Introduction to Cisco IOS XR

Duration: 4 Days   Course Code: IOSXR100   Version: 2.1

Overview:

The Introduction to Cisco IOS XR course introduces you to the features and functions of the Cisco® Internetwork Operating System (Cisco IOS®) XR Software operating system. Learn the fundamental concepts on which the operating system is based and Cisco IOS XR basic operations, system administration, and troubleshooting.

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 also learn how to monitor the Cisco IOS XR operating system, and how to work with error messages and core dumps.

Target Audience:

Technical Professionals who need to know how to use basic Cisco IOS XR commands for operating a platform with the Cisco IOS XR operating system.

Objectives:

- **After completing 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

Prerequisites:

Attendees should meet the following prerequisites:

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

Testing and Certification

Recommended as preparation for the following exams:

- No exams are currently aligned to this course

Content:

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

Labs:

- Initial Configuration of a Cisco IOS XR Router
- Configuration Commit and Rollback
- Configuration File System
- Cisco IOS XR Software Installation
- Configuring User Security Policies
- Cisco IOS XR AAA Configuration
- Configuring NTP
- Configuring SNMP, Telemetry, and Logging
- Configuring Routing Protocols
- Configuring IPv4 and IPv6 Filtering
- Configuring uRPF and MPP
- Using Monitoring and Restarting Processes

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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