Configuring Cisco Nexus 9000 Series Switches in ACI Mode (DCAC9K) v3.0

What you'll learn in this course

The **Configuring Cisco Nexus 9000 Series Switches in ACI Mode** (DCAC9K) v3.0 course is designed for senior engineers and IT professionals who implement and manage Cisco Nexus® 9000 Series Switches in Cisco® Application Centric Infrastructure (Cisco ACI™) mode. This course covers the key components of the Cisco ACI architecture, along with the knowledge and hands-on skills you need to configure, manage, and troubleshoot Cisco Nexus 9000 Series Switches in Cisco ACI mode and connect the Cisco ACI fabric to external networks and services. You will learn how to deploy Cisco ACI security, networking, virtualization, automation, and programmability features on the Cisco Nexus 9000 Series Switches and migrate to a policy-enforced data center.

Course duration

- Instructor-led training: 5 days in the classroom with hands-on lab practice
- Virtual instructor-led training: 5 days of web-based classes with hands-on lab practice
- E-learning: Equivalent of 5 days of instruction with hands-on lab practice, videos, and challenges

How you'll benefit

This class will help you:

- Learn how to deploy the Cisco Nexus 9000 Series in Cisco ACI mode to reduce time-to-service delivery and automate network provisioning
- Gain knowledge and skills to deploy scalable, secure, policy-based management through Cisco's unique combination of theory and hands-on practice
- Succeed in today's demanding data center and cloud operations roles

Who should enroll

- Data center engineers
- Data center architects
- Network designers
- Network administrators
- Network engineers
- Virtualization engineers
- Cloud infrastructure engineers
- Systems engineers
- Consulting systems engineers
- Technical solutions architects
- Field engineers
- Cisco integrators and partners

How to enroll

- For instructor-led training, visit the Cisco Learning Locator.

- For private group training, visit Cisco Private Group Training.

- For individual e-learning, visit the Cisco Learning Network Store.

- For e-learning volume discounts, email ask_cpll@cisco.com.

- For digital library access, visit Cisco Platinum Learning Library.

Technology areas

- Data center

Course details

Objectives

After taking this course, you should be able to:

- Install the Cisco Nexus 9000 Series Switches in Cisco ACI mode

- Deploy the Cisco ACI fabric

- Configure the Cisco ACI controller (Application Policy Infrastructure Controller [APIC])

- Describe the Cisco Nexus 9000 Series Switch hardware

- Understand the differences between Cisco ACI code versions

- Configure Cisco ACI Layer 4 through Layer 7 service integration

- Integrate virtual and physical workloads in a multi-hypervisor fabric

- Deploy the security and management capabilities of the Cisco ACI network

- Connect Cisco ACI to outside networks

- Extend and interconnect the Cisco ACI fabric

- Migrate from a traditional data center to Cisco ACI with a common, policy-enforced approach

- Manage Cisco ACI

- Program and orchestrate the Cisco ACI network

- Troubleshoot Cisco ACI

Prerequisites

To fully benefit from this course, you should have the following knowledge and skills:

- Students should be familiar with Cisco Ethernet switching products

- Students should understand Cisco data center architecture

- Students should be familiar with VMware virtualization fundamentals

- Students should have an understanding of networking protocols, routing, and switching

These are the recommended Cisco courses that may help you meet these prerequisites:

- Implementing Cisco IP Routing (ROUTE)
- Implementing Cisco IP Switched Networks (SWITCH)
- Introducing Cisco Data Center Networking (DCICN)
- Introducing Cisco Data Center Technologies (DCICT)

Outline

- Cisco ACI Overview
  - Cisco ACI Architecture and Building Blocks
  - Cisco Nexus 9000 Series Hardware
  - Cisco ACI Access Policies
  - Cisco ACI Logical Constructs
  - Cisco ACI Packet Flow Scenarios
- Cisco ACI Codes, Delta Releases, and Features
  - Features Presented in Cisco ACI Version 1.2
  - Features Presented in Cisco ACI Version 1.3
  - Features Presented in Cisco ACI Version 2.0
  - Features Presented in Cisco ACI Version 2.1
  - Features Presented in Cisco ACI Version 2.2
  - Features Presented in Cisco ACI Version 2.3
  - Features Presented in Cisco ACI Version 3.0
  - Features Presented in Cisco ACI Version 3.1
- Virtualization, Container, and Third-Party Integration Features
  - Examining VMware Fundamentals
  - Cisco ACI Integration with VMware vCenter
  - Cisco ACI Integration with Cisco AVE
  - Cisco ACI Microsegmentation and Intra-EPG Isolation
  - Cisco ACI Integration with Microsoft SCVMM and Azure Pack
  - Cisco ACI Integration with OVS and OpenStack
  - Cisco ACI Integration with Containers
- Security and Monitoring Features
  - Cisco ACI L4–L7 Service Insertion
  - Cisco ACI Fabric Security
  - Role-Based Access Control
  - Monitoring, Logging, and Fault Management in Cisco ACI
  - Cisco NetFlow
- Cisco ACI External Networking
  - Cisco ACI External Connections
  - Cisco ACI External L3 Networks
  - Configuring External L3 Networks

- Cisco ACI External L2 Networks
- Configuring External L2 Networks
- Cisco ACI Fabric Extensions and Interconnections
  - Deployment Options
  - Stretched Fabric
  - Cisco ACI GOLF Deployment
  - Cisco ACI Multi-Pod Deployment
  - Cisco ACI Multi-Site Deployment
  - Migrating Existing Networks to Cisco ACI
- Fabric Management and Automation
  - Cisco ACI Management
  - Cisco ACI Programmability
  - REST API-Based Automation
  - Cisco ACI Orchestration Solutions
  - Cisco ACI Upgrade and Image Management
- Common Troubleshooting Scenarios
  - Cisco APIC Access Methods
  - Cisco ACI Troubleshooting Tools Using API
  - Troubleshooting Intra-Fabric Forwarding
  - Troubleshooting L3 Out
  - Exporting TechSupport

Lab outline

- Explore the Cisco ACI Fabric Inventory
- Implement Cisco ACI Fabric Connectivity
- Configure Cisco ACI Logical Constructs
- Integrate Cisco ACI with VMware Using Native DVS
- Deploy Cisco ACI Virtual Edge Microsegmentation
- Integrate Cisco ASAv with Cisco APIC
- Configure Role-Based Access Control
- Explore Cisco ACI Monitoring and NetFlow
- Enable Connectivity to External L3 Networks
- Enable Connectivity to External L2 Networks
- Configure Cisco APIC Using REST API
- Configure Cisco APIC Using Python Scripts
- Explore Cisco ACI App Center and Cisco ACI Optimize Feature
- Explore Cisco ACI Troubleshooting Tools
- Export TechSupport