

Blue River Experts

Member of the Art of Innovation Network

CONFIGURING CISCO CATALYST 9800 AND INTRODUCTION TO WI-FI 6

Version 3.1

1 Course Overview

This 3-day expert workshop is designed to help students understand how the Catalyst 9800 Series wireless controllers combine the best of RF excellence with IOS XE benefits. The workshop starts with a description of the Cisco Catalyst 9800 and its benefits while introducing the learner to Wi-Fi 6. The workshop also includes information about configuration, migration, and troubleshooting.

The updated version of this workshop covers new topics, including:

- Multi pre-shared key authentication
- Identity pre-shared key authentication
- C9800 and ISE integration
- FlexConnect using Dot1x authentication
- In depth troubleshooting using C9800 platform for wireless clients
- FlexConnect groups
- QOS to block social media websites

2 Who Should Attend

The primary audience are Cisco partners and customers interested in the Catalyst 9800 wireless controller.

3 Prerequisites

Basic understanding of Wi-Fi technologies.

4 Why Attend a Blue River Experts Course

Our courses are not delivered by instructors but by consulting system engineers who have vast experience regarding real life design, deployment, and troubleshooting of actual customer installations. Besides delivering courses, our engineers usually design and deploy large enterprise solutions or perform real world POVs (proof of value) and POCs (proof of concept) for large customers. We are often requested and contracted by product vendors to help customers make buying decisions based on their particular use case. This allows us to discuss real world use cases, designs, and operational situations with our students.

If you would like to get educated by experts who will explain to you the whole life cycle from day 0 to day 2 as they have comprehensive knowledge from having written numerous business requirements documents, customer requirements documents, high level design and detailed design documents and having deployed and troubleshooted many customer installations then you should choose to attend one of our courses.

5 Course Objectives

After completing this course, learners will be able to meet these overall objectives:

- Describe the Cisco Catalyst 9800
- Understand the benefits of the Catalyst 9800
- Configure the Catalyst 9800
- Migrate to the Catalyst 9800
- Troubleshoot the Catalyst 9800
- Understand and discuss WIFI6

6 Course Details

6.1 Cisco Catalyst 9800 Wireless Controller and Wi-Fi 6

- Introduction to Cisco Catalyst 9800 Wireless Controller
- Cisco Catalyst 9800 Wireless Controller On-Prem and Cloud

6.2 Wi-Fi 6 and Wi-Fi 6E

- Wireless Evolution
- Wi-Fi 6
- Wi-Fi 6E

6.3 Wireless Setup – Basic

- VLAN
- Tags
- Location

6.4 Authentication Mechanisms

- Authentication Types
- MAB Authentication

6.5 Wireless Setup – Advanced

- WLC Deployment Options
- FlexConnect
- Resiliency
- FlexConnect Configuration
- AireOS vs. WLC C9800

6.6 Mobility

- Introduction to Mobility
- Mobility Groups
- Configuring Mobility Groups
- Verify Mobility

6.7 Guest Anchor Mobility

- Guest Flow
- Guest Anchor Mobility
- Guest Anchor Configuration
- Scenario #1: Foreign / Anchor – C9800
- Scenario #2: Foreign – C9800, Anchor – AireOS
- Scenario #3: Foreign – AireOS, Anchor – C9800

6.8 Application Visibility and Control Feature

- Application Visibility and Control
- Prerequisites and Restrictions
- QOS Workflow

6.9 Backup and Restore Licensing

- Configuration Backup
- Restore Configuration
- Licensing

6.10 High Availability

- High Availability Design with Cisco Catalyst 9800 Wireless Controllers
- High Availability: N+1 Redundancy
- High Availability: Stateful Switchover (SSO)
- High Availability: Failover Scenarios
- SSO Best Practices
- Access Point Redundancy
- LACP, PAGP Support in SSO Pair

6.11 Software Updates

- Software Patching Capability
- Software Maintenance Update
- Rolling AP Update/Upgrade Infrastructure
- Controller Software Upgrade

7 Lab Exercises

- 9800-CL DAY 0 WebUI configuration setup wizard
- Generate and Download CSR Certificates on Catalyst 9800 WLCs
- Accessing & Overview of Wireless LAN Controller GUI
- Configuring AP Login Credentials
- Catalyst 9800 Wireless Controllers AP Authorization List
 - MAC AP authorization List – Local
 - MAC AP Authorization List - External RADIUS server
- Configuring SSID with no security
- Configuring VLAN interface/Dynamic interface on WLC
- Configuring Guest VLAN on WLC for guest use cases
- Configuring interface groups
- Configuring SSID with Wireless Security PSK (MPSK/IPSK)
- Configuring Layer 3 webauth for Local Web authentication (LWA) use case
- Configuring an SSID and authenticate users against Cisco Identity Services Engine.
- Configuring a Guest Access with Cisco Identity Services Engine
- Configuring Mobility tunnel setup
- Guest Anchor Mobility
- High Availability SSO for Centralized Cisco 9800WLC
- Configure WLAN on Cisco WLC for Flex-Connect
- Configure wireless access list to block ICMP traffic
 - Configure wireless access list
 - Verifying wireless Access list
- Perform 9800 WLC Maintenance
 - Back up the Cisco WLC Configuration
- Troubleshooting