

Course Outline

Introduction to SD-Access and DNA Center Course SDAINT: 2 days Instructor Led

All Cisco courses are delivered by a Cisco Authorized Platinum Learning Partner

About this course

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 users access to the network infrastructure. This 2-day 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. Integration with Cisco ISE for Policy Enforcement and ISE Integration with DNA Center.

Audience profile

- 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

At course completion

After completing this 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

Course Outline

Module 1: Introduction to Cisco's Software Defined Access (SD-Access)

- Software Defined Access (SDA) Overview
- SD-Access Benefits
- SD-Access Key Concepts
- SD-Access Main Components
 - DNA Controller
 - NDP (Analytics and Assurance)

Course Outline

Module 2: SD-Access Campus Fabric

- SD-Access Campus Fabric Overview
- Key Components
 - 1. Control Plane Based on LISP
 - 2. Data Plane Based on VXLAN
 - 3. Policy Plane Based on CTS
- Cisco SD-Access Platform Support
 - Fabric Edge Node
 - Fabric Control Plane
 - Fabric Border Node
 - Fabric Extended Node
- Fabric-Enabled WLAN
- Cisco SD-Access Scaling Considerations

Module 3: DNA Center and Workflow for SD-Access

- Cisco DNA Center Automation Overview
- Workflow for SD-Access in DNA Center
- Integration with Cisco ISE for Policy Enforcement
- Integration with Cisco NDP for Analytics and Assurance
- Relationship with APIC-EM Controller

Module 4: DNA Center Workflow First Step – Design

- DNA Center Workflow Design Overview
- Creating Enterprise and Sites Hierarchy
- Discuss and Demonstrate General Network Settings
- Loading Maps into the GUI
- IP Address Administration
- Administering Software Images
- Network Device Profiles
- Underlay Automation
- Network Planning
- Underlay Network Design

Module 5: DNA Center Workflow Second Step – Policy

- Cisco DNA Center Policy Overview
- 2-Level Hierarchy
 - Macro Level: Virtual Network (VN)
 - Micro Level: Scalable Groups (SG)
- Policy Types
 - Access Policy
 - Access Control Policy
 - Traffic Copy Policy
 - Access Controls Based on Group-Based Policies
- ISE Integration with DNA Center

Course Outline

- Cross Domain Policies

Module 6: DNA Center Workflow Third Step – Provision

- Provision Overview
- Device Onboarding
- Underlay Network Provisioning
- Fabric Domains
- Adding Nodes

Module 7: DNA Center Workflow Fourth Step – Assurance

- Introduction to Analytics
- NDP Fundamentals
- Overview of DNA Assurance
- Assurance within SD-Access
- Assurance Use Cases
- DNA Center Assurance Dashboard
- Understand Assurance Health Scores

Module 8: Implementing WLAN in SD-Access Solution

- WLAN Integration Strategies in SD-Access Fabric
- SD-Access Wireless Architecture
- Sample Design for SD-Access Wireless
 - Guest Design Options

Module 9: Campus Fabric External Connectivity for SD-Access

- Enterprise Sample Topology for SD-Access
- Cisco SD-Access Border
 - SD-Access Border
 - SD-Access Default Border
- Single Border vs. Multiple Border Designs
- Collocated vs. Distributed Border and Control Plane Nodes
 - Use Case 1: Border with Collocated Control Plane Node
 - Use Case 2: Border with Distributed Control Plane Node
 - FiaB Deployment
- Cisco SD-Access Distributed Campus

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

Course Outline