Challenge 3 - Dockers

Lab2:

Ejecutar un contenedor que corre **MongoDB** y con el cual nos conectaremos por medio de **Python.**

Documentación del resultado:

Se realiza la descarga de MONGO:

```
vagrant@tmmarlyn:/vagrant/challenge3$ docker pull mongo:latest
latest: Pulling from library/mongo
565cb979c5c0: Pull complete
10eb2ee1db14: Pull complete
c1c03d29f8c5: Pull complete
67d696083cb7: Pull complete
540382ba1b28: Pull complete
188f345f8fdc: Pull complete
9f62c9f18de0: Pull complete
d9b8562e2a8d: Pull complete
d36990f9a52d: Pull complete
Digest: sha256:2374c2525c598566cc4e62145ba65aecfe1bd3bf090cccce1ca44f3e2b60f861
Status: Downloaded newer image for mongo:latest
docker.io/library/mongo:latest
```

Se crea el contenedor de MONGO:

```
vagrant@tmmarlyn:/vagrant/challenge3$ docker run -d -p 27017:27017 --name m1 mongo:latest
1a1c880480b3e5ab43f1a3af895b2ced24aa9b06aacca803bcaf9a227f69d9b1
```

Se ejecuta el contenedor de MONGO:

```
vagrant@tmmarlyn:/vagrant/challenge3$ docker ps
CONTAINER ID   IMAGE              COMMAND                  CREATED             STATUS             PORTS                     NAMES
1a1c880480b3   mongo:latest       "docker-entrypoint.s…"   2 minutes ago       Up 2 minutes       0.0.0.0:27017->27017/tcp  m1
693d58f0dbc9   nginx:1.22.1-perl  "/docker-entrypoint.…"   About an hour ago   Up About an hour   0.0.0.0:8080->80/tcp      nginx-web
vagrant@tmmarlyn:/vagrant/challenge3$ docker exec -it m1 /bin/bash
root@1a1c880480b3:/# mongosh
Current Mongosh Log ID: 63f6cceeca391c1e9eee5832
Connecting to:          mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+1.6.2
Using MongoDB:          6.0.4
Using Mongosh:          1.6.2

For mongosh info see: https://docs.mongodb.com/mongodb-shell/


To help improve our products, anonymous usage data is collected and sent to MongoDB periodically (https://www.mongodb.com/legal/privacy-policy)
.
You can opt-out by running the disableTelemetry() command.
```

```
------
   The server generated these startup warnings when booting
   2023-02-23T02:15:47.550+00:00: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine. See http://dochub.mongod
b.org/core/prodnotes-filesystem
   2023-02-23T02:15:48.405+00:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestrict
ed
   2023-02-23T02:15:48.406+00:00: vm.max_map_count is too low
------

------
   Enable MongoDB's free cloud-based monitoring service, which will then receive and display
   metrics about your deployment (disk utilization, CPU, operation statistics, etc).

   The monitoring data will be available on a MongoDB website with a unique URL accessible to you
   and anyone you share the URL with. MongoDB may use this information to make product
   improvements and to suggest MongoDB products and deployment options to you.

   To enable free monitoring, run the following command: db.enableFreeMonitoring()
   To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
------

test> exit
root@1a1c880480b3:/# exit
exit
vagrant@tmmarlyn:/vagrant/challenge3$
```

Se instala la librería de mongo (scripts de Python) y se ejecutan los scripts populate.py y find.py

```
vagrant@tmmarlyn:/vagrant/challenge3$ pip install pymongo
Defaulting to user installation because normal site-packages is not writeable
Collecting pymongo
  Downloading pymongo-4.3.3-cp310-cp310-manylinux_2_17_aarch64.manylinux2014_aarch64.whl (493 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 493.3/493.3 KB 10.3 MB/s eta 0:00:00
Requirement already satisfied: dnspython<3.0.0,>=1.16.0 in /usr/lib/python3/dist-packages (from pymongo) (2.1.0)
Installing collected packages: pymongo
Successfully installed pymongo-4.3.3
vagrant@tmmarlyn:/vagrant/challenge3$ python populate.py
Nombre de la DB:  mi-db
<pymongo.results.InsertManyResult object at 0xffffb37c7d00>
vagrant@tmmarlyn:/vagrant/challenge3$ python find.py
Imprime un registro
 {'_id': ObjectId('63f6cf3d46673cbf44a156c0'), 'name': 'firulais', 'owner': 'jahir', 'specie': 'perro'}

Imprime todos los registros
{'_id': ObjectId('63f6cf3d46673cbf44a156c0'), 'name': 'firulais', 'owner': 'jahir', 'specie': 'perro'}
{'_id': ObjectId('63f6cf3d46673cbf44a156c1'), 'name': 'taco', 'owner': 'jonathan', 'specie': 'perro'}
{'_id': ObjectId('63f6cf3d46673cbf44a156c2'), 'name': 'garfield', 'owner': 'erick', 'specie': 'gato'}
{'_id': ObjectId('63f6cf3d46673cbf44a156c3'), 'name': 'charlotte', 'owner': 'juan daniel', 'specie': 'araña'}
{'_id': ObjectId('63f6cf3d46673cbf44a156c4'), 'name': 'solovino', 'owner': 'jorge', 'specie': 'cuyo'}
```

Finalmente, se ejecuta el contenedor de MONGODB y se verifica la existencia de la base de datos creada con los scripts anteriores (mi-db) y los datos registros en dicha base de datos (tabla pet):

```
vagrant@tmmarlyn:/vagrant/challenge3$ docker exec -it m1 /bin/bash
root@1a1c880480b3:/# mongo
bash: mongo: command not found
root@1a1c880480b3:/# mongosh
Current Mongosh Log ID: 63f6cffe10548480b9072fa6
Connecting to:          mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+1.6.2
Using MongoDB:          6.0.4
Using Mongosh:          1.6.2

For mongosh info see: https://docs.mongodb.com/mongodb-shell/

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   2023-02-23T02:15:48.405+00:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestrict
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```

```
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```

```
test> show databases;
admin   40.00 KiB
config  60.00 KiB
local   40.00 KiB
mi-db   40.00 KiB
test> use mi-db
switched to db mi-db
mi-db> show collections;
pet
mi-db> db.pet.find()
[
  {
    _id: ObjectId("63f6cf3d46673cbf44a156c0"),
    name: 'firulais',
    owner: 'jahir',
    specie: 'perro'
  },
  {
    _id: ObjectId("63f6cf3d46673cbf44a156c1"),
    name: 'taco',
    owner: 'jonathan',
    specie: 'perro'
  },
  {
    _id: ObjectId("63f6cf3d46673cbf44a156c2"),
    name: 'garfield',
    owner: 'erick',
    specie: 'gato'
  },
  {
    _id: ObjectId("63f6cf3d46673cbf44a156c3"),
    name: 'charlotte',
    owner: 'juan daniel',
    specie: 'araña'
  },
  {
    _id: ObjectId("63f6cf3d46673cbf44a156c4"),
    name: 'solovino',
    owner: 'jorge',
    specie: 'cuyo'
  }
]
mi-db>
```

Por último, se para la ejecución del contenedor y se elimina:

```
vagrant@tmmarlyn:/vagrant/challenge3$ docker stop m1
m1
vagrant@tmmarlyn:/vagrant/challenge3$ docker rm -f m1
m1
vagrant@tmmarlyn:/vagrant/challenge3$ docker ps
CONTAINER ID   IMAGE              COMMAND                  CREATED             STATUS             PORTS                  NAMES
693d58f0dbc9   nginx:1.22.1-perl  "/docker-entrypoint.…"   About an hour ago   Up About an hour   0.0.0.0:8080->80/tcp   nginx-web
```