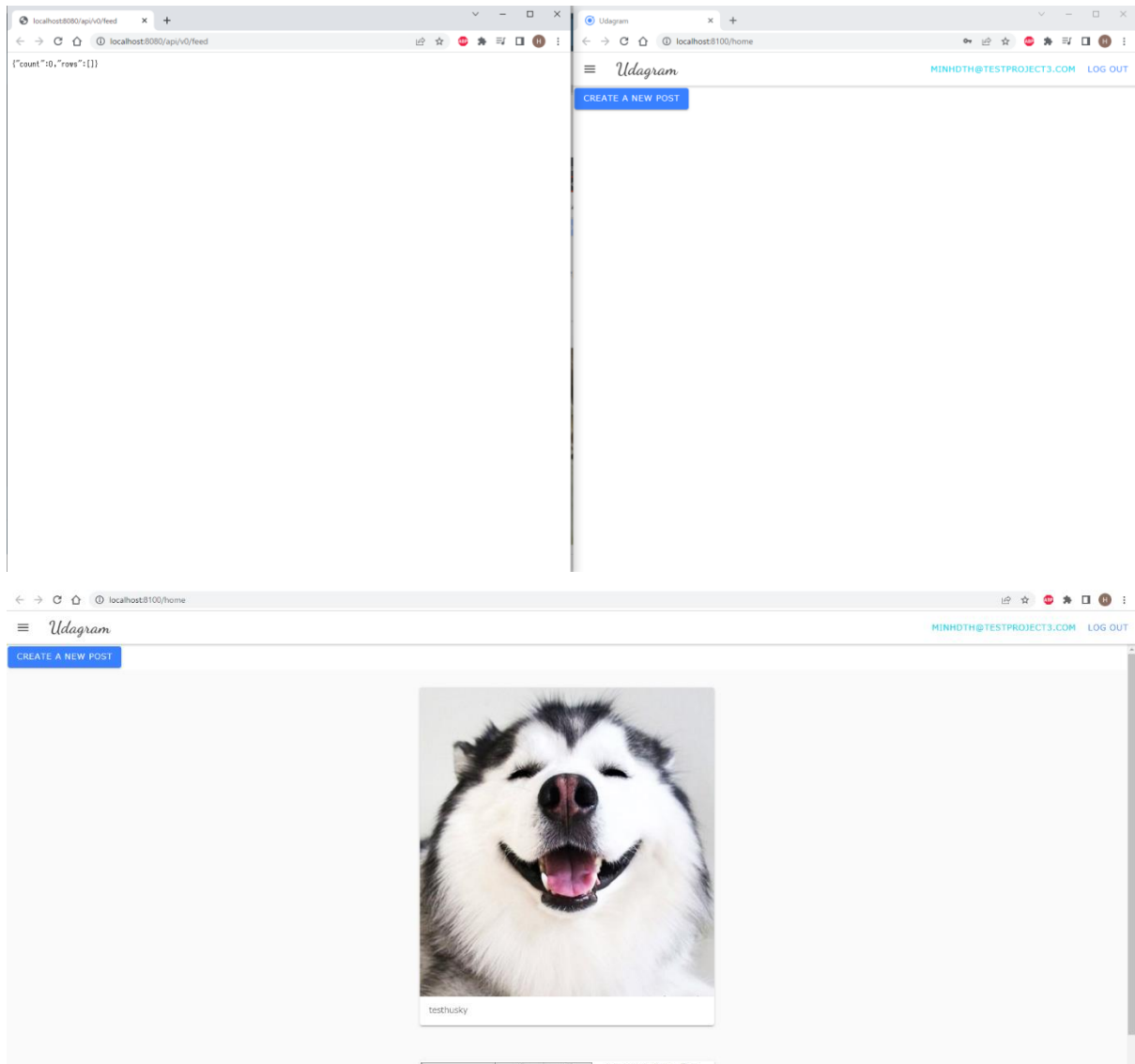


## Report project 3

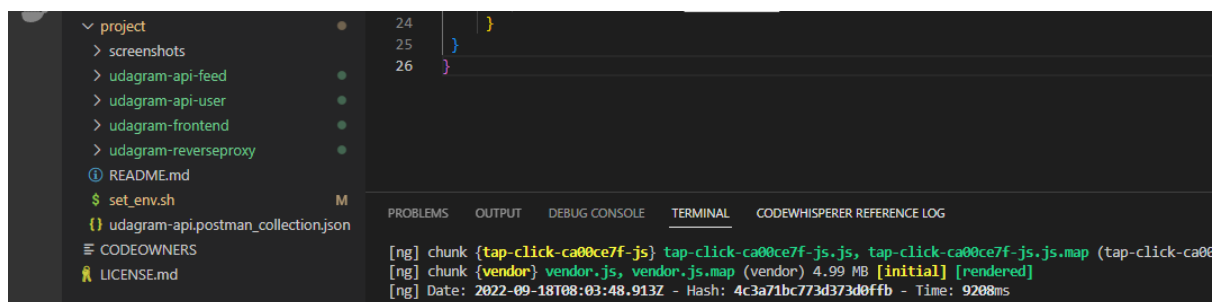
Project owner: MinhDTH

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

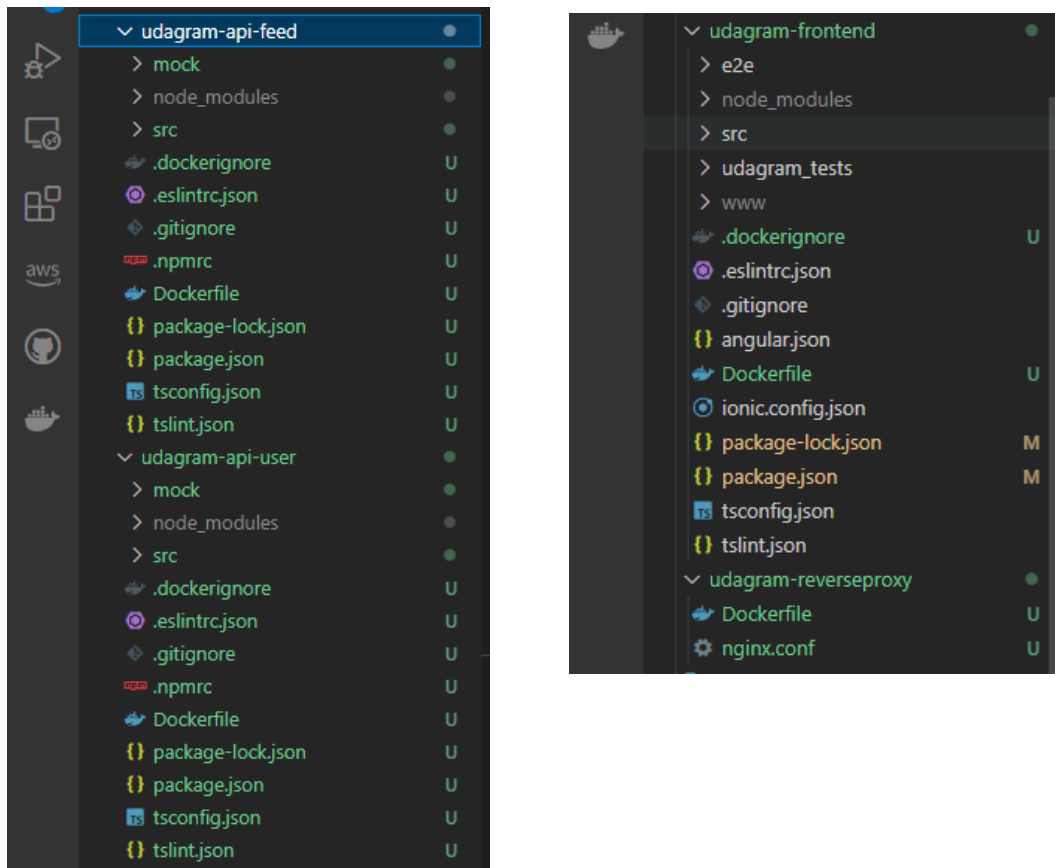


### 2. Part II: Microservices application:

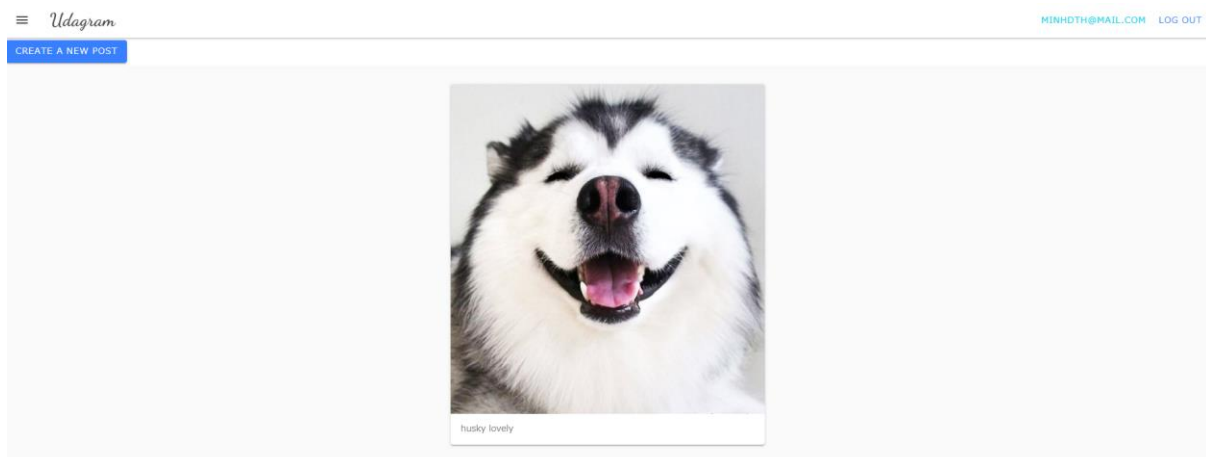
Divide an application into microservices



Build and run a container image using Docker:

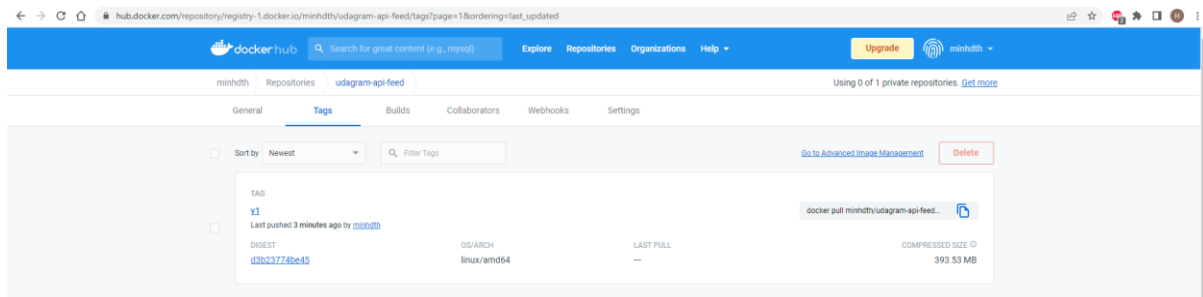
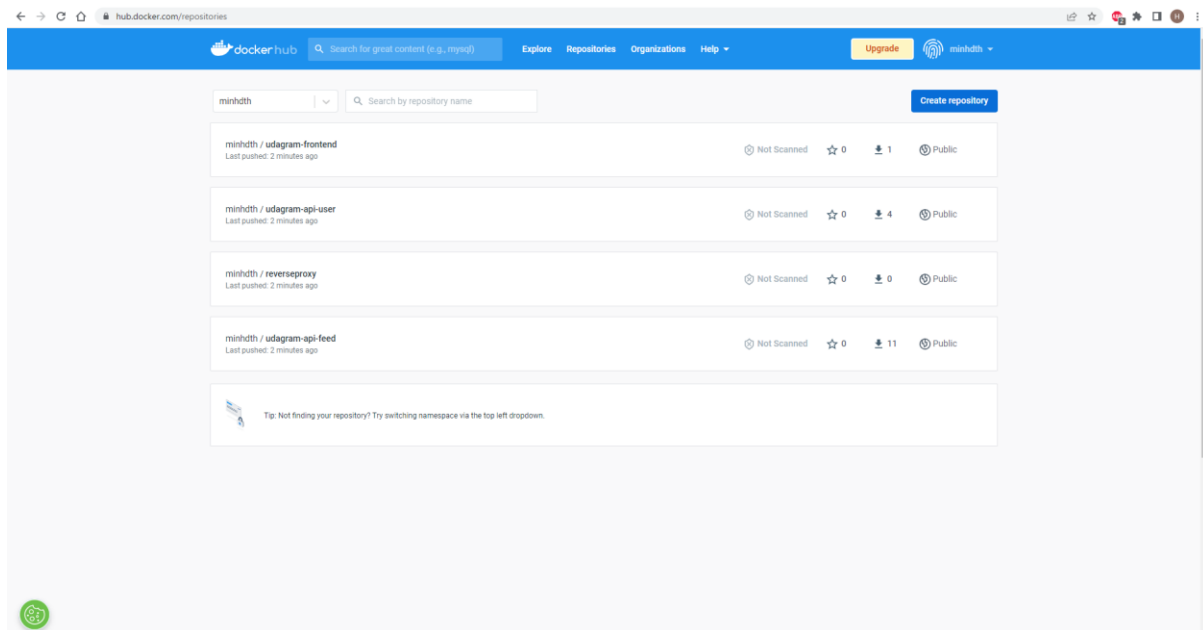


successful to run on docker local





This is docker hub after success to push image on:



## All pods, services, deployments information on EKS

```
MINGW64/f/learning/Cloud_develop_project3/project/deployment
dinhht@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-7b59ff5568-6fm1x      1/1     Running   0           6h5m
reverseproxy-7b59ff5568-wdtkk6     1/1     Running   0           6h3m

dinhht@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

dinhht@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

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

kubectl describe services doesn't include sensitive information:

```
dinhth@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
```

```
MINGW64/f/learning/Cloud_develop_project3/project/deployment
dinhht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl get hpa
NAME          REFERENCE          TARGETS   MINPODS   MAXPODS   REPLICAS   AGE
backend-feed  Deployment/backend-feed  0%/60%    1         3         2          39s

dinhht@DESKTOP-EIFEVJ6 MINGW64 /f/learning/Cloud_develop_project3/project/deployment (project3_final)
$ kubectl describe hpa
error: unknown command "describe" for "kubectl"

Did you mean this?
    describe

dinhht@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-feed
Namespace: default
Labels: <none>
Annotations: <none>
CreationTimestamp: Tue, 20 Sep 2022 15:39:22 +0900
Reference: Deployment/backend-feed
Metrics: ( current / target )
  resource cpu on pods (as a percentage of request): 0% (0) / 60%
Min replicas: 1
Max replicas: 3
Deployment pods: 2 current / 2 desired
Conditions:
  Type            Status  Reason                        Message
  ----            -
  AbleToScale     True    ScaleDownStabilized          recent recommendations were higher than current one, applying the highest recent recommendation
  ScalingActive   True    ValidMetricFound              the HPA was able to successfully calculate a replica count from cpu resource utilization (percentage of r
  ScalingLimited  False   DesiredWithinRange            the desired count is within the acceptable range
Events:
```

```
MINGW64/f:/learning/Cloud_develop_project3/project/deployment
dinhth0DESKTOP-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-wdtkk6     1/1      Running   0           7h8m

dinhth0DESKTOP-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.attname) 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.indis
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", "updatedAt") VALUES ($1,$2,$3,$4) RETURNING *;

dinhth0DESKTOP-EIFEVJ6 MINGW64 /f:/learning/Cloud_develop_project3/project/deployment (project3_final)
$ |
```

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!!