Implementing Cisco Catalyst 9000 Series Switches (ENC9K)

Description

Optimize Your Network with Cisco Catalyst 9000 Switches

The Implementing Cisco Catalyst 9000 Series Switches (ENC9K) is essential for professionals looking to deploy and efficiently manage high-performance networks. This course dives into the heart of the Cisco Catalyst 9000 series, allowing you to discover its advanced architecture and key features. Through this program, you will learn how to configure, secure, and automate these network devices using modern management tools like Cisco DNA Center and the CLI interface.

Why Take This Course ENC9K?

Whether you want to enhance your skills or prepare for the deployment of the Catalyst 9000 series, this training will provide you with practical and immediately applicable knowledge. With a focus on recent technologies such as automation, cloud integration, and advanced security features, you will be ready to optimize your network infrastructure.

Join us to discover how to harness the full potential of Catalyst 9000 switches in your network environments. This course is designed to give you practical skills that will make you an expert in modern Cisco technologies.

Course Content
Module 1: Introducing Cisco Catalyst 9000 Series Switches

- Introducing Cisco Catalyst 9000 Platforms
- Introducing Cisco UDAP ASIC 2.0 and 3.0
- Cisco UDAP 2.0 and 3.0 Core Architecture
- Packet Walk with ASIC
- Cisco Open IOS XE
- Role of Cisco Catalyst 9000 Series Switches in Cisco DNA Architecture
- Meraki Management for Catalyst 9000 Series
- Cisco Catalyst 9000 Series Licensing

Module 2: Positioning Cisco Catalyst 9000 Switches

- Positioning Cisco Catalyst 9200 Switches

- Positioning Cisco Catalyst 9300 Switches
- Positioning Cisco Catalyst 9400 Switches
- Positioning Cisco Catalyst 9500 Switches
- Positioning Cisco Catalyst 9600 Switches
- Migrating from Cisco Catalyst 2960-X/XR to Catalyst 9200
- Migrating from Cisco Catalyst 3850 to Catalyst 9300
- Migrating from Cisco Catalyst 4500E to Catalyst 9400
- Migrating from Cisco Catalyst 4500X, 6840X, and 6880 to Catalyst 9500
- Migrating from Cisco Catalyst 6500 and 6800 to Catalyst 9600

Module 3: Cisco Catalyst Silicon One Architecture

- Campus Network Architecture Principles
- Cisco Catalyst 9000 Products
- Cisco Silicon One Family Architecture
- Campus Features on Silicon One Q200
- IPv4 and IPv6 Protocols on Catalyst 9000

Module 4: Exploring Cisco Catalyst 9000 Series Switches Management Capabilities

- Cisco IOS XE Software CLI
- Onboard Cisco IOS XE Software Web User Interface GUI
- Simple Network Management Protocol (SNMP)
- Network Programmability Features
- ThousandEyes Enterprise Agent
- Intent-Based Networking with Cisco DNA Center
- Cisco Prime Infrastructure
- Cisco DNA Center Platform Extensibility

Module 5: Scale and Performance Features on Cisco Catalyst 9000 Series Switches

- Cisco StackWise Virtual Topology in N-Tier Network Topology
- Bandwidth Per Stack
- Uplinks
- Multigigabit Technology
- Flexible NetFlow
- Forwarding TCAM Resources, Flexible Lookup Tables Shared Across Cores, FlexTables
- Cisco Catalyst 9500 Series Flexible ASIC Templates
- Hierarchical VPLS with MPLS Access
- Routed Pseudowire IRB for IPv4 Unicast
- VRF Aware NAT
- Loop Detection Guard
- VLAN Load Balancing for FlexiLink+

Module 6: Security Features on Cisco Catalyst 9000 Series Switches

- Group-Based Policy and Cisco TrustSec SGT for Wired and Wireless
- Hardware Encryption
- LAN MACsec
- Encrypted Traffic Analytics
- Switched Integrated Security Features
- Cloud Security Integration

- Extend Security to Infrastructure with Trustworthy Systems
- Cisco Zero Trust

Module 7: Automation Features on Cisco Catalyst 9000 Series Switches

- Overview of Automation Features on Cisco Catalyst 9000 Series Switches
- API
- Infrastructure as Code Overview
- Automation Tools Supported on Cisco Catalyst 9000 Series Switches

Module 8: QoS, IoT, and BGP EVPN Features on Cisco Catalyst 9000 Series Switches

- QoS Features and Packet Walk
- IoT Convergence Features on Cisco Catalyst 9000 Series Switches
- BGP EVPN Overview

Module 9: Maintenance Features on Cisco Catalyst 9000 Series Switches

- Open IOS XE Patchability and Software Management
- Software Upgrades, Backup, and Restore
- Graceful Insertion and Removal
- New Licensing Packaging Structure

Module 10: Cisco SD-Access Solution in Cisco Catalyst 9000 Series Switches

- Cisco SD-Access Solutions Overview
- Cisco SD-Access Components and Roles
- SD-Access in Cisco DNA Center
- Role of the Cisco Catalyst 9000 Series in the Cisco SD-Access Solution
- Deploying Cisco Catalyst 9000 Series in SD-Access Fabric

Module 11: Application Hosting on Cisco Catalyst 9000 Series Switches

- Open IOS XE Containers and Hosted Applications
- ThousandEyes for Cisco Catalyst 9000 Series Switches
- SD-Access Extension Overview
- Cisco AI Endpoint Analytics Overview

Module 12: Cloud Management for Catalyst 9000 Series Using Meraki Dashboard

- Introduction to Cloud Management
- Meraki Management for Catalyst 9000 Series
- Implementation Aspects of Monitoring and Conversion
- Work with the Meraki API
- Features, Integrations, and Troubleshooting Details
- Troubleshoot Activity: Cloud Management Troubleshooting

Module 13: Automating Network Changes with Cisco DNA Center

- Exploring Cisco DNA Center Design Workflow
- Cisco DNA Center and Cisco ISE Integration
- Automating Device Onboarding with Cisco Network Plug and Play

Module 14: Introducing Cisco Catalyst 9200 Series Switches (Self-Study)

- Cisco Catalyst 9200 Product Overview
- Cisco Catalyst 9200 Series Architecture
- Fabric Edge Node for SD-Access
- MACsec-128 Link Encryption
- Cisco Catalyst 9200 Series Front Panel
- Cisco Catalyst 9200 Series Rear Panel
- Cisco Catalyst 9200 Series Switch Models
- Cisco Catalyst 9200 Switch Uplink Modules
- Cisco Catalyst 9200 Series Switches Power Supplies, Stacking, and Stack Cables
- Cisco Catalyst 9200 Series Switches Features and Capabilities

Module 15: Introducing Cisco Catalyst 9300 Series Switches (Self-Study)

- Cisco Catalyst 9300 Product Overview
- Switch Models
- Cisco Catalyst 9300 Switch Uplink Models
- Cisco Catalyst 9300 Series Switches, Power Supplies, Stacking, and Stack Cables
- Enhanced Storage Options on Cisco Catalyst 9300
- Cisco Catalyst 9300 Port Layouts
- Multigigabit Ports

Module 16: Introducing Cisco Catalyst 9400 Series Switches (Self-Study)

- Cisco Catalyst 9400 Product Overview
- Cisco Catalyst 9400 4-Slot Modular Switch Chassis
- Cisco Catalyst 9400 7-Slot Modular Switch Chassis
- Cisco Catalyst 9400 10-Slot Modular Switch Chassis
- Cisco Catalyst 9400 Supervisor and Line Cards
- Power Supplies
- Cisco Catalyst 9400 High Availability Features
- Cisco Catalyst 9400 Architecture
- Cisco Catalyst 9400 Supervisor Uplinks and Uplink Redundancy
- Cisco Catalyst 9400 Power Redundancy Modes
- Cisco Catalyst 9400 Multigigabit Ports

Module 17: Introducing Cisco Catalyst 9500 Series Switches (Self-Study)

- Cisco Catalyst 9500 Product Overview
- Cisco Catalyst 9500-32C Series Switch
- Cisco Catalyst 9500-32QC Series Switch
- Cisco Catalyst 9500-48Y4C Series Switch
- Cisco Catalyst 9500-24Y4C Series Switch
- Cisco Catalyst 9500-24Q Series Switch
- Cisco Catalyst 9500-12Q Series Switch
- Cisco Catalyst 9500-40X Series Switch
- Cisco Catalyst 9500-16X Series Switch
- Cisco Catalyst 9500 Redundant Platinum Rated Power Supply
- Cisco Catalyst 9500 Modular Fans
- Cisco Catalyst 9500 Series Switch RFID
- Cisco Catalyst 9500-32C Series Architecture
- Cisco Catalyst 9500-32QC Series Architecture

- Cisco Catalyst 9500-48Y4C Series Architecture
- Cisco Catalyst 9500-24Y4C Series Architecture
- Cisco Catalyst 9500-24Q Series 40G Architecture
- Cisco Catalyst 9500-12Q Series 40G Architecture
- Cisco Catalyst 9500-40X Series 10G Architecture
- Cisco Catalyst 9500-16X Series Architecture

Module 18: Introducing Cisco Catalyst 9600 Series Switches (Self-Study)

- Cisco Catalyst 9600 Product Overview
- Cisco Catalyst 9600 Series Switch Architecture
- Cisco Catalyst 9600 Supervisor and Line Cards
- Cisco Catalyst 9600 Power Supplies
- Cisco Catalyst 9600 High Availability Features

Lab / Exercises

- Configure and troubleshoot network issues using WebGUI
- Host applications on Catalyst 9000 switches using CLI
- Configure a switch stack using Cisco Catalyst 9300 switches
- Enable and verify MACSec between switches
- Enable and verify encrypted traffic analytics
- Explore switch management automation and programmability
- Automate network using Ansible and Terraform on Cisco IOS XE
- Configure perpetual PoE and Fast PoE on a Catalyst 9000 switch
- Configure packet capture on a Catalyst 9300 switch
- Perform GIR on a Catalyst 9000 switch
- Host applications on Catalyst 9300 using Cisco DNA Center
- Integrate Cisco DNA Center and Cisco ISE
- Automate underlay networks with Cisco DNA Center LAN Automation

Documentation

- Digital course material included

Participant profiles

- Network engineers
- System administrators
- Network architects
- Network technicians
- IT managers

Prerequisites

- Master the basics of LAN routing and switching
- Have experience with Cisco Catalyst switches
- Understand the Cisco IOS XE operating system
- Familiarity with network management concepts
- Experience with automation and Cisco DNA Center

Objectives

- Configure Cisco Catalyst 9000 switches

- Automate network tasks with Cisco DNA Center
- Manage security and network segmentation
- Optimize network performance
- Migrate to the Cisco Catalyst 9000 series
- Integrate cloud management with Meraki Dashboard

Description
Implementing Cisco Catalyst 9000 Series Switches (ENC9K) training
Niveau
Intermédiaire
Classroom Registration Price (CHF)
2610
Virtual Classroom Registration Price (CHF)
2610
Duration (in Days)
3
Reference
ENC9K