

Proxmox VE Clustering and Shared Storage

2 Days

DURATION

1

MODULES

12

TOPICS

COURSE OVERVIEW

(formerly known as: "Proxmox VE Advanced" until April 2025) This training course provides the technical skills to equip IT professionals with a solid understanding of deploying, managing, and integrating Proxmox VE nodes into a cluster and gaining the benefits of high availability and resource optimization for the VMs and containers. The training course consist of both theory and lab exercises to give participants a deep understanding, in addition to hands-on experience. Several modules and practical lab exercises will cover deployment, setup, and configuration.

WHO THIS COURSE IS FOR

- This training is aimed at IT professionals, system engineers, server administrators, and Proxmox partners who need to know how to deploy and manage Proxmox VE clusters.

PREREQUISITES

- This course is aimed at participants who have completed the Proxmox VE Deployment and Management training. This course covers topics that are not included in the Proxmox VE Deployment and Management course.

LEARNING OBJECTIVES

What You Will Learn

- Equip IT professionals with a solid understanding of deploying, managing, and optimizing virtual environments using Proxmox VE in clustered deployments.
- By the end of the course, participants will be well-prepared to confidently set up a Proxmox VE cluster following best practices. They will gain a solid understanding of how a Proxmox VE cluster operates and how careful planning can help reduce downtime. They will also learn the differences in VMs and LXC containers, particularly in the context of (live) guest migration. When it comes to shared storage within a cluster, participants will explore the built-in options along with their respective advantages and disadvantages. They will be able to configure Proxmox VE and Ceph as a hyper-converged infrastructure (HCI) in line with best practices, and will develop a clear understanding of how the different components of Ceph interact. Additionally, participants will grasp how high availability (HA) for guests functions and how to leverage its configuration options. They will also be able to utilize the SDN feature in a clustered environment to centrally manage VLANs and other networking elements.

COURSE SYLLABUS

1 Module, 12 Topics

01

Training Content

TOPICS

- Architecture and components of a Proxmox VE cluster: Requirements, best practices.
- Exploring the Proxmox Cluster File System (pmxcfs) and Corosync.
- Cluster networking and redundancy, software-defined networking (SDN) and VLANs.
- Storage management with shared storage options.
- Deploying Ceph: Hyper-converged infrastructure (HCI), Ceph RBD for guest virtual disk storage, CephFS for clustered file storage, maintenance tasks, and best practices.
- Migration of guests between nodes.
- ZFS for asynchronous guest disk replication in a cluster.
- High availability (HA) for VMs and containers.
- Failure scenarios with exercises for HA and Ceph.
- Considerations for a minimal 2 node setup with an external tiebreaker (QDevice).
- Automate tasks using the Proxmox REST API or CLI tools.
- Troubleshooting common issues

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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