

Implementing and Maintaining Cisco Technologies Using IOS XR (IMTXR)

Duration 5 Days

COURSE CONTENT

Cisco IOS XR platforms are seeing rapid adoption within service provider and enterprise networks. The Cisco IOS XR Specialist certification validates the training and confirms the hands-on IOS XR experience of network engineers on Cisco service provider carrier-class platforms, such as the CRS, ASR 9000, and XR12000. This certification differentiates and recognizes the skills of service provider and enterprise network engineers required to implement, verification test, and maintain core and edge technologies in a Cisco IOS XR environment. The Implementing and Maintaining Cisco Technologies Using IOS® XR (IMTXR), Version 1 instructor-led course provides the necessary training to prepare you to take the Cisco IOS XR Specialist Professional exam (exam number 644-906). The course introduces you to the features and functions of the Cisco IOS XR operating system. Through a combination of lecture and hands-on lab exercises, you will gain an understanding of all major aspects of the operating system, including the control plane, the data plane, and the management plane. You will also gain knowledge of pertinent Cisco IOS XR-related equipment, including the CRS family, ASR 9000, and XR12000 product lines. This training is based on Cisco IOS XR Software Release 4.1.2.

COURSE OBJECTIVES

Upon completion of this course, you should be able to:

- List and describe features, benefits, and functions of Cisco ASR 901 Series routers
- Describe each of the hardware components and perform hardware maintenance on the Cisco ASR 901
- List and describe the architecture, features, and functions of the hardware elements of the fixed-configuration Cisco ASR 901 router
- Explain the Cisco ASR 901 operating system and functionality
- Install software on a Cisco ASR 901 Series router
- Configure Ethernet interfaces on the Cisco ASR 901 router using the Cisco Ethernet Virtual
- Circuit command line interface
- Configure T1/E1 controllers and serial and MLPPP interfaces on the Cisco ASR 901 router

WHO SHOULD ATTEND

This course is designed for technical professionals who need to know how to deploy Cisco® CRS or ASR 9000 Series Aggregation Services Routers in their network environment. The course is meant for anyone wanting to prepare for the IOS XR Specialist exam.

The primary audience for this course includes:

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

PRE-REQUISITES

The following are the prerequisites for this course:

- Basic knowledge of router installation and some experience with installation tools
- Routing protocol configuration experience with 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 or multicast configuration experience
- Knowledge of Cisco router security implementation, including authentication, authorization, and accounting (AAA) and TACACS
- Experience troubleshooting Cisco routers in a large network environment

COURSE OUTLINE**Module 1: Cisco IOS XR Software Platforms**

- Lesson 1: Describing Physical Architectures
- Lesson 2: Maintaining Reliable Power Supply
- Lesson 3: Maintaining Operating Environment
- Lesson 4: Maintaining Hardware Inventory

Module 2: Cisco IOS XR Operating System

- Lesson 1: Introducing Cisco IOS XR Operating System Architecture
- Lesson 2: Maintaining Cisco IOS XR Software
- Lesson 3: Understanding, Monitoring, and Troubleshooting Processes and Memory
- Lesson 4: Configuring Cisco IOS XR Software

Module 3: Cisco IOS XR Control Plane

- Lesson 1: Maintaining Addressing and Static Routing Using Cisco IOS XR Software
- Lesson 2: Maintaining OSPF Using Cisco IOS XR Software
- Lesson 3: Maintaining IS-IS Using Cisco IOS XR Software
- Lesson 4: Maintaining BGP Using Cisco IOS XR Software
- Lesson 5: Maintaining Routing Policies
- Lesson 6: Maintaining MPLS and LDP
- Lesson 7: Maintaining MPLS TE
- Lesson 8: Implementing IP Multicast

Module 4: Cisco IOS XR Data Plane

- Lesson 1: Implementing General Forwarding
- Lesson 2: Implementing Packet Filtering
- Lesson 3: Implementing QoS
- Lesson 4: Implementing NetFlow
- Lesson 5: Monitoring and Troubleshooting IP Multicast Forwarding

Module 5: Cisco IOS XR Management Plane

- Lesson 1: Introducing Cisco IOS XR Management Plane
- Lesson 2: Managing Remote Administrative Access Using Cisco IOS XR Software
- Lesson 3: Maintaining SNMP and Logging Using Cisco IOS XR Software
- Lesson 4: Managing Secure Domain Routers Using Cisco IOS XR Software