

10 Days

## CCNA Service Provider

Cisco CCNA Service Provider training gives professionals the ability to configure, implement, and troubleshoot baseline Cisco Service Provider Next-Generation networks. CCNA SP trained and certified individuals deploy, maintain and improve carrier-grade network infrastructures.

## Course Details

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### Course Outline

#### Building Cisco Service Provider Next-Generation Networks, Part 1 (SPNGN1)

##### Module 1: IP Fundamentals

- Lesson 1: Defining Functions of Networking
- Lesson 2: Introducing TCP/IP Layers and the OSI Reference Model
- Lesson 3: IP Addressing Overview
- Lesson 4: Explaining IP Addressing and Subnets
- Lesson 5: Describing the TCP/IP Transport Layer

##### Module 2: Basic LAN Switching

- Lesson 1: Understanding Ethernet
- Lesson 2: Connecting to an Ethernet LAN
- Lesson 3: Using Switched LAN Technology
- Lesson 4: Operating a Cisco Switch
- Lesson 5: Performing Switched Network Optimizations
- Lesson 6: Troubleshooting Switch Issues

##### Module 3: Basic IP Routing

- Lesson 1: Exploring the Functions of Routing
- Lesson 2: Introduction to the Cisco IOS XR
- Lesson 3: Implementing Basic Routing
- Lesson 4: Implementing EIGRP

##### Module 4: Connectivity Technologies

- Lesson 1: Describing Access Technologies
- Lesson 2: Introducing Service Provider Access, Edge, and Transport Technologies
- Lesson 3: Enabling the WAN Internet Connection
- Hardware Lab 5: Implement Internet Connectivity
- Lesson 4: WAN Encapsulation
- Lesson 5: Introducing VPN

##### Module 5: Network Management and Security

- Lesson 1: Collecting Network Device Data

- Lesson 2: Configuring Network Management Tools
- Lesson 3: Explaining Network Security
- Lesson 4: Understanding Switch Security
- Lesson 5: Understanding Cisco Router Security
- Lesson 6: Implementing AAA

## Building Cisco Service Provider Next-Generation Networks, Part 2 (SPNGN2)

### Module 1: Service Provider Network Architecture

- Lesson 1: Introduction to Service Providers
- Lesson 2: Cisco IP NGN Architecture

### Module 2: Advanced LAN Switching

- Lesson 1: Implementing VLANs and Trunks
- Lesson 2: Spanning Tree Protocol Enhancements
- Lesson 3: Routing Between VLANs
- Lesson 4: First Hop Redundancy Protocols

### Module 3: Internal Service Provider Traffic Forwarding

- Lesson 1: Link-State Routing Protocols
- Lesson 2: Implementing OSPF
- Lesson 3: Implementing IS-IS
- Lesson 4: Implementing Route Redistribution
- Lesson 5: MPLS Basics

### Module 4: External Service Provider Routing

- Lesson 1: Introducing BGP
- Lesson 2: Understanding BGP Path Attributes
- Lesson 3: Establishing BGP Sessions and Processing BGP Routes
- Lesson 4: Configuring Basic BGP

### Module 5: ACLs and IP Address Translation

- Lesson 1: Implementing Access Control Lists
- Lesson 2: Transitioning to IPv6

### Module 6: Cisco Service Provider Platforms

- Lesson 1: Cisco Hardware Platform Placement
- Lesson 2: Describing Cisco IOS XR Software Architecture and Features
- Lesson 3: Explaining Software Maintenance Operations on Cisco IOS XR and Cisco IOS XE
- Lesson 4: Explaining Configuration Management with Cisco IOS XR Software

## Who Should Attend

This course is for service provider network engineers, technicians and designers who focus on the latest in Service Provider industry core networking technologies and trends.

## Pre Requisite

No prerequisites

## Exams

640-875 SPNGN1 Building Cisco Service Provider Next-Generation Networks, Part 1 (SPNGN1) 640-878 S []

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