

IMPLEMENTING CISCO DATA CENTER VIRTUALIZATION AND AUTOMATION (DCVAI v6.1)

Temario

Implementing Cisco Data Center Virtualization and Automation is a five-day skills building course focused 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.

The course is designed to help students prepare for Cisco CCNP Data Center certification and for professional-level data center roles.

Pre-requisitos

It is recommended that a learner has the following knowledge and skills before attending this course:

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

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- Channel Partners
- Customers
- Employees
- Entry-level to experienced Network Administrator
- Senior Network Engineer
- Presales Engineer
- Design Engineer
- Data Center Administrator
- Senior Systems Engineer
- Senior Technical Solutions Architect

Objetivos del curso

Upon completion of this course, you 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 NX-API
- 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

Contenido

Infrastructure Virtualization Implementation

- Configuring Logical Device Separation
- Configuring Virtual Switching Technologies

NX-OS Configuration Automation

- Implementing Configuration Programmability
- Implementing Configuration Profiles
- Using Scripting Tools

Application-Centric Infrastructure

- Describing Cisco ACI Fabric
- Describing Management
- Describing Cisco ACI Fabric Access Policies

ACI Constructs

- Describing Tenant-Based Policies
- Describing VMM Domain Integration
- Describing Contracts Within an Application Profile

Application-Centric Infrastructure Monitoring and Programmability

- Configuring Monitoring
- Configuring Security Domains and Role Mapping
- Describing Cisco ACI Programmability

Cisco ACI Enhanced Features

- Implementing Inter-Tenant Communication
- Describing vPC
- Deploying Cisco AVS

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 1: Implement Cisco NX-OS Configuration Automation
- Lab 2: Discover and Initialize the ACI Fabric
- Lab 3: Implement Cisco ACI Fabric Connectivity for Bare-Metal Hosts
- Lab 4: Implement Cisco ACI Fabric Connectivity for VMs
- Lab 5: Implement Application Policies
- Lab 6: Monitor Traffic with Atomic Counters
- Lab 7: Implement Inter-Tenant Connectivity
- Lab 8: Program Cisco APIC Using Python and Arya
- Lab 9: Implement vPC to Hypervisors
- Lab 10: Deploy Cisco AVS and Microsegmentation
- Lab 11: Enable Connectivity to External Layer 3 Networks
- Lab 12: Enable Connectivity to External Layer 2 Networks
- Lab 13: Provision Cisco ACI Using Cisco UCS Director
- Lab 14: Deploy Service Graph ASA NGFW