uCertify

# Course Outline

## CompTIA Network+ (N10-008)

11 May 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: The OSI Model and Encapsulation

   Chapter 3: Network Topologies and Types

   Chapter 4: Network Media Types

   Chapter 5: IP Addressing

   Chapter 6: Common Ports and Protocols

   Chapter 7: Network Services

   Chapter 8: Corporate and Datacenter Architectures

   Chapter 9: Cloud Concepts

   Chapter 10: Various Network Devices

   Chapter 11: Routing Technologies and Bandwidth Management

   Chapter 12: Ethernet Switching

   Chapter 13: Wireless Standards

   Chapter 14: Ensure Network Availability

   Chapter 15: Organizational Documents and Policies

   Chapter 16: High Availability and Disaster Recovery

   Chapter 17: Common Security Concepts

   Chapter 18: Common Types of Attacks

Chapter 19: Network Hardening Techniques
Chapter 20: Remote Access Methods
Chapter 21: Physical Security
Chapter 22: A Network Troubleshooting Methodology
Chapter 23: Troubleshoot Common Cabling Problems
Chapter 24: Network Software Tools and Commands
Chapter 25: Troubleshoot Common Wireless Issues
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11. Post-Assessment

## 1. Course Objective

Gain hands-on experience in networking to pass the CompTIA Network+ certification exam with the CompTIA Network+ course and lab. Interactive lessons and hands-on labs comprehensively cover the N10-008 exam objectives and provide knowledge in areas of networking technologies, including installation, configuration, troubleshooting, peripherals, protocols, and more. The course comes in handy as the CompTIA Network+ study guide which will help you get a full understanding of the challenges you'll face as a network administrator.

## 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.

## 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.

## 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.

## 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.

## 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 assessments. 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 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

## 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

- Who Should Read This Course?
- CompTIA Network+ Exam Topics
- How This Course Is Organized

## Chapter 2: The OSI Model and Encapsulation

- The Purpose of Reference Models
- The OSI Model
- The TCP/IP Stack
- Real-World Case Study
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 3: Network Topologies and Types

- Defining a Network
- Network Types and Characteristics
- Networks Defined Based on Resource Location
- Networks Defined by Topology
- Virtual Network Concepts
- Provider Links
- Real-World Case Study

- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 4: Network Media Types

- Copper and Fiber Media and Connectors
- Unshielded Twisted Pair
- Plenum Versus Nonplenum Cable
- Multiplexing in Fiber-Optic Networks
- Cable Management
- Real-World Case Study
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 5: IP Addressing

- Binary Numbering
- IPv4 Addressing
- Assigning IPv4 Addresses

- Subnetting
- Address Translation
- IP Version 6
- Real-World Case Study
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 6: Common Ports and Protocols

- Ports and Protocols
- IP Protocol Types
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 7: Network Services

- DHCP
- DNS

- NTP
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 8: Corporate and Datacenter Architectures

- The Three-Tiered Network Architecture
- Software-Defined Networking
- Storage Area Networks
- Deciding on an Architecture
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 9: Cloud Concepts

- Deployment Models
- Service Models
- Key Cloud Concepts
- Summary

- Review All the Key Topics
- Additional Resources

## Chapter 10: Various Network Devices

- Networking Devices
- Networked Devices
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 11: Routing Technologies and Bandwidth Management

- Routing
- Sources of Routing Information
- Routing Protocol Characteristics
- Routing Protocol Examples
- Bandwidth Management
- Summary
- Review All the Key Topics

- Additional Resources

## Chapter 12: Ethernet Switching

- Principles of Ethernet
- Ethernet Switch Features
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 13: Wireless Standards

- Introducing Wireless LANs
- Deploying Wireless LANs
- Securing Wireless LANs
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 14: Ensure Network Availability

- Monitoring Tools

- Additional Monitoring Topics
- Summary
- Review All the Key Topics
- Additional Resources

Chapter 15: Organizational Documents and Policies

- Plans and Policies
- Hardening and Security Policies
- Common Documentation
- Summary
- Review All the Key Topics
- Additional Resources

Chapter 16: High Availability and Disaster Recovery

- High Availability
- Real-World Case Study: SOHO Network Design
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 17: Common Security Concepts

- Core Security Concepts
- Authentication Methods
- Risk Management and SIEM
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 18: Common Types of Attacks

- Technology-Based Attacks
- Human and Environmental Attacks
- Other Miscellaneous Attacks
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 19: Network Hardening Techniques

- Best Practices

- Wireless Security and IoT Considerations
- Summary
- Review All the Key Topics
- Additional Resources

Chapter 20: Remote Access Methods

- Virtual Private Networks (VPNs)
- Other Remote Access Technologies
- Authentication and Authorization Considerations
- In-Band vs. Out-of-Band Management
- Summary
- Review All the Key Topics
- Additional Resources

Chapter 21: Physical Security

- Detection Methods
- Prevention Methods
- Asset Disposal

- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 22: A Network Troubleshooting Methodology

- Troubleshooting Basics
- Summary
- Review All the Key Topics
- Additional Resource

## Chapter 23: Troubleshoot Common Cabling Problems

- Specifications and Limitations
- Cable Considerations and Applications
- Common Issues
- Common Tools
- Summary
- Review All the Key Topics
- Additional Resources

## Chapter 24: Network Software Tools and Commands

- Software Tools
- Command Line Tools
- Basic Network Platform Commands
- Summary
- Review All the Key Topics
- Additional Resource

## Chapter 25: Troubleshoot Common Wireless Issues

- Specifications and Limitations
- Considerations
- Common Issues
- Wireless Network Troubleshooting
- Summary
- Review All the Key Topics

## Chapter 26: Troubleshoot General Network Issues

- Considerations for General Network Troubleshooting

- Common Issues
- Summary
- Review All the Key Topics
- Additional Resources

## Videos and How To

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

| 10 | 02:10 |
| --- | --- |
| VIDEOS | HOURS |

## 12. Practice Test

## Here's what you get

| 80 | 2 | 80 |
|---|---|---|
| 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.

## 13. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

# Lab Tasks

**The OSI Model and Encapsulation**

- Displaying the Structure of a UDP Segment
- Displaying the Structure of a TCP Segment

**Network Topologies and Types**

- Creating a Virtual Switch

**IP Addressing**

- Configuring a Class A IP Address
- Configuring a Class B IP Address
- Configuring a Class C IP Address
- Creating a Subinterface on a Router and Assigning an IP Address
- Configuring Network Address Translation
- Configuring Port Address Translation

**Network Services**

- Preventing Zone Transfers
- Configuring Multi-Stratum NTP

**Various Network Devices**

- Performing a Proxy Server Operation

**Routing Technologies and Bandwidth Management**

- Configuring Directly Connected Routes
- Configuring Static Routing

**Ethernet Switching**

- Creating a VLAN and Viewing its Assignment to Port Mapping
- Configuring an Access Port
- Configuring and Viewing a Trunk Port Status
- Configuring IP and Management Access

**Ensure Network Availability**

- Configuring Syslog and Viewing Settings on a Router
- Viewing the Application, Security, and System Logs
- Viewing Interface Statistics and Status
- Configuring NetFlow

**Organizational Documents and Policies**

- Configuring a Default Domain Password Policy

**High Availability and Disaster Recovery**

- Configuring VRRP

**Common Security Concepts**

- Examining Asymmetric Encryption
- Performing Symmetric Encryption
- Setting Up a Honeypot

**Common Types of Attacks**

- Cracking a Password
- Using SET

**Network Hardening Techniques**

- Implementing Port Security

**Remote Access Methods**

- Establishing a VPN Connection

**Network Software Tools and Commands**

- Capturing a Packet Using Wireshark
- Part I: Command Line Tools
- Part II: Command Line Tools
- Part III: Command Line Tools

## Here's what you get

| 35 | 35 | 01:04 |
|---|---|---|
| LIVE LABS | VIDEO TUTORIALS | 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.

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