

TP3 – Gestion des conteneurs Docker

Installation de Docker

1. Suivez le lien suivant pour installer docker, s'il n'est pas déjà installé :

<https://docs.docker.com/engine/install/>

2. Affichez la version installée de docker

docker version

```
vagrant@gitlab-runner:~$ docker version
Client: Docker Engine - Community
 Version: 24.0.7
 API version: 1.43
 Go version: go1.20.10
 Git commit: afdd53b
 Built: Thu Oct 26 09:08:01 2023
 OS/Arch: linux/amd64
 Context: default

Server: Docker Engine - Community
 Engine:
  Version: 24.0.7
  API version: 1.43 (minimum version 1.12)
  Go version: go1.20.10
  Git commit: 311b9ff
  Built: Thu Oct 26 09:08:01 2023
  OS/Arch: linux/amd64
  Experimental: false
 containerd:
  Version: 1.6.25
  GitCommit: d8f198a4ed8892c764191ef7b3b06d8a2eeb5c7f
 runc:
  Version: 1.1.10
  GitCommit: v1.1.10-0-g18a0cb0
 docker-init:
  Version: 0.19.0
  GitCommit: de40ad0
vagrant@gitlab-runner:~$ █
```

- Si vous voulez éviter de taper sudo chaque fois que vous exécutez la commande docker, ajoutez votre nom d'utilisateur au groupe docker :

sudo usermod -aG docker \${USER}

Création des conteneurs

3. Créez un nouveau conteneur avec les paramètres suivants :

- Image : serveur web nginx
- Détacher le conteneur du terminal

Brahim HAMDI

- Nom du conteneur : wiki_web
- Mapper le port 80 du conteneur sur le port 8000 de l'hôte

```
ubuntu@formation1:~$ docker run -d --name wiki_web -p 8000:80 nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
faef57eae888: Pull complete
76579e9ed380: Pull complete
cf707e233955: Pull complete
91bb7937700d: Pull complete
4b962717ba55: Pull complete
f46d7b05649a: Pull complete
103501419a0a: Pull complete
Digest: sha256:08bc36ad52474e528cc1ea3426b5e3f4bad8a130318e3140d6cfe29c8892c7ef
Status: Downloaded newer image for nginx:latest
64bf3727fa5c381b2fdac4f915b956d6d59dc082633290a53ff308390d6f16c6
ubuntu@formation1:~$
```

- Vérifiez que le conteneur est bien créé et il tourne

```
ubuntu@formation1:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
64bf3727fa5c   nginx    "/docker-entrypoint. ..." About a minute ago Up About a minute 0.0.0.0:8000->80/tcp, :::8000->80/tcp wiki_web
```

- Donnez des informations détaillées sur le conteneur

```
ubuntu@formation1:~$ docker inspect wiki_web
[
  {
    "Id": "64bf3727fa5c381b2fdac4f915b956d6d59dc082633290a53ff308390d6f16c6",
    "Created": "2023-07-15T11:55:45.910262568Z",
    "Path": "/docker-entrypoint.sh",
    "Args": [
      "nginx",
      "-g",
      "daemon off;"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 79523,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-07-15T11:55:46.601647537Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:021283c8eb95be02b23db0de7f609d603553c6714785e7a673c6594a624ffbda",
    "ResolvConfPath": "/var/lib/docker/containers/64bf3727fa5c381b2fdac4f915b956d6d59dc082633290a53ff308390d6f16c6/resolv.conf".
  }
]
```

...

```
"MacAddress": "02:42:ac:11:00:02",
"Networks": {
  "bridge": {
    "IPAMConfig": null,
    "Links": null,
    "Aliases": null,
    "NetworkID": "15c26d892c9b3a3c98ee8618579b9e1e6dc180e0f8f3ede1b1910f3632fbdf3a",
    "EndpointID": "11c60fb5b5290be14526e2e7d0631f616eb3b8b1c22331da31e910af322d3f78",
    "Gateway": "172.17.0.1",
    "IPAddress": "172.17.0.2",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "MacAddress": "02:42:ac:11:00:02",
    "DriverOpts": null
  }
}
}
}
]
ubuntu@formation1:~$
```

4. Créez un autre conteneur avec les paramètres suivants :

- Image : Base de donnée MariaDB
- Détacher le conteneur du terminal
- Nom du conteneur : wiki_db
- Mot de passe de la base de données (MYSQL_ROOT_PASSWORD) : « *secret* »

```
ubuntu@formation1:~$ docker run -d --name wiki_db -e MARIADB_ROOT_PASSWORD=secret mariadb
Unable to find image 'mariadb:latest' locally
latest: Pulling from library/mariadb
9d19ee268e0d: Pull complete
718e898a86ff: Pull complete
43bd7a143a6c: Pull complete
80cdf483b70a: Pull complete
8c13b197eea7: Pull complete
fe76c18bf258: Pull complete
67fa5c829e7f: Pull complete
a5cb79f31ff6: Pull complete
Digest: sha256:f94bb4868d953fed5220c9d3cdc8449f4c314efb07d3a18eefa6010b383f2ab8
Status: Downloaded newer image for mariadb:latest
1c856841c9f63d8053dff1ed0d33a71448e0e3035c66b7cd09796a48e12b946
ubuntu@formation1:~$
ubuntu@formation1:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
1c856841c9f6   mariadb   "docker-entrypoint.s..." 3 seconds ago  Up 2 seconds  3306/tcp                wiki_db
64bf3727fa5c   nginx     "/docker-entrypoint..." 30 minutes ago  Up 30 minutes  0.0.0.0:8000->80/tcp, :::8000->80/tcp  wiki_web
ubuntu@formation1:~$
```

○ Donnez les informations détaillées sur ce conteneur.

```
ubuntu@formation1:~$ docker inspect wiki_db
[
  {
    "Id": "c3a302d919b22b0c9f51f6a3dceb6c588f20201dc0321b8a6ecdb6a4e2b52965",
    "Created": "2023-07-15T12:01:14.768755854Z",
    "Path": "docker-entrypoint.sh",
    "Args": [
      "mariadb"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 80119,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-07-15T12:01:15.583760147Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:011343cf3ec310ee1d70da41536b2ae61e9363dafdba000d865beeb93db0ff8",
    "BaseImagePath": "/usr/lib/docker/containers/c3a302d919b22b0c9f51f6a3dceb6c588f20201dc0321b8a6ecdb6a4e2b52965/daemon.conf"
  }
]
```

...

```
"IPv6Gateway": "",
"MacAddress": "02:42:ac:11:00:03",
"Networks": {
  "bridge": {
    "IPAMConfig": null,
    "Links": null,
    "Aliases": null,
    "NetworkID": "15c26d892c9b3a3c98ee8618579b9e1e6dc180e0f8f3ede1b1910f3632fbd3a",
    "EndpointID": "507c2958d60d17c799338d43fe1d64363d519672de0f624e0dd7c19cfc21414e",
    "Gateway": "172.17.0.1",
    "IPAddress": "172.17.0.3",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "MacAddress": "02:42:ac:11:00:03",
    "DriverOpts": null
  }
}
}
}
]
ubuntu@formation1:~$
```

5. Affichez l'interface web du conteneur *wiki_web*. (remplacez l'IP par la votre)

