CompTIA: Network+ On-Demand

Course ID #: 7000-1133-ZZ-Z
Hours: 35
Delivery Method: Group Internet Based

Course Content

Description:

In this On-Demand course, you will cover: basic network theory; network connectivity; advanced network theory such as the OSI Model, Ethernet and FDDI; common network protocols; TCP/IP services; alternate network protocols including IPX/SPX and Appletalk; Network LAN Infrastructure; Network WAN Infrastructure; remote networking; network security; disaster recovery; advanced data storage techniques; network troubleshooting & network operating systems.

Objectives:

Upon successful completion of this course, students will:

- Deploy and troubleshoot Ethernet networks.
- Support IPv4 and IPv6 networks.
- Configure and troubleshoot routers.
- Support network services and applications.
- Ensure network security and availability.
- Deploy and troubleshooting wireless networks.
- Support WAN links and remote access methods.
- Support organizational procedures and site security controls.
- Summarize cloud and data center architecture.

Prerequisites:

To ensure your success in this course, you should have basic IT skills comprising nine to twelve months' experience. CompTIA A+ certification, or the equivalent knowledge, is strongly recommended.

Target Audience:

Anyone wanting to start a career in IT.

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Topics:

1.0 Explaining Network Topologies

1.1 Networking Overview

- Networking Concepts
- Network Types
- Network Topology
- Star Topology
- Mesh Topology
- Legacy Topologies
- Activity: Identify Network Topologies
- Lab: Create Network Topologies
- Lesson Review

1.2 OSI Model Concepts

- Open Systems Interconnection Model
- Data Encapsulation and Decapsulation
- Layer 1 - Physical
- Layer 2 - Data Link
- Layer 3 - Network
- Layer 4 - Transport
- Upper Layers
- OSI Model Summary
- Lesson Review

1.3 SOHO Networks

- SOHO Routers
- Physical Layer Functions
- Data Link Layer Functions
- Network Layer Functions
- Transport and Application Layer and Security Functions
- The Internet
- Binary and Hexadecimal
- Lab: Explore a Single Location in a Lab
- Lab: Create a Home Wireless Network
- Lab: Create a SOHO Network
- Lesson Review

1.4 Troubleshooting Methodology

- Network Troubleshooting Methodology
- Identify the Problem
- Identify Problem Symptoms
- Establish a Theory of Probable Cause
- Test the Theory to Determine the Cause
- Establish a Plan of Action
- Implement the Solution
- Verify the Solution
- Document Findings, Actions, and Outcomes
- Lab: Troubleshooting Methodology
- Lesson Review

1.5 Additional Resources

- Network Terminology and Types
- The OSI Model
- Troubleshooting Methodology

1.6 Module Quiz

2.0 Supporting Cabling and Physical Installations

2.1 Ethernet

- Network Data Transmission
- Ethernet Standards
- Media Access Control and Collision Domains
- 100BASE-TX Fast Ethernet Standards
- Gigabit Ethernet Standards
- Fiber Ethernet Standards
- Lab: Reconnect to an Ethernet Network
- Lesson Review

2.2 Copper Cables and Connectors

- Unshielded Twisted Pair Cable
- Shielded and Screened Twisted Pair Cable
- Cat Cable Standards
- Twisted Pair Connector Types
- Plenum and Riser-Rated Cable
- Coaxial and Twinaxial Cable and Connectors
- Activity: Identify Copper Cables
- Activity: Identify Copper Connectors
- Lab: Connect to an Ethernet Network
- Lab: Connect a Cable Modem
- Lesson Review

2.3 Wiring Implementation

- Structured Cabling System
- T568A and T568B Termination Standards
- Patch Panels
- Structured Cable Installation
- Termination Tools and Techniques
- Lab: Explore Multiple Locations in a Lab
- Lab: Connect Network Devices
- Lab: Connect Patch Panel Cables 1
- Lab: Connect Patch Panel Cables 2
- Lesson Review

2.4 Fiber Optic Cables and Connectors

- Fiber Optic Cable Considerations
- Single Mode Fiber and Multimode Fiber
- Fiber Optic Connector Types
- Fiber Optic Cable Installation
- Fiber Distribution Panels
- Multi-Fiber Push On Connectors
- Activity: Identify Fiber Optic Connectors
- Wavelength Division Multiplexing
- Lab: Connect Fiber Optic Cables
- Lesson Review

2.5 Physical Installation Factors

- Rack Systems
- Humidity and Temperature
- Power Management
- Fire Suppression
- Lesson Review

2.6 Cable Troubleshooting

- Specification and Limitations
- Cable Issues
- Cable Category Issues
- Cable Testers
- Wire Map Testers and Tone Generators
- Attenuation and Interference Issues
- Crosstalk Issues
- Fiber Optic Cable Testing Tools
- Cable Troubleshooting Strategies
- Lab: Explore Physical Connectivity 1
- Lab: Explore Physical Connectivity 2
- Lab: Troubleshoot Physical Connectivity 1
- Lab: Troubleshoot Physical Connectivity 2
- Lab: Troubleshoot Physical Connectivity 3
- Lab: Troubleshoot Physical Connectivity 4
- Lesson Review

2.7 Additional Resources

- Ethernet Standards
- Cables and Connectors
- Structured Cable Installation
- Structured Cable Installation and Troubleshooting

2.8 Module Quiz

3.0 Configuring Interfaces and Switches

3.1 Network Interfaces

- Network Interface Cards
- Modular Transceivers
- Transceiver Mismatch Issues
- Transceiver Signal Strength Issues
- Ethernet Frame Format
- Media Access Control Address Format
- Activity: Identify Parts of a MAC Address
- Lab: Select and Install a Network Adapter
- Lab: Connect a Media Converter
- Lesson Review

3.2 Ethernet Switches

- Hubs
- Bridges
- Switches
- Ethernet Switch Types
- Switch Interface Configuration
- Cisco IoS Basics
- Lab: Install a Switch in the Rack
- Lab: Secure a Switch
- Lab: Cisco IoS Basics
- Lesson Review

3.3 Switch Port Configuration

- Link Aggregation and NIC Teaming
- Maximum Transmission Unit
- Spanning Tree Protocol
- Spanning Tree Protocol Configuration
- Power Over Ethernet
- Lab: Configure Port Aggregation
- Lab: Enable Jumbo Frame Support
- Lab: Configure PoE
- Lesson Review

3.4 Switch Troubleshooting

- Hardware Failure Issues
- Port Status Indicators
- Switch Show Commands
- Interface Error Counters
- MAC Address Table
- Network Loop and Broadcast Storm Issues
- Power Over Ethernet Issues
- Lab: Troubleshoot Disabled Ports
- Lab: Switching Loop
- Lesson Review

3.5 Additional Resources

- NIC Cards and MAC Addresses
- Ethernet Switches

3.6 Module Quiz

3.7 Checkpoint Review

4.0 Configuring Network Addressing

4.1Internet Protocol Basics

- IPv4 Datagram Header
- Layer 2 vs Layer 3 Addressing and Forwarding
- Address Resolution Protocol
- Unicast and Broadcast Addressing
- Multicast and Anycast Addressing
- Lab: Explore Packets and Frames
- Lab: Explore ARP in Wireshark
- Lesson Review

4.2 IP Version 4 Addressing

- IPv4 Address Format
- Network Masks
- Subnet Masks
- Host Address Ranges
- Default Gateway
- Broadcast Addresses
- IP Interface Configuration in Windows
- IP Interface Configuration in Linux
- Lab: Configure IP Addresses
- Lab: Configure IP Addresses on Mobile Devices
- Lab: Configure IP Addresses on Linux
- Lesson Review

4.3 IP Version 4 Subnetting
- Classful Addressing
- Public vs Private Addressing
- Other Reserved Address Ranges
- IPv4 Address Scheme Design
- Classless Inter-Domain Routing
- Variable Length Subnet Masks
- Lab: Configure IP Networks and Subnets
- Lesson Review

4.4 IP Troubleshooting Tools
- ipconfig
- ifconfig and ip
- arp
- ping
- Lab: IPv4 Troubleshooting Tools
- Lab: IPv4 Troubleshooting tools for Linux
- Lab: Use IPv4 Test Tools
- Lesson Review

4.5 IP Version 6
- IPv4 vs IPv6
- IPv6 Address Format
- IPv6 Network Prefixes
- IPv6 Unicast Addressing
- IPv6 Link Local Addressing
- IPv6 Multicast and Anycast Addressing
- IPv4 and IPv6 Transition Mechanisms
- Common IPv6 Address Prefixes
- Lab: Configure an IPv6 Address
- Lesson Review

4.6 IP Troubleshooting
- IP Configuration Issues
- Duplicate IP and MAC Address Issues
- IP Forwarding Issues
- Lab: Use ping and tracert on Windows
- Lab: Use ping and traceroute on Linux
- Lab: Assisted Troubleshooting 1
- Lab: Assisted Troubleshooting 2
- Lab: Assisted Troubleshooting 3
- Assisted Lab Explore The Vm Lab Environment
- Applied Lab Troubleshoot Ip Configuration
- Lesson Review

4.7 Additional Resources
- Network Addresses and Message Types
- IPv4 Addressing and Troubleshooting
- Subnetting Terminology
- Subnetting Demonstration
- IPv6 Addressing and Troubleshooting
- Networking Command-Line Tools

4.8 Module Quiz

5.0 Configuring Routing and Advanced Switching

5.1 Routing Technologies
- Routing Tables and Path Selection
- Static and Default Routes
- Routing Table ple
- Packet Forwarding
- Fragmentation
- Router Configuration
- Routing Table Tools
- tracert and traceroute
- Lab: Install an Enterprise Router
- Lab: Cisco Troubleshooting Tools
- Lesson Review

5.2 Dynamic Routing Technologies
- Dynamic Routing Protocols
- Routing Information Protocol
- Enhanced Interior Gateway Routing Protocol
- Open Shortest Path First
- Border Gateway Protocol
- Route Selection
- Lesson Review

5.3 Network Address Translation
- Edge Routers
- Network Address Translation Types
- Port Address Translation
- Lab: Configure NAT
- Lesson Review

5.4 Firewalls
- Firewall Uses and Types
- Firewall Selection and Placement
- Lesson Review

5.5 Enterprise Network Topologies
- Hybrid Topology
- Three-Tiered Network Hierarchy
- Activity: Identify the Three Tiered Hierarchy
- Lab: Create a Three-Tier Network
- Lesson Review

5.6 Virtual LANs
- Virtual LANs and Subnets
- Virtual LAN IDs and Membership
- Trunking and IEEE 802.1Q
- Tagged and Untagged Ports
- Voice VLANs
- Default VLAN and Native VLAN
- VLAN Routing
- Lab: Configure Switch IP and VLAN - GUI
- Lab: Create VLANs - GUI
- Lab: Configure Trunking
- Lab: Configure Switch IP Settings - CLI
- Lab: Configure Management VLAN Settings - CLI
- Lesson Review

5.7 Routing and VLAN Troubleshooting
- Routing Table Issues
- Default Route and Routing Loop Issues
- VLAN Assignment Issues
- Lesson Review

5.8 Additional Resources
- Routing Basics
- Network Address Translation
- Hardware Firewalls
- Enterprise Network Design

5.9 Module Quiz

6.0 Implementing Network Services

6.1 Transport and Application Layer Protocols
- Transport Layer Ports and Connections
- Transmission Control Protocol
- TCP Handshake and Teardown
- User Datagram Protocol
- netstat
- Common TCP and UDP Ports
- Lab: Explore Three-Way Handshake in Wireshark
- Lab: View Open Ports with netstat
- Lesson Review

6.2 Dynamic Host Configuration Protocol
- DHCP Process
- DHCP Server Configuration
- DHCP Options
- DHCP Reservations and Exclusions
- Lab: Configure a DHCP Server
- Lab: Configure DHCP Server Options
- Lab: Create DHCP Exclusions
- Lab: Create DHCP Client Reservations
- Configure Client Addressing
- Lab: Configure Client Addressing for DHCP
- Lesson Review

6.3 APIPA and SLAAC
- Automatic Private IP Addressing
- IPv6 Interface Autoconfiguration and Testing
- DHCPv6 Server Configuration
- Lab: Explore APIPA Addressing
- Lab: Explore APIPA Addressing in Network Modeler
- Set Up Alternate Addressing
- Lesson Review

6.4 DHCP Relay and Troubleshooting

- DHCP Relay and IP Helper
- DHCP Issues
- Troubleshooting DHCP Exhaustion
- Lab: Configure a DHCP Relay Agent
- Lab: Add a DHCP Server on Another Subnet
- Lab: Troubleshoot Address Pool Exhaustion
- Applied Lab Troubleshoot Address Pool Exhaustion
- Lab: Explore DHCP Troubleshooting
- Lab: Troubleshoot IP Configuration 1
- Lab: Troubleshoot IP Configuration 2
- Lab: Troubleshoot IP Configuration 3
- Lesson Review

6.5 Domain Name System

- Host Names and Domain Names
- DNS Hierarchy
- Name Resolution Using DNS
- Resource Record Types
- Host Address and Canonical Name Records
- Mail Exchange, Service, and Text Records
- Pointer Records
- DNS Server Configuration
- Internal vs External DNS
- DNS Security
- Lab: Configure DNS Addresses
- Lab: Create Standard DNS Zones
- Lab: Create Host Records
- Lab: Create CNAME Records
- Lab: Troubleshoot DNS Records
- Configuring DNS Caching on Linux
- Applied Lab Configure Dns Records
- Lesson Review

6.6 DNS Troubleshooting

- Client DNS Issues
- Name Resolution Issues
- nslookup
- dig
- Lab: Explore nslookup
- Lab: Use nslookup
- Applied Lab Report Dns Configuration
- Lesson Review

6.7 Additional Resources

- Transport and Application Protocols
- Dynamic Host Configuration Protocol
- DNS and DNS Troubleshooting

6.8 Module Quiz

6.9 Checkpoint Review

7.0 Explaining Application Services

7.1 Application Security and Time Synchronization

- Transport Layer Security
- Network Time Protocol
- Precision Time Protocol
- Lab: Configure NTP on Linux
- Assisted Lab Troubleshoot Time Synchronization Issues
- Lesson Review

7.2 Web, File, Print, and Database Services

- Hyper Text Transfer Protocol
- HTTP Secure
- File Transfer Protocol
- Secure File Transfer Protocol
- Server Message Block
- Network Attached Storage
- Database Services
- Assisted Lab Verify Secure Web Services
- Lab: Scan for Web Services with Nmap
- Lesson Review

7.3 Email and Voice Services
- Simple Mail Transfer Protocol
- Internet Message Access Protocol
- Voice and Video Services
- VoIP Protocols
- VoIP Phones
- Lab: Connect VoIP 1
- Lab: Connect VoIP 2
- Lesson Review

7.4 Disaster Recovery and High Availability
- Disaster Recovery Concepts
- Disaster Recovery Metrics
- Disaster Recovery Sites
- Fault Tolerance and Redundancy
- Load Balancers
- High Availability Clusters
- First Hop Redundancy
- Lab: Configure NIC Teaming
- Assisted Lab Configure First Hop Redundancy
- Lesson Review

7.5 Additional Resources
- Network Time Protocol
- File and Web Services
- Email and Video and Voice Services
- Disaster Recovery and High Availability

7.6 Module Quiz

8.0 Supporting Network Management

8.1 Organizational Policies and Documentation
- Configuration Management
- Network Device Backup Management
- Assisted Lab Backup And Restore Network Appliances
- Change Management
- Asset Inventory Documentation
- Lifecycle Management
- Decommissioning
- Physical Network Diagrams
- Logical Network Diagrams
- IP Address Management
- Common Agreements
- Lab: Update Firmware
- Assisted Lab Update Network Documentation
- Lesson Review

8.2 Host Discovery and Monitoring
- Network Discovery
- Nmap
- Nmap Port Scanning
- Discovery Protocols
- Performance Monitoring
- Availability Monitoring
- Configuration Monitoring
- Lab: Scan Using Zenmap
- Applied Lab Perform Network Discovery
- Lesson Review

8.3 Simple Network Management Protocol
- SNMP Agents and Monitors
- SNMP Security
- Configuring an SNMP System on a Router
- Monitoring a Switch with SNMP
- Configuring SNMP Trap
- Applied Lab Configure Snmp
- Lesson Review

8.4 Event Management
- Network Device Logs
- Log Collectors and Syslog
- Event Prioritization and Alerting
- Security Information and Event Management
- Log Reviews
- Lab: Configure Logging in pfSense
- Lab: Evaluate Event Logs in pfSense
- Lab: Auditing Device Logs on a Cisco Switch
- Lab: Configure Logging on Linux
- Lab: View Event Logs
- Assisted Lab Configure Log Collection
- Lesson Review

8.5 Packet Capture and Analysis
- Packet Capture
- tcpdump
- Protocol Analyzers
- Using Wireshark to Troubleshoot Network Issues
- Lab: Troubleshoot with Wireshark
- Lab: Configure Port Mirroring
- Lesson Review

8.6 Traffic Monitoring
- Common Performance Issues
- Interface Statistics
- Flow Data
- Traffic Testing Tools
- Bandwidth Management
- Traffic Shaping
- Lab: Configure QoS
- Monitoring Interface Statistics
- Assisted Lab Configure Flow Collection And Analysis
- Applied Lab Troubleshoot Network Service Issues
- Lesson Review

8.7 Additional Resources
- Network Diagrams
- Host Discovery and Monitoring
- Network Analysis

8.8 Module Quiz

9.0 Explaining Network Security Concepts

9.1 Security Concepts
- Common Security Terminology
- Security Audits and Assessments
- Regulatory Compliance
- Encryption
- Vulnerability and Exploit Types
- Deception Technologies
- Lab: Create a Honeypot
- Lesson Review

9.2 Network Threats and Attacks
- Threat Types and Assessment
- Attack Types
- Distributed DoS Attacks and Botnets
- Malware Attacks
- Lab: Analyze a DoS Attack
- Lab: Analyze a DDoS Attack
- Lesson Review

9.3 Spoofing Attacks
- On-Path Attacks
- Performing an On-Path DHCP Attack
- Poison ARP
- MAC Flooding Attack
- Using SMAC to Spoof MAC Addresses
- VLAN Hopping Attacks
- Lab: Poison ARP and Analyze with Wireshark
- Lab: Spoof MAC Addresses with SMAC
- Lab: Perform a DHCP Spoofing On-Path Attack
- Lesson Review

9.4 Rogue System Attacks
- Rogue Devices and Services
- Rogue DHCP
- Setting Up DHCP Snooping
- DNS Attacks
- Poisoning DNS
- Lab: Discover a Rogue DHCP Server
- Lab: Configure DHCP Snooping
- Lab: Poison DNS
- Lab: Analyze DNS Spoofing
- Applied Lab Analyze Network Attacks
- Lesson Review

9.5 Social Engineering
- Social Engineering Attacks
- Password Attacks
- Lab: Respond to Social Engineering Exploits
- Lab: Crack a Password with John the Ripper
- Lesson Review

9.6 Additional Resources
- Security Concepts
- Threats and Attacks
- Social Engineering

9.7 Module Quiz

9.8 Checkpoint Review

10.0 Applying Network Security Features

10.1 Authentication
- Access Control
- Authentication Methods
- Local Authentication
- Single Sign-On and Kerberos
- Digital Certificates and PKI
- Key Management
- Federated Identity and SAML
- Remote Authentication
- Assisted Lab Deploy A Digital Certificate
- Lesson Review

10.2 Authorization and Account Management
- Authorization and Role-Based Access Control
- Privileged Access Management
- Lightweight Directory Access Protocol
- LDAP Secure
- Lab: Manage Account Policies
- Assisted Lab Configure Management Privileges
- Lesson Review

10.3 Network Hardening
- Defense in Depth
- Device and Service Hardening
- Lab: View Linux Services
- Scanning for Unsecure Protocols
- Lab: Scan for Unsecure Protocols
- Lab: Enable and Disable Linux Services
- Lab: Disable Network Service
- Lesson Review

10.4 Switch Security
- Network Access Control and Port Security
- Lab: Secure Access to a Switch
- Lab: Secure Access to a Switch 2
- Lab: Disable Switch Ports - GUI
- Extensible Authentication Protocol and IEEE 802.1X
- Port Guards
- Lab: Harden a Switch
- Port Mirroring
- Lesson Review

10.5 Network Security Rules
- Security Rules and ACL Configuration
- Proxy Servers
- Content Filtering
- Misconfigured Firewall and ACL Issues
- Creating Firewall ACLs
- Lab: Configure Network Security Appliance Access
- Lab: Configure a Security Appliance
- Lab: Configure a Perimeter Firewall
- Lab: Restrict Telnet and SSH Access
- Lab: Permit Traffic
- Lab: Block Source Hosts
- Applied Lab Troubleshoot Service And Security Issues
- Lesson Review

10.6 Additional Resources
- Authentication
- Public Key Infrastructure
- Authorization and Account Management
- Switch Port Security

10.7 Module Quiz

11.0 Supporting Network Security Design

11.1 Zone-based Security

- Network Security Zones
- Configuring a Screened Subnet
- Perimeter Networks
- Screened Subnets
- Lab: Configure a Screened Subnet (DMZ)
- Lab: Configure Screened Subnets
- Intrusion Detection and Prevention Systems
- Implementing Intrusion Detection and Prevention
- Lab: Implement Intrusion Prevention
- Lesson Review

11.2Internet of Things

- IoT Devices
- Industrial Embedded Systems
- IoT Networks
- IoT Network Security
- Lab: Scan for IoT Devices
- Lesson Review

11.3 Physical Security

- Locks
- Cameras
- Geofencing
- Implement Physical Security
- Lesson Review

11.4 Additional Resources

- Zones and Perimeter Networks
- Embedded Systems and Zero Trust

11.5 Module Quiz

12.0 Configuring Wireless Networks

12.1 Wireless Concepts and Standards

- IEEE 802.11 Wireless Standards
- IEEE 802.11a and 5GHz Channel Bandwidth
- IEEE 802.11b/g and 2.4GHz Channel Bandwidth
- IEEE 802.11n, MIMO, and Channel Bonding
- Wi-Fi 5 and Wi-Fi 6
- Multiuser MIMO and Band Steering
- Cellular Technologies
- Satellite Technologies
- Lab: Configure Wireless Profiles
- Lesson Review

12.2 Enterprise Wireless Network Design

- Infrastructure Network Type
- Range and Signal Strength
- Wireless Surveys and Heat Maps
- Wireless Roaming
- Wireless Controllers
- Antenna Types
- Other Wireless Network Types
- Lab: Design an Indoor Wireless Network
- Lab: Design an Outdoor Wireless Network
- Lab: Implement an Enterprise Wireless Network
- Lesson Review

12.3 Wireless Security

- Wi-Fi Encryption Standards
- Personal Authentication
- Enterprise Authentication
- Guest Networks and Captive Portals
- Bring Your Own Device Issues
- Wireless Network Attacks
- Lab: Configure a Captive Portal
- Lab: Create a Guest Network for BYOD
- Lab: Secure an Enterprise Wireless Network
- Lab: Secure a Home Wireless Network
- Lab: Enable Wireless Intrusion Prevention
- Lesson Review

12.4 Wireless Troubleshooting
- Wireless Performance Assessment
- Insufficient Wireless Coverage Issues
- Channel Overlap Issues
- Interference Issues
- Roaming and Client Disassociation Issues
- Overcapacity Issues
- Lab: Explore Wireless Network Problems
- Lab: Troubleshoot Wireless Network Problems
- Lab: Optimize a Wireless Network
- Lesson Review

12.5 Additional Resources
- Enterprise Wireless Network Design
- Wireless Standards and Security
- Wireless Troubleshooting

12.6 Module Quiz

12.7 Checkpoint Review

13.0 Comparing Remote Access Methods

13.1 WAN and Internet Connectivity
- Wide Area Networks and the OSI Model
- Internet Access Types
- Fiber to the Curb and Fiber to the Premises
- Lesson Review

13.2 Virtual Private Networks
- Remote Access Considerations
- Tunneling Protocols
- Internet Protocol Security
- Internet Key Exchange
- Client-to-Site VPNs
- Clientless VPNs
- Site-to-Site VPNs
- Lab: Configure a Remote Access VPN
- Lab: Configure an iPad VPN Connection
- Lab: Configure a RADIUS Solution
- Lesson Review

13.3 Remote Management
- Remote Host Access
- Secure Shell
- Telnet
- Remote Desktop Protocol
- Console Connections and Out-of-Bound Management
- Jump Boxes
- API Connection Methods
- Lab: Allow Remote Desktop Connections
- Lab: Use PowerShell Remote
- Assisted Lab Configure A Jump Box
- Lesson Review

13.4 Additional Resources
- Network Types: LANs, WLANs, and WANs
- Internet Connection Types
- VPNs
- Remote Access

13.5 Module Quiz

14.0 Summarizing Cloud Concepts

14.1 Datacenter and Storage Networks
- Data Center Network Design
- Spine and Leaf Topology
- Storage Area Networks
- Fibre Channel
- Lab: Configure an iSCSI Target
- Lab: Configure an iSCSI Initiator
- Lesson Review

14.2 Cloud Concepts
- Cloud Scalability and Elasticity
- Cloud Deployment Models
- Cloud Service Models
- Content Delivery Networks
- Assisted Lab Deploy A Cloud Vm
- Lesson Review

14.3 Cloud Networking
- Cloud Instances
- Virtual Private Clouds
- Cloud Gateways
- Cloud Connectivity Options
- Cloud Firewall Security
- Security Groups and Security Lists
- Assisted Lab Configure Cloud Networking
- Lesson Review

14.4 Modern Network Environments
- Infrastructure as Code
- Uses for Infrastructure as Code
- Source Control
- Software-Defined Networking
- Software-Defined WAN
- Overlay Networks
- Zero Trust Architecture
- Secure Access Service Edge
- Lesson Review

14.5 Additional Resources
- Datacenter and Storage Networks
- Cloud Concepts and Networks
- Modern Network Environments

14.6 Module Quiz

A.0 Network Sandbox

A.1 Network Sandbox Lab

B.0 Prepare for CompTIA Network+ Certification

B.1 Prepare for CompTIA Network+ Certification
- Why Should I Take a Certification Exam?
- Details for CompTIA Network+ N10-009
- Objectives for CompTIA Network+ N10-009
- Course Mapping with CompTIA Network+ N10-009 Exam Objectives
- How to Take the Certification
- Tips for Taking the Certification

B.2 CompTIA Network+ N10-009 Practice Materials
- Practice 1: Networking Concepts
- Practice 2: Network Implementations
- Practice 3: Network Operations
- Practice 4: Network Security
- Practice 5: Network Troubleshooting
- Skills Practice: Competency in Networking
- Practice Test: CompTIA Network+ N10-009

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Level: Intermediate/ Advanced
Advanced Preparation:
Attendance Requirement: To be awarded the full credit hours, you must sign in and attend the entire course.
Recommended Field(s) of Study: Computer Software & Applications
Recommended CPEs: 39.00

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