



'initiation' course – difficulty ★★☆☆

2 days (14h)

Recommended for
System administrators

TEACHING GOALS

At the end of the course:

- ✓ You know how to **use and manage your docker containers**
- ✓ You know how to **run an application inside a Docker container**
- ✓ You understand **how to take advantage of Docker easy-deployment** for your production environment

Prerequisites

Basic knowledge of the
Linux command line
System administration basis

DETAILED CONTENT

Day 1

Docker concepts and architecture

- ✓ Project history
- ✓ Presentation and components
- ✓ Pros / Cons with a full virtualization architecture
- ✓ Client-server architecture
- ✓ Container, image and registry

First steps with Docker

- ✓ Launch of a container
- ✓ Working with a running container
- ✓ Managing containers

Managing images

- ✓ Images creation based on a container state
- ✓ Dockerfile usage to automate the images creation
- ✓ Build your images and share them on the Docker Hub or on a local registry

Managing data volumes

- ✓ Volume addition to a container
- ✓ Re-affectation and volumes sharing
- ✓ Mounting of a host directory as a volume
- ✓ Best practice: data_container pattern

Network et and link between containers

- ✓ Network modes proposed by Docker
- ✓ Direct link and inheritance
- ✓ Exposure of network port

Day 2

Docker in production

- ✓ Containers automatic launch at starting-up
- ✓ Limiting the container memory and CPU
- ✓ Managing High Availability and fail-over
- ✓ Managing backups
- ✓ Managing logs

Dockerise your own application

- ✓ Preparation
- ✓ Dockerfile working concepts
- ✓ Dockerfile creation, useful directives
- ✓ Best and Worst Practices
- ✓ Many daemons in a single container using Supervisor

Advanced use

- ✓ Creating your costumed image base
- ✓ Using Docker Inspect
- ✓ Creating your own registry with Docker Registry
- ✓ Advanced network: Docker limitations and solutions
- ✓ Docker Compose: managing a multi-container application

Go further

Some interesting projects you can follow