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Updated on 09/10/2025

Sign up

Hashicorp Nomad Training

3 days (21 hours)

Presentation

Manage your containers efficiently with our Hashicorp Nomad training, the alternative to Kubernetes by Hashicorp.

Our comprehensive program begins with a presentation of the tool (architecture, components, interface...), the different use cases and a detailed comparison with Kubernetes.

At the heart of our training, you'll find out how to install and configure this container orchestrator on different platforms. You'll also learn about security aspects such as access control, TLS encryption and Gossip.

We'll teach you how to manage jobs and tasks with HCL2. This will enable you to optimize your deployments by making good use of resources, constraints, volumes and storage.

At the end of the course, you'll also be able to monitor Nomad using various services, implement autoscaling and administer node pools.

Our Nomad training course will be based on the latest version, Hashicorp Nomad 1.7.

Objectives

- Understand the differences between HashiCorp Nomad and Kubernetes
- Install and configure Nomad
- Efficiently manage application deployments and updates
- Implement security strategies

Target audience

- DevOps
- Developers
- System administrators
- Cloud architects

Prerequisites

- Basic knowledge of container orchestration
- Basic knowledge and handling of a Linux system

Technical prerequisites

- Nomad server configuration :
  - 4 to 8+ cores
  - 16 to 32 GB+ memory
  - 40 to 80 GB+ fast disk
- Network latency of less than 10 milliseconds between servers
- Root privileges for Linux users

Our Hashicorp Nomad training program

INTRODUCTION

- Introducing HashiCorp Nomad
- Nomad vs. Kubernetes
- Use cases
- Nomad architecture
- Nomad components
- Nomad migration strategy

NOMAD INSTALLATION AND CONFIGURATION

- Detailed Nomad installation
  - macOS
  - Linux
  - Windows
- Navigating the user interface
- Initial Nomad cluster configuration
- Securing Nomad
  - TLS
  - Gossip encryption
- Configuring ACLs for access control
- Managing the Nomad service

BASIC CONCEPTS

- Jobs
- Jobs
- Job groups
- Using job specifications in HCL2
- Resource and constraint management
- Volume configuration
- Storage management

JOB AND TASK MANAGEMENT

- Creating and submitting job specifications
- Deployment
- Application updates
- Failure management
- Recovery strategies
- Advanced job usage

SECURITY AND ACCESS CONTROL

- Implementation of ACL policies
- Roles and permissions management
- Strategies for securing transactions and sensitive data

NETWORKING

- Network configuration for jobs with CNI
- Integration with Consul for service discovery
- Service meshing
- Advanced network management

AUTOSCALING AND RESOURCE MANAGEMENT

- Understanding autoscaling and scaling policies in Nomad
- Using APIs and CLIs
- Configuring autoscaling and telemetry plug-ins
- Managing node pools and resource allocations

MONITORING

- Monitoring the Nomad environment with integrated and third-party tools
- Management of application logs and performance metrics
- Gossip encryption key rotation
- Good maintenance practices

Companies concerned

This 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 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 forthcoming course, 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 training: 60% hands-on, 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.

Certification

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

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