

# Deploying Cisco Service Provider Network Routing (SPROUTE)

Duration: **5 days**

## Who should attend?

The primary audience for this course is as follows:

1. Network administrators, network engineers, network managers, and systems engineers who would like to implement IP routing in service provider environments./list] The secondary audience for this course is as follows:
  - a. Network designers and project managers. The course is also recommended for all individuals preparing for CCNP Service Provider certification.

## Prerequisites

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

1. Intermediate knowledge of Cisco IOS/IOS XE and Cisco IOS XR Software configuration
2. Skills and knowledge that are equivalent to those learned in [Building Cisco Service Provider Next-Generation Networks, Part 1](#) (SPNGN1)
3. Skills and knowledge that are equivalent to those learned in [Building Cisco Service Provider Next Generation Networks, Part 2](#) (SPNGN2)

## Course Objectives

Upon completing this course, you will be able to meet these objectives:

1. Identify the typical routing requirements, and list the routing protocols that are used in service provider networks
2. Describe the steps that are needed to implement OSPF in a service provider network
3. Describe the importance of the Integrated IS-IS routing protocol for internal routing, and list the steps to follow when you are implementing Integrated IS-IS in a service provider network
4. Implement BGP to connect an enterprise to a service provider and to connect a service provider to an upstream service provider
5. Describe the tools that are used for routing protocol manipulation, route redistribution, and BGP route selection

# Course Content

The Deploying Cisco Service Provider Network Routing (SPROUTE) v1.2 course is designed to help students prepare for the Cisco CCNP SP certification. The SPROUTE course is a component of the CCNP SP curriculum.

The SPROUTE course is designed to provide service provider professionals with information on the use of advanced routing in implementing scalability for Cisco routers that are connected to LANs and WANs. The goal is to train professionals to dramatically increase the number of routers and sites using these techniques instead of redesigning the network when additional sites or wiring configurations are added. The SPROUTE training reinforces the instruction by providing students with hands-on labs to ensure that they thoroughly understand how to implement advanced routing within their networks.

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 features to operate and support the service provider network.