

DCK-102: Docker Administration Course

Length: 2 days Course

Description:

Docker is the de-facto standard of Linux and Windows containers and one of the main building blocks of modern cloud-native, microservices based IT systems. This course introduces students to the main concepts of containers generally and Docker specifically and covers all its core features including: installing and basic management of Docker containers, Docker networking and storage, managing images and using Dockerfile to create and manage custom images, Docker Registry, Integrating Docker into Eclipse IDA as well as connecting multiple containers.

Structure: 50% theory 50% hands on lab exercises

Target audience: System administrators, developers and devops who want to understand and use Docker in cloud and data center environments

Prerequisites: Proficiency with the Linux CLI. A broad understanding of Linux system administration.

Detailed Course Outline

Module 1: INTRODUCTION TO CLOUD AND CONTAINERS

- Cloud computing in general
- Cloud types
- Cloud native computing
- Application containers
- Containers on Linux
- Container runtime
- Docker
- Docker Ecosystem
- Docker Ecosystem
- Lab 1

Module 2: INSTALLING DOCKER

- Distribution Packages
- Packages from Docker
- Docker-machine
- Docker Daemon Configuration
- Lab 2

Module 3: MANAGING CONTAINERS

- Docker - container run
- Docker – container ps
- Docker – container attach
- Docker – container signal
- Docker - accessing container FS
- Lab 3

Module 4: DOCKER NETWORK - PORT PUBLISHING

- Port publishing
- Lab 4

Module 5: DOCKER STORAGE - IMAGES

- Docker storage
- Docker storage - overlay FS
- Docker storage - image layers
- Docker images - commit
- Docker images - cli
- Docker images - work with images
- Lab 5

Module 6: BUILDING IMAGES

- Docker images - Dockerfile
- Docker images - Dockerfile syntax
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- Docker images - Dockerfile syntax
- Lab 6

Module 7: DOCKER REGISTRY

- Docker registry
- Docker registry CLI
- Docker local registry setup
- Lab 7

Module 8: INTEGRATING DOCKER INTO ECLIPSE IDE

- Eclipse IDE for Developers
- Creating sample code - java
- Building and Testing
- Lab 8

Module 9: DOCKER STORAGE - VOLUME

- Docker storage - volume
- Docker storage - volume management
- Docker storage - shared volume
- Docker storage - shared volume examples
- Lab 9

Module 10: CONNECTING CONTAINERS

- Connecting Containers
- Lab 10