

CompTIA Network+ (N10-009)

(24 hr)

Overview

The CompTIA® Network+ course builds on your existing user-level knowledge and experience with personal computer operating systems and networks by presenting the fundamental skills and concepts you will use on the job in any type of networking career.

If your job duties include network troubleshooting, operation or maintenance, or if you are preparing for any type of network-related career, this course provides the background knowledge and skills you will need to be successful.

Skills Learned

After completing this online training course, students will be able to:

- Design and implement functional networks
- Describe Wifi systems and deploy WLANs
- Configure, manage, and maintain essential network devices
- Use devices such as switches and routers to segment network traffic and create resilient networks
- Implement network security, standards, and protocols
- Troubleshoot network problems
- Support the creation of virtualized networks

Audience Profile

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 N10-009).

Prerequisites

Networking experience is helpful but not mandatory; A+ certification or equivalent skills and knowledge is helpful but not mandatory.

Course Outline

01. Fundamentals of Network Communication

- Introduction to Networks

02. Networking Concepts

- The OSI Model
- Decoding Network Headers
- Intro to Network Addressing
- Address Resolution Protocol
- Network Topologies
- Introduction to IP Subnets

03. Internet, Transport and Application Layer Protocols

- TCP/IP Protocols
- Application Layer Protocols

04. Ethernet Technologies

- Ethernet Communication Fundamentals
- Ethernet at Layer 1 (Physical Layer)
- Ethernet Tools and Diagnostics
- Spanning Tree Protocol and Layer 2 Loops
- VLAN Operation and Essentials
- Power Over Ethernet (PoE)
- Securing Individual Switch Ports
- Advanced Switching Solutions

05. WiFi Technologies

- Introduction to WiFi
- Channel Selection for WiFi
- Deploying WLANs
- WiFi Signaling
- WiFi Technologies
- WiFi Security

06. IP Masks and Subnetting

- IP Subnet Masks
- IP Subnetting Flashcards
- Deploying IP Subnets
- Route Summarization and VLSM
- Subnets Created Calculations

07. IP Services

- Configuring the Default Gateway
- DHCP Configuration
- The Domain Name System (DNS)

08. Routing

- Intro to Routing
- Static Routing
- Dynamic Routing Protocols
- Interpreting Complex Prefixes

09. Understanding IPv6

- IPv6 Address Structure
- IPv6 Services

10. Advanced Network Services

- Security Infrastructure Services
- Security Solutions
- Network Address Translation
- Site to Site Connectivity

11. Managing and Troubleshooting Networks

- Troubleshooting Methodologies
- Traffic Mirroring and Packet Capture
- Command Line Tools
- Environmental Monitoring
- Logging and Management Protocols
- Quality of Service (QoS)

12. Security Theory and IT Policies

- Core Security Principles and Systems
- Securing Protocols
- Security Terminology
- Defense In Depth
- Physical Security

13. Cloud and Datacenter Technologies

- Other Network Types
- Storage Solutions
- Virtualization
- Cloud Services