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Szkolenie autoryzowane

MS 10970 Networking with Windows Server

Strona szkolenia | Terminy szkolenia | Rejestracja na szkolenie | Promocje

About this course

Get hands-on instruction and practice implementing networking with Windows Server 2012 and Windows Server 2012 R2 in this 5-day Microsoft Official Course. You will learn the skills you need to help reduce networking complexity while lowering costs, simplifying management tasks, and delivering services reliably and efficiently. You will learn how to automate and consolidate networking processes and resources, more easily connect private clouds with public cloud services, and more easily connect users to IT resources and services across physical boundaries. You will learn how to configure some of the key networking features such as IP Addressing, IPAM, DNS and DHCP, Remote Access technologies such as DirectAccess and VPNs. You will learn how to secure networks using Windows Firewall, IPSec and Network Access Protection, as well as becoming familiar with high performance technologies such as NIC Teaming, Receive Side Scaling, SMB Direct and SMB MultiChannel. You will learn how to integrate your network infrastructure with Hyper-V and leverage virtual high

performance technologies such as SR-IOV, virtual Machine Queue, (VMQ), virtual Receive Side Scaling (vRSS) as well as provision multitenant networks using Hyper-V Network Virtualization and provisioning external access for those multitenant networks using the built in software gateway in Window Server 2012 R2. As part of the learning experience, you will perform hands-on exercises in a virtual lab environment.

Audience profile

This course is intended for Information Technology (IT) professionals who have some networking knowledge and experience and are looking for a single course that will further develop that knowledge and skillset on core and advanced networking technologies in Windows Server 2012 and Windows Server 2012 R2. This would typically include:

- Network administrators who are looking to further develop skills with the latest networking technology in Windows Server 2012 and Window Server 2012 R2
- System or Infrastructure Administrators with general networking knowledge who are looking to build upon that core knowledge and cross train into advanced networking technologies on Windows Server 2012 and Windows Server 2012 R2
- IT Professionals who have taken the 10967A: Fundamentals of a Windows Server Infrastructure course or have knowledge equivalent to the technologies covered in that course and are looking to build upon that knowledge

After completing this course, students will be able to:

- Plan and implement an IPv4 network and configure and manage DHCP.
- Implement name resolution by using DNS.
- Implement IPv6 and integrate IPv6 and IPv4 networks.
- Implement and manage the IP Address Management feature in Windows Server 2012.
- Implement and manage remote access technologies in Windows Server 2012 such as DirectAccess, VPNs and Web Application Proxy
- Implement network security by using Windows Firewall with Advanced Security and IPsec in Windows Server 2012.
- Implement and manage Network Access Protection (NAP).
- Implement network services for branch offices.
- Implement network infrastructure for file and data services.
- Implement and manage networking in Hyper-V.
- Virtualize the physical network infrastructure in Windows Server 2012 and Windows Server 2012 R2 using Hyper-V Network Virtualization and the built in Gateway.

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PREREQUISITES:

Before attending this course, students must have the following:

- Experience working with Windows Server 2008 or Windows Server 2012
- Experience working in a Windows Sever infrastructure enterprise environment
- An understanding of core networking infrastructure components and technologies such as cabling, routers, hubs, switches
- Familiarity with networking topologies and architectures such as LANs, WANs, and wireless networking
- Some basic knowledge of the TCP/IP protocol stack, addressing, and name resolution
- Experience with and knowledge of Hyper-V and virtualization technologies
- Hands-on experience working with Windows Client operating systems such as Windows 7 or Windows 8

Course Outline

Module 1: Implementing IPv4 Services

This module explains how to plan and troubleshoot IPv4-based networks to ensure a properly functioning network environment.

Lessons

- Planning IPv4 Addressing
- Managing and Troubleshooting IPv4 Connectivity
- Deploying Dynamic Host Configuration Protocol
- Managing and Troubleshooting DHCP

Lab : Planning IPv4 AddressingLab : Implementing IPv4 Services

After completing this module, students will be able to:

- Plan IPv4 addressing.
- Manage and troubleshoot IPv4 connectivity.
- Deploy DHCP and configure DHCP scopes.
- Manage and troubleshoot DHCP.

Module 2: Implementing Name Resolution by Using DNS

This module explains how to deploy, configure, manage, and troubleshoot Domain Name System (DNS).

Lessons

- Implementing DNS Servers
- Configuring Zones in DNS
- Configuring DNS Integration with AD DS
- Configuring Advanced DNS Settings
- Configuring DNS Resolution Between Zones

Lab : Planning and Implementing Name Resolution by Using DNS

After completing this module, students will be able to:

- Implement DNS servers.
- Configure zones in DNS.
- Configure DNS integration with AD DS.
- Configure advanced DNS settings.

Module 3: Implementing IPv6

This module explains how to implement coexistence between IPv4 and IPv6 networks and transition from an IPv4 network to an IPv6 network.

Lessons

- Overview of IPv6 Addressing
- Implementing IPv6 and IPv4 Coexistence
- Transitioning from IPv4 to IPv6

Lab : Configuring and Evaluating IPv6 Transition Technologies

After completing this module, students will be able to:

- Describe the features and benefits of IPv6.
- Implement coexistence between IPv4 and IPv6 networks.
- Transition from an IPv4 network to an IPv6 network.

Module 4: Implementing IPAM

This module explains how to implement and manage the IP Address Management (IPAM) feature in Windows Server 2012 and Windows Server 2012 R2.

Lessons

- IPAM Overview
- Deploying IPAM
- Managing IP Address Spaces by Using IPAM

Lab : Implementing IPAM

After completing this module, students will be able to:

- Describe how IPAM works.
- Deploy IPAM and add servers to be managed.
- Manage address spaces and DHCP and DNS servers by using IPAM.

Module 5: Implementing Remote Access

This module explains how to implement remote access technologies such as DirectAccess, Virtual Private Networks (VPNs) and Web Application Proxy (WAP) in Windows Server 2012 and Windows Server 2012 R2. It also describes the different implementation scenarios for small or medium-sized organizations and enterprise organizations.

Lessons

- Remote Access Overview
- Implementing DirectAccess by Using the Getting Started Wizard
- Implementing and Managing an Advanced DirectAccess Infrastructure
- Implementing VPN
- Planning a Complex Remote Access Infrastructure
- Implementing Web Application Proxy

Lab : Implementing DirectAccess by Using the Getting Started Wizard

Lab : Deploying an Advanced DirectAccess Solution

Lab : Implementing VPN

Lab : Implementing Web Application Proxy

After completing this module, students will be able to:

- Install and manage the Remote Access role in Windows Server 2012.
- Implement DirectAccess by using the Getting Started Wizard.

- Implement and manage an advanced DirectAccess Infrastructure.
- Implement VPN access in Windows Server 2012.
- Plan a complex remote access infrastructure.
- Implement Web Application Proxy in Windows Server 2012 R2.

Module 6: Implementing Network Security

This module explores some of the technologies in Windows Server 2012 and Windows Server 2012 R2 that you can use to help to mitigate these network security threats such as Windows Firewall with Advanced Security, IPSec and connection security rules.

Lessons

- Managing Windows Firewall with Advanced Security
- Configuring IPsec and Connection Security Rules
- Implementing Isolation Zones

Lab : Implementing Network Security

After completing this module, students will be able to:

- Manage Windows Firewall with Advanced Security.
- Configure IPsec and connection security rules.
- Implement isolation zones with connection security rules.

Module 7: Implementing Network Access Protection

This module explains how to configure, monitor, and troubleshoot Network Policy Server(NPS) and Network Access protection (NAP).

Lessons

- Implementing NPS
- Network Access Protection Overview
- Configuring NAP
- Configuring IPsec Enforcement for NAP
- Monitoring and Troubleshooting NAP

Lab : Implementing NAP with VPN Enforcement

Lab : Implementing IPsec Enforcement for NAP

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After completing this module, students will be able to:

- Implement the Network Policy Server (NPS) role service.
- Describe NAP.
- Configure NAP.
- Configure IPsec enforcement for NAP.
- Monitor and troubleshoot NAP.

Module 8: Implementing Networking for Branch Offices

This module explains the different ways that you can use Windows Server 2012 and Windows Server 2012 R2 to overcome the limitations of branch office scenarios using technologies such as Distributed File System (DFS) and BranchCache.

Lessons

- Networking Features and Considerations for Branch Offices
- Implementing DFS for Branch Offices
- Implementing BranchCache for Branch Offices

Lab : Implementing Networking for Branch Offices

After completing this module, students will be able to:

- Describe networking features and considerations for branch offices.
- Implement Distributed File System (DFS) for branch offices.
- Implement Windows BranchCache for branch offices.

Module 9: Implementing Networking Infrastructure for File and Data Services

This module explains the key network file and data services available in Windows Server 2012 and Windows Server 2012 R2. It also explains how to implement the network file and data services to address the network and remote storage needs of your organization.

Lessons

- Implementing iSCSI
- Implementing High Performance Networking Features

Lab : Implementing File and Data Networking Infrastructure

After completing this module, students will be able to:

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- Implement network file services in Windows Server 2012.
- Implement iSCSI.
- Implement high performance networking features in Windows Server 2012 and Windows Server 2012 R2.

Module 10: Implementing and Managing Networking in Hyper-V

This module describes the networking components available in Hyper-V and describes how to configure these components.

Lessons

- Creating and Using Hyper-V Virtual Switches
- Configuring Advanced Hyper-V Networking Features

Lab : Creating and Configuring Virtual Machine Networks

After completing this module, students will be able to:

- Create and use Hyper-V virtual switches.
- Configure advanced Hyper-V networking features.

Module 11: Virtualizing Your Network Infrastructure

This module explains the concepts and technologies related to virtualizing a physical network infrastructure in Windows Server 2012 and Windows Server 2012 R2. It also explains how to implement some core components of these technologies such as Hyper-V Network Virtualization(HNV) and the built in software gateway in Windows Server 2012 R2.

Lessons

- Implementing Hyper-V Network Virtualization
- Managing Your Virtualized Network Infrastructure

Lab : Creating and Configuring Virtual Machine Networks

After completing this module, students will be able to:

- Describe Software-Defined Networking.
- Manage virtualized network infrastructure

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