Learning Services

Cisco Training on Demand

Introduction to IPv6 Bootcamp (IPv6)

Overview
The Introduction to IPv6 Bootcamp (IPv6) Cisco Training on Demand course is designed to help students who are already familiar with IPv4 addressing and routing to understand the differences with IPv6 addressing and routing. The course begins by explaining the IPv6 addressing structure, as well as some new protocols in IPv6 that replace Address Resolution Protocol (ARP) and Dynamic Host Configuration Protocol (DHCP), such as IPv6 Neighbor Discovery Protocol (NDP). Different types of IPv6 addresses are discussed so that you can learn to recognize the differences between IPv6 multicast, link-local, and unicast addresses. Beyond addressing, these modules also introduce students to IPv6 access lists and basic routing with Routing Information Protocol (RIP) for IPv6 (RIPng) and Open Shortest Path First (OSPF) for IPv6 (OSPFv3).

Interested in purchasing this course in volume at discounts for your company? Contact ctod-sales@cisco.com.

Duration
The IPv6 Training on Demand course consists of 6 modules and 28 lessons, totaling more than 4 hours of video, along with 7 hands-on lab exercises.

Target Audience
This course is designed for technical professionals who require a deeper understanding of IPv6.

Objectives
After completing this course, you should be able to:

- Configure IPv6 global and private addresses on router interfaces
- Examine the operation of autoconfig and how the EUI-64 keyword affects the interface ID
- Predict the format of link-local addresses and interface IDs
- Use debug output to view the router advertisements and neighbor discovery after an IPv6 ping
- Configure OSPFv3 using multiple areas, such as stubby areas and not-so-stubby areas (NSSA)
- Configure OSPF neighbors across a nonbroadcast multiple access (NBMA) frame relay network
- Configure RIPng for IPv6
- Perform bidirectional redistribution for OSPFv3 into RIPng

**Course Prerequisites**

Before taking this course, you should be able to do the following:

- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Have CCNA® certification, or equivalent
- Configure, monitor, and troubleshoot RIP, Enhanced IGRP (EIGRP), and OSPF
- Describe IPv4 packet format
- Describe Internet Control Message Protocol (ICMP) and ARP

**Course Outline**

- Module 1: IPv6 Overview
- Module 2: IPv4 to IPv6 Transition Mechanisms
- Module 3: IPv6 Static Unicast Routing
- Module 4: OSPFv3
- Module 5: IPv6 Routing MP-BGP
- Module 6: RIPng—RIP for IPv6

**Labs Outline**

This course contains 7 hands-on virtual lab exercises, powered by Cisco Learning Labs and Cisco IOL (IOS® on Linux). The topology for all labs is shown in Figure 1.

**Figure 1.** Topology for All Labs
The labs included in this course are:

- Lab 1: Addressing
- Lab 2: Basic IPv6 Addressing
- Lab 3: Static Routing
- Lab 4: Neighbor Discovery
- Lab 5: Multiprotocol BGP
- Lab 6: Manual Tunnels
- Lab 7: Six to Four Tunnels

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Rafael Leiva-Ochoa has been working for Cisco for almost 14 years, and has been teaching and troubleshooting Cisco security products for 9 years. Currently, he is in charge of training the entire backbone of the Cisco Technical Assistance Center (TAC) for all security solutions, which include firewalls, intrusion prevention systems (IPS), VPN, authentication, authorization, and accounting (AAA), and Cisco Identity Services Engine (ISE).

Supported Configurations

Cisco Training on Demand videos are supported on PCs, Macs, and tablets using one of the following browsers, or later: Mozilla Firefox 30, Google Chrome 35, and Apple Safari 6. The labs are supported on PCs and Macs but not on tablets.

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