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Learning Style: On Demand

Technology: Cisco

Difficulty: Intermediate

Course Duration: 40 Hours

Introduction to Cisco IOS XR (IOSXR100) v2.0 - On Demand



About this course:

The Introduction to Cisco IOS XR (IOSXR100) v2.0 course introduces you to the features and functions of the Cisco IOS® XR Software operating system.

You will learn the fundamental concepts on which the operating system is based, as well as Cisco IOS XR basic operations, system administration, and troubleshooting.

Through a combination of instructor videos and hands-on lab exercises, you gain an understanding of all major aspects of the operating system, including the architecture, high-availability components, scalability features, configuration basics, basic software operations, configuration file overview, Authentication, Authorization, and Accounting (AAA) services, Network Time Protocol (NTP) configuration, packet filtering, and management plane protection. You will also learn how to monitor the Cisco IOS XR operating system, and how to work with error messages and core dumps.

Course Objective:

After taking this course, you should be able to:

- Describe the Cisco IOS XR Software architecture, high availability components, and scalability features
- Perform basic configurations on a Cisco IOS XR router
- Describe Cisco IOS XR Software operations
- Describe the configuration file system
- Perform Cisco IOS XR Software installations
- Configure AAA services
- Configure NTP
- Configure Simple Network Management Protocol (SNMP), telemetry, and logging
- Configure routing protocols
- Monitor processes
- Use error messages and core dumps

Audience:

- System installers, integrators, and administrators
- Network administrators
- Solution designers

Prerequisite:

You should have the following knowledge and skills before attending this course:

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

Course Outline:

Cisco IOS XR Software Overview

- Platform Overview
- Cisco IOS XR Architecture
- Cisco IOS XR High Availability

Cisco IOS XR Software Configuration Basics

- Cisco IOS XR Configuration Operations
- Cisco IOS XR Initial Configuration
- Reviewing the Configuration

Cisco IOS XR Software Operations

- Examining Configuration Operations
- Examining Configuration Rollback and Recovery

Configuration File System Overview

- Examining the Binary Configuration
- Examining the Commit Database
- Examining the ASCII Configuration
- Examining the Nonvolatile Generation (NVgen) Files
- Verifying Cisco Fabric Services (CFS) Integrity

Cisco IOS XR Software Installation

- Software Package Basics
- Installing Software Packages

AAA Security

- AAA Fundamentals
- Task-Based Security
- Configuring a User Security Policy
- Authentication with Remote Servers
- Configuring Router to AAA Server Communication
- Configuring Authentication
- Terminal Access Controller Access-Control System Plus (TACACS+) Command Authorization
- Configuring Accounting
- AAA Troubleshooting

Network Time Synchronization

- Network Time Protocol

SNMP, Telemetry, and Logging

- Examining SNMP
- Examining Telemetry
- Examining Logging

Basic Routing Configuration

- Configuring Intermediate System to Intermediate System (IS-IS)
- Configuring Open Shortest Path First (OSPF)
- Configuring Border Gateway Protocol (BGP)

- Configuring Routing Protocol for LLN (RPL) Policy

Packet Filtering

- Access Control Lists
- Unicast Reverse Path Forwarding
- Management Plane Protection

Monitoring Process

- Examining Processes and Threads
- Process Crashes
- Commands for Debugging Processes
- Restartability of Processes
- Process Monitoring
- Identifying Memory Problems
- Memory Depletion

Core Dumps

- Core Dump Fundamentals
- Using Core Dump Information

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