

DCVAI

Cisco Network Certification



Implementing Cisco Data Center Virtualization and Automation v6.0

Duration

5 days

Prerequisites

The knowledge and skills that a learner must have before attending this course are:

- Describe data center networking concepts
- Describe data center storage concepts
- Describe data center virtualization

Who Should Attend

This course is targeted for:

- Learners who are preparing for Cisco CCNP Data Center certification and those in professional-level data center roles.

Benefits Realized

Upon completing this course, the learner will be able to:

- Implement infrastructure virtualization solutions, such as VDC, VRFs, Cisco Nexus 1000v, and Cisco AVS
- Identify programmability methods and program Cisco Nexus switches using XML, Python, and NXAPI
- Implement a Cisco ACI solution that provides fabric connectivity to bare-metal hosts, virtual machines, and external Layer 2 and Layer 3 domains
- Integrate Cisco ACI with virtual machine managers, such as VMware vCenter
- Enforce application policies in intra- and intertenant scenarios
- Deploy Cisco AVS and microsegmentation
- Program Cisco ACI using Python, RESTful APIs, and Arya
- Orchestrate Cisco ACI using the Cisco UCS Director
- Insert L4-L7 services into the Cisco ACI fabric
- Monitor Cisco ACI deployment using atomic counters and other monitoring tools

Course Content

This instructor-led course is designed to help learners prepare for the Cisco CCNP® Data Center certification and for professional-level data center roles. The focus of this skills-building course is on the implementation and deployment automation of Cisco Application Centric Infrastructure (ACI) and Cisco Nexus switches. The course provides rich, hands-on experience in building a data center solution based on Cisco ACI. Learners are introduced to the automation capabilities offered by Python and RESTful APIs in combination with Cisco ACI and Cisco Nexus switches.

Course Outline

- **Module 1: Infrastructure Virtualization Implementation**
 - Configuring Logical Device Separation
 - Configuring Virtual Switching Technologies
- **Module 2: NX-OS Configuration Automation**
 - Implementing Configuration Programmability
 - Implementing Configuration Profiles
 - Using Scripting Tools
- **Module 3: Application-Centric Infrastructure**
 - Describing Cisco ACI Fabric
 - Describing Management
 - Describing Cisco ACI Fabric Access Policies
- **Module 4: ACI Constructs**
 - Describing Tenant-Based Policies
 - Describing VMM Domain Integration
 - Describing Contracts Within an Application Profile
- **Module 5: Application-Centric Infrastructure Monitoring and Programmability**
 - Configuring Monitoring
 - Configuring Security Domains and Role Mapping
 - Describing Cisco ACI Programmability
- **Module 6: Cisco ACI Enhanced Features**
 - Implementing Inter-Tenant Communication
 - Describing vPC
 - Deploying Cisco AVS
- **Module 7: Application-Centric Infrastructure Networking**
 - Describing Packet Flow Internal to the ACI Fabric
 - Describing External Layer 3 Network Integration
 - Describing External Layer 2 Network Integration
 - Configuring Service Insertion and Redirection
- **Labs**
 - Lab 2-1: Implement NX-OS Configuration Automation
 - Lab 3-1: Discover and Initialize the ACI Fabric
 - Lab 4-1: Implement ACI Fabric Connectivity for Bare Metal Hosts
 - Lab 4-2: Implement ACI Fabric Connectivity for Virtual Machines
 - Lab 4-3: Implement Application Policies
 - Lab 5-1: Monitor Traffic with Atomic Counters
 - Lab 6-1: Implement Inter-Tenant Connectivity
 - Lab 6-2: Program APIC Using Python and Arya
 - Lab 6-3: Implement vPC to Hypervisors
 - Lab 6-4: Deploy Cisco AVS and Microsegmentation
 - Lab 7-1: Enable Connectivity to External Layer 3 Networks
 - Lab 7-2: Enable Connectivity to External Layer 2 Networks
 - Lab 7-3: Provision ACI Using UCS Director
 - Lab 7-4: Deploy Service Graph ASA NGFW

