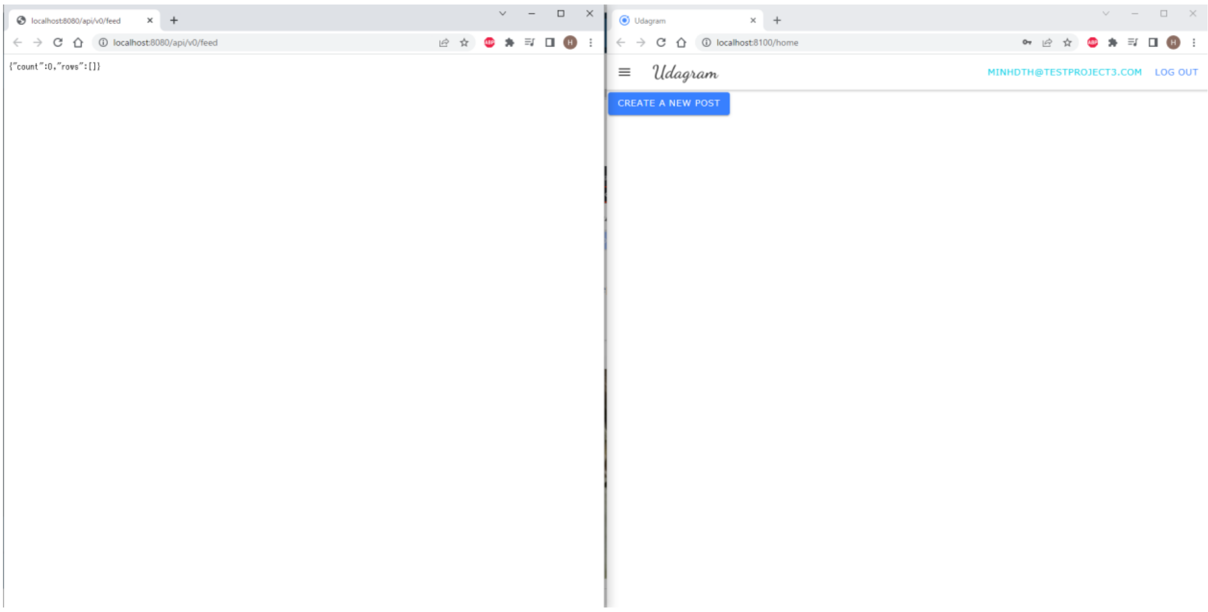
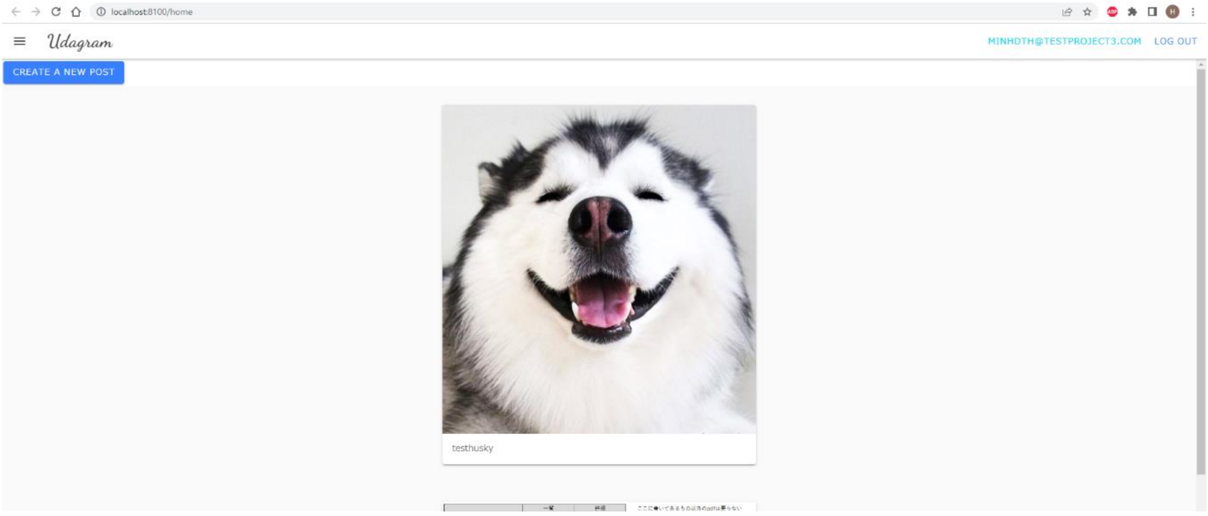
Report project 3

Project owner: MinhDTH

1. Part I -Monolithic application: run on local result

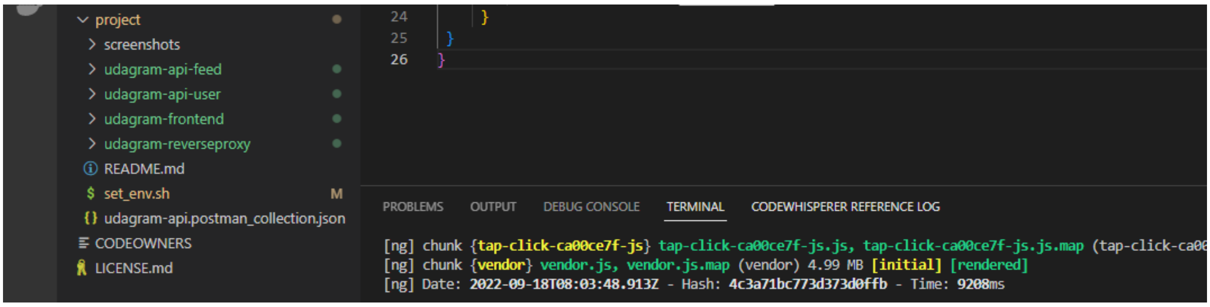


```
{"count":0,"rows":[]}
```



2. Part II: Microservices application:

   Divide an application into microservices

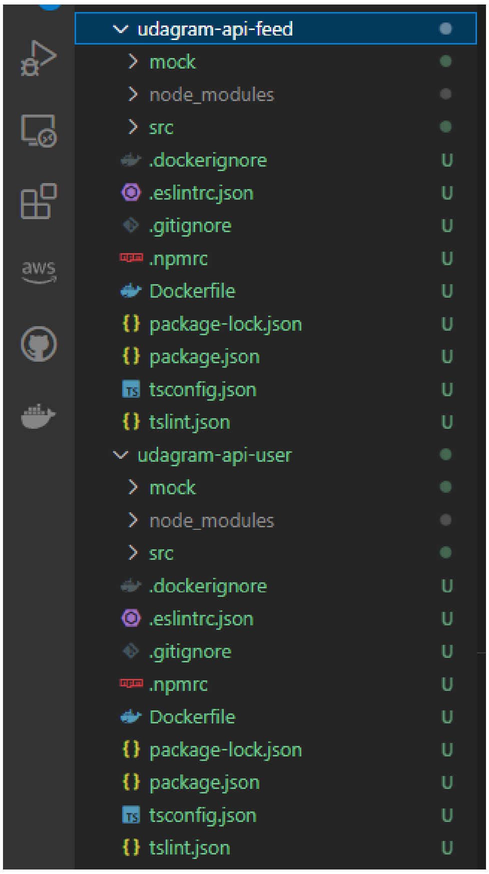


```
project
  screenshots
  udagram-api-feed
  udagram-api-user
  udagram-frontend
  udagram-reverseproxy
  README.md
  set_env.sh
  udagram-api.postman_collection.json
CODEOWNERS
LICENSE.md
```

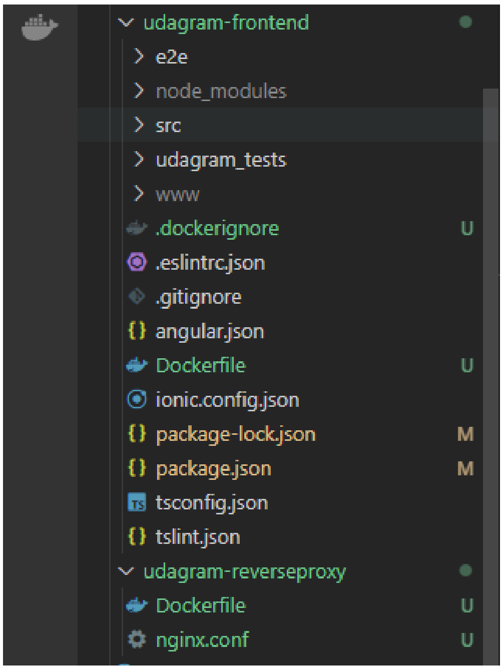
```
      }
    }
  }
```

```
[ng] chunk {tap-click-ca00ce7f-js} tap-click-ca00ce7f-js.js, tap-click-ca00ce7f-js.js.map (tap-click-ca0
[ng] chunk {vendor} vendor.js, vendor.js.map (vendor) 4.99 MB [initial] [rendered]
[ng] Date: 2022-09-18T08:03:48.913Z - Hash: 4c3a71bc773d373d0ffb - Time: 9208ms
```

Build and run a container image using Docker:

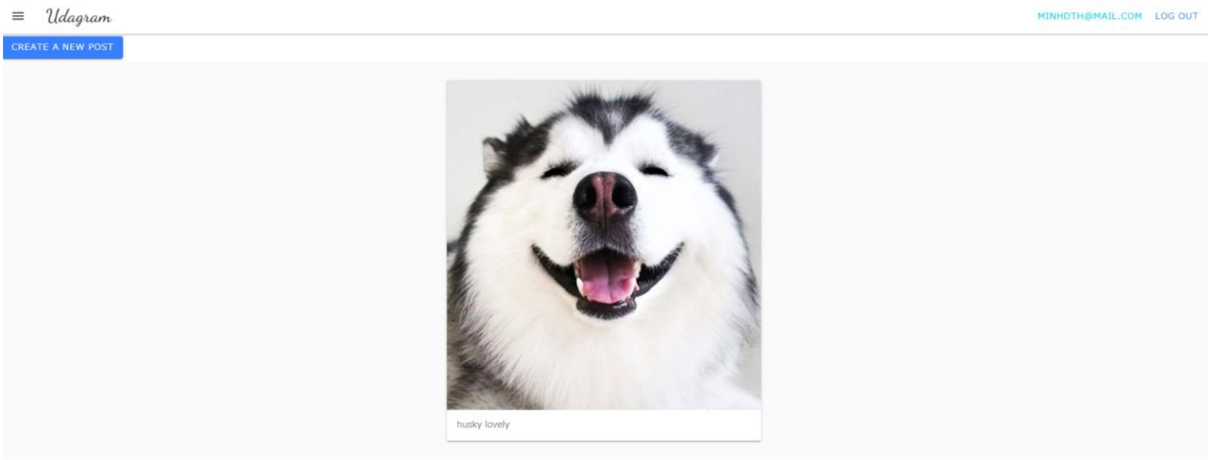


```
udagram-api-feed
  mock
  node_modules
  src
  .dockerignore        U
  .eslintrc.json       U
  .gitignore           U
  .npmrc               U
  Dockerfile           U
  package-lock.json    U
  package.json         U
  tsconfig.json        U
  tslint.json          U
udagram-api-user
  mock
  node_modules
  src
  .dockerignore        U
  .eslintrc.json       U
  .gitignore           U
  .npmrc               U
  Dockerfile           U
  package-lock.json    U
  package.json         U
  tsconfig.json        U
  tslint.json          U
```



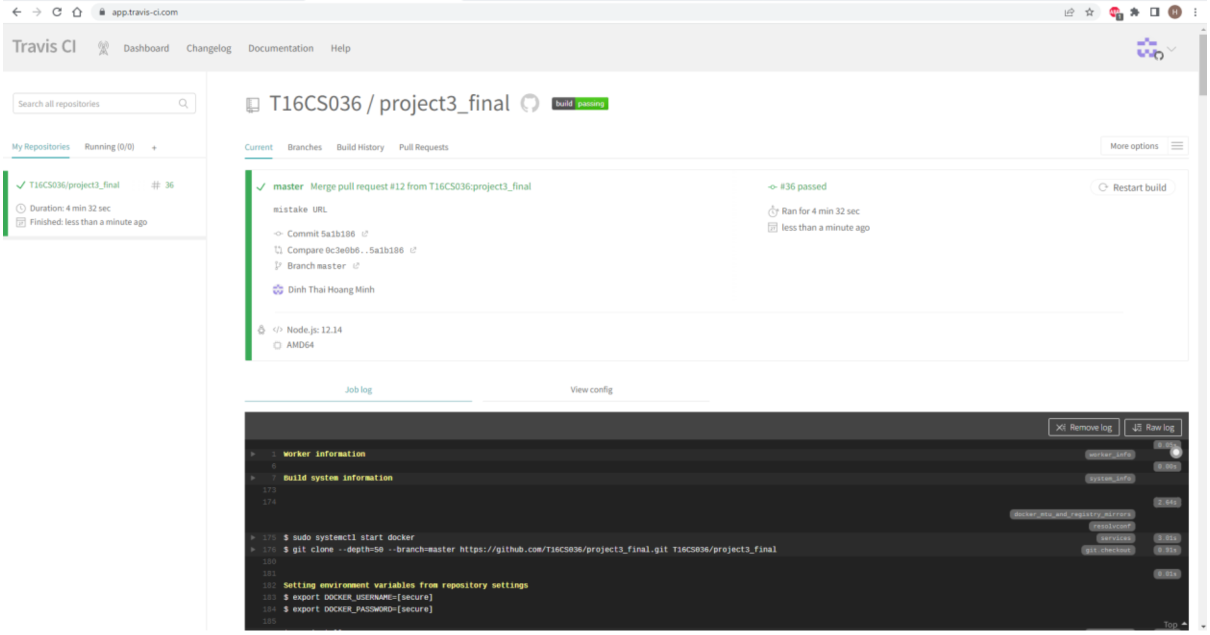
```
udagram-frontend
  e2e
  node_modules
  src
  udagram_tests
  www
  .dockerignore        U
  .eslintrc.json
  .gitignore
  angular.json
  Dockerfile           U
  ionic.config.json
  package-lock.json    M
  package.json         M
  tsconfig.json
  tslint.json
udagram-reverseproxy
  Dockerfile           U
  nginx.conf           U
```

successful to run on docker local



3. PartIII:

I success to run on travis ci at picture below:



T16CS036 / project3_final build passing

T16CS036/project3_final # 36
Duration: 4 min 32 sec
Finished: less than a minute ago

master Merge pull request #12 from T16CS036:project3_final
mistake URL
Commit 5a1b186
Compare 0c3e0b6..5a1b186
Branch master
Dinh Thai Hoang Minh
Node.js: 12.14
AMD64

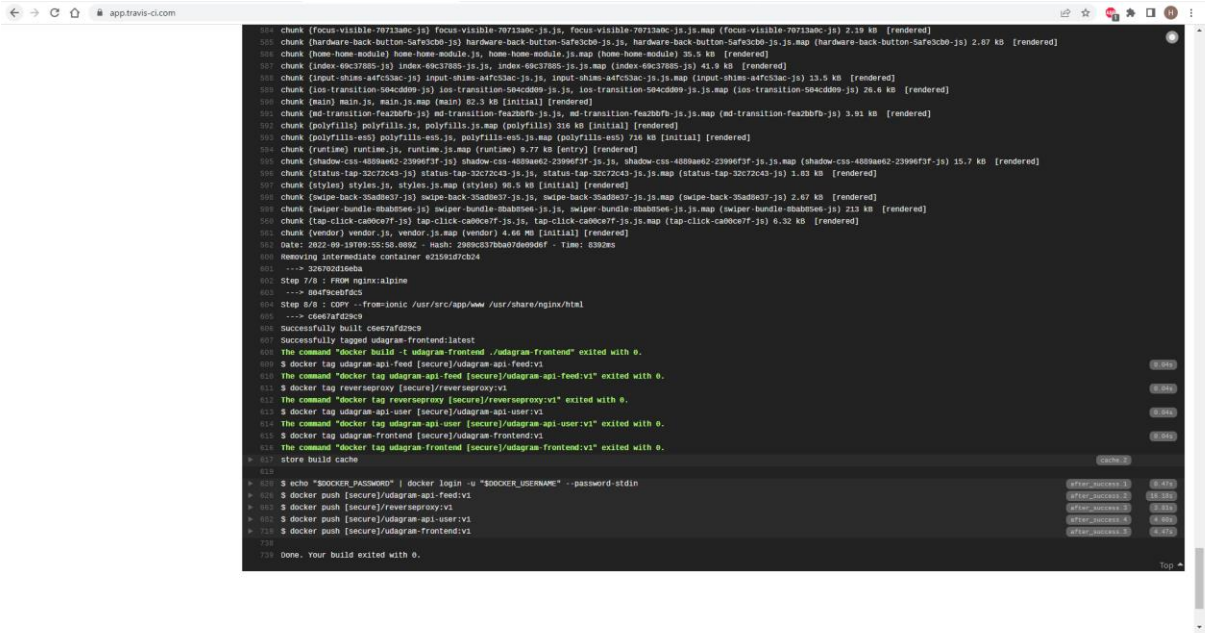
#36 passed
Ran for 4 min 32 sec
less than a minute ago

```
Worker information

Build system information


$ sudo systemctl start docker
$ git clone --depth=50 --branch=master https://github.com/T16CS036/project3_final.git T16CS036/project3_final


Setting environment variables from repository settings
$ export DOCKER_USERNAME=[secure]
$ export DOCKER_PASSWORD=[secure]
```

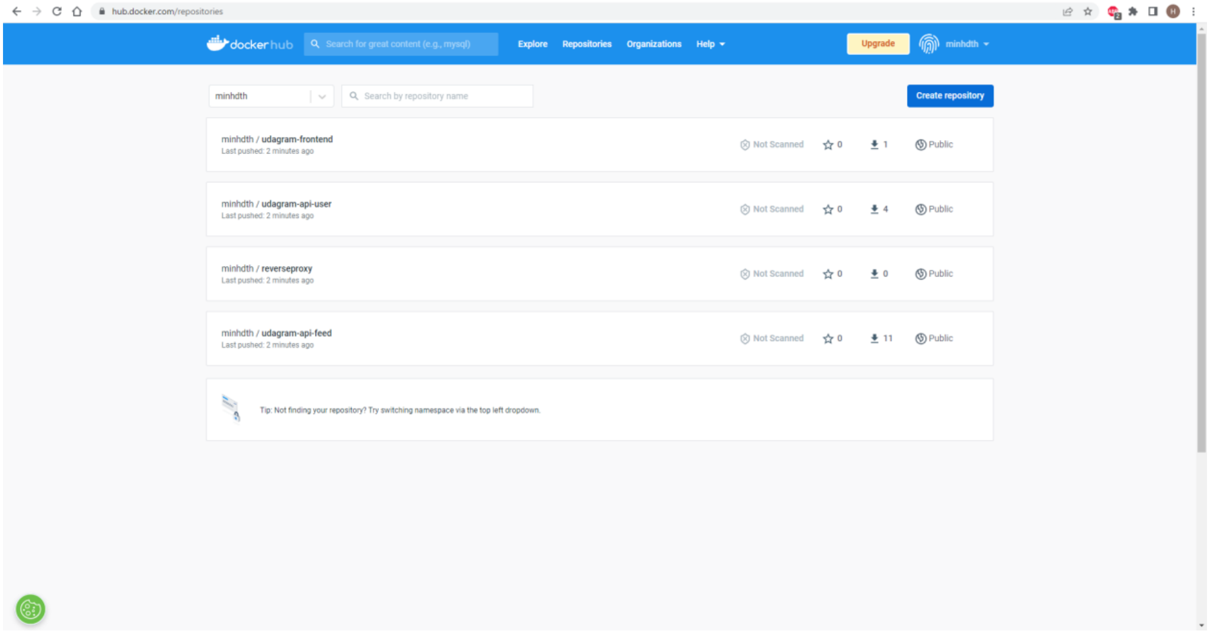


```
chunk {focus-visible-70713a0c-js} focus-visible-70713a0c-js.js, focus-visible-70713a0c-js.js.map (focus-visible-70713a0c-js) 2.19 kB  [rendered]
chunk {hardware-back-button-5afe3cb0-js} hardware-back-button-5afe3cb0-js.js, hardware-back-button-5afe3cb0-js.js.map (hardware-back-button-5afe3cb0-js) 2.87 kB  [rendered]
chunk {home-home-module} home-home-module.js, home-home-module.js.map (home-home-module) 35.5 kB  [rendered]
chunk {index-69c37885-js} index-69c37885-js.js, index-69c37885-js.js.map (index-69c37885-js) 41.9 kB  [rendered]
chunk {input-shims-a4fc53ac-js} input-shims-a4fc53ac-js.js, input-shims-a4fc53ac-js.js.map (input-shims-a4fc53ac-js) 13.5 kB  [rendered]
chunk {ios-transition-504cdd09-js} ios-transition-504cdd09-js.js, ios-transition-504cdd09-js.js.map (ios-transition-504cdd09-js) 26.6 kB  [rendered]
chunk {main} main.js, main.js.map (main) 82.3 kB [initial] [rendered]
chunk {md-transition-fea2bbfb-js} md-transition-fea2bbfb-js.js, md-transition-fea2bbfb-js.js.map (md-transition-fea2bbfb-js) 3.91 kB  [rendered]
chunk {polyfills} polyfills.js, polyfills.js.map (polyfills) 316 kB [initial] [rendered]
chunk {polyfills-es5} polyfills-es5.js, polyfills-es5.js.map (polyfills-es5) 716 kB [initial] [rendered]
chunk {runtime} runtime.js, runtime.js.map (runtime) 9.77 kB [entry] [rendered]
chunk {shadow-css-4889ae62-23996f3f-js} shadow-css-4889ae62-23996f3f-js.js, shadow-css-4889ae62-23996f3f-js.js.map (shadow-css-4889ae62-23996f3f-js) 15.7 kB  [rendered]
chunk {status-tap-32c72c43-js} status-tap-32c72c43-js.js, status-tap-32c72c43-js.js.map (status-tap-32c72c43-js) 1.83 kB  [rendered]
chunk {styles} styles.js, styles.js.map (styles) 98.5 kB [initial] [rendered]
chunk {swipe-back-35ad8e37-js} swipe-back-35ad8e37-js.js, swipe-back-35ad8e37-js.js.map (swipe-back-35ad8e37-js) 2.67 kB  [rendered]
chunk {swiper-bundle-8bab85e6-js} swiper-bundle-8bab85e6-js.js, swiper-bundle-8bab85e6-js.js.map (swiper-bundle-8bab85e6-js) 213 kB  [rendered]
chunk {tap-click-ca00ce7f-js} tap-click-ca00ce7f-js.js, tap-click-ca00ce7f-js.js.map (tap-click-ca00ce7f-js) 6.32 kB  [rendered]
chunk {vendor} vendor.js, vendor.js.map (vendor) 4.66 MB [initial] [rendered]
Date: 2022-09-19T09:55:58.089Z - Hash: 2989c837bba07de09d6f - Time: 8392ms
Removing intermediate container e21591d7cb24
 ---> 326702d16eba
Step 7/8 : FROM nginx:alpine
 ---> 804f9cebfdc5
Step 8/8 : COPY --from=ionic /usr/src/app/www /usr/share/nginx/html
 ---> c6e67afd29c9
Successfully built c6e67afd29c9
Successfully tagged udagram-frontend:latest
The command "docker build -t udagram-frontend ./udagram-frontend" exited with 0.
$ docker tag udagram-api-feed [secure]/udagram-api-feed:v1
The command "docker tag udagram-api-feed [secure]/udagram-api-feed:v1" exited with 0.
$ docker tag reverseproxy [secure]/reverseproxy:v1
The command "docker tag reverseproxy [secure]/reverseproxy:v1" exited with 0.
$ docker tag udagram-api-user [secure]/udagram-api-user:v1
The command "docker tag udagram-api-user [secure]/udagram-api-user:v1" exited with 0.
$ docker tag udagram-frontend [secure]/udagram-frontend:v1
The command "docker tag udagram-frontend [secure]/udagram-frontend:v1" exited with 0.
store build cache

$ echo "$DOCKER_PASSWORD" | docker login -u "$DOCKER_USERNAME" --password-stdin
$ docker push [secure]/udagram-api-feed:v1
$ docker push [secure]/reverseproxy:v1
$ docker push [secure]/udagram-api-user:v1
$ docker push [secure]/udagram-frontend:v1

Done. Your build exited with 0.
```

This is docker hub after success to push image on:


hub.docker.com/repositories
docker hub
Search for great content (e.g., mysql)
Explore
Repositories
Organizations
Help
Upgrade
minhdth
Search by repository name
Create repository

minhdth

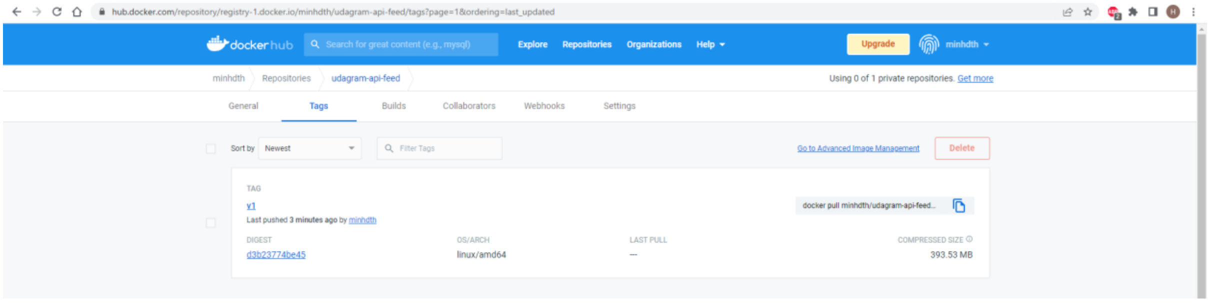
minhdth / udagram-frontend
Last pushed: 2 minutes ago
Not Scanned ☆ 0 ⬇ 1 Public

minhdth / udagram-api-user
Last pushed: 2 minutes ago
Not Scanned ☆ 0 ⬇ 4 Public

minhdth / reverseproxy
Last pushed: 2 minutes ago
Not Scanned ☆ 0 ⬇ 0 Public

minhdth / udagram-api-feed
Last pushed: 2 minutes ago
Not Scanned ☆ 0 ⬇ 11 Public

Tip: Not finding your repository? Try switching namespace via the top left dropdown.


hub.docker.com/repository/registry-1.docker.io/minhdth/udagram-api-feed/tags?page=1&ordering=last_updated
docker hub
Search for great content (e.g., mysql)
Explore
Repositories
Organizations
Help
Upgrade
minhdth
minhdth
Repositories
udagram-api-feed
General
Tags
Builds
Collaborators
Webhooks
Settings
Filter Tags
Go to Advanced Image Management
Delete

Using 0 of 1 private repositories. Get more

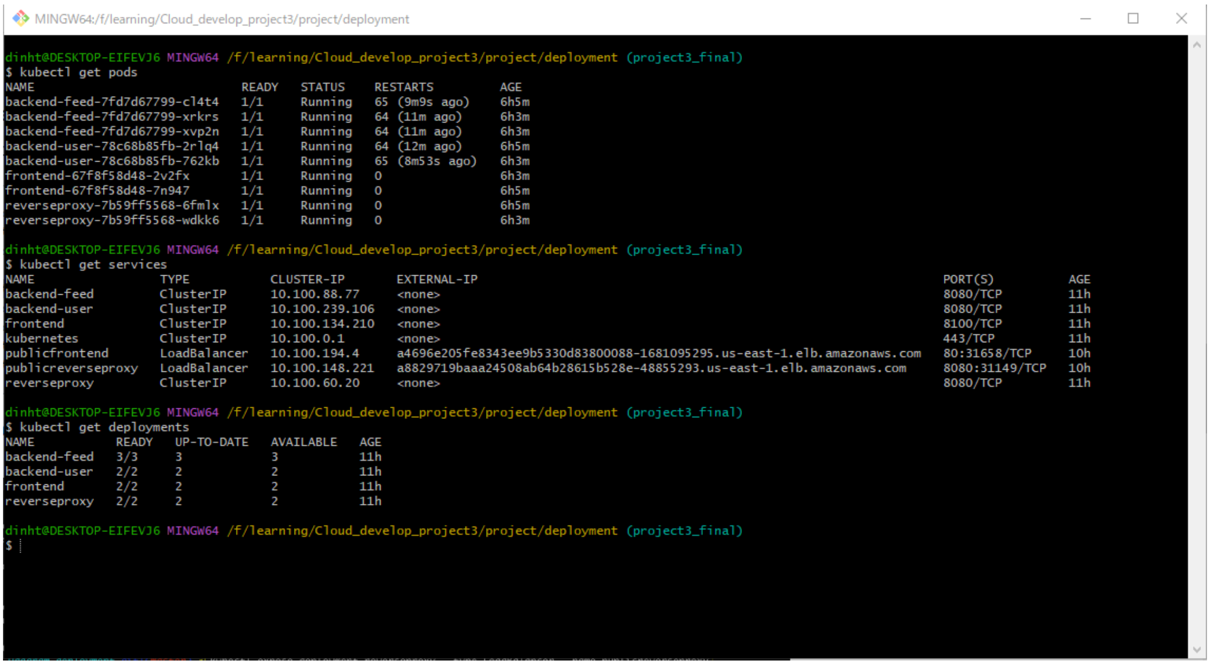
Sort by Newest

TAG
v1
Last pushed 3 minutes ago by minhdth

docker pull minhdth/udagram-api-feed...

DIGEST	OS/ARCH	LAST PULL	COMPRESSED SIZE
d3b23774be45	linux/amd64	—	393.53 MB

All pods, services, deployments information on EKS


MINGW64:/f/learning/Cloud_develop_project3/project/deployment

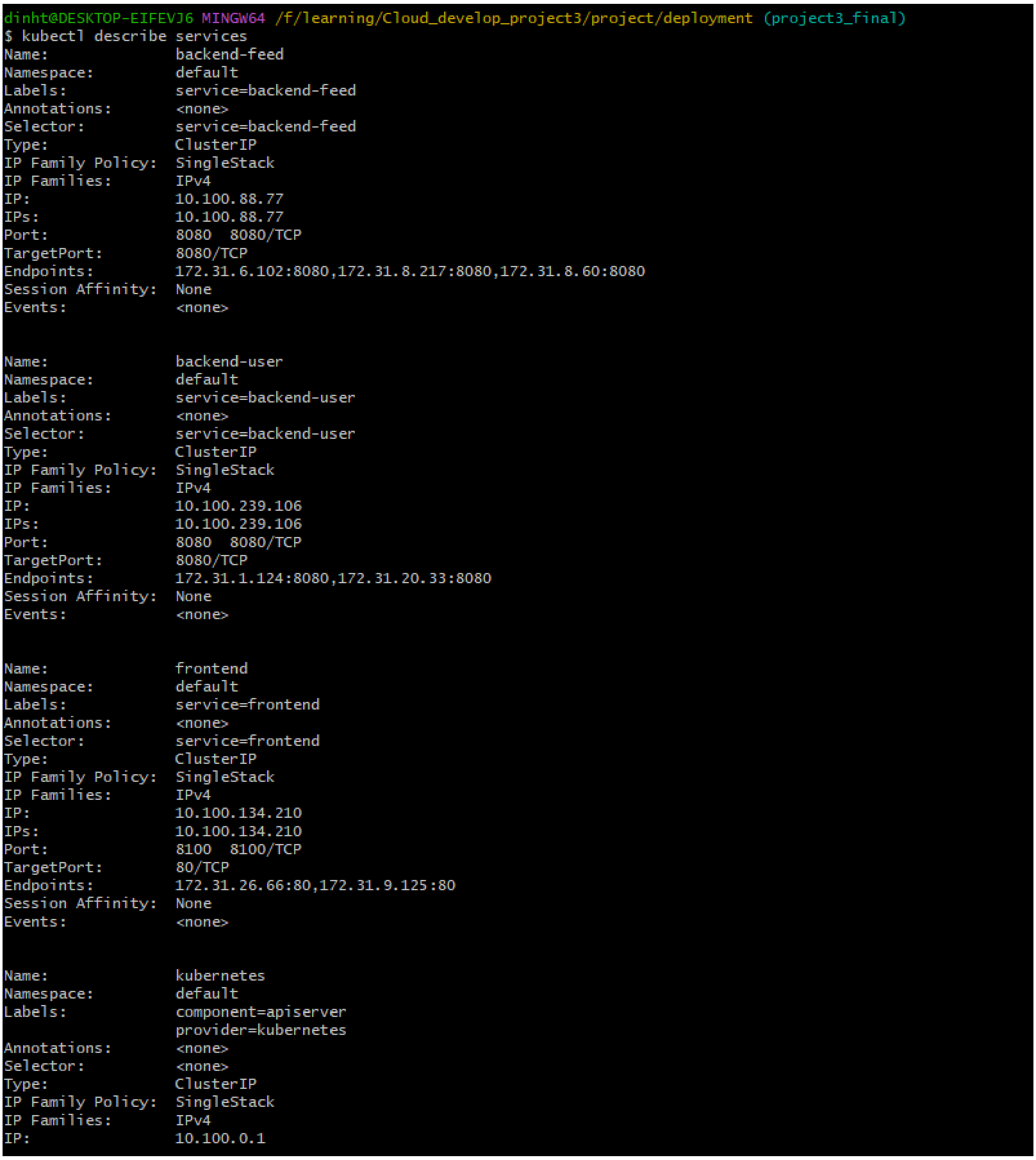
```
dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl get pods
NAME                             READY   STATUS    RESTARTS        AGE
backend-feed-7fd7d67799-cl4t4    1/1     Running   65 (9m9s ago)   6h5m
backend-feed-7fd7d67799-xrkrs    1/1     Running   64 (11m ago)    6h3m
backend-feed-7fd7d67799-xvp2n    1/1     Running   64 (11m ago)    6h3m
backend-user-78c68b85fb-2rlq4    1/1     Running   64 (12m ago)    6h5m
backend-user-78c68b85fb-762kb    1/1     Running   65 (8m53s ago)  6h3m
frontend-67f8f58d48-2v2fx        1/1     Running   0               6h3m
frontend-67f8f58d48-7n947        1/1     Running   0               6h5m
reverseproxy-7b59ff5568-6fmlx    1/1     Running   0               6h5m
reverseproxy-7b59ff5568-wdkk6    1/1     Running   0               6h3m

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl get services
NAME                  TYPE           CLUSTER-IP       EXTERNAL-IP                                                                PORT(S)          AGE
backend-feed          ClusterIP      10.100.88.77     <none>                                                                     8080/TCP         11h
backend-user          ClusterIP      10.100.239.106   <none>                                                                     8080/TCP         11h
frontend              ClusterIP      10.100.134.210   <none>                                                                     8100/TCP         11h
kubernetes            ClusterIP      10.100.0.1       <none>                                                                     443/TCP          11h
publicfrontend        LoadBalancer   10.100.194.4     a4696e205fe8343ee9b5330d83800088-1681095295.us-east-1.elb.amazonaws.com    80:31658/TCP     10h
publicreverseproxy    LoadBalancer   10.100.148.221   a8829719baaa24508ab64b28615b528e-48855293.us-east-1.elb.amazonaws.com      8080:31149/TCP   10h
reverseproxy          ClusterIP      10.100.60.20     <none>                                                                     8080/TCP         11h

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl get deployments
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
backend-feed   3/3     3            3           11h
backend-user   2/2     2            2           11h
frontend       2/2     2            2           11h
reverseproxy   2/2     2            2           11h

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$
```

kubectl describe services doesn’t include sensitive information:

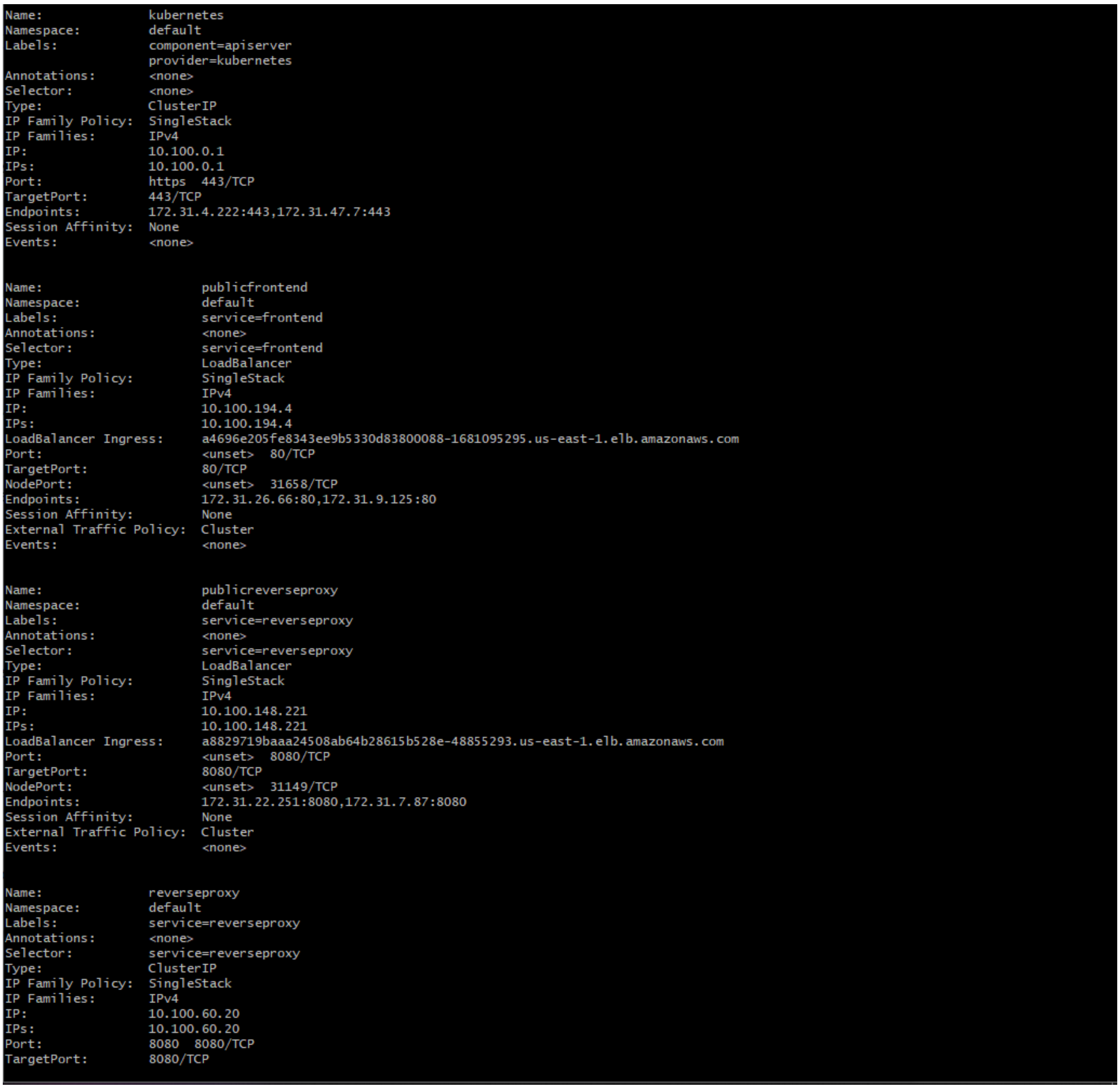


```
dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl describe services
Name:              backend-feed
Namespace:         default
Labels:            service=backend-feed
Annotations:       <none>
Selector:          service=backend-feed
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.88.77
IPs:               10.100.88.77
Port:              8080  8080/TCP
TargetPort:        8080/TCP
Endpoints:         172.31.6.102:8080,172.31.8.217:8080,172.31.8.60:8080
Session Affinity:  None
Events:            <none>


Name:              backend-user
Namespace:         default
Labels:            service=backend-user
Annotations:       <none>
Selector:          service=backend-user
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.239.106
IPs:               10.100.239.106
Port:              8080  8080/TCP
TargetPort:        8080/TCP
Endpoints:         172.31.1.124:8080,172.31.20.33:8080
Session Affinity:  None
Events:            <none>


Name:              frontend
Namespace:         default
Labels:            service=frontend
Annotations:       <none>
Selector:          service=frontend
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.134.210
IPs:               10.100.134.210
Port:              8100  8100/TCP
TargetPort:        80/TCP
Endpoints:         172.31.26.66:80,172.31.9.125:80
Session Affinity:  None
Events:            <none>


Name:              kubernetes
Namespace:         default
Labels:            component=apiserver
                   provider=kubernetes
Annotations:       <none>
Selector:          <none>
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.0.1
```



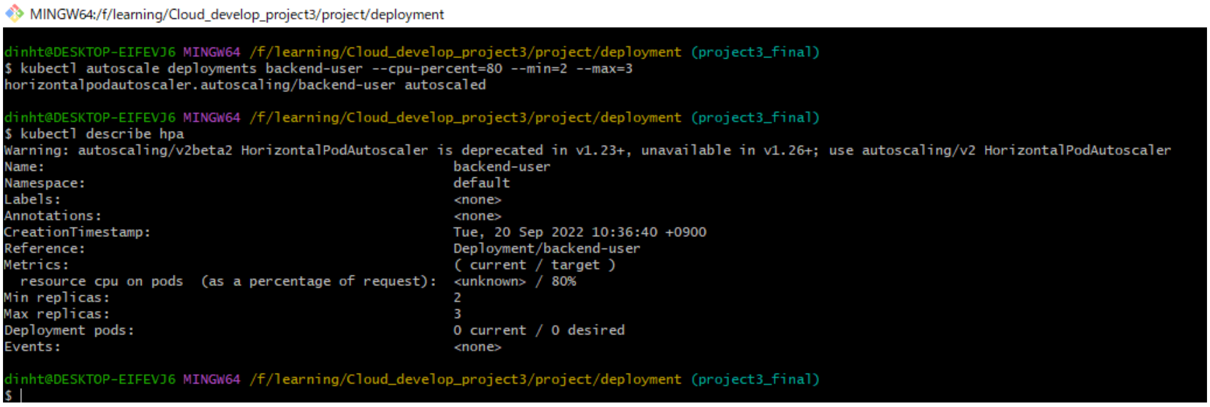
```
Name:              kubernetes
Namespace:         default
Labels:            component=apiserver
                   provider=kubernetes
Annotations:       <none>
Selector:          <none>
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.0.1
IPs:               10.100.0.1
Port:              https  443/TCP
TargetPort:        443/TCP
Endpoints:         172.31.4.222:443,172.31.47.7:443
Session Affinity:  None
Events:            <none>


Name:                     publicfrontend
Namespace:                default
Labels:                   service=frontend
Annotations:              <none>
Selector:                 service=frontend
Type:                     LoadBalancer
IP Family Policy:         SingleStack
IP Families:              IPv4
IP:                       10.100.194.4
IPs:                      10.100.194.4
LoadBalancer Ingress:     a4696e205fe8343ee9b5330d83800088-1681095295.us-east-1.elb.amazonaws.com
Port:                     <unset>  80/TCP
TargetPort:               80/TCP
NodePort:                 <unset>  31658/TCP
Endpoints:                172.31.26.66:80,172.31.9.125:80
Session Affinity:         None
External Traffic Policy:  Cluster
Events:                   <none>


Name:                     publicreverseproxy
Namespace:                default
Labels:                   service=reverseproxy
Annotations:              <none>
Selector:                 service=reverseproxy
Type:                     LoadBalancer
IP Family Policy:         SingleStack
IP Families:              IPv4
IP:                       10.100.148.221
IPs:                      10.100.148.221
LoadBalancer Ingress:     a8829719baaa24508ab64b28615b528e-48855293.us-east-1.elb.amazonaws.com
Port:                     <unset>  8080/TCP
TargetPort:               8080/TCP
NodePort:                 <unset>  31149/TCP
Endpoints:                172.31.22.251:8080,172.31.7.87:8080
Session Affinity:         None
External Traffic Policy:  Cluster
Events:                   <none>


Name:              reverseproxy
Namespace:         default
Labels:            service=reverseproxy
Annotations:       <none>
Selector:          service=reverseproxy
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.60.20
IPs:               10.100.60.20
Port:              8080  8080/TCP
TargetPort:        8080/TCP
```

kubectl describe hpa autoscaling

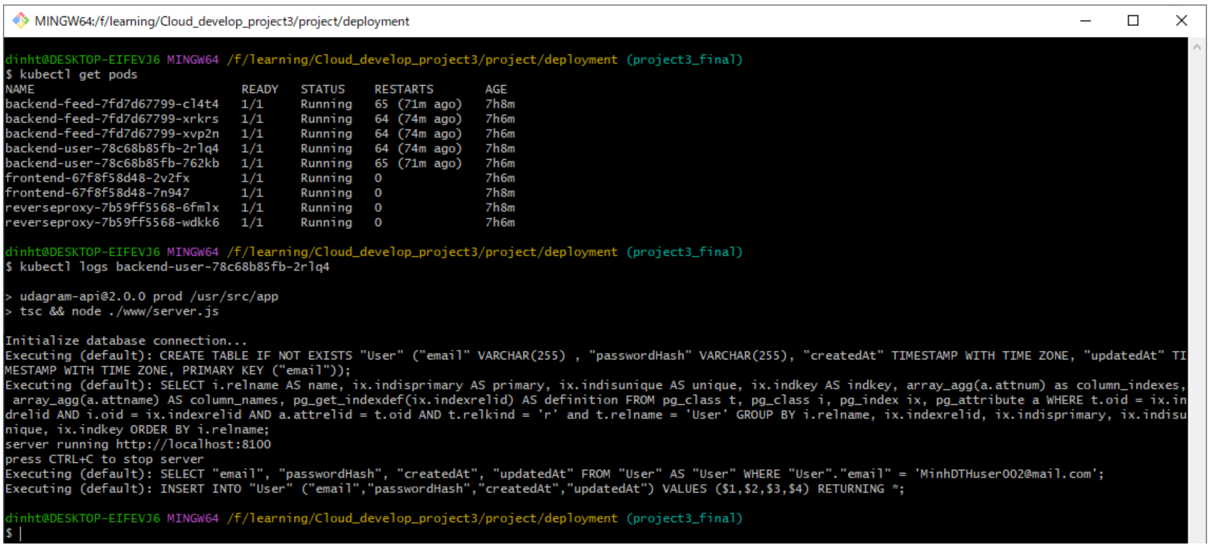

MINGW64:/f/learning/Cloud_develop_project3/project/deployment

```
dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl autoscale deployments backend-user --cpu-percent=80 --min=2 --max=3
horizontalpodautoscaler.autoscaling/backend-user autoscaled

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl describe hpa
Warning: autoscaling/v2beta2 HorizontalPodAutoscaler is deprecated in v1.23+, unavailable in v1.26+; use autoscaling/v2 HorizontalPodAutoscaler
Name:                                                  backend-user
Namespace:                                             default
Labels:                                                <none>
Annotations:                                           <none>
CreationTimestamp:                                     Tue, 20 Sep 2022 10:36:40 +0900
Reference:                                             Deployment/backend-user
Metrics:                                               ( current / target )
  resource cpu on pods  (as a percentage of request):  <unknown> / 80%
Min replicas:                                          2
Max replicas:                                          3
Deployment pods:                                       0 current / 0 desired
Events:                                                <none>

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ |
```

I register new User on system and this was my BE respone:


MINGW64:/f/learning/Cloud_develop_project3/project/deployment

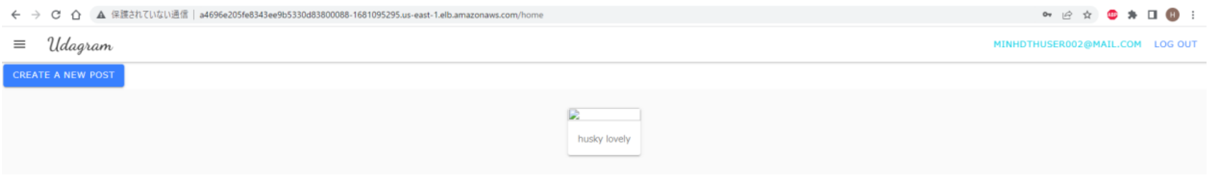
```
dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl get pods
NAME                             READY   STATUS    RESTARTS       AGE
backend-feed-7fd7d67799-cl4t4    1/1     Running   65 (71m ago)   7h8m
backend-feed-7fd7d67799-xrkrs    1/1     Running   64 (74m ago)   7h6m
backend-feed-7fd7d67799-xvp2n    1/1     Running   64 (74m ago)   7h6m
backend-user-78c68b85fb-2rlq4    1/1     Running   64 (74m ago)   7h8m
backend-user-78c68b85fb-762kb    1/1     Running   65 (71m ago)   7h6m
frontend-67f8f58d48-2v2fx        1/1     Running   0              7h6m
frontend-67f8f58d48-7n947        1/1     Running   0              7h8m
reverseproxy-7b59ff5568-6fmlx    1/1     Running   0              7h8m
reverseproxy-7b59ff5568-wdkk6    1/1     Running   0              7h6m

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl logs backend-user-78c68b85fb-2rlq4

> udagram-api@2.0.0 prod /usr/src/app
> tsc && node ./www/server.js

Initialize database connection...
Executing (default): CREATE TABLE IF NOT EXISTS "User" ("email" VARCHAR(255) , "passwordHash" VARCHAR(255), "createdAt" TIMESTAMP WITH TIME ZONE, "updatedAt" TI
MESTAMP WITH TIME ZONE, PRIMARY KEY ("email"));
Executing (default): SELECT i.relname AS name, ix.indisprimary AS primary, ix.indisunique AS unique, ix.indkey AS indkey, array_agg(a.attnum) as column_indexes,
 array_agg(a.attname) AS column_names, pg_get_indexdef(ix.indexrelid) AS definition FROM pg_class t, pg_class i, pg_index ix, pg_attribute a WHERE t.oid = ix.in
drelid AND i.oid = ix.indexrelid AND a.attrelid = t.oid AND t.relkind = 'r' and t.relname = 'User' GROUP BY i.relname, ix.indexrelid, ix.indisprimary, ix.indisu
nique, ix.indkey ORDER BY i.relname;
server running http://localhost:8100
press CTRL+C to stop server
Executing (default): SELECT "email", "passwordHash", "createdAt", "updatedAt" FROM "User" AS "User" WHERE "User"."email" = 'MinhDTHuser002@mail.com';
Executing (default): INSERT INTO "User" ("email","passwordHash","createdAt","updatedAt") VALUES ($1,$2,$3,$4) RETURNING *;

dinht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ |
```


保護されていない通信 | a4696e205fe8343ee9b5330d83800088-1681095295.us-east-1.elb.amazonaws.com/home
Udagram
MINHDTHUSER002@MAIL.COM
LOG OUT
CREATE A NEW POST
husky lovely

My github: https://github.com/T16CS036/project3_final.git

It has included everything! Even I shouldn't upload sensitive information! But because to improve I work on the flow you guys give me! So, I attached everything on git!

Because of the cost of AWS, I will turndown service immediately.

Thank you so much for the lesson!!