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Sign up

OpenShift 4 training

OPENSHIFT CONTAINER PLATFORM

3 days (21 hours)

Presentation

Openshift is a powerful and flexible platform for managing containerized applications, combining the robustness of Kubernetes with a simple DevOps solution.

Thanks to its advanced functions, it automates your workflows while guaranteeing reliable, highly available services.

Our training course teaches you how to deploy, orchestrate and monitor your containers optimizing your projects with OpenShift, Docker and Kubernetes

Through practical exercises, you'll learn how to scale your applications and manage your clusters, ensuring reliable performance tailored to user needs.

At the end of this course, you'll master container orchestration with Red Hat OpenShift a key PaaS platform for high-performance DevOps environments.

This course will be based on the latest stable release of the project: OpenShift 4.18

Objectives

- Understanding the Openshift architecture and its key components
- Create and deploy containerized and multi-containerized services
- Efficiently manage your Openshift containers and clusters
- Master the concepts of scaling and high availability for your applications

Target audience

- DevOps
- Developers
- System administrators
- System architects
- Engineers

Prerequisites

- Master Linux system administration
- Have the knowledge to understand the architecture used by OpenShift
- Test My Knowledge

Software requirements

You'll need a Red Hat training account, from which you'll need download the "pull secret" that Red Hat will provide.

Recommendations for pre- and post-course reading

- An easy-to-understand guide to Openshift
- Don Schenck's advice on container installation
- An article to understand the key differences between Kubernetes and Openshift avoid common mistakes
- OpenShift articles one of the best DevOps blogs: GUI Free Life
- A long article on the main OpenShift features

OpenShift training program

Introduction

- Introduction to OCP
- Kubernetes reminder
- The advantages of containerization
- The benefits of OpenShift
- Installing OpenShift
- Updates

OpenShift architecture

- Component overview
- The OpenShift container lifecycle
- The control plane
- RHCOS

- Cluster Manager presentation

Component presentation

- Containers
- The images
- Pods
- Services
- Projects and users

Creating containerized services

- Introducing the CaaS model
- The advantages of service containers
- Introduction to OpenShift development
- KISS, YAGNI, DRY and SoC approaches
- Create your first container
- Options
  - Image base
  - Registry
- Creating a Kubernetes manifest

Container management

- Moving an application to OpenShift
- Services and roads
- Configurmaps
- The secrets
- Using builds
- Customize an S2I version
- Managing volume
- Scaling your application

Deploying containerized applications

- Understanding deployment on OpenShift
- Deployment strategies
- DeploymentConfig objects
- Replication controllers
- Replica sets
- Managing the deployment process
- Monitoring

Multi-containerized application deployment

- Multi-container pod architecture

- Image creation
- Create your template
- Deploying your template

Add-on module: OpenShift advanced

- Hybrid Cloud
- Version control
- Automatic testing
- Ansible
- Cloud Native Applications

Companies concerned

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

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

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

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.