microservices

ลง nginx

```
wsl-training@Missez:~/docker207$ ls
engse207-docker
```

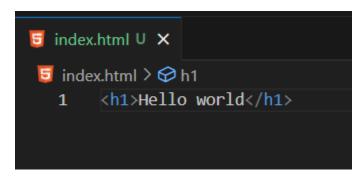
download images

wsl-training@Missez:~/docker207/engse207-docker\$ docker images									
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE					
fiew	latest	6b0a4e6f7b0b	8 days ago	1.18GB					
<none></none>	<none></none>	8989935b5c75	8 days ago	1.18GB					
nginx	latest	7f553e8bbc89	2 weeks ago	192MB					
jc21/nginx-proxy-manager	latest	28147ecda659	3 months ago	1.09GB					
nginx	1.25.4	c613f16b6642_	8 months ago	187MB					

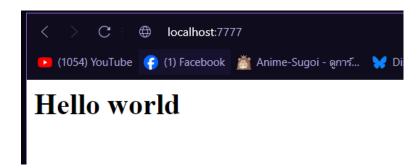
run nginx port 7777



ลองสร้าง file index แล้ว copy ไปยัง /usr/share/nginx/html/index.html



ลองเปิดดู



MSSQL

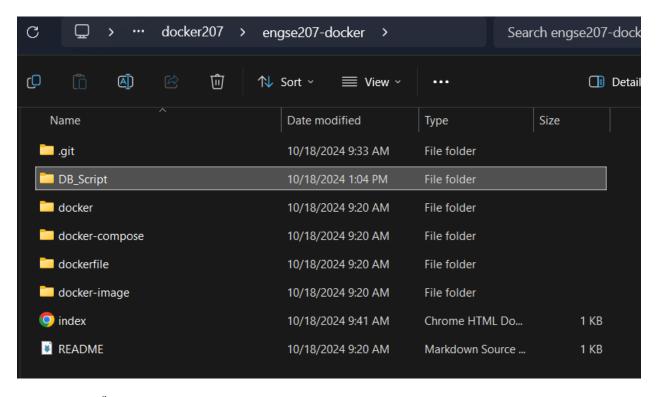
ลง mssql

wsl-training@Missez:~/docker207/engse207-docker\$ docker images								
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE				
fiew	latest	6b0a4e6f7b0b	8 days ago	1.18GB				
<none></none>	<none></none>	8989935b5c75	8 days ago	1.18GB				
nginx	latest	7f553e8bbc89	2 weeks ago	192MB				
mcr.microsoft.com/mssql/server	2017-latest	837b47c7b5e8	3 weeks ago	1.33GB				

run mssql

wsl-training@Missez:~/docker207/engse207-docker\$ docker ps			
CONTAINER ID IMAGE	COMMAND	CREATED	STATUS
PORTS NAMES			
d64ee7144862 mcr.microsoft.com/mssql/server:2017-latest	"/opt/mssql/bin/nonr"	2 hours ago	Up 2 hours
0.0.0.0:1433->1433/tcp mssql2017			
6cb3bbdb2813 nginx:1.25.4	"/docker-entrypoint"	4 hours ago	Up 4 hours
0.0.0.0:7777->80/tcp			

โหลด DB_Script มาไว้ที่ engse207-docker



ทำการ bash เข้าไป mssql

wsl-training@Missez:~/docker207/engse207-docker\$ docker exec -it mssql2017 "bash" root@d64ee7144862:/#

เข้าด้วย username sa และ password P@ssw0rd

```
root@d64ee7144862:/# /opt/mssql-tools/bin/sqlcmd -S localhost -U sa -p Password:
1>
```

ทำการสร้าง database team3 ขึ้นมา

```
1> CREATE DATABASE team3_web_labDB;
2> go

Network packet size (bytes): 4096
1 xact[s]:
Clock Time (ms.): total 264 avg 264.0 (3.8 xacts per sec.)
1> use team3_web_labDB;
2> go
Changed database context to 'team3_web_labDB'.
```

สร้าง table inventory

```
1> CREATE TABLE dbo.Inventory ( id INT, name NVARCHAR(50), quantity INT, PRIMARY KEY (id));
2> go
Network packet size (bytes): 4096
1 xact[s]:
Clock Time (ms.): total
                                13 avg
                                         13.0 (76.9 xacts per sec.)
1> INSERT INTO dbo.Inventory VALUES (1, 'banana', 150);
2> INSERT INTO dbo.Inventory VALUES (2, 'orange', 154);
3> go
(1 rows affected)
(1 rows affected)
Network packet size (bytes): 4096
1 xact[s]:
Clock Time (ms.): total
                                 7 avg 7.0 (142.9 xacts per sec.)
1> SELECT * FROM dbo.Inventory;
2> go
id
                                                                  quantity
            name
          1 banana
                                                                          150
                                                                          154
          2 orange
```

นำ table onlineagents มา import

```
wsl-training@Missez:~/docker207/engse207-docker$ docker cp ../engse207-docker/DB_Script/dbo.OnlineAgents.Table .sql d64ee7144862:/home
Successfully copied 147kB to d64ee7144862:/home
```

```
wsl-training@Missez:-/docker207/engse207-docker$ docker exec -it mssql2017 "bash"
root@d64ee7144862:/# /opt/mssql-tools/bin/sqlcmd -S localhost -U sa -p -d team3_web_labDB -i /home/dbo.OnlineAgents.Table.sql
Password:
```

```
root@d64ee7144862:/# /opt/mssql-tools/bin/sqlcmd -S localhost -U sa -p Password:
1> use team3_web_labDB;
2> go
Changed database context to 'team3_web_labDB'.
```

```
1> SELECT * FROM dbo.OnlineAgents;
2> go
OnlineAgent_id agent_id
                                                 DIDQueueID StartOnline
                                                                                       uuid
                                                                                                                AgentStatus IsLogi
 AgentName
LastUpdated
                      NULL 9999
                                                        NULL 2023-08-31 13:56:26.033 cb40f193-1317-4b17-a360-506cd89700f7
        Dev2
  2023-08-31 13:56:26.033
                                                        NULL 2023-09-05 14:27:35.483 0a9c6366-5ec7-4727-8698-045b977afe61
                      NULL 3891
        Dev2
  2023-09-05 14:27:35.483
                      NULL 9998
                                                        NULL 2023-09-07 14:05:20.360 5ac956de-560b-4888-8b69-d77dfdf3191d
  Dev2
2023-09-07 14:05:20.360
```

MONGODB

download mongodb ลงมา

```
wsl-training@Missez:~/docker207/engse207-docker$ docker pull mongodb/mongodb-community-server:latest
latest: Pulling from mongodb/mongodb-community-server
6414378b6477: Pull complete
8708c614f493: Pull complete
09968d8401ef: Pull complete
dcf09fdad408: Pull complete
745594abef4d: Pull complete
0072679c884c: Pull complete
99595a08a5a2: Pull complete
0a9fc7c47cb6: Pull complete
5016af33ff0e: Pull complete
4f4fb700ef54: Pull complete
792dee6d1c5e: Pull complete
```

ทำการ run docker mongodb ด้วย port 27017 และ ชื่อ mongodb

```
wsl-training@Missez:~/docker207/engse207-docker$ docker run --name mongodb -p 27017:27017 -d mongodb/mongodb-community-server:latest
e9376304bac81dddd433b00c7d0e104098e870a83fb8fb98466638062e019365
wsl-training@Missez:-/docker207/engse207-docker$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS

NAMES
e9376304bac8 mongodb/mongodb-community-server:latest "python3 /usr/local/..." 4 seconds ago Up 3 seconds 0.0.0.0:270
17->27017/tcp mongodb
```

เข้าไปใน mongodb

```
wsl-training@Missez:~/docker2
                                         -docker$ docker exec -it mongodb mongosh
Current Mongosh Log ID: 67120c1f3fb6602529fe6910
                        mongodb://127.0.0.1:27017/?directConnection=true&serverSele
Connecting to:
Using MongoDB:
                        7.0.14
Using Mongosh:
                        2.3.2
For mongosh info see: https://www.mongodb.com/docs/mongodb-shell/
To help improve our products, anonymous usage data is collected and sent to MongoD
/privacy-policy).
You can opt-out by running the disableTelemetry() command.
   The server generated these startup warnings when booting
   2024-10-18T07:16:26.657+00:00: Using the XFS filesystem is strongly recommended
://dochub.mongodb.org/core/prodnotes-filesystem
   2024-10-18T07:16:27.211+00:00: Access control is not enabled for the database.
on is unrestricted
   2024-10-18T07:16:27.211+00:00: /sys/kernel/mm/transparent_hugepage/enabled is 'a
this binary version
   2024-10-18T07:16:27.211+00:00: vm.max_map_count is too low
test>
```

เปลี่ยน db เป็น wallboarddb

```
test> use wallboarddb
switched to db wallboarddb
wallboarddb>
```

สร้าง user ขึ้นมา

ลองสร้าง table ขึ้นมา

```
wallboarddb> db.createCollection("log", { capped : true, size : 5242880, max : 5000 } )
{ ok: 1 }
wallboarddb> db.log.insertOne({ capped : true, size : 5242880, max : 5000 })
{
    acknowledged: true,
    insertedId: ObjectId('67120e453fb6602529fe6911')
}
wallboarddb> db.log.find()
[
    {
        _id: ObjectId('67120e453fb6602529fe6911'),
        capped: true,
        size: 5242880,
        max: 5000
    }
}
```

```
wallboarddb> show collections log wallboarddb> show dbs admin 132.00 KiB config 92.00 KiB 40.00 KiB wallboarddb 40.00 KiB wallboarddb>
```

ทำการ git clone endpoint, parseserver, wallboardadmin ลงมา

```
wsl-training@Missez:~/Final$ git clone git@github.com:Missez/engse207-endpoint-api.git
Cloning into 'engse207-endpoint-api'...
remote: Enumerating objects: 6623, done.
remote: Counting objects: 100% (6623/6623), done.
remote: Compressing objects: 100% (5034/5034), done.
remote: Total 6623 (delta 1420), reused 6609 (delta 1410), pack-reused 0 (from 0)
Receiving objects: 100% (6623/6623), 11.19 MiB | 1.97 MiB/s, done.
Resolving deltas: 100% (1420/1420), done.
wsl-training@Missez:~/Final$ ls
wsl-training@Missez:~/Final$ git clone git@github.com:Missez/engse207-parse-ser
ver-api.git
Cloning into 'engse207-parse-server-api'...
remote: Enumerating objects: 51, done.
remote: Counting objects: 100% (51/51), done.
remote: Compressing objects: 100% (34/34), done.
remote: Total 51 (delta 23), reused 40 (delta 13), pack-reused 0 (from 0) Receiving objects: 100% (51/51), 10.97 KiB | 5.48 MiB/s, done.
Resolving deltas: 100% (23/23), done.
wsl-training@Missez:~/Final$
wsl-training@Missez:~/Final$ git clone git@github.com:Missez/engse207-wallboard-admin.git
Cloning into 'engse207-wallboard-admin'..
```

```
wsl-training@Missez:~/Final$ git clone git@github.com:Missez/engse207-wallboard-admin.git
Cloning into 'engse207-wallboard-admin'...
remote: Enumerating objects: 352, done.
remote: Counting objects: 100% (352/352), done.
remote: Compressing objects: 100% (286/286), done.
remote: Total 352 (delta 28), reused 343 (delta 19), pack-reused 0 (from 0)
Receiving objects: 100% (352/352), 5.01 MiB | 1.28 MiB/s, done.
Resolving deltas: 100% (28/28), done.
wsl-training@Missez:~/Final$
```

endpoint-api

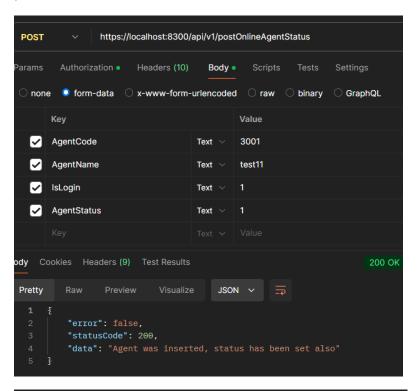
ทำการ เปลี่ยน dbconfig ให้เชื่อมต่อกับ mssql ของ docker

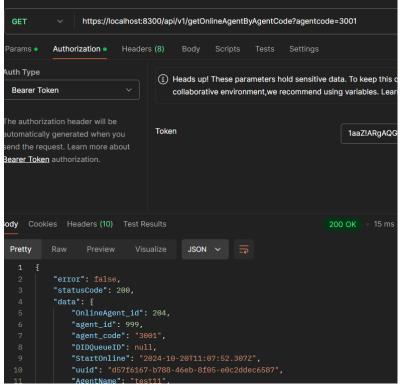
```
var dbconfig = {
    development: {
        server: '127.0.0.1',
        database: 'team3_web_labDB',
        user: 'sa',
        password: 'P@ssw0rd',
        port: 1433,
        options:{
            encript: true,
                setTimeout: 12000,
                      enableArithAbort: true,
                      trustServerCertificate: true,
                      trustedconnection: true,
                      instancename: '127.0.0.1' //
}
```

ทดสอบ ลอง run ดู

```
wsl-training@Missez:~/Final/engse207-endpoint-api$ node webreport-api-https.js
sqlConfig: {
    server: '127.0.0.1',
    database: 'team3_web_labDB',
    user: 'sa',
    password: 'P@sswOrd',
    port: 1433,
    options: {
        encript: true,
        setTimeout: 12000,
        enableArithAbort: true,
        trustServerCertificate: true,
        trustedconnection: true,
        instancename: '192.168.246.228'
    }
}
Webreport API Server running on https://0.0.0.0:8300
```

postman





parse-server

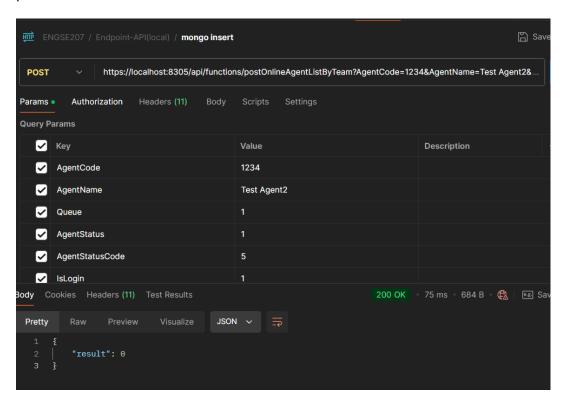
ทำการ เปลี่ยน dbconfig ให้เชื่อมต่อกับ mongo ของ docker

```
const config = {
    databaseURI: 'mongodb://wallboarduser:WB1qazxsw2@127.0.0.1:27017/wallboarddb',
    cloud: process.env.CLOUD_CODE_MAIN || __dirname + '/cloud/main.js',
    appId: process.env.APP_ID || 'wallboardapi',
    masterKey: process.env.MASTER_KEY || 'wallboardapi', //Add your master key here.
    clientKey: 'wallboardapi',
    javascriptKey: 'wallboardapi',
    serverURL: 'https://localhost:' + apiport + '/api', // Don't forget to change to
    publicServerURL: 'https://localhost:' + apiport + '/api',
```

ลอง run

```
wsl-training@Missez:~/Final/engse207-parse-server-api$ npm start
> wallboard-api@1.0.0 start
> node api-wallboard-https.js
```

postman ทดสอบ



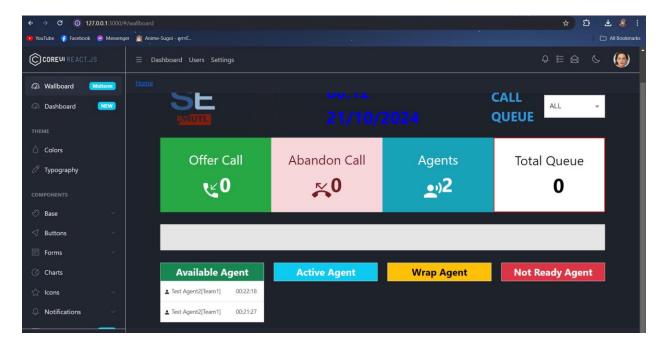
wallboard

แก้ไข hosturl , wsurl ให้เป็น localhost

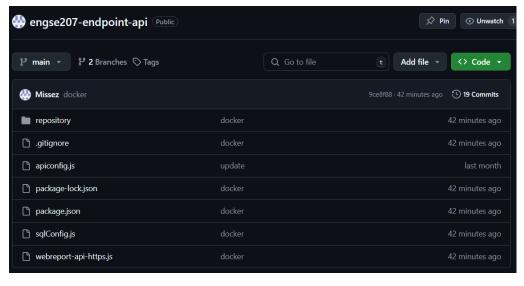
```
const wbconfig = {
    development: {
        hosturl : 'https://localhost:8305/api',
        wsurl : 'wss://localhost:8305',
        masterKey : 'wallboardapi',
        clientKey : 'wallboardapi',
        appId : "wallboardapi"
    },
    production: {
        hosturl : 'https://localhost:8305/api',
        wsurl : 'wss://localhost:8305',

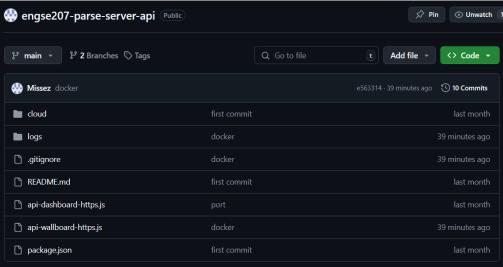
        masterKey : 'wallboardapi',
        clientKey : 'wallboardapi',
        javascriptKey : 'wallboardapi',
        appId : "wallboardapi"
    }
};
export default wbconfig;
```

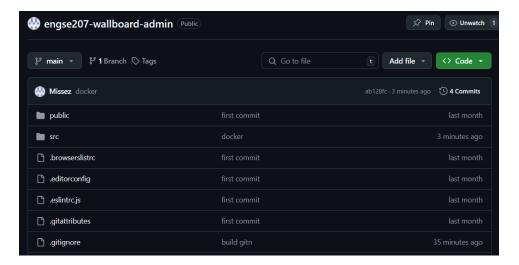
ทำการ run npm start ทดสอบ



หลังจากทดสอบแล้ว ให้ push ขึ้น git







ทำการสร้าง docker-compose.yaml และ dockerflie ทั้ง 5 ตัว

```
    docker-compose.yaml
    dockerfile.endpoint-api
    dockerfile.mongo
    dockerfile.mssql
    dockerfile.Parse-server-api
    dockerfile.react-admin
```

docker-compose.yaml

```
services:
   # image: mcr.microsoft.com/mssql/server:2017-latest
     dockerfile: dockerfile.mssql
   container name: mssql agent
    - "1433:1433"
   environment:
     - ACCEPT EULA=Y
     - MSSQL SA PASSWORD=P@ssw0rd
     - ./mssql_data:/var/opt/mssql
     - ./mssql_scripts:/home/mssql_scripts
   # image: mongo
   build:
     dockerfile: dockerfile.mongo
   container name: mongodb wallboard
   restart: always
   environment:
     - MONGO_INITDB_ROOT_USERNAME=root
     - MONGO INITDB ROOT PASSWORD=P@ssw0rd
   ports:
    - "27017:27017"
     - ./mongo-data:/data/db
     - ./mongo scripts:/home/mongo scripts
```

```
parse-server-api:
 build:
   context: .
   dockerfile: dockerfile.Parse-server-api
 container name: parse-server-api
 ports:
  - "8305:8305"
 restart: always
 depends on:
  - mongo
   - ./serverkey:/app/serverkey
endpoint-api:
 build:
   context: .
   dockerfile: dockerfile.endpoint-api
 container name: endpoint-api
 ports:
   - "8300:8300"
   - "8301:8301"
 restart: always
 depends on:
   - mssql
 - ./serverkey:/app/serverkey
```

mongo_scripts จะเป็นการสร้าง DB, user

```
mongo_scripts > JS init-mongo.js > ...

1    db = db.getSiblingDB('wallboarddb');

2    db.createCollection("log", { capped: true, size: 5242880, max: 5000 });

4    db.createUser({
6        user: 'wallboarduser',
7        pwd: 'WB1qazxsw2',
8        roles: [{ role: 'readWrite', db: 'wallboarddb' }]
9    });

10    db.log.insertOne({ capped: true, size: 5242880, max: 5000 });
```

mssql_scripts จะเป็นการสร้าง DB และ import table

```
mssql_scripts > import_table.sh

# #/bin/bash

sleep 90s

sleep 90s

SERVER="localhost"

USER="sa"

PASSWORD="P@ssw0rd"

DATABASE="team3_web_labDB"

SQL_SCRIPT="/home/mssql_scripts/dbo.OnlineAgents.Table.sql"

/opt/mssql-tools/bin/sqlcmd -5 $SERVER -U $USER -P $PASSWORD -Q "CREATE DATABASE $DATABASE;"

if [ $? -eq 0 ]; then

echo "Database $DATABASE created successfully."

else

echo "Failed to create database $DATABASE."

fi

/opt/mssql-tools/bin/sqlcmd -S $SERVER -U $USER -P $PASSWORD -d $DATABASE -i $SQL_SCRIPT

if [ $? -eq 0 ]; then

echo "Table imported successfully from $SQL_SCRIPT."

else

echo "Failed to import table from $SQL_SCRIPT."

else

echo "Failed to import table from $SQL_SCRIPT."

exit 1

fi
```

dockerfile.endpoint-api

```
dockerfile.endpoint-api
1   FROM node:20
2   WORKDIR /app
3   RUN git clone https://github.com/Missez/engse207-endpoint-api.git /app
4   RUN npm install
5   COPY ./serverkey /app
6   EXPOSE 8300 8301
7   CMD ["npm", "run", "start"]
8
```

dockerfile.mongo

```
dockerfile.mongo

dockerfile.mongo

# Dockerfile for MongoDB

FROM mongo:latest

ENV MONGO_INITDB_ROOT_USERNAME root

ENV MONGO_INITDB_ROOT_PASSWORD P@ssw@rd

COPY ./mongo_scripts/run_mongo_setup.sh /docker-entrypoint-initdb.d/
```

dockerfile.mssql

```
dockerfile.mssql

# Dockerfile for MSSQL

FROM mcr.microsoft.com/mssql/server:2017-latest

WORKDIR /home/mssql_scripts

COPY ./mssql_scripts/import_table.sh /home/mssql_scripts/

ENV ACCEPT_EULA=Y

ENV MSSQL_SA_PASSWORD=P@ssw0rd

EXPOSE 1433

CMD /bin/bash /home/mssql_scripts/entrypoint.sh
```

dockerfile.Parse-server-api

```
dockerfile.Parse-server-api

1   FROM node:18

2   WORKDIR /app

3   RUN git clone https://github.com/Missez/engse207-parse-server-api.git /app

4   RUN npm install

5   COPY ./serverkey /app

6   EXPOSE 8405

7   CMD ["npm", "run", "start"]

8
```

dockerfile.react-admin

```
dockerfile.react-admin

FROM node:18-alpine AS build

RUN apk add --no-cache git

WORKDIR /app

RUN git clone https://github.com/Missez/engse207-wallboard-admin.git

RUN npm install --legacy-peer-deps

RUN npm run build

FROM nginx:alpine

COPY --from=build /app/build /usr/share/nginx/html

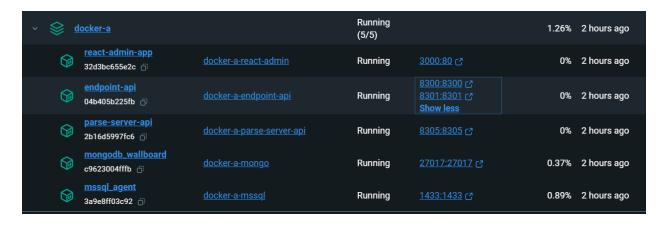
EXPOSE 80

CMD ["nginx", "-g", "daemon off;"]
```

จากนั้นทำการ docker compose up

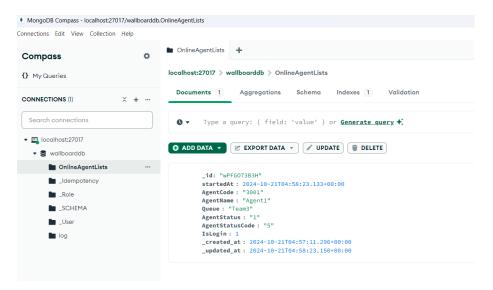
```
wsl-training@Missez:~/docker-a$ docker compose up
```

หลังจาก run docker

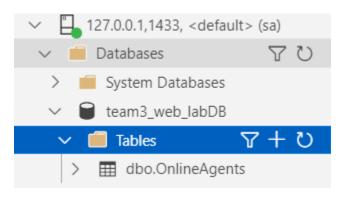


การทดสอบ

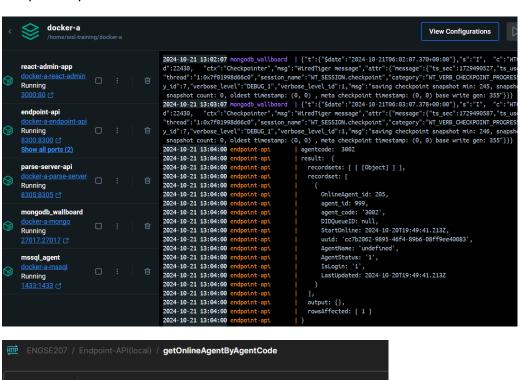
mongodb

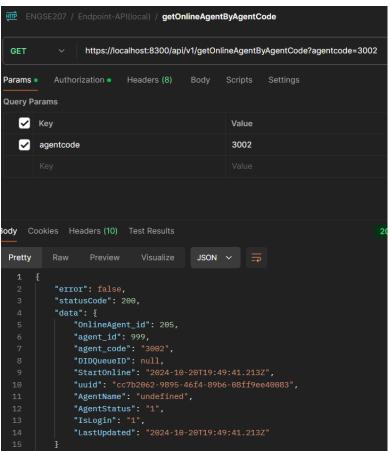


mssql

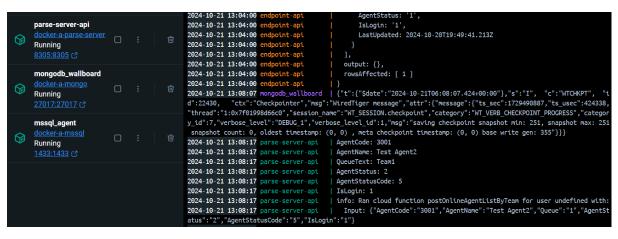


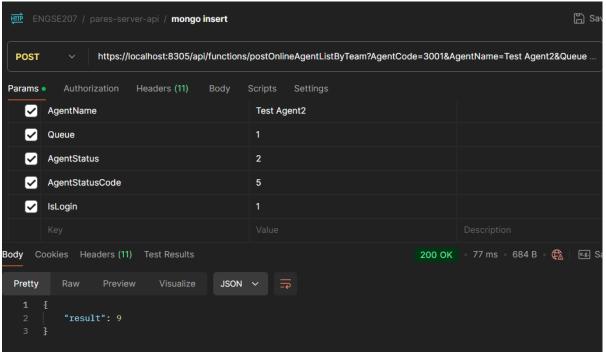
endpoint-api



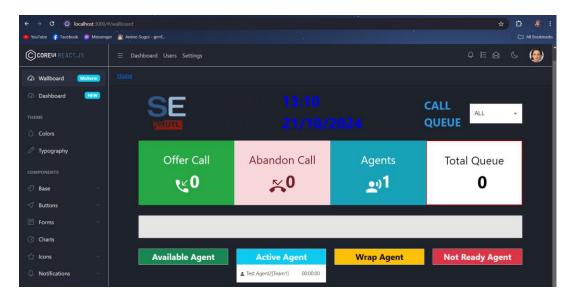


parse-server-api





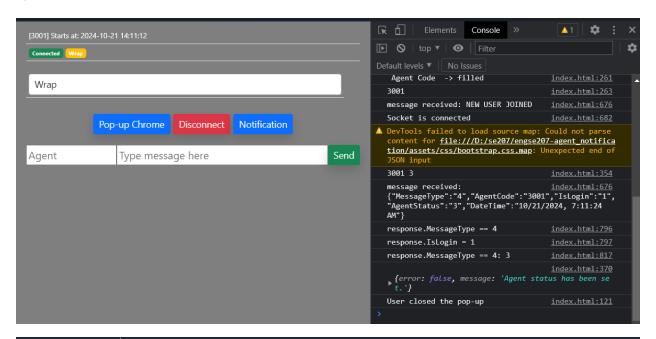
wallboard

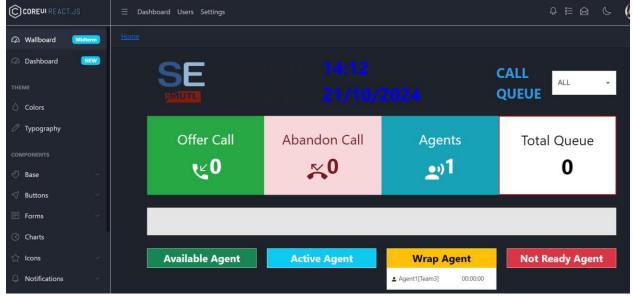


agent-notification

ทำการแก้ APIServer, WebSecketServer , ParseServerAPI เป็น localhost

run





link ทดสอบ