Updated on 27/11/2024

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Velero training

3 days (21 hours)

Presentation

Velero is an open-source technology dedicated to cluster restoration and backup in Kubernetes. It enables enterprises and engineers to easily backup clusters and restore them in the event of loss, migrate resources to other clusters and replicate production clusters to development clusters.

This training covers Velero's key features, such as installing and configuring the tool for Kubernetes, disaster recovery and clustration migrations. We'll cover best practices for creating plugins and configuring them. Configuring the PVC for backing up data movements.

You'll learn how to restore clusters after a disaster, filter resources and solve file-system backup problems.

By the end of the course, you'll have mastered Kubernetes cluster analysis and recovery, and the advanced use of Velero to optimize Kubernetes cluster backup and recovery.

Our training will be based on the latest version of the technology: Velero v1.15.0

Objectives

- Master the fundamentals and benefits of Velero for cluster backup
- Install and configure Velero with Kubernetes following security best practices
- Integrate plugins and use Grafana to track different applications
- Configure Velero to enable better recovery of Kubernetes clusters.

Target audience

- DevOps teams
- Cloud-native team
- System administrator
- Cloud Architects

Prerequisites

- Basic knowledge of Kubernetes and cluster management
- An interest in cloud-native technologies
- Access to a Kubernetes environment to install and configure Velero

VELERO TRAINING PROGRAM

INTRODUCTION TO VELERO

- Introduction to Velero
- Overview of key features and benefits
- Understanding Velero's real utility in Kubernetes
- Exploring the various Velero components
- Discussion of technical and infrastructure requirements

INSTALLATION AND CONFIGURATION

- Detailed Velero installation steps
- Initial configuration and integration with Kubernetes
- Custom installation and file system backup
- Environment setup for Velero
- Good safety practices during installation and configuration

USING VELERO

- Disaster recovery and cluster migration
- Restore reference, brackets, resource modifiers
- Creating backup references and configuring the backup repository
- Velero use case analysis
- Self-signed certificate verification
- Configuration of PVC for data movement backup
- Resource filtering

VELERO PLUGIN SYSTEM CONFIGURATION

- Creating new plugins for Velero
- New plugins added to Velero
- Custom plugins

- Listing of the different types of plugins on Velero
- Plugin configuration

TROUBLESHOOTING AND RECOVERY

- Identifying symptoms
- Solve installation or configuration problems
- Solving file system backup problems
- Troubleshooting

MORE INFORMATION

- Example of a JSON backup file
- Output file format version control
- Practical examples of using the API to extend functionality
- Modification of RBAC authorizations
- Behind the proxy

MONITORING AND ALERTING WITH VELERO

- How to monitor backups and restores with Velero.
- Monitoring backup and restore operations with Prometheus
- Configure alerts for backup/restore failures
- Using Grafana to monitor backup status

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 on 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.