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# Course Contents

## Server Virtualization with Windows Server Hyper-V and System Center (74-409)

This training program includes designing, implementing, managing and maintaining a virtualisation infrastructure on current Microsoft virtualisation technologies.

### Course Contents

- Hyper-V Basics
- Building a Failover Cluster
- System Center Virtual Machine Manager
- Virtual Machine Manager as a Cross-Platform Management Tool
- VM Migration Using SCV MM
- An Alternate Migration Method
- A Crash Course in Hyper-V Backups
- Replication
- Failover
- Keeping Hyper-V Healthy
- Virtual Machine Libraries and Templates

### Course Details

1. Hyper-V Basics
    a. Initial Deployment Considerations
    b. Hyper-V Licensing
    c. Setting Up Hyper-V
    d. Joining a Domain
    e. Installing Hyper-V
    f. The Datastore
    g. The Virtual Machine Console
    h. VMware Tools
    i. Virtual Machine Generations
    j. Dynamic Memory
2. Building a Failover Cluster
    a. Cluster Planning
    b. Cluster Scalability
    c. Failover Cluster Architecture Considerations
    d. Setting Up Cluster Storage
    e. Preparing Your Cluster Nodes
    f. Starting the iSCSI Initiator and Documenting the IQN
    g. Creating an iSCSI Target
    h. Attaching to the iSCSI Target
    i. Preparing the iSCSI Target for Use
    j. Deploying the Failover Cluster Feature
    k. Checking the Hyper-V Virtual Switch
    l. Fault Tolerance for Virtual Machines
    m. Connecting the Cluster to the iSCSI Target
3. System Center Virtual Machine Manager
    a. Introduction to SCVMM
    b. SCVMM Components
    c. Deploying SCVMM
    d. The Virtual Machine Manager Console
4. Virtual Machine Manager as a Cross-Platform Management Tool
    a. Bringing Hyper-V Under Management
    b. Bringing a Standalone Hyper-V Server Under Management
    c. Bringing a Clustered Hyper-V Deployment Under Management
    d. VMware Management
    e. VMware's Take on Virtual Machine Manager
    f. Connecting Virtual Machine Manager to Your VMware Deployment
    g. Importing a Security Certificate
    h. Accepting a Certificate
    i. VMware Management Techniques
    j. Creating New VMs
    k. Creating a Hyper-V Virtual Machine
    l. Creating a VMware Virtual Machine
    m. Preparing Your Template VMs
5. VM Migration Using SCV MM
    a. Supported Versions of VMware
    b. The Resulting Downtime
    c. Storage Provisioning
    d. Preparing for the Migration
    e. Backing Up Your Virtual Machines
    f. Removing the VMware Tools
    g. Making Note of Any Static IP Addresses
    h. Disconnecting from the Virtual Network
    i. Uninstalling Your Antivirus Software
    j. Shutting Down the Virtual Machine
    k. Converting a Virtual Machine
    l. Error 2940
    m. Error 2912
    n. Post-Migration Tasks
6. An Alternate Migration Method
    a. Which Tool Should You Use?
    b. Microsoft Virtual Machine Converter Features
    c. Preparing for the Virtual Machine Converter
    d. Building the Virtual Machine
    e. Preparing Your Hyper-V Server
    f. Configuring Your Virtual Machine
    g. Acquiring and Installing the Microsoft Virtual Machine Converter
    h. Planning the Migration Logistics
    i. Migration Considerations
    j. Planning for Running Virtual Machines
    k. The Migration Process
    l. Third-Party Migration Tools
    m. Vision Solutions Double-Take Move
    n. Online V2V Easy Converter
    o. Virtual Machine Protection
7. A Crash Course in Hyper-V Backups
    a. Checkpoints
    b. Understanding Checkpoints
    c. Working with Checkpoints
8. Replication
    a. Installing the Hyper-V Replica Broker
    b. Enabling Replication for Non-Clustered Hyper-V Servers
    c. Creating a Replica
    d. Verifying Replication Health
    e. Creating an Extended Replica
    f. Testing a Replica
9. Failover
    a. Performing a Planned Failover
    b. Performing an Unplanned Failover
10. Keeping Hyper-V Healthy
    a. Storage Live Migration
    b. Using Storage Live Migration
    c. Making the VM Highly Available
    d. Cluster-Aware Updating
    e. Configuring Cluster-Aware Updating

f. Manually Updating the Cluster
g. Live Migration
h. Virtual Machine Placement (Star Rating)
i. Automated Live Migrations
j. Dynamic Optimization
k. Workload Consolidation and Power Optimization
l. Virtual Machine Prioritization and Host Preferences
m. Virtual Machine Priority

11. Virtual Machine Libraries and Templates
    a. Virtual Machine Libraries
    b. Creating a Library Share
    c. Populating a Library Share
    d. Virtual Machine Templates
    e. Templates and Profiles
    f. Creating a Virtual Machine from a Template