Fundamentals of Cisco IOS XR Software

Category: Networking & Security | **Vendor:** Cisco

Duration: 32.00 hours (4 days) **26.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

The Cisco IOS XR Software Essentials (ISOXRE) training introduces you to the essential features and functions of the Cisco IOS XR Software operating system that powers many Cisco products. Through a combination of lectures and hands-on lab exercises, you will gain an understanding of all major aspects of the operating system including the architecture, installation and upgrade, automatic provisioning, and using the software command-line interface (CLI). You will also learn how to implement essential software services including system security, logging, timing and synchronization, AAA services, and how to use modular QoS. In addition, you will learn how to implement basic routing and forwarding using Multiprotocol Label Switching (MPLS). Finally, you will learn how to implement and use programmability and monitoring features including Simple Network Management Protocol (SNMP), telemetry, process monitoring, and IOS XR programmability.

How You'll Benefit

This training will help you:

- Learn how to describe and implement fundamental concepts and configurations on Cisco IOS XR Software.
- Gain leading-edge skills for high-demand responsibilities focused on software services.
- Earn 24 CE credits toward recertification.

About This Course

The Cisco IOS XR Software Essentials (ISOXRE) training introduces you to the essential features and functions of the Cisco IOS XR Software operating system that powers many Cisco products. Through a combination of lectures and hands-on lab exercises, you will gain an understanding of all major aspects of the operating system including the architecture, installation and upgrade, automatic provisioning, and using the software command-line interface (CLI). You will also learn how to implement essential software services including system security, logging, timing and synchronization, AAA services, and how to use modular QoS. In addition, you will learn how to implement basic routing and forwarding using Multiprotocol Label Switching (MPLS). Finally, you will learn how to implement and use programmability and monitoring features including Simple Network Management Protocol (SNMP), telemetry, process monitoring, and IOS XR programmability.

How You'll Benefit

This training will help you:

- Learn how to describe and implement fundamental concepts and configurations on Cisco IOS XR Software.
- Gain leading-edge skills for high-demand responsibilities focused on software services.
- Earn 24 CE credits toward recertification.

Who Should Attend

- Network Engineers
- Systems Engineers
- Network Administrators
- Network Managers
- Network Designers

Prerequisites & Entry Requirements

General Prerequisites:

The knowledge and skills you are expected to have before attending this course are:

- Experience working with CLI-based network devices
- Knowledge of general routing concepts

These skills can be found in the following Cisco Learning Offering:

Implementing and Administering Cisco Solutions (CCNA)

Learning Outcomes

Upon successful completion of this course, participants will be able to:

- Describe 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
- Describe how to perform initial configurations on a Cisco IOS XR router
- Recognize, implement, and manage system security features within Cisco IOS XR Software systems, ensuring the protection of network infrastructure and data
- Monitor device performance through CLI and logging services
- Describe the methods and protocols for establishing timing and synchronization on Cisco IOS XR router platforms
- Describe the operation of Cisco IOS XR AAA Software services, task-based security mechanisms and user security policies
- Configure, manage, and troubleshoot Cisco IOS XR Software AAA services in a network environment
- Recognize how to implement QoS in various scenarios and environments, including Cisco IOS XR Software and a service provider environment
- Define the Cisco IOS XR implementation requirements for deploying common routing protocols and managing the Routing Information Base, Route Policy, forwarding, and load balancing mechanisms
- Implement and configure MPLS and describe MPLS label propagation in service provider networks
- Configure SNMP in Cisco IOS XR Software environments for optimum performance and efficient management of network resources
- Describe the programmable features of Cisco IOS XR Software
- Comprehend and implement model-driven telemetry for enhanced network visibility and management
- Describe the application hosting architecture and how to deploy a third-party application on a Cisco IOS XR router
- Illustrate how to efficiently monitor processes using process monitoring concepts and tools such as employing the monitor processes command to track and manage system activities

Detailed Course Outline

- Cisco IOS XR Software Fundamentals
- Cisco IOS XR Software Installation and Upgrades

- Automatic Provisioning
- Cisco IOS XR Software CLI Basics
- Cisco IOS XR Software System Security
- Cisco IOS XR Software Logging Configuration
- Timing and Synchronization
- Cisco IOS XR Software AAA Service Fundamentals
- Cisco IOS XR Software AAA Service Implementation
- Cisco IOS XR Software Modular QoS
- Cisco IOS XR Software Routing Protocol Configuration
- Cisco IOS XR Software MPLS Operation and Implementation
- Network Management with SNMP on Cisco IOS XR Software
- Cisco IOS XR Software Programmability
- Model-Driven Telemetry
- Application Hosting Overview
- Cisco IOS XR Software Process Monitoring

Skills You Will Learn:

- Describe 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
- Describe how to perform initial configurations on a Cisco IOS XR router
- Recognize, implement, and manage system security features within Cisco IOS XR Software systems, ensuring the protection of network infrastructure and data
- Monitor device performance through CLI and logging services
- Describe the methods and protocols for establishing timing and synchronization on Cisco IOS XR router platforms
- Describe the operation of Cisco IOS XR AAA Software services, task-based security mechanisms and user security policies
- Configure, manage, and troubleshoot Cisco IOS XR Software AAA services in a network environment
- Recognize how to implement QoS in various scenarios and environments, including Cisco IOS XR Software and a service provider environment
- Define the Cisco IOS XR implementation requirements for deploying common routing protocols and managing the Routing Information Base, Route Policy, forwarding, and load balancing mechanisms
- Implement and configure MPLS and describe MPLS label propagation in service provider networks
- Configure SNMP in Cisco IOS XR Software environments for optimum performance and efficient management of network resources
- Describe the programmable features of Cisco IOS XR Software
- Comprehend and implement model-driven telemetry for enhanced network visibility and management
- Describe the application hosting architecture and how to deploy a third-party application on a Cisco IOS XR router
- Illustrate how to efficiently monitor processes using process monitoring concepts and tools such as employing the monitor processes command to track and manage system activities

Frequently Asked Questions

Q: What delivery options are available for Fundamentals of Cisco IOS XR Software?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 4-day Fundamentals of Cisco IOS XR Software course provides up to 26.0 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Fundamentals of Cisco IOS XR Software training?

The training takes place over 4 day(s), with each day lasting approximately 32.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Fundamentals of Cisco IOS XR Software?

Yes, we provide corporate training, dedicated training, and closed classes for Fundamentals of Cisco IOS XR Software. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Fundamentals of Cisco IOS XR Software, Cisco Networking, IOSXRE

Q: Why choose Nexus Human for Fundamentals of Cisco IOS XR Software?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Fundamentals of Cisco IOS XR Software training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

Professional Training & Development

Email: info@nexushuman.com

Website: www.nexushuman.com

Phone: +353 1 889 8700 (Ireland) | +44 20 8142 8961 (UK)

© 2026 Nexus Human. All rights reserved. This brochure was generated on 13/11/2026.