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2 BTS SIO

TP Initiation Docker

1ère Partie : Installation d'une machine virtuelle Debian 11.x

Créer une machine virtuelle.

2ème Partie : Installation de Docker sur Linux

Installer Docker sur Linux en utilisant la commande **wget -O dockerinstall.sh https://get.docker.com** .

```
root@debian11:~# wget -O dockerinstall.sh https://get.docker.com
--2021-11-15 16:15:27--  https://get.docker.com/
Résolution de get.docker.com (get.docker.com)… 13.225.19.42, 13.225.19.51, 13.225.19.70, ...
Connexion à get.docker.com (get.docker.com)|13.225.19.42|:443… connecté.
requête HTTP transmise, en attente de la réponse… 200 OK
Taille : 18617 (18K) [text/plain]
Sauvegarde en : « dockerinstall.sh »

dockerinstall.sh        100%[===============================>]  18,18K  --.-KB/s    ds 0s

2021-11-15 16:15:27 (317 MB/s) - « dockerinstall.sh » sauvegardé [18617/18617]
```

Lancer le script d'installation de Docker avec la commande **sh ./dockerinstall.sh** .

La commande **docker version** permet de savoir si Docker s'est correctement installé.

```
root@debian11:~# docker version
Client: Docker Engine - Community
 Version:           20.10.10
 API version:       1.41
 Go version:        go1.16.9
 Git commit:        b485636
 Built:             Mon Oct 25 07:43:23 2021
 OS/Arch:           linux/amd64
 Context:           default
 Experimental:      true

Server: Docker Engine - Community
 Engine:
  Version:          20.10.10
  API version:      1.41 (minimum version 1.12)
  Go version:       go1.16.9
  Git commit:       e2f740d
  Built:            Mon Oct 25 07:41:30 2021
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          1.4.11
  GitCommit:        5b46e404f6b9f661a205e28d59c982d3634148f8
 runc:
  Version:          1.0.2
  GitCommit:        v1.0.2-0-g52b36a2
 docker-init:
  Version:          0.19.0
  GitCommit:        de40ad0
```

3ème Partie : Premiers pas avec Docker

Installer l'image "Hello World" avec la commande **docker pull hello-world** .

```
root@debian11:~# docker pull hello-world
Using default tag: latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:cc15c5b292d8525effc0f89cb299f1804f3a725c8d05e158653a563f15e4f685
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
```

Démarrer un conteneur "Hello World" avec la commande **docker run hello-world** .

```
root@debian11:~# docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```

Le conteneur s'arrête après avoir fini d'afficher le conteneur. La commande **docker ps** permet de visualiser les containers en cours.

```
root@debian11:~# docker ps
CONTAINER ID    IMAGE      COMMAND    CREATED    STATUS    PORTS    NAMES
```

Le conteneur peut être retrouvé avec la commande **docker ps -a** qui affiche les containers qui avaient été créés.

```
root@debian11:~# docker ps -a
CONTAINER ID    IMAGE         COMMAND    CREATED        STATUS                     PORTS    NAMES
70640e381c9a    hello-world   "/hello"   2 minutes ago  Exited (0) 2 minutes ago            charmin
g_wilbur
7b34d7ea91e2    hello-world   "/hello"   6 days ago     Exited (0) 6 days ago               serene_
bhaskara
```

La commande **docker images** permet de lister les images.

```
root@debian11:~# docker images
REPOSITORY     TAG      IMAGE ID       CREATED      SIZE
hello-world    latest   feb5d9fea6a5   8 weeks ago  13.3kB
```

4ème Partie : Manipulations de base

Le site https://hub.docker.com/explore/ donne accès à de nombreuses images. La commande **docker search -f stars=5 nginx** permet de faire la recherche contenant le mot-clé **nginx** et au moins **cinq étoiles** en notation.

```
tiangolo/nginx-rtmp              Docker image with Nginx using the nginx-rtmp…   146
    [OK]
jlesage/nginx-proxy-manager      Docker container for Nginx Proxy Manager         144
    [OK]
alfg/nginx-rtmp                  NGINX, nginx-rtmp-module and FFmpeg from sou…   110
    [OK]
nginxdemos/hello                 NGINX webserver that serves a simple page co…    78
    [OK]
privatebin/nginx-fpm-alpine      PrivateBin running on an Nginx, php-fpm & Al…    60
    [OK]
nginx/nginx-ingress              NGINX and  NGINX Plus Ingress Controllers fo…    57

nginxinc/nginx-unprivileged      Unprivileged NGINX Dockerfiles                   54

nginxproxy/nginx-proxy           Automated Nginx reverse proxy for docker con…    28

staticfloat/nginx-certbot        Opinionated setup for automatic TLS certs lo…    25
    [OK]
nginx/nginx-prometheus-exporter  NGINX Prometheus Exporter for NGINX and NGIN…    22

schmunk42/nginx-redirect         A very simple container to redirect HTTP tra…    19
    [OK]
centos/nginx-112-centos7         Platform for running nginx 1.12 or building …    16

centos/nginx-18-centos7          Platform for running nginx 1.8 or building n…    13

flashspys/nginx-static           Super Lightweight Nginx Image                    11
    [OK]
bitwarden/nginx                  The Bitwarden nginx web server acting as a r…    11

mailu/nginx                      Mailu nginx frontend                              9
    [OK]
webdevops/nginx                  Nginx container                                   9
    [OK]
sophos/nginx-vts-exporter        Simple server that scrapes Nginx vts stats a…     7
    [OK]
```

La commande **docker help** affiche les commandes du client.

```
    export      Export a container's filesystem as a tar archive
    history     Show the history of an image
    images      List images
    import      Import the contents from a tarball to create a filesystem image
    info        Display system-wide information
    inspect     Return low-level information on Docker objects
    kill        Kill one or more running containers
    load        Load an image from a tar archive or STDIN
    login       Log in to a Docker registry
    logout      Log out from a Docker registry
    logs        Fetch the logs of a container
    pause       Pause all processes within one or more containers
    port        List port mappings or a specific mapping for the container
    ps          List containers
    pull        Pull an image or a repository from a registry
    push        Push an image or a repository to a registry
    rename      Rename a container
    restart     Restart one or more containers
    rm          Remove one or more containers
    rmi         Remove one or more images
    run         Run a command in a new container
    save        Save one or more images to a tar archive (streamed to STDOUT by default)
    search      Search the Docker Hub for images
    start       Start one or more stopped containers
    stats       Display a live stream of container(s) resource usage statistics
    stop        Stop one or more running containers
    tag         Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
    top         Display the running processes of a container
    unpause     Unpause all processes within one or more containers
    update      Update configuration of one or more containers
    version     Show the Docker version information
    wait        Block until one or more containers stop, then print their exit codes

Run 'docker COMMAND --help' for more information on a command.

To get more help with docker, check out our guides at https://docs.docker.com/go/guides/
```

La commande **docker help nom_de_la_commande** permet de voir les options d'une commande. exemple **docker help import** .

```
root@debian11:~# docker help import

Usage:  docker import [OPTIONS] file|URL|- [REPOSITORY[:TAG]]

Import the contents from a tarball to create a filesystem image

Options:
  -c, --change list       Apply Dockerfile instruction to the created image
  -m, --message string    Set commit message for imported image
      --platform string   Set platform if server is multi-platform capable
```

5ᵉᵐᵉ Partie : Second conteneur

Pour récupérer une image dans sa dernière version il faut utiliser la commande
docker pull ubuntu:latest .

```
root@debian11:~# docker pull ubuntu:latest
latest: Pulling from library/ubuntu
7b1a6ab2e44d: Pull complete
Digest: sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
```

La commande **docker images** affiche les images présentes sur la machine.

```
root@debian11:~# docker images
REPOSITORY      TAG        IMAGE ID       CREATED        SIZE
ubuntu          latest     ba6acccedd29   6 weeks ago    72.8MB
hello-world     latest     feb5d9fea6a5   2 months ago   13.3kB
```

La commande **docker run ubuntu** permet de lancer le conteneur ubuntu. La commande
peut s'écrire aussi par **docker run ubuntu:latest** .

```
root@debian11:~# docker run ubuntu
root@debian11:~# docker run ubuntu:latest
root@debian11:~# _
```

Faites la commande **docker ps** mais rien ne s'affiche. Faites la commande **docker ps -a** pour
afficher les conteneurs.

```
root@debian11:~# docker ps
CONTAINER ID    IMAGE      COMMAND    CREATED      STATUS     PORTS      NAMES
root@debian11:~# docker ps -a
CONTAINER ID    IMAGE           COMMAND    CREATED        STATUS                   PORTS      NAMES
4c23ac377dbd    ubuntu:latest   "bash"     3 months ago   Exited (0) 3 months ago             awesome
_hermann
de1f39c1a795    ubuntu          "bash"     3 months ago   Exited (0) 3 months ago             condesc
ending_proskuriakova
70640e381c9a    hello-world     "/hello"   3 months ago   Exited (0) 3 months ago             charmin
g_wilbur
7b34d7ea91e2    hello-world     "/hello"   3 months ago   Exited (0) 3 months ago             serene_
bhaskara
```

Pour lancer un conteneur en mode interactif, faites la commande **docker run -i -t ubuntu** .

```
root@debian11:~# docker run -i -t ubuntu
root@3d47ca048952:/#
```

L'identifiant de l'utilisateur est modifié en un identifiant créé par Docker.

La commande **ls** peut toujours faire afficher les fichiers présents.

```
root@3d47ca048952:/# ls
bin   dev  home  lib32  libx32  mnt  proc  run   srv   tmp  var
boot  etc  lib   lib64  media   opt  root  sbin  sys   usr
```

Le conteneur est étanche. Les modifications faites dans le conteneur n'affectent pas la vraie machine. Par exemple, il est possible de supprimer le répertoire **/home** avec la commande **rm -fr /home** .

```
root@3d47ca048952:/# rm -fr /home
root@3d47ca048952:/# ls
bin   dev  lib    lib64   media  opt   root  sbin  sys  usr
boot  etc  lib32  libx32  mnt    proc  run   srv   tmp  var
```

La commande **exit** permet de sortir du conteneur.

```
root@3d47ca048952:/# exit
exit
root@debian11:~# _
```

Pour connaître le nom du dernier conteneur, il faut utiliser la commande **docker ps -a** .
Utiliser la commande **docker diff [identifiant du conteneur]** pour voir les portions supprimées **(D)** ou celles créées **(C)** .

```
root@debian11:~# docker ps -a
CONTAINER ID   IMAGE          COMMAND    CREATED         STATUS                    PORTS         NAM
ES
3e67b5c3dba9   ubuntu         "bash"     4 minutes ago   Exited (0) 3 minutes ago                nau
ghty_villani
331ba7d6ea22   ubuntu:latest  "bash"     5 minutes ago   Exited (0) 5 minutes ago                ela
ted_mahavira
a5b522d3c1cc   ubuntu         "bash"     5 minutes ago   Exited (0) 5 minutes ago                con
descending_poitras
47082ce654a1   hello-world    "/hello"   11 minutes ago  Exited (0) 11 minutes ago               nau
ghty_mcclintock
root@debian11:~# docker diff naughty_villani
C /root
A /root/.bash_history
D /home
```

Cette manipulation n'a pas d'effet sur l'image ubuntu.
On peut relancer la commande **docker run -i -t ubuntu** . Le répertoire **/home** est toujours présent.

```
root@debian11:~# docker run -i -t ubuntu
root@af938f0bc46c:/# ls
bin   dev  home  lib32   libx32  mnt   proc  run   srv   tmp  var
boot  etc  lib   lib64   media   opt   root  sbin  sys   usr
```

Pour persister l'état d'un conteneur en une nouvelle image, il faut utiliser la commande **docker commit [identifiant ou nom du conteneur] [nom de l'image]** .

```
root@debian11:~# docker commit naughty_villani ubuntu
sha256:3e9c0247a01fb21e6ec826b91889d8317829ff9d7030041282bb9615d0e51885
root@debian11:~# docker run -i -t ubuntu
root@5b3bd367359b:/# ls
bin   dev  lib    lib64   media  opt   root  sbin  sys  usr
boot  etc  lib32  libx32  mnt    proc  run   srv   tmp  var
```

La commande **docker rm [nom du conteneur]** supprime le conteneur.

```
root@debian11:~# docker ps -a
CONTAINER ID   IMAGE          COMMAND     CREATED        STATUS                     PORTS      NAMES
5b3bd367359b   ubuntu         "bash"      19 hours ago   Exited (0) 19 hours ago               blissful
_ritchie
af938f0bc46c   825d55fb6340   "bash"      20 hours ago   Exited (0) 19 hours ago               modest_h
aslett
a5b522d3c1cc   825d55fb6340   "bash"      20 hours ago   Exited (0) 20 hours ago               condesce
nding_poitras
47082ce654a1   hello-world    "/hello"    20 hours ago   Exited (0) 20 hours ago               naughty_
mcclintock
root@debian11:~# docker rm modest_haslett
modest_haslett
```

Si on ne veut pas conserver l'image, utiliser la commande **docker rmi [nom de l'image]** .

```
root@debian11:~# docker images
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
ubuntu        latest     3e9c0247a01f   20 hours ago   72.8MB
ubuntu        <none>     825d55fb6340   7 days ago     72.8MB
hello-world   latest     feb5d9fea6a5   6 months ago   13.3kB
```

On ne peut pas supprimer une image si elle est contenue dans un conteneur. On observe une erreur.

```
root@debian11:~# docker rmi ubuntu:latest
Error response from daemon: conflict: unable to remove repository reference "ubuntu:latest" (must fo
rce) - container 5b3bd367359b is using its referenced image 3e9c0247a01f
```

Pour forcer la suppression de l'image, utiliser la commande **docker rmi -f [nom de l'image]** .

```
root@debian11:~# docker rmi -f ubuntu:latest
Untagged: ubuntu:latest
Deleted: sha256:3e9c0247a01fb21e6ec826b91889d8317829ff9d7030041282bb9615d0e51885
root@debian11:~# docker images
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
ubuntu        <none>     825d55fb6340   7 days ago     72.8MB
hello-world   latest     feb5d9fea6a5   6 months ago   13.3kB
```

Quand l'image n'est pas contenue dans un conteneur, la commande **docker rmi [nom de l'image]** fonctionne.

```
root@debian11:~# docker images
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
ubuntu        <none>     825d55fb6340   7 days ago     72.8MB
hello-world   latest     feb5d9fea6a5   6 months ago   13.3kB
root@debian11:~# docker tag 825d55fb6340 latest
root@debian11:~# docker images
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
latest        latest     825d55fb6340   7 days ago     72.8MB
ubuntu        <none>     825d55fb6340   7 days ago     72.8MB
hello-world   latest     feb5d9fea6a5   6 months ago   13.3kB
root@debian11:~# docker rmi latest:latest
Untagged: latest:latest
root@debian11:~# docker images
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
ubuntu        <none>     825d55fb6340   7 days ago     72.8MB
hello-world   latest     feb5d9fea6a5   6 months ago   13.3kB
```

Pour lancer un conteneur avec un nom choisi, utiliser la commande :

docker run --name=[nom choisi] [image à instancier]

```
root@debian11:~# docker run --name=imageTest ubuntu
root@debian11:~# docker ps -a
CONTAINER ID    IMAGE         COMMAND      CREATED         STATUS                      PORTS       NAMES
e1352d137c3c    ubuntu        "bash"       3 seconds ago   Exited (0) 3 seconds ago                imageT
est
5b3bd367359b    3e9c0247a01f  "bash"       21 hours ago    Exited (0) 20 hours ago                 blissf
ul_ritchie
a5b522d3c1cc    ubuntu        "bash"       21 hours ago    Exited (0) 21 hours ago                 condes
cending_poitras
47082ce654a1    hello-world   "/hello"     21 hours ago    Exited (0) 21 hours ago                 naught
y_mcclintock
```

Pour lancer un conteneur en mode détaché : **docker run -d [image à instancier]**

La commande **docker ps** montre que le conteneur est actif.

```
root@debian11:~# docker run -d -p 88:80 nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
c229119241af: Pull complete
2215908dc0a2: Pull complete
08c3cb2073f1: Pull complete
18f38162c0ce: Pull complete
10e2168f148a: Pull complete
c4ffe9532b5f: Pull complete
Digest: sha256:2275af0f20d71b293916f1958f8497f987b8d8fd8113df54635f2a5915002bf1
Status: Downloaded newer image for nginx:latest
9317aa23d061c93912837bf0e2d6a567cd731809732741873f1158b3ee05593f
root@debian11:~# docker ps
CONTAINER ID    IMAGE    COMMAND              CREATED         STATUS          PORTS
                NAMES
9317aa23d061    nginx    "/docker-entrypoint.…"  40 seconds ago  Up 38 seconds   0.0.0.0:88->80/tc
p, :::88->80/tcp    infallible_payne
```

Pour arrêter un conteneur : **docker stop [id du conteneur ou nom du conteneur]**

```
root@debian11:~# docker stop 9317aa23d061
9317aa23d061
root@debian11:~# docker ps
CONTAINER ID    IMAGE       COMMAND     CREATED     STATUS      PORTS       NAMES
```

Pour supprimer un conteneur de manière forcée : **docker rm -f [id du conteneur ou nom du conteneur]**

```
root@debian11:~# docker rm -f
blissful_ritchie        imageTest               naughty_mcclintock
condescending_poitras   infallible_payne
root@debian11:~# docker rm -f blissful_ritchie
blissful_ritchie
root@debian11:~# docker ps -a
CONTAINER ID    IMAGE         COMMAND          CREATED         STATUS                      P
ORTS    NAMES
9317aa23d061    nginx         "/docker-entrypoint.…"  25 minutes ago  Exited (0) 7 minutes ago
        infallible_payne
e1352d137c3c    ubuntu        "bash"           52 minutes ago  Exited (0) 52 minutes ago
        imageTest
a5b522d3c1cc    ubuntu        "bash"           22 hours ago    Exited (0) 22 hours ago
        condescending_poitras
47082ce654a1    hello-world   "/hello"         22 hours ago    Exited (0) 22 hours ago
        naughty_mcclintock
```

Pour démarrer un conteneur : **docker start [id du conteneur ou nom du conteneur]**

```
root@debian11:~# docker start imageTest
imageTest
root@debian11:~# docker ps
CONTAINER ID   IMAGE      COMMAND    CREATED    STATUS    PORTS    NAMES
root@debian11:~# docker ps -a
CONTAINER ID   IMAGE          COMMAND              CREATED           STATUS
  PORTS      NAMES
9317aa23d061   nginx          "/docker-entrypoint.…"   37 minutes ago    Exited (0) 19 minutes ago
          infallible_payne
e1352d137c3c   ubuntu         "bash"               About an hour ago   Exited (0) 25 seconds ago
          imageTest
a5b522d3c1cc   ubuntu         "bash"               22 hours ago      Exited (0) 22 hours ago
          condescending_poitras
47082ce654a1   hello-world    "/hello"             22 hours ago      Exited (0) 22 hours ago
          naughty_mcclintock
```

Pour redémarrer un conteneur : **docker restart [id du conteneur ou nom du conteneur]**

```
root@debian11:~# docker restart imageTest
imageTest
root@debian11:~# docker ps -a
CONTAINER ID   IMAGE          COMMAND              CREATED           STATUS
  PORTS      NAMES
9317aa23d061   nginx          "/docker-entrypoint.…"   55 minutes ago    Exited (0) 37 minutes ago
          infallible_payne
e1352d137c3c   ubuntu         "bash"               About an hour ago   Exited (0) 5 seconds ago
          imageTest
a5b522d3c1cc   ubuntu         "bash"               22 hours ago      Exited (0) 22 hours ago
          condescending_poitras
47082ce654a1   hello-world    "/hello"             23 hours ago      Exited (0) 23 hours ago
          naughty_mcclintock
```

Pour remplacer une portion d'arborescence du conteneur par un emplacement hôte,
docker run -d -p 88:80 --name web -v [dossier hôte] : [dossier sur conteneur] [nom de l'image]

ro permet de spécifier que l'accès est autorisé mais en lecture seule.

```
root@debian11:~# docker run -d -p 88:80 --name web -v /home/jpg/Documents/www:/usr/share/nginx/html:
ro nginx
4887902a7c633a8ae191c4584fcc5687917b02eb161bff924b15f2eca692362f
```

6ème Partie : A vous de jouer !

Télécharger l'image officielle d'un serveur **apache 2**

Créer un dossier se nommant **web** à la racine

Dans ce répertoire, positionnez les fichiers html, css…

Lancez un conteneur se nommant **monserveurapache2** en **mode détaché**, rediriger le port **80** vers le port **8080**, mettre en correspondance la localisation par défaut des fichiers à exposer par **apache2** avec le répertoire **web** .

```
root@debian11:~# cd ../web/
root@debian11:/web# ls
index.html  style.css
root@debian11:/web# docker run -d -p 8080:80 --name monserveurapache2 -v /web:/usr/share/apache2/htm
l:ro ubuntu/apache2
135680bf8a4d13cdc692d339ea2627b1c5d1580f1c20cb8c719d7ba2a788f8f0
root@debian11:/web# docker ps
CONTAINER ID   IMAGE            COMMAND              CREATED        STATUS         PORTS
                               NAMES
135680bf8a4d   ubuntu/apache2   "apache2-foreground" 12 seconds ago Up 11 seconds  0.0.0.0:8080
->80/tcp, :::8080->80/tcp    monserveurapache2
```

Créer un dossier se nommant **webPerso** dans le **home** de l'utilisateur

Dans ce répertoire, positionnez les fichiers html, css…

Lancez un conteneur se nommant **monserveurnginx** en **mode détaché**, rediriger le port **80** vers le port **8081**, mettre en correspondance la localisation par défaut des fichiers à exposer par **nginx** avec le répertoire **webPerso** .

```
root@debian11:/home# mkdir webPerso
root@debian11:/home# cd webPerso/
root@debian11:/home/webPerso# touch index.html
root@debian11:/home/webPerso# touch style.css
root@debian11:/home/webPerso# docker run -d -p 8081:80 --name monserveurnginx -v /home/webPerso:/usr
/share/nginx/html:ro nginx
3bdad866b231ada36d2fa4b2af99d634ef51d7118f14c7a2efa13e50e829038a
```

Lister les conteneurs actifs.

```
root@debian11:/home/webPerso# docker ps
CONTAINER ID   IMAGE            COMMAND              CREATED        STATUS         PORTS
                               NAMES
3bdad866b231   nginx            "/docker-entrypoint.…" 21 seconds ago Up 21 seconds  0.0.0.0:80
81->80/tcp, :::8081->80/tcp    monserveurnginx
135680bf8a4d   ubuntu/apache2   "apache2-foreground" 12 minutes ago Up 12 minutes  0.0.0.0:80
80->80/tcp, :::8080->80/tcp    monserveurapache2
```

Stopper le conteneur **monserveurnginx .**

```
root@debian11:/home/webPerso# docker stop monserveurnginx
monserveurnginx
root@debian11:/home/webPerso# docker ps
CONTAINER ID   IMAGE            COMMAND              CREATED        STATUS         PORTS
                               NAMES
135680bf8a4d   ubuntu/apache2   "apache2-foreground" 15 minutes ago Up 15 minutes  0.0.0.0:8080
->80/tcp, :::8080->80/tcp    monserveurapache2
```

Supprimer le conteneur **monserveurnginx .**

```
root@debian11:/home/webPerso# docker rm -f monserveurnginx
monserveurnginx
root@debian11:/home/webPerso# docker ps -a
CONTAINER ID   IMAGE            COMMAND                  CREATED         STATUS
PORTS                                      NAMES
135680bf8a4d   ubuntu/apache2   "apache2-foreground"    17 minutes ago  Up 17 minutes
0.0.0.0:8080->80/tcp, :::8080->80/tcp   monserveurapache2
4887902a7c63   nginx            "/docker-entrypoint.…"  2 hours ago     Exited (0) 2 hours ago
                                           web
9317aa23d061   nginx            "/docker-entrypoint.…"  3 hours ago     Exited (0) 3 hours ago
                                           infallible_payne
e1352d137c3c   ubuntu           "bash"                  4 hours ago     Exited (0) 2 hours ago
                                           imageTest
a5b522d3c1cc   ubuntu           "bash"                  25 hours ago    Exited (0) 25 hours ago
                                           condescending_poitras
47082ce654a1   hello-world      "/hello"                25 hours ago    Exited (0) 25 hours ago
                                           naughty_mcclintock
```

Supprimer le conteneur **monserveurapache2 .**

```
root@debian11:/home/webPerso# docker rm -f monserveurapache2
monserveurapache2
root@debian11:/home/webPerso# docker ps -a
CONTAINER ID   IMAGE         COMMAND                  CREATED        STATUS                    PORTS
    NAMES
4887902a7c63   nginx         "/docker-entrypoint.…"  2 hours ago    Exited (0) 2 hours ago
    web
9317aa23d061   nginx         "/docker-entrypoint.…"  3 hours ago    Exited (0) 3 hours ago
    infallible_payne
e1352d137c3c   ubuntu        "bash"                  4 hours ago    Exited (0) 2 hours ago
    imageTest
a5b522d3c1cc   ubuntu        "bash"                  25 hours ago   Exited (0) 25 hours ago
    condescending_poitras
47082ce654a1   hello-world   "/hello"                25 hours ago   Exited (0) 25 hours ago
    naughty_mcclintock
```