

DNA Center and SD-Access Training (SDAINT)

Course Summary

Description

DNA Center and SD-Access offer Cisco's next-generation programmable digital network to help automate common network access security features and streamline the redundant, complex configuration required to allow different groups of user's accesses to the network infrastructure. This network security training course allows network administrators to quickly allow differentiated access for end users on the network while allowing the network to react automatically to day zero and other types of attacks. Students who enroll in this course should have a basic understanding of Cisco CCNA Routing & Switching, of Software Defined Networks, and have experience with Cisco IOS, IOS XE, and CLI.

Objectives

By the end of the course, students will be able to:

- Know and understand Cisco's SD-Access concepts, features, benefits, terminology and the way this
- approach innovates common administrative tasks on today's networks.
- Differentiate and explain each of the building blocks of SD-Access Solution
- Explain the concept of 'Fabric' and the different node types that conform it (Fabric Edge Nodes, Control Plane Nodes, Border Nodes)
- Describe the role of LISP in Control Plane and VXLAN in Data Plane for SD-Access Solution
- Understand the role of DNA Center as solution orchestrator and Intelligent GUI
- Be familiar with workflow approach in DNA Center and its 4 Steps: Design, Policy, Provision and Assurance

Topics

- Introduction to Cisco's Software Defined Access (SD-Access)
- SD-Access Campus Fabric
- DNA Center and Workflow for SD-Access
- DNA Center Workflow First Step – Design
- DNA Center Workflow Second Step – Policy
- DNA Center Workflow Third Step – Provision
- DNA Center Workflow Fourth Step – Assurance
- Implementing WLAN in SD-Access Solution
- Campus Fabric External Connectivity for SD-Access

Audience

The primary audience for this course is as follows:

- Anyone interested in knowing about DNA Center and SD-Access
- Personnel involved in SD-Access Design and Implementation
- Network Operations team with SD-Access solution
- Network admin staff that deal with User Access
- Channel Partner SEs and other sales support
- Network Access Control administration
- Network Administrators
- Network Architects
- Network Engineers

Prerequisite

The knowledge and skills that a learner should have before attending this course are as follows:

- Knowledge level equivalent to Cisco CCNA Routing & Switching
- Basic knowledge of Software Defined Networks
- Basic knowledge and experience with Cisco IOS, IOS XE and CLI

Duration

Two Days

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Course Outline

- I. **Introduction to Cisco's Software Defined Access (SD-Access)**
 - A. SD-Access Overview
 - B. SD-Access Benefits
 - C. SD-Access Key Concepts
 - D. SD-Access Main Components
- II. **SD-Access Campus Fabric**
 - A. The concept of Fabric
 - B. Node types
 - C. Fabric Edge Nodes
 - D. Control Plane Nodes
 - E. Border Nodes
 - F. LISP as protocol for Control Plane
 - G. VXLAN as protocol for Data Plane
 - H. Concept of Virtual Network
 - I. Fabric-enabled WLAN
- III. **DNA Center and Workflow for SD-Access**
 - A. Introduction to DNA Center
 - B. Workflow for SD-Access in DNA Center
 - C. Integration with Cisco ISE for Policy Enforcement
 - D. Integration with Cisco NDP for Analytics and Assurance
 - E. Relationship with APIC-EM controller
- IV. **DNA Center Workflow First Step – Design**
 - A. Creating Enterprise and Sites Hierarchy
 - B. Discuss and Demonstrate General Network Settings
 - C. Loading maps into the GUI
 - D. IP Address Administration
 - E. Administering Software Images
 - F. Network Device Profiles
- V. **DNA Center Workflow Second Step – Policy**
 - A. 2-level Hierarchy
 - B. Policy Types
 - C. ISE Integration with DNA Center
 - D. Cross Domain Policies
- VI. **DNA Center Workflow Third Step – Provision**
 - A. Devices Onboarding
 - B. Fabric Domains
 - C. Adding Nodes
- VII. **DNA Center Workflow Fourth Step – Assurance**
 - A. Introduction to Analytics
 - B. NDP Fundamentals
 - C. Overview of DNA Assurance
 - D. Components of DNA Assurance
 - E. DNA Center Assurance Dashboard
- VIII. **Implementing WLAN in SD-Access Solution**
 - A. WLAN Integration Strategies in SD-Access Fabric
 - B. SD-Access Wireless Architecture
 - C. Sample Design for SD-Access Wireless
- IX. **Campus Fabric External Connectivity for SD-Access**
 - A. Enterprise Sample Topology for SD-Access
 - B. Role of Border Nodes
 - C. Types of Border Nodes
 - D. Single Border vs. Multiple Border Designs
 - E. Collocated Border and Control Plane Nodes
 - F. Distributed (separated) Border and Control Plane Nodes
 - Lab Outline
 - Connecting and getting familiar with DNA Center GUI
 - Performing SD-Access Design Step in DNA Center
 - Performing SD-Access Policy Step in DNA Center
 - Performing SD-Access Provision Step in DNA Center
 - Performing SD-Access Assurance Step in DNA Center
 - Integrating WLAN services through SD-Wireless architecture (optional)
 - Achieving External Connectivity to remote locations through Border Node