

IOS-XR**Telecon O&M Series: Operação e Configuração do Cisco IOS XR**

40 horas

Routing & Switching

Telecon

INTRODUÇÃO

Este treinamento foi desenvolvido com foco na família de Roteadores Cisco com IOS XR.

Os participantes aprenderão a planejar, configurar e implementar soluções de roteamento avançado, utilizando adequadamente os protocolos de roteamento dinâmico e MPLS em redes e Backbones IP. O curso aborda a configuração de soluções com IOS XR.

Cisco router series: ASR 9000, NCS 500, NCS 5000, C8000, etc.

OBJETIVO DO CURSO

Ao término deste treinamento, o participante será capaz de:

- Descrever os principais conceitos do Cisco IOS XR;
- Configurar via CLI o Cisco IOS XR;
- Administrar o Cisco IOS XR;
- Administrar usuários;
- Entender a operação do Cisco IOS XR;
- Configurar os comandos básicos dos protocolos OSPF, BGP e MPLS em dispositivos com Cisco IOS XR;
- Entender e configurar Route Policy Language - RPL;
- Entender e configurar os principais comandos da VPN MPLS Layer 3.

PÚBLICO-ALVO

O público inclui os profissionais que demandam conhecimentos para entender, operar e configurar uma solução que contenha o sistema operacional Cisco IOS XR.

PRÉ-REQUISITOS

Para maior aproveitamento é recomendado que o aluno possua conhecimentos em redes IPs e conhecimentos básicos dos protocolos OSPF, BGP e MPLS;

Estes conhecimentos podem ser obtidos através dos treinamentos das certificações Cisco CCNA e CCNP Enterprise.

- Cisco IOS XR Software Overview
 - o Cisco IOS XR Architecture
 - o High Availability (HA) Components
 - o HA: Plane Separation
 - o HA: Fault Tolerance and Isolation
 - o HA: Nonstop Forwarding
 - o Minimum Disruption Restart
 - o ISSU - In Service Software Upgrade Capability
 - o Scalability Features

- Cisco IOS XR Software Basics
 - o Two-Stage Configuration
 - o Configuration File System
 - o Access and Login
 - o Command Modes
 - o Configuration Modes
 - o Administration Modes
 - o Command Mode Examples
 - o Virtual Routing and Forwarding
 - o Configuration Considerations
 - o Configuring Management Ethernet
 - o Hostname
 - o Configuring Loopback Address
 - o Configuring Network Interfaces
 - o Configuring Static and Default Routes
 - o Configuring Telnet Access
 - o Commit
 - o Displaying the Active Configuration
 - o Displaying the Target Configuration
 - o Displaying the Merged Configuration
 - o Displaying the Interfaces
 - o Displaying the IP Interfaces
 - o Displaying the Routing Table
 - o Redundancy Commands

- Cisco IOS XR Security
 - o Basic Security Overview
 - o Prerequisites for Secure Access
 - o Secure Access Implementation
 - o Local Security Database
 - o Remote Security Database
 - o Secure Access Policy
 - o Secure Access Policy Implementation
 - o Task-Based Authorization
 - o Site-Defined Groups and Users
 - o Site-Defined Group Examples
 - Task groups
 - o Creating Site-defined Task Groups
 - o Verify “taskgroup” Configuration

- User groups
 - o Predefined User Groups
 - o Predefined User Group Permissions
 - o Creating Site-defined User Groups
 - o Verify “usergroup” Configuration
 - o Configuring Users
 - o Verifying User Configuration
- Access lists
 - o Access Control List Overview
 - o Creating ACL and Applying to Interface
 - o Editing ACLs
 - o Resequencing ACLs
 - o Copying ACLs
 - o Displaying Access Lists
- Cisco IOS XR Operations
 - o Preconfiguration
 - o Locking and Unlocking the Configuration
 - o Clearing Target Configuration Changes
 - o Saving a Target Configuration
 - o Aborting Configuration Mode
 - o Failed Configuration Commands
 - o Displaying Configuration Changes
 - o Other Commit Keywords
 - o Commit Comments and Labels
 - o Configuration Sessions
 - o Configuration Checkpoint and Rollback
 - o Displaying Stored Configuration Commits
 - o Displaying Committed Changes
 - o Displaying Rollback Information
 - o Rolling Back Configurations
 - o Loading a Specific Configuration
 - o Saving and Restoring Configuration Files
 - o Process Restartability
 - o Process Stop
 - o Process Restart
- IOS XR routing protocols
- OSPF Protocol
 - o Feature Support
 - o CLI Configuration Structure
 - o Router Command and Submode
 - o Area Command and Submode
 - o Area Types
 - o interface Command and Submode
 - o Network Types
 - o Authentication Types
 - o Configuration Example
 - o OSPF Status
 - o Interface Operation

- o Neighbor Adjacencies
 - BGP Protocol
- o Feature Support
- o CLI Configuration Structure
- o Configuring iBGP: Router Command and Submode
- o Router address-family Command and Submode
- o Neighbor Command and Submode
- o Neighbor address-family Command and Submode
- o Configuration Groups
- o Neighbor-group Command and Submode
- o Configuration Example
- o BGP and Neighbor Status
- o Peer Session Operation

- Route policy language - RPL

- o RPL Overview: Background
- o Fundamental Capabilities
- o Infrastructure
- o RPL Description: Basic Building Blocks
- o Hierarchical Policy
- o Parameterized Policy
- o Attach Point
- o Sets
- o Prefix Set
- o AS Path Set
- o Community Set
- o Extended Community Set
- o Route Distinguisher Set
- o Conditional Statements
- o Nested Conditionals
- o Boolean Conditions
- o Compound Conditions
- o Drop Condition
- o Attribute Value Determination
- o Converting Route Maps to RPL Policies
- o Initial Route Map Configuration
- o Direct Translation
- o Nest Conditionals
- o Use Inline Sets
- o Parameterize
- o Final RPL Policy Configuration

- Multiprotocol Label Switching - MPLS protocol

- o MPLS Forwarding Infrastructure
- o Displaying MPLS Forwarding
- o LDP - Label Distribution Protocol
- o LDP IGP Synchronization
- o Enabling LDP
- o LDP Router ID
- o LDP Neighbors

- o LDP Penultimate Hop
- o Restarting LDP Sessions
- o Displaying LDP Parameter Information
- o LDP Label Information Base
- o Displaying LDP Bindings Information
- o Displaying MPLS Interfaces

- Layer 3 Virtual Private Networks

- o Service Provider Solution
- o Terms to Understand
- o VPN Routing Infrastructure
- o Route Distinguisher Implementation
- o VPN Packet Flow
- o Configuration Steps
- o VRF Configuration
- o VRF Interface Configuration
- o Static Route Configuration
- o BGP Configuration
- o Displaying Configuration Information
- o Displaying Routing Information
- o Displaying IGP Information
- o Displaying BGP Information
- o Displaying MPLS Information