

## 20741 Networking with Windows Server 2016

### Overview

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This course provides the fundamental networking skills required to deploy & support Windows Server 2016 in most organizations. It covers IP fundamentals, remote access technologies, & more advanced content including software defined networking.

### Prerequisite Comments

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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; 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

### Target Audience

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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. 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.

### Course Objectives

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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 Outline

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## 1 - Planning & Implementing an Ipv4 Network

Planning IPv4 addressing  
Configuring an IPv4 host  
Managing and troubleshooting IPv4 network connectivity  
Lab: Planning an IPv4 network  
Lab: Implementing and troubleshooting an IPv4 network

## 2 - Implementing DHCP

Overview of the DHCP server role  
Deploying DHCP  
Managing and troubleshooting DHCP  
Lab: Implementing DHCP

## 3 - Implementing IPv6

Overview of IPv6 addressing  
Configuring an IPv6 host  
Implementing IPv6 and IPv4 coexistence  
Transitioning from IPv4 to IPv6  
Lab: Implementing IPv6  
Lab: Configuring and evaluating IPv6 transition technologies

## 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  
Lab: Planning and implementing name resolution by using DNS  
Lab: Integrating DNS with Active Directory  
Lab: Configuring advanced DNS settings

## 5 - Implementing & Managing IPAM

IPAM overview  
Deploying IPAM  
Managing IP address spaces by using IPAM  
Lab: Implementing IPAM

## 6 - Remote Access in Windows Server 2016

Remote access overview  
Implementing Web Application Proxy  
Lab: Implementing Web Application Proxy

## 7 - Implementing DirectAccess

Overview of DirectAccess  
Implementing DirectAccess by using the Getting Started Wizard  
Implementing and managing an advanced DirectAccess infrastructure  
Lab: Implementing DirectAccess by using the Getting Started Wizard  
Lab: Deploying an advanced DirectAccess solution

## 8 - Implementing VPNs

Planning VPNs  
Implementing VPNs  
Lab: Implementing a VPN  
Lab: Troubleshooting VPN access

## 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  
Lab: Implementing DFS for branch offices  
Lab: Implementing BranchCache

## 10 - Configuring Advanced Networking Features

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

## 11 - Implementing Software-Defined Networking

Overview of software defined networking  
Implementing network virtualization  
Implementing Network Controller  
Lab: Implementing Network Controller