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OpenCost training

3 days (21 hours)

Presentation

OpenCost is an open-source technology dedicated to cost management in Kubernetes environments. It enables companies to understand and control their cloud spend by providing detailed visibility of resources used.

This course covers key OpenCost features, such as installing and configuring the tool for Kubernetes, integrating with Prometheus for data collection and using Grafana to visualize costs. We'll cover best practices for deploying OpenCost securely, leveraging Helm to simplify the installation process.

You'll learn how to integrate OpenCost with other tools via the API, customize dashboards, and use alerts to better manage costs and resources in a variety of environments.

By the end of the course, you'll have mastered cloud cost analysis in Kubernetes, advanced use of OpenCost for budget optimization, and the integration of visualization and alerting tools.

Our training will be based on the latest version of the technology: OpenCost v.112.

Objectives

- Master the fundamentals and benefits of OpenCost for cloud cost management
- Install and configure OpenCost with Kubernetes following security best practices
- Integrate Prometheus and use Grafana to monitor and visualize costs
- Customize reports and dashboards for optimized cost analysis
- Configure OpenCost with cloud providers and automate data collection

Target audience

- DevOps teams
- Infrastructure managers
- Cloud Engineer
- Developers

Prerequisites

- Basic knowledge of Kubernetes and cluster management
- Familiarity with monitoring concepts
- Cloud system configuration skills
- Access to a Kubernetes environment to install and configure OpenCost

OPENCOST TRAINING PROGRAM

INTRODUCTION TO OPENCOST

- Introduction to OpenCost
- Overview of key features and benefits for businesses
- Understanding the challenges of cost management in the cloud
- Exploring the different OpenCost components
- Discussion of technical and infrastructure requirements

INSTALLATION AND CONFIGURATION

- Detailed OpenCost installation steps
- Initial configuration and integration with Kubernetes
- Using Helm to simplify OpenCost deployment
- Configuring the development environment for OpenCost
- Good safety practices during installation and configuration

INTEGRATION WITH PROMETHEUS

- Introducing Prometheus and its role in cost monitoring
- Configuring Prometheus to work with OpenCost
- Understanding the key metrics provided by Prometheus
- Using Grafana to visualize cost data
- Practical configuration and visualization exercises

USING THE USER INTERFACE

- Navigating the OpenCost user interface
- Understanding the different reports and visualizations available
- Customize dashboards to meet specific needs

- Analysis of real-life use cases to optimize costs
- Alert and notification management

CONFIGURING CLOUD SERVICE PROVIDERS

- Configuring OpenCost with AWS, Azure, GCP, OCI and Open Telekom Cloud
- Specificities and considerations for each cloud provider
- Automation of cost data collection across platforms
- Cost reduction strategies and resource optimization
- Practical exercises on several cloud environments

ON-PREMISES DEPLOYMENT MANAGEMENT

- Special features of OpenCost deployments in local environments
- Integration with existing systems and data migration
- Monitoring and maintenance of on-premises infrastructure
- Deployment and cost management case studies

INTEGRATIONS AND API USE

- Explore possible integrations with OpenCost (Datadog, other tools)
- Understanding and using the OpenCost API for custom developments
- Practical examples of using the API to extend functionality
- Automation of common tasks via API
- Security and API access management

DATA EXPORT AND ANALYSIS

- Methods for exporting cost data in CSV and Parquet formats
- Export data analysis techniques for in-depth insights
- Use of external data analysis tools
- Best practices for data management and compliance

Companies concerned

This training 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 confirmed, 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 with regard to the training to come, within the limits imposed by the format selected. This

The questionnaire also enables us to anticipate any internal connection or security problems (intra-company or virtual classroom) that 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.