Deploying Cloud Connect Solutions with Cisco Cloud Services Router 1000V (CLDCSR) v1.0

Course content:

- 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

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