

ACI Design and Deployment

Course ID: DDACI



Course Description

This is a four-day instructor-led program designed for engineers who will be implementing and managing the Cisco ACI solution. This is a hands-on course in which attendees will bring up and using ACI constructs deploy applications on an ACI fabric.

Learning Objectives

After this course you should be able to understand:

- + ACI Concepts and Architecture
- + Describe ACI hardware components
- + Application Policy Infrastructure Controller (APIC)
- + Fabric bring up and Operations
- + Application Deployment using ACI constructs
- + VMM domain (VMware) Integration
- + Programmability features available on ACI
- + Describe Integrating L4-7 services
- + ACI connectivity to external (L2/L3) networks
- + Programmability features of ACI for DevOps

Who Should Attend

- + Data Center Architects
- + Cloud Infrastructure Architects
- + Network Engineers
- + System Administrators
- + Storage Administrators

Prerequisites

- + L2 and L3 Networking Concepts
- + Familiarity with Server Virtualization
- + VMware Administration and Networking (vSwitch, DVS) Concepts
- + L4-7 Services Concepts
- + Familiarity with Cisco UCS

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(4 Days)

Course Content

Module 1 : ACI Overview

- + SDN Primer
- + ACI Overview and Terminology
- + What is ACI trying to solve

Module 2: ACI Fabric Switches

- + Nexus 9000 Hardware Overview
- + Hardware Installation

Module 3: ACI Policy Model

- + Understanding the ACI Policy Model
- + Enforcing Policy through Contracts

Module 4: Application Policy Infrastructure Controller (APIC)

- + APIC Software and Hardware Architecture
- + Fabric Discovery and Initialization
- + OpFlex- Declarative policy information model
- + APIC Northbound API
- + APIC GUI / CLI Familiarization

Module 5: Fabric Forwarding and Operations

- + Fabric Overview
- + Fabric Addressing
- + Endpoint Learning & Lookup
- + Fabric Forwarding
- + Fabric Innovations

Module 6: ACI Hypervisor Integration

- + ACI VMware Integration
- + Microsegmentation
- + ACI Hyper-V Integration

Module 7: Fabric and Access Policies

- + Fabric Policies
- + Access Policies

Module 8: APIC APIs and Open Source Initiatives

- + ACI APIs Overview
- + REST API
- + UCS Director Integration
- + Integration with OpenStack

Module 9: Connecting to External Networks

- + Concepts of Inside and Outside
- + Connecting to external Layer-2/3 Networks

Module 10: Integrating L4-7 Services with ACI

- + Services Insertion Overview
- + Device Packages

Module 11: ACI Day 2 Operations

- + Monitoring
- + Management
- + Troubleshooting

Lab 1: ACI Fabric Discovery and GUI Familiarization

Lab 2: Application Network Profile Creation (GUI)

Lab 3: Application Network (CLI)

Lab 4: VMM Integration with VMware

Lab 5: Extending EPG to Bare Metal Host Share Services

Lab 6: Configuring external L2 connection

Lab 7: Configuring external L3 connection

Lab 8: Service Graph

Lab 9: Day 2 Operations

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