Implementing Cisco Wireless Network Fundamentals (WIFUND) v1.0

Overview
Implementing Cisco® Wireless Network Fundamentals (WIFUND) version 1.0 is a Cisco Training on Demand course. It is in the curriculum for the CCNA® Wireless certification, and it prepares you for the use, positioning, planning, implementation, and operation of Cisco WLAN networks. The course also provides you with information and practice activities to design, install, configure, monitor, and conduct basic troubleshooting tasks of a Cisco WLAN in small-business and enterprise installations. At the associate level, the course aims at providing you entry-level information about the Cisco WLAN solutions and avoids specializing in any of the advanced features of the Cisco WLAN networks solutions.

Interested in purchasing this course in volume at discounts for your company? Contact ctod-sales@cisco.com.

Duration
The WIFUND v1.0 Training on Demand is a self-paced course based on the 5-day instructor-led training version. It consists of 42 sections of consumable segments through instructor video and text, totaling more than 18 hours of instruction along with interactive activities, 33 hands-on lab exercises, content review questions, and challenge questions.
Target Audience
This course is designed for wireless network associates and administrators, technicians, test engineers, network planning engineers, implementation support engineers, network analysts, and those preparing for the 200-355 WIFUND exam.

Objectives
After completing this course, you should be able to:

- Describe the basic RF principles and characteristics
- Describe WLAN security methods and access with differing client devices
- Define the Cisco WLAN architecture and the underlying infrastructure used to support it
- Implement a centralized wireless access network using AireOS or Cisco 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 Cisco FlexConnect®, autonomous, or cloud architectures
- Perform basic WLAN maintenance and troubleshooting
- Describe the requirements for a WLAN design

Course Prerequisites
The knowledge and skills recommended before attending this course are:

- Interconnecting Cisco Networking Devices Parts 1 & 2 (ICND1 & ICND2) or
- Cisco CCENT® certification

Course Outline
- Course Introduction
- Section 1: Explaining Wireless Fundamentals
- Section 2: Describing RF Principles
- Section 3: Understanding RF Mathematics
- Section 4: Describing Antenna Characteristics
- Section 5: Describing the Basics of Spread Spectrum
- Section 6: Describing Wireless Media Access
- Section 7: Describing Wireless Governance
- Section 8: Describing Wireless Security Components
- Section 9: Explaining 802.11 Security
- Section 10: Explaining the 802.1X and EAP Framework
- Section 11: Describing EAP Authentication
- Section 12: Describing WPA and WPA2 Security
● Section 13: Providing Guest Access
● Section 14: Configuring Native Operating Systems for WLAN Connectivity
● Section 15: Configuring Smart Handheld Clients
● Section 16: Defining Cisco Wireless Network Deployment Options
● Section 17: Defining Cisco One Management
● Section 18: Defining Cisco One Policy
● Section 19: Defining Cisco One Network
● Section 20: Explaining Mobility Architecture Concepts
● Section 21: Optimizing RF Conditions and Performance for Clients
● Section 22: Describing Layer 2 Infrastructure Support
● Section 23: Describing Protocols Used in Wired Infrastructure to Support Wireless
● Section 24: Initializing a Centralized WLC
● Section 25: Describing AP Initialization
● Section 26: Exploring Additional WLC Features
● Section 27: Implementing IPv6 in a Cisco Wireless Environment
● Section 28: Configuring Client Access
● Section 29: Implementing Roaming in the Centralized Architecture
● Section 30: Initializing a Converged Access Cisco WLC and WCM
● Section 31: Describing Access Point Connectivity
● Section 32: Exploring Additional Wireless Features
● Section 33: Configuring Client Access
● Section 34: Implementing Roaming in the Converged Architecture
● Section 35: Understanding Cisco FlexConnect Architecture
● Section 36: Understanding Autonomous AP Architecture
● Section 37: Understanding Cloud Architecture
● Section 38: Describing the Predictive WLAN Design Process
● Section 39: Describing the WLAN Site Survey Process
● Section 40: Describing WLAN Maintenance
● Section 41: Explaining WLAN Troubleshooting Tools
● Section 42 Describing WLAN Troubleshooting Methodology

Labs Outline

This course contains 33 hands-on lab exercises.
The labs included in this course are:

- Discovery Lab 29.7: Review and Modify Management Access
- Discovery Lab 29.8: Review Access Point Status
- Discovery Lab 29.9: Configure RF Power and Channel
- Discovery Lab 29.10: Configure a WLAN
- Discovery Lab 29.11: Enable Additional Features
- Discovery Lab 29.12: Associate the Client
- Discovery Lab 29.13: Review CleanAir® Technology
- Discovery Lab 29.14: Implement WPA PSK Authentication
- Discovery Lab 29.15: Add Foreign WLC on Anchor WLC
- Discovery Lab 29.16: Add Anchor WLC on Foreign WLC
- Discovery Lab 29.17: Configure the Guest WLAN on the Foreign WLC
- Discovery Lab 29.18: Configure the Guest WLAN on the Anchor WLC
- Discovery Lab 29.19: Create Local User on the Anchor WLC
- Discovery Lab 29.20: Associate the Client using WLC Credentials
- Discovery Lab 29.21: Associate the Client using ISE Credentials
- Discovery Lab 34.7: Verify the Catalyst® 3650 Status
- Discovery Lab 34.8: Initialize the Cat3650 Wireless Controller and Access Point
- Discovery Lab 34.9: Adjust RF Power and Channel
- Discovery Lab 34.10: Configure a WLAN
- Discovery Lab 34.11: Enable Additional Features
- Discovery Lab 34.12: Associate the Client
- Discovery Lab 34.13: Implement WPA2 PSK Authentication
- Discovery Lab 37.8: Configure the Switch for FlexConnect Connectivity
- Discovery Lab 37.9: Add a New WLAN for FlexConnect Testing
● Discovery Lab 37.10: Adjust the Access Point Mode of Operation
● Discovery Lab 37.11: Implement a Cisco FlexConnect Group
● Discovery Lab 37.12: Initialize and Configure the Autonomous AP
● Discovery Lab 37.13: Implement PSK Authentication on an Autonomous AP
● Discovery Lab 37.14: Implement RADIUS Authentication on an Autonomous AP
● Discovery Lab 37.15: Implement PSK Authentication on a Cloud WLAN Deployment
● Discovery Lab 37.16: Implement Local EAP-PEAP on a Cloud WLAN Deployment
● Discovery Lab 37.17: Implement WebAuth on a Cloud WLAN Deployment
● Discovery Lab 37.18: Disable SSIDs on the Cloud WLAN Deployment
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