

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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