



# DOCKER

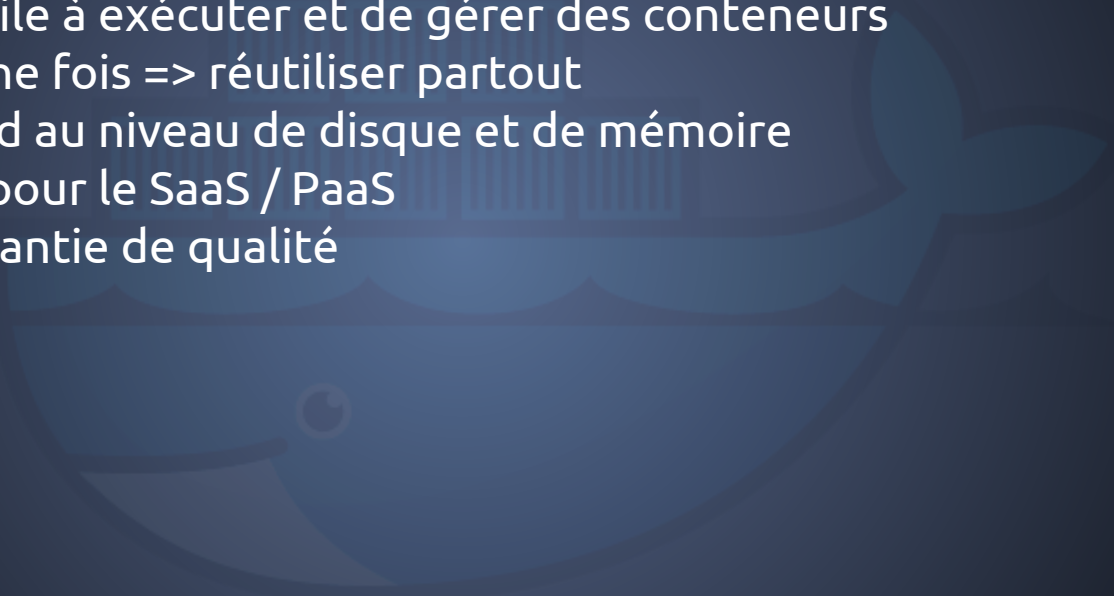
## Introduction

@FedirFr /dev/var/10

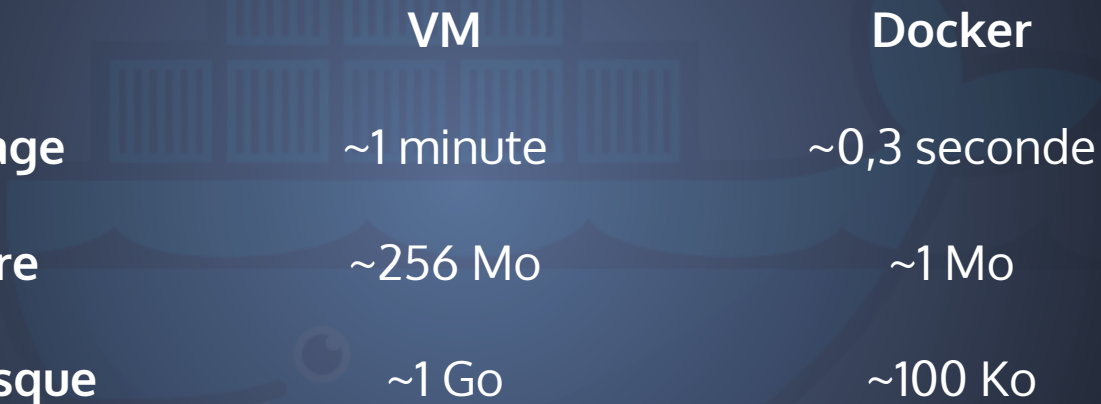
# Qu'est-ce Docker ?

- Application qui gère des conteneurs (CLI, API)
- Automatise le déploiement d'applications à l'intérieur de conteneurs logiciels
- Écrit en Go
- Utilise le système de fichiers de l'union (union file system)
- Peut utiliser CLI pour rechercher repos pour Docker images
- Gestion de dépendances

# Pourquoi Docker ?

- Rend très facile à exécuter et de gérer des conteneurs
  - Configurer une fois => réutiliser partout
  - Pas gourmand au niveau de disque et de mémoire
  - Bien adapté pour le SaaS / PaaS
  - Sécurité - garantie de qualité
- 

# Docker VS VM

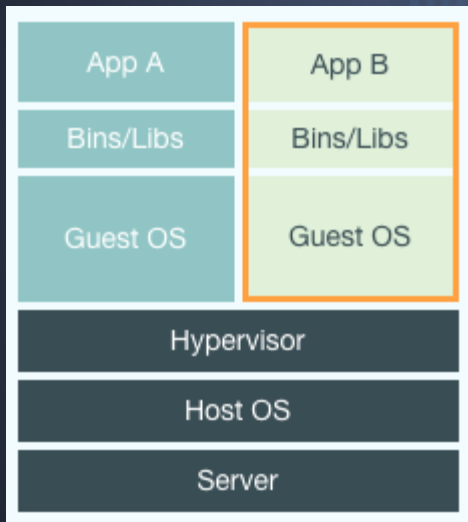


	VM	Docker
Démarrage	~1 minute	~0,3 seconde
Mémoire	~256 Mo	~1 Mo
Espace disque	~1 Go	~100 Ko

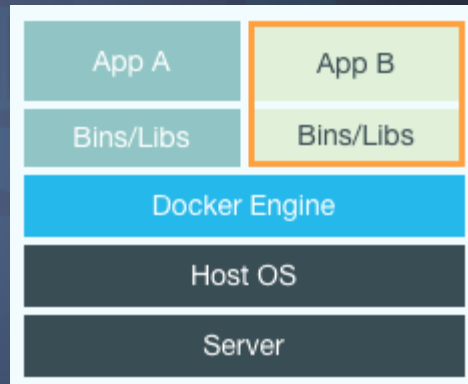
\* Statistique : <http://les-tilleuls.coop/introduction-a-docker/>

# Architecture

VM



Docker

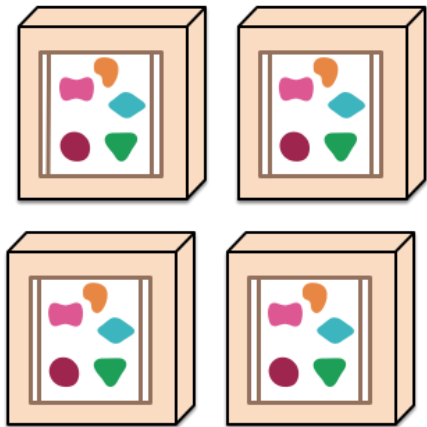


# Microservices

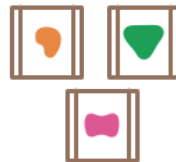
*A monolithic application puts all its functionality into a single process...*



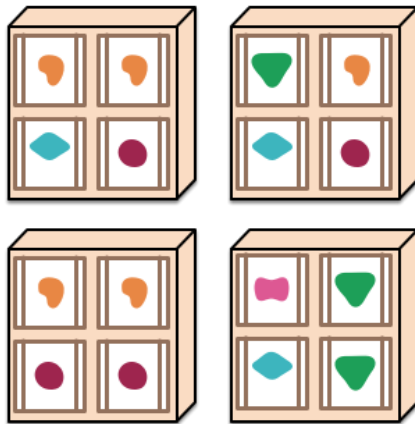
*... and scales by replicating the monolith on multiple servers*



*A microservices architecture puts each element of functionality into a separate service...*



*... and scales by distributing these services across servers, replicating as needed.*



# Créer une machine in 1 minute

```
docker pull dockerfile/nodejs-bower-gulp-runtime
```

```
docker pull dockerfile/nginx
```

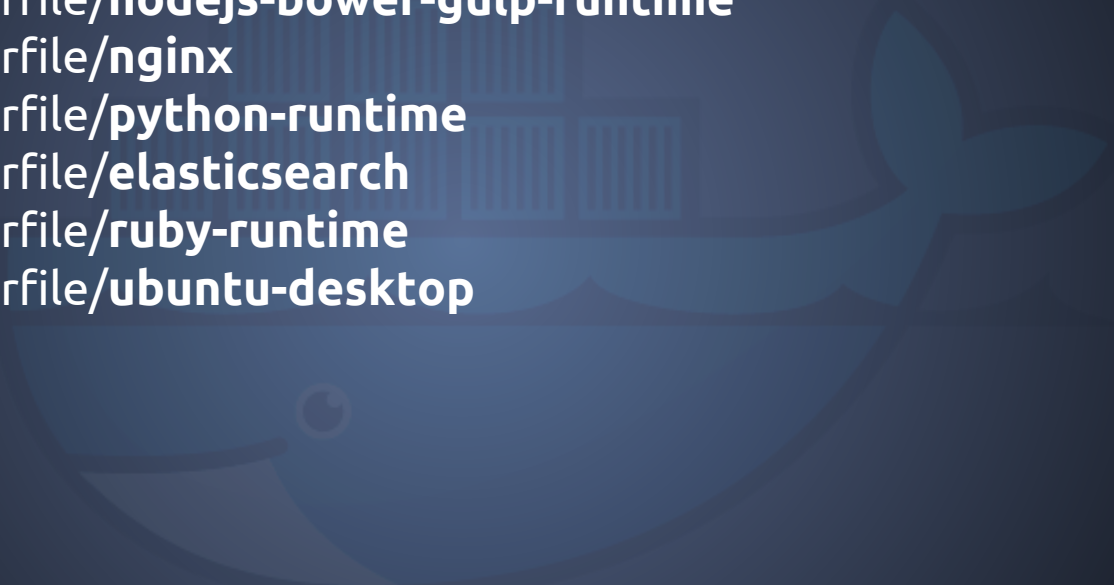
```
docker pull dockerfile/python-runtime
```

```
docker pull dockerfile/elasticsearch
```

```
docker pull dockerfile/ruby-runtime
```

```
docker pull dockerfile/ubuntu-desktop
```

...



# Images (snapshots)

docker

images

pull

push

build

rmi

commit



# Containers (instances)

A faint, stylized illustration of a whale, the Docker logo, is visible in the background. The whale is blue and has a small eye. On its back, there are several blue shipping containers stacked in a pyramid shape.

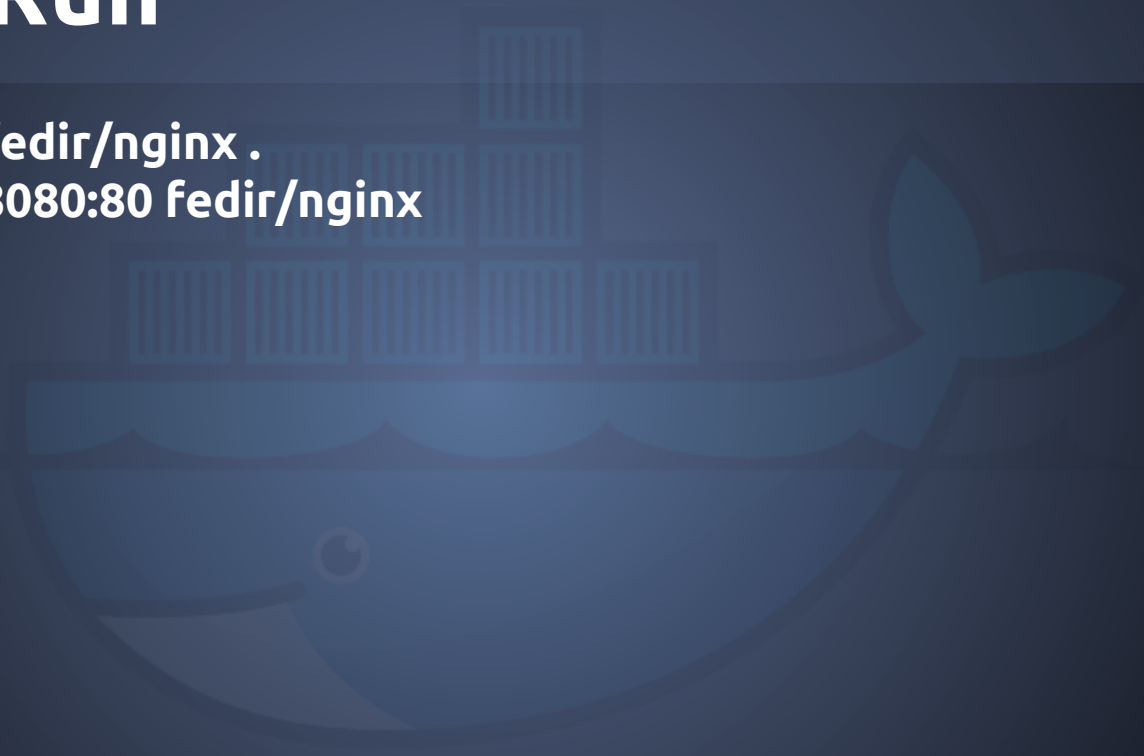
run  
start  
stop  
docker rm  
ps  
attach  
pause  
unpause

# Créer votre conteneur Dockerfile

```
FROM debian:7.8
MAINTAINER Fedir RYKHTIK fedir@yopmail.com
RUN apt-get update
RUN apt-get install -y nginx
RUN echo 'Hi, I am in your container' \
    >/usr/share/nginx/html/index.html
EXPOSE 80
```

# Build & Run

```
docker build -t fedir/nginx .  
docker run -dp 8080:80 fedir/nginx
```



# Qq commandes simples

CMD

WORKDIR

ADD

ENV

EXPOSE

VOLUME

USER

ONBUILD



# Docker Compose > Constellations

## Exemple :

mysql:

image: mysql:latest

expose:

- "3306"

ports:

- "3307:3306"

environment:

MYSQL\_DATABASE: database

MYSQL\_USER: root

MYSQL\_PASSWORD: admin123

MYSQL\_ROOT\_PASSWORD: admin123

web:

image: iiiipe/nginx-drupal6

volumes:

- application:/var/www

- logs:/var/log/supervisor

- files:/var/www/sites/default/files

ports:

- "80:80"

links:

- mysql:mysql

environment:

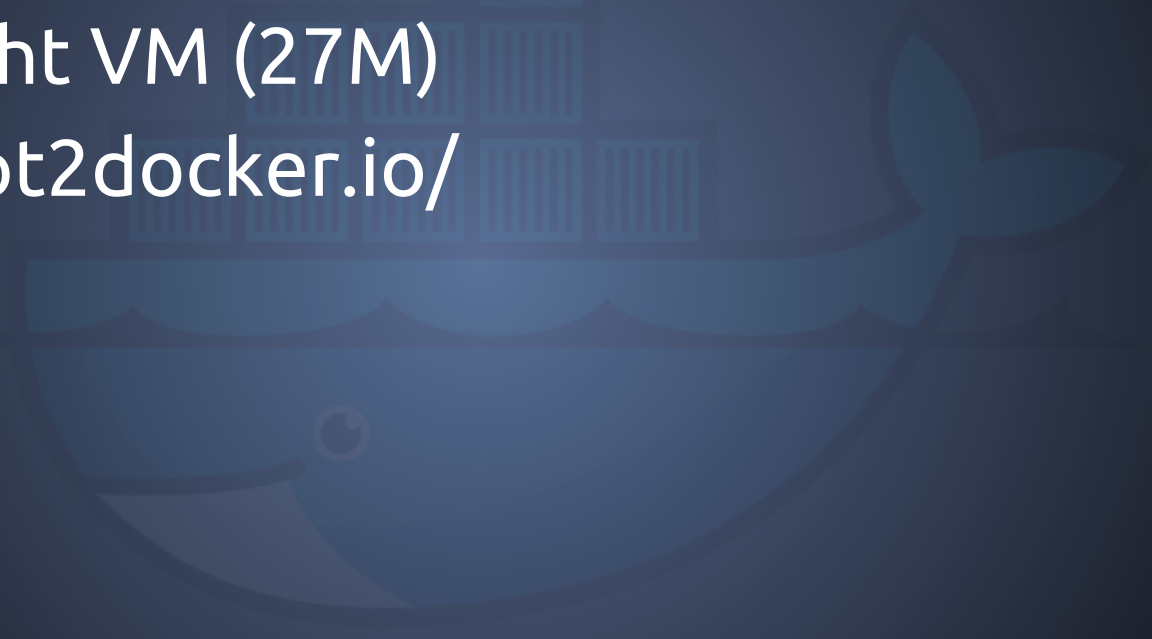
BASE\_URL: http://local.iiiipe.net

DRUPAL\_ENVIRONMENT: development

# Boot2docker

Lightweight VM (27M)

<http://boot2docker.io/>



# Docker Hub

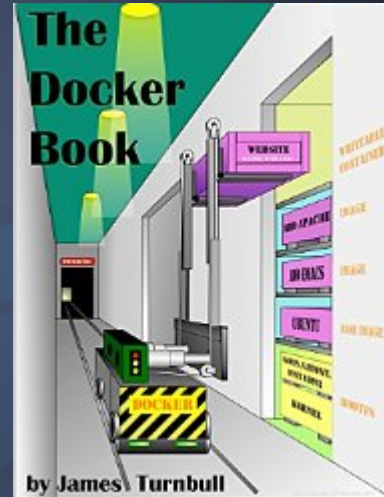
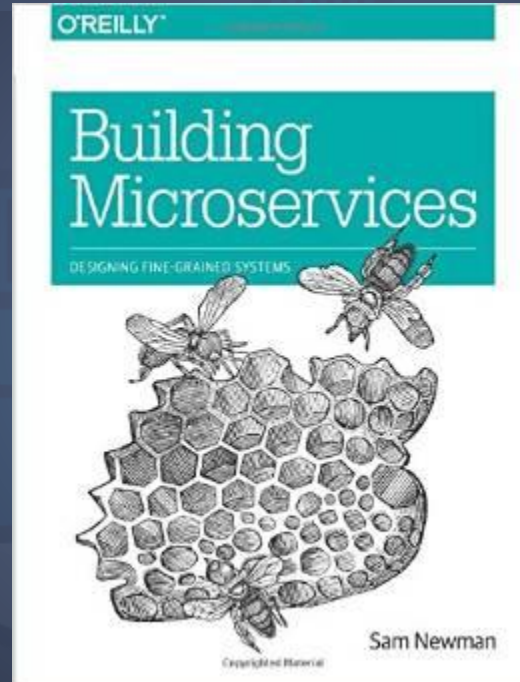
`docker login`

`docker pull username/project`

`docker push username/project`



# Littérature





# Liens utiles

<http://www.luiselizondo.net/a-production-ready-docker-workflow/>

<https://docs.docker.com/reference/commandline/cli/>

<https://docs.docker.com/userguide/dockerrepos/>

<http://www.jamescoyle.net/how-to/1503-create-your-first-docker-container>

<http://phusion.github.io/baseimage-docker/>

<http://les-tilleuls.coop/introduction-a-docker/>

<https://docs.docker.com/userguide/dockerimages/>

<https://github.com/wsargent/docker-cheat-sheet>

<http://blog.codeship.com/automate-your-dev-workflow-with-docker/>

<http://fr.slideshare.net/PatrickGalbraith/docker-ansible-34909080>

<http://fr.slideshare.net/larrycai/learn-basic-ansible-using-docker>

<https://github.com/tkyk/docker-compose-lamp>

<https://github.com/docker/distribution/blob/master/docs/spec/api.md>

<http://douche.name/presentation-docker>

<http://geoffrey.io/dockerfiles-maintainability-pro-tips.html>

<http://geoffrey.io/making-docker-commands.html>

<http://geoffrey.io/a-php-development-environment-with-docker.html>

<http://www.alexecollins.com/first-steps-with-docker/>

<https://registry.hub.docker.com/>

<https://www.docker.com/tryit/>