Cisco Digital Network Architecture Implementation Essentials v2.0

Course#:DNAIE
Duration:5 Days
Price:0.00

Course Description

DNAIE - Digital Network Architecture Implementation Essentials v2.0 is a training program that provides students an insight into Cisco Digital Network Architecture (DNA) architecture and its solution components by highlighting the need for digitization in networks and the guiding principles of DNA.

The course focuses on implementation of the following DNA solution components:

 Automation using Cisco APIC-EM and its built in applications like Plug and Play, EasyQoS, IWAN, and Path Trace.
 Virtualization in Enterprise Branch Network using Cisco Enterprise Network Function Virtualization (NFV) Solution.

Objectives

Upon completion of the course, you will be able to:

 Identify the Digital Network Architecture solution by describing the vision, strategy, general concepts, and components of it
 Implement network automation using Cisco APIC-EM and the built-in applications like Network Plug and Play, EasyQoS, IWAN, and Path Trace
 Implement network virtualization using Cisco Network Function Virtualization in Enterprise branch network
 Implement network analytics using Cisco Connected Mobile Experience (CMX) cloud
 Implement network security using Cisco StealthWatch, Cisco TrustSec and Cisco Identity Services Engine (ISE)

Audience

Experienced network engineers working for Enterprise customers who are early adopters of Ciscos Digital Network Architecture

Channel Partner Field Engineers who are supporting trials and early deployments of DNA

Prerequisites

It is recommended, but not required, to have the following skills and knowledge before attending this course:

Foundational understanding of network design

Foundational understanding of network routing operations

Foundational understanding of network Qos operations

Foundational understanding of network security operations

Understanding of CDP, LLDP, DHCP, DNS, NTP, and SNMP

Understanding of TCP protocols like HTTP, HTTPS, and telnet

Understanding of routing concepts and also be able to configure routing protocols like EIRGP and OSPF

Understanding of Enterprise WAN and DMVPN

Understanding of firewall operation (especially transparent mode)

Basic understanding of Cisco Prime Infrastructure

Basic understanding of KVM Virtualization

Basic understanding of programming concepts

Basic understanding of SDN, Northbound APIs, Southbound API, and REST API

Understanding of WLAM parameters

Basic understanding of WLC and AP capabilities in WLC

Understanding of Power over Ethernet (PoE) in Cisco Switches

Content

Module 1: Identifying the Role of Digital Network Architecture in Contemporary Network

Lesson 1: Identifying the Cisco Digital Network Architecture Vision

Lesson 2: Identifying the Digital Network Architecture Solution

Lesson 3: Identifying the Role of Automation and Orchestration Controllers in DNA

Module 2: Implementing DNA Automation in Core Networks

Lesson 1: Implementing Automation in Enterprise Networks
Lesson 2: Implementing Cisco Plug and Play Solutions
Lesson 3: Implementing an EasyQoS Solution
Lesson 4: Implementing the Cisco Intelligent WAN Solution
Lesson 5: Troubleshooting Using Path Trace Application
Lesson 6: Implementing Cisco Enterprise Network Function Virtualization
Lesson 7: Implementing Network Programmability in a DNA Architecture

Module 3: Implementing Network Analytics in Cisco DNA

Lesson1: What is Network Analytics in Cisco DNA?
Lesson 2: DNA Analytics Architecture
Lesson 3: DNA Analytics Proof Points
Lesson 4: Network Data Platform Architecture
Lesson 5: CMX on Premise
Lesson 6: Context-Aware Services Architecture
Lesson 7: CMS Connect
Lesson 8: Cisco CMX Analytics
Lesson 9: CMX API
Lesson 10: Cisco CMX Configuration
Lesson 11: Cisco CMX Cloud

Module 4: Implementing Security in a DNA Network

Lesson 1: Pervasive Security
Lesson 2: Introduction to NetFlow
Lesson 3: Introduction to Cisco Stealthwatch
Lesson 4: Introduction to Cisco ISE
Lesson 5: Integrating Security Tools

Module 5: Implementing Enterprise Network Fabric in the DNA Architecture

Lesson 1: Understanding the Enterprise Fabric
Lesson 2: Implementing DNA Secure Access

Labs

Discovery 1: Introducing Cisco APIC-EM GUI-Network, Devise, and Topology Discovery Using APIC-EM

Discovery 2: Implementing Network Plug and Play using Cisco APIC-EM

Discovery 3: Implementing Easy QoS Using Cisco APIC-EM GUI

Discovery 4: Site Provisioning and Monitoring Using Cisco IWAN Application

Discovery 5: Path Trace Application Using Cisco APIC-EM

Discovery 6: Site Provisioning with NFVIS on Cisco UCS C220 M3 Server Using OAM Servers

Discovery 7: Initial Switch and WLC Configuration for Cisco CMX

Discovery 8: Adding Maps to Cisco Prime Infrastructure

Discovery 9: Continuing to Add Maps to Cisco Prime Infrastructure

Discovery 10: AP Placement and Orientation

Discovery 11: Exporting Maps from Cisco Prime Infrastructure

Discovery 12: Performing the Initial Configuration of CMX

Discovery 13: Using the System Settings Menu to Configure Cisco CMX

Discovery 14: Adding Outline Wall to CMX Floor Plan Maps

Discovery 15: Using Detect and Connect

Discovery 16: Continuing to Customize Detect and Locate in CMX

Discovery 17: Working with Analytics in Cisco CMX

Discovery 18: Working with Customized Reports in the Analytics Service

Discovery 19: Continuing to Add Widgets to a Customized Report in CMX

Discovery 20: Initial Portal Creation in Connect and Engage

Discovery 21: Adding and Deleting an Element and Adding a Background Image to the Portal Template

Discovery 22: Customizing Text and Registration Elements in the Portal Template

Discovery 23: Exploring the Background Image, Themes, and Languages in the Portal Template

Discovery 24: Login to the CMX Portal

Discovery 25: Configuring the WKAN and Security in the WLC to Support CMX Cloud

Discovery 26: Configuring an ACL in the WLC for use with CMX Cloud

Discovery 27: Create a Presence Site in CMX Cloud

Discovery 28: Connecting a Client to the Wi-Fi Network

Discovery 29: Working with Presence Analytics and Connect and Engage

Discovery 30: Using the Manage Function in CMX Cloud

Discovery 31: Meraki Integration with CMX Cloud