

Deploying Cisco Service Provider Network Advanced Routing

Duration: 5 Days **Course Code: SPADVROUTE**

Overview:

The Deploying Cisco Service Provider Advanced Network Routing (SPADVROUTE) course provides network engineers and technicians with the knowledge and skills that are necessary to implement and support a service provider network. The course focuses on using Cisco routers that are typically found in the service provider network and on various technologies that are used to offer different services to customers. Upon completing this course, learners will be able to configure, verify, and troubleshoot advanced Border Gateway Protocol (BGP) configuration, IP multicasting, and IPv6 transition mechanisms. The course also includes classroom activities with remote labs that are useful to gain practical skills on deploying Cisco IOS, IOS XE, and IOS XR Software features to operate and support the service provider network.

Target Audience:

This course is designed for: Network administrators, network engineers, network managers, and systems engineers who would like to implement IP routing in service provider environments Network designers and project managers. The course is also recommended for all individuals preparing for CCNP Service Provider certification

Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
- Configure the provider network to support multiple BGP connections with customers and other autonomous systems
- Describe common routing and addressing scalability issues in the provider network
- Describe available BGP tools and features to secure and optimize the BGP routing protocol in a service provider environment
- Introduce IP multicast services and the technologies that are present in IP multicasting
- Introduce PIM-SM as the most current scalable IP multicast routing protocol
- Describe service provider IPv6 transition implementations

Prerequisites:

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

- Basic computer literacy
 - Basic Microsoft Windows navigation skills
 - Basic Internet usage skills
 - Basic knowledge of networking concepts
 - Intermediate knowledge of Cisco IOS/IOS XE and Cisco IOS XR Software configuration
- To gain the prerequisite skills and knowledge, Cisco strongly recommends the knowledge of the following courses:
- Building Cisco Service Provider Next-Generation Networks, Part 1 (SPNGN1)
 - Building Cisco Service Provider Next-Generation Networks, Part 2 (SPNGN2)
 - Deploying Cisco Service Provider Network Routing (SPROUTE)

Testing and Certification

- SPADVROUTE is one of four courses required for the Cisco Certified Network Professional (CCNP) Service Provider Certification

Follow-on-Courses:

- Implementing Cisco Service Provider Next-Generation Core Network Services (SPCORE)
- Implementing Cisco Service Provider Next-Generation Edge Network Services (SPEDGE)

Content:

Service Provider Connectivity with BGP

- Defining Customer-to-Provider Connectivity Requirements
- Connecting a Customer to a Service Provider
- Scale Service Provider Networks
- Scaling BGP in Service Provider Networks
- Introducing BGP Route Reflectors and Confederations

Secure and Optimize BGP

- Implementing Advanced BGP Operations
- Improving BGP Convergence
- Improving BGP Configuration Scalability

Multicast Overview

- Introducing IP Multicast
- Defining Multicast Distribution Trees and Forwarding
- Multicast on the LAN
- Populating the Mroute Table

Intradomain and Interdomain Multicast Routing

- Introducing the PIM-SM Protocol
- Implementing PIM-SM Enhancements
- Implementing Interdomain IP Multicast
- Identifying Rendezvous Point Distribution Solutions

Service Provider IPv6 Transition Implementations

- Introducing IPv6 Services
- Defining IPv6 Transition Mechanisms
- Deploying IPv6 in the Service Provider Network

Further Information:

For More information, or to book your course, please call us on +254 713 027 191

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