

# IPv6 Fundamentals, Design, and Deployment (IP6FD 4.1)

**Price:** 4295

**Duration:** 5 days

**Delivery Methods:** Virtual

## Overview

The **IPv6 Fundamentals, Design, and Deployment (IP6FD)** is a five-day training that provides individuals with the knowledge and skills needed to implement and configure the IP version 6 (IPv6) features of Cisco IOS Software. The training also provides an overview of IPv6 technologies; covers IPv6 design and implementation; describes IPv6 operations, addressing, routing, services, and transition; and describes deployment of IPv6 in enterprise networks as well as in service provider networks. The training also includes case studies that are useful for deployment scenarios and remote labs.

## Who Should Enroll

The primary audience for this course is as follows:

- Network Engineers

## How you'll benefit

This training will help you:

- Integrate and troubleshoot Cisco Unified Communications Manager with Lightweight Directory Access Protocol (LDAP) for user synchronization and user authentication
- Implement Cisco Unified Communications Manager provisioning features
- Configure and troubleshoot collaboration endpoints

## COURSE OBJECTIVES

After taking this training, you should be able to:

- Describe the factors that led to the development of IPv6, and the possible uses of this new IP structure
- Describe the structure of the IPv6 address format, how IPv6 interacts with data link layer technologies, and how IPv6 is supported in Cisco IOS Software
- Describe the nature of changes to Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP) to support IPv6, and how networks can be renumbered using both services
- Understand the updates to IPv4 routing protocols needed to support IPv6 topologies
- Understand multicast concepts and IPv6 multicast specifics
- Describe IPv6 transition mechanisms and which methods will be most effective in your network
- Describe security issues, how security for IPv6 is different than for IPv4, and emerging practices for IPv6-enabled networks
- Describe the standards bodies that define IPv6 address allocation, as well as one of the leading IPv6 deployment issues, multihoming
- Describe the deployment strategies that service providers are facing when deploying IPv6

### **Learning Path Prerequisites**

The knowledge and skills that a learner should have before attending this course are as follows:

- Cisco CCNA® certification, including either the Interconnecting Cisco Network Devices 1 (ICND1) certification or the Interconnecting Cisco Network Devices 2 (ICND2) certification
- Understanding of networking and routing (on Cisco CCNP® level, but no formal certification is required)
- Working knowledge of the Microsoft Windows operating system

### **COURSE OUTLINE**

1. Explaining the Rationale for IPv6
2. IPv6 Features and Benefits
3. Market Drivers
4. IPv6 Addressing Architecture
5. IPv6 Header Format
6. Enabling IPv6 on Cisco Routers
7. Using ICMPv6 and Neighbor Discovery
8. Troubleshooting IPv6
9. IPv6 Mobility
10. DNS in an IPv6 Environment
11. DHCPv6 Operations
12. QoS Support in an IPv6 Environment
13. Cisco IOS XE Software Features
14. Examining OSPFv3
15. Examining EIGRP for IPv6
16. Introducing MP-BGP
17. Configuring IPv6 Policy-Based Routing
18. Configuring FHRP for IPv6
19. Configuring Route Redistribution
20. Implementing Multicast in an IPv6 Network

21. Using IPv6 MLD
22. Implementing Dual-Stack
23. IPv6 Tunneling Mechanisms
24. Transition to Single-Stack Deployments
25. Configuring IPv6 ACLs
26. Using IPsec, IKE, and VPNs
27. Security Issues in an IPv6 Transition Environment
28. IPv6 Security Practices
29. Configuring Cisco IOS Firewall for IPv6
30. IPv6 Address Allocation
31. IPv6 Multihoming Issues
32. IPv6 Enterprise Deployment Strategies
33. Support for IPv6 in MPLS
34. IPv6 Broadband Access Services
35. Planning and Implementing IPv6 Cloud and Software-Defined Deployments
36. Planning and Implementing IPv6 in Enterprise Networks
37. Planning and Implementing IPv6 in Branch Networks

## Course Schedule

Date	Time	Price	Options
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## **FAQ**

### **What if I have to reschedule my class due to conflict?**

Ten (10) business days' notice is required to reschedule a class with no additional fees. Notify TOPTALENT LEARNING as soon as possible at 469-721-6100 or by written notification to [info@toptalentlearning.com](mailto:info@toptalentlearning.com) to avoid rescheduling penalties.

### **How do I enroll for this class?**

Please contact our team at 469-721-6100; we will gladly guide you through the online purchasing process.

### **What happens once I purchase a class?**

You will receive a receipt and an enrollment confirmation sent to the email you submitted at purchase. Your enrollment email will have instructions on how to access the class. Any additional questions our team is here to support you. Please call us at 469-721-6100.

### **What is your late policy?**

If a student is 15 minutes late, they risk losing their seat to a standby student. If a student is 30 minutes late or more, they will need to reschedule. A no-show fee will apply. Retakes are enrolled on a stand-by basis. The student must supply previously issued courseware. Additional fees may apply.

### **What happens when I finish my class?**

You will receive a 'Certificate of Completion' once you complete the class. If you purchased an exam voucher for the class, a team member from TOPTALENT LEARNING will reach out to discuss your readiness for the voucher and make arrangements to send it.