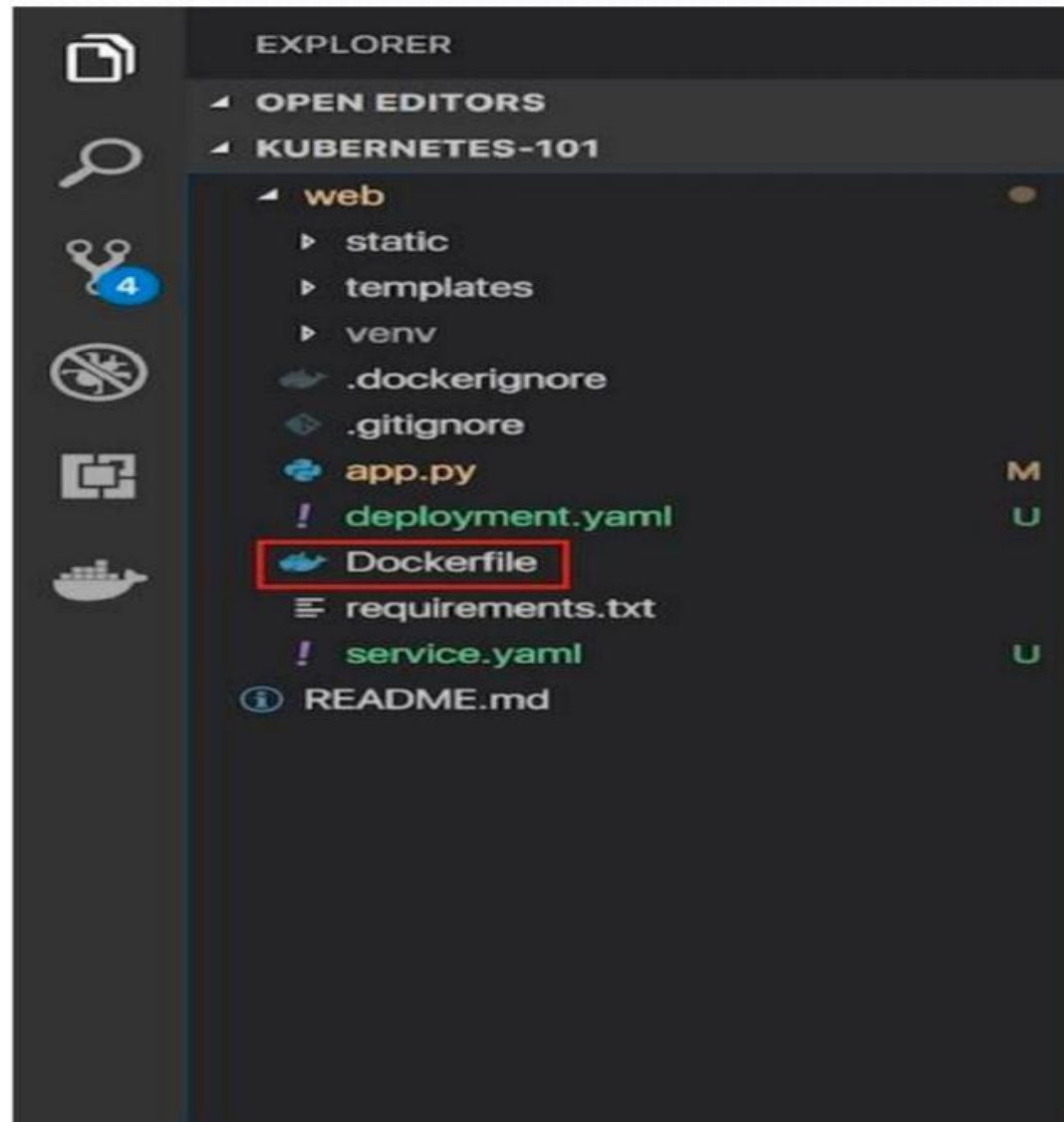


# DEPLOYMENT OF APP IN IBM CLOUD

# CONTAINERIZE THE APP



# UPLOAD IMAGE TO IBM CONTAINER REGISTRY



```
kunals-mbp:web kunalmalhotra$ docker push registry.ng.bluemix.net/flask-node/app:latest
The push refers to repository [registry.ng.bluemix.net/flask-node/app]
a905410b27c1: Pushed
b96dea950728: Pushed
437e8db4a234: Pushed
ba9884d50644: Pushed
1989aa0f3739: Layer already exists
7bec9e49c283: Layer already exists
1172bcd1177f: Layer already exists
8eb4c3a69e64: Layer already exists
1fa8778eb779: Layer already exists
fa0c3f992cbd: Layer already exists
ce6466f43b11: Layer already exists
719d45669b35: Layer already exists
3b10514a95be: Layer already exists
latest: digest: sha256:5015254c21592b5ab08168707b74ddd763e97e80b59d9187afa2a80433b9d2ab size: 3061
kunals-mbp:web kunalmalhotra$
```

```
kunals-mbp:web kunalmalhotra$ ibmcloud cr image-list
```

```
Listing images...
```

| REPOSITORY  | TAG    | DIGEST       | NAMESPACE  | CREATED   | SIZE   | SECURITY STATUS |
|---|--------|--------------|------------|-----------|--------|-----------------|
| <a href="https://registry.ng.bluemix.net/flask-node/app">registry.ng.bluemix.net/flask-node/app</a> | latest | b721dd768fe0 | flask-node | 1 day ago | 366 MB | 3 Issues        |

```
OK
```

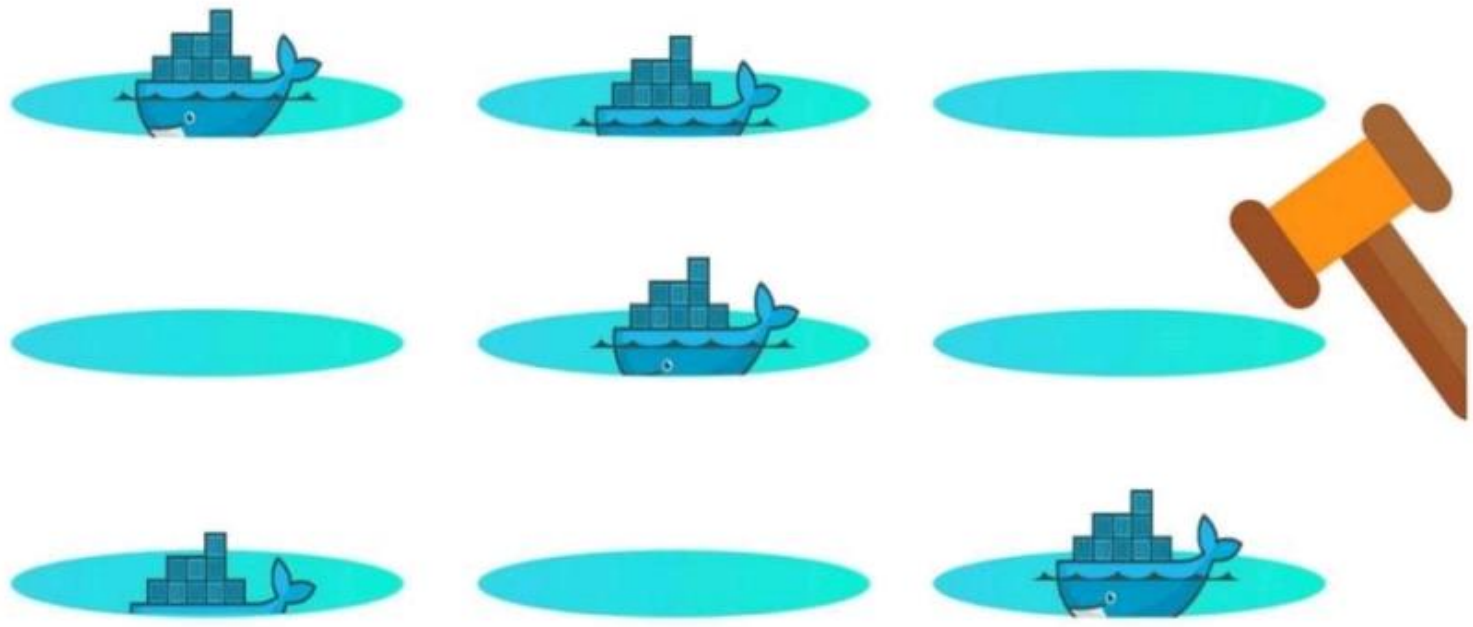
```
kunals-mbp:web kunalmalhotra$
```

# DEPLOY IN KUBERNETES CLUSTER

The screenshot displays the Kubernetes dashboard interface. The left sidebar contains navigation links for Cluster, Namespaces, Nodes, Persistent Volumes, Roles, Storage Classes, Namespace (default), Overview, Workloads (Cron Jobs, Daemon Sets, Deployments, Jobs, Pods, Replica Sets, Replication Controllers, Stateful Sets), Discovery and Load Balancing (Ingresses, Services), and Config and Storage (Config Maps, Persistent Volumes, StorageClasses).

The main content area shows the following sections:

- Deployments:** A table with columns Name, Labels, Pods, Age, and Images. It lists one deployment: `flask-node-deployment` with label `app: flasknode`, 1/1 pods, 5 minutes age, and image `registry.ng.bluemix.net/flask-node/app`.
- Pods:** A table with columns Name, Node, Status, Restarts, Age, CPU (cores), and Memory (bytes). It lists one pod: `flask-node-deployment-5cd96cf6bc-d6nfx` on node `10.47.79.201`, status `Running`, 0 restarts, 5 minutes age, 0 CPU cores, and 19.352 Mi memory.
- Replica Sets:** A table with columns Name, Labels, Pods, Age, and Images. It lists one replica set: `flask-node-deployment-5cd96cf6bc` with labels `app: flasknode` and `pod-template-hash: 1785279267`, 1/1 pods, 5 minutes age, and image `registry.ng.bluemix.net/flask-node/app`.
- Discovery and Load Balancing:** A section containing a **Services** table with columns Name, Labels, Cluster IP, Internal endpoints, External endpoints, and Age. It lists two services:
  - `kubernetes` with labels `component: apiserver` and `provider: kubernetes`, cluster IP `172.21.0.1`, internal endpoints `kubernetes:443 TCP` and `kubernetes:0 TCP`, no external endpoints, and 1 minute age.
  - `flask-node-deployment` with no labels, cluster IP `172.21.104.14`, internal endpoints `flask-node-deployment:5000 TCP` and `flask-node-deployment:0 TCP`, no external endpoints, and 1 minute age.
- Config and Storage:** A section for configuration and storage resources.



## SAMPLE:

'''

```
$ kubectl apply -f ./deploys/k8s-deployment/deployment.yaml  
deployment.apps/k8s-nginx-deployment created
```

'''

## ### RUN THE APPLICATION

'''

```
$ kubectl port-forward svc/k8s-nginx-deployment 8080:80
```

'''



### VERIFY THE APPLICATION RUNNING IN THE CLUSTER

'''

\$ kubectl get pods

| NAME                                  | READY | STATUS  | RESTARTS | AGE |
|---------------------------------------|-------|---------|----------|-----|
| k8s-nginx-deployment-68d8f8f8f4-f4x6x | 1/1   | Running | 0        | 30s |

'''

'''

\$ curl localhost:8080

<!DOCTYPE html>

<html>

<head>

<title>Welcome to nginx!</title>

<style>

body {

width: 35em;

margin: 0 auto;

font-family: Tahoma, Verdana, Arial