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Register

# Docker & Ansible Training: Container DevOps

3 days (21 hours)

## Overview

With our Docker course, which has become a staple of our DevOps catalog, you will learn how to use the tool that has revolutionized the world of IT in recent years. [Docker](#) is powerful open-source software that automates the deployment of applications in software containers.

In this training course, designed for administrators and developers who want to become immediately operational, you will learn how to make intensive use of Docker technology coupled with the automation provided by Ansible.

This expert-led training course is delivered over three days and will introduce you to the Docker platform and its entire ecosystem. You will learn how to install it, integrate it into all your DevOps infrastructure projects, and use best practices and best uses to master this technology.

You will also learn how to automate Docker using Ansible as a configuration management tool.

As with all our training courses, this one will introduce you to the latest version of Docker (at the time of writing: [Docker 26](#)) and [Ansible 2.18](#).

## Objectives

- Install and configure Docker.
- Create, manage, and delete Docker containers by understanding their lifecycle.
- Master data and network management with Docker.
- Use Docker Compose to orchestrate and manage multi-container applications.
- Discover and understand Ansible: principles, architecture, inventories, playbooks, and sensitive data management. Set up automation workflows to simplify and improve the reliability of environment administration with Ansible.
- Automate the deployment and management of Docker containers with Ansible.

# Target audience

- Developers
- System administrators
- DevOps
- Cloud architects

# Prerequisites

- Basic knowledge of a Linux system
- Know how to use SSH and be able to connect via SSH to a remote machine
- A GitHub account
- Windows with WSL and Docker Desktop, or Linux or Mac
- Unrestricted Internet access (no proxy/VPN)
- [Test My Knowledge](#)

# Recommended reading before and after the training

- The [official documentation](#), of course
- Take a look at [the website of Prakhar Srivastav](#), engineer at Google (no less)
- Refer to the [Learn Docker for Beginners](#) manual by Farhan Hasin Chowdhury (to whom we are very grateful)
- The OWASP security [best practices cheat sheet](#)
- A [Docker Cheat Sheet](#) available on GitHub from a tech lover

# Our Docker Ansible Training Program

## Introduction to containers

- Presentation of the Linux container concept
- Use cases for Linux containers
- The differences between containers and virtual machines
- Introduction to Docker and its architecture
- Advantages and disadvantages of Docker
- Other container managers

## Creating your first Docker containers

- Installing Docker
- Using Docker Help
- The life cycle of a container
- Launching a container with docker run (in interactive mode, detached mode, etc.)

- Interacting with a container from the host (exec, inspect, logs, etc.)
- Managing and deleting containers

## Docker images

- What is a Docker image?
- Create an image from a Dockerfile
- Storing and retrieving images from Docker Hub
- Set up a private registry and store your images there
- Multi-stage builds

## Data persistence

- Named volumes
- Bind mounts
- Managing volumes with Docker
- Read-only volumes
- Best practices for volume management

## Networks with Docker

- Understanding how Docker networks work
- Network drivers (bridge, host, overlay, etc.)
- Creating a network
- Connecting a container to a network

## Docker Compose

- What is Docker Compose
- Installing Docker Compose
- Create a docker-compose.yml file
- Launching a multi-container application
- Managing containers with Docker Compose
- Managing volumes and networks with Docker Compose

## Introduction to orchestration

- What is container orchestration?
- The different orchestration tools
- The advantages of orchestration
- Docker Swarm, Kubernetes, OpenShift

## Introduction to Ansible

- What is Ansible
- Declarative vs. imperative automation
- Ansible architecture and components
- How does Ansible work?
- Advantages and disadvantages of Ansible
- Installing and configuring Ansible

## Ansible inventories

- Understanding Ansible inventory
- Creating advanced Ansible inventories
- Advanced techniques for targeting specific managed nodes
- Using the default inventory

## Creating and using playbooks

- Ad hoc commands vs. playbooks
- Creating a Playbook
- Playbook, Play, and Tasks
- Creating Advanced Playbooks

## Ansible Facts

- What are Ansible facts and why do we need them?
- Finding Ansible Facts
- How to Use Ansible Facts

## Managing Ansible Vault and Sensitive Data

- What is Ansible Vault?
- How to use Ansible Vault
- Using password files

## Ansible Blocks

- What is an Ansible block?
- How to use Ansible blocks
- Error handling with Ansible blocks
- Using Rescue and Always together

## Managing Docker containers with Ansible

- The Docker module
- Creating Docker images with Ansible

- Creating Docker containers with Ansible
- Managing the lifecycle of a Docker container with Ansible

## Target companies

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced IT technology or to acquire specific professional knowledge or modern methods.

## Placement at the start of training

The positioning at the start of the training complies with Qualiopi quality criteria. Upon final registration, the learner receives a self-assessment questionnaire that allows us to assess their estimated level of knowledge of different types of technologies, their expectations and personal objectives for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could be problematic for the monitoring and smooth running of the training session.

## Teaching methods

Practical training: 60% practical, 40% theory. Training materials distributed in digital format to all participants.

## Organization

The course alternates between theoretical input from the trainer, supported by examples and discussion sessions, and group work.

## Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been correctly acquired.

## Certification

A certificate will be issued to each trainee who has completed the entire training course.