

45 Days

## CCIE Collaboration - Lab Version

The Cisco Certified Internetwork Expert Collaboration (CCIE Collaboration) is an expert level training and certification that provides essential knowledge and skills in delivering collaboration solutions, configuration, and troubleshooting of complex networks and the challenges of video, mobility, and presence as the foundation for workplace collaboration solutions.

This certification has been designed for Collaboration Architects, Unified Communications Architects, or Voice and Video Network Managers who are responsible for designing, implementing, and troubleshooting of complex collaboration solutions.

The Cisco CCIE Collaboration Lab Version is an eight-hour exam to test the skills of candidates to plan, design, implement, operate, and troubleshoot enterprise collaboration and communication networks. The candidate has to make an early attempt of the CCIE Lab Exam within 18-months of qualifying the CCIE written exam.

Candidates are advised to pass the lab exam within three years of passing the written exam, otherwise, the written exam needs to be retaken prior to retaking the lab exam.

## Course Details

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### Course Outline

#### 1.0 Configure and Troubleshoot Cisco Collaboration Infrastructure

- 1.1 Network services
- 1.2 Voice and data VLAN
- 1.3 IP routing in Cisco Collaboration Solutions
- 1.4 IP multicast

#### 2.0 Configure and Troubleshoot Cisco Unified Communications Manager (CUCM)

- 2.1 CUCM SCCP endpoints
- 2.2 CUCM MGCP gateways
- 2.3 CUCM SIP endpoints and trunks
- 2.4 CUCM H.323 gateways and trunks
- 2.5 Voice and video codecs
- 2.6 RTP and RTCP
- 2.7 Device registration and redundancy
- 2.8 Codec selection
- 2.9 CUCM call features

- 2.10 CUCM dial plan
- 2.11 CUCM media resources
- 2.12 CUCM mobility
- 2.13 CUCM serviceability and OS administration
- 2.14 ILS/URI dialing
- 2.15 Call Admission Control
- 2.16 SAF and CCD

### **3.0 Configure and Troubleshoot Cisco IOS UC Applications and Features**

- 3.1 CUCME phone registration and features
- 3.2 SRST phone registration and features
- 3.3 CUE
- 3.4 Cisco IOS-based call queuing
- 3.5 Cisco IOS media resources
- 3.6 CUBE
- 3.7 Digital voice signaling (T1/E1 PRI)
- 3.8 Cisco IOS dial plan
- 3.9 SAF and CCD 3.10 IOS CAC

### **4.0 Configure and Troubleshoot QoS and Security in Cisco Collaboration Solutions**

- 4.1 QoS: link efficiency
- 4.2 QoS: classification and marking
- 4.3 QoS: congestion management
- 4.4 Security: default security features
- 4.5 Security: toll fraud

### **5.0 Configure and Troubleshoot Cisco Unity Connection**

- 5.1 CUCM integration
- 5.2 CUCME integration
- 5.3 Single inbox
- 5.4 MWI
- 5.5 Call handlers
- 5.6 CUC dial plan
- 5.7 Directory handlers
- 5.8 CUC features
- 5.9 Voicemail networking

### **6.0 Configure and Troubleshoot Cisco Unified Contact Center Express (UCCX)**

- 6.1 UCCX CTI integration
- 6.2 UCCX ICD functions
- 6.3 UCCX scripts customization

### **7.0 Configure and Troubleshoot Cisco Unified IM Presence**

- 7.1 CUCM integration
- 7.2 Cisco Jabber for Windows

## **Who Should Attend**

The Cisco CCIE Collaboration - Lab Version Training Course is ideal for:

- Collaboration Architects,

- Unified Communications Architects, or
- Voice and Video Network Managers

## Pre Requisite

- There are no specific prerequisites for CCIE certification.
- Instead, candidates must first pass a written exam and then the corresponding hands-on lab exam.
- A candidate should have three to five years of job experience before attempting certification.

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