
Networking with Windows Server 2016

Duration: 5 Days **Course Code: M20741** **Version: B** **Delivery Method: Blended Learning**

Overview:

This blended training course provides the fundamental networking skills required to deploy and support Windows Server 2016 in most organizations. It covers IP fundamentals, remote access technologies, and more advanced content including software defined networking. This blended training solution consists of: Six instructor led training sessions Self study components Learning support

Target Audience:

This course is intended for existing IT professionals who have some networking knowledge and experience and are looking for a single course that provides insight into core and advanced networking technologies in Windows Server 2016. This audience would typically include: Network administrators who are looking to reinforce existing skills and learn about new networking technology changes and functionality in Windows Server 2016. System or Infrastructure Administrators with general networking knowledge who are looking to gain core and advanced networking knowledge and skills on Windows Server 2016. The secondary audience for this course is those IT professionals who are looking to take the MCSA 70-741: Networking with Windows Server 2016 exam.

Objectives:

- Plan and implement an IPv4 network.
 - Implement Dynamic Host Configuration Protocol (DHCP).
 - Implement IPv6.
 - Implement Domain Name System (DNS).
 - Implement and manage IP address management (IPAM).
 - Plan for remote access.
 - Implement DirectAccess.
 - Implement virtual private networks (VPNs).
 - Implement networking for branch offices.
 - Configure advanced networking features.
 - Implement software defined networking.
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Prerequisites:

- Experience working with Windows Server 2008 or Windows Server 2012
- Experience working in a Windows Server infrastructure enterprise environment
- Knowledge of the Open Systems Interconnection (OSI) model
- Understanding of core networking infrastructure components and technologies such as cabling, routers, hubs, and switches
- Familiarity with networking topologies and architectures such as local area networks (LANs), wide area networks (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
- Hands-on experience working with the Windows client operating systems such as Windows 8.1 or Windows 10

Testing and Certification

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Content:

This delivery format includes both instructor-led sessions and On-Demand sessions.

Week 1 – Kick-off and introduction to IPv4, DHCP, and IPv6 modules

- Introduction to course, review course schedule, expectations, etc.
- Introduction to IPv4, DHCP, and IPv6 modules
- Challenge lab: Design an IP addressing solution
- Introduction to DNS and IPAM modules
- Challenge lab: Design a DNS infrastructure
- Introduction to remote access and DirectAccess modules
- Challenge lab: Design a remote access solution
- Introduction to VPN and branch offices modules
- Challenge lab: Design a VPN solution
- Introduction to [next module topic] modules
- Challenge lab: Design a Software Defined Network architecture
- Course review and wrap-up

On-Demand modules to complete by next

- Module 1: Planning and Implementing an IPv4 Network
- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity
- Module 2: Implementing DHCP
- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP
- Module 3: Implementing IPv6
- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6
- Module 4: Implementing DNS
- Configuring zones in DNS
- Configuring name resolution between DNS zones
- Configuring DNS integration with Active Directory Domain Services (AD DS)
- Configuring advanced DNS settings
- Module 5: Implementing and Managing IPAM
- IPAM overview
- Deploying IPAM
- Managing IP address spaces by using IPAM
- Module 6: Remote Access in Windows Server 2016
- Remote access overview
- Implementing Web Application Proxy
- Module 7: Implementing DirectAccess
- Overview of DirectAccess

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 3 – DNS infrastructure challenge and introduction to remote access and DirectAccess modules

- Introduction to course, review course schedule, expectations, etc.
- Introduction to IPv4, DHCP, and IPv6 modules
- Challenge lab: Design an IP addressing solution
- Introduction to DNS and IPAM modules
- Challenge lab: Design a DNS infrastructure
- Introduction to remote access and DirectAccess modules
- Challenge lab: Design a remote access solution
- Introduction to VPN and branch offices modules
- Challenge lab: Design a VPN solution
- Introduction to [next module topic] modules
- Challenge lab: Design a Software Defined Network architecture
- Course review and wrap-up

On-Demand modules to complete by next

- Module 1: Planning and Implementing an IPv4 Network
- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity
- Module 2: Implementing DHCP
- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP
- Module 3: Implementing IPv6
- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6
- Module 4: Implementing DNS
- Configuring zones in DNS
- Configuring name resolution between DNS zones
- Configuring DNS integration with Active Directory Domain Services (AD DS)
- Configuring advanced DNS settings
- Module 5: Implementing and Managing IPAM
- IPAM overview
- Deploying IPAM
- Managing IP address spaces by using IPAM

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 5 – VPN solution challenge and introduction to advanced networking modules

- Introduction to course, review course schedule, expectations, etc.
- Introduction to IPv4, DHCP, and IPv6 modules
- Challenge lab: Design an IP addressing solution
- Introduction to DNS and IPAM modules
- Challenge lab: Design a DNS infrastructure
- Introduction to remote access and DirectAccess modules
- Challenge lab: Design a remote access solution
- Introduction to VPN and branch offices modules
- Challenge lab: Design a VPN solution
- Introduction to [next module topic] modules
- Challenge lab: Design a Software Defined Network architecture
- Course review and wrap-up

On-Demand modules to complete by next

- Module 1: Planning and Implementing an IPv4 Network
- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity
- Module 2: Implementing DHCP
- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP
- Module 3: Implementing IPv6
- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6
- Module 4: Implementing DNS
- Configuring zones in DNS
- Configuring name resolution between DNS zones
- Configuring DNS integration with Active Directory Domain Services (AD DS)
- Configuring advanced DNS settings
- Module 5: Implementing and Managing IPAM
- IPAM overview
- Deploying IPAM
- Managing IP address spaces by using IPAM
- Module 6: Remote Access in Windows Server 2016
- Remote access overview

- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure
- Module 8: Implementing VPNs
- Planning VPNs
- Module 9: Implementing Networking for Branch Offices
- Networking features and considerations for branch offices
- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices
- Module 10: Configuring Advanced Networking Features
- Overview of high performance networking features
- Configuring advanced Hyper-V networking features
- Module 11: Implementing Software-Defined Networking (SDN)
- Overview of SDN
- Implementing network virtualization
- Implementing Network Controller

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 2 – IP addressing challenge and introduction to DNS and IPAM modules

- Introduction to course, review course schedule, expectations, etc.
- Introduction to IPv4, DHCP, and IPv6 modules
- Challenge lab: Design an IP addressing solution
- Introduction to DNS and IPAM modules
- Challenge lab: Design a DNS infrastructure
- Introduction to remote access and DirectAccess modules
- Challenge lab: Design a remote access solution
- Introduction to VPN and branch offices modules
- Challenge lab: Design a VPN solution
- Introduction to [next module topic] modules
- Challenge lab: Design a Software Defined Network architecture
- Course review and wrap-up

On-Demand modules to complete by next

- Module 1: Planning and Implementing an IPv4 Network
- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity
- Module 2: Implementing DHCP

- Module 6: Remote Access in Windows Server 2016
- Remote access overview
- Implementing Web Application Proxy
- Module 7: Implementing DirectAccess
- Overview of DirectAccess
- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure
- Module 8: Implementing VPNs
- Planning VPNs
- Module 9: Implementing Networking for Branch Offices
- Networking features and considerations for branch offices
- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices
- Module 10: Configuring Advanced Networking Features
- Overview of high performance networking features
- Configuring advanced Hyper-V networking features
- Module 11: Implementing Software-Defined Networking (SDN)
- Overview of SDN
- Implementing network virtualization
- Implementing Network Controller

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 4 – Remote access challenge and introduction to VPN and branch offices modules

- Introduction to course, review course schedule, expectations, etc.
- Introduction to IPv4, DHCP, and IPv6 modules
- Challenge lab: Design an IP addressing solution
- Introduction to DNS and IPAM modules
- Challenge lab: Design a DNS infrastructure
- Introduction to remote access and DirectAccess modules
- Challenge lab: Design a remote access solution
- Introduction to VPN and branch offices modules
- Challenge lab: Design a VPN solution
- Introduction to [next module topic] modules
- Challenge lab: Design a Software Defined Network architecture
- Course review and wrap-up

- Implementing Web Application Proxy
- Module 7: Implementing DirectAccess
- Overview of DirectAccess
- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure
- Module 8: Implementing VPNs
- Planning VPNs
- Module 9: Implementing Networking for Branch Offices
- Networking features and considerations for branch offices
- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices
- Module 10: Configuring Advanced Networking Features
- Overview of high performance networking features
- Configuring advanced Hyper-V networking features
- Module 11: Implementing Software-Defined Networking (SDN)
- Overview of SDN
- Implementing network virtualization
- Implementing Network Controller

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 6 – Software-defined networking challenge and final course review

- Introduction to course, review course schedule, expectations, etc.
- Introduction to IPv4, DHCP, and IPv6 modules
- Challenge lab: Design an IP addressing solution
- Introduction to DNS and IPAM modules
- Challenge lab: Design a DNS infrastructure
- Introduction to remote access and DirectAccess modules
- Challenge lab: Design a remote access solution
- Introduction to VPN and branch offices modules
- Challenge lab: Design a VPN solution
- Introduction to [next module topic] modules
- Challenge lab: Design a Software Defined Network architecture
- Course review and wrap-up

- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP
- Module 3: Implementing IPv6
- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6
- Module 4: Implementing DNS
- Configuring zones in DNS
- Configuring name resolution between DNS zones
- Configuring DNS integration with Active Directory Domain Services (AD DS)
- Configuring advanced DNS settings
- Module 5: Implementing and Managing IPAM
- IPAM overview
- Deploying IPAM
- Managing IP address spaces by using IPAM
- Module 6: Remote Access in Windows Server 2016
- Remote access overview
- Implementing Web Application Proxy
- Module 7: Implementing DirectAccess
- Overview of DirectAccess
- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure
- Module 8: Implementing VPNs
- Planning VPNs
- Module 9: Implementing Networking for Branch Offices
- Networking features and considerations for branch offices
- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices
- Module 10: Configuring Advanced Networking Features
- Overview of high performance networking features
- Configuring advanced Hyper-V networking features
- Module 11: Implementing Software-Defined Networking (SDN)
- Overview of SDN
- Implementing network virtualization
- Implementing Network Controller

On-Demand modules to complete by next

- Module 1: Planning and Implementing an IPv4 Network
- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity
- Module 2: Implementing DHCP
- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP
- Module 3: Implementing IPv6
- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6
- Module 4: Implementing DNS
- Configuring zones in DNS
- Configuring name resolution between DNS zones
- Configuring DNS integration with Active Directory Domain Services (AD DS)
- Configuring advanced DNS settings
- Module 5: Implementing and Managing IPAM
- IPAM overview
- Deploying IPAM
- Managing IP address spaces by using IPAM
- Module 6: Remote Access in Windows Server 2016
- Remote access overview
- Implementing Web Application Proxy
- Module 7: Implementing DirectAccess
- Overview of DirectAccess
- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure
- Module 8: Implementing VPNs
- Planning VPNs
- Module 9: Implementing Networking for Branch Offices
- Networking features and considerations for branch offices
- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices
- Module 10: Configuring Advanced Networking Features
- Overview of high performance networking features
- Configuring advanced Hyper-V networking features
- Module 11: Implementing Software-Defined Networking (SDN)
- Overview of SDN
- Implementing network virtualization
- Implementing Network Controller

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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