

## **Building Cisco Service Provider Next Generation Networks, Part 2 (SPNGN2) 1.2 (CS-SPNGN2)**

**Modality: Virtual Classroom**

**Duration: 2 Days**

**CLC: 27 Units**

### **About this course:**

The Building Cisco Service Provider Next-Generation Networks, Part 2 course is associated with the CCNA Service Provider certification. The course is a 5-day Instructor Lead Training course that provides network engineers and technicians the knowledge and skills necessary to implement and support a service provider network. The course provides knowledge of the major components of a service provider network construction and the Cisco service provider IP NGN architecture. The course also includes classroom activities with remote labs that are useful to gain practical skills for deploying Cisco IOS / IOS XE and Cisco IOS XR software features to operate and support service provider networks. This course also helps the students in the preparation for [Cisco: 640-878 SPNGN2 exam](#).

The average salary for Cisco Certified Network Engineer is **\$77,484** per year.

### **Course Objectives:**

After completing this course, students will be able to:

- Describe the Cisco IP NGN architecture
- Expand a small, switched LAN to a medium-size LAN with multiple switches, supporting VLANs, trunking, and STP
- Describe routing concepts as they apply to a P-network and discuss considerations when implementing routing on the network
- Implement internal and external routing protocols: OSPF, IS-IS, and BGP
- Describe and implement basic MPLS
- Determine how to apply ACLs that are based on network requirements, and implement ACLs on a P-network
- Describe when to use NAT and implement NAT on Cisco routers
- Describe basic IPv6 concepts and use different configuration scenarios to implement IPv6
- Describe the fundamentals of Cisco IOS XR technology.

### **Audience:**

This course is intended for:

- Network administrators
- Network engineers
- Network managers

## Prerequisites:

- Basic computer literacy
- Basic Microsoft Windows navigation skills
- Basic Internet usage skills
- Basic knowledge of networking concepts
- Basic knowledge of Cisco IOS, Cisco IOS XE, and Cisco IOS XR Software configuration
- Skills and knowledge that are equivalent to those learned in the following:
  - Building Cisco Service Provider Next-Generation Networks, Part 1 (SPNGN1) v1.2

## Suggested prerequisite courses:

- [Building Cisco Service Provider Next Generation Networks, Part 1 \(SPNGN1\) 1.2 \(CS-SPNGN1\)](#)
- [Implementing Cisco IOS Network Security \(IINS\)](#)

## Course Outline:

- **Module 1: Service Provider Network Architecture**
- **Module 2: Advanced LAN Switching**
- **Module 3: Internal Service Provider Traffic Forwarding**
- **Module 4: External Service Provider Routing**
- **Module 5: ACLs and IP Address Translation**
- **Module 6: Cisco Service Provider Platforms**