



WDAWL v1.1 Deploying Cisco Advanced Wireless LANs

Course Length: 2

Course Delivery: Traditional Classroom • Online Live

Course Overview

This 2-day instructor-led, hands-on course builds upon the basic deployments course by presenting students with more challenging real-world deployments such as client mobility between subnets, high client density deployments, and mesh network deployments. Students will be able to make network design decisions about, configure, and troubleshoot WLANs that encounter these challenges. Much of the time in the course allows the instructor and students to share experiences, gotchas, and best practices around more challenging deployment scenarios.

The goal of this course is to enable network planners and administrators to deploy an efficient wireless LAN (WLAN) enterprise solution. To accomplish this, the course is designed to provide the learner a better understanding and appreciation of the complexities involved in efficiently supporting, client mobility, areas of high client density, and the implementation of a MESH network in a customer enterprise environment.

At the end of this training course, you'll be able to:

- Detail the differences in client mobility between Layer 2 and Layer 3
- Configure the controller to appropriately mark priority traffic for transmission first in times of network congestion and avoid introducing unnecessary IPv6 which could lead to network congestion
- Discuss the challenges faced in providing a quality user experience in a high density wireless network deployment scenario
- Design, install, and maintain a wireless mesh network both as an add-on to an existing WLAN and as a new installation

Audience

The primary audience for this course is as follows:

- Channel field engineers
- Cisco Network Consulting Engineers
- New Cisco Unified Communications partners
- Customer network engineers

The secondary audience for this course is as follows:



- Customer network managers

Prerequisites

- Basic networking
- RF/Wireless field experience (helpful)
- Prior completion of either the Defining Cisco Wireless LAN Essentials course, Deploying Basic Cisco Wireless LANs, Cisco Unified Wireless Networking course or Implementing Cisco Unified Wireless Networking Essentials course, or equivalent experience (recommended).

Outline

Module 1: Client Mobility Between Subnets

Lesson 1: Understanding Same Subnet Roaming

- The Terminology of Roaming
- The Function of the Mobility Group
- Mobility Messaging
- Auto-anchor Mobility
- Static IP Mobility

Lesson 2: Understanding Inter-subnet mobility

- Autonomous AP Mobility
- Intra-controller Mobility
- Inter-controller Mobility
- Impact of AP Groups on Mobility
- Interface Groups and Mobility
- Static IP Mobility

Module 2: Network Efficiency

Lesson 1: Configuring Quality of Service

- QoS Overview
- 802.11e/WMM
- QoS Packet Marking Mappings
- QoS Process



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- Implementing QoS
- QoS Roles
- Parameters Affecting Voice and Video Quality
- VoIP Phone Support Features
- Enhanced EDCA Support
- Configuring Video Parameters

Lesson 2: Configuring IPv6

- IPv6 Support in a Cisco Unified Wireless Network Environment
- Cisco WLC IPv6 Configuration

Module 3: High Density Deployment Challenges

Lesson 1: Effects of Client Density on a Wireless Network

- What is a High Density Deployment?
- Client Density

Lesson 2: Planning for Areas of High Client Density

- Determine the true Per-Connection bandwidth requirement
- Determining Throughput Requirements for a Coverage Area
- Higher Data Rates Increase Efficiency and Reduce the Effective Size of the Cell.
- 5 GHz Support is Critical for High Density Deployments
- RF Spectrum a Finite Resource

Module 4: Implementing Mesh Networks

Lesson 1: Describing Wireless Mesh Networks

- The Mesh Architecture
- Why Use a Mesh Architecture

Lesson 2: Describing Mesh Formation

- Mesh Operational Modes
- Network Formation
- Cisco Adaptive Wireless Path Protocol

Lesson 3: Implementing a Mesh Network for the Enterprise



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- Sharing the Spectrum
- Wireless Mesh Constraints
- Backhaul and Client Access
- Wireless Mesh Configuration
- Connectivity Verification

Lesson 4: Configuring Advanced Mesh Features

- Configuring Controller Mesh Global Parameters
- Wireless Mesh Ethernet Bridging
- QoS in the Mesh Environment
- Voice Support in Mesh Environment
- Multicast Containment for Video in a Mesh Environment

Lesson 5: Troubleshooting a Mesh Network

- Troubleshooting Mesh AP Issues
- CLI Verification Tools

To register or for more information call our office **(208) 898-9036** or email register@leapfoxlearning.com

Lab Outline

4-1: Configuring Mesh Access Points

Task 1: Establishing a Remote Desktop Protocol (RDP) Connection to the Lab

Task 2: Configuring Your Access Points

Task 3: Converting Your Access Points to Mesh

Task 4: Defining BGN and Roles, and Observing the Mesh Form



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