

# Implementing Segment Routing on Cisco IOS XR (SEGRTE201) v2.0

**Price:** 3995

**Duration:** 4 days

**Delivery Methods:** Virtual

## Overview

The **Implementing Segment Routing on Cisco IOS XR (SEGRTE201) v2.0** course covers the fundamental concepts of Segment Routing (SR), how to configure and verify segment routing within an Interior Gateway Protocol (IGP), and the interworking of Label Distribution Protocol (LDP) with segment routing. You will learn how to implement Topology-Independent Loop-Free Alternate (TI-LFA) using segment routing, and how to instantiate and verify segment routing traffic engineering policies. You will also learn how to implement segment routing within Border Gateway Protocol (BGP).

## Who Should Enroll

The primary audience for this course is as follows:

- System engineers
- Network engineers
- Field engineers
- Technical support personnel
- Channel partners and resellers

## How you'll benefit

This course will help you:

- Learn how to configure and verify segment routing within an Interior Gateway Protocol (IGP)
- Prepare to implement topology-independent loop-free alternate using segment routing
- Learn to implement segment routing within Border Gateway Protocol

## COURSE OBJECTIVES

Upon completing this course, the learner will be able to meet these overall objectives:

- Describe the key concepts of segment routing
- Implement and verify IGP segment routing
- Migrate an existing Multiprotocol Label Switching (MPLS) LDP-based network to segment routing
- Implement and verify TI-LFA segment routing
- Instantiate segment routing policies
- Instantiate multidomain segment routing policies
- Configure and verify BGP prefix segments and SR-based services

## Learning Path Prerequisites

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

- Familiarity with Cisco Internetwork Operating System (IOS®) XR software
- Knowledge of general networking concepts

## COURSE OUTLINE

### Module 1: Introduction to Segment Routing

- Introduction
- Examining Unified Fabric Routing
- Exploring Segment Routing Concepts
- Examining Segment Types
- Examining the Segment Routing Global Block (SRGB)

### Module 2: IGP Segment Routing Implementation and Verification

- Introduction
- Examining the IGP Control Plane
- Examining SRGB and IGP Interactions
- Examining Prefix and Adjacency SIDs
- Intermediate System to Intermediate System (IS-IS) Multilevel and Open Shortest Path First (OSPF) Multi-Area
- Configuring and Verifying IS-IS SR Operation
- Configuring and Verifying OSPF SR Operation

### Module 3: Segment Routing and LDP Interworking

- Introduction
- SR and LDP Interworking Data Plane
- Mapping Server Function and Configuration
- Interworking Deployment Models

### Module 4: Topology Independent - Loop Free Alternate

- Introduction
- Examining Classic LFA
- Examining TI-LFA Fundamentals
- Implementing and Verifying TI-LFA for SR Traffic
- Implementing and Verifying SR TI-LFA for LDP Traffic
- TI-LFA and SR LDP Interworking

## Module 5: Segment Routing Policies – Traffic Engineering (SR-TE)

- Introduction
- Exploring SR Policies
- Anycast and Binding SIDs
- Enabling and Verifying SR-TE
- Explicit path SR-TE policies
- Constrained dynamic path SR-TE policies
- Instantiating SR Policies
- Instantiating SR Policies using BGP Dynamic

## Module 6: Multidomain SR Policies

- Introduction
- Configuring and Verifying a Path Computation Element (PCE)
- Configuring and Verifying BGP Link-State (LS)
- Configuring Multidomain SR Policies with a PCE
- Configuring Multidomain SR Policies with On Demand Next-Hop (ODN)

## Module 7: BGP Prefix Segment and Egress Peer Engineering

- Introduction
- Examining the BGP-based data center
- Examining the BGP Prefix-SID Operation
- Configuring and Verifying the BGP Prefix SID
- Examining Egress Peer Engineering
- Examining BGP peering segments
- Configuring and verifying egress peer engineering

## Course Schedule

Date	Time	Price	Options
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