Installation, Storage, and Compute with Windows Server 2016, Part 3 of 5: Hyper-V and Containers

Meet the expert: Patrick Loner has certifications for MCSA, MCSE, MCITP, A+, Network+, Security+, and more. He has been working as a Microsoft Certified Trainer, network administrator, and network consultant for over ten years. He has over a decade of experience working with and teaching about Windows networks with client and server operating systems. He has guided many students toward Microsoft and CompTIA certifications. Most recently, he has worked as a freelance trainer and network consultant specializing in Windows Server 2008 and Microsoft Exchange 2007 and Exchange 2010 implementations, design, and upgrades. Patrick continues to branch out now working with and training on Windows Server 2012, Windows 8, Exchange 2013, and System Center Configuration Manager 2012.

Prerequisites: There are no prerequisites for this course

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Course description: This course covers an overview of virtualization, what Hyper-V is and its new features. It will introduce you to installation, Windows containers vs Hyper-V containers, deploying both container and then using Docker to install and manage these containers.

Course outline:

Nested Virtualization
- Introduction
- Introducing Hyper-V
- New Host Features in Windows Server 2016
- New VM Features in Windows Server 2016
- Introducing Windows Server Containers
- Hyper-V Prerequisites
- Nested Virtualization
- Demo: Nested Virtualization
- Demo: Starting a Nested VM
- Summary

Configure Storage and Networks on Hyper-V Hosts
- Introduction
- Using Virtual Hard Disks in Hyper-V
- Virtual Hard Formats
- Virtual Hard Disk Types
- Considerations for Virtual Hard Disks
- Fibre Channel in Hyper-V
- Choosing Storage for Virtual Machines
- Demo: Manage Hyper-V Storage
- Demo: Create VHD
- Hyper-V Networks
- Demo: Virtual Switches
- Considerations for Hyper-V Networks
- New Features in Windows Server 2016
- Summary

Configure and Manage VMs
- Introduction
- Overview of Virtual Machines
- Configuration Versions
- Generation Versions
- Demo: Create a VM in Hyper-V Manager
- Demo: Create a VM in PowerShell
- Virtual Machine Settings
- New Options in Windows Server 2016
- Shielded Virtual Machines
- Best Practices for Virtual Machines
- Overview of VM Management
- Managing VM States
- Working with Checkpoints
- Importing and Exporting VMs
- Windows PowerShell Direct
- Summary

Windows Server and Hyper-V Containers
- Introduction
- Overview of Windows Server Containers
- Concepts and Definitions
- Windows Server Containers
- Overview of Hyper-V Containers
- Benefits of Hyper-V Containers
- Usage Scenarios
- Installation Requirements
- Summary

Deploy Windows Server and Hyper-V Containers
- Introduction
- Deploying Windows Server Containers
- Deploying Hyper-V Containers
- Managing Containers
- Demo: Install Containers Feature
- Summary

Docker and Containers
- Introduction
- Overview of Docker
- Support for Docker in Windows
- Docker Toolbox
- Docker Solutions
- Management of Docker
- Overview of Docker Hub
- Docker with Microsoft Azure
- Summary