

**Course Description:** The IPv6 Fundamentals, Design and Deployment v2.0 course is a five-day, instructor led training course that combines the IPVSF v1.1 and IPVSD with no overlap. IP6FD v2.0 provides baseline through advanced technical information and training on the next-generation Internet protocol, IPv6. The goal of this course is to prepare the learner for transitioning to IPv6 based networks. IP6FD encompasses design considerations, security considerations, configuration principles, configuring IOS devices for IPv6 and IPv6 transition mechanisms. Throughout the course students will be presented justification for the principles, concepts and practices contained in each lesson. This course will help network engineers understand, configure, and support Cisco devices running IOS software and covers the IPv6 routing protocols such as RIPng, OSPF, BGP, and IS-IS; IPv6 transition mechanisms including tunnels, ISATAP, NAT-PT, and 6to4; and other features. The design and deployment components present in depth coverage of IPv6 design and deployment for DNS, DHCP, integrating IPv6 in an IPv4 network, Multicast, and much more.

**Who Should Attend:** This course is for channel partners / resellers and customers.

**Prerequisites:** There are no prerequisites for this course.

**Benefits of Attendance:** Upon completion of this course, students will be able to:

- Recite the factors that drove the creation of a new IP structure and its possible usages.
- Fundamentally explain the operation of IPv6.
- Demonstrate theoretical and practical knowledge of IPv6 advanced concepts and uses respectively.
- Identify all the updates to IPv4 routing protocols needed to support IPv6 topologies.
- Implement IPv6 services and applications
- Evaluate a given scenario and desired outcome and identify the best transition mechanism for the situation.
- Identify and illustrate IPv6 security threats and design practices respectively
- Describe the differences between Mobile IPv4 and Mobile IPv6
- Discuss several IPv6 deployment concerns

### Course Outline:

Module 1 - Introduction to IPv6

Module 2 - IPv6 Operation

Module 3 - Advanced IPv6 Topics

Module 4 - Describing IPv6-Enabled Routing Protocols

Module 5 - Using IPv6 Services

Module 6 - IPv6 Transition Mechanisms

Module 7 - Discussing Security Issues in IPv6

Module 8 - Mobile IP Model

Module 9 - Deploying IPv6