

# COURSE OUTLINE

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## Networking with Windows Server 2016 (20741A)

### Overview

This 5-day classroom-based 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.

### Duration

5 Days

### 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.

### Pre-requisites

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

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

# COURSE OUTLINE

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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

## Course Outcomes

After completing 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.

## Course Contents

### Planning and implementing an IPv4 network

- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity

### Implementing DHCP

- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP

### Implementing IPv6

# COURSE OUTLINE

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- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6

## 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

## Implementing and managing IPAM

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

## Remote access in Windows Server 2016

- Overview of remote access
- Implementing Web Application Proxy

## Implementing DirectAccess

- Overview of DirectAccess
- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure

## Implementing VPNs

- Planning VPNs
- Implementing VPNs

## Implementing networking for branch offices

- Networking features and considerations for branch offices

# COURSE OUTLINE

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- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices

## **Configuring advanced networking features**

- Overview of high performance networking features
- Configuring advanced Microsoft Hyper-V networking features

## **Implementing Software Defined Networking**

- Overview of Software Defined Networking
- Implementing network virtualization
- Implementing Network Controller