

# Implementing Cisco Catalyst 9000 Switches (ENC9K)

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HAPPENS EVERYDAY!***

## Implementing Cisco Catalyst 9000 Switches (ENC9K)

### Course Duration

3 days

### Course Price

\$3,095.00

30 CLCs

### Methods of Delivery

In-Person ILT

Virtual ILT

Onsite ILT

### About this Class

In this Implementing Cisco Catalyst 9000 Series Switches course provides a comprehensive exploration of the Cisco Catalyst 9000 Series switching portfolio, focusing on architecture, performance, security, automation, and lifecycle management in modern enterprise campus networks. It is designed for network engineers and architects who need a deep understanding of how the Catalyst 9000 family supports scalable, secure, and software-defined networking environments. The course connects hardware capabilities with operational workflows and controller-based management. Students begin by examining the positioning, hardware platforms, and Cisco Silicon One architecture that underpin the Catalyst 9000 Series. The curriculum then explores management capabilities, scale and performance features, quality of service, IoT support, BGP EVPN functionality, and advanced security features such as MACsec and encrypted traffic analytics. Automation topics highlight programmability using Cisco IOS XE, Ansible, Terraform, Cisco Catalyst Center, and Meraki Dashboard for cloud-based management. The course also covers software-defined access, application hosting at the network edge, and maintenance features such as In-Service Software Upgrade and Graceful Insertion and Removal. Hands-on labs reinforce each topic through real-world scenarios, including switch stacking, PoE optimization, packet capture, network automation, DNA Center integration with Cisco ISE, and LAN Automation. By the end of the course, learners are prepared to design, deploy, automate, and operate enterprise networks built on the Cisco Catalyst 9000 Series.



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### How you will benefit

This class will help you:

- Prepare for successful deployment of the Cisco Catalyst 9000 Series Switches
- Understand the role of Cisco Catalyst 9000 Series Switches in the SD-Access fabric
- Learn to provision Cisco Catalyst 9000 Series Switches using Cisco DNA Center as the orchestration platform
- Gain hands-on practice through in-depth lab exercises
- Earn 18 CE credits toward recertification

### Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

### Who Should Attend

The job roles best suited to the material in this course are:

- Network Designers
- Network Managers
- System Engineers

### Prerequisites

You are expected to have the following knowledge and skills before attending this course:

- Cisco CCNP® certification or equivalent experience
- Knowledge of configuring LAN routing and switching with Cisco Catalyst switches
- Familiarity with the Cisco IOS XE operating system
- Familiarity with using network management software
- Familiarity with Cisco Intent-based networking and policy-based management automation technologies

## Implementing Cisco Catalyst 9000 Switches (ENC9K)

### Objectives

After taking this course, you should be able to:

- Review the Cisco Catalyst 9000 Series Switches identify the switches' features and examine the functionalities purpose-built for Cisco DNA and the SD-Access solution
- Position the different Cisco Catalyst 9000 Series Switch model types in the network, and map older Cisco Catalyst switches to the 9000 family for migration
- Identify the role and value of Cisco Silicon One in a campus environment
- Examine management capabilities of the Cisco Catalyst 9000 Series Switches
- Describe the scalability and performance features supported by the Cisco Catalyst 9000 Series Switches
- Describe the Cisco Catalyst 9000 Series Switch support for security, Quality of Service (QoS), and Internet of Things (IoT) convergence features
- Describe automation features, Application Programming Interface (API), Infrastructure as Code, and automation tools supported on Cisco Catalyst 9000 Series switches
- Describe the new QoS, IoT, and BGP EVPN Features on Cisco Catalyst 9000 Series Switches
- Describe the maintenance features on Cisco Catalyst 9000 Series switches

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### Cont. Objectives

After taking this course, you should be able to:

- Explore the SD-Access solution fundamentals, deployment models for the Cisco Catalyst 9000 Series Switch, and the use of Cisco DNA Center to manage infrastructure devices
- Automate Day 0 device onboarding with Cisco DNA Center LAN Automation and Network PnP
- Describe how to manage and host applications on Cisco Catalyst 9000 Series switches using Cisco DNA Center
- Explore a modern approach to cloud-managed networking for Cisco Catalyst 9000 Series switches and wireless access points that uses the Meraki Dashboard and analytics
- Describe the Cisco Catalyst 9200 Series Switch architecture, model types, port types, uplink modules, components including power supplies, and other switch features and capabilities
- Describe the Cisco Catalyst 9300 Series Switch architecture, model types, port types, uplink modules, and components, including power supplies and stacking cables
- Describe the Cisco Catalyst 9400 Series Switches, different modular chassis, supervisor and line card options, architectural components, uplink, and power redundancy, and Multigigabit ports
- Describe the Cisco Catalyst 9500 Series Switches, model types, switch components, RFID support, architecture, and switch profiles
- Describe the Cisco Catalyst 9600 Series Switch architecture, supervisor and line card options, and high availability features

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### Course Outline

- Module 1: Introducing the Cisco Catalyst 9000 Series Switches
- Module 2: Positioning Cisco Catalyst 9000 Series Switches
- Module 3: Cisco Catalyst Silicon One Architecture
- Module 4: Exploring Cisco Catalyst 9000 Series Switches Management Capabilities
- Module 5: Scale and Performance Features on Cisco Catalyst 9000 Series Switches
- Module 6: Security Features on Cisco Catalyst 9000 Series Switches
- Module 7: Automation Features on Cisco Catalyst 9000 Series Switches
- Module 8: QoS, IoT, and BGP EVPN Features on Cisco Catalyst 9000 Series Switches
- Module 9: Maintenance Features on Cisco Catalyst 9000 Series Switches
- Module 10: Cisco SD-Access Solution on Cisco Catalyst 9000 Series Switches
- Module 11: Application Hosting on Cisco Catalyst 9000 Series Switches
- Module 12: Cloud Management for Catalyst 9000 Series Using Meraki Dashboard
- Module 13: Automating Network Changes with Cisco DNA Center
- Module 14: Introducing Cisco Catalyst 9200 Series Switches
- Module 15: Introducing Cisco Catalyst 9300 Series Switches
- Module 16: Introducing Cisco Catalyst 9400 Series Switches
- Module 17: Introducing Cisco Catalyst 9500 Series Switches
- Module 18: Introducing Cisco Catalyst 9600 Series Switches

## Implementing Cisco Catalyst 9000 Switches (ENC9K)

### Lab Outline

- Lab 1: Configure and Troubleshoot Network Issues Using WebGUI
- Lab 2: Application Hosting on Cisco Catalyst 9000 Series Switches Using the CLI
- Lab 3: Configure a Switch Stack Using Cisco Catalyst 9300 Series Switches
- Lab 4: Enable and Verify Switch-to-Switch MACSec
- Lab 5: Configure and Verify Cisco ETA and Flexible NetFlow Configuration on the Cisco Catalyst 9300 Series Switches
- Lab 6: Configure Cisco Flow Collector and Cisco SMC for ETA and Generating Reports
- Lab 7: Inspect ETA Results and Reports in the SMC Web Client GUI
- Lab 8: Explore Switch Management Automation and Programmability
- Lab 9: Network Automation using Ansible Playbooks and Terraform Scripts on the Cisco IOS XE
- Lab 10: Configure Perpetual PoE and Fast PoE on the Cisco Catalyst 9000 Series Switch
- Lab 11: Configure Packet Capture on Cisco Catalyst 9300 Series Switch
- Lab 12: Perform GIR on Cisco Catalyst 9000 Series Switch
- Lab 13: Application Hosting on Cisco Catalyst 9300 Using Cisco DNA Center
- Lab 14: Integrate Cisco DNA Center and Cisco ISE
- Lab 15: Provision Underlay Networks with Cisco DNA Center LAN Automation