

Understanding Cisco Collaboration Foundations

Duration: 5 Days Course Code: CLFNDU Version: 2.0

Overview:

The Understanding Cisco Collaboration Foundations (CLFNDU) course gives you the skills and knowledge needed to administer and support a simple, single-site Cisco® Unified Communications Manager (UCM) solution with Session Initiation Protocol (SIP) gateway. The course covers initial parameters, management of devices including phones and video endpoints, management of users, and management of media resources, as well as Cisco Unified Communications solutions maintenance and troubleshooting tools. In addition, you will learn the basics of SIP dial plans including connectivity to Public Switched Telephone Network (PSTN) services, and how to use class-of-service capabilities.

This course does not lead directly to a certification exam, but it does cover foundational knowledge that can help you prepare for the professional-level collaboration courses and exams:

This course is worth 21 Continuing Education (CE) Credits

Target Audience:

This course is designed for individuals looking to administer and support a simple single-site Cisco Unified Communications solution.

Objectives:

- **After completing this course, you should be able to:**
- Describe benefits of using Cisco collaboration solution, collaboration deployment models, and components of collaboration solution in on-premises, cloud, and hybrid deployments
- Explore different codecs used in voice and video calls and explain how SIP signaling is used to set up and teardown calls
- Identify Cisco Unified Communications Manager User Types and use Active Directory to manage Users in Cisco Unified Communications Manager
- Identify the appropriate Cisco Unified IP Phone software solution for registration, recognize different Cisco Unified IP Phone models and their supported software, and identify various models of Webex video endpoints
- Provide an understanding of Cisco Unified Communications Manager, including its deployment models, cluster architecture, network requirements, collaboration services, administration tools, and redundancy strategies to design, implement, and maintain robust collaboration networks
- Examine the lifecycle of Cisco collaboration endpoints
- Understand the dial plans and call routing in Cisco Unified Communications Manager including the key components, digit manipulation techniques, translation patterns, and practical skills to create and configure a basic dial plan
- Configure a class of service elements in the Cisco Unified Communications Manager
- Provide an overview of the reporting and maintenance tools available for managing and monitoring Cisco Unified Communications systems
- Analyze Cisco Unity Connection components, architecture, and call handlers, focusing on the system's deployment, configuration, and user management to optimize communication workflows and enhance user experience
- Describe the Cisco Edge Services Components
- Analyze the architecture and configuration of Cisco Expressway Zones, as well as the role of Search Rules, security certificates, and encryption strategies to enable efficient and secure voice, video, and collaboration services between internal and external networks
- Analyze the architecture and configuration of Cisco Unified Border Element, including its key features for signaling and media interworking, security demarcation, toll-fraud prevention, and call admission control to enable secure, cost-effective voice and video connectivity across disparate VoIP networks
- Describe how to access the Control Hub and navigate the menus to setup a Webex collaboration solution
- Introduce User administration in Control Hub
- Explore the registration process to Control Hub
- Examine Webex Calling options using the Control Hub
- Explore admin-configurable features and user configurable features in Webex calling
- Describe Reporting and Maintenance
- Provide a technical understanding of Cisco Webex cloud and hybrid media resources, including voicemail management, Edge Audio, and Video Mesh
- Describe Cisco Webex Hybrid Cloud Connected Unified Communications

- Analyze media resources within Cisco Unified Communications systems, including conferencing solutions, transcoders, media termination points, and music on hold, to optimize their configuration and usage
- Describe the differences between a rendezvous, Meet-Me and ad hoc conference, describe how to create a SIP Trunk for Cisco Meeting Server in Cisco Unified Communications Manager, and how to set up media resources to support ad hoc and Meet-Me conferences
- Analyze the deployment, integration, and use cases of Cisco Instant Messaging and Presence Service alongside Cisco Unified Communications Manager to optimize communication through scalable, redundant, and secure solutions
- Evaluate the features, deployment options, and integration of Cisco Jabber with Cisco Unified Communications Manager to optimize communication workflows, enhance team collaboration, and provide a smooth transition to modern communication solutions
- Describe Webex Hybrid Services

Prerequisites:

Attendees should meet the following prerequisites:

- Knowledge of Cisco Internetwork Operating System (Cisco IOS®) command line
- CCNA - Implementing and Administering Cisco Solutions

Testing and Certification

Recommended as preparation for the following exams:

- There are no exams currently aligned to this course

Follow-on-Courses:

- CLCOR - Implementing and Operating Cisco Collaboration Core Technologies
- CLACCM - Implementing Cisco Advanced Call Control and Mobility Services
- CLICA - Implementing Cisco Collaboration Applications
- CLCEI - Implementing Cisco Collaboration Cloud and Edge Solutions

Content:

Collaboration Technology and Benefits

- Collaboration Benefits
- On-Premises, Cloud and Hybrid Deployments
- Cisco Collaboration Call Controllers
- Cisco Collaboration On-Premises Edge Solutions
- Cisco Collaboration On-Premises Applications
- Cisco Collaboration Media Resources
- Cisco Cloud Services

Codecs and Call Signalling

- Codecs Definition
- Audio Codecs Comparison
- Video Codecs Comparison
- SIP Registration Process
- Call Setup and Teardown Process
- Media Streams at the Application Layer

User Management in Cisco Unified Communications Manager

- Cisco Unified Communications Manager User Types and Settings Analysis
- Authentication Methods for Cisco Unified Communications Manager Users

Endpoints and Phones

- Cisco Unified IP Phone Software
- Cisco Unified IP Phone Solutions
- Webex Video Endpoint Solutions

Initial Administration Parameters for Cisco Unified Communications Manager

- On-Premise Collaboration Deployment Models
- Cisco Unified Communications Manager Cluster Services
- Network Requirements for Collaboration
- Network Services for Collaboration
- Cisco Unified Communications Manager
- Cisco Unified Communications Manager Groups

Registration Process to Cisco Unified Communications Manager

- Power over Ethernet
- Bootup Process of an Endpoint
- IP Network Settings

Basic Dial Plan

- Dial Plan and Call Routing Concepts
- Call Routing Elements
- Digit Manipulation and Translation Patterns

Class of Control

Media Resources

- Conferencing
- Transcoders and Media Termination Points
- Music on Hold (MOH)

Cisco Meeting Server Integration with Cisco Unified Communications Manager

- Cisco Meeting Server SIP Integration with Cisco Unified Communications Manager
- Cisco Meeting Server as a Cisco Unified Communications Manager Conference Resource

Cisco Instant Messaging and Presence Service

- Cisco Instant Messaging and Presence Features and Architecture
- XMPP and SIMPLE for Cisco Instant Messaging and Presence
- Cisco Unified Communications Manager and Cisco Instant Messaging and Presence Clustering
- Cisco Instant Messaging and Presence Components and Communication Flows

Soft Client Registration to Cisco Unified Communications Manager

- Configure a Cisco Jabber Endpoint in Cisco Unified Communications Manager

Cisco Unity Connection

- Describe Cisco Voice Messaging Components
- Explore Cisco Unity Connection Architecture and Features
- Explore the Default System Call Handlers
- Describe End User Templates

Edge Services

- Define Edge Services
- Define NAT and Firewall Traversal
- Describe Cisco Expressway Series
- Describe Cisco Unified Border Element

Cisco Expressway Series

- Zones and Search Rules
- Business -to-Business Collaboration Solution

Cisco Unified Border Element

- Describe Cisco Unified Border Element Architecture
- Describe SIP/H.323 Trunking
- Describe Cisco Unified Border Element

User Management in Control Hub

- Add Users Manually
- Add Users with a CSV File
- Claim Existing Users
- Import Users Through Directory Management

Registration Process to Control Hub

- Add the Unified IP Phone to the Control Hub
- Add Cisco Endpoints to Control Hub
- Utilize Bulk Registration

Webex Calling Options

- Cloud Connected Public Switched Telephone Network
- Locations in Control Hub
- Deployment Scenarios for Local Gateway Instance

Webex Calling Features

- Admin-Configurable Webex Calling Features
- User-Configurable Webex Calling Features

Cloud Management and Troubleshooting

- Analytics Features in Control Hub
- Troubleshooting Features in Control Hub
- Reports Features in Control Hub

Cloud and Hybrid Media Resources

- Voice Mail in Webex Control Hub
- Edge Audio for Cloud Conferencing
- Video Mesh for Hybrid Conferencing

Cisco Webex Hybrid Cloud Connected Unified Communications

- Cloud-Connected Unified Communications Features
- Cloud-Connected Unified Communications Features
- Updates and Migrations

Cisco Webex Hybrid Services

- Hybrid Calendar Service
- Hybrid Message Service
- Hybrid and Serviceability Service
- Hybrid Data Security

Labs

- Discovery Lab 1: Create a Local User Account and Configure LDAP
- Discovery Lab 2: Configure Cisco Unified Communications Manager Initial Parameters

- Class of Control Concepts
- Cisco Products: Cisco Unified Communications Manager Partitions and CSS

Reporting and Maintenance

- Troubleshooting Process
- Reporting and Maintenance Tools
- Cisco Real-Time Monitoring Tool

Dial Plan Elements

Control Hub

- Webex Architecture Components
- How to Verify and Claim a Domain
- Users, Workspace and Locations

- Discovery Lab 3: Configure Cisco Unified Communications Manager Core System Settings
- Discovery Lab 4: Deploy an IP Phone Through Manual Registration
- Discovery Lab 5: Create a Basic Dial Plan
- Discovery Lab 6: Explore Partitions and Call Search Spaces (CSSs)
- Discovery Lab 7: Use Reporting and Maintenance Tools
- Discovery Lab 8: Register Cisco Meeting Server to Cisco Unified Communications Manager
- Discovery Lab 9: Register Cisco Jabber Client to Cisco Unified Communications Manager
- Discovery Lab 10: Configure the Integration Between Cisco Unity Connection and Cisco Unified Communications Manager
- Discovery Lab 11: Manage Unity Connection Users
- Discovery Lab 12: Explore the Configuration of Traversal Zones in Cisco Expressway
- Discovery Lab 13: Explore the Cisco Unified Border Element Interoperability between VoIP Networks:
- Discovery Lab 14: Explore the Configuration of Webex Control Hub
- Discovery Lab 15: Add Users to Webex Control Hub
- Discovery Lab 16: Configure Webex Calling Using Cisco Calling Plans
- Discovery Lab 17: Configure Webex Calling Features in Control Hub:

Further Information:

For More information, or to book your course, please call us on Head Office Tel.: +974 40316639

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