

Updated 05/28/2024

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# Lens training: IDE manager for Kubernetes

2 days (14 hours)

## Presentation

Our Lens training, through the prism of Lens, the revolutionary IDE tool for Kubernetes, is designed to fully immerse you in the world of Kubernetes, simplifying the management and deployment of your containerized applications.

With [Lens](#), you can enter the era of the "Cloud Native" and make the most of Kubernetes' capabilities. Lens enriches your Kubernetes experience by making cluster management more intuitive, efficient and accessible, even for those new to the Kubernetes ecosystem.

During this Lens training course, you'll learn how to navigate the Lens interface, as well as how to optimize the management, deployment and monitoring of your Kubernetes applications.

You'll discover how Lens facilitates scaling, security and automation, making your IT infrastructures more modular, scalable and resilient.

The training will be presented with the [latest k8s Lens resources](#).

## Objectives

- Master the use of Lens as an interface for managing Kubernetes clusters
- Efficiently deploy and manage large-scale applications using Lens' advanced features
- Understand the mechanisms of security, monitoring and automation in a Kubernetes environment with Lens

## Target audience

- DevOps professionals
- Developers
- System administrators
- Cloud Architects

## Prerequisites

- Previous knowledge of Docker and containerization is recommended
- Mastering Kubernetes
- Linux system basics
- Access to a computer with SSH client, Docker installed
- A practice-ready environment with accessible virtual machines or Kubernetes clusters

## Lens for Kubernetes training program

### INTRODUCTION TO KUBERNETES AND LENS

- Introduction to the key concepts of Kubernetes and the native cloud ecosystem
- Introduction to Lens: the Kubernetes IDE tool
- Exploring the Lens user interface and customization
- Installation and initial configuration of Lens
- Connecting to an existing Kubernetes cluster with Lens

### CLUSTER NAVIGATION AND MANAGEMENT WITH LENS

- Using Lens to visualize the architecture and resources of a Kubernetes cluster
- Manage deployments, services and pods via the Lens interface
- Monitoring and debugging of containerized applications using logs and integrated terminals
- Configuring and using namespaces
- Importing and managing multiple Kubernetes clusters in Lens

### SECURITY IN KUBERNETES WITH LENS

- Overview of best safety practices
- Roles and access policies configuration (RBAC)
- Using Lens to audit cluster security
  - Kube-bench
- Implementation of security policies
- Activate and manage multi-factor authentication

### APPLICATION DEPLOYMENT AND MANAGEMENT

- Building and deploying containerized applications
- Using Helm charts with Lens
- Updating and scaling applications
- Secret and configuration management
- Monitoring application performance and using autoscalers with Lens

## LENS EXTENSIONS AND CUSTOMIZATION

- Overview of available extensions
- Customize your working environment
- Create and share custom extensions
- Integrating Lens with other tools and cloud services
- Exploring future Lens functionalities

## CLUSTER AUTOMATION AND LIFECYCLE MANAGEMENT

- Autopilot configuration
- Cluster backup and restore management
- Planning and execution of Kubernetes version upgrades without service interruption
- Best practices for regular cluster cleaning and maintenance with Lens

## PRACTICAL WORKSHOP AND CASE STUDY

- Implementation of a real project using Kubernetes and Lens
- Analysis of common use scenarios and resolution of specific problems
- Optimize development and operation workflows with Lens
- Feedback and sharing of best practices within the group
- Discussion of participants' specific challenges and proposed solutions with Lens

## 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 enabling 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 with regard to 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, with 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.