

## 1. ORACLE 建立

在 CMD

```
docker run --name oracle-23ai -p 1521:1521 -p 5500:5500 ^ -e  
ORACLE_PWD=YourPasswordHere -e ORACLE_CHARACTERSET=AL32UTF8 ^ -v  
oracle_data:/opt/oracle/oradata -d ^ container-  
registry.oracle.com/database/free:latest
```

## 2. ORACLE PYTHON 連線

在 CMD

```
docker run --rm -p 10000:8888 --name dse --user root -e GRANT_SUDO=yes -e  
JUPYTER_ENABLE_LAB=yes -v work:/home/jovyan/work --link oracle-23ai  
jupyter/datascience-notebook
```

在 docker DSE

```
bash
```

```
su - jovyan
```

```
conda activate
```

```
python -m pip install oracledb --upgrade --user
```

## 3. Mongodb 建立

```
docker volume create --name mongo-data
```

```
docker run -d -p 27017:27017 --name mongodb --restart always \ -v mongo-  
data:/data/db mongo
```

```
docker inspect mongodb
```

## 4. Mongodb PYTHON 連線

在 CMD

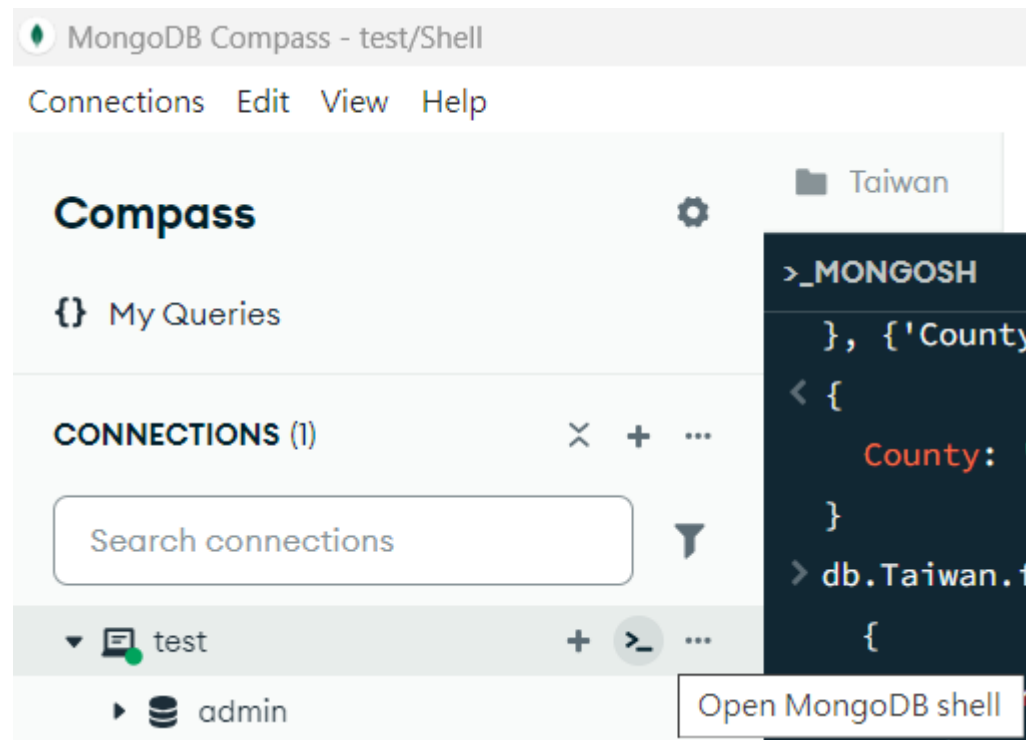
```
docker run --rm -p 10000:8888 --name dse2 -e JUPYTER_ENABLE_LAB=yes -e
```

GRANT\_SUDO=yes -v work:/home/jovyan/work jupyter/datascience-notebook

在 DSE

python -m pip install pymongo

## 5. 地理資料查詢



在 shell 裡面輸入

一個點

```
db.Taiwan.findOne({
```

```
  'geometry': {
```

```
    '$geoIntersects': {
```

```
      '$geometry': {
```

```
        'type': 'Point',
```

```
        'coordinates': [121.24080, 24.95845]
```

```
      }
```

```
    }
```

```
}
```

```
}, {'County': 1, '_id': 0})
```

一個區域

```
db.Taiwan.findOne(
```

```
{
```

```
  geometry: {
```

```
    $geoIntersects: {
```

```
      $geometry: {
```

```
        type: "Polygon",
```

```
        coordinates: [
```

```
          [
```

```
            [121.19121551513672, 24.93252145867791],
```

```
            [121.26708984374999, 24.93252145867791],
```

```
            [121.26708984374999, 24.98450205440994],
```

```
            [121.19121551513672, 24.98450205440994],
```

```
            [121.19121551513672, 24.93252145867791]
```

```
          ]
```

```
        ]
```

```
      }
```

```
    }
```

```
  }
```

```
},
```

```
{ County: 1, _id: 0 }
```

```
);
```