

# Kurs-Dokumentation



**Zentrum für Informatik ZFI AG**

**Implementing and Managing Microsoft Server  
Virtualization (VMSS-0111) -IT Ausbildung  
nach Mass**

<http://www.zfi.ch/VMSS-0111>

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<b>Titel</b>	<b>Implementing and Managing Microsoft Server Virtualization</b>
<b>Untertitel</b>	<b>effiziente Server-Virtualisierung mit Hyper-V</b>
<b>Einleitung</b>	<p>Die Servervirtualisierung erstellt separate Betriebssystemumgebungen in Form von virtuellen Maschinen (VMs), die vom physischen Host-Server logisch isoliert sind. Dies erlaubt es, die zur Verfügung stehenden Ressourcen wie Hardware, Speicherplatz etc besser auszunutzen, um die Kosten sowie den Strombedarf zu reduzieren und die Verfügbarkeit sowie die Flexibilität zu erhöhen. Gleichzeitig bleiben die Isolation und Sicherheit der virtuellen Betriebssystemumgebungen erhalten. Die von Microsoft entwickelte Virtualisierungstechnologie Hyper-V lässt sich sowohl zur Virtualisierung von Serversystemen als auch zur Desktopvirtualisierung mittels Virtual Desktop Infrastructure nutzen. Dieser ZFI/Microsoft-Kurs führt die Teilnehmenden systematisch in die Microsoft-Server-Virtualisierungs-Technologie ein. Dabei werden die neuesten Produkte berücksichtigt: Server 2008 R2, System Center Virtual Machine Manager (VMM) 2008, SCVMM 2008 R2, System Center Operations Manager 2007 R2, System Center Data Protection Manager 2007 R2, und System Center Configuration Manager 2007 R2. Der Kurs setzt keine Virtualisierungs-Vorkenntnisse voraus. Unerlässlich sind jedoch sehr gute Administrations-Kenntnisse des Windows Servers 2008 oder Server 2008 R2.</p>
<b>Ihr Nutzen</b>	<p>After completing this course, students will be able to:</p> <ul style="list-style-type: none"><li>- Describe server, desktop, and application virtualization.</li><li>- Describe how you use Microsoft System Center is to manage the virtual infrastructure.</li><li>- Evaluate a network environment for server virtualization.</li><li>- Plan for the implementation of the Hyper-V server role.</li><li>- Install the Hyper-V Server Role.</li><li>- Manage Hyper-V settings and virtual networks.</li><li>- Create and configure virtual machines.</li><li>- Manage virtual machine snapshots.</li><li>- Managing and maintaining the Virtual Machine Connection Tool.</li><li>- Create and configure virtual machines.</li><li>- Manage virtual machine snapshots.</li><li>- Managing and maintaining the Virtual Machine Connection Tool.</li><li>- Create a new virtual machine using SCVMM 2008 R2.</li><li>- Convert a physical server to a virtual machine.</li><li>- Convert and migrate virtual machines.</li><li>- Clone virtual machines.</li><li>- Describe common management tasks and property configuration settings for virtual machines managed by VMM 2008.</li><li>- Describe when and how to use virtual machine checkpoints.</li><li>- Overview of the VMM Library.</li><li>- Manage profiles and templates.</li><li>- Design fault tolerance for the VMM library.</li><li>- Configure VMM user roles.</li><li>- Install and configure the VMM Self-Service Portal.</li><li>- Describe the Windows Server 2008 R2 Failover Cluster feature.</li><li>- Implement failover clustering with Hyper-V and VMM 2008 R2.</li><li>- Describe how to use the Offline Virtual Machine Servicing Tool to maintain updates for virtual machines.</li></ul>

- Configure Windows Server Update Services (WSUS) and the Offline Virtual Machine Servicing Tool.
- Monitor and manage jobs in VMM 2008 R2s.
- Configure System Center Operations Manager integration.
- Configure Performance and Resource Optimization (PRO).
- Describe backup and restore options for virtual machines and the VMM database.
- Implementing Data Protection Manager for backing up the VMM infrastructure.
- Understand the use and role of Remote Desktop Services (RDS).
- Implement the Remote Desktop Session Host.
- Implement the Remote Desktop Connection Broker.
- Implement the Remote Desktop Virtualization Host.
- Configure the Remote Desktop Gateway.
- Configure Remote Desktop Web Access.
- Configure Remote Desktop Licensing.

**Voraussetzungen**

- Before attending this course, students must:
- Perform server administrator tasks responsible for building and maintaining a virtualization infrastructure.
  - Work or consult for a midsize to enterprise-size organization.
  - Have a basic understanding of server virtualization concepts related to Microsoft or other third-party virtualization technologies.
  - Support production, development, testing, high availability, business continuity, staging, classroom, or hosting environments based upon Windows Server 2008 technology.
  - Understand a Windows-based network, including Active Directory directory service.
  - Understand storage technologies, such as Storage Area Network (SAN) including Internet small computer system interface (iSCSI), Fiber Channel, and Direct Attached Storage (DAS).
  - Understand Windows Server 2008 failover clustering.

**Teilnehmerkreis**

The primary audience for this course is Microsoft Windows Server 2008 system administrators who will manage and implement Server Virtualization technologies within their network. The students for this course are responsible for virtualizing their current servers, or have been requested or directed by their information technology (IT) management to research and/or implement server virtualization in the existing environment. They should have a minimum of 1.5 years of experience working with Microsoft Windows Server 2008 as a server administrator. Prior experience with virtualization is not expected. However, familiarity with virtualization concepts and management tools is highly recommended.

**Unterlagen  
Folgekurse  
Inhalt**

Original Microsoft Kursunterlagen

- Evaluating and Planning for Virtualization
- Overview of Microsoft Virtualization
- Evaluating the Current Environment for Virtualization
- Installing and Configuring the Hyper-V Server Role
- Installing the Hyper-V

**Server RoleConfiguring Hyper-V Settings and Virtual Networks**

**Creating and Configuring Virtual Hard Disks and Virtual Machines**  
Creating and Configuring Virtual Hard Disks  
Creating and Configuring Virtual Machines  
Managing Virtual Machine Snapshots  
Working with the Virtual Machine Connection Application

**Integrating System Center Virtual Machine Manager with Microsoft Hyper-V Server 2008 R2**  
Planning for Integration of System Center Virtual Machine Manager  
Installing the VMM Server and Administrator Console  
Managing Hosts and Host Groups

**Creating and Deploying Virtual Machines Using System Center Virtual Machine Manager 2008 R2**  
Creating a New Virtual Machine Using VMM 2008 R2  
Converting a Physical Server to a Virtual Machine  
Converting and Migrating Virtual Machines

**Managing Virtual Machines Using Virtual Machine Manager 2008**  
Overview of VMM Management Tasks  
Creating and Managing Checkpoints

**Configuring and Managing the VMM Library**  
Overview of the VMM Library  
Managing Profiles and Templates  
Designing Fault Tolerance for the VMM Library

**Configuring User Roles and the Virtual Machine Manager Self-Service Portal**  
Configuring User Roles  
Installing and Configuring the VMM Self-Service Portal

**Implementing High Availability for Server Virtualization**  
Overview of Failover Clustering  
Implementing Failover Clustering with Hyper-V  
Implementing High Availability with VMM 2008 R2

**Maintaining Software Updates Using the Offline Virtual Machine Servicing Tool**  
Overview of the Offline Virtual Machine Servicing Tool  
Configuring WSUS and the Offline Virtual Machine Servicing Tool

**Monitoring and Reporting Virtualization**  
Monitoring Jobs in VMM 2008 R2  
Integrating System Center Operations Manager with VMM 2008 R2  
Configuring Performance and Resource Optimization

**Backup and Restore Strategies for Virtual Machines**  
Overview of Backup and Restore Options for Virtual Machines and the VMM Database  
Implementing Data Protection Manager for Backing Up the VMM Infrastructure

**Desktop Virtualization Using Remote Desktop Services**  
Overview of Remote Desktop Services  
Implementing the Remote Desktop Session Host  
Implementing Remote Desktop Connection Broker  
Implementing the Remote Desktop Connection Virtualization Host

**Extending Remote Desktop Services Outside the**

**OrganizationConfiguring the Remote Desktop GatewayConfiguring Remote Desktop Web Access**

**Beitrag**

**Der Teilnehmerbeitrag versteht sich rein netto. Das ZFI ist (gemäss MwSt-Gesetz) nicht Mehrwertsteuerpflichtig und erhebt somit keine MwSt. Bei länger als einen Monat dauernden Lehrgängen ist die Zahlung des Teilnehmerbeitrages in mehreren Raten möglich (pro rata temporis).**