

Other Training

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Introduction to Docker

Audience : IT Professionals
This Revisio : A
Delivery Method : Online/Classroom
Length : 3 Days

Course Overview

Develop and build your Docker images and deploy your Docker containers securely.

Key Features

Learn Docker installation on different types of OS
Get started with developing Docker image
Use Docker with your Jenkins CI/CD system

Audience

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At Course Completion

- What You Will Learn
- Set up your Docker workstation on various platforms
- Utilize a number of Docker commands with parameters
- Create Docker images using Dockerfiles
- Learn how to create and use Docker volumes
- Deploy multi-node Docker swarm infrastructure
- Create and use Docker local and remote networks
- Deploy multi-container applications that are HA and FT
- Use Jenkins to build and deploy Docker images

Course Outline

Chapter 1. Setting up a Docker Development Environment

Setting up your Docker development environment
Installing Docker on a CentOS workstation
Installing Docker on an Ubuntu workstation

Installing Docker on a Windows workstation
Installing Docker on an OS X workstation
What differences to watch out for between OSes

Chapter 2. Learning Docker Commands

Information about command syntax

The version command

The container run command

The container ls command

The container rm command

The container stop command

The container logs command

The container top command

The container inspect command

The container stats command

The container attach command

The container exec command

The container commit command

Chapter 3. Creating Docker Images

What is a Dockerfile?

The FROM instruction

The LABEL instruction

The COPY instruction

The ADD instruction

The ENV instruction

The ARG instruction

The USER instruction

The WORKDIR instruction

The VOLUME instruction

The EXPOSE instruction

The RUN instruction

The CMD instruction

The ENTRYPOINT instruction

The HEALTHCHECK instruction

The ONBUILD instruction
The STOPSIGNAL instruction
The SHELL instruction
The Docker image build command
Parser Directives
The build context
The .dockerignore file
Creating Docker Images

Chapter 4. Docker Volumes

What is a Docker volume?
Creating Docker volumes
Removing volumes
Sharing data between containers with data volume containers

Chapter 5. Docker Swarm

What is Docker swarm?
How to set up a Docker swarm cluster

docker swarm init
docker swarm join-token
docker swarm join
docker swarm ca
docker swarm unlock
docker swarm unlock-key
docker swarm update
docker swarm leave

Managers and workers
Swarm services
Accessing container applications in a swarm

Chapter 6. Docker Networking

What is a Docker network?

Built-in (local) Docker networks

Third-party (remote) network drivers

Creating Docker networks

Free networking features

Which Docker network driver should I use?

Chapter 7. Docker Stacks

Understanding the use of Docker stacks

How to create and use a compose YAML files for Stacks

The rest of the stack commands

Best practices for scaling a stack application

Chapter 8. Docker and Jenkins

Using Jenkins to build Docker images

Setting up a Dockerized Jenkins server

Building Docker images inside of a Dockerized Jenkins server

Using Docker containers for your Jenkins build nodes

Building the Docker image

Pushing the new image to a Docker registry

Turning off the default Jenkins build agents

Installing the Docker plugin for Jenkins

Creating a new Cloud to enable our Dockerized build agents

Testing our new build agents

Building, testing, and pushing Docker images inside Dockerized build nodes

Docker and Jenkins