FIREFLY

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Implementing Cisco Wireless Network Fundamentals

DURATION: 5 DAYS COURSE CODE: WIFUND FORMAT: LECTURE/LAB

COURSE DESCRIPTION

Implementing Cisco Wireless Network Fundamentals (WIFUND) is a five-day ILT course that is designed to help students prepare for the Cisco CCNA® Wireless certification, an associate-level certification specializing in the wireless field. Completion of the WIFUND course and CCNA Wireless certification are prerequisites to the Cisco CCNP® Wireless curriculum.

The CCNA Wireless curriculum will prepare the wireless network associate for the use, positioning, planning, implementation, and operation of Cisco WLAN networks. The goal of the WIFUND course is to provide students with information and practice activities to prepare them to help design, install, configure, monitor, and conduct basic troubleshooting tasks of a Cisco WLAN in small and medium-sized business and enterprise installations. As an associate level, the course aims at providing entry- level information and will not specialize in any of the advanced features of the Cisco WLAN solutions.

WHO SHOULD ATTEND

Wireless Network Associate/Administrator

Wireless Technician

Wireless Test Engineer

Wireless Network Planning Engineer

Wireless Implementation Support Engineer

Wireless Network Analyst

Cisco Channel Partners.

PREREQUISITES

The knowledge and skills that a student must have before attending this course are as follows:

Interconnecting Cisco Networking Devices, Parts 1 and 2 (ICND1 and ICND2), or

Cisco CCENT® certification

LEARNING OBJECTIVES

Understand the basic RF principles and characteristics

Understand WLAN security methods and access with differing client devices

Define the Cisco WLAN architecture and the underling infrastructure used to support it

Implement a Centralized wireless access network using AireOS or IOS-XE wireless LAN controllers

Implement a Converged wireless access network using IOS-XE converged access switches and wireless LAN controllers

Implement small and remote access wireless networks using FlexConnect, Autonomous or Cloud architectures

Perform basic WLAN maintenance and troubleshooting—describe the requirements for a WLAN design

COURSE OUTLINE

1. Wireless Fundamentals

- Explaining Wireless Fundamentals
- Describing RF Principles
- Understanding RF Mathematics
- Describing Antenna Characteristics
- Describing the Basics of Spread Spectrum
- Describing Wireless Media Access
- Describing Wireless Governance

2. Security and Client Access

- Describing Wireless Security Components
- Explaining 802.11 Security
- Explaining the 802.1X and EAP Framework
- Describing EAP Authentication
- Describing WPA and WPA2 Security
- Providing Guest Access
- Configuring Native Operating Systems for WLAN Connectivity
- Configuring Smart Handheld Clients

3. Cisco Wireless Network Architecture

- Defining Cisco Wireless Network Deployment Options
- Defining Cisco One Management
- Defining Cisco One Policy
- Defining Cisco One Network
- Explaining Mobility Architecture Concepts
- Optimizing RF Conditions and Performance for Clients
- Describing Layer 2 Infrastructure Support
- Describing Protocols Used in Wired Infrastructure to Support Wireless

4. Centralized Wireless Access

- Initializing a Centralized WLC
- Describing AP Initialization
- Exploring Additional WLC Features
- Implementing IPv6 in a Cisco Wireless Environment
- Configuring Client Access
- Implementing Roaming in the Centralized Architecture

5. Converged Wireless Access

- Initializing a Converged Access Cisco WLC and WCM
- Describing AP Connectivity
- Exploring Additional Wireless Features
- Configuring Client Access
- Implementing Roaming in the Converged Architecture

6. Small and Remote Wireless Access

- Understanding Cisco FlexConnect Architecture
- Understanding Autonomous AP Architecture
- Understanding Cloud Architecture

7. WLAN Design

- Describing the Predictive WLAN Design Process
- Describing the WLAN Site Survey Process

8. WLAN Maintenance and Troubleshooting

- Describing WLAN Maintenance
- Explaining WLAN Troubleshooting Tools
- Describing WLAN Troubleshooting Methodology

DISCOVERY LABS

1: Practice RF Math
2: Calculate EIRP and Choose the Correct Antenna
3: Explore the RF Spectrum
4: Analyze Wireless Frames