

# Communications Manager Administration (Call Manager) (CMAv12.5)

## DESCRIPTION

Communications Manager Administration for Version 12.5 (CMA v12.5) is an instructor-led course presented to system administrators and customers involved with the day-to-day operation of the Cisco Unified Communications Manager product.

This course introduces you to the CUCM system, the necessary procedures for administering IP Phones and Users, understanding the Dial Plan and implementing Features.

In addition to instructor-led lectures and discussions, you will configure CUCM and Cisco IP Phones in the lab, either in a live classroom or WebEx remote classroom environment.

While the Cisco Unified Communications Manager software used in the class is version 12.5.1, the course material applies to versions 8.x, 9.x, 10.x, 11.x, or 12.x. The concepts and the lab tasks are the same for most of the Cisco Unified Communications Manager software versions.

Note: The courseware (e-kit) for this course is being provided in a digital format. The course content is accessed using a standard web browser. You must have an active internet connection. The courseware can also be saved to your local device using a Cisco provided eReader application.

**The lab guide for CMA 12.5 is provided to the student as a pdf.**

## WHO SHOULD ATTEND

The primary audience for this course is as follows:

1. Customers configuring and maintaining CUCM 8.x, 9.x, 10.x, 11.0, or 12.x.
2. PBX System Administrators transitioning to CUCM administration
3. IP networking professionals taking on responsibility for CUCM administration
4. Workers being cross-trained for CUCM administration coverage

The secondary audience for this course is as follows:

1. Cisco Unified Communications system channel partners and resellers

## PREREQUISITES

Communications Manager Administration 12.5 does not have prerequisites. However, the following knowledge and skills allow the student to gain the most from the course:

1. An understanding of traditional digital PBX systems
2. An understanding of basic telephony concepts
3. Business-level competence using the Windows operating system
4. Business-level competence using different Internet browsers
5. The ability to understand, read and speak English in a business and technical context (the CMA v12.5 course is available only in English at this time)

## COURSE OBJECTIVES

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

1. Demonstrate an overall understanding of the Cisco Unified Communications Manager (CUCM) 12.x (or earlier version) system and its environment
2. Configure CUCM to support IP Phones in multiple locations
3. Configure CUCM to route calls to internal and PSTN destinations
4. Configure User accounts and multi-level administration
5. Understand User Web Page functionality
6. Configure user features, including Hunt Groups, Call Pickup, and Call Park.
7. Understand the capabilities of and demonstrate the Bulk Administration Tool
8. Understand the SMART Licensing model for Cisco Unified Communications
9. Understand and demonstrate the use of the Unified Reporting tool
10. Understand and demonstrate the use of the Dialed Number Analyzer

## COURSE OUTLINE

### **CUCM System Basics** Introduction to IP Telephony

- Traditional Voice vs. IP Telephony
- Clustering Overview
- Intra-Cluster Communications
- CUCM Redundancy Options
- Deployment Models
  - Campus (Single Site) Deployment
  - Centralized Call Processing Deployment
  - Distributed Call Processing Deployment
  - Clustering over the IP WAN Call Processing Deployment
  - Hybrid Call Processing Deployment

### **Basics of CUCM Configuration** Administrative Interfaces

- Administration and Serviceability
- Unified Reporting and the Enterprise License Manager
- Disaster Recovery System and Unified OS Administration
- Navigation Bar
- Command Line Interface
- Server Redundancy: CM Groups
- CM Group Configuration
- Date/Time Group
- Regions and Codecs
- Locations
- Device Pool Configuration
- Service Parameters Configuration
- Enterprise Parameters Configuration

## **Supporting Phones and Users**

### **Configuring CUCM to Support Phones**

- Cisco Unified IP Phone Model Ranges
- Specialized Cisco IP 89xx and 99xx phones
- Cisco Jabber Client
- Phone Button Templates
- Softkey Template
- Cisco IP Phone Registration
- Device Defaults

### **Phone Configuration**

- Manual Phone Configuration
- Auto-Registration
- Self-Provisioning
- Using the Bulk Administration Tool (BAT)
- Deploying new phones and users
- Overview of the Auto-Register Phone Tool

### **Configuring CUCM to Support Users**

- Understanding CUCM Users
- Manual User Creation
- User Import with BAT
- Importing Users with LDAP Sync
- LDAP Authentication
- Understanding User Administration
- Configuring User Administration
- Working with Access Control Groups
- Assigning End Users to Access Control Groups
- User Web Pages

### **Understanding the Dial Plan**

- Dial Plan Overview
- Introduction to the Dial Plan
- Understanding Dial Plan Components
- Route Lists, Route Groups and Devices
- Call Routing
- Understanding Digit Analysis

### **Basics of Dial Plan Configuration**

- Basics of the Dial Plan
- Dial Plan Configuration
- Translation Patterns
- Route Plan Report

## Advanced Dial Plan Configuration

- Understanding Digit Manipulation
- External Phone Number Masks
- Transformation Masks
- Discard Digits Instructions: PreDot

## Class of Control

- Overview of Class of Control
- Partitions and Calling Search Space
- Traditional vs. Line/Device Approach
- Configuring Partitions and CSSs
- Time of Day Routing
- PLAR Application
- Forced Authorization Codes

## CUCM Features

- Media Resources
  - Overview of Media Resources
  - Conference Bridge
  - Music on Hold
  - Transcoder
  - Annunciator
- Overview of Media Resource Management
  - Configuring Media Resources

## User Features

- Configuring Call Coverage in Cisco Unified Communications Manager
  - Call Coverage in Cisco Unified Communications Manager
  - Hunt Group Overview
  - Hunt Group Configuration
  - Final Forwarding
  - Shared Lines
  - Call Pickup
  - Directed and Group Call Pickup
  - Call Park

## LAB OUTLINE

Lab 2-1: Configuring the System to Support Cisco IP Phones

Lab 2-2: Creating and Associating Users

Lab 3-1: Configuring Basic Dial Plan Elements

Lab 3-2: Configuring Complex Dial Plan Elements

Lab 3-3: Implementing Class of Control

Lab 4-1: Configuring Media Resources

Lab 4-2: Configuring Hunt Groups and Call Coverage Lab

Lab 4-3: Configuring Call Pickup and Call Park