

Networking with Windows Server

Course 55343

5 Days

Instructor-led, Hands on

Course Information

55343A is the Community Courseware equivalent of retired Legacy Course 20741BC - Networking with Windows Server 2016. This 5-day classroom-based course provides the fundamental networking skills required to deploy and support Windows Server in most organizations. It covers IP fundamentals, remote access technologies, and more advanced content including Software Defined Networking. Although this course and the associated labs are written for Windows Server 2022, the skills taught will also be backwards compatible for Server 2016 and Server 2019.

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. 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. System or Infrastructure Administrators with general networking knowledge who are looking to gain core and advanced networking knowledge and skills on Windows Server.

At Course Completion

Upon successful completion of this course, students will be able to:

- 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.

Prerequisites

In addition to professional experience, students who attend this training should already have the following technical knowledge:

- Experience working with Windows Server
- Knowledge of the Open Systems Interconnection (OSI) model

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- Understanding of core networking infrastructure components and technologies such as cabling, routers 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 virtualization
- Hands-on experience working with the Windows client operating systems such as Windows 10 or Windows 11

Course Outline

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

- Implementing DNS servers
- 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

- Overview of IPAM
- Deploying IPAM
- Managing IP address spaces by using IPAM

Module 6: Remote access in Windows Server

- Overview of remote access
- Implementing the 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
- Implementing 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 Microsoft Hyper-V networking features

Module 11: Implementing Software Defined Networking

- Overview of SDN.
- Implementing network virtualization
- Implementing Network Controller