

## The Official CompTIA Network+ Student Guide (Exam N10-008)

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### Course Summary

#### Description

The Official CompTIA Network+ Instructor and Student Guides (N10-008) have been developed by CompTIA for the CompTIA Network+ candidate. Rigorously evaluated to validate coverage of the CompTIA Network+ (N10-008) exam objectives, The Official CompTIA Network+ Instructor and Student Guides teach the knowledge and skills to deploy, secure, and troubleshoot SOHO and enterprise networks, and to prepare candidates to take the CompTIA Network+ certification exam.

#### What's included

- Content mapped to Network+ exam objectives (N10-008)
- Video demonstrations of key activities
- Practice questions that check for understanding
- Access to the CompTIA Learning Center

#### Objectives

After taking this course, students will be able to:

- Compare OSI Model Network Functions
- Deploy Ethernet Cabling
- Deploy Ethernet Switching
- Troubleshoot Ethernet Networks
- Explain IPv4 Addressing
- Support IPv4 and IPv6 Networks
- Configure and Troubleshooting Routers
- Explain Network Topologies and Types
- Explain Transport Layer Protocols
- Explain Network Services
- Explain Network Applications
- Ensure Network Availability
- Explain Common Security Concepts
- Support and Troubleshooting Secure Networks
- Deploy and Troubleshooting Wireless Networks
- Compare WAN Links and Remote Access Methods
- Explain Organizational and Physical Security Concepts
- Explain Disaster Recovery and High Availability Concepts
- Apply Network Hardening Techniques
- Summarize Cloud and Datacenter Architecture

#### Topics

- Comparing OSI Model Network Functions
- Deploying Ethernet Cabling
- Deploying Ethernet Switching
- Troubleshooting Ethernet Networks
- Explaining IPv4 Addressing
- Supporting IPv4 and IPv6 Networks
- Configuring and Troubleshooting Routers
- Explaining Network Topologies and Types
- Explaining Transport Layer Protocols
- Explaining Network Services
- Explaining Network Applications
- Ensuring Network Availability
- Explaining Common Security Concepts
- Supporting and Troubleshooting Secure Networks
- Deploying and Troubleshooting Wireless Networks
- Comparing WAN Links and Remote Access Methods
- Explaining Organizational and Physical Security Concepts
- Explaining Disaster Recovery and High Availability Concepts
- Applying Network Hardening Techniques
- Summarizing Cloud and Datacenter Architecture
- Appendix A: Mapping Course Content to CompTIA Network+ (N10-008)
- Solutions (in the Student and Study Guides only; solutions are presented inline in the Instructor Guide)

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### Course Summary (cont'd)

#### Audience

This course is intended for entry-level computer support professionals with a basic knowledge of computer hardware, software, and operating systems who wish to increase their knowledge and understanding of networking concepts and acquire the required skills to prepare for a career in network support or administration, or who wish to prepare for the CompTIA Network+ certification (Exam N10-008). A typical student taking the CompTIA Network+ (Exam N10-008) course should have a minimum of nine months of professional computer support experience as a PC or help desk technician. Networking experience is helpful but not mandatory; A+ certification or equivalent skills and knowledge is helpful but not mandatory.

#### Prerequisites

To ensure your success in this course, you will need basic Windows end-user computer skills. To meet this prerequisite, you can take the Using Microsoft Windows 10 course (PT9854), or you should have equivalent experience

#### Duration

Five days

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### Course Outline

- I. Network Theory**
  - A. Network Types
  - B. Network Standards and the OSI Model
  - C. Data Transmission Methods
- II. Bounded Network Media**
  - A. Copper Media
  - B. Fiber Optic Media
  - C. Bounded Network Media Installation
- III. Unbounded Network Media**
  - A. Wireless Networking
  - B. Wireless Network Devices and Components
  - C. Implement Wireless Technology
  - D. Internet of Things
- IV. Network Implementations**
  - A. Physical Network Topologies
  - B. Logical Network Topologies
  - C. Ethernet Networks
  - D. Network Devices
- V. TCP/IP Addressing and Data Delivery**
  - A. The TCP/IP Protocol Suite
  - B. IPv4 Addressing
  - C. Default IP Addressing Schemes
  - D. Create Custom IP Addressing Schemes
  - E. IPv6 Addressing
- VI. Routing and Switching**
  - A. Switching
  - B. Network Packet Routing
  - C. Static and Dynamic IP Routing
  - D. VLANs
- VII. TCP/IP Implementation**
  - A. Configure IP Addresses
  - B. Naming Services
  - C. TCP/IP Utilities
  - D. Common TCP/IP Protocols
- VIII. Network Security Analysis**
  - A. Introduction to Network Security
  - B. Network Security Policies
  - C. Physical Security
  - D. Common Network Attacks
- IX. Network Security Implementation**
  - A. Authentication
  - B. Access Control
  - C. Port, Service, and Protocol Security
  - D. Wireless Network Security
  - E. Patches and Updates
  - F. Mitigation Techniques
- X. WAN Infrastructure**
  - A. WAN Basics
  - B. WAN Connectivity Methods
  - C. WAN Transmission Technologies
  - D. VoIP
- XI. Cloud and Virtualization Techniques**
  - A. Virtualization Technologies
  - B. Network Storage Technologies
  - C. Cloud Computing
- XII. Remote Networking**
  - A. Remote Network Architectures
  - B. Remote Access Network Implementations
  - C. Virtual Private Networking
- XIII. Network Management**
  - A. Monitor Networks
  - B. Document the Network
  - C. Establish Baselines
  - D. Optimize Network Performance
  - E. Ensure Business Continuity
- XIV. Troubleshooting Network Issues**
  - A. Network Troubleshooting Methodology
  - B. Network Troubleshooting Tools
  - C. Troubleshoot Wired Connectivity and Performance Issues
  - D. Troubleshoot Wireless Connectivity and Performance Issues
  - E. Troubleshoot Network Service Issues
- XV. Appendix A: Additional Information**
- XVI. Appendix B: Mapping Course Content to CompTIA® Network+® (Exam N10-008)**