CompTIA®

# CertMaster Labs Network+

*N10-009*

# COURSE OUTLINE

# List of Modules

# 1.0 Explaining Network Topologies

1.1 Lab: Create Network Topologies
1.2 Lab: Explore a Single Location in a Lab
1.3 Lab: Create a Home Wireless Network
1.4 Lab: Create a SOHO Network
1.5 Lab: Troubleshooting Methodology

# 2.0 Supporting Cabling and Physical Installations

2.1 Lab: Reconnect to an Ethernet Network
2.2 Lab: Connect to an Ethernet Network
2.3 Lab: Connect a Cable Modem
2.4 Lab: Explore Multiple Locations in a Lab
2.5 Lab: Connect Network Devices
2.6 Lab: Connect Patch Panel Cables 1
2.7 Lab: Connect Patch Panel Cables 2
2.8 Lab: Connect Fiber Optic Cables
2.9 Lab: Explore Physical Connectivity 1
2.10 Lab: Explore Physical Connectivity 2
2.11 Lab: Troubleshoot Physical Connectivity 1
2.12 Lab: Troubleshoot Physical Connectivity 2
2.13 Lab: Troubleshoot Physical Connectivity 3
2.14 Lab: Troubleshoot Physical Connectivity 4

# 3.0 Configuring Interfaces and Switches

3.1 Lab: Select and Install a Network Adapter
3.2 Lab: Connect a Media Converter
3.3 Lab: Install a Switch in the Rack
3.4 Lab: Secure a Switch
3.5 Lab: Cisco IoS Basics
3.6 Lab: Configure Port Aggregation
3.7 Lab: Enable Jumbo Frame Support
3.8 Lab: Configure PoE
3.9 Lab: Troubleshoot Disabled Ports
3.10 Lab: Switching Loop

# 4.0 Configuring Network Addressing

4.1 Lab: Explore Packets and Frames
4.2 Lab: Explore ARP in Wireshark
4.3 Lab: Configure IP Addresses
4.4 Lab: Configure IP Addresses on Mobile Devices
4.5 Lab: Configure IP Addresses on Linux
4.6 Lab: Configure IP Networks and Subnets
4.7 Lab: IPv4 Troubleshooting Tools
4.8 Lab: IPv4 Troubleshooting tools for Linux
4.9 Lab: Use IPv4 Test Tools
4.10 Lab: Configure an IPv6 Address
4.11 Lab: Use ping and tracert on Windows
4.12 Lab: Use ping and traceroute on Linux
4.13 Lab: Assisted Troubleshooting 1
4.14 Lab: Assisted Troubleshooting 2
4.15 Lab: Assisted Troubleshooting 3
4.16 Live Lab: Explore the VM Lab Environment
4.17 Applied Live Lab: Troubleshoot IP Configuration

# 5.0 Configuring Routing and Advanced Switching

5.1 Lab: Install an Enterprise Router
5.2 Lab: Cisco Troubleshooting Tools
5.3 Lab: Configure NAT
5.4 Lab: Create a Three-Tier Network
5.5 Lab: Configure Switch IP and VLAN - GUI
5.6 Lab: Create VLANs - GUI
5.7 Lab: Configure Trunking
5.8 Lab: Configure Switch IP Settings - CLI
5.9 Lab: Configure Management VLAN Settings - CLI

# 6.0 Implementing Network Services

6.1 Lab: Explore Three-Way Handshake in Wireshark
6.2 Lab: View Open Ports with netstat
6.3 Lab: Configure a DHCP Server
6.4 Lab: Configure DHCP Server Options
6.5 Lab: Create DHCP Exclusions
6.6 Lab: Create DHCP Client Reservations
6.7 Lab: Configure Client Addressing for DHCP
6.8 Lab: Explore APIPA Addressing
6.9 Lab: Explore APIPA Addressing in Network Modeler
6.10 Lab: Configure a DHCP Relay Agent
6.11 Lab: Add a DHCP Server on Another Subnet
6.12 Lab: Troubleshoot Address Pool Exhaustion
6.13 Applied Live Lab: Troubleshoot Address Pool Exhaustion
6.14 Lab: Explore DHCP Troubleshooting
6.15 Lab: Troubleshoot IP Configuration 1
6.16 Lab: Troubleshoot IP Configuration 2
6.17 Lab: Troubleshoot IP Configuration 3
6.18 Lab: Configure DNS Addresses
6.19 Lab: Create Standard DNS Zones
6.20 Lab: Create Host Records
6.21 Lab: Create CNAME Records
6.22 Lab: Troubleshoot DNS Records
6.23 Applied Live Lab: Configure DNS Records
6.24 Lab: Explore nslookup
6.25 Lab: Use nslookup
6.26 Applied Live Lab: Report DNS Configuration

## 7.0 Explaining Application Services

7.1 Lab: Configure NTP on Linux
7.2 Applied Live Lab: Troubleshoot Time Synchronization Issues
7.3 Live Lab: Verify Secure Web Services
7.4 Lab: Scan for Web Services with Nmap
7.5 Lab: Connect VoIP 1
7.6 Lab: Connect VoIP 2
7.7 Lab: Configure NIC Teaming
7.8 Live Lab: Configure First Hop Redundancy

## 8.0 Supporting Network Management

8.1 Live Lab: Backup and Restore Network Appliances
8.2 Lab: Update Firmware
8.3 Live Lab: Update Network Documentation
8.4 Lab: Scan Using Zenmap
8.5 Applied Live Lab: Perform Network Discovery
8.6 Applied Live Lab: Configure SNMP
8.7 Lab: Configure Logging in pfSense
8.8 Lab: Evaluate Event Logs in pfSense
8.9 Lab: Auditing Device Logs on a Cisco Switch
8.10 Lab: Configure Logging on Linux
8.11 Lab: View Event Logs
8.12 Live Lab: Configure Log Collection
8.13 Lab: Troubleshoot with Wireshark
8.14 Lab: Configure Port Mirroring
8.15 Lab: Configure QoS
8.16 Live Lab: Configure Flow Collection and Analysis
8.17 Applied Live Lab: Troubleshoot Network Service Issues

## 9.0 Explaining Network Security Concepts

9.1 Lab: Create a Honeypot
9.2 Lab: Analyze a DoS Attack
9.3 Lab: Analyze a DDoS Attack
9.4 Lab: Poison ARP and Analyze with Wireshark
9.5 Lab: Spoof MAC Addresses with SMAC
9.6 Lab: Perform a DHCP Spoofing On-Path Attack
9.7 Lab: Discover a Rogue DHCP Server
9.8 Lab: Configure DHCP Snooping
9.9 Lab: Poison DNS
9.10 Lab: Analyze DNS Spoofing
9.11 Applied Live Lab: Analyze Network Attacks
9.12 Lab: Respond to Social Engineering Exploits
9.13 Lab: Crack a Password with John the Ripper

## 10.0 Applying Network Security Features

10.1 Live Lab: Deploy a Digital Certificate
10.2 Lab: Manage Account Policies
10.3 Live Lab: Configure Management Privileges
10.4 View Linux Services
10.5 Lab: Scan for Unsecure Protocols
10.6 Lab: Enable and Disable Linux Services
10.7 Lab: Disable Network Service
10.8 Lab: Secure Access to a Switch
10.9 Lab: Secure Access to a Switch 2
10.10 Lab: Disable Switch Ports - GUI
10.11 Lab: Harden a Switch
10.12 Lab: Configure Network Security Appliance Access
10.13 Lab: Configure a Security Appliance
10.14 Lab: Configure a Perimeter Firewall
10.15 Lab: Restrict Telnet and SSH Access
10.16 Lab: Permit Traffic
10.17 Lab: Block Source Hosts
10.18 Applied Live Lab: Troubleshoot Service and Security Issues

## 11.0 Supporting Network Security Design

11.1 Lab: Configure a Screened Subnet (DMZ)
11.2 Lab: Configure Screened Subnets
11.3 Lab: Implement Intrusion Prevention
11.4 Lab: Scan for IoT Devices
11.5 Lab: Implement Physical Security

## 12.0 Configuring Wireless Networks

12.1 Lab: Configure Wireless Profiles
12.2 Lab: Design an Indoor Wireless Network
12.3 Lab: Design an Outdoor Wireless Network
12.4 Lab: Implement an Enterprise Wireless Network
12.5 Lab: Configure a Captive Portal
12.6 Lab: Create a Guest Network for BYOD
12.7 Lab: Secure an Enterprise Wireless Network
12.8 Lab: Secure a Home Wireless Network
12.9 Lab: Enable Wireless Intrusion Prevention
12.10 Lab: Explore Wireless Network Problems
12.11 Lab: Troubleshoot Wireless Network Problems
12.12 Lab: Optimize a Wireless Network

## 13.0 Comparing Remote Access Methods

13.1 Lab: Configure a Remote Access VPN
13.2 Lab: Configure an iPad VPN Connection
13.3 Lab: Configure a RADIUS Solution
13.4 Lab: Allow Remote Desktop Connections
13.5 Lab: Use PowerShell Remote
13.6 Live Lab: Configure a Jump Box

## 14.0 Summarizing Cloud Concepts

14.1 Lab: Configure an iSCSI Target
14.2 Lab: Configure an iSCSI Initiator
14.3 Live Lab: Deploy a Cloud VM
14.4 Live Lab: Configure Cloud Networking

## A.0 Network Sandbox

A.1 Network Sandbox Lab