



# Course Outline

**CompTIA Network+ Deluxe Study  
Guide Third Edition (Course &  
Labs)**



25 Jan 2020



Lesson



Practice test



Lab

## Contents

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 to Networks  
    Chapter 2: The Open Systems Interconnection Specifications  
    Chapter 3: Networking Topologies, Connectors, and Wiring Standards  
    Chapter 4: The Current Ethernet Specifications  
    Chapter 5: Networking Devices  
    Chapter 6: Introduction to the Internet Protocol  
    Chapter 7: IP Addressing  
    Chapter 8: IP Subnetting, Troubleshooting IP, and Introduction to NAT  
    Chapter 9: Introduction to IP Routing  
    Chapter 10: Routing Protocols  
    Chapter 11: Switching and Virtual LANs  
    Chapter 12: Wireless Networking  
    Chapter 13: Authentication and Access Control  
    Chapter 14: Network Threats and Mitigation  
    Chapter 15: Physical Security and Risk

Chapter 16: Wide Area Networks

Chapter 17: Troubleshooting Tools

Chapter 18: Software and Hardware Tools

Chapter 19: Network Troubleshooting

Chapter 20: Management, Monitoring, and Optimization

Chapter 21: Appendix A

Videos and How To

9. Practice Test

Here's what you get

Features

10. Performance Based Labs

Lab Tasks

Here's what you get

11. Post-Assessment

## 1. Course Objective

Gear up to prepare for CompTIA N10-006 exam with CompTIA Network+ Deluxe Study Guide Third Edition (Course & Labs). The labs are versatile - labs simulate real-world, hardware, software & command line interface environments and can be mapped to any text-book, course & training. The course and labs cover all the objectives of the N10-006 exam and include topics such as networking technologies such as the definition of a protocol, the Open Systems Interconnection (OSI) model and its layers, and the concepts of network design and implementation.

## 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. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

406  
EXERCISES

## 4. 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.

129  
QUIZZES

## 5. 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.

611  
FLASHCARDS

## 6. 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.

611  
GLOSSARY OF  
TERMS

## 7. 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.

## 8. 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.

## 9. 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 assignments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

## 10. 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 5 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

## 11. 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 to Networks

- First Things First: What's a Network?
- Physical Network Topologies
- Topology Selection, Backbones, and Segments
- Summary
- Exam Essentials
- Written Labs

### Chapter 2: The Open Systems Interconnection Specifications



- Internetworking Models
- The OSI Reference Model
- Introduction to Encapsulation
- Modulation Techniques
- Summary
- Exam Essentials
- Written Lab

### Chapter 3: Networking Topologies, Connectors, and Wiring Standards

- Physical Media
- Cable Properties
- Wiring Standards
- Installing Wiring Distributions
- Summary
- Exam Essentials
- Written Lab

### Chapter 4: The Current Ethernet Specifications

- Network Basics

- Ethernet Basics
- Ethernet at the Data Link Layer
- Ethernet at the Physical Layer
- Ethernet over Other Standards (IEEE 1905.1-2013)
- Summary
- Exam Essentials
- Written Lab
- Written Lab Answers

## Chapter 5: Networking Devices

- Common Network Connectivity Devices
- Other Specialized Devices
- Planning and Implementing a Basic SOHO Network Using Network Segmentation
- Summary
- Exam Essentials
- Written Lab
- Answer to Written Lab

## Chapter 6: Introduction to the Internet Protocol

- Introducing TCP/IP
- Data Encapsulation
- Summary
- Exam Essentials
- Written Lab

### Chapter 7: IP Addressing

- IP Terminology
- The Hierarchical IP Addressing Scheme
- IPv4 Address Types
- Internet Protocol Version 6 (IPv6)
- Summary
- Exam Essentials
- Written Lab

### Chapter 8: IP Subnetting, Troubleshooting IP, and Introduction to NAT

- Subnetting Basics
- Troubleshooting IP Addressing

- Introduction to Network Address Translation (NAT)
- Summary
- Exam Essentials
- Written Labs

## Chapter 9: Introduction to IP Routing

- Routing Basics
- The IP Routing Process
- Testing Your IP Routing Understanding
- Static and Dynamic Routing
- Summary
- Exam Essentials
- Written Lab

## Chapter 10: Routing Protocols

- Routing Protocol Basics
- Distance Vector Routing Protocols
- Link State Routing Protocols

- High Availability
- IPv6 Routing Protocols
- Summary
- Exam Essentials
- Written Lab

## Chapter 11: Switching and Virtual LANs

- Networking Before Layer 2 Switching
- Switching Services
- Spanning Tree Protocol
- Virtual LANs
- VLAN Trunking Protocol
- Two Additional Advanced Features of Switches
- Summary
- Exam Essentials
- Written Lab

## Chapter 12: Wireless Networking

- Introduction to Wireless Technology

- The 802.11 Standards
- Comparing 802.11 Standards
- Wireless Network Components
- Installing a Wireless Network
- Site Survey
- Wireless Security
- Summary
- Exam Essentials
- Written Lab

### Chapter 13: Authentication and Access Control

- Security Filtering
- Managing User Account and Password Security
- User-Authentication Methods
- Summary
- Exam Essentials
- Written Lab

### Chapter 14: Network Threats and Mitigation

- Recognizing Security Threats
- Vulnerabilities
- Understanding Mitigation Techniques
- Policies and Procedures
- Anti-malware software
- Summary
- Exam Essentials
- Written Lab

## Chapter 15: Physical Security and Risk

- Using Hardware and Software Security Devices
- Defining Firewalls
- Firewall Technologies
- Firewalls at the Application Layer vs the Network Layer
- Scanning Services and Other Firewall Features
- Intrusion Detection and Prevention Systems
- VPN Concentrators

- Understanding Problems Affecting Device Security
- Summary
- Exam Essentials
- Written Lab

## Chapter 16: Wide Area Networks

- What's a WAN?
- T-Series Connections
- Transmission Media
- Broadband Services
- Wireless WAN Technologies
- WAN Protocols
- WAN Troubleshooting
- Summary
- Exam Essentials
- Written Lab

## Chapter 17: Troubleshooting Tools

- Protocol Analyzers



- Throughput Testers
- Connectivity Software
- Using Traceroute
- Using ipconfig and ifconfig
- Using the ping Utility
- Using the Address Resolution Protocol
- Using the nslookup Utility
- Resolving Names with the Hosts Table
- Using the Mtr Command (pathping)
- Using the route Command
- Using the nbtstat Utility
- Using the netstat Utility
- Using the File Transfer Protocol
- Using the Telnet Utility
- Summary
- Exam Essentials
- Written Lab

## Chapter 18: Software and Hardware Tools

- Understanding Network Scanners
- Baseline
- Network Monitoring and Logging
- Identifying Hardware Tools
- Summary
- Exam Essentials
- Written Lab

## Chapter 19: Network Troubleshooting

- Narrowing Down the Problem
- Troubleshooting Steps
- Troubleshooting Tips
- Summary
- Exam Essentials
- Written Lab

## Chapter 20: Management, Monitoring, and Optimization

- Managing Network Documentation
- Network Monitoring
- Network Optimization
- Summary
- Exam Essentials
- Written Lab

## Chapter 21: Appendix A

- N10-006 Exam Objectives
- Videos

## Videos and How To

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

73  
VIDEOS

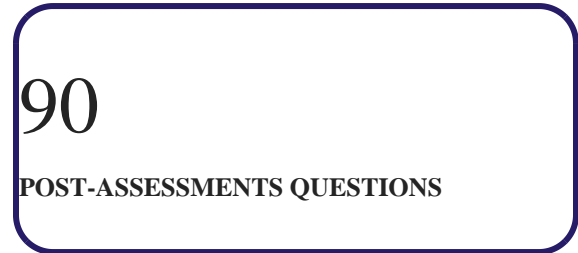
22:39  
HOURS

## 12. Practice Test

uCertify provides full length practice tests. These tests closely follow the exam objectives and are

designed to simulate real exam conditions. Each course has a number of test sets consisting of hundreds of items to ensure that learners are prepared for the certification exam.

## Here's what you get



## Features

### Full Remediation

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.

### Learn, Test and Review Mode

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.

## 13. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver

hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task
- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

## Lab Tasks

- Identifying internetworking devices
- Identifying WAN technology bandwidth
- Identifying a network topology
- Identifying network topologies
- Identifying client and server
- Identifying OSI layers
- Identifying OSI layer functions
- Identifying connectionless communication
- Describing OSI layers
- Identifying RG standards
- Identifying types of cable
- Identifying fiber connectors
- Identifying components of a coaxial cable
- Identifying an RJ-45 connector
- Terminating a cable with an RJ-45 plug
- Connecting a workstation to the Ethernet and to the Internet
- Converting a decimal number to binary and hex
- Identifying Fast Ethernet standards
- Identifying Ethernet standards

- Identifying functions of a network
- Identifying network components
- Identifying a network device
- Identifying the network device
- Identifying network infrastructure devices
- Identifying types of hubs
- Identifying types of IDS
- Identifying network devices
- Identifying WAN bandwidth features
- Installing and configuring a temporary server
- Obtaining IP DNS addresses
- Connecting a computer system to the network
- Connecting cable internet access for your network
- Identifying TCP/IP protocol layers
- Identifying TCP/IP layers
- Identifying TCP utilities
- Identifying Internet protocols and their subtypes
- Connecting a workstation to the LAN and configuring IPv4 properties
- Configuring IPv4 address
- Configuring and testing IPv6 addresses
- Identifying steps for calculating subnets
- Describing Dynamic Routing
- Displaying ARP entries
- Describing autonomous system
- Understanding data structures
- Identifying abbreviations for various Internet layer protocols
- Identifying routing protocols
- Identifying networking protocols
- Identifying functions of Layer 2 switching
- Identifying process of forward/filter table becoming populated.
- Describing Quality of Service (QoS)
- Describing VLAN goal
- Installing a NIC
- Identifying devices used in an internetwork
- Identifying internetworking devices

- Identifying network categories
- Identifying WLANs
- Connecting a wireless router to the laptop
- Configuring SSID
- Identifying sequence of asymmetric encryption
- Configuring Windows 7 wireless settings
- Identifying VPN protocols
- Connecting to a server using Remote Desktop Connection
- Creating a remote access VPN connection
- Identifying VPN protocols
- Identifying remote access methods
- Identifying types of Denial of Service attacks
- Identifying network attacks
- Identifying Bluetooth devices attacks
- Configuring Windows firewall settings
- Connecting systems to the Internet through a router
- Setting up a DMZ on a SOHO router
- Identifying a back-to-back firewall
- Identifying firewall techniques
- Identifying types of firewall
- Understanding IPsec VPN
- Identifying WAN connection types
- Identifying speed of bandwidth technologies
- Identifying WAN technology
- Identifying MPLS network elements
- Configuring Internet settings on a router
- Obtaining IP address information from a DHCP server
- Analyzing network paths with tracert
- Understanding the ipconfig command
- Adding and removing an IPv6 address
- Understanding the arp command
- Analyzing domain names with nslookup
- Analyzing network paths with pathping
- Adding and deleting routes
- Analyzing the TCP/IP configuration with nbtstat

- Analyzing the TCP/IP configuration with netstat
- Understanding the netstat command in UNIX
- Filtering entries in Event Viewer
- Identifying Syslog severity levels
- Identifying various equipments
- Identifying the components of a multimeter
- Identifying steps to use a Toner Probe
- Diagnosing a network problem
- Troubleshooting data link layer issues
- Troubleshooting physical link layer issues
- Identifying physical layer issues
- Identifying sequence of broadcast storm
- Understanding configuration management
- Viewing TCP frame details using Network Monitor
- Identifying protocols and devices
- Identifying quality issues
- Connecting patch cables between the patch panel and switch ports

## Here's what you get

**106**  
PERFORMANCE BASED  
LAB

**33**  
VIDEO TUTORIALS

**01:03**  
HOURS



## 14. 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.

**Have Any Query? We Are Happy To Help!**

### GET IN TOUCH:

■ Contact No

■ Email: [sales@ucertify.com](mailto:sales@ucertify.com)

■ [www.uCertify.com](http://www.uCertify.com)