment.yaml
  Dockerfile
  requirements.txt
  service.yaml
README.md
```

STEP 2:

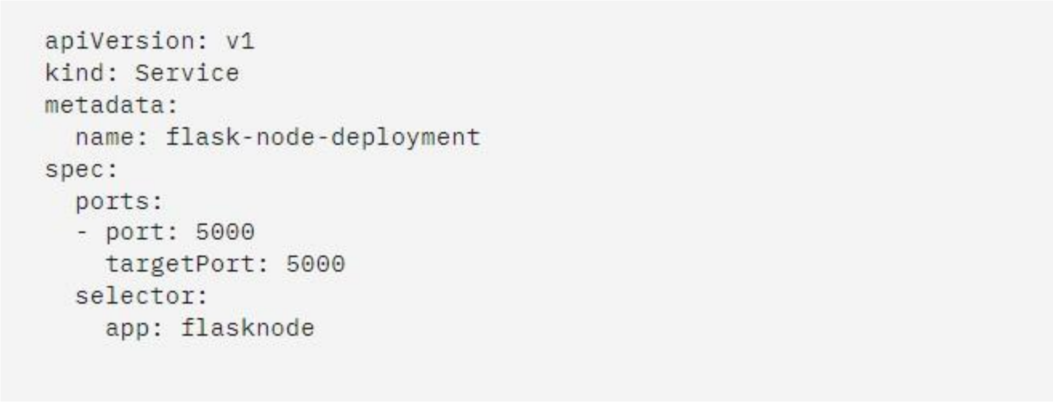
In Deployment.yaml, Type the following code.



```
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: flask-node-deployment
spec:
  replicas: 1
  selector:
    matchLabels:
      app: flasknode
  template:
    metadata:
      labels:
        app: flasknode
    spec:
      containers:
      - name: flasknode
        image: registry.ng.bluemix.net/flask-node/app
        imagePullPolicy: Always
        ports:
        - containerPort: 5000
```

STEP 3:

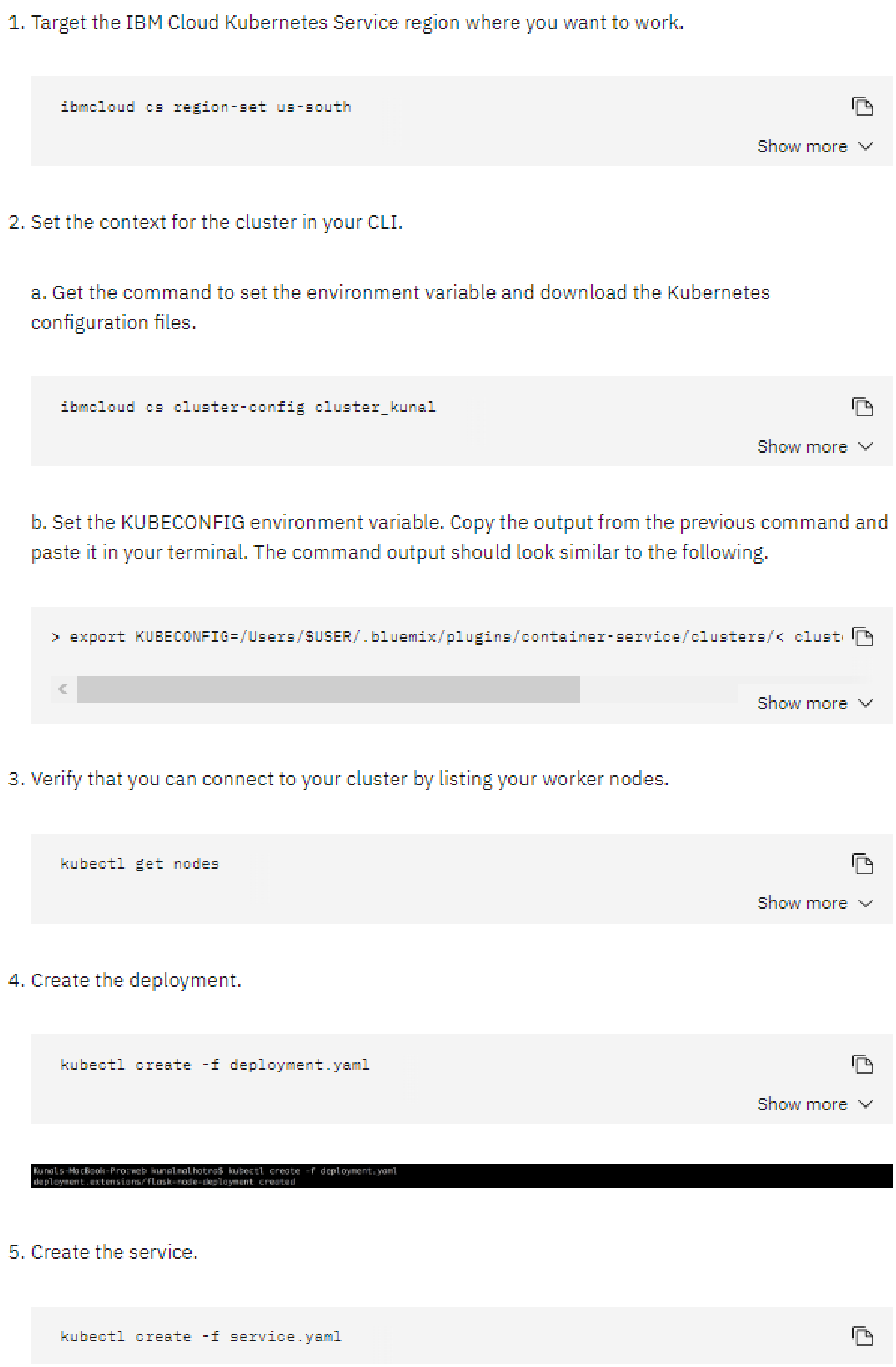
In Service.yaml, Type the following code.



```
apiVersion: v1
kind: Service
metadata:
  name: flask-node-deployment
spec:
  ports:
  - port: 5000
    targetPort: 5000
  selector:
    app: flasknode
```

STEP 4:

Follow the below Instructions.



1. Target the IBM Cloud Kubernetes Service region where you want to work.

```
ibmcloud cs region-set us-south
```

2. Set the context for the cluster in your CLI.

a. Get the command to set the environment variable and download the Kubernetes configuration files.

```
ibmcloud cs cluster-config cluster_kunal
```

b. Set the KUBECONFIG environment variable. Copy the output from the previous command and paste it in your terminal. The command output should look similar to the following.

```
> export KUBECONFIG=/Users/$USER/.bluemix/plugins/container-service/clusters/< clust
```

3. Verify that you can connect to your cluster by listing your worker nodes.

```
kubectl get nodes
```

4. Create the deployment.

```
kubectl create -f deployment.yaml
```

```
Kunals-MacBook-Pro:web kunalmalhotra$ kubectl create -f deployment.yaml
deployment.extensions/flask-node-deployment created
```

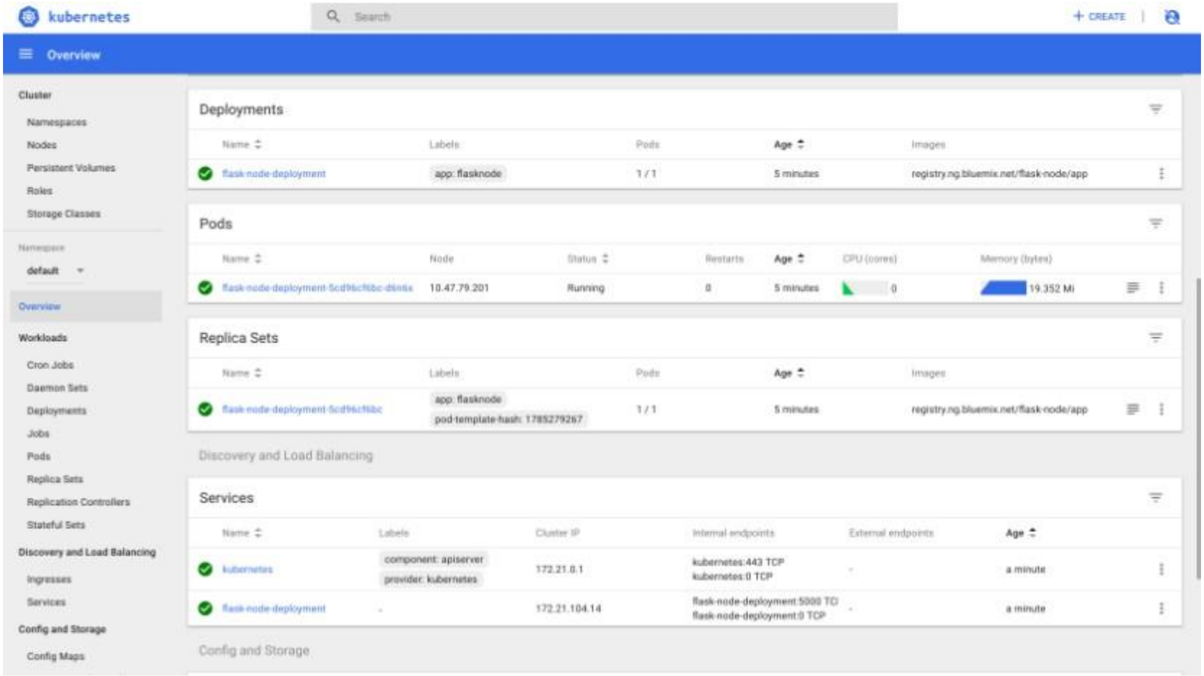
5. Create the service.

```
kubectl create -f service.yaml
```

```
b.  > export  KUBECONFIG=/Users/$USER/.bluemix/plugins/container-service/clusters/<  cluster name  >/<  cluster configuration file.yaml>
```

STEP 5:

Look at the Kubernetes dashboard from the IBM Kubernetes Service overview page.



Deployments

Name	Labels	Pods	Age	Images
flask-node-deployment	app: flasknode	1 / 1	5 minutes	registry.ng.bluemix.net/flask-node/app

Pods

Name	Node	Status	Restarts	Age	CPU (cores)	Memory (bytes)
flask-node-deployment-5cd96cf6bc-d6n6x	10.47.79.201	Running	0	5 minutes	0	19.352 Mi

Replica Sets

Name	Labels	Pods	Age	Images
flask-node-deployment-5cd96cf6bc	app: flasknode pod-template-hash: 1785279267	1 / 1	5 minutes	registry.ng.bluemix.net/flask-node/app

Discovery and Load Balancing

Services

Name	Labels	Cluster IP	Internal endpoints	External endpoints	Age
kubernetes	component: apiserver provider: kubernetes	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	a minute
flask-node-deployment	-	172.21.104.14	flask-node-deployment:5000 TC flask-node-deployment:0 TCP	-	a minute

Config and Storage

STEP 6:

Finally, go to your browser and ping the Public IP of your worker node.