

- Creation du network :

Docker network create ynov-network

- Creation du volume mariadb\_data :

docker volume create --name mariadb\_data

```
C:\Users\HichemStinson13\Desktop\docker\Test>docker volume create --name mariadb_data
mariadb_data
```

- Creation du container mariadb:

```
docker run -d --name mariadb --network ynov-network -e MYSQL_ROOT_PASSWORD=0000 -e
MYSQL_DATABASE=prestashop_db -e MYSQL_USER=prestashop_user -e MYSQL_PASSWORD=0000 -v
mariadb_data:/var/lib/mysql mariadb
```

```
C:\Users\HichemStinson13\Desktop\docker\Test>docker run -d --name mariadb --network ynov-network -e MYSQL_ROOT_PASSWORD=0000 -e MYSQL_DATABASE=prestashop_db -e MYSQL_USER=prestashop_user -e MYSQL_PASSWORD=0000 -v
mariadb_data:/var/lib/mysql mariadb
Unable to find image 'mariadb:latest' locally
latest: Pulling from library/mariadb
cbe3537751ce: Pull complete
5bfcd11f8751: Pull complete
ed018e89b8db: Pull complete
3e4cf40a46f9: Pull complete
938b1b815dca: Pull complete
07e09e75520d: Pull complete
82012f0ef36f: Pull complete
6420910462f4: Pull complete
Digest: sha256:c006c05608604cf21c9f5b13af3ba7d66cb3df5bc042c3fe294e0b6d34689b55
Status: Downloaded newer image for mariadb:latest
bee97b34cc3f425fdec5d148cb05320f28c463d13d2ebaeae2d2491636454fc
```

- Creation du volume :

docker volume create --name prestashop

```
C:\Users\HichemStinson13\Desktop\docker\Test>docker volume create --name prestashop
prestashop
```

- Creation du container prestashop:

```
docker run -d --name prestashop_front --network ynov-network -e DB_SERVER=mariadb_hichem -e
DB_NAME=prestashop_db -e DB_USER=prestashop_user -e DB_PASSWD=0000 -p 8080:80 -v
prestashop_data_hichem:/var/data/html prestashop/prestashop
```

```
C:\Users\HichemStinson13\Desktop\docker\Test>docker run -d --name prestashop_front --network ynov-network -e DB_SERVER=mariadb_hichem -e DB_NAME=prestashop_db -e DB_USER=prestashop_user -e DB_PASSWD=0000 -p 8080
prestashop_data_hichem:/var/data/html prestashop/prestashop
Unable to find image 'prestashop/prestashop:latest' locally
latest: Pulling from prestashop/prestashop
a809e7c4b030: Pull complete
84313b8f4350: Pull complete
94f42c54df3f: Pull complete
fac86b32c028: Pull complete
e326747c51cb: Pull complete
2241e53f28be: Pull complete
22d47266c287: Pull complete
93466aaf1518: Pull complete
cd65d11b092a: Pull complete
cea53147c430: Pull complete
d70222ea3c2a: Pull complete
573cf5bb7fa1: Pull complete
95a21f22b3ef: Pull complete
09b6682cef76: Pull complete
4f6aafb38cd6: Pull complete
6a8b56fab1e7: Pull complete
6a477b66e6c7: Pull complete
85b3e6fb5238: Pull complete
56d09d835ca3: Pull complete
ef2451c0f597: Pull complete
2b3cb1cd78db: Pull complete
f7e55e482859: Pull complete
9095eb013757: Pull complete
911a645ee061: Pull complete
b9a0496e02be: Pull complete
9f8132ecfa88: Pull complete
Digest: sha256:e7321ad71ad001c10942db594947d2b5d5f287a4fff6287a62dc53509f42c4de
Status: Downloaded newer image for prestashop/prestashop:latest
cb8139418b4d557874d222c347e84fbc334eb9e77d4fe6fd811774c338ef23
```

- Installation de la librairie iputils-ping pour la commande ping dans les deux containers :
  - Apt-get update
  - Apt-get install iputils-ping

Ping de prestashop\_front a mariadb

```

root@cb81339418b4:/var/www/html# ping mariadb
PING mariadb (172.24.0.2) 56(84) bytes of data.
64 bytes from mariadb.ynov-network (172.24.0.2): icmp_seq=1 ttl=64 time=0.118 ms
64 bytes from mariadb.ynov-network (172.24.0.2): icmp_seq=2 ttl=64 time=0.060 ms
64 bytes from mariadb.ynov-network (172.24.0.2): icmp_seq=3 ttl=64 time=0.060 ms
64 bytes from mariadb.ynov-network (172.24.0.2): icmp_seq=4 ttl=64 time=0.061 ms
64 bytes from mariadb.ynov-network (172.24.0.2): icmp_seq=5 ttl=64 time=0.073 ms
64 bytes from mariadb.ynov-network (172.24.0.2): icmp_seq=6 ttl=64 time=0.060 ms

```

Ping de mariadb a prestashop\_front:

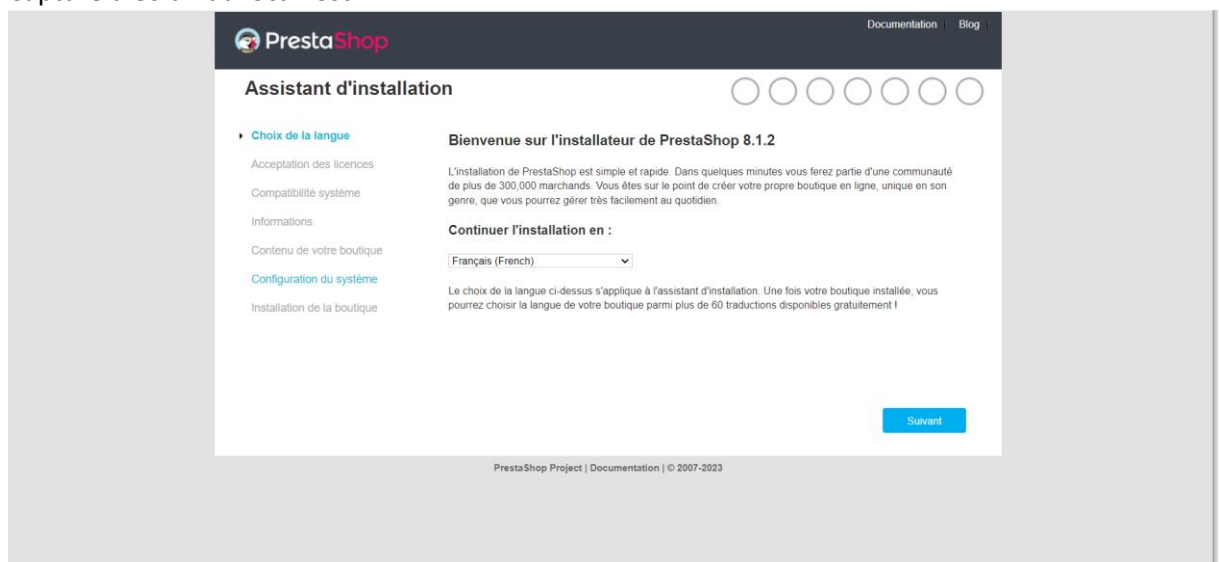
```

C:\Users\HichemStinson13\Desktop\docker\Test>docker exec -it mariadb bash
root@bee97b34cc3f:/# ping prestashop_front
7PING prestashop_front (172.24.0.3) 56(84) bytes of data.
64 bytes from prestashop_front.ynov-network (172.24.0.3): icmp_seq=1 ttl=64 time=0.073 ms
64 bytes from prestashop_front.ynov-network (172.24.0.3): icmp_seq=2 ttl=64 time=0.085 ms
64 bytes from prestashop_front.ynov-network (172.24.0.3): icmp_seq=3 ttl=64 time=0.140 ms
64 bytes from prestashop_front.ynov-network (172.24.0.3): icmp_seq=4 ttl=64 time=0.097 ms
64 bytes from prestashop_front.ynov-network (172.24.0.3): icmp_seq=5 ttl=64 time=0.063 ms
64 bytes from prestashop_front.ynov-network (172.24.0.3): icmp_seq=6 ttl=64 time=0.070 ms

```

- Installation de Mysql
  - Apt-get update
  - Apt-get install -y mysql-client
- Acceder a la BDD
  - Mysql -u prestashop\_user -p
  - Entrez le mot de passe dans notre cas 0000

- Capture d'écran du localhost :



## TASK 2

- Creation des network

```
docker network create --subnet=10.0.0.0/24 ynov_front_network
```

```
docker network create --subnet=10.0.1.0/24 ynov_back_network
```

- creation des container :

```
docker run -d --name mariadb_container \
```

```
--network ynov_back_network \
```

```
--ip 10.0.1.2 \
```

```
-e MYSQL_ROOT_PASSWORD=1234 \
```

```
-e MYSQL_DATABASE= prestashop_db \
```

```
-e MYSQL_USER=prestashop_user \
```

```
-e MYSQL_PASSWORD=1234 \
```

```
-v mariadb2:/var/lib/mysql \
```

```
mariadb:latest
```

```
docker run -d --name prestashop_container \
```

```
--network front_network \
```

```
--ip 10.0.0.2 \
```

```
-e DB_SERVER=10.0.1.2 \
```

```
-e DB_NAME=prestashop_db \
```

```
-e DB_USER=prestashop_user \
```

```
-e DB_PASSWD=1234 \
```

```
-v prestashop2:/var/www/html \
```

```
prestashop/prestashop:latest
```

creation du routeur:

```
docker run -d --name routeur \  
  --network ynov_front_network \  
  --network ynov_back_network \  
  --ip 10.0.0.2\  
  --ip 10.0.1.2\  
  -p 80:80 \  
  nginx:latest
```

configuration:

```
docker network disconnect ynov_front_network prestashop_container  
docker network connect --ip 10.0.0.2 ynov_front_network prestashop_container  
docker network disconnect ynov_back_network mariadb_container  
docker network connect --ip 10.0.2.1 ynov_back_network mariadb_container
```

Créez un fichier, par exemple `/etc/sysctl.conf` dans le conteneur, et ajoutez la ligne suivante pour activer le routage IP :

```
echo "net.ipv4.ip_forward=1" > /etc/sysctl.conf
```

```
apt-get update
```

```
apt-get install -y procps
```

```
sysctl -p
```

```
sysctl -w net.ipv4.ip_forward=1
```

- règles de routage pour permettre aux deux sous-réseaux de se joindre

```
docker exec routeur ip route add 10.0.0.2 via 10.0.1.1
```

```
docker exec routeur ip route add 10.0.1.2 via 10.0.1.1
```

```
docker run --privileged -it routeur sh
```

```
docker exec -it routeur apt-get update
```

```
docker exec -it routeur apt-get install -y iproute2
```

```
docker exec -it routeur which ip
```

Vérifiez la configuration de la passerelle dans les conteneurs :

# Depuis prestashop\_container

```
docker exec -it prestashop_container ip route
```

# Depuis mariadb\_container

```
docker exec -it mariadb_container ip route
```

Vérifiez la configuration réseau dans le routeur :

```
docker exec routeur ip route
```

installer traceroute dans les deux container :

```
docker exec prestashop_container apt-get update
```

```
docker exec prestashop_container apt-get install -y traceroute
```

lancer le traceroute:

```
docker exec -it prestashop_container traceroute 10.0.1.2
```

```
docker exec -it mariadb_container ping 10.0.0.2
```

resultat qu'on obtient

```
C:\Users\HichemStinson13\Desktop\docker\Test>docker exec -it mariadb_container traceroute 10.0.0.2
traceroute to 10.0.0.2 (10.0.0.2), 30 hops max, 60 byte packets
 1  10.0.1.1 (10.0.1.1)  0.106 ms  0.010 ms  0.005 ms
 2  * * *
 3  * * *
 4  * * *
 5  * * *
 6  * * *
 7  *^C
```

```
C:\Users\HichemStinson13\Desktop\docker\Test>docker exec -it prestashop_container traceroute 10.0.1.2
traceroute to 10.0.1.2 (10.0.1.2), 30 hops max, 60 byte packets
 1  10.0.0.1 (10.0.0.1)  0.052 ms  0.008 ms  0.005 ms
 2  * * *
 3  * * *
 4  * * *
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
```