

# CompTIA N+10-009 Training

*COURSE CONTENT*

## GET IN TOUCH



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## About Multisoft

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## About Course

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The CompTIA Network+ N+10-009 training offered by Multisoft Systems is an essential course for professionals looking to deepen their understanding and proficiency in networking technologies. This comprehensive training is designed to cover all the critical aspects of modern network management and troubleshooting.

## Module 1: Networking Concepts

**1.1 Explain concepts related to the Open Systems Interconnection (OSI) reference model**

**1.2 Compare and contrast networking appliances, applications, and functions.**

- ✓ Physical and virtual appliances
- ✓ Applications
- ✓ Functions

**1.3 Summarize cloud concepts and connectivity options.**

- ✓ Virtual private cloud (VPC)
- ✓ Network security groups
- ✓ Network security lists • Cloud gateways - Internet gateway - Network address translation (NAT) gateway
- ✓ Cloud connectivity options - VPN - Direct Connect
- ✓ Deployment models - Public - Private - Hybrid
- ✓ Service models - Software as a service (SaaS) - Infrastructure as a service (IaaS) - Platform as a service (PaaS)
- ✓ Scalability
- ✓ Elasticity
- ✓ Multitenancy

**1.4 Explain common networking ports, protocols, services, and traffic types.**

- ✓ Protocols
- ✓ Ports
- ✓ Internet Protocol (IP) types

**1.5 Compare and contrast transmission media and transceivers.**

- ✓ Wireless
- ✓ Wired

- ✓ Transceivers
- ✓ Connector types

## 1.6 Compare and contrast network topologies, architectures, and types.

- ✓ Mesh
- ✓ Hybrid
- ✓ Star/hub and spoke
- ✓ Spine and leaf
- ✓ Point to point
- ✓ Three-tier hierarchical model
- ✓ Collapsed core
- ✓ Traffic flows

## 1.7 Given a scenario, use appropriate IPv4 network addressing.

- ✓ Public vs. private
- ✓ Subnetting
- ✓ IPv4 address classes

## 1.8 Summarize evolving use cases for modern network environments

- ✓ Software-defined network (SDN) and software-defined wide area network (SD-WAN)
- ✓ Virtual Extensible Local Area Network (VXLAN)
- ✓ Zero trust architecture (ZTA)
- ✓ Secure Access Secure Edge (SASE)/Security Service Edge (SSE)
- ✓ Infrastructure as code (IaC)
- ✓ IPv6 addressing

# Module 2: Network Implementation

## 2.1 Explain characteristics of routing technologies.

- ✓ Static routing

- ✓ Dynamic routing
- ✓ Route selection
- ✓ Address translation
- ✓ First Hop Redundancy Protocol (FHRP)
- ✓ Virtual IP (VIP)
- ✓ Subinterfaces

## **2.2 Given a scenario, configure switching technologies and features.**

- ✓ Virtual Local Area Network (VLAN)
- ✓ Interface configuration
- ✓ Spanning tree
- ✓ Maximum transmission unit (MTU)

## **2.3 Given a scenario, select and configure wireless devices and technologies.**

- ✓ Channels
- ✓ Frequency options
- ✓ Service set identifier (SSID)
- ✓ Network types
- ✓ Guest networks
- ✓ Authentication
- ✓ Antennas
- ✓ Autonomous vs. lightweight access point

## **2.4 Explain important factors of physical installations.**

- ✓ Important installation implications
- ✓ Power
- ✓ Environmental factors

## Module 3: Network Operations

### 3.1 Explain the purpose of organizational processes and procedures.

- ✓ Documentation
- ✓ Life-cycle management
- ✓ Change management
- ✓ Configuration management

### 3.2 Given a scenario, use network monitoring technologies.

- ✓ Methods
- ✓ Solutions

### 3.3 Explain disaster recovery (DR) concepts.

- ✓ DR metrics
- ✓ DR sites
- ✓ High-availability approaches

### 3.4 Given a scenario, implement IPv4 and IPv6 network services

- ✓ Dynamic addressing
- ✓ Name resolution
- ✓ Time protocols

### 3.5 Explain disaster recovery (DR) concepts.

- ✓ Site-to-site VPN
- ✓ Client-to-site VPN
- ✓ Connection methods
- ✓ Jump box/host
- ✓ In-band vs. out-of-band management

## Module 4: Network Security

### 4.1 Explain the importance of basic network security concepts.

- ✓ Logical security
- ✓ Physical security
- ✓ Deception technologies
- ✓ Common security terminology - Risk - Vulnerability - Exploit - Threat - Confidentiality, Integrity, and Availability (CIA) triad
- ✓ Audits and regulatory compliance
- ✓ Network segmentation enforcement

### 4.2 Summarize various types of attacks and their impact to the network.

- ✓ Denial-of-service (DoS)/ distributed denial-of-service (DDoS)
- ✓ VLAN hopping
- ✓ Media Access Control (MAC) flooding
- ✓ Address Resolution Protocol (ARP) poisoning
- ✓ ARP spoofing
- ✓ DNS poisoning
- ✓ DNS spoofing
- ✓ Rogue devices and services
- ✓ Evil twin
- ✓ On-path attack

### 4.3 Given a scenario, apply network security features, defense techniques, and solutions.

- ✓ Device hardening
- ✓ Network access control (NAC)
- ✓ Key management
- ✓ Security rules
- ✓ Zone

## Module 5: Network Troubleshooting

### 5.1 Explain the troubleshooting methodology.

- ✓ Identify the problem
- ✓ Establish a theory of probable cause
- ✓ Test the theory to determine the cause
- ✓ Establish a plan of action to resolve the problem and identify potential effects
- ✓ Implement the solution or escalate as necessary
- ✓ Verify full system functionality and implement preventive measures if applicable
- ✓ Document findings, actions, outcomes, and lessons learned throughout the process

### 5.2 Given a scenario, troubleshoot common cabling and physical interface issues.

- ✓ Cable issues
- ✓ Interface issues
- ✓ Hardware issues

### 5.3 Given a scenario, troubleshoot common issues with network services.

- ✓ Switching issues
- ✓ Route selection
- ✓ Address pool exhaustion
- ✓ Incorrect default gateway
- ✓ Incorrect IP address
- ✓ Incorrect subnet mask

### 5.4 Given a scenario, troubleshoot common issues with network services.

- ✓ Congestion/contention
- ✓ Bottlenecking
- ✓ Bandwidth
- ✓ Latency



- ✓ Packet loss
- ✓ Jitter
- ✓ Wireless

**5.5 Given a scenario, troubleshoot common performance issues.**

- ✓ Software tools
- ✓ Hardware tools
- ✓ Basic networking device commands