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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Intermediate

Course Duration: 5 Days

Implementing and Administering DNA Center for Assurance v2.0 (IADNACA)



About this course:

Cisco DNA Center is an open, extensible platform for streamlining IT workflows and greater business innovation.Cisco DNA Assurance, which is the main component of Cisco DNA Center covered by this training, provides a comprehensive solution to assure better and consistent service levels to meet growing business demands. Assurance addresses not just reactive network monitoring and troubleshooting, but

also the proactive and predictive aspects of running the network, ensuring client, application, and service performance. Assurance is a multipurpose, real-time, network data collection and analytics engine that can significantly increase the business potential of network data.

Course Ojectives:

- Know and understand Cisco DNA Center concepts, features, benefits, role, terminology and the way this solution innovates common administrative tasks on today's networks
- Be familiar with workflow approach in DNA Center, DNA Center dashboard and its 4 Steps: Design, Policy, Provision and Assurance
- List, describe and use the tools provided by Cisco DNA Center
- Prepare, Install and Setup a Cisco DNA Center Appliance
- Use DNA Center for network discovery, design and provision telemetry profiles
- Realize the concepts, benefits and capabilities of DNA Center Assurance
- Implement Assurance Services on Cisco DNA Center
- Use DNA Center to monitor, troubleshoot and assure network, client and applications health
- Use DNA Center to Integrate with ThousandEyes and Umbrella
- Use DNA Center to for AI and Analytics and Machine Learning (ML)

Audience:

The primary audience for this course is as follows:

- IT Solution Architects
- Network Security Architects
- Networking Admin and Operations
- Networking Field Engineers

Prerequisites:

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

- Practical network and LAN or WAN management experience
- Cisco Inter-network Operating System (IOS) concepts

Course Outline:

Module 1: Introduction to Cisco DNA Center Assurance

- Introduction to DNA Center
- System Architecture
- Key Features and Use Cases
- Introduction to Cisco ISE and DNAC-ISE integration

Module 2: Design

- Network design options
- Sites
- Creating Enterprise and Sites Hierarchy
- Configuring General Network Settings
- Loading maps into the GUI
- IP Address Management
- Software Image Management ? Lab on Day 5
- Network Device Profiles
- AAA
- SNMP
- Syslog
- IP address pools
- Creating Enterprise and Guest SSIDs ? Lab on Day 2
    - Creating the wireless RF Profile
    - Cresting the Guest Portal for the Guest SSIDs
- Network profiles ? Lab on Day 2
- Authentication templates

Module 3: Discovery and Provision

- Device Discovery and Protocols
- Devices Onboarding
    - Assigning Devices to a site
    - Provisioning device with profiles

Module 3: Discovery and Provision

- Plug and Play
- Templates
- Templates for Day-0
- Templates for Day-N operations

Module 4: Monitoring Device, Client, and Application Health

- DNAC Telemetry
- Monitoring Network Device Health and Performance
- Monitoring Wired and Wireless Client Health and Performance
- Monitoring Application Health and Performance

Module 5: Application Visibility and DNAC Integration with Umbrella

- Monitoring Application Visibility in DNA Center
- Umbrella Introduction
- DNA Center Umbrella Integration and Use Cases

Module 6: Troubleshooting Issues, Observing Insights and Trends

- Detect Issues, Insights, and Trends in the Network
- DNA Center Integration with other tools for Monitoring and Management

Module 7: Troubleshooting using Cisco DNA Center Assurance Tools

- DNAC Assurance Troubleshooting Tools
- Using Sensor Tests
- Using Intelligent Capture
- Spectrum Analysis

Module 8: DNAC and Thousand Eyes

- Introduction to ThousandEyes
- ThousandEyes Use Cases
- DNA Center and ThousandEyes Integration

Module 9: AI Analytics and Machine Learning in DNA Center

- Overview of AI Analytics and ML (Machine Learning)
- DNA Center AI and ML Use Cases

Module 10: DNA Center Maintenance

- DNA Center Reports
- DNA Center Backup and Restore

Lab Outline:

Labs are designed to assure learners a whole practical experience, through the following practical activities:

- Lab 1: Navigate the Cisco DNA Center GUI
- Lab 2: Integrate Cisco ISE with Cisco DNA Center ? Instructor Demo
- Lab 3: Design the Network Hierarchy and Configure Network Settings
- Lab 4: Discover Wired Manually in the Inventory, Assign to Site, and Provision
- Lab 5: Discover Wired Device using Plug and Play (PnP) using Template Editor
- Lab 6: Discover and Provision C9800 WLC, Configure Wireless SSIDs and Network Profiles
- Lab 7: Configure C9800 WLC using Template Editor
- Lab 8: Configure Cisco DNA Center Assurance Telemetry Profiles and Apply to Devices
- Lab 9: Generate and Monitor Application Traffic on DNAC for Clients
- Lab 10 : Application Visibility and Generate Client Traffic to Monitor Top Applications on DNAC
- Lab 11: DNAC Umbrella Integration for DNS or SIG (Secure Internet Gateway)
- Lab 12: Assurance Dashboards ? Health, Issues and Wi-Fi 6 on DNAC
- Lab 13: Intelligent Packet Capture and Spectrum Analysis
- Lab 14: 1800s AP as Sensor ? Instructor Demo
- Lab 15: Application Visibility With ThousandEyes and DNAC
- Lab 16: AI Endpoint Analytics on DNAC

- Lab 17: Reporting on Cisco DNAC
- Lab 18: IOS-XE Device Upgrade / Downgrade using SWIM via DNAC
- Lab 19: DNAC Configuration Backup on External Server ? Instructor Demo

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