

Cisco 8000 Series Routers Essentials (SP8KE)

Price: 4195

Duration: 5 days

Delivery Methods: Virtual

Overview

The Cisco 8000 Series Routers Essentials (SP8KE) course introduces you to the features and functions of the Cisco® 8000 Series router platforms. Through a combination of lectures and labs, you will gain an understanding of all major aspects of the platform, including hardware, software, Layer 2 and Layer 3 services, Quality of Service (QoS) features, network virtualization, and programmability.

Who Should Enroll

The primary audience for this course is as follows:

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

How you'll benefit

This course will help you:

- Increase your experience with the Cisco 8000 Series system
- Describe and implement the Cisco 8000 Series system and its components
- Gain hands-on experience with the Cisco 8000 Series system in a lab setting

COURSE OBJECTIVES

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

- Describe the various Cisco 8000 Series hardware components
- Explain the system architecture of the Cisco 8000 Series systems
- Describe the packet flows through the Cisco 8000 Series Router and Command-Line Interface (CLI) commands for verifying packet flows through various Cisco 8000 Series router components

- Describe how the QoS features are implemented within the Cisco 8000 Series router, how to examine the Virtual Output Queueing (VOQ) QoS architecture, and describe how to implement modular VOQ, including congestion avoidance, priority flow control, and congestion management
- Describe the Software for Open Networking in the Cloud (SONiC) Operating System
- Describe Cisco Internetwork Operating System (Cisco IOS®) XR Software architecture
- Explain how to install Cisco IOS XR software packages
- Describe how to provision network devices by using Zero Touch Provisioning (ZTP)
- Implement and configure Multiprotocol Label Switching (MPLS) and describe MPLS label propagation in service provider networks
- Describe the main factors leading to the development and deployment of segment routing, describe the various types of segments that are used in segment routing, describe the Segment Routing Global Block (SRGB), and configure and verify IS-IS and OSPF segment routing operation
- Describe how to implement and verify Topology Independent Loop-Free Alternate (TI-LFA) in a segment routing environment, the benefits of Segment Routing for Traffic Engineering (SR-TE), and briefly describe the tools required for enabling it
- Describe the fundamentals of Ethernet VPN (EVPN), how to configure and verify EVPN Native, and how to configure and verify EVPN Virtual Private Wire Service (VPWS)
- Describe the operation and data flow of the Layer 3 VPN control plane, describe different Layer 3 MPLS VPN models, and describe how to configure and verify a basic Layer 3 VPN by using Cisco IOS XR 64-bit software
- Implement and configure advanced SR-TE features
- Implement and configure Segment Routing over IPv6 (SRv6)
- Implement and configure model-driven telemetry
- Describe programmable features of Cisco IOS XR software
- Describe the application hosting architecture and how to deploy a third-party application on a Cisco IOS XR router

Learning Path Prerequisites

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

- Basic knowledge of router installation and some experience with installation tools
- Routing protocol configuration experience with Border Gateway Protocol (BGP), Intermediate System-to- Intermediate System (IS-IS), and Open Shortest Path First (OSPF)
- Knowledge of Layer 2 IEEE switching and related protocols
- Strong knowledge of MPLS configuration experience
- Experience troubleshooting Cisco routers in a large network environment

Course Schedule

Date	Time	Price	Options
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