uCertify

Course Outline

CCENT/CCNA (ICND1 100-105) official cert guide

27 Apr 2024

1. Course Objective
2. Pre-Assessment
3. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
4. Expert Instructor-Led Training
5. ADA Compliant & JAWS Compatible Platform
6. State of the Art Educator Tools
7. Award Winning Learning Platform (LMS)
8. Chapter & Lessons

   Syllabus

   Chapter 1: Introduction

   Chapter 2: Introduction to TCP/IP Networking

   Chapter 3: Fundamentals of Ethernet LANs

   Chapter 4: Fundamentals of WANs

   Chapter 5: Fundamentals of IPv4 Addressing and Routing

   Chapter 6: Fundamentals of TCP/IP Transport and Applications

   Chapter 7: Using the Command-Line Interface

   Chapter 8: Analyzing Ethernet LAN Switching

   Chapter 9: Configuring Basic Switch Management

   Chapter 10: Configuring Switch Interfaces

   Chapter 11: Analyzing Ethernet LAN Designs

   Chapter 12: Implementing Ethernet Virtual LANs

   Chapter 13: Troubleshooting Ethernet LANs

   Chapter 14: Perspectives on IPv4 Subnetting

   Chapter 15: Analyzing Classful IPv4 Networks

   Chapter 16: Analyzing Subnet Masks

   Chapter 17: Analyzing Existing Subnets

   Chapter 18: Operating Cisco Routers

Chapter 19: Configuring IPv4 Addresses and Static Routes
Chapter 20: Learning IPv4 Routes with RIPv2
Chapter 21: DHCP and IP Networking on Hosts
Chapter 22: Subnet Design
Chapter 23: Variable-Length Subnet Masks
Chapter 24: IPv4 Troubleshooting Tools
Chapter 25: Troubleshooting IPv4 Routing
Chapter 26: Basic IPv4 Access Control Lists
Chapter 27: Advanced IPv4 Access Control Lists
Chapter 28: Network Address Translation
Chapter 29: Fundamentals of IP Version 6
Chapter 30: IPv6 Addressing and Subnetting
Chapter 31: Implementing IPv6 Addressing on Routers
Chapter 32: Implementing IPv6 Addressing on Hosts
Chapter 33: Implementing IPv6 Routing
Chapter 34: Device Management Protocols
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Chapter 36: Managing IOS Files
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Chapter 41: Appendix C: Practice for Lesson 15: Analyzing Subnet Masks
Chapter 42: Appendix D: Practice for Lesson 16: Analyzing Existing Subnets
Chapter 43: Appendix E: Practice for Lesson 21: Subnet Design
Chapter 44: Appendix F: Practice for Lesson 22: Variable-Length Subnet Masks
Chapter 45: Appendix G: Practice for Lesson 25: Basic IPv4 Access Control Lists
Chapter 46: Appendix H: Practice for Lesson 28: Fundamentals of IP Version 6

Chapter 47: Appendix I: Practice for Lesson 30: Implementing IPv6 Addressing on Routers

Chapter 48: Appendix J: Classless Inter-domain Routing

Chapter 49: Appendix K: Route Summarization

Chapter 50: Appendix L: Implementing Point-to-Point WANs

Chapter 51: Appendix M: Topics from Previous Editions

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Videos and How To

9. Practice Test

   Here's what you get

   Features

10. Post-Assessment

1. Course Objective

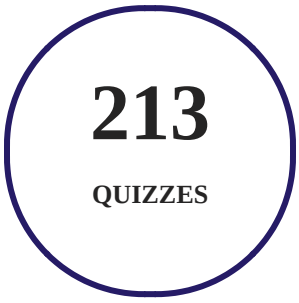
Prepare for the Cisco CCNA ICND1 100-105 certification exam with the CCENT/CCNA (ICND1 100-105) official cert guide course. The course covers all the objectives of Cisco ICND1 100-105 exam and includes topics such as IOS files management, IOS license management, device management protocols, device security features, IPv6 subnetting and addressing, IPv6 addressing on hosts, and more.

2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

3. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.



4. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

5. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

6. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

7. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

8. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

9. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution

2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform
    2. Best Instructional Solution in Other Curriculum Areas
    3. Best Learning Relationship Management Solution

- **2019**
    1. Best Virtual Learning Solution
    2. Best Content Authoring Development or Curation Solution
    3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

10. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- About the Exams
- Part Features
- Book Organization, Lessons, and Appendixes

Chapter 2: Introduction to TCP/IP Networking

- Perspectives on Networking
- TCP/IP Networking Model
- OSI Networking Model

- Lesson Summary
- Review All the Key Topics

Chapter 3: Fundamentals of Ethernet LANs

- An Overview of LANs
- Building Physical Ethernet Networks with UTP
- Sending Data in Ethernet Networks
- Lesson Summary
- Review All the Key Topics

Chapter 4: Fundamentals of WANs

- Leased-Line WANs
- Ethernet as a WAN Technology
- Accessing the Internet
- Lesson Summary
- Review All the Key Topics

Chapter 5: Fundamentals of IPv4 Addressing and Routing

- Overview of Network Layer Functions

- IPv4 Addressing
- IPv4 Routing
- IPv4 Routing Protocols
- Other Network Layer Features
- Lesson Summary
- Review All the Key Topics

Chapter 6: Fundamentals of TCP/IP Transport and Applications

- TCP/IP Layer 4 Protocols: TCP and UDP
- TCP/IP Applications
- Lesson Summary
- Review All the Key Topics

Chapter 7: Using the Command-Line Interface

- Accessing the Cisco Catalyst Switch CLI
- Configuring Cisco IOS Software
- Lesson Summary
- Review All the Key Topics

- Command References

Chapter 8: Analyzing Ethernet LAN Switching

- LAN Switching Concepts
- Verifying and Analyzing Ethernet Switching
- Lesson Summary
- Review All the Key Topics

Chapter 9: Configuring Basic Switch Management

- Securing the Switch CLI
- Enabling IPv4 for Remote Access
- Miscellaneous Settings Useful in Lab
- Lesson Summary
- Review All the Key Topics

Chapter 10: Configuring Switch Interfaces

- Configuring Switch Interfaces
- Port Security
- Lesson Summary

- Review All the Key Topics

Chapter 11: Analyzing Ethernet LAN Designs

- Analyzing Collision Domains and Broadcast Domains
- Analyzing Campus LAN Topologies
- Analyzing LAN Physical Standard Choices
- Lesson Summary
- Review All the Key Topics

Chapter 12: Implementing Ethernet Virtual LANs

- Virtual LAN Concepts
- VLAN and VLAN Trunking Configuration and Verification
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 13: Troubleshooting Ethernet LANs

- Perspectives on Applying Troubleshooting Methodologies
- Analyzing Switch Interface Status and Statistics

- Predicting Where Switches Will Forward Frames
- Analyzing Port Security Operations on an Interface
- Analyzing VLANs and VLAN Trunks
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 14: Perspectives on IPv4 Subnetting

- Introduction to Subnetting
- Analyze Subnetting and Addressing Needs
- Make Design Choices
- Plan the Implementation
- Lesson Summary
- Review All the Key Topics

Chapter 15: Analyzing Classful IPv4 Networks

- Classful Network Concepts
- Practice with Classful Networks
- Lesson Summary

- Review All the Key Topics
- Answers to Earlier Practice Problems
- Answers to Practice Problem 7 (from Table 14-4)
- Answers to Practice Problem 8 (from Table 14-4)
- Answers to Practice Problem 9 (from Table 14-4)

Chapter 16: Analyzing Subnet Masks

- Subnet Mask Conversion
- Identifying Subnet Design Choices Using Masks
- Lesson Summary
- Review All the Key Topics
- Answers to Earlier Practice Problems

Chapter 17: Analyzing Existing Subnets

- Defining a Subnet
- Analyzing Existing Subnets: Binary
- Analyzing Existing Subnets: Decimal
- Practice Analyzing Existing Subnets

- Lesson Summary
- Review All the Key Topics
- Answers to Earlier Practice Problems

Chapter 18: Operating Cisco Routers

- Installing Cisco Routers
- Enabling IPv4 Support on Cisco Router Interfaces
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 19: Configuring IPv4 Addresses and Static Routes

- IP Routing
- Configuring IP Addresses and Connected Routes
- Configuring Static Routes
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 20: Learning IPv4 Routes with RIPv2

- RIP and Routing Protocol Concepts
- Core RIPv2 Configuration and Verification
- Optional RIPv2 Configuration and Verification
- Troubleshooting RIPv2
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 21: DHCP and IP Networking on Hosts

- Implementing and Troubleshooting DHCP
- Verifying Host IPv4 Settings
- IPv4 Address Types
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 22: Subnet Design

- Choosing the Mask(s) to Meet Requirements
- Finding All Subnet IDs
- Lesson Summary
- Review All the Key Topics
- Additional Practice for This Lesson’s Processes
- Answers to Practice Choosing Subnet Masks
- Answers to Practice Finding All Subnet IDs

Chapter 23: Variable-Length Subnet Masks

- VLSM Concepts and Configuration
- Finding VLSM Overlaps
- Adding a New Subnet to an Existing VLSM Design
- Lesson Summary
- Review All the Key Topics
- Additional Practice for This Lesson’s Processes
- Answers to Practice Finding VLSM Overlaps

Chapter 24: IPv4 Troubleshooting Tools

- Problem Isolation Using the ping Command

- Problem Isolation Using the traceroute Command
- Telnet and SSH
- Lesson Summary
- Review All the Key Topics

Chapter 25: Troubleshooting IPv4 Routing

- Problems Between the Host and the Default Router
- Problems with Routing Packets Between Routers
- Lesson Summary
- Review All the Key Topics

Chapter 26: Basic IPv4 Access Control Lists

- IPv4 Access Control List Basics
- Standard Numbered IPv4 ACLs
- Practice Applying Standard IP ACLs
- Lesson Summary
- Review All the Key Topics
- Additional Practice for This Lesson’s Processes

- Command References
- Answers to Earlier Practice Problems

Chapter 27: Advanced IPv4 Access Control Lists

- Extended Numbered IP Access Control Lists
- Named ACLs and ACL Editing
- Troubleshooting with IPv4 ACLs
- Lesson Summary
- Review All the Key Topics
- Command References
- Answers to Earlier Practice Problems

Chapter 28: Network Address Translation

- Perspectives on IPv4 Address Scalability
- Network Address Translation Concepts
- NAT Configuration and Troubleshooting
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 29: Fundamentals of IP Version 6

- Introduction to IPv6
- IPv6 Addressing Formats and Conventions
- Lesson Summary
- Review All the Key Topics
- Additional Practice for This Lesson’s Processes
- Answers to Earlier Practice Problems

Chapter 30: IPv6 Addressing and Subnetting

- Global Unicast Addressing Concepts
- Unique Local Unicast Addresses
- Lesson Summary
- Review All the Key Topics

Chapter 31: Implementing IPv6 Addressing on Routers

- Implementing Unicast IPv6 Addresses on Routers
- Special Addresses Used by Routers
- Lesson Summary

- Review All the Key Topics
- Additional Practice for This Lesson’s Processes
- Command References
- Answers to Earlier Practice Problems

Chapter 32: Implementing IPv6 Addressing on Hosts

- The Neighbor Discovery Protocol
- Dynamic Configuration of Host IPv6 Settings
- Troubleshooting IPv6 Addressing
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 33: Implementing IPv6 Routing

- Connected and Local IPv6 Routes
- Static IPv6 Routes
- Lesson Summary
- Review All the Key Topics

- Command References

Chapter 34: Device Management Protocols

- System Message Logging (Syslog)
- Network Time Protocol (NTP)
- Analyzing Topology Using CDP and LLDP
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 35: Device Security Features

- Securing IOS Passwords
- Cisco Device Hardening
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 36: Managing IOS Files

- Managing Cisco IOS Images and Upgrades

- Password Recovery
- Managing Configuration Files
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 37: IOS License Management

- IOS Packaging
- IOS Software Activation with Universal Images
- Managing Software Activation with Cisco License Manager
- Lesson Summary
- Review All the Key Topics
- Command References

Chapter 38: Final Review

- Advice About the Exam Event
- Exam Review

Chapter 39: Appendix A: Numeric Reference Tables

Chapter 40: Appendix B: Practice for Lesson 14: Analyzing Classful IPv4 Networks

- Practice Problems
- Answers

Chapter 41: Appendix C: Practice for Lesson 15: Analyzing Subnet Masks

- Mask Conversion Problems
- Answers to Mask Conversion Problems
- Mask Analysis Problems
- Answers to Mask Analysis Problems

Chapter 42: Appendix D: Practice for Lesson 16: Analyzing Existing Subnets

- Practice Problems
- Answers

Chapter 43: Appendix E: Practice for Lesson 21: Subnet Design

- Mask Design Practice Problems
- Mask Design Answers
- Practice Finding All Subnet IDs

Chapter 44: Appendix F: Practice for Lesson 22: Variable-Length Subnet Masks

- Practice Problems
- Answers

Chapter 45: Appendix G: Practice for Lesson 25: Basic IPv4 Access Control Lists

- Practice Problems
- Practice Building access-list Commands
- Reverse Engineering from ACL to Address Range
- Answers to Earlier Practice Problems
- Answers: Practice Building access-list Commands
- Answers: Reverse Engineering from ACL to Address Range

Chapter 46: Appendix H: Practice for Lesson 28: Fundamentals of IP Version 6

- Address Abbreviating and Expanding Problems
- Calculating the IPv6 Prefix Problems
- Answers to Address Abbreviating and Expanding Problems
- Answers to Calculating IPv6 Prefix Problems

Chapter 47: Appendix I: Practice for Lesson 30: Implementing IPv6 Addressing on Routers

- EUI-64 and Solicited Node Multicast Problems
- Answers to EUI-64 and Solicited Node Multicast Problems

Chapter 48: Appendix J: Classless Inter-domain Routing

- Using CIDR Classless Prefixes
- Understanding Subnetted CIDR Classless Prefixes
- Challenges with CIDR Terminology and Processes
- Review All the Key Topics
- Answers to Earlier Practice Problems
- Practice for Lesson 30: Implementing IPv6 Addressing on Routers

Chapter 49: Appendix K: Route Summarization

- Manual Route Summarization Concepts
- Choosing the Best Summary Routes
- Exam Preparation Tasks
- Review All the Key Topics
- Answers to Earlier Practice Problems
- Problem 1

- Problem 2
- Problem 3
- Problem 4

Chapter 50: Appendix L: Implementing Point-to-Point WANs

- Leased Line WANs with HDLC
- Leased Line WANs with PPP
- Troubleshooting Serial Links
- Command References

Chapter 51: Appendix M: Topics from Previous Editions

- Internal Processing on Cisco Switches
- IOS Version and Other Reload Facts
- Secondary IP Addressing
- Internal Processing on Cisco Routers
- Potential Routing Performance Issues
- Cisco Router Fast Switching and CEF
- OSPF Configuration
- OSPF Single-Area Configuration

- Configuring the OSPF Router ID
- Miscellaneous OSPF Configuration Settings
- Name Resolution with DNS
- IOS Reorders ACEs
- IOS Renumbers ACL Line Numbers, by 10s, at Reload
- NAT Overload (PAT) on Consumer Routers
- Dynamic Routes with OSPFv3
- Comparing OSPF for IPv4 and IPv6
- Verifying OSPFv3 Status and Routes

Chapter 52: Appendix N: Exam Topics Cross Reference

- ICND1 100-105 Exam Topic Order
- Book Lessons, with Exam Topics Covered in Each
- CCNA R&S 200-125 Exam Topics

Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

12	01:24
VIDEOS	HOURS

11. Practice Test

Here's what you get

95	2	94
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS	POST-ASSESSMENTS QUESTIONS

Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

12. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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