CLDCSR

Deploying Cloud Connect Solutions with Cisco Cloud Services Router 1000V

32 horas | Data Center & Cloud | Cisco

INTRODUÇÃO

The Deploying Cloud Connect Solutions with Cisco Cloud Services Router 1000V (CLDCSR) v1.0 course shows you how to deploy and operate Cisco® Cloud Services Router 1000V (CSR1000V) to provide comprehensive WAN gateway and network services functions including connectivity, routing, and security into virtual and cloud environments. Through expert instruction and hands-on labs, you will learn: Cisco CSR 1000V deployment options and requirements; hypervisor support, licensing models, features and programmability support; and how to implement, integrate, install, manage, and troubleshoot the deployment process and common operation issues.

This class will help you:

• Learn how to use the CSR 1000V Series to extend your enterprise network to public and private clouds;

• Gain hands-on practice acquiring skills in virtual and cloud-based technologies.

OBJETIVO DO CURSO

After taking this course, you should be able to:

• Describe items to be aware of before installing a Cisco CSR 1000V, including virtual machine requirements for installing Cisco CSR 1000V, licensing options that are available with Cisco CSR 1000V, supported Cisco IOS® XE technologies, and management options for Cisco CSR 1000V.

• Prepare for installation of Cisco CSR 1000V Series routers.

• Explain common Cisco IOS XE Command-Line Interface (CLI) commands and conventions that can make it easier to work in the CLI, and describe how you can get help with command syntax and command options.

• Describe the options you can use to activate the license for Cisco CSR 1000V and activate the license for each option. Troubleshoot issues with Cisco CSR 1000V licenses.

• Upgrade the Cisco IOS XE software for an existing Cisco CSR 1000V installation.

• Describe the Call Home feature and its benefits, configure the feature on the Cisco CSR 1000V, including the anonymous reporting option, and display the Call Home configuration. List the different Call Home events that trigger alerts and commands that are executed as a result of the alert.

• Troubleshoot Cisco CSR 1000V Virtual Machine (VM) issues.

• Rehost a Cisco CSR 1000V license to a new VM, whether the current Cisco CSR 1000V router is accessible or not.

• Describe the Virtual Extensible LAN (VXLAN) Layer 2 gateway feature and configure this feature on the Cisco CSR 1000V router.

• Deploy the Cisco CSR 1000V in a virtual private cloud using Microsoft Azure or Amazon Web Services (AWS).

• Describe common network operations that the Cisco CSR 1000V supports.

• Explore programmability support on Cisco CSR 1000V, including APIs, shells, and data models.

PÚBLICO-ALVO

• Data Center engineers
• Cloud engineers
• System engineers
• Field engineers
• Implementation/operation/support/installation and upgrade specialists
• IT administrators
• Network engineers
• Cloud computing experts
• Security specialists
• Cisco integrators and partners

PRÉ-REQUISITOS

To fully benefit from this course, you should have the following knowledge:
• CCNA® (or equivalent knowledge);
• Cloud Virtualization/VMware competency;
• IP Network Security and VPN (IPSec).

The following course can help you meet these prerequisites:
• Implementing and Administering Cisco Solutions (CCNA).

CONTEÚDO PROGRAMÁTICO

Introducing Cisco CSR Product Overview

Cloud Adoption and Cisco CSR 1000V Overview

Virtual Machine Requirements

Cisco Software Licensing

Cisco Smart Software Licensing

Differences Between Cisco CSR 1000V Series and Cisco ASR 1000 Series

Supported Cisco IOS XE Technologies

Management Support

Compatibility with Cisco Unified Computing System™ (Cisco UCS®)

Preparing for Installation

Obtaining the Cisco CSR 1000V Virtual Machine Image

Cisco CSR 1000V Installation Files

Cisco CSR 1000V Installation Options

Guidelines and Limitations

ROM Monitor (ROMMON) and Cisco CSR 1000V

Installing Cisco CSR 1000V in VMware Elastic Sky X (ESXi) Environments

Supported VMware Features and Operations

VMware Requirements—Cisco IOS XE Fuji 16.9

Virtual Machine Requirements for Different Cisco IOS XE Versions

Deploying the Cisco CSR 1000V Open Virtualization Archive (OVA) to the Virtual Machine

Manually Create the Virtual Machine and Install Cisco CSR 1000V Software with the .iso File (VMware ESXi)

Increasing Performance on VMware ESXi Configurations

Booting Cisco CSR 1000V and Accessing the Console

Booting the Cisco CSR 1000V Virtual Machine

Configuring Access to the Cisco CSR 1000V Console

Using Cisco IOS XE Software

Use Cisco IOS XE Software

Find Command Options

Non-Volatile Random Access Memory (NVRAM) File Security

Managing Cisco CSR 1000V Licenses

Methods to Activate Cisco CSR 1000V Licenses

Cisco Software Licensing

Cisco Smart Software Licensing

Smart Licenses Regular Operations

Smart Licenses Advanced Operations

Troubleshooting Cisco Smart License Issues

Upgrading the Cisco IOS XE Software

Prerequisites for the Software Upgrade Process

Save Backup Copies of Your Old System Image and Configuration

Use Trivial File Transfer Protocol (TFTP) or Remote Copy Protocol (RCP) to Copy the System Image into Bootflash Memory

Load the New System Image from Cisco IOS XE Software

Load the New System Image from GRand Unified Bootloader (GRUB) Mode

Save Backup Copies of Your New System Image and Configuration and Reboot Cisco CSR 1000V

Mapping Cisco CSR 1000V Network Interfaces to Virtual Machine Network Interfaces

Mapping Cisco CSR 1000V Network Interfaces to Virtual Machine Network Interfaces

Mapping Cisco CSR 1000V Network Interfaces with vSwitch Interfaces

Using GRUB Mode (Bootstrap Program)

GRUB Mode and the Configuration Register Overview

Access GRUB Mode and Use the Menu

Modify the Configuration Register (confreg)

Change the Configuration Register Settings

Configuring Call Home for Cisco CSR 1000V

Call Home Overview

Obtain Smart Call Home Services

Anonymous Reporting

How to Configure Call Home

Configuring Diagnostic Signatures

Display Call Home Configuration Information

Alert Group Trigger Events and Commands

Message Contents

Configuring Virtual CPU (vCPU) Distribution Across Data, Control, and Service Planes

Information About vCPU Allocation and Distribution

How to Boot Cisco CSR 1000V with an OVA Image

How to Configure vCPU Distribution Across Data, Control, and Service Planes

Troubleshooting Cisco CSR 1000V Virtual Machine Issues

Verify the Cisco CSR 1000V Hardware and Virtual Machine Requirements

Troubleshoot Network Connectivity Issues

Troubleshoot Virtual Machine Performance Issues

Rehosting the Cisco CSR 1000V License

Rehosting a Classical License

Rehosting a Smart License

Supporting the Cisco CSR 1000V Virtual Extensible LAN (VXLAN) Feature

Prerequisites for Cisco CSR 1000V VXLAN Support

Configure Cisco CSR 1000V as a VXLAN Layer 2 Gateway

Examples to Configure Cisco CSR 1000V as a VXLAN Layer 2 Gateway

Deploying Cisco CSR 1000V in a Virtual Private Cloud

Introduction to Virtual Port Channel (VPC)

Cisco CSR 1000V in Microsoft Azure

Cisco CSR 1000V in AWS

Cisco CSR 1000V on Google Cloud Platform

Exploring Cisco CSR 1000V Operations

Cisco CSR 1000V as Highly Secure VPN Gateway

Cisco CSR 1000V as an Multiprotocol Label Switching (MPLS) WAN Endpoint

Cisco CSR 1000V as a Layer 2 or Layer 3 Extension

Cisco CSR 1000V as a Traffic Control Point

Cisco CSR 1000V as a VXLAN Gateway

Cisco CSR 1000V as a Virtual Route Reflector

Cisco CSR 1000V as a Wireline or Fixed Wireless Gateway

Cisco CSR 1000V in Software-Defined Wide Area Network (SD-WAN) Deployments

Exploring Programmability on Cisco CSR 1000V

Introduction to Programmability

Provisioning on Cisco CSR 1000V

Shells and Scripting on Cisco CSR 1000V

Model-Driven Programmability on Cisco CSR 1000V

Lab outline

Deploy or Install Cisco CSR 1000V in a VMware ESXi Environment

Boot Cisco CSR 1000V and Access the Console

Explore Cisco IOS XE with CLI and Web User Interface

Install, Activate, and Verify License in Cisco CSR 1000V

Upgrade Cisco IOS XE Software on Cisco CSR 1000V

Map Cisco CSR 1000V Virtual Interfaces

Access and Use GRUB Mode

Configure Call Home on a Cisco CSR 1000V

Modify Templates for vCPU Distribution in Cisco CSR 1000V

Troubleshoot Cisco CSR 1000V Virtual Machine Issues

Rehost a Cisco CSR 1000V License

Configure VXLAN on Cisco CSR 1000V

Deploy Cisco CSR 1000V in AWS

Cisco CSR 1000V Operations

Enable Guest Shell, Python, and Cisco Embedded Event Manager Cisco EEM) on Cisco CSR 1000V

Configure Yet Another Next Generation (YANG) in Cisco CSR 1000V