WLFNDU (UNDERSTANDING CISCO WIRELESS FOUNDATIONS) 2.0

Objetivo

- Describe and implement foundational wireless theory - Describe and implement foundational wireless math and antennas - Describe and implement foundational wireless operation including Wi-Fi 6 - Describe security and client access in a wireless network - Implement 802.1X and Extensible Authentication Protocol (EAP) - Implement wireless guest access and configure wireless security - Describe Cisco wireless architecture components and deployment options - Describe Cisco wireless architecture and its deployment modes, the Control and Provisioning of Wireless Access Points (CAPWAP) protocol, and the Cisco WLC and AP line up - Describe the wired support for implementing wireless networks - Deploy Cisco centralized wireless networks using Cisco 9800 WLC - Describe the centralized wireless access model and its configuration - Describe maintenance and troubleshooting in the centralized WLAN model - Describe the management and monitoring of Cisco Wireless Networks with Cisco DNA Center

PÃºblico Alvo

The primary audience is composed of individuals who are tasked with performing or overseeing network wireless management tasks. Professionals in preparation for taking Cisco Enterprise Wireless Courses or taking certification exam, does need Wireless foundational knowledge that can help preparation.

PrÃ©-Requisitos

Before taking this offering, you should have: - General knowledge of networks - General knowledge of wireless networks - Routing and switching knowledge

Carga HorÃ¡ria

40 horas (5 dias).

ConteÃºdo ProgramÃ¡tico

Course Introduction
• Overview
• Course Goal and Objectives
• Course Flow
• Your Training Curriculum
• Learner Introductions

Module 1: RF and WLAN Theory
• Describe and implement foundational wireless theory

- Indoor Non-Wi-Fi Wireless Technologies
- Indoor Wi-Fi Wireless Technologies
- Outdoor Non-Wi-Fi Wireless Technologies
- RF Characteristics
- Signal Degradation
- Outdoor Signal Considerations

Module 2: WLAN Math and Antennas
- RF Mathematics
- Antenna Characteristics
- Antenna Connector
- Antenna Support
- Antenna Accessories

Module 3: Wi-Fi Operations
- Spread Spectrum Technology Basics
- Exploring Wi-Fi 6E
- Wireless Media Access
- Analyze wireless frames
- Wireless Governance
- Wi-Fi Spectrum Performance Enhancements
- Wi-Fi Spectrum Compatibility Features
- IEEE 802.11ax: Wi-Fi 6

Module 4: Basic WLAN Security
- Describe security and client access in a wireless network
- Wireless Security Components
- Assessing Wi-Fi Vulnerabilities using Common Tools
- IEEE 802.11 Security
- Advanced Wireless Intrusion Prevention System

Module 5: Advanced WLAN Security
- Implement 802.1X and EAP
- IEEE 802.1X and EAP Frameworks
- EAP Authentication
- Wi-Fi Alliance WPA, WPA2, and WPA3 Security

Module 6: Configuring WLAN Security
- Implement wireless guest access and configure wireless security
- Configure Native Operating Systems for WLAN Connectivity
- Configure Smart Handheld Clients

Module 7: Cisco Wireless Network Architecture
- Describe Cisco wireless architecture components and deployment options.
- Cisco Wireless Architecture
- Cisco Wireless Network Deployment Options
- Cisco Wireless Guest Access
- Cisco Wireless Management

• Cisco Policy Control—Cisco ISE
• Cisco Location Services—Cisco Spaces

Module 8: Implementing Cisco Wireless Network
• Describe Wireless deployment modes that are supported by Cisco and WLAN Architecture
• Cisco Enterprise Wireless Network
• Cisco Centralized Wireless Architecture
• Cisco FlexConnect
• Cisco Wireless Controllers
• Cisco Access Points

Module 9: Implementing Cisco Wireless Network Wired Support
• Describe the wired support for implementing wireless networks
• Layer 2 Infrastructure Support
• Configuring the Switch for Wireless
• Power Requirements
• Bandwidth Requirements
• Cisco Catalyst Switches
• Wired Infrastructure Protocols That Support Wireless

Module 10: Deploying Cisco Centralized Wireless Networks
• Deploy Cisco centralized wireless networks
• Initialize Centralized Cisco WLC
• Getting Familiar with Cisco WLC GUI
• Cisco WLC Ports, Interfaces, and Mapping
• Access Point Discovery Process
• Access Point Join Process
• Cisco WLC Redundancy and High Availability
• Cisco Access Point Failover
• Cisco Access Point Modes of Operation

Module 11: Configuring Cisco Centralized Wireless Networks
• Describe the centralized wireless access model and its configuration
• IPv6 in a Cisco Wireless Environment
• Roaming in a Centralized Architecture
• Layer 2 Roaming
• Layer 3 Roaming
• Mobility Groups and Mobility Domains
• Inter-Release Controller Mobility
• Optimizing RF Conditions
• Optimizing Client Performance
• Introducing Cisco CleanAir

Module 12: Maintaining and Troubleshooting Cisco Wireless Networks
• Describe maintenance and troubleshooting in the centralized WLAN model
• Managing Licenses on Cisco WLC
• Updating Image on Cisco WLC
• Backup and Restore Process

- Troubleshooting Basics
- WLAN Troubleshooting Techniques
- Common Wireless Issues
- Cisco WLAN Troubleshooting Tools
- Third Party Troubleshooting Tools

Module 13: Managing and Monitoring Cisco Wireless Networks with Cisco DNA Center
- Describe the centralized wireless access model and its configuration
- Introducing Cisco DNA Center
- Cisco DNA Center Workflows
- Cisco DNA Center Automation Overview
- Cisco DNA Center Assurance Overview
- Cisco DNA Center Assurance for Troubleshooting Wireless Networks

Lab Outline
Discovery 1: Practice RF Math
Discovery 2: Antenna Calculations
Discovery 3: Explore the Wi-Fi Environment
Discovery 4: Analyze Wireless Frames
Discovery 5: Configure Client Access
Discovery 6: Deploy Cisco 9800 WLC
Discovery 7: Configure Cisco 9800 WLC
Discovery 8: Perform Cisco 9800 WLC Maintenance