

Assignment screenshots

NOTE:----->>>The below steps I did first to check the app after image build and running the container. Later I changed the name, tagged the image with a different name and implemented the AKS deployment that you will see in the later screenshots in this document and the explanation in the README solution file.

docker build -t fastapi-app:v1 .

```
~/Desktop/Study/eneco/fastapi-app -- zsh
dabbutiwari@MacBookPro fastapi-app % docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
divya19/fastapi-app  v1          a01634b13ccd 12 minutes ago 172MB
gcr.io/k8s-minikube/kicbase v0.0.47     795ea6a69ce6 3 months ago  1.31GB
dabbutiwari@MacBookPro fastapi-app % docker ps
CONTAINER ID   IMAGE                  COMMAND                  CREATED        STATUS        PORTS                               NAMES
e771c37693f7  divya19/fastapi-app:v1 "uvicorn main:app --"    3 minutes ago  Up 3 minutes  0.0.0.0:8000->8000/tcp, [::]:8000->8000/tcp  my-fastapi-container
dabbutiwari@MacBookPro fastapi-app %
```

******* Curl and check*******

- curl <http://localhost:8000/>
- curl <http://localhost:8000/health>
- curl "<http://localhost:8000/items/42>"
- curl "<http://localhost:8000/items/42?q=testing>"

Example Screenshot after started and stopped the docker container both.

```
dabbutiwari@MacBookPro fastapi-app % docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
divya19/fastapi-app  v1          a01634b13ccd 24 minutes ago 172MB
gcr.io/k8s-minikube/kicbase v0.0.47     795ea6a69ce6 3 months ago  1.31GB
dabbutiwari@MacBookPro fastapi-app % docker ps
CONTAINER ID   IMAGE                  COMMAND                  CREATED        STATUS        PORTS                               NAMES
e771c37693f7  divya19/fastapi-app:v1 "uvicorn main:app --"    16 minutes ago  Up 13 seconds  0.0.0.0:8000->8000/tcp, [::]:8000->8000/tcp  my-fastapi-container
dabbutiwari@MacBookPro fastapi-app % curl http://localhost:8000/
{"Hello": "World"}
dabbutiwari@MacBookPro fastapi-app % curl http://localhost:8000/health
{"status": "ok"}
dabbutiwari@MacBookPro fastapi-app % docker stop e771c37693f7
e771c37693f7
dabbutiwari@MacBookPro fastapi-app % curl http://localhost:8000/health
curl: (7) Failed to connect to localhost port 8000 after 0 ms: Couldn't connect to server
dabbutiwari@MacBookPro fastapi-app % curl http://localhost:8000/
curl: (7) Failed to connect to localhost port 8000 after 0 ms: Couldn't connect to server
dabbutiwari@MacBookPro fastapi-app % docket start e771c37693f7
zsh: command not found: docket
dabbutiwari@MacBookPro fastapi-app % docker start e771c37693f7
e771c37693f7
dabbutiwari@MacBookPro fastapi-app % curl http://localhost:8000/
{"Hello": "World"}
dabbutiwari@MacBookPro fastapi-app % curl http://localhost:8000/health
{"status": "ok"}
dabbutiwari@MacBookPro fastapi-app %
```

******Push the images to the Dockerhub******

<https://hub.docker.com/repository/docker/divya19/fastapi-app/general>

AZURE IMPLEMENTATION

****Tagging and pushing the image to ACR****

```
[dabbutiwari@MacBookPro fastapp % az acr login --name myacrfastapp
Login Succeeded
[dabbutiwari@MacBookPro fastapp % docker tag fastapp:v1 myacrfastapp.azurecr.io/fastapp:v1
[dabbutiwari@MacBookPro fastapp % docker images
REPOSITORY                                TAG                IMAGE ID           CREATED            SIZE
fastapp                                   v1                 6d44fb46b4e3      2 hours ago       172MB
myacrfastapp.azurecr.io/fastapp          v1                 6d44fb46b4e3      2 hours ago       172MB
gcr.io/k8s-minikube/kicbase              v0.0.47            795ea6a69ce6      3 months ago      1.31GB
envoyproxy/envoy                         v1.32.0            dd82be9261b2      10 months ago     156MB
kindest/node                             v1.31.1            af9b9022bb7b      10 months ago     1.04GB
docker/desktop-cloud-provider-kind        v0.3.0-desktop.3   9bbe2ec55346      11 months ago     422MB
docker/desktop-containerd-registry-mirror v0.0.2             4ab6ed46705f      12 months ago     29.8MB
[dabbutiwari@MacBookPro fastapp % docker push myacrfastapp.azurecr.io/fastapp:v1
The push refers to repository [myacrfastapp.azurecr.io/fastapp]
7e0f380d3dd6: Pushed
fdaeef4ab4ebb: Pushed
a8cee1f90cfd: Pushed
4bbc031dc79f: Pushed
6e1bd383ccba: Pushed
e33228fe7708: Pushed
07cd4433de32: Pushed
11a4ec4d004e: Pushed
e6a3842ebc7f: Pushed
v1: digest: sha256:058e31b445eed8fb5bdb77905f42211a0855a94fc384ece65c7656c9c3258142 size: 2201
[dabbutiwari@MacBookPro fastapp % ]
```

****Registry****

Microsoft Azure

Upgrade

Search resources, services, and docs (G+)

Copilot

dtiwarin19@gmail.com

DEFAULT DIRECTORY (DTIWARI...)

Home >

Container registries

Run Canplup diagnostics for selected registries

Validate AKS connectivity for these ACRs

Test ACR access from AKS clusters in this list

Default Directory (dtiwarin19@gmail.onmicrosoft.com)

Create

Manage view

Refresh

Export to CSV

Open query

Assign tags

Group by none

You are viewing a new version of Browse experience. Click here to access the old experience.

Filter for any field...

Subscription equals all

Resource Group equals all

Location equals all

Add filter

Name	Type	Resource Group	Location	Subscription
myacrfastapp	Container registry	fastapp-rg	West Europe	Azure subscription 1

****AKS****

Microsoft Azure

Upgrade

Search resources, services, and docs (G+)

Copilot

dtiwarin19@gmail.com

DEFAULT DIRECTORY (DTIWARI...)

Home >

Kubernetes services

Deploy Periscope to selected AKS clusters

Set up monitoring on aks clusters

List managed clusters with protection in XXX region

Default Directory (dtiwarin19@gmail.onmicrosoft.com)

Create

Manage view

Refresh

Export to CSV

Open query

Assign tags

Start

Stop

Delete

Add to Fleet

Group by none

You are viewing a new version of Browse experience. Click here to access the old experience.

Filter for any field...

Subscription equals all

Type equals all

Resource Group equals all

Location equals all

Add filter

Name	Type	Resource Group	Kubernetes version	Location	Subscription	SKU	Fleet Manager
fastapp-aks	Kubernetes service	fastapp-rg	1.32.6	West Europe	Azure subscription 1	Base	

****Curl endpoints with outputs****

```
~/Desktop/study2/fastAPI_app/fastapp-k8-deploy/terraform -- -zsh ..
[dabbutiwari@MacBookPro terraform % kubectl get nodes
NAME                                STATUS    ROLES    AGE      VERSION
aks-default-37462899-vmss000000    Ready    <none>    175m     v1.32.6
aks-fastappnp-36236070-vmss000000  Ready    <none>    170m     v1.32.6
[dabbutiwari@MacBookPro terraform % kubectl get pods
NAME                                READY    STATUS    RESTARTS   AGE
fastapp-54b5f586c4-hw4r1           1/1      Running    0           11m
[dabbutiwari@MacBookPro terraform % kubectl get svc
NAME                                TYPE                CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
fastapp                            LoadBalancer        10.0.14.175    4.245.91.247   80:31074/TCP     34m
kubernetes                         ClusterIP            10.0.0.1       <none>         443/TCP          177m
[dabbutiwari@MacBookPro terraform % kubectl get svc fastapp
NAME                                TYPE                CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
fastapp                            LoadBalancer        10.0.14.175    4.245.91.247   80:31074/TCP     34m
[dabbutiwari@MacBookPro terraform % curl http://4.245.91.247/
{"Hello":"World"}%
[dabbutiwari@MacBookPro terraform % curl http://4.245.91.247/health
{"status":"ok"}%
[dabbutiwari@MacBookPro terraform % curl "http://4.245.91.247/items/42?q=testing"
{"item_id":42,"q":"testing"}%
[dabbutiwari@MacBookPro terraform % curl "http://4.245.91.247/items/42"
{"item_id":42,"q":null}%
[dabbutiwari@MacBookPro terraform %
```