Building Cisco Service Provider Next-Generation Networks, Part 1v1.2

Duration: 5 Days   Course Code: SPNGN1

Overview:

This 5-day course is designed to provide network engineers and technicians with the basic knowledge and skills required to support a service provider network.

The course provides knowledge of the major components of a network and helps learners to understand how service provider networks function. The course introduces IP Next-Generation Network (IP NGN) architecture that helps service providers to build modern, scalable, and reliable networks.

The course also includes classroom activities with remote labs that are useful to gain practical skills for deploying basic Cisco IOS Software, IOS XE Software, and Cisco IOS XR Software features to operate and support a service provider network.

This course is worth 30 Credits in the Continuing Education Program

Target Audience:

This introductory level course is designed for engineers working in a Service Provider environment or looking to obtain the Cisco CCNA Service Provider Certification.

Objectives:

- **After you complete this course you will be able to:**

- Describe IP fundamentals that are important to build IP networks, host-to-host communication, and network components and functions

- Describe basic LAN switching and configure and verify basic LAN switch functions

- Describe routing concepts and discuss considerations when implementing routing on a network

- Describe the characteristics, functions, and components of a service provider WAN network

- Describe network management concepts and discuss considerations when implementing network management tools and features on the network

Prerequisites:

Attendees should meet the following prerequisites:

- Basic computer literacy
- Basic Microsoft Windows navigation skills
- Basic Internet usage skills

Testing and Certification

Recommended preparation for exam(s):

- **640-875** - Building Cisco Service Provider Next-Generation Networks, Part 1

Follow-on-Courses:

Delegates looking to achieve CCNA SP Certification, will also need attend the following course

- **SPNGN2** - Building Cisco Service Provider Next-Generation Networks, Part 1

Content:

IP Fundamentals

- Defining Functions of Networking
- Introducing TCP/IP Layers and the OSI Reference Model
- IP Addressing Overview
- Explaining IP Addressing and Subnets
- Describing the TCP/IP Transport Layer

Basic LAN Switching

- Understanding Ethernet
- Connecting to an Ethernet LAN
- Using Switched LAN Technology
- Operating a Cisco Switch
- Performing Switched Network Optimizations
- Troubleshooting Switch Issues

Basic IP Routing

- Exploring the Functions of Routing
- Introducing the Cisco IOS XR
- Implementing Basic Routing
- Implementing EIGRP

Connectivity Technologies

- Describing Access Technologies
- Introducing Service Provider Access, Edge, and Transport Technologies
- Enabling the WAN Internet Connection
- WAN Encapsulation
- Introducing VPN

Network Management and Security

- Collecting Network Device Data
- Configuring Network Management Tools
- Explaining Network Security
- Understanding Switch Security
- Understanding Cisco Router Security
- Implementing AAA

Labs

- Hardware Lab 1: Verify Host IP Configuration
- Paper Lab 2: Define IP Subnets
- Hardware Lab 3: Configure Cisco Switches
- Hardware Lab 4: Configure Basic Router Configuration
- Hardware Lab 5: Implement Internet Connectivity
- Hardware Lab 6: Configure Data Link Layer Encapsulation
- Hardware Lab 7: Configure Network Management Tools
- Hardware Lab 8: Secure Network Devices
- Hardware Lab 9: Configure AAA

Additional Information:

Cisco currently offer two associate level certifications aimed specifically atService providers. CCNA SP and CCNA SP OPS. Please ensure you are on your required certification path before starting this course as there are distinct differences between the areas covered.

Further Information:

For More information, or to book your course, please call us on 00 971 4 446 4987

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