



Webex Macros, APIs and Programmability for Webex Devices, Control Hub and Meetings (WBXMAP)

This 5-day class is meant for Administrators and Engineers that are starting their Journey Towards Programmability for Webex and Devices. It covers the Basics of REST, JSON, Python, Postman, JavaScript, Bots, Integrations, UI Extensions, Macros, and Digital Signage. Student will use Postman, Ansible and other programs to be able to gather statistics, monitor, and configure the Webex Portal and Webex Devices. Students will setup Macros to be able to Control Lighting systems and Room Controls. Students will create Python Scripts to Create and Modify Webex Meetings.

How you'll benefit

This class will help you:

- This class will help Students bridge the gap between CLI/GUI and API
- Students will get introduced to API Technologies and will start them on their Journey to API Engineering

Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The primary audience for this course is as follows:

- Network Administrator
- Meeting Administrators
- Webex Administrators
- Collaboration Administrators
- Network Engineer
- Voice / UC / Collaboration / Communications Engineers
- Collaboration Sales / Systems Engineers

Course Duration
5 days
Course Price
\$4,795.00 or 48 CLCs
Methods of Delivery
• Instructor Led
• Virtual ILT
• On-Site

Course Objectives

Upon completing this course, the student will be able to meet these objectives:

- Student will learn the Technologies used in Webex APIs
- Student will learn the where to find and use Webex API Documentation
- Student will learn to use Programming Technologies with Webex
- Student will learn the fundamentals of Bots, Integrations, Widgets, and WebApps
- Student will learn how API Tokens are authenticated in Webex
- Student will learn the fundamentals of Python and JavaScript
- Student will learn the fundamentals of API Integrations with other Apps
- Student will learn the fundamentals of Device Macros
- Student will learn the Schedule, Manage, Integrate Webex Meetings

Course Outline

Module 0: Introduction

- Introduction
- Lesson 1: Introductions
 - Topic List
 - Learner Skills and Knowledge
 - Course Goals
 - WebEx Basics
 - General Administration
 - Introductions
- Lesson 2: SIP Trunking
 - SIP Trunking Overcomes TDM Barriers
 - Why does an enterprise need an SBC?
 - Primary CUBE Differentiators (1)
- Module Summary

Module 1: Overview of Cisco Cloud Registered Endpoints

- Module Topics
- Lesson 1: End Point Review
 - Room Insights
 - Room Lighting
 - Audio Conditions in a room
 - Room Environments
 - Room Meetings
 - Density Notification
 - Digital Signage
 - Touchless Device Access
 - Voice Assistant
 - Configuring Macros for Touch10 shortcuts/buttons

- Module Summary

Module 2: Configure WebEx Control Hub and Registering Endpoints

- Module Topics
- Lesson 1: Cisco WebEx Control Hub
 - Managing User and assigned Features
 - Configuring Cisco Expressway Integration
 - Checking the WebEx Health
 - Integrating Cisco Unified Communications Manager (UCM) With WebEx
 - Register Telepresence Endpoints with the WebEx Cloud
 - Using Analytics for reporting on Meetings
 - Deep dive into license requirement and configuration
- Module Summary

Module 3: API Basics

- Module Topics
- Lesson 1: Coding and APIs
 - API Documentation
 - Rest APIs
 - Python
 - Parsing JSON with Python
 - Curl
 - Java Script
 - xAPI
 - Macros
 - NodeJS
 - Bots
 - Integrations
 - Admin APIs
 - Webhooks
 - SDKs
 - Oauth
 - Postman
 - Ansible
- Module Summary

Module 4: Digital Signage

- Module Topics
- Lesson 1: Set Up Digital Signage Directly from Cisco Webex Control Hub
 - Set Up Digital Signage from the Web Portal
 - Configure Digital Signage on Webex Share
 - Endpoint integration with third party Digital Signage.
 - Digital Signage Directly from Cisco Webex Control Hub
 - Digital Signage from the Web Portal
 - Looking point
 - App Space

- Samsung Smart Signage
- Module Summary

Module 5: Configuring Macros & Touchpads, Touch-10 / Room Navigator Custom Dial Buttons and Events

- Module Topics
- Lesson 1: CE Room OS / Webex Board Programmability
 - Room Device Macros
 - Macro for Lighting
 - Macro for Measuring Humidity and Temperature
 - Macro to join Zoom
 - Macro for Room Cleaning and Usage
 - Creating UI Extensions
 - Deploying UI Extensions
 - Deploying Macros
 - Macro Runtime
 - Tuning the Macro Runtime
 - Embedded macros...
 - Standalone Applications
 - 'jsxapi': the Node.js module for xAPI
 - Error Handling
 - Code DSebugging
- Lesson 2: Creating Macros and standalone Applications
 - The xAPI
 - Creating a Local User
 - Panels & Widgets
 - Web Engine
 - Integrations types
 - Lighting
 - Control Systems
 - IOT Devices
 - GPIO Pherifpheral
 - Macros & JSXAPI
 - Macros
 - Code Style
 - API to Javascript
 - Node.js
 - Web Browser
 - Terminal / SSH
 - Web socket
 - Webex API (cloud)
 - HTTP(S)
 - RS232
 - User roles
- Module Summary

Module 6: Webex Meetings APIs

- Module Topics
- Lesson 1: Automating Meetings with the XML API
 - Useful XML APIs
 - Create a Meeting API
 - Edit a Meeting API
 - Delete a Meeting API
 - List Scheduled Meetings API
 - Webex Meetings
 - Integration
 - API Key Registration
 - XML API
 - XML API Services
 - XML API Reference Guide
 - Code Samples & Test Tool
 - Release Notes
 - URL API
 - Troubleshooting
 - Common Error Messages
 - New User and Login URL
 - Site Admin Changes on API
 - What's the Cause
 - URL API Reference Guide
 - Release Notes
 - Single-Sign On (SSO)
 - Reference
 - NBR Web Services API
 - API Functions
 - API Responses
 - Roles and Permissions
 - WSDL Listings
 - Monitoring Endpoints
 - Troubleshooting Endpoint Registration
- Module Summary

Module 7: Webex Bots, Cards, and Integrations

- Module Topics
- Lesson 1: Webex Bots
- Lesson 2: Webex Buttons and Cards
- Lesson 3: Integrations
- Lesson 4: Webex Widgets
- Module Summary

Module 8: Postman

- Module Topics
- Lesson 1: Postman Overview
- Lesson 2: Webex Collections
- Lesson 3: Testing Webex APIs with Postman
- Module Summary

Module 9: Webex Customization, UI Extensions and, Macros for Devices

- Module Topics
- Lesson 1: RoomOS Programmability Overview
 - Webex Devices Programmability at a Glance
 - Cisco Collaboration Devices Programmability
 - API Reference Guide for Webex / Telepresence Devices (1)
 - In-Room Control Architecture
 - Awesome xAPI Sample Code Site
 - Devnet Room Device Sample Code Site
 - CE Programmability (xAPI)
 - External Program Versus CE Macro Framework
 - UI Extensions
 - Macros
 - Deployment Strategies
- Lesson 2: RoomOS Website for Device Customization
 - RoomOS Programmability Website
 - RoomOS Programmability – Connect to your Device
 - RoomOS Programmability – Guides
 - RoomOS Programmability – xAPI Sandbox / Documentation
 - RoomOS Programmability – xAPI Java Sript
 - RoomOS Programmability – Webex Registered Device REST Code
 - RoomOS Programmability – OnPrem Registered Device CLI Code (1)
 - RoomOS Programmability – Examples
 - RoomOS Programmability – Set Wallpaper on Devices
- Lesson 3: RoomOS Connectivity / User Overview
 - Integrations Types for RoomOS Devices
 - Connecting to RoomOS Devices using SSH CLI
 - Connecting to RoomOS Devices using WebSockets
 - Connecting to RoomOS Devices using Webex API
 - Connecting to RoomOS Devices using Macros
 - Connecting to RoomOS Devices with RS-232 Serial
 - Connecting to RoomOS Devices using HTTPS
 - RoomOS Device User Roles
 - Webex Room Integrations
- Lesson 4: Device Configuration
 - On-Prem Registered Devices
 - Webex Cloud Registered Device Access
 - Configuration via Devices Web Interface
 - Configuration Settings via Webex Control Hub
 - Admin Control Hub – Configuration Templates
 - Admin Control Hub – Configuration Templates – Information

- Admin Control Hub – Configuration Templates – Configuration
- Admin Control Hub – Configuration Templates – Review
- Admin Control Hub – Configuration Templates - Summary
- Admin Control Hub – Apply Templates to Devices (1)
- Configuring Device using CLI xAPI
- Lesson 5: Personalization – Branding
 - Set Wallpaper using the RoomOS site
 - Device Personalization
 - Device Personalization – Branding (1)
 - Device Personalization – Custom Brand Background
 - Device Personalization – Brand Logo (halfwake)
 - Device Personalization – Brand Logo (awake)
 - Device Personalization – Custom Text
 - Device Personalization – Custom Wallpaper
 - Device Personalization – Ringtones
 - Device Personalization – Contacts
- Lesson 6: UI Extensions
 - Offline UI Extension Editor
 - UI Extensions
 - UI Extension Main Page
 - Add a UI Extension
 - UI Extension Widgets and Panels
 - UI Extension Event model
 - UI Extension Widgets
 - UI Extension Widget IDs
 - UI Extension Events and Commands
 - UI Extension Push Buttons
 - UI Extension Button events
 - UI Extension Button Commands
 - UI Extension Switches
 - UI Extension Switch Events
 - UI Extension Switch Commands
 - UI Extension Sliders
 - UI Extension - Slider Events
 - UI Extension Slider Commands
 - UI Extension Group Buttons (1)
 - UI Extension - Group Button Events
 - UI Extension Group Button Commands
 - UI Extension Icon Buttons
 - UI Extension Spinners
 - UI Extension - Spinner Events
 - UI Extension - Spinner Commands
 - UI Extension Directional Pad
 - UI Extension Directional Pad Events
 - UI Extension Directional Pad Commands
 - UI Extension Text
 - UI Extension Text Commands
 - UI Extension Spacers
 - Automated Deployment of UI Extensions
 - Deploying UI Extensions - xAPI over HTTP
 - Deploying UI Extensions – CLI using xAPI Rest Call

- Lesson 7: Device Macros
 - Room Device Macros
 - CE Macro Framework
 - Macro Editor
 - Enable Macros using Web Interface
 - Apply Macros from Control Hub
 - Webex Control Hub Manage Macros (1)
 - Getting Started with the Macro Editor (1)
 - Device Macros (1)
 - The xAPI Library Object
 - Invoke a Command
 - Error Handling
 - Multiple Arguments
 - Events
 - Stopping the Feedback Listener
 - Status Feedback
 - Status Request
 - Chaining your Promises
 - Configurations
 - Working with Objects
 - Working with lists
 - Timers
 - Scheduling (1)
 - Macro Runtime Process is Regularly Measured
 - User Interface Elements – Alerts
 - User Interface Elements – Notification
 - User Interface Elements – Prompt
 - User Interface Elements - Text input
 - User Interface Elements - In-Room Control
 - Macro Example – Remote Monitoring Alert
 - Macro Example – Remote Monitoring Manifest.json File
 - Macro Example – Remote Monitoring Java Script (1)
 - Macro Example – Dual-Screen Presentation (1)
 - Audio Console Versus Web Interface / API
 - Deploying to Webex Devices
 - Automated Deployment of Macros
 - CE Macro Room Control Deployment Tool (CEDeploy)
 - CE-Deploy Uses
 - CE Deploy
- Lesson 8: Device API Commands
 - RoomOS – xAPI Guides – xCommand
 - RoomOS – xAPI Guides – xConfiguration
 - RoomOS – xAPI Guides – xStatus
 - RoomOS – xAPI Guides – xEvent
 - xConfiguration
 - xCommand
 - xStatus
 - xFeedback
 - xPreferences
 - Echo <on/off>
 - xEvent

- xGetxml
- Systemtools
- Log
- Module Summary

Module 10: Webex Digital Signage

- Module Topics
- Lesson 1: Webex Digital Signage
 - Digital Signage Example
 - Digital Signage
 - Digital Signage Use Cases
 - Using the Web Engine
 - Digital Signage and Web App
- Lesson 2: Digital Signage Configuration using Cisco Webex Control Hub
 - Control Hub Digital Signage Initial Configuration Settings
 - Control Hub Digital Signage Web Engine Configuration
 - Control Hub Digital Signage from the Device Web Portal
 - Control Hub Digital Signage Standby Configurations
 - Configure Digital Signage from Webex Control Hub (1)
 - Digital Signage Using a URL
 - Control Hub Digital Signage Using a APPSPACE (1)
- Lesson 3: Digital Signage Configuration using Local Web Administration Portal
 - Digital Signage Web Engine Configuration
 - Digital Signage from the Device Web Portal
 - Digital Signage Standby Configurations
- Lesson 4: APPSPACE
 - APPSPACE – Step-by-Step in Webex Control Hub
 - APPSPACE – Digital Signage
 - APPSPACE – Create Channel
 - APPSPACE – Add Content (1)
 - APPSPACE – Add Content – Stream
 - APPSPACE – Publish Channel and Register Device
 - APPSPACE – Device Registration
 - APPSPACE – Digital Signage Examples
 - APPSPACE – Back to the Office Example
 - APPSPACE – Book a Room Example
 - APPSPACE – Guest Check In Example
 - APPSPACE – Guest WiFi Example
- Module Summary

Module 11: Driving Webex Meetings with APIs.

- Module Topics
- Lesson 1: Webex Meeting APIs
- Lesson 2: Controlling Meeting using APIs
- Lesson 3: Scheduling Meetings with APIs
- Module Summary

LAB OUTLINE

Lab 1: Initial Cisco Webex Control Hub Organization Configuration

Lab 2: Webex Developer Documentation

Lab 3: Cisco Devnet Site

Lab 4: Cisco RoomOS Developer Site

Lab 5: Explore xAPI Reference Guide

Lab 6: Python Fundamentals

Lab 7: JavaScript Fundamentals

Lab 8: Oauth Workflow

Lab 9: Configure a Webex Integration

Lab 10: Building a Webex Weather Bot

Lab 11: Manage Users and Meetings

Lab 12: xAPI for Cisco collaboration devices

Lab 13: Macros for RoomOS Devices

Lab 14: Using Macros to Control Lighting