

## Installing, Configuring, and Troubleshooting Cisco Webex/Collaboration Endpoints

### (CISCO ENDPOINTS)

#### Installing, Configuring, and Troubleshooting Cisco Webex/Collaboration Endpoints (CISCO ENDPOINTS)

In this Installing, Configuring, and Troubleshooting Cisco Webex/Collaboration Endpoints comprehensive course provides an end-to-end, hands-on learning experience focused on designing, deploying, managing, integrating, and troubleshooting Cisco Webex collaboration environments at enterprise scale. The curriculum begins with foundational collaboration concepts and hybrid work challenges, then progressively builds deep technical proficiency across Cisco collaboration devices, room design principles, physical installation, endpoint configuration, and lifecycle management. Learners gain broad exposure to the full Cisco collaboration portfolio, including desk devices, room systems, boards, microphones, cameras, navigators, and legacy endpoints, along with an understanding of RoomOS, device states, and Webex Calling-based deployments.

The course places strong emphasis on real-world operational readiness by covering network requirements, CUCM video integration, cloud and on-premises device registration, advanced meeting features, intelligent camera and audio capabilities, and workspace management through Cisco Webex Control Hub. Participants also develop skills in managing user experiences through the Webex App and User Hub, integrating Cisco devices with Microsoft Teams Rooms, Zoom, and Google Meetings, and extending device functionality using APIs, macros, UI extensions, and automation. Advanced modules introduce Cisco Spaces, smart workspaces, digital signage, and analytics-driven workspace optimization.

Troubleshooting is woven throughout the course, culminating in a structured methodology that spans device registration, media quality, SIP signaling, network dependencies, and escalation using Cisco TAC and ThousandEyes. Extensive hands-on labs reinforce each major topic, enabling students to confidently deploy and support secure, scalable, and resilient collaboration environments that meet the demands of modern hybrid work, enterprise operations, and mission-critical communication needs.

#### Who Should Attend

The primary audience for this course is as follows:

- Installers and Field Technicians
- Collaboration Engineers
- Network Engineers and Administrators
- IT Support Technicians and Helpdesk Staff
- Unified Communications Engineers
- System Integrators and Cisco Channel Partners
- IT Managers and Project Coordinators

#### Course Duration

5 day

#### Course Price

\$4,495.00 or 45 CLCs

#### Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

#### Prerequisites

Before attending the "Installing, Configuring, and Troubleshooting Cisco Collaboration Endpoints" course, participants should have a foundational understanding of Cisco networking and collaboration technologies to

ensure they can effectively follow and apply the course content. While there are no strict formal prerequisites, the following background knowledge is strongly recommended:

- A basic understanding of networking concepts, including IP addressing, routing, switching, and VLANs.
- Familiarity with Cisco IOS command-line interface (CLI) operations and configuration tasks.
- General knowledge of video and audio-conferencing technologies and collaboration environments.
- Prior exposure to Cisco Webex solutions or Cisco Unified Communications environments is helpful but not required.
- Experience with Microsoft Teams, especially in a video conferencing or device integration context, is beneficial for the integration sections.

These prerequisites will help ensure that learners are prepared to engage with hands-on labs and can fully benefit from the course's focus on real-world deployment, configuration, and troubleshooting scenarios.

## Outline

### Module 0: Introduction

- Module Overview
  - Course orientation and objectives.
- Course Goals
  - Review the key learning outcomes.
- Webex Meetings Center Basics
  - Using Webex for collaboration.
- Introductions
  - Meet your instructor and peers.

### Module 1: Cisco Collaboration Devices Overview

- Collaboration Overview and Challenges
  - Introduction to collaboration technologies and common challenges.
- Hybrid Work Spaces
  - Exploring hybrid work models and device needs.
- AI Collaboration Features
- Endpoint Use-Cases and Integrations
- Endpoint Features Overview
- Collaboration Device Overview
- Microsoft Integration with MTR Overview

### Module 2: Room Design and Requirements

- Conference Room Design Principles
  - Best practices for meeting room design.
- Conference Room Physical Room Layout
  - Effective room layout strategies.
- Conference Room Lighting Design
  - Optimizing lighting for video meetings.
- Conference Room Audio Design
  - Ensuring clear and consistent audio.
- Audio Console
  - Overview of console-based audio control.
- Audio and Video Configuration
  - Integrating audio and video systems.
- Conference Divisible Rooms Design
  - Designing flexible room layouts.

### Module 3: Cisco Endpoints, Webex Collaboration Overview and Challenges

- Webex Portfolio and Features
  - Overview of Webex hardware and software.
- Cisco Desk Mini
  - Compact personal collaboration device.
- Cisco Desk
  - All-in-one desk-based video device.
- Cisco Desk Pro
  - Premium desk collaboration device.
- Cisco Desk Camera Series
  - High-quality external cameras for meetings.
- Cisco Room Kit
  - Integrated device for meeting rooms.
- Cisco Room Kit USB
  - USB-connected video solution.
- Cisco Room Kit Mini
  - Compact version of Room Kit for small rooms.
- Cisco Room Kit Plus
  - Scalable room solution with external codec.
- Cisco Room Kit Pro
  - High-performance device for advanced rooms.
- Cisco Room Bar
  - Compact video bar with built-in intelligence.
- Cisco Room Bar Pro
  - Advanced version of Room Bar.
- Cisco Room KIT EQ
  - Modular kit for custom room installations.
- Cisco Room KIT EQX
  - High-end integrated collaboration system.
- Webex Campfire Rooms
  - Designing circular, inclusive meeting spaces.
- Room Panorama
  - Immersive telepresence experience.
- Cisco Board Pro
  - All-in-one whiteboard and video conferencing tool.
- Cisco Board Pro G2
  - Second-generation collaborative whiteboard.
- Webex Room Navigator
  - Touch controller for room devices.
- SX / DX Devices
  - Legacy series of collaboration devices.
- Cisco Room OS 11
  - New Webex device operating system.
- Cisco Device States
  - Device lifecycle and connection states.
- Webex Calling Devices
  - Devices used with Webex Calling platform.
- Headsets
  - Webex-compatible headset options.
- Table Mic Pro
  - Advanced tabletop microphone.
- Ceiling Mic Pro
  - Premium overhead microphone.

#### **Module 4: Physical Installation and Device Setup**

- Connecting Screens and Video Outputs
  - Connecting displays and outputs.
- Manual and Automatic Screen Setup
  - Adjusting screen settings manually or automatically.
- Connecting Recorders and External Devices
  - Linking external AV hardware.
- Presenter Track Configuration
  - Set up speaker tracking.
- Presenter and Audience Room Mode Setup
  - Optimize tracking modes for presenters/audience.
- Connecting Cables and Peripherals
  - Cable management and peripheral setup.
- Testing and Troubleshooting Connections
  - Verifying and fixing connections.
- Software Installation and Updates
  - Updating device software.
- Reset Procedures for Cisco Devices
  - Restoring factory settings.

#### **Module 5: Deploying Cisco Unified Communications Manager (CUCM) Video Endpoints**

- CUCM Video Endpoint Architecture
  - System layout for video endpoint integration.
- CUCM Endpoint Registration
  - Register endpoints to CUCM.
- Video Endpoint Settings for Cisco Unified Communications Manager Registration
  - Configuration settings for CUCM.
- Mobile and Remote Access Device Registration
  - Enable endpoint access over the internet.
- UCM B2B Video Endpoint Call Flows
  - Understand call paths for external video.
- Troubleshooting UCM B2B Video Endpoint Call Flows
  - Diagnose B2B call issues.
- Cisco Unified Communications Manager Device Troubleshooting Tools
  - Built-in tools for diagnosing device issues.

#### **Module 6: Managing Cisco Device Settings & Options**

- Navigating the Local Device Web Interface
  - Manage settings via web UI.
- Accessing and Understanding System Information
  - View and interpret device data.
- Managing Device Configurations
  - Customize device configurations.
- Configuring and Optimizing Audio Settings
  - Adjust sound settings.
- Setting Up Bluetooth Connectivity
  - Pair devices with Bluetooth.
- Room Booking and Scheduling
  - Enable room scheduling on devices.
- Enabling Bring Your Own Device (BYOD) Functionality
  - Allow external device connections.
- Reviewing and Managing Call History
  - Check recent call records.
- Configuring and Adjusting Camera Settings

- Set up and tune cameras.
- Customizing Conference Settings
  - Change meeting options.
- Network Configuration and Connectivity
  - Manage network settings.
- Provisioning Devices for Use
  - Prepare devices for deployment.
- Configuring Standby and Scheduling Modes
  - Set energy saving modes.
- Managing Time and Date Settings
  - Set and sync time/date.
- User Management and Access Control
  - Manage logins and permissions.
- Video Input Configuration
  - Select and manage video sources.
- Exploring the Status Page
  - Use the status page for monitoring.
- Advanced Audio and Video Status
  - Check media functionality status.
- Managing Software Updates and Versions
  - Keep software current.

### **Module 7: Network Requirements and Config. For Devices**

- Device Network Requirements
  - Network prerequisites for endpoint connectivity.
- Network Infrastructure for Device Registration
  - Key infrastructure for successful registration.
- Preparing Network Infrastructure
  - Keep software current.
- Network Assessment
  - Assess network readiness for video.
- Switch Configuration for Video Devices
  - Webex Calling Ports and Protocols
- Webex Calling Ports and Protocols
  - Required ports and protocols for calling.
- Diagnosing Switch Issues
  - Troubleshoot switch-level problems.
- WI-FI Troubleshooting
  - Resolve wireless connectivity issues.

### **Module 8: Webex Device Registrations**

- Adding a Personal Collaboration Phone
  - Steps to register a personal device.
- Adding a Personal Collaboration Device
  - Add other personal devices for users.
- Common Area Phone Deployments
  - Set up for shared/public use phones.
- Deploying a Shared Collaboration Device
  - Set up communal devices in workspaces.
- Device Templates and Backups
  - Use templates and backups for provisioning.
- Cisco Device Registration
  - Register devices to the Webex cloud.
- Device Navigation

- Access and manage device menus.
- Cisco Device States
  - Understand device readiness statuses.

### **Module 9: Device and Meeting Features**

- Cisco Workspace Overview
  - Overview of smart workspaces.
- Workspaces Room Peripherals
  - Peripheral devices for rooms.
- Device / Workspace Features
  - Features that enhance collaboration.
- Navigator Features
  - Functions of Cisco Room Navigator.
- Companion Mode
  - Pairing two devices for one meeting.
- Creating Workspaces
  - Define rooms and devices in Control Hub.
- Managing Workspaces
  - Update workspace settings.
- Hotdesking
  - Enable flexible seating with Cisco devices.
- Presenter & Audience
  - Set up intelligent video framing.
- Cinematic Views
  - Automate camera control and framing.
- People Focus
  - Focus camera on each individual.
- Webex Meeting Frames
  - Manage participant layout frames.
- Webex Meeting Cross-View
  - Enable view for both speaker and group.
- Multi-Camera Speaker View
  - Use multiple cameras in a single meeting.
- Meeting Zone
  - Define zones for speaker tracking.
- Speaker Track
  - To-focus on active speaker.
- Multiples Speaker Track Cameras in one Room
  - Combine Speaker Track for large spaces.

### **Module 10: Webex App Overview**

- Download Webex App
  - Get the app from official sources.
- Install and Login to Webex App for Windows
  - Install and sign into the app.
- Test Connectivity and Bandwidth to Webex
  - Check internet speed and app readiness.
- Configuring Webex App Settings
  - Modify app preferences.
- Using Webex Calling
  - Make and receive calls.
- Webex Calling Voicemail
  - Manage voicemail via Webex.
- Using Webex Messaging

- Send messages and create spaces.
- Space Sections
  - Organize messages by topic.
- Webex App Spaces
  - Collaborative messaging environments.
- Team Spaces
  - Group-oriented messaging and calls.
- Webex Meetings
  - Schedule and host video meetings.
- Joining a Meeting
  - Steps to join scheduled sessions.
- Schedule a Meeting
  - Create new meeting invites.
- Webex In-Meetings Features
  - Use meeting tools like chat and share.
- AI Features
  - Leverage AI for notes and summaries.

### **Module 11: Webex User Hub**

- Webex User Hub Overview
  - Centralized settings and access control.
- Settings
  - Modify user preferences.
- Calendar
  - View scheduled events and meetings.
- Webinar
  - Manage webinar setup and participation.
- Recordings
  - Access recorded sessions.

### **Module 12: Microsoft Integrations / Microsoft Teams Rooms / Google Meeting / Zoom**

- Cisco Devices Microsoft Integration Overview
  - Integrate Webex with Microsoft services.
- Video Integration with Microsoft Teams (VIMT)Configuring Cisco Devices for Integration
  - Configure Teams meetings on Webex.
- Direct Guest Join (WebRTC)
  - Join meetings without native registration.
- Cisco Devices for Microsoft Teams Rooms
  - Deploy Cisco devices with MTR mode.
- MTR Supported Features
  - Review MTR feature compatibility.
- Microsoft 365 Admin Center Provision
  - Provision via Microsoft Admin Center.
- Microsoft Teams Room Onboarding
  - Steps to register Teams Rooms.
- Microsoft Entra and Intune
  - Enable device management and access control.
- Joining a Zoom Meeting
  - Join Zoom from Cisco devices.
- Joining a Google Meeting
  - Join Google Meet from Cisco devices.

## **Module 13: Webex APIs, Integrations, and Macros**

- Device Automation Overview
  - Automate device interactions.
- Device APIs
  - Use APIs for device control.
- Device Integrations
  - Third-party system integration.
- Device Programmability Overview
  - Programming options for customization.
- Device Macros and UI Extension
  - Add macros to automate responses.
- User Interface (UI) Extension
  - Customize device UI elements.
- MTR Programmability and Device xAPI
  - Control MTR with APIs.
- Device Macro and Configuration Deployment Options
  - Distribute macros to devices.
- Device Macro and UI Extension Control Hub Configuration
  - Manage macros through Control Hub.
- Device Backups
  - Save and restore configuration.
- CE-Deploy
  - Bulk deploy device settings.
- WebView Web-Sockets
  - Enable advanced web integrations.
- Kiosk Web Apps
  - Turn Cisco device into kiosks.

## **Module 14: Cisco Spaces**

- Cisco Spaces Overview
  - Workspace insights platform.
- Cisco Spaces Architecture
  - Data-driven workspace configuration.
- Cisco Spaces Control Hub Activation
  - Activate via Control Hub.
- Cisco Spaces Initial Configuration
  - Basic settings to get started.
- Control Hub Configuration
  - Detailed platform setup.
- Enable CH Workspace for Smart Workspaces
  - Activate Smart Workspaces feature.
- Enable Cisco Spaces on the Navigator
  - Allow Navigator access to Spaces.
- Add Rich Maps to Cisco Spaces
  - Enhance layouts with maps.
- Spaces Manager
  - Central admin for space usage.
- Cisco Spaces - Digital Signage
  - Deliver signage using Spaces.
- Digital Signage Views on the Device
  - Set visual display profiles.

## **Module 15: Cisco Digital Signage**

- Cisco Digital Signage
  - Use Cisco Webex to show digital content.
- Digital Signage Configuration using Cisco Webex Control Hub
  - Steps to configure signage.
- Appspace
  - Integration with signage content platform.

## **Module 16: Device Troubleshooting**

- Troubleshooting Methodology
  - Steps for systematic troubleshooting.
- OSI Model Troubleshooting
  - Troubleshoot based on OSI layers.
- Understanding SIP Protocol
  - Basics of SIP for call flow analysis.
- Network Switch Issues
  - Identify and resolve switch-level problems.
- Troubleshooting Device Registration
  - Address failed device registrations.
- Troubleshooting Media Quality
  - Resolve media stream quality issues.
- Utilizing TAC
  - Open and manage Cisco TAC cases.
- Traffic Flow Examples
  - Understand media paths via examples.
- Thousand Eyes
  - Use cloud visibility for diagnostics.

## **Module 17: Webex IP Phone Basics**

- IP-Phone Setup Overview
  - Basic configuration of Cisco IP phones.

## **LAB OUTLINE**

- Lab 1: Establishing Your Lab Connection
- Lab 2: Getting Started with Workstation 1
- Lab 3: Laying the Foundation with Network Prerequisites
- Lab 4: Webex Control Hub Configurations
- Lab 5: Hybrid Calendar and VIMT – Setup
- Lab 6: Designing & Optimizing Collaborative Workspaces
- Lab 7: Seamlessly Registering Cisco Devices
- Lab 8: Cloud Device Configuration Management
- Lab 9: Taking Control with Local Device Settings
- Lab 10: Elevating Meetings with Cinematic Features
- Lab 11: Managing Physical Device Controls
- Lab 12: Using the Webex User Hub
- Lab 13: Automating with Macros, APIs, and Integrations

- Lab 14: Deploying Digital Signage
- Lab 15: Webex App Client Features (Optional)
- Lab 16: Cisco Smart Workspaces Lab Overview
- Lab 17: Cisco Device Thousand Eyes Integration
- Lab 18: Cisco Spaces PART 2