

CompTIA Network+ Certification, 2009 Edition + CertBlaster

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Duration: Five days

Description:

This course is designed to provide network technicians and support staff with the foundation-level skills they need to install, operate, manage, maintain, and troubleshoot a corporate network. This course will help prepare students for the CompTIA Network+ 2009 certification exam. It should be noted that a course alone cannot prepare students for any CompTIA exam. It is important that students have the recommended work experience in IT networking prior to taking the exam. For the CompTIA Network+ 2009 certification, CompTIA recommends students have 9 to 12 months of experience in the IT support industry.

Prerequisites: Students should have support-level experience with personal computers. It is helpful, but not required, that students have completed the following courses or have equivalent experience:

- CompTIA A+ Certification: Essentials
- CompTIA A+ Certification: 220-602

Topic-Level Outline

Unit 1 : Network basics

Topic A: * Network concepts

- A-1: Describing networking models and protocols
- A-2: Identifying the basic components of a network
- A-3: Identifying physical network segments
- A-4: Identifying cable types
- A-5: Describing wireless networking
- A-6: Comparing network protocols used on Windows clients

Topic B: * Network architectures

- B-1: Describing physical network topologies
- B-2: Describing Ethernet standards
- B-3: Identifying characteristics of the various physical architectures
- B-4: Discussing WAN bandwidth technologies

Topic C: * The OSI model

- C-1: Analyzing the OSI model

Unit 2 : Wired computer-to-computer connections

Topic A: * Wired network connections

- A-1: Discussing fiber optic cables and connectors
- A-2: Examining twisted pair cables and connectors
- A-3: Terminating with an RJ-45 connector (optional)
- A-4: Examining coaxial cables and connectors
- A-5: Terminating with a BNC connector (optional)
- A-6: Researching plenum wiring

Topic B: * Network interface cards and modems

- B-1: Installing a NIC
- B-2: Examining addresses
- B-3: Removing a NIC
- B-4: Installing a PCI internal modem
- B-5: Creating a dial-up connection
- B-6: Examining a dial-up connection object's properties

Unit 3 : Network-to-network connections

Topic A: * Network-to-network connection components

- A-1: Identifying the connection components of an ISP
- A-2: Examining telecommunication room connection components (optional)

Topic B: * LAN wiring

- B-1: Running network cabling
- B-2: Terminating a Cat 5e or Cat 6 cable in a punchdown block

Topic C: * LAN wiring tests

- C-1: Researching LAN wiring test equipment

Unit 4 : Wired internetworking devices

Topic A: * Basic internetworking devices

- A-1: Discussing internetworking basics
- A-2: Identifying types of bridges and switches
- A-3: Discussing routers and brouters
- A-4: Discussing Ethernet devices
- A-5: Discussing Token Ring and other devices
- A-6: Examining Firewall products

Topic B: * Specialized internetworking devices

- B-7: Researching multilayer switches
- B-8: Examining IDS and IPS products
- B-9: Comparing traffic shaper configuration

Unit 5 : Wired communication standards

Topic A: * The TCP/IP protocol suite

- A-1: Discussing the TCP/IP architecture
- A-2: Using IPCONFIG to view IP configuration

- A-3: Viewing the ARP cache
- A-4: Testing host functionality
- A-5: Using port numbers
- A-6: Using Network Monitor to view a TCP connection
- A-7: Using Network Monitor to capture UDP packets
- A-8: Discussing TCP and UDP
- A-9: Using FTP to download a file
- A-10: Using telnet to verify SMTP

Topic B: * TCP/IP

- B-1: Comparing IPv4 and IPv6 addresses
 - B-2: Examining TCP/IP configuration parameters
 - B-3: Configuring TCP/IP parameters
 - B-4: Discussing the DHCP lease process
- ##### Topic C: * DHCP servers
- C-1: Installing a DHCP server
 - C-2: Configuring an IPv6 scope

Unit 6 : Wireless networking

Topic A: * Wireless network devices

- A-1: Examining wireless devices
- ##### Topic B: * Wireless networking standards
- B-1: Comparing wireless networking standards
- ##### Topic C: * Wireless configuration
- C-1: Identifying the technology used to implement WLANs
 - C-2: Configuring a wireless access point (instructor demo)
 - C-3: Configuring a wireless client (instructor demo)

Unit 7 : Security threats and mitigation

Topic A: * Security threats

- A-1: Identifying common security threats
- A-2: Discussing social engineering
- A-3: Discussing DDoS attacks
- A-4: Assessing your vulnerability to DDoS attacks
- A-5: Port scanning

Topic B: * Threat mitigation

- B-1: Creating a security policy
- B-2: Creating a human resources policy
- B-3: Creating an incident response and reporting policy
- B-4: Implementing change management
- B-5: Identifying the need for user education and training
- B-6: Identifying education opportunities and methods

Unit 8 : Security practices

Topic A: * Operating systems

- A-1: Installing antivirus software
 - A-2: Scanning your system for spyware
 - A-3: Updating the operating system
 - A-4: Managing software patches
 - A-5: Determining BIOS version
 - A-6: Configuring Windows Firewall
- ##### Topic B: * Devices
- B-1: Examining firewalls and proxy servers
 - B-2: Comparing firewall-based secure topologies
 - B-3: Identifying the benefits of NAC
 - B-4: Identifying the security enabled by VPNs
 - B-5: Identifying inherent weaknesses in network devices
 - B-6: Examining the ways to overcome device threats
 - B-7: Discussing IDS characteristics
 - B-8: Comparing HIDS and NIDS

- B-9: Identifying the risks associated with physical access to systems
- B-10: Examining logging and surveillance best practices

Unit 9 : Network access control

Topic A: * Authentication

- A-1: Comparing one, two, and three-factor authentication
- A-2: Hashing data
- A-3: Identifying the requirements of a secure authentication system
- A-4: Examining the components of Kerberos
- A-5: Comparing authentication systems

Topic B: * Public key cryptography

- B-1: Exploring public key cryptography
- B-2: Understanding certificate life cycle and management

Topic C: * Remote access

- C-1: Examining RADIUS and Diameter authentication
- C-2: Examining the role of LDAP in a remote access environment
- C-3: Examining TACACS+ authentication
- C-4: Examining how 802.1x adds security to your network
- C-5: Comparing VPN protocols

Topic D: * Wireless security

- D-1: Identifying wireless networking vulnerabilities
- D-2: Scanning for insecure access points

Unit 10 : Monitoring

Topic A: * Monitoring resources

- A-1: Viewing real-time performance data in Resource Overview
- A-2: Monitoring network performance
- A-3: Configuring Performance Monitor
- A-4: Running a Data Collector Set
- A-5: Viewing a Data Collector Set report
- A-6: Determining a system's Stability Index
- A-7: Implementing Remote Desktop connections

Topic B: * Event Viewer

- B-1: Viewing the event logs
- B-2: Viewing event logs on a remote computer
- B-3: Configuring source and collecting computers
- B-4: Creating an event subscription
- B-5: Examining forwarded events
- B-6: Discussing device and application logging

Unit 11 : Troubleshooting

Topic A: * Troubleshooting basics

- A-1: Discussing troubleshooting procedures
- A-2: Tracking problems and resolutions
- A-3: Identifying common toolkit components

Topic B: * Troubleshooting the network

- B-1: Testing the physical network
- B-2: Troubleshooting wireless networking
- B-3: Identifying TCP/IP utilities used for troubleshooting
- B-4: Using ipconfig to display TCP/IP settings
- B-5: Testing TCP/IP connectivity
- B-6: Using NSlookup and tracer
- B-7: Troubleshooting with Network Diagnostics

Topic C: * Troubleshooting scenarios

- C-1: Troubleshooting Remote Desktop connectivity
- C-2: Troubleshooting the inability of a user to access a shared resource
- C-3: Troubleshooting access to an account

C-4: Troubleshooting hardware problems

C-5: Troubleshooting a network problem relating to adding or removing services

Appendix A : Certification exam objectives map

*Topic A: * Comprehensive exam objectives*

Appendix B : CompTIA Network+ Acronyms

*Topic A: * Acronym list*