

Cisco Wireless Network Fundamentals

A 5 day **Hands on** training course



Description

This course looks at the fundamentals required in the planning, implementation and operation of a Cisco Wireless Lan network. This course is designed to help provide students with the knowledge and hands on practice required to enable them to design, install, configure, monitor and conduct the basic troubleshooting tasks of a Cisco WLAN in an SMB or Enterprise installations. As this is associate level course the advanced features of the Cisco WLAN networks solutions will not be covered in depth.



Key outcomes

By the end of the course delegates will be able to:

- ✓ 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.



Training Approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.



Details

Who will benefit?

Individuals involved in the technical management of Cisco wireless platforms and solutions, and those looking for CCNA Wireless Certification.

Prerequisites

ICND1

Duration: 5 days

Overall rating



Generic Training



Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

"Friendly environment with expert teaching that teaches the why before the how."
G.C. Fasthosts

Small Class Sizes



We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

"Excellent course. The small class size was a great benefit..."
M.B. IBM

Hands On Training



The majority of our courses use hands on sessions to reinforce the theory.

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."
J.W. Vodafone

Our Courseware



We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

"Comprehensive materials that made the course easy to follow and will be used as a reference point."
V.B. Rockwell Collins

Customise Your Course



Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."
S.R. Qinetiq

Cisco Wireless Network Fundamentals

Course Content

Wireless Fundamentals

- Explain Wireless Fundamentals
- Describe RF Principles & RF Mathematics
- Describe Antenna Characteristics
- Describe the Basics of Spread Spectrum
- Describe Wireless Media Access
- Describe Wireless Governance
- Discovery Lab 1: Practice RF Math
- Discovery Lab 2: Calculate EIRP and Choose the Correct Antenna
- Discovery Lab 3: Explore the RF Spectrum
- Discovery Lab 4: Analyze Wireless Frames

Security and Client Access

- Describe Wireless Security Components
- Explain 802.11 Security
- Explain 802.1X/EAP Framework
- Describe EAP Authentication
- Describe WPA and WPA2 Security
- Provide Guest Access
- Native Operating Systems for WLAN Connectivity
- Configure Smart Handheld Clients
- Discovery Lab 5: Review Centralized Authentication

Define the Cisco Wireless Network Architecture

- Define Cisco Wireless Network Deployment Options
- Define One Management
- Define One Policy
- Define the Cisco One Network
- Mobility Architecture Concepts
- Optimize RF Conditions and Performance for Clients
- Describe Layer 2 Infrastructure Support
- Describe Protocols Used in Wired Infrastructure to Support Wireless

Implement Centralized Wireless Access

- Initialize a Centralized WLC
- Describe AP Initialization Explore Additional WLC Features
- Implement IPv6 in a Cisco Wireless Environment
- Configure Client Access
- Implement Roaming in the Centralized Architecture
- Discovery Lab 6: Initialize a Centralized WLAN Deployment

Implement Converged Wireless Access

- Initialize a Converged WCM
- Describe AP Connectivity
- Explore Additional Wireless Features
- Configure Client Access
- Implement Roaming in the Converged Architecture

Implement Small and Remote Wireless Access

- Overview of the FlexConnect Architecture
- Overview of the Autonomous Architecture
- Overview of the Cloud Architecture

WLAN Maintenance and Troubleshooting

- Describe Wireless Maintenance
- Explain Troubleshooting Tools
- Describe Troubleshooting Methodology

WLAN Design

- Predictive WLAN Design Process
- WLAN Site Survey Process

Labs:

- Lab 1: Configure Windows 7 Client Access
- Lab 2: Configuring the Wired Infrastructure
- Lab 3: Configuring the Centralized WLAN Deployment
- Lab 4: Configuring IPv6 Operation in a Centralized WLAN Deployment
- Lab 5: Configuring Security in a Centralized WLAN Deployment
- Lab 6: Configuring Guest Access Using the Anchor WLC
- Lab 7: Deploying a Converged Access WLAN
- Lab 8: Configuring Security on a Converged WLAN Deployment
- Lab 9: Implement a FlexConnect WLAN Deployment
- Lab 10: Initialize an Autonomous WLAN Deployment
- Lab 11: Configure Security on an Autonomous AP WLAN Deployment
- Lab 12: Configure Security on a Cloud WLAN Deployment
- Lab 13: Perform Centralized Controller Maintenance
- Lab 14: Perform WiFi Scanning
- Lab 15: Challenge—Various Trouble Tickets
- Lab 16: Perform a Predictive WLAN Design
- Lab 17: Perform Passive Site Survey Analysis

