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1. Zainstaluj Docker w systemie linuxowym

sudo apt-get install docker-ce

```
konrad@konrad-VirtualBox:~$ docker --version
Docker version 20.10.11, build dea9396
```

2. Zarejestruj się w Docker Hub i zapoznaj z sugerowanymi obrazami
3. Pobierz hello-world, busybox, ubuntu lub fedorę, mysql

Pobieranie obrazu

```
konrad@konrad-VirtualBox:~$ sudo 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
konrad@konrad-VirtualBox:~$
```

Uruchamianie obrazu hello-world

```
konrad@konrad-VirtualBox:~$ sudo 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/
```

Mysql

```
konrad@konrad-VirtualBox:~$ sudo docker run mysql
2021-11-21 12:55:16+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.27-1debian
10 started.
2021-11-21 12:55:17+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2021-11-21 12:55:17+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.27-1debian
10 started.
2021-11-21 12:55:17+00:00 [ERROR] [Entrypoint]: Database is uninitialized and password option is
not specified
You need to specify one of the following:
- MYSQL_ROOT_PASSWORD
- MYSQL_ALLOW_EMPTY_PASSWORD
- MYSQL_RANDOM_ROOT_PASSWORD
```

Ubuntu

```
konrad@konrad-VirtualBox:~$ sudo docker run ubuntu
konrad@konrad-VirtualBox:~$ S
```

4. Uruchom busybox

Pokaż efekt uruchomienia kontenera

```
konrad@konrad-VirtualBox:~$ sudo docker run busybox
konrad@konrad-VirtualBox:~$
```

Podłącz się do kontenera interaktywnie i wywołaj numer wersji

```
konrad@konrad-VirtualBox:~$ sudo docker run busybox
konrad@konrad-VirtualBox:~$ sudo docker run -it busybox
/ # busybox | head -1
BusyBox v1.34.1 (2021-11-11 01:55:05 UTC) multi-call binary.
/ # exit
```

5. Uruchom "system w kontenerze"

Zaprezentuj PID1 w kontenerze i procesy dockera na hoście

```
konrad@konrad-VirtualBox:~$ sudo docker run -it ubuntu
root@b252791b9721:/# ps
  PID TTY          TIME CMD
    1 pts/0        00:00:00 bash
    9 pts/0        00:00:00 ps
root@b252791b9721:/#
```

Zaktualizuj pakiety

```
root@b252791b9721:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal InRelease [265 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [809 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal/main amd64 Packages [1275 kB]
Get:7 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [30.1 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [682 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal/restricted amd64 Packages [33.4 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal/multiverse amd64 Packages [177 kB]
Get:11 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [1232 kB]
Get:12 http://archive.ubuntu.com/ubuntu focal/universe amd64 Packages [11.3 MB]
Get:13 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1689 kB]
Get:14 http://archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [33.3 kB]
Get:15 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1098 kB]
Get:16 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [738 kB]
Get:17 http://archive.ubuntu.com/ubuntu focal-backports/universe amd64 Packages [7185 B]
Get:18 http://archive.ubuntu.com/ubuntu focal-backports/main amd64 Packages [2668 B]
Fetched 19.7 MB in 13s (1480 kB/s)
Reading package lists... Done
root@b252791b9721:/#
```

Wyjdź

```
root@b252791b9721:/# exit
exit
konrad@konrad-VirtualBox:~$
```

6. Pokaż uruchomione (!= "działające") kontenery, wyczyść je.

```
konrad@konrad-VirtualBox:~$ sudo docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
0b32b2c9354f   ubuntu   "bash"    12 seconds ago   Up 12 seconds   great_mirzakhan
```

```
konrad@konrad-VirtualBox:~$ sudo docker rm 0b32b2c9354f
Error response from daemon: You cannot remove a running container
d36a4c71c14a48b5954c14a0d9246da95f. Stop the container before att
konrad@konrad-VirtualBox:~$ sudo docker rm -f 0b32b2c9354f
0b32b2c9354f
konrad@konrad-VirtualBox:~$
```

7. Wyczyść obrazy

```
konrad@konrad-VirtualBox:~$ sudo docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
mysql          latest    b05128b000dd   4 days ago     516MB
busybox        latest    7138284460ff   9 days ago     1.24MB
ubuntu         latest    ba6acccedd29   5 weeks ago    72.8MB
hello-world    latest    feb5d9fea6a5   8 weeks ago    13.3kB
konrad@konrad-VirtualBox:~$ docker image rm mysql
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/doc
ker.sock: Delete "http://%2Fvar%2Frun%2Fdocker.sock/v1.24/images/mysql": dial unix /var/run/dock
er.sock: connect: permission denied
konrad@konrad-VirtualBox:~$ sudo docker image rm mysql
Error response from daemon: conflict: unable to remove repository reference "mysql" (must force)
- container baf42c7cddeb is using its referenced image b05128b000dd
konrad@konrad-VirtualBox:~$ sudo docker image rm -f mysql
Untagged: mysql:latest
Untagged: mysql@sha256:aeecae58035f3868bf4f00e5fc623630d8b438db9d05f4d8c6538deb14d4c31b
Deleted: sha256:b05128b000ddbaf0a0d2713086c6a1cc23280dee3529d37f03c98c97c8cf1ed
konrad@konrad-VirtualBox:~$ sudo docker image rm -f busybox
Untagged: busybox:latest
Untagged: busybox@sha256:e7157b6d7ebbe2cce5eaa8cfe8aa4fa82d173999b9f90a9ec42e57323546c353
Deleted: sha256:7138284460ffa3bb6ee087344f5b051468b3f8697e2d1427bac1a20c8d168b14
konrad@konrad-VirtualBox:~$ sudo docker image rm -f ubuntu
Untagged: ubuntu:latest
Untagged: ubuntu@sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322
Deleted: sha256:ba6acccedd2923aee4c2acc6a23780b14ed4b8a5fa4e14e252a23b846df9b6c1
konrad@konrad-VirtualBox:~$ sudo docker image rm -f hello-world
Untagged: hello-world:latest
Untagged: hello-world@sha256:cc15c5b292d8525effc0f89cb299f1804f3a725c8d05e158653a563f15e4f685
Deleted: sha256:feb5d9fea6a5e9606aa995e879d862b825965ba48de054caab5ef356dc6b3412
konrad@konrad-VirtualBox:~$
```