

# IPv6 Fundamentals, Design and Deployment

Course code: IP6FD

IPv6 Fundamentals, Design, and Deployment (IP6FD) v3.0 is an instructor-led course that is presented by Cisco Learning Partners to end-user customers. This five-day course provides network engineers and technicians who are working in the enterprise sector with the knowledge and skills that are needed to study and configure the IP version 6 (IPv6) features of Cisco IOS Software. The course 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 course also includes case studies that are useful for deployment scenarios and remote labs.

## What we teach you

Upon completing this course, the learner will be able to meet these overall objectives:

- 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 DNS and 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 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.
- Describe case studies for enterprise, service provider, branch, and access networks.

## Required skills

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

- Cisco Certified Network Associate (CCNA) certification.
- Understanding of networking and routing (on CCNP level, but no certification required).
- Working knowledge of the Microsoft Windows operating system.

## Teaching methods

Professional explanation with practical samples and examples.

## Teaching materials

Cisco Course outline

Module 1: Intro to IPv6

Module 2: IPv6 Operations

Module 3: IPv6 Services

Module 4: IPv6-Enabled Routing Protocols

Module 5: IPv6 Multicast Services

Module 7: IPv6 Security

Module 8: Deploying IPv6

Module 9: IPv6 and Service Providers

Module 10: IPv6 Case Studies

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