

# Networking with Windows Server 2019/2022



## Training recipients

This five-day course, based on Windows Server 2022, is primarily intended for IT professionals who have some experience with Windows Server. It is intended for professionals who will be responsible for managing the Windows Server network infrastructure. The course gives IT professionals the administrative skills required to operate Windows Server-based networking solutions in most organizations. The training offers insights into basic and advanced networking technologies.

The main target groups of this course are:

- Windows Server network administrators who have basic knowledge and plan to learn more about Windows Server networking.
- IT professionals with general IT knowledge who want to gain knowledge about Windows Server network services, especially IP addressing and remote access management technologies.
- IT specialists who already have some experience in working with networks based on Windows Server and want to expand or consolidate their knowledge.

This course is equivalent of the withdrawn authorized training 20741 Networking with Windows Server 2016.

This course is equivalent of the community training MS 55349 Networking Windows Server.



## Benefits

Gaining knowledge and practical experience in planning and implementing IPv4 addressing  
Become skilled-in using Dynamic Host Configuration Protocol (DHCP)  
Familiarization with the IPv6 protocol and its implementation  
Achieving knowledge of the Domain Name System (DNS)  
Getting to know about IP address management (IPAM)  
Gaining knowledge of remote access solutions  
Get to know about DirectAccess

Get to know about virtual private networks (VPNs)  
Acquiring skills in using solutions in distributed network infrastructure  
Achieving knowledge of advanced network solutions  
Learn about software-defined networking



## Training program

1. Introduction
  - Informations about course
  - Agenda
  - Informations about practices
2. Planning and implementing IPv4 networks
  - Planning IPv4 addressing
  - Lab 1A: IPv4 network planning
  - IPv4 host configuration
  - Manage and troubleshoot IPv4 network connectivity
  - Lab 1B: IPv4 management and troubleshooting
3. Implementing DHCP
  - Overview of the DHCP server role
  - Deploying DHCP
  - Managing and troubleshooting DHCP
  - Planning a DHCP server implementation
  - Implementing the DHCP configuration
  - Validating the DHCP implementation
  - Lab 2: Implementing DHCP
4. Implementing IPv6
  - Overview of IPv6 addressing
  - Configuring an IPv6 host
  - Implementing IPv6 and IPv4 coexistence
  - Transitioning from IPv4 to IPv6
  - Lab 3: Configuring and evaluating IPv6 transition technologies
5. Implementing DNS
  - Implementing DNS servers
  - Configuring zones in DNS
  - Configuring name resolution between DNS zones
  - Lab 4A: Planning and implementing name resolution by using DNS
  - Configuring DNS integration with Active Directory Domain Services (AD DS)
  - Lab 4B: Integrating DNS with Active Directory

- Configuring advanced DNS settings
- Lab 4C: Configuring advanced DNS settings
- 6. Implementing and managing IPAM
  - Overview of IPAM
  - Deploying IPAM
  - Managing IP address spaces by using IPAM
  - Lab 5: Implementing IPAM
- 7. Remote access in Windows Server
  - Overview of remote access
  - Implementing the Web Application Proxy
  - Lab 6: Implementing Web Application Proxy
- 8. Implementing DirectAccess
  - Overview of DirectAccess
  - Implementing DirectAccess by using the Getting Started Wizard
  - Lab 7A: Implementing DirectAccess by using the Getting Started Wizard
  - Implementing and managing an advanced DirectAccess infrastructure
  - Lab 7B: Deploying an advanced DirectAccess solution
- 9. Implementing VPNs
  - Planning VPNs
  - Implementing VPNs
  - Lab 8: Implementing VPN
- 10. Implementing networking for branch offices
  - Networking features and considerations for branch offices
  - Implementing Distributed File System (DFS) for branch offices
  - Lab 9A: Implementing DFS for branch offices
  - Implementing BranchCache for branch offices
  - Lab 9B: Implementing BranchCache
- 11. Configuring advanced networking features
  - Overview of high performance networking features
  - Configuring advanced Microsoft Hyper-V networking features
  - Lab 10: Configuring advanced Hyper-V networking features
- 12. Implementing Software Defined Networking
  - Overview of core Windows Server networking technologies
  - Overview of network virtualization and software-defined networking
  - Planning and implementing Switch Embedded Teaming solutions
  - Planning and implementing of Datacenter Firewall
  - Planning and implementing of Software Load Balancing
  - Planning and implementing of RAS gateways
  - Lab 11: Implementing SDN



## Expected preparation of the participant

Knowledge of Windows Server system administration basics, experience and understanding of core networking technologies such as IP addressing, name resolution (DNS), and Dynamic Host Configuration Protocol (DHCP).

Knowledge of basic security practices.

Hands-on experience with Windows client operating systems such as Windows 10 or Windows 11.

Basic experience with Windows PowerShell.



## Training Includes

access to Altkom Akademia's student portal

Training method:

- theory
- demos
- workshops
- 50% theory
- 50% practise



## Czas trwania

5 dni / 35 godzin

## Language

- Training: English
- Materials: English