Oracle Linux Virtualization Manager 4.4: Administration LVC

Infrastructure

DURATION	MODULES	COURSE CODE
4 Days	**11 Lectures**	**—**

Course Overview

The Oracle Linux Virtualization Manager 4.4: Administration course covers how you can deploy Oracle Linux Virtualization Manager, a proprietary, server virtualization management platform, to configure, monitor, and manage Oracle Linux Kernel-based Virtual Machines (KVM), with enterprise-grade performance and support from Oracle.

What You Will Learn

Architecture and Overview

- Objectives
- Oracle Linux Virtualization Manager: Overview
- Oracle Linux Virtualization Manager
- Engineered for Open Cloud Infrastructure
- Reliability and High Availability
- Management Options
- Overview of Architecture
- oVirt Engine Features
- Basic Host Architecture
- Agents, QEMU, and libvirt
- Self-Hosted Engine
- Data Warehouse and Databases
- Administration Interfaces
- The Cockpit Web Interface
- Virtual Machine Consoles
- Summary

Installing the Engine

- Objectives
- Engine Prerequisites
- Deployment Sizes

- Hardware Requirements
- Small
- Medium
- Large
- Engine Firewall Requirements
- Install Linux Virtualization Manager Modules
- Linux Virtualization Manager Repositories
- Install Oracle Linux Virtual Manager
- Engine-Setup
- Engine Configuration Options
- Using an Alternate Host Name
- Logging In
- Summary

Understanding Core Components

- Objectives
- Core Components
- Data Centers
- New Data Center
- QOS: Quality of Service
- Storage QOS Settings
- Clusters
- New Cluster
- Cluster Details
- Affinity Groups
- Affinity Labels
- Understanding Hosts
- Host Home Page
- Host Details
- Host Affinity Label
- Storage Pool Manager
- Setting SPM Priority
- Virtual Desktop and Server Manager
- Virtual Machines
- Networks
- Logical Networks
- MAC Address Pools
- MAC Address Pool
- Creating Mac Address Pool
- Storage
- Storage Domains
- Storage Domain Details
- Manage Domain
- Virtual Machine Storage
- Event Logging and Notifications
- Summary

KVM Host Installation

- Objectives
- KVM Host Prerequisites
- KVM Host Requirements
- KVM Host Firewall Requirements
- Scalability Limits
- Preparing a KVM Host
- Linux Virtualization Host Repositories
- Adding a KVM Host
- Adding a KVM Host: Key-based Authentication
- Adding a KVM Host
- Summary

Managing Storage Domains

- Objectives
- OLVM Storage
- Storage Domains
- Storage Pool Manager
- Storage Leases
- Virtual Machine Storage
- Local Storage Domain
- Local Storage Domain Requirements
- Configuring Local Storage Domain
- Using NFS Storage
- NFS Storage Domain Configuration
- NFS ISO Storage
- Configuring iSCSI Storage Domain
- Using iSCSI Multipathing
- Multipathing Prerequisites
- GlusterFS File System
- Advantages of GlusterFS
- Configure GlusterFS Domain
- Configure GlusterFS Volume
- Configure GlusterFS Bricks
- Configure GlusterFS Domain
- Detaching a Storage Domain from a Data Center
- Summary

Network Management

- Objectives
- Networking Recommendations
- Logical Networks
- Bridge Networks
- VLAN Networks

- Virtual NICs
- Bond Interface
- MAC Address Pools
- Add Virtual Machine Networks
- Summary

User Management

- Objectives
- Administrator Tasks
- Introduction to Users
- Introduction to Roles
- Administering User Tasks from the Command Line
- Administering User Tasks from the Command Line: Examples
- Password Policy
- Pre-encrypted Passwords
- Useful User Management Commands
- Managing Groups
- Creating Nested Groups
- Querying Users and Groups
- Managing Account Settings
- Managing Account Settings: Examples
- Quotas
- Quota Modes
- Enabling and Changing a Quota Mode in a Data Center
- Creating a New Quota Policy
- Quota Threshold Settings
- Assigning a User to a Quota
- Summary

Optimization Practices

- Objectives
- Configuring Memory and CPUs
- Resource Allocation
- Configuring Cluster Optimization
- Configuring Host Optimization
- Setting Memory Overcommit
- Configuring Power Management and Fencing on a Host
- Preventing Host Fencing During Boot
- Automate Checking Fencing Parameters
- Reasons for Virtual Machine Migrations
- Migrating Virtual Machines
- Configuring High-Performance Virtual Machines
- High-Performance Virtual Machine Limitations
- Configuring Huge Pages
- Hot Plugging vCPUs

- Hot Plugging vCPUs Limitations
- Hot Plugging Virtual Memory
- Summary

Administrating Virtual Machines

- Objectives
- Virtual Machine Storage
- Settings to Wipe Virtual Disks After Deletion
- Setting SANWipeAfterDelete to True Using the Engine Configuration Tool
- Shareable Disks
- Read-Only Disks
- Virtual Machine Consoles
- Creating Virtual Machine
- VM Details Page
- Creating a VM Snapshot
- Viewing a Snapshot
- Using Snapshot to Create a Template
- Viewing Virtual Machine Template
- Creating a Virtual Machine from Template
- Exporting VMs as OVA Files
- Guest Agents and Drivers
- qemu-guest-agent
- Boot failed: not a bootable disk – No Bootable device
- Virtual Machine Administrator Roles
- Virtual Machine User Roles
- Considerations When Using Snapshots
- Introduction to the VM Portal
- Graphical User Interface for VM
- Virtual Machine Portal
- Summary

Managing Events and Logs

- Objectives
- Log Files
- Engine Installation Log Files
- Host Log Files
- oVirt Services and sysconfig File Paths
- oVirt Services and Main Configuration Files
- Monitoring and Observability
- Grafana Overview
- Enable Grafana Integration
- Grafana Dashboards
- Introduction to Event Notification
- Parameters for Event Notifications
- Configuring the oVirt Engine to Send SNMP Traps

- Prerequisites to Send SNMP Traps
- ovirt-log-collector Diagnostic Tool
- Monitoring Using PostgreSQL Commands
- Summary

OLVM Recovery Management

- Objectives
- System Backup and Recovery
- Basic Options: engine-backup
- Creating a Backup
- Backup Procedure
- Adding Specific Files to the Backup
- Restoring a Backup
- Restoring a Backup to a Fresh Installation
- Restoring a Backup to Overwrite an Existing Installation
- Restoring a Full Backup
- Restore Procedure
- Restoring a Complete Backup or a Database-Only Backup
- Restoring a Backup with Different Credentials
- Migrating the Data Warehouse to a Separate Machine
- Renaming the Engine: Rename Tool
- Disaster Recovery Solutions
- Active-Active Disaster Recovery
- Failover Stretch Cluster
- Active-Passive Disaster Recovery
- Recovery Considerations – Network
- Recovery Considerations – Storage
- Summary