

## **Troubleshooting Cisco IP Telephony and Video - On Demand (CTCOLLAB 1.0)**

**Modality: Self-Paced Learning**

**Duration: 40 Hours**

**SATV Value:**

**CLC:**

**NATU:**

**SUBSCRIPTION: No**

### **About the course:**

Increase your knowledge of the technologies of Cisco and products with e-learning offerings from Cisco and Cisco's approved learning collaborators. Courses of E-learning targets around a range of Cisco innovations to set you up for the certification exams of Cisco, and to pick up Cisco product information. The e-learning offerings are created to be engaging and interactive for students who favor self-study.

Some Cisco Self-paced courses give access to the exercises of the hands-on virtual lab, providing you the chance to run through troubleshooting and configuration on real platforms of Cisco.

### **Course Objective:**

- Introduction to Troubleshooting Cisco Collaboration Solutions.
- Introduction to Cisco VCS Expressway and VCS Control Troubleshooting.
- Introduction to GDPR and ILS Issues.
- Introduction to Cisco Telepresence Management Suite Issues.

### **Targeted Audience:**

- Network administrators
- Network engineers
- CCNP Collaboration candidates

### **Secondary Targeted Audiences:**

Systems engineers

### **Course Outline:**

**Module 1: Introduction to Troubleshooting Cisco Collaboration Systems Solutions**

**Lesson 1: Identifying Cisco Collaboration Deployments**

- Overview of Cisco Collaboration Systems Solution Components
- Network Infrastructure
- Call Control Systems in Cisco Collaboration Systems Solutions
- Endpoints in Cisco Collaboration Systems Solutions
- Media Resources in Cisco Collaboration Systems Solutions
- Applications in Cisco Collaboration Systems Solutions

## **Lesson 2: Using Troubleshooting Methodology**

- Analyze the Troubleshooting Process
- Troubleshooting Methodology in Complex Environments
- Define the Problem
- Gather Facts
- Consider Possibilities
- Create an Action Plan
- Implement an Action Plan
- Observe Results
- Restart the Problem-Solving Process
- Document Facts

## **Lesson 3: Using Troubleshooting and Monitoring Tools**

- Overview of Troubleshooting and Monitoring Tools
- Cisco Unified Serviceability
- Cisco Unified Communications Manager Traces
- Trace Output Example
- Session Trace Log View
- Cisco Unified RTMT Performance Monitor and Data Logging
- Generic Call Filter Module
- Sniffer Traces

## **Module 2: Cisco Unified Communications Manager Troubleshooting**

### **Lesson 1: Troubleshooting Common Gateway and Endpoint Registration Issues**

- IP Phone Initialization
- Common DHCP-Related and TFTP-Related Issues
- Using Ping to Cisco IP Phones
- Verify TFTP Server Configuration
- Cisco Unified IP Phone Status Messages
- Cisco Unified IP Phone Network Configuration
- Cisco IOS MGCP Gateway Communications
- Cisco IOS MGCP Gateway and Endpoint
- Cisco IOS MGCP Gateway Configuration Elements
- Cisco IOS MGCP Gateway Registration
- Cisco IOS MGCP Gateway Registration Issues
- Verify Cisco IOS MGCP Gateway Status
- Cisco IOS MGCP Gateway Monitoring Commands

- Cisco IOS MGCP Gateway Unsuccessful Registration
- Cisco IOS H.323 Gateway and SIP Trunk Communications

## **Lesson 2: Troubleshooting Cisco Unified Communications Manager Availability Issues**

- Cisco Unified Communications Manager Is Not Responding
- Cisco Unified Communications Manager Administration Web Page Is Not Displayed
- Slow Response of Cisco Unified Communications Manager Server

## **Lesson 3: Troubleshooting Database Replication Issues**

- Review of Cisco Unified Communications Manager Database Replication
- Identification of Cisco Unified Communications Manager Database Replication Issues
- Resolving Cisco Unified Communications Manager Database Replication Issues

## **Lesson 4: Troubleshooting LDAP Integration Issues**

- LDAP Integration Options with Cisco Unified Communications Manager
- LDAP Integration Considerations
- Resolving Synchronization Issues
- Resolving LDAP Authentication Issues

## **Module 3: Cisco VCS Troubleshooting**

### **Lesson 1: Troubleshooting Endpoint Registration Issues**

- Overview of Endpoint Registration Issues
- Troubleshooting Endpoints on Cisco VCS
- Troubleshooting Cisco TelePresence Endpoints

### **Lesson 2: Troubleshooting Cisco VCS Control and Cisco VCS Expressway Availability Issues**

- Cisco VCS Is Not Responding
- Cisco VCS Administration Web Page Is Not Displayed
- Slow Response of Cisco VCS Server

### **Lesson 3: Troubleshooting Database Replication Issues**

- Database Replication Review
- Identifying Database Replication Issues
- Fixing Cisco VCS Database Replication Issues

### **Lesson 4: Troubleshooting LDAP Integration Issues**

- Review of LDAP Integration Options
- General LDAP Integration Issues
- Troubleshooting of Device Authentication Issues
- Troubleshooting of Account Authentication Issues

## **Module 4: Call Setup Issues**

### **Lesson 1: Describing Call Setup Issues and Causes**

- Cisco Unified Communications Manager Call Setup Issues
- Cisco VCS Control Call Setup Issues
- Cisco Expressway Series Call Setup Issues
- Call Setup Issues Between Call Control Systems

### **Lesson 2: Troubleshooting On-Net Single-Site Calling Issues**

- Review of Digit Analysis in Cisco Unified Communications Manager
- Review of Partitions and CSSs
- Troubleshoot Call Setup Issues in Cisco Unified Communications Manager
- Troubleshoot One-Way Calling Issues
- Troubleshoot Call-Forwarding Issues
- Review of SIP and H.323 Endpoint Registration in Cisco VCS
- Review of Subzones, Links, Pipes, and Search Rules
- Troubleshoot Call Setup Issues in Cisco VCS
- Troubleshoot Unified Communications Mobile and Remote Access Issues

### **Lesson 3: Troubleshooting On-Net Multisite Calling Issues**

- Multisite Dial Plan Issues
- Cisco Unified Communications Manager Issues
- Cisco Unified Border Element Issues

### **Lesson 4: Troubleshooting Off-Net Calling Issues**

- Common Off-Net Calling Issues
- Troubleshoot MGCP Gateway Issues
- Troubleshoot H.323 Gateway Issues
- Troubleshoot SIP Trunk Issues

## **Module 5: ILS and GDPR Issues**

### **Lesson 1: Troubleshooting ILS and GDPR**

- Review of ILS
- Review of GDPR
- Review of URI Call Routing When Using ILS
- Review of Numbered Call-Routing When Using ILS
- Common ILS-Related Issues and Their Causes
- Troubleshoot ILS-Related Issues

## **Module 6: Cisco Unified Communications Manager Mobility Issues**

### **Lesson 1: Troubleshooting Device Mobility Issues**

- Device Mobility Review
- Call-Routing Implementation Options
- Common Device Mobility-Related Issues and Their Causes
- Troubleshoot Device Mobility Configuration Mismatches
- Troubleshoot Device Mobility Call-Routing Problems
- Troubleshoot Device Mobility Call Privilege Problems

## **Lesson 2: Troubleshooting Cisco Extension Mobility issues**

- Cisco Extension Mobility Review
- Overview of Cisco Extension Mobility Issues
- Troubleshooting Cisco Extension Mobility Login and Logout Issues
- Troubleshoot Cisco Extension Mobility Call-Routing Issues

## **Lesson 3: Troubleshooting Cisco Unified Mobility Issues**

- Review of Cisco Unified Mobility
- Review of Unified Mobility Configuration Elements
- CSS Implementation in Cisco Mobile Connect
- Cisco Unified Mobility Access List Functions
- Overview of Cisco Unified Mobility Issues
- Troubleshoot Cisco Mobile Connect
- Troubleshoot Cisco Unified Mobile Voice Access

## **Module 7: Cisco TelePresence Management Suite Issues**

### **Lesson 1: Troubleshooting Cisco TMS Issues**

- Review of Cisco TMS
- Troubleshoot Cisco TMS
- FindMe Review
- Common FindMe Issues

## **Module 8: Voice Quality and Media Resources Issues**

### **Lesson 1: Troubleshooting MTP issues**

- MTP Review
- Troubleshoot MTP Registration and Nonresponsive Software Issues
- MTP Allocation Issues

### **Lesson 2: Troubleshooting Transcoder Issues**

- Transcoder Review
- Troubleshoot Transcoder Registration Issues

### **Lesson 3: Troubleshooting Audio and Video Conferencing Issues**

- Cisco Unified Communications Manager Conference Bridges
- Troubleshoot Conference Bridges Registered with Cisco Unified Communications Manager
- Troubleshoot Conference Bridges Accessible via SIP Trunks

#### **Lesson 4: Troubleshooting Audio and Video Quality Issues**

- Voice Quality Issues in Cisco Collaboration Systems
- Identify and Isolate Voice and Video Quality Problems
- Troubleshoot Layer 2 Quality Problems
- Troubleshoot Voice Quality Issues on a Gateway
- Troubleshoot Quality Issues at Endpoints
- One-Way Audio and Video Issues

#### **Labs**

- Lab1: Troubleshooting Gateway and Endpoint Registration Issues
- Lab 2: Troubleshooting LDAP Integration Issues
- Lab 3: Troubleshooting Endpoint Registration Issues
- Lab 4: Troubleshooting LDAP Integration Issues
- Lab 5: Troubleshooting On-Net Single-Site Calling Issues
- Lab 6: Troubleshooting On-Net Multisite Calling Issues
- Lab 7: Troubleshooting Off-Net Calling Issues
- Lab 8: Troubleshooting ILS and GRDR
- Lab 9: Troubleshooting Device Mobility Issues
- Lab 10: Troubleshooting Extension Mobility Issues
- Lab 11: Troubleshooting Cisco Unified Mobility Issues
- Lab 12: Troubleshooting Cisco TMS Issues
- Lab 13: Troubleshoot Transcoder Issues
- Lab 14: Troubleshooting Issues with Audio and Video