

Installation de docker avec Mysql

Le but de ce chapitre est de montrer comment on peut utiliser MySQL avec Docker et ceci afin de faciliter les tests sur une seule machine.

Sur debian, il faut commencer par installer docker.

Installation des dépendances

```
$ sudo apt-get update

$ sudo apt-get install \
  apt-transport-https \
  ca-certificates \
  curl \
  gnupg-agent \
  software-properties-common
```

Ajout de la clef GPG

```
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

Installation du repository Docker

```
sudo add-apt-repository \
  "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
  $(lsb_release -cs) \
  stable"
```

Puis enfin installation de docker en lui même

```
$ sudo apt-get update
$ sudo apt-get install docker-ce docker-ce-cli containerd.io
```

Afin de plus avoir de sudo a faire sous Debian:

```
sudo groupadd docker
sudo gpasswd -a $USER docker
```

Installation de MySQL.

Il faut télécharger l'image de mysql

```
docker pull mysql:latest
```

Il est possible maintenant de voir les différentes images dans docker dont celle de mysql

```
sudo docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
mysql/mysql-server	latest	716286be47c6	11 days ago	381MB
hello-world	latest	bf756fb1ae65	4 months ago	13.3kB

Executons maintenant un premier MySQL:

```
docker run --name=mysql1 -d mysql:8.0
3436bc797ede4432cb8e82b5ab0f1f5371adac1027011632cd304f9db6dd0d78
```

Regardons maintenant les logs de MySQL:

```
docker logs mysql1
sudo docker logs mysql1
[Entrypoint] MySQL Docker Image 8.0.20-1.1.16
[Entrypoint] No password option specified for new database.
[Entrypoint] A random onetime password will be generated.
[Entrypoint] Initializing database
2020-05-08T08:40:34.134883Z 0 [System] [MY-013169] [Server] /usr/sbin/mysqld (mysqld 8.0.20)
initializing of server in progress as process 20
2020-05-08T08:40:34.143161Z 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started.
2020-05-08T08:40:34.908824Z 1 [System] [MY-013577] [InnoDB] InnoDB initialization has ended.
2020-05-08T08:40:36.494602Z 6 [Warning] [MY-010453] [Server] root@localhost is created with an
empty password ! Please consider switching off the --initialize-insecure option.
[Entrypoint] Database initialized
2020-05-08T08:40:41.242714Z 0 [System] [MY-010116] [Server] /usr/sbin/mysqld (mysqld 8.0.20)
starting as process 65
2020-05-08T08:40:41.263701Z 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started.
```

```
2020-05-08T08:40:41.463561Z 1 [System] [MY-013577] [InnoDB] InnoDB initialization has ended.
2020-05-08T08:40:41.594145Z 0 [System] [MY-011323] [Server] X Plugin ready for connections.
Socket: '/var/run/mysqld/mysqlx.sock'
2020-05-08T08:40:41.725532Z 0 [Warning] [MY-010068] [Server] CA certificate ca.pem is self
signed.
2020-05-08T08:40:41.754130Z 0 [System] [MY-010931] [Server] /usr/sbin/mysqld: ready for
connections. Version: '8.0.20' socket: '/var/lib/mysql/mysql.sock' port: 0 MySQL Community
Server - GPL.
Warning: Unable to load '/usr/share/zoneinfo/iso3166.tab' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/leapseconds' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/tzdata.zi' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/zone.tab' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/zone1970.tab' as time zone. Skipping it.
[Entrypoint] GENERATED ROOT PASSWORD: Ikufok=4m0s@DAmbYmvanilILUz!
```

et faisons un premier test en lançant un bash dans le container:

```
sudo docker exec -it mysql1 bash

bash-4.2# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 27
Server version: 8.0.20

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

mysql>
```

Arretons maintenant notre serveur:

```
sudo docker stop mysql1
sudo docker logs mysql1
```

```
2020-05-08T08:40:43.905238Z 10 [System] [MY-013172] [Server] Received SHUTDOWN from user root.
Shutting down mysqld (Version: 8.0.20).
2020-05-08T08:40:46.514959Z 0 [System] [MY-010910] [Server] /usr/sbin/mysqld: Shutdown
complete (mysqld 8.0.20) MySQL Community Server - GPL.
[Entrypoint] Server shut down
[Entrypoint] Setting root user as expired. Password will need to be changed before database
can be used.

[Entrypoint] MySQL init process done. Ready for start up.

[Entrypoint] Starting MySQL 8.0.20-1.1.16
2020-05-08T08:40:47.139696Z 0 [System] [MY-010116] [Server] /usr/sbin/mysqld (mysqld 8.0.20)
starting as process 1
2020-05-08T08:40:47.155840Z 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started.
2020-05-08T08:40:47.383340Z 1 [System] [MY-013577] [InnoDB] InnoDB initialization has ended.
2020-05-08T08:40:47.485572Z 0 [System] [MY-011323] [Server] X Plugin ready for connections.
Socket: '/var/run/mysqld/mysqlx.sock' bind-address: '::' port: 33060
2020-05-08T08:40:47.568434Z 0 [Warning] [MY-010068] [Server] CA certificate ca.pem is self
signed.
2020-05-08T08:40:47.602200Z 0 [System] [MY-010931] [Server] /usr/sbin/mysqld: ready for
connections. Version: '8.0.20' socket: '/var/lib/mysql/mysql.sock' port: 3306 MySQL
Community Server - GPL.
2020-05-08T08:52:09.535241Z 0 [System] [MY-010910] [Server] /usr/sbin/mysqld: Shutdown
complete (mysqld 8.0.20) MySQL Community Server - GPL.
pilou@pilou-pc: ~/Formation$ sudo docker rm mysql1
mysql1
```

un docker lancé en ces termes, nous allons lancer mysql avec la persistance des données hors du docker:

```
docker run --name=mysql2 -p 5000:3306 -v
/home/pilou/Formation/simpleserver/mysql.conf.d:/etc/my.cnf.d \
-v /home/pilou/Formation/simpleserver/datadir:/var/lib/mysql \
-e MYSQL_ROOT_PASSWORD=root -v /home/pilou/Formation/simpleserver/log:/var/log \
mysql: 5.7.30
```

Ici nous allons positionner un mysql nommé mysql2 sur le port 5000 de l'hôte avec un fichier my.ini

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