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Atividade 1 - Containers na Prática

Criando um container e confinando uma aplicação mysql nele:

```
sudo docker run -d -p 3306:3306 --name ConteinerBD -e
"MYSQL_DATABASE=banco1" -e "MYSQL_ROOT_PASSWORD=urubu100"
mysql:5.7
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker run -d -p 3306:3306 --name ConteinerBD -e "MYSQL_DATABASE=banco1" -e "MYSQL_ROOT_PASSWORD=urubu1
00" mysql:5.7
docker: Error response from daemon: Conflict. The container name "/ConteinerBD" is already in use by container "7603bdb55942f13b02708da
946b35b6b1fb533bc7dd22cd8293d05d3d19650e6". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
ubuntu@ip-172-31-47-249:~$
```

Vai dar erro por conta que eu já criei esse container

Exibindo o que há no contêiner:

```
sudo docker ps
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker ps
CONTAINER ID        IMAGE              COMMAND             CREATED             STATUS              PORTS
    NAMES
7603bdb55942        mysql:5.7          "docker-entrypoint.s…"   2 days ago          Up 38 minutes       0.0.0.0:3306->3306/tcp, 33060/
tcp    ConteinerBD
ubuntu@ip-172-31-47-249:~$
```

Exibindo o que há no contêiner e há quanto tempo que ele está sendo executado:

```
sudo docker ps -a
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker ps -a
CONTAINER ID        IMAGE              COMMAND             CREATED             STATUS              PORTS
    NAMES
7603bdb55942        mysql:5.7          "docker-entrypoint.s…"   2 days ago          Up 45 minutes       0.0.0.0:3306->3306/tcp, 33060/
tcp    ConteinerBD
ubuntu@ip-172-31-47-249:~$
```

Exibindo as estatística do container:

```
sudo docker stats ConteinerBD
```

```
CONTAINER ID        NAME              CPU %            MEM USAGE / LIMIT      MEM %            NET I/O             BLOCK I/O
    PIDS
7603bdb55942        ConteinerBD       0.04%            178.3MiB / 978.6MiB    18.21%           6.72kB / 0B         51.2MB / 12.7
MB      28
```

Executando o container que criamos com o mysql:

```
sudo docker exec -it bfb9d1725221 bash
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker exec 7603bdb55942 bash
ubuntu@ip-172-31-47-249:~$
```

Iniciamos o mysql dentro do container:
```
mysql -u root -p
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker exec -it 7603bdb55942 bash
root@7603bdb55942:/# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.32 MySQL Community Server (GPL)

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owners.

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

mysql>
```

Exibindo todos bancos de dados:
```
SHOW DATABASES;
```

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| banco1             |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

mysql>
```

Saindo do mysql e do container:
```
exit
```
```
exit
```

```
mysql> exit
Bye
root@7603bdb55942:/# exit
exit
ubuntu@ip-172-31-47-249:~$
```

Stopando o serviço:
```
sudo docker stop (ID do Container)
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker stop 7603bdb55942
7603bdb55942
ubuntu@ip-172-31-47-249:~$
```

Startando o serviço:
```
sudo docker start (ID do Container)
```

```
ubuntu@ip-172-31-47-249:~$ sudo docker start 7603bdb55942
7603bdb55942
ubuntu@ip-172-31-47-249:~$
```

Criando um bd no mysql docker:
```
USE banco1;
```

```
mysql> USE banco1;
Database changed
mysql>
```

```
CREATE TABLE MEDIDAS(
      id INT AUTO_INCREMENT PRIMARY KEY,
      type VARCHAR(25) NOT NULL,
      value DOUBLE(10,2) NOT NULL);
```

```
mysql> CREATE TABLE MEDIDAS(
    -> id INT AUTO_INCREMENT PRIMARY KEY,
    -> type VARCHAR(25) NOT NULL,
    -> value DOUBLE(10,2) NOT NULL);
Query OK, 0 rows affected (0.03 sec)

mysql>
```

```
SHOW TABLES;
```

```
mysql> SHOW TABLES;
+-----------------+
| Tables_in_banco1 |
+-----------------+
| MEDIDAS         |
+-----------------+
1 row in set (0.00 sec)

mysql>
```

```
DESCRIBE MEDIDAS;
```

```
mysql> DESCRIBE MEDIDAS;
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| id    | int(11)     | NO   | PRI | NULL    | auto_increment |
| type  | varchar(25) | NO   |     | NULL    |                |
| value | double(10,2)| NO   |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql>
```