



# Docker Course | Docker Training | Online

## **Brief Container History and Docker Overview**

- Containerization vs. Virtualization
- Docker what is it?
- Docker Architecture
- Image concept
- Docker Hub and Registry
- Persistence and volumes
- Containers and Infrastructures
- Automation of Infrastructure as a Service (IaaS) Infrastructure at CaaS (Container as a Service)
- CaaS solutions: Docker Compose, Docker Swarm and Kubernetes
- Architecture of Kubernetes
- Node, pod and container
- Docker Toolbox
- Provision and Configure its Docker Development Environment with the Vagrant Solution
- Build and launch your Docker box with the Vagrantfile file

## **Start containers and build images**

- Docker CLI
- Start your first Docker container
- Start containers, expose ports, and attach volumes
- Build your first Docker image: the Dockerfile file
- Main Dockerfile Commands
- Copy files to the Docker image
- Launch JAR files from a Docker image
- Docker and Maven
- Docker and Gradle
- Push the image into the Docker Hub

## **Networking and persistence storage with Docker**

- Docker network type: Bridge, Host, and None
- Network orders, docker network
- Connect a container to the network
- Expose port and port mapping
- Practical Workshop: Start the Payara server and expose its ports
- Storage persist
- Commands for Docker Volume Management

Creating / deleting a volume  
Docker volume  
Practical workshop: Implementation of docker volumes

## Multi-container applications

Introduction to Docker Compose  
Scenarios for implementation  
Compose Docker File  
Main Docker Commands Composed  
Presentation and Architecture of Docker Swarm and Kubernetes  
Cluster, Pod, Cluster, Node and Kubelet concept  
Multi Container Application with Docker Compose  
Docker Swarm cluster configuration

## Container monitoring

Log display, docker log command  
Inspect a container, inspect docker order  
Stats on a container, docker stats command

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