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Proxmox VE Training: Deployment & Management

2 days (14 hours)

Overview

Proxmox VE is an open-source virtualization platform that allows you to deploy and manage virtual machines and Linux containers (LXC) within a unified environment based on KVM and LXC.

Our Proxmox VE: Deployment & Management training will enable you to master the installation, configuration, and administration of a Proxmox VE server in a virtualized environment.

You will learn how to install and configure Proxmox VE, manage networking, storage, virtual machines, and containers, as well as use the web-based GUI and command-line CLI administration interfaces.

You will also be able to implement backup and restore strategies, manage user authentication and permissions, configure the built-in firewall, and perform maintenance and troubleshooting on your infrastructure.

Upon completion of the training, participants will be able to install and manage a standalone Proxmox VE server.

Like all our courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand the architecture of Proxmox VE (with a focus on a single-server deployment).

- Install and configure Proxmox VE: system requirements, installation, updates, networking.
- Explore the management interfaces (web GUI, command line interface).
- Configuring and managing networks in Proxmox VE: bridging, aggregations, VLANs, etc.
- Storage management tailored for a single-server environment.
- Managing virtual machines (VMs) and Linux containers (LXC).
- Migration to Proxmox VE from other hypervisors (V2V) or physical machines (P2V).
- Backup and restore strategies: using built-in features and integration with Proxmox Backup Server.
- User authentication and permissions.
- Configuration of the built-in firewall.
- Troubleshooting common issues.

Target Audience

- Anyone responsible for deploying and managing Proxmox VE solutions in a data center or virtualized environment.

Prerequisites

- Basic knowledge of virtualization concepts

Technical prerequisites

- A workstation with Internet access and a modern web browser
- A Proxmox VE-compatible server or environment (bare metal or nested virtualization)
- A processor that supports virtualization (Intel VT-x or AMD-V)
- Sufficient resources (CPU, RAM, storage) to create VMs and containers
- Network access to configure interfaces and services
- Access to administration tools (web interface, SSH, CLI)

Proxmox VE Deployment & Management Training

[Day 1 - Morning]

Proxmox VE Architecture and Installation

- Understanding the Proxmox VE architecture (single-server focus)
- Introduction to KVM and LXC technologies
- System and hardware prerequisites
- Installing Proxmox VE
- Initial configuration and updates
- Hands-on workshop: Complete installation of a Proxmox VE server.

Management interfaces and basic administration

- Exploring the Web Interface (GUI)
- Using the command line (CLI)
- Access management and navigation
- Day-to-day administration
- Best practices for operation
- Hands-on workshop: Getting started with the GUI and CLI.

[Day 1 - Afternoon]

Network

configuration

- Network configuration and management in Proxmox VE
- Setting up network bridges
- Configuring VLANs and aggregations
- Connectivity and traffic isolation
- Network validation and testing
- Hands-on workshop: Configuring a complete network.

Storage and resource management

- Storage management tailored to a single server
- Storage types (local, NFS, LVM, ZFS)
- Volume configuration
- Performance optimization
- Capacity management
- Hands-on workshop: Storage configuration and management.

[Day 2 - Morning]

Virtual Machines and Containers

- Virtual Machine (VM) Management
- LXC Container Management
- Creation, configuration, and administration
- Templates, cloning, and snapshots
- Resource optimization
- Hands-on workshop: Deploying VMs and containers.

Migration and Interoperability

- Migration to Proxmox VE (V2V and P2V)
- Import from other hypervisors
- Conversion management
- Migration testing
- Best Practices

- Hands-on workshop: Migrating a machine to Proxmox.

[Day 2 - Afternoon] Backup and

Restore

- Backup and restore strategies
- Using built-in features
- Integration with Proxmox Backup Server
- Restore tests
- Data Management
- Hands-on Workshop: Full Backup and Restore.

Security, maintenance, and troubleshooting

- Authentication and user management
- Role and permission management
- Configuring the built-in firewall
- Troubleshooting common issues
- Maintenance and updates
- Hands-on workshop: Diagnosis and incident resolution.

Target Audience

This training is intended for both individuals and companies, large or small, seeking to train their teams in new advanced IT technologies or to acquire specific professional knowledge or modern methods.

Entry-level assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.