

# WIFI7CT - OPERATING & TROUBLESHOOTING CISCO WIRELESS WIFI-7

Course Code: 860074

Build job-ready, intermediate skills to monitor, operate, and troubleshoot Cisco enterprise Wi-Fi 6 and Wi-Fi 7 networks in real production environments. Ideal for wireless and network professionals, while giving leaders confidence their teams can keep users connected and downtime low.

In this OPERATING & TROUBLESHOOTING CISCO WIRELESS WIFI-7 five-day, hands-on Cisco instructor-led course is designed to equip organizations with the skills required to effectively monitor, operate, and troubleshoot modern Cisco wireless networks in production environments. The course delivers comprehensive coverage of enterprise Wi-Fi 6 and Wi-Fi 7 deployments, focusing on both architectural design principles and day-to-day operational excellence. Learners begin with core wireless fundamentals, including RF theory, spectrum behavior, site survey methodologies, roaming mechanics, and switching dependencies, establishing a strong foundation for designing and supporting high-density, performance-sensitive wireless environments.

Building on these fundamentals, the course provides deep operational training on Cisco Catalyst access points and Cisco Catalyst 9800 wireless LAN controllers, with a strong emphasis on resiliency and scale. Topics include high availability and redundancy models, in-service software upgrades (ISSU), hitless upgrades, and controller-based best practices that minimize downtime during maintenance and software lifecycle events. Students gain extensive hands-on experience configuring and validating tags and profiles, authentication and policy enforcement, FlexConnect deployments, and advanced Wi-Fi 7 security capabilities, ensuring they can support both centralized and distributed enterprise wireless architectures.

The curriculum further integrates Cisco Catalyst Center as the primary platform for intent-based wireless design, automated provisioning, continuous monitoring, assurance, reporting, and advanced troubleshooting. Learners work with real-world operational scenarios involving Cisco Identity Services Engine (ISE) integration, secure mobility, fast and seamless roaming, telemetry-driven insights, AI-assisted RF optimization, application visibility, and KPI-based performance analysis. The course culminates in structured, end-to-end troubleshooting workflows that leverage Cisco's latest analytics, diagnostics, and automation tools, enabling

students to rapidly isolate issues, restore service, and maintain resilient, high-performance wireless networks at enterprise scale.

## What You'll Learn

This course covers:

- Wireless Fundamentals
- Operational View of Cisco Wireless
- Cisco 9800 Wireless LAN Controllers
- Tags, Profiles and Authentication
- Wireless Discovery and Flexconnect
- Wireless Security
- Introduction to Cisco Catalyst Center
- CCC (Cisco Catalyst Center) and ISE (Cisco Identity Services Engine) Integration
- Cisco Catalyst Center Design Workflow
- Mobility and Wireless Roaming
- Network Troubleshooting and Monitoring
- Telemetry and Application Health
- Cisco Catalyst Center Reporting

## Who Needs to Attend

- The primary audience for this course is as follows:
- Network Administrators
- Network Engineers
- Wireless Engineers
- Helpdesk Support Administrators and Engineers
- NOC Support Administrators and Engineers
- IT Staff and Managers

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CLASSROOM LIVE

\$4,295 USD

5 Day

## Classroom Live Outline

### Module 0: Introduction

- General Administration
- Introductions
- Webex Basics
- Lab Access
- Why Cisco Wireless?
- Benefits of Cisco Wireless and WI-FI 7

### Module 1: Wireless Fundamentals

- Lesson 1: Wireless Standards
- Lesson 2: RF WLAN Design
- Lesson 3: Site Survey
- Lesson 4: Site Survey Tools
- Lesson 5: Mounting Aps Best Practices
- Lesson 6: Wireless Design Principles
- Lesson 7: Wireless Roaming Design
- Lesson 8: Switch Design for Wireless Networks
- Lesson 9: Designing Meraki Network Services

### Module 2: Operational View of Cisco Wireless

- Lesson 1: Wireless-First Switching Architecture
- Lesson 2: Role of Catalyst APs in delivering Wi-Fi
- Lesson 3: Introduction to Cisco Catalyst 9800
- Lesson 4: Controller Settings
- Lesson 5: N+1 Redundancy
- Lesson 6: High Availability Stateful Switchover
- Lesson 7: Rolling AP Update/Upgrade Infrastructure
- Lesson 8: N+1 Site Based Hitless Upgrade

- Lesson 9: In-Service Software Upgrade (ISSU)
- Lesson 10: Wireless Controller SMU
- Lesson 11: AP Join Process

### **Module 3: Cisco 9800 Wireless LAN Controllers**

- Lesson 1: Introduction to Cisco Catalyst 9800
- Lesson 2: 9800 WLC Cloud Controller
- Lesson 3: Embedded Wireless Controllers
- Lesson 4: Initial Deployment
- Lesson 5: Topologies, Common Load & Scaling
- Lesson 6: Controller Settings
- Lesson 7: N+1 Redundancy
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- Lesson 15: AP Join Process
- Lesson 16: High Availability Stateful Switchover
- Lesson 17: Rolling AP Update/Upgrade Infrastructure

### **Module 4: Tags, Profiles and Authentication**

- Lesson 1: L2 VLAN Configuration
- Lesson 2: Profiles, Tags and Multi-Preshared Key
- Lesson 3: Wireless Advanced Setup Workflow
- Lesson 4: AP Power Optimizations

### **Module 5: Wireless Discovery and Flexconnect**

- Lesson 1: Discover and Provision Wireless Devices
- Lesson 2: Provision Catalyst 9800
- Lesson 3: Access Points
- Lesson 4: Flexconnect Introduction
- Lesson 5: Configure Flexconnect
- Lesson 6: Flexconnect with Catalyst Centre
- Lesson 7: Troubleshooting FlexConnect on C9800

### **Module 6: Wireless Security**

- Lesson 1: Wireless Security Fundamentals
- Lesson 2: Authentication Mechanisms
- Lesson 3: Wi-Fi 7 Security
- Lesson 4: Security Profiles

### **Module 7: Introduction to Cisco Catalyst Center**

- Lesson 1: Traditional Network Challenges
- Lesson 2: Intent-Based Networking
- Lesson 3: Introduction to Cisco Catalyst Center

- Lesson 4: Cisco Catalyst Center Architecture
- Lesson 5: Catalyst Center Features and Use Cases
- Lesson 6: Cisco Catalyst Center Licensing
- Lesson 7: Catalyst Center Deployment for Wireless
- Lesson 8: Cisco Catalyst Center Wireless Assurance
- Lesson 9: Application Assurance
- Lesson 10: Wireless Client Analytics

### **Module 8: CCC (Cisco Catalyst Center) and ISE (Cisco Identity Services Engine) Integration**

- Lesson 1: CCC ISE Integration Overview
- Lesson 2: CCC ISE Integration Benefits
- Lesson 3: WLC ISE Configuration Integration
- Lesson 4: ISE Configuration Integration

### **Module 9: Cisco Catalyst Center Design Workflow**

- Lesson 1: Catalyst Center Wireless Integration
- Lesson 2: Network Hierarchy
- Lesson 3: Network Settings
- Lesson 4: Image Repository
- Lesson 5: Network Profiles
- Lesson 6: Authentication Template
- Lesson 7: Access Point Refresh
- Lesson 8: AP Auto Locate
- Lesson 9: AP Power Profile
- Lesson 10: RMA of an AP

### **Module 10: Mobility and Wireless Roaming**

- Lesson 1: Client Roaming Basics
- Lesson 2: Mobility Tunnel Overview
- Lesson 3: Guest Anchor Mobility
- Lesson 4: Cisco Catalyst Center Wireless Mobility
- Lesson 5: Mobility Tunnel Between 2 Brownfield WLC
- Lesson 6: Deleting Mobility Tunnel
- Lesson 7: Types of Fast Secure Roaming Standards

### **Module 11: Network Troubleshooting and Monitoring**

- Lesson 1: Insights, Issues, and Trends in the Network
- Lesson 2: Data-Plane Debugging
- Lesson 3: Access Point Debugging - Control Plane
- Lesson 4: Access Point Debugging - Data Plane
- Lesson 5: WLC Top Issues
- Lesson 6: Training your helpdesk on throughput issues
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- Lesson 11: 9800 KPIs
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- Lesson 21: Log Collection 9800 Controllers
- Lesson 22: Catalyst Center System 360
- Lesson 23: Device Health
- Lesson 24: Device Troubleshooting
- Lesson 25: Monitor and Manage CCC Integrations
- Lesson 26: Intelligent Capture Introduction
- Lesson 27: Hardware and Software Compatibility
- Lesson 28: Client-Side Features
- Lesson 29: AP-Side Features

### **Module 12: Telemetry and Application Health**

- Lesson 1: Cisco Wireless AI-RRM Update
- Lesson 2: On-Channel NDP C9124
- Lesson 3: Cisco Wireless AI-RRM Update
- Lesson 4: Wi-Fi 6E/7 Design Guidance
- Lesson 5: NetFlow Basics
- Lesson 6: Application Telemetry
- Lesson 7: Telemetry Data Collection
- Lesson 8: Assurance
- Lesson 9: Application Health
- Lesson 10: Application Recognition Overview
- Lesson 11: Application Visibility View

### **Module 13: Cisco Catalyst Center Reporting**

- Lesson 1: Reports Introduction
- Lesson 2: Reporting Category & Templates
- Lesson 3: Usage Insights
- Lesson 4: Generate and View Reports

### **Classroom Live Labs**

- Lab 1: C9800 Walkthrough
- Lab 2: AP Registration
- Lab 3: AP Registration Issues
- Lab 4: Configure L2 Vlan
- Lab 5: Profiles, Tags and Fix Multi Pre-Shared Key (MPSK) SSID Issues

- Lab 6: Navigate Cisco Catalyst Center (CCC)
- Lab 7: Integrate Cisco ISE with Cisco Catalyst Center (Instructor Demo)
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- Lab 21: Software Image Management (SWIM)

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Date created: 4/3/2026 7:42:04 AM

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