IPv6 Fundamentals, Design, and Deployment v4.0 (IP6FD)

Price	Duration	Delivery Methods
$3,295.00	5 Daytime Classes Or 10 Evening Classes	Virtual, Private Group,

CAREER SKILLS+™

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 Attend

The course is ideal for entry-level network engineers, offering both foundational knowledge and practical skills essential for career advancement in network administration.

Course Objectives

Explaining the Rationale for IPv6
Evaluating IPv6 Features and Benefits
Understanding Market Drivers
Understanding the IPv6 Addressing Architecture
Describing the IPv6 Header Format

Enabling IPv6 on Hosts
Enabling IPv6 on Cisco Routers
Using ICMPv6 and Neighbor Discovery
Troubleshooting IPv6
IPv6 Mobility
Describing DNS in an IPv6 Environment
Understanding DHCPv6 Operations
Understanding QoS Support in an IPv6 Environment
Using Cisco IOS Software Features
Routing with RIPng
Examining OSPFv3
Examining Integrated IS-IS
Examining EIGRP for IPv6
Understanding MP-BGP
Configuring IPv6 Policy-Based Routing
Configuring FHRP for IPv6
Configuring Route Redistribution
Implementing Multicast in an IPv6 Network
Using IPv6 MLD
Implementing Dual-Stack
Describing IPv6 Tunneling Mechanisms
Configuring IPv6 ACLs
Using IPsec, IKE, and VPNs
Discussing Security Issues in an IPv6 Transition Environment
Understanding IPv6 Security Practices
Configuring Cisco IOS Firewall for IPv6
Examining IPv6 Address Allocation
Understanding the IPv6 Multihoming Issue
Identifying IPv6 Enterprise Deployment Strategies
Identifying IPv6 Service Provider Deployment
Understanding Support for IPv6 in MPLS
Understanding 6VPE
Understanding IPv6 Broadband Access Services
Planning and Implementing IPv6 in Enterprise Networks
Planning and Implementing IPv6 in Service Provider Networks
Planning and Implementing IPv6 in Branch Networks

Agenda

• 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