**Část 3 - Virtualizace**

# Správa VMWARE serverů – certifikace

Minimální počet hodin: 35

Počet lidí: 1

Kurz projde od základních až k pokročilým dovednostem správy VMware vSphere® 7. V návaznosti na obsah instalace a konfigurace bude také rozvíjet pokročilé dovednosti potřebné pro správu a údržbu vysoce dostupné a škálovatelné virtuální infrastruktury. Prostřednictvím kombinace prezentací a praktických labů projdou účastníci instalací, konfigurací a správou vSphere 7. Tento kurz musí účastníky připravit na správu infrastruktury vSphere pro organizaci libovolné velikosti pomocí vSphere 7, která zahrnuje VMware ESXi ™ 7 a VMware vCenter Server® 7.

## Osnova kurzu

Course Introduction

* + Introductions and course logistics
  + Course objectives

Introduction to vSphere and the Software-Defined Data Center

* Explain basic virtualization concepts
* Describe how vSphere fits into the software-defined data center and the cloud infrastructure
* Explain how vSphere interacts with CPUs, memory, networks, and storage
* Recognize the user interfaces for accessing the vCenter Server system and ESXi hosts
* Use VMware Host Client™ to access and manage ESXi host

Virtual Machines

* + - Create and remove a virtual machine
    - Provision a virtual machine with virtual devices
    - Identify the files that make up a virtual machine
    - Explain the importance of VMware Tools™

vCenter Server

* + - Describe the vCenter Server architecture
    - Discuss how ESXi hosts communicate with vCenter Server
    - Deploy and configure vCenter Server Appliance
    - Use the vSphere Client to manage the vCenter Server inventory
    - Add data center, organizational objects, and hosts to vCenter Server
    - Use roles and permissions to enable users to access objects in the vCenter Server inventory
    - Back up vCenter Server Appliance
    - Monitor vCenter Server tasks, events, and appliance health
    - Use vCenter Server High Availability to protect a vCenter Server Appliance

Configuring and Managing Virtual Networks

* + - Create and manage standard switches
    - Describe the virtual switch connection types
    - Configure virtual switch security, traffic-shaping and load-balancing policies
    - Compare vSphere distributed switches and standard switches

Configuring and Managing Virtual Storage

* + - Identify storage protocols and storage device types
    - Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage
    - Create and manage VMFS and NFS datastores
    - Explain how multipathing works with iSCSI, NFS, and Fibre Channel storage
    - Deploy virtual machines on a VMware vSAN™ datastore

Virtual Machine Management

* + - Use templates and cloning to deploy new virtual machines
    - Modify and manage virtual machines
    - Create a content library and deploy virtual machines from templates in the library
    - Dynamically increase the size of a virtual disk
    - Use customization specification files to customize a new virtual machine
    - Perform vSphere vMotion and vSphere Storage vMotion migrations
    - Create and manage virtual machine snapshots
    - Examine the features and functions of VMware vSphere® Replication™

Resource Management and Monitoring

* + - Discuss CPU and memory concepts in a virtualized environment
    - Describe what overcommitment of a resource means
    - Describe methods for optimizing CPU and memory usage
    - Use various tools to monitor resource use
    - Create and use alarms to report certain conditions or events

vSphere Clusters

* + - Describe options for making a vSphere environment highly available
    - Explain the vSphere HA architecture
    - Configure and manage a vSphere HA cluster
    - Examine the features and functions of VMware vSphere® Fault Tolerance
    - Configure a vSphere cluster using ESXi Cluster Quickstart
    - Describe the functions of a vSphere DRS cluster
    - Create a vSphere DRS cluster

Network Scalability

* + - Configure and manage vSphere distributed switches
    - Describe how VMware vSphere® Network I/O Control enhances performance
    - Explain distributed switch features such as port mirroring and NetFlow

vSphere Lifecycle Management

* + - Describe how VMware vSphere® Lifecycle Manager™ works
    - Use vSphere Lifecycle Manager to update ESXi hosts in a cluster

Host and Management Scalability

* + - Use host profiles to manage ESXi configuration compliance
    - Create and manage resource pools in a cluster

Storage Scalability

* + - Explain why VMware vSphere® VMFS is a high-performance, scalable file system
    - Explain VMware vSphere® Storage APIs - Array Integration, VMware vSphere® API for Storage
* Awareness™, and vSphere APIs for I/O Filtering
  + - Configure and assign virtual machine storage policies
    - Create VMware vSAN™ storage policies
    - Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control
    - Discuss vSphere support for NVMe and iSER

Introduction to vSphere with Kubernetes

* + - Differentiate between containers and virtual machines
    - Identify the parts of a container system
    - Recognize the basic architecture of Kubernetes
    - Describe a basic Kubernetes workflow
    - Describe the purpose of vSphere with Kubernetes and how it fits into the VMware Tanzu portfolio
    - Explain the vSphere with Kubernetes supervisor cluster
    - Describe the Tanzu Kubernetes Grid service

# Správa Citrix serverů – certifikace

Minimální počet hodin: 35

Počet lidí: 1

Účastník se naučí nasadit, instalovat, konfigurovat, nastavit profily užívatelů, jak konfigurovat politiky, tisky a základní bezpečnostní funkce on-premis Virtual Apps a Desktop řešení, a jak provést migraci do Citrix Cloudu.

Školení musí zahrnovat vše potřebné k instalaci, konfiguraci a správě Citrix Virtual Apps a Desktops 7 prostředí, dále účastník získá znalosti jak spravovat Citrix on-premis řešení a jak migrovat z on-premis řešení do cloudu pomocí Citrix Cloud management vrstvy.

## Osnova kurzu

Module 1: Architecture Overview

## Introduction to Citrix Virtual Apps and Desktops

## Architecture Overview

## Features

## Hosting Platform Considerations

## Citrix Virtual Apps and Desktops Service

## Connection Flow Process Introduction

Module 2: Deploy the Site

## Pre-Deployment Considerations

## Citrix Licensing Setup

## Delivery Controller Setup

## Site Setup And Management

## Redundancy Considerations

Module 3: The Apps and Desktops Images

## Consider Master Image Creation Methods

## Master Image Requirements

Module 4: Provision and Deliver App and Desktop Resources

## Machine Catalogs and Delivery Groups

## Provisioning Methods and Considerations

## Machine Creation Services (MCS) Deep Dive

## MCS Environment Considerations

## Resource Locations

Module 5: Provide Access to App and Desktop Resources

## Consider Workspace Experience versus StoreFront

## Workspace Experience User Authentication

## Workspace App

## Communication Flow

Module 6: Manage the User Experience

## Methods to Manage the User Experience

## Common User Experience Settings

Module 7: Published App and Desktop Presentation and Management

## Published App Properties

## Server OS Published App Optimizations

## Published App Presentation

## Application Groups

## Apps and Desktops Presentation

Module 8: Manage Printing for User Sessions

## Map Printers to the User Session

## Printer Drivers

## Print Environment Considerations

Module 9: Citrix Profile Management

## Introduction and Considerations

## Configure Citrix Profile Management

Module 10: Manage the Site

## Delegated Administration

## Use PowerShell with Citrix Virtual Apps and Desktops

## Power Management Considerations

Module 11: Citrix Virtual Apps and Desktops Basic Security Considerations

## Citrix Admin Security Considerations

## XML Service Security Considerations

## Secure HDX External Traffic

Module 12: Monitor the Site

## Citrix Director Introduction

## Monitor and Interact with User Sessions

## Published Apps Analysis

## Monitor the Machines Running the VDA

## Site Specific Common Monitoring

## Alerts and Notifications

## Optimize Citrix Director Monitoring with Citrix ADM

Module 13: Introduction to Supporting and Troubleshooting Citrix Virtual Apps and Desktops

## Introduction to Supporting a Citrix Virtual Apps andDesktops Site

## Tools

## Proactive Administration Common Tasks

Module 14: Migrate To Citrix Cloud

## Migration Considerations

## Citrix Cloud Connector Deployment

## Citrix Virtual Apps and Desktops with an On-Premises Resource Location

## The Migration Process Module 15: Citrix Analytics

## Citrix Analytics Introduction

## Prepare to Use Citrix Analytics

## Types of Analytics

# Veeam Certified Engineer - Advanced (VMCE-A): Design & Optimization V1

Minimální počet hodin: 16

Počet lidí: 1

Po absolvování školení VMCE-Advanced musí být účastníci schopní navrhovat a optimalizovat řešení Veeam Availability Suite, dle osvědčených postupů Veeam Solution Architektů.

## Osnova kurzu

Module 1: Introduction

Module 2: Design and sizing

## DNS and name resolution

## Veeam backup server

## Backup and replication database

## Proxy server

## Transport modes

## Repository server

## WAN accelerator

## Interaction with hypervisors

Module 3: Infrastructure

## Stages of Proof of Concept

## Assessment using Veeam ONE™

## Important data to collect (Veeam ONE + infrastructure accounts)

Module 4: Security

## Permissions

Module 5: Design scenario: Part 1

## Discovery

## Create a design based on the customer environment

Module 6: Optimizations

## Backup and replication database

## Proxy server

## Repository server

## WAN accelerator

## Tape

## Veeam Backup Enterprise Manager

## Indexing

## Antivirus on Veeam servers and guest VM (if VSS is used)

## Protecting Veeam Backup & Replication™ configuration

Module 7: Design scenario: Part 2

## Create a design based on the customer’s evolving environment

Module 8: Automation

## Veeam backup server

## VMware vSphere tags

Module 9: Audit and compliance

## Auditing

## Compliance

## SureBackup® and SureReplica

Module 10: Troubleshooting

## Deep dive into reading log files

## Common issues

## Troubleshooting mode (SureBackup/SureReplica)