

TP Docker MySQL

Nom: KADDOUR BAKIR Riham

Objectif

Mettre en place un conteneur MySQL avec Docker, créer une base de données, insérer des données et tester la persistance à travers le redémarrage du conteneur.

Étapes et commandes

4. Créer un conteneur MySQL propre

```
docker run -d  
--name mysql-demo  
-e MYSQL_ROOT_PASSWORD=pass123  
-v mysql_data:/var/lib/mysql  
mysql:8
```

```
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker run -d \  
--name mysql-demo \  
-e MYSQL_ROOT_PASSWORD=pass123 \  
-v mysql_data:/var/lib/mysql \  
mysql:8  
2f90072a021893b56b2a65d4bd1f71c99b692031d0f08807e0aa99d411b513e8
```

5. Vérifier que le conteneur fonctionne

```
docker ps
```

```
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker ps  
CONTAINER ID IMAGE COMMAND CREATED STATUS  
PORTS NAMES  
2f90072a0218 mysql:8 "docker-entrypoint.s..." 25 seconds ago Up 25 sec  
onds 3306/tcp, 33060/tcp mysql-demo  
b4b9bbefcf88 gcr.io/k8s-minikube/kicbase:v0.0.48 "/usr/local/bin/entr..." 34 minutes ago Up 34 minutes  
utes 127.0.0.1:32768->22/tcp, 127.0.0.1:32769->2376/tcp, 127.0.0.1:32770->5000/tcp, 127.0.0.1:32771->8  
443/tcp, 127.0.0.1:32772->32443/tcp minikube
```

6. Se connecter au conteneur MySQL

```
docker exec -it mysql-demo mysql -uroot -p
```

```
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker exec -it mysql-demo mysql -uroot -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.4.7 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE testdb;
```

7. Créer une base de données

```
CREATE DATABASE testdb;
SHOW DATABASES;
```

```
mysql> CREATE DATABASE testdb;
Query OK, 1 row affected (0.01 sec)

mysql> SHOW DATABASES;
+-----+
| Database      |
+-----+
| information_schema |
| mysql          |
| performance_schema |
| sys            |
| testdb         |
+-----+
5 rows in set (0.01 sec)
```

8. Créer une table et insérer des données

```
USE testdb;
CREATE TABLE users (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(50),
    email VARCHAR(50)
);
INSERT INTO users (name, email) VALUES
('Alice', '[alice@example.com](mailto:alice@example.com)'),
('Bob', '[bob@example.com](mailto:bob@example.com)');
SELECT * FROM users;
```

```
mysql> USE testdb;
          INCREMENT PRIMARY KEY,
          name VARCHAR(50),
          eDatabase changed
mysql>
mysql> CREATE TABLE users (
    ->     id INT AUTO_INCREMENT PRIMARY KEY,
    ->     name VARCHAR(50),
    ->     email VARCHAR(50)
    -> );
1) VALUES
('Alice', 'alice@example.com'),
('Bob', 'bob@example.com');

SELECT * FROM users;
Query OK, 0 rows affected (0.02 sec)
```

9. Arrêter et redémarrer le conteneur

```
docker stop mysql-demo
docker start mysql-demo
```

```
^[[0m
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker stop mysql-demo
mysql-demo
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker start mysql-demo
mysql-demo
```

10. Vérifier la persistance des données

```
docker exec -it mysql-demo mysql -uroot -p  
USE testdb;  
SELECT * FROM users;
```

Toutes les données doivent toujours être présentes.

```
mysql  
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker exec -it mysql-demo mysql -uroot -p  
Enter password:  
Welcome to the MySQL monitor. Commands end with ; or \g.  
Your MySQL connection id is 8  
Server version: 8.4.7 MySQL Community Server - GPL  
  
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owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql> USE testdb;  
Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A  
  
Database changed  
mysql> SELECT * FROM users;  
+----+-----+-----+  
| id | name  | email   |  
+----+-----+-----+  
| 1  | Alice  | alice@example.com |  
| 2  | Bob    | bob@example.com  |
```

11. Créer un deuxième conteneur en partageant les données

```
docker stop mysql-demo  
docker run -d  
--name mysql-demo2  
-e MYSQL_ROOT_PASSWORD=pass123  
-v mysql_data:/var/lib/mysql  
mysql:8
```

```
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker run -d \  
--name mysql-demo2 \  
-e MYSQL_ROOT_PASSWORD=pass123 \  
-v mysql_data:/var/lib/mysql \  
mysql:8  
6a9d4f7afe8577f2b1d1e01e43e9362ccc92acf54ec26a1caad38bee35b910a8
```

12. Accéder aux données depuis le deuxième conteneur

```
docker exec -it mysql-demo2 mysql -uroot -p  
USE testdb;  
SELECT * FROM users;
```

Les mêmes données doivent être accessibles.

```
kaddourbakirriham@cloudshell:~/2decembre (discovergirl)$ docker exec -it mysql-demo2 mysql -uroot -p  
Enter password:  
Welcome to the MySQL monitor. Commands end with ; or \g.  
Your MySQL connection id is 8  
Server version: 8.4.7 MySQL Community Server - GPL  
  
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owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql> SHOW DATABASES;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
| testdb |  
+-----+  
5 rows in set (0.01 sec)  
  
mysql> USE testdb;  
Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A  
  
Database changed  
mysql> SELECT * FROM users;  
+---+---+-----+  
| id | name | email |  
+---+---+-----+  
| 1 | Alice | alice@example.com |  
| 2 | Bob | bob@example.com |
```