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Duration: 5 weeks

# Networking with Windows Server 2016

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.

## Prerequisites

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

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.



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## Course Objectives

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

### 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



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## 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