

Proxmox VE 6.0 Installation and Administration

Duration : 5 Days

Course Content

Training Proxmox VE (Virtual Environment) merupakan pelatihan dasar untuk dapat melakukan manajemen server virtualisasi yang open source berbasis Debian Etch.

Peserta akan diajarkan untuk belajar pemasangan, konfigurasi tempat penyimpanan, serta menggunakan Proxmox.

Course Objectives

Tujuan dari training ini yaitu agar peserta dapat menggunakan Proxmox agar dapat menjalankan KVM virtualization, container-based virtualization dan mampu mengatur virtual mesin KVM, Linux containers (LXC), storage, virtualisasi jaringan, dan HA (High Availability) cluster.

Who Should Attend

Training ini di sarankan bagi system administrator yang ingin memperdalam virtualisasi, sudah terbiasa menggunakan virtualisasi, dan bekerja dengan server serta memiliki ketertarikan dengan dunia virtualisasi.

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Course Outline

- **Chapter 1: Introduction**
 - Central Management
 - Flexible Storage
 - Integrated Backup and Restore
 - High Availability Cluster
 - Flexible Networking
 - Integrated Firewall
 - Why Open Source
 - Your benefits with Proxmox VE
 - Getting Help
- **Chapter 2: Installing Proxmox VE**
 - System Requirements
 - Using the Proxmox VE Installer
 - Install from USB Stick
 - Install Proxmox VE on Debian
- **Chapter 3: Host System Administration**
 - Package Repositories
 - System Software Updates
 - Network Configuration
 - Time Synchronization
 - External Metric Server
 - Disk Health Monitoring
 - Logical Volume Manager (LVM)
 - ZFS on Linux
 - Certificate Management
 - Host Bootloader
- **Chapter 4: Hyper-converged Infrastructure**
 - Benefits of a Hyper-Converged Infrastructure (HCI) with Proxmox VE
 - Manage Ceph Services on Proxmox VE Nodes
- **Chapter 5: Graphical User Interface**
 - Features
 - Login
 - GUI Overview

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- **Chapter 6: Cluster Manager**
 - Requirements
 - Preparing Nodes
 - Create a Cluster
 - Adding Nodes to the Cluster
 - Remove a Cluster Node
 - Quorum
 - Cluster Network
 - Corosync Redundancy
 - Corosync External Vote Support
 - Corosync Configuration
 - Cluster Cold Start
 - Guest Migration

- **Chapter 7: Proxmox Cluster File System (pmxcfs)**
 - POSIX Compatibility
 - File Access Rights
 - Technology
 - File System Layout
 - Recovery

- **Chapter 8: Proxmox VE Storage**
 - Storage Types
 - Storage Configuration
 - Volumes
 - Using the Command Line Interface
 - Directory Backend
 - NFS Backend
 - CIFS Backend
 - GlusterFS Backend
 - Local ZFS Pool Backend
 - LVM Backend
 - LVM thin Backend
 - Open-iSCSI initiator
 - User Mode iSCSI Backend
 - Ceph RADOS Block Devices (RBD)
 - Ceph Filesystem (CephFS)

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- **Chapter 9: Storage Replication**
 - Supported Storage Types
 - Schedule Format
 - Error Handling
 - Managing Jobs
 - Command Line Interface Examples

- **Chapter 10: Qemu/KVM Virtual Machines**
 - Configuring sound in a KVM VM
 - Configuring a PCI passthrough
 - Configuring a PCI Express/GPU passthrough
 - Configuring a USB passthrough Configuring a hotplug
 - Nesting virtual machines
 - Isolating multiple subnets

- **Chapter 11: Proxmox Container Toolkit**
 - Technology Overview
 - Security Considerations
 - Guest Operating System Configuration
 - Container Images
 - Container Storage
 - Container Settings
 - Backup and Restore
 - Managing Containers with pct
 - Migration
 - Configuration
 - Locks

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- **Chapter 12: Proxmox VE Firewall**

- Zones
- Configuration Files
- Firewall Rules
- Security Groups
- IP Aliases
- IP Sets
- Service and Commands
- Default firewall rules
- Logging of firewall rules
- Tips and Tricks
- Notes on IPv6
- Ports used by Proxmox VE

- **Chapter 13: User Management**

- Users
- Authentication Realms
- Two-factor authentication
- Permission Management
- Command Line Tool
- Real World Examples

- **Chapter 14: High Availability**

- Requirements
- Resources
- Management Tasks
- How It Works
- HA Simulator
- Configuration
- Fencing
- Start Failure Policy
- Error Recovery
- Package Updates
- Node Maintenance

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- **Chapter 15: Backup and Restore**
 - Backup modes
 - Backup File Names
 - Restore
 - Configuration
 - Hook Scripts
 - File Exclusions

- **Chapter 16: Important Service Daemons**
 - pvedaemon - Proxmox VE API Daemon
 - pveproxy - Proxmox VE API Proxy Daemon
 - pvestatd - Proxmox VE Status Daemon
 - spiceproxy - SPICE Proxy Service

- **Chapter 17: Useful Command Line Tools**
 - pvesubscription - Subscription Management
 - pveperf - Proxmox VE Benchmark Script
 - Shell interface for the Proxmox VE API
 - Proxmox Node Management

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