GALILEU

Workshop Docker Fundamentals

Devops

- **Nível:**
- **Duração:** 14h

Sobre o curso

Docker Fundamentals course is intended for absolute beginners. It is recommended for anyone who wants to start working with Docker and it is addressed to sysadmins and developers. It will give you hands on experience creating and managing lightweight, easily deployable containers for your software development projects.

This course will start with an overview of Docker architecture and will proceed with installing Docker. The students will get familiarized with Docker commands and will be able to create and manage containers and images. This training for beginners will also cover networking concepts, data persistence in the context of containers and Docker scaling and container orchestration using Docker Swarm.

All these features will be explained and demonstrated with hands on examples in the practice lab.

Esta formação é ministrada em Inglês.

Em parceria com a entidade acreditada:

Destinatários

- DevOps engineers
- Linux system administrators
- Systems design engineers
- Architects

Pré-requisitos

- Understanding of general OS structure and internals
- Familiarity with the Linux command-line

Programa

- Docker History
- VMs vs Containers. Docker Architecture. Namespaces, cgroups.
- Installing Docker
- Docker Images. Image Registries. Repositories and Tags.
- Docker Commands
- Docker Networking. Bridge, Host, Macvlan, Overlay Networking.
- Persisting Data. Docker volumes. Bind Mounts. Tmpfs.
- Creating Dockerfiles. Building and Tagging Images
- Beyond Docker. Docker swarm. Kubernetes

Docker History

- Age of Virtualization
- Why Containers?
- Docker History

VMs vs Containers. Docker Architecture. Namespaces, cgroups.

- Containerization
- OS Components (Namespaces, Control Groups)
- Docker Engine
- What about Windows?
- Windows Container Types
- Containers vs VMs?

Installing Docker

- Docker Versions
- Docker Update Channels

- Installing Docker on Linux with steps
- Installing Docker on Windows with steps

Hands-on Lab: Installing Docker on your node

Docker Images. Image Registries. Repositories and Tags.

- Docker Images
- Image Contents
- Image Layers
- Multiple architectures support
- Image registry
- Image security
- Repositories
- Best practices using images

Hands-on Lab: Docker Images. Image Registries

Docker Commands

- Linux Command structure
- General Docker commands
- Viewing items commands
- Downloading images
- Running and stopping containers
- Deleting items
- Working with files
- Getting help

Hands-on Lab:Exploring Docker Commands

Docker Networking. Bridge, Host, Macvlan, Overlay Networking.

- Network types
- Working with networks
- Testing the network

Hands-on Lab: Docker Networking

Persisting Data. Docker volumes. Bind Mounts. Tmpfs.

- Persistent Storage in Docker
- Creating and mounting a volume
- Listing, inspecting and deleting volumes
- Logging Docker
- Explaining different log types

Hands-on Lab: Persisting Data

Creating Dockerfiles. Building and Tagging Images

- Explaining Dockerfiles
- Dockerfiles contents
- The build environment
- Creating your first custom image
- Reviewing image history
- Dockerfile best practices
- Building from Github

Hands-on Lab: Creating Dockerfiles

Beyond Docker. Docker swarm. Kubernetes

- Docker Swarm components
- Building a Swarm

Hands-on Lab: Docker Swarm