

# Deployment of App in IBM cloud

Team ID	PNT2022TMID47461
Project Name	Personal Expense Tracker Application

Containerize the app

```
D:\assignment 4>docker build --tag flask-docker-demo-app .
[+] Building 61.5s (9/9) FINISHED
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 183B 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/python:alpine3.7 6.2s
=> [internal] load build context 0.0s
=> => transferring context: 470B 0.0s
=> [1/4] FROM docker.io/library/python:alpine3.7@sha256:35f6f83ab08f98c727dbefd53738e3b3174a48b 46.8s
=> => resolve docker.io/library/python:alpine3.7@sha256:35f6f83ab08f98c727dbefd53738e3b3174a48b4 0.0s
=> => sha256:35f6f83ab08f98c727dbefd53738e3b3174a48b4571ccb1910bae480dcdba847 2.04kB / 2.04kB 0.0s
=> => sha256:014f52b0e7ae4fcd43201bfa4c4e0320c8517b611d7daa0e41ba33a0cb1fab80 1.37kB / 1.37kB 0.0s
=> => sha256:00be2573e9f79754b17954ba7a310a5f70c25b8f5bb78375e27e9e86d874877e 6.13kB / 6.13kB 0.0s
=> => sha256:48ecbb6b270eb481cb6df2a5b0332de294ec729e1968e92d725f1329637ce01b 2.11MB / 2.11MB 5.3s
=> => sha256:692f29ee68fa6bab04aa6a1c6d8db0ad44e287e5ff5c7e1d5794c3aabc55884 308.48kB / 308.48kB 2.0s
=> => sha256:6439819450d10d1aae92561f3ffff722137aada46d509644e8de4ca82bb26b07 25.90MB / 25.90MB 45.0s
=> => sha256:3c7be240f7bfb19ec575d8547832a9f20b95eec9b4cc94fe717dd047ad661159 230B / 230B 2.7s
=> => sha256:ca4b349df8ed83a59776df8f3868ece2783aa1ee2e9f052c9c9f3b54ae51a593 1.81MB / 1.81MB 6.3s
=> => extracting sha256:48ecbb6b270eb481cb6df2a5b0332de294ec729e1968e92d725f1329637ce01b 0.3s
=> => extracting sha256:692f29ee68fa6bab04aa6a1c6d8db0ad44e287e5ff5c7e1d5794c3aabc55884d 0.2s
=> => extracting sha256:6439819450d10d1aae92561f3ffff722137aada46d509644e8de4ca82bb26b07 1.4s
=> => extracting sha256:3c7be240f7bfb19ec575d8547832a9f20b95eec9b4cc94fe717dd047ad661159 0.0s
=> => extracting sha256:ca4b349df8ed83a59776df8f3868ece2783aa1ee2e9f052c9c9f3b54ae51a593 0.2s
=> [2/4] COPY . /app 0.2s
=> [3/4] WORKDIR /app 0.0s
=> [4/4] RUN pip install -r requirements.txt 8.0s
=> exporting to image 0.2s
=> => exporting layers 0.2s
=> => writing image sha256:4f6ecb81f19c4743e41cf4461b31de8c7dafc532a0653fdc61211003b709fd65 0.0s
=> => naming to docker.io/library/flask-docker-demo-app 0.0s
```

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

Upload the app to container Registry

Login to container registry

```
C:\Users\Aravindhan>ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.
```

OK

Push the image to container registry

```
C:\Users\Aravindhan>docker push jp.icr.io/containerregistrydemo/flaskdemoapp:new
The push refers to repository [jp.icr.io/containerregistrydemo/flaskdemoapp]
aa097e2a4fe5: Pushed
5f70bf18a086: Pushed
18ae541d104a: Pushed
5fa31f02caa8: Pushed
88e61e328a3c: Pushed
9b77965e1d3f: Pushed
50f8b07e9421: Pushed
629164d914fc: Pushed
new: digest: sha256:62b1fe0d5214737b8a5f3c486aa5753ba73eacf67b4ffb8ed1424c69dff3edb5
size: 1992
```

## Image list in container registry

```
C:\Users\Aravindhana>ibmcloud cr image-list
Listing images...

Repository                                Tag    Digest              Namespace
Created      Size    Security status
jp.icr.io/containerregistrydemo/flaskdemoapp  new    62b1fe0d5214        containerregistr
ydemo        6 days ago  35 MB    -

OK
```

## Deploy in Kubernetes cluster

```
D:\ibmproject>ibmcloud ks cluster config -c cdm8ln2f0hgi8h1fueg
OK
The configuration for cdm8ln2f0hgi8h1fueg was downloaded successfully.

Added context for cdm8ln2f0hgi8h1fueg to the current kubeconfig file.
You can now execute 'kubectl' commands against your cluster. For example, run 'kubectl get nodes'.
If you are accessing the cluster for the first time, 'kubectl' commands might fail for a few seconds while RBAC synchronizes.

D:\ibmproject>kubectl create -f deployment.yaml
deployment.apps/flasknode created

D:\ibmproject>kubectl expose deployment flasknode --type=NodePort --name=flasknode
service/flasknode exposed

D:\ibmproject>kubectl get services
NAME            TYPE        CLUSTER-IP      EXTERNAL-IP    PORT(S)          AGE
flasknode       NodePort    172.21.222.68   <none>         5001:31390/TCP   15s
kubernetes      ClusterIP   172.21.0.1      <none>         443/TCP          51m
```

IBM Cloud

Clusters /

mycluster-free

Normal Expires in 30 days Add tags

Overview

Worker nodes

Worker pools

DevOps New

Search

Name

Status

Worker pool

Zone

Private IP

Public IP

Version

000000ed

Normal

default

Milan 01

10.144.214.25

159.122.183.185

1.24.7\_154

ID

kube-cdm8ln2f0hgi8h1fueg-myclusterfr-default-000000ed

Status

--

Flavor

Free - 2 vCPUs 4GB RAM

Private VLAN

2218181

Public VLAN

2218179

Items per page: 25

1-1 of 1 item

1

1 of 1 page

English (United States)

English (India)

To switch input methods, press Windows key + space.