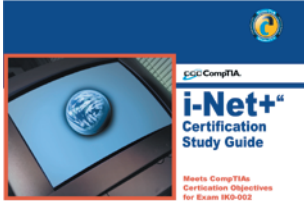


CURRICULUM



i-Net+™ Certification Study Guide

ISBN: 1-58676-137-4

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848 pages

SRP \$89.95



Course Includes



Book



Online Course



CD-ROM



Instructor Materials

Summary

The *i-Net+™ Certification Study Guide* meets CompTIA's Certification Objectives for Exam IK0-002. This CompTIA-Approved Quality Curriculum™ (CAQC) will help you prepare for the CompTIA i-Net+ certification examination. This course is a comprehensive overview of the essential concepts of Internet communications and Web site implementation. Unlike an "exam cram" book, this course will prepare you to meet the many challenges you will encounter as a Web site designer or Internet administrator. The Internet's flexible protocol architecture, tools and strategies for creating Web pages, and Web security practices are covered in detail.

Companion Web Site

This textbook is supported by a Web site at <http://www.westnetinc.com/courseware/introl/>. This companion site provides supplemental materials and tools for both students and instructors. The instructor resources, which are customizable for flexible redelivery and course management, include the following:

- PowerPoint presentations
- Sample syllabi
- Hands-on labs and exercises
- Activities and homework assignments
- Customizable quizzes
- Online Instructor's Guide to student textbook

Online Course Access

Online courses contain multimedia content to bring the textbook presentations alive—including animations and streaming audio and video with links to additional Web-based resources. Each online course includes the free use of a proprietary learning management system (LMS) that provides:

- Customizable syllabus
- Test engine
- Grade book
- E-mail communication management
- Private "message boards" for individual classes
- Course calendar

Online courses can also be easily adapted to additional LMSs, including Blackboard, WebCT, eCollege, eEducation and others.

Companion CD-ROM

The CD-ROM includes WestNet's IT Multimedia Glossary, as well as animations and video demonstrations. It provides links to online instructor and student resources and Pathways(TM), WestNet's customized content delivery system.

Related Titles by WestNet

- *Network+ Certification Study Guide*
- *Internet Technologies*
- *Web Site Design & Architecture*
- *Web Strategies for Business*

Go to <http://www.westnetinc.com> and view entire course catalog.



iNet+ Certification Study Guide

Review of Network Fundamentals

Internal Computer Components: CPU, I/O,

Memory, and NICs

- CPU
- I/O
- Video Display
- Memory

NICs

Software

- Programs and Processes
- Master/Slave
- Peer-to-Peer
- Client/Server
- Hosts
- Application Software
- Operating Systems
- Device Drivers
- Network Management Software

Network Topologies

- Types of Networks
- Bus Topology
- Star Topology
- Ring Topologies
- Wide Area Topologies
- Advantages of Cloud Networks
- Hybrid Topologies
- Logical and Physical Topologies

Network Performance Concepts

- Response Time, Delay, and Latency
- Response Time in a Master/Slave Configuration
- Response Time in a Client/Server Configuration
- CPU Utilization
- Link Utilization

Review of the OSI Model

- Programs, Processes, and Protocols
- Layers of Protocols and Services
- Primary Functions of OSI Model Layers
- Logical and Physical Addresses

Review of Internetworking Devices

- Repeaters
- Hubs
- Bridges
- Switches
- Routers
- Brouters
- Gateways

E-Commerce

E-Commerce Business Considerations

- Types of E-Commerce
- Necessary Features of E-Commerce Sites
- Is E-Commerce Worthwhile for Every Business?
- Barriers to Entering the E-Commerce Arena

Globalization and Localization

- Speaking the Language
- Laws and Regulations
- Privacy
- Practical Concerns

Cash Flow on the Internet

- Online Credit Card Transactions
- Electronic Cash
- Electronic Wallets
- Smart Cards

E-Commerce Development Options

- Technical Considerations for E-Commerce Applications
- Web Server and Database Issues
- Application Business Logic
- Buy, Build, or Outsource?

Intellectual Property

- Four Types of Intellectual Property
- Copyright
- Trademarks
- Patents
- Trade Secrets
- Crime, Privacy, and Other Legal Issues
- Crime and the Internet
- New Laws Affecting Activities on the Internet
- State Computer Crime Laws
- Geography, Crime, and the Web
- Obscenity and Community Standards
- Contracts and Civil Law
- Lawsuits and Jurisdiction
- Framing and Deep Linking
- DMCA
- Laws Under Construction

Internet Connectivity Technologies

Overview of the Internet

- Early History of the Internet
- Enter the World Wide Web
- Who Owns the Internet?
- Internet Standards
- Equipment
- The Internet Hierarchy
- Internet, intranet, and Extranet
- Point-to-Point and Point-to-Multipoint Services
- Common Point-to-Point Services
- POTS Analog Connections
- T-Carriers and E-Carriers
- ISDN
- SONET
- Common Point-to-Multipoint Services
- DSL Service and Network Configuration
- Cable Modem Configuration
- Cable Modem MAC
- Switched WAN Services
- X.25
- Frame Relay
- ATM

Options for Internet Connectivity and

Remote User Access

- Home Dial-Up Internet Access
- DSL for Home Internet Connectivity
- Connecting a Business to an ISP
- Remote Access Services
- Virtual Private Networks
- ICA Terminal Services

TCP/IP Protocols

The TCP/IP Protocol Suite

- TCP/IP Protocol Layers and the OSI Model
- Communication Using TCP/IP

IP

- IP Packet Encapsulation
- IP Version 6
- ICMP's Purpose and Limits
- ICMP Encapsulation
- ICMP Message Types

UDP and TCP

- Features Common to Both UDP and TCP
- UDP
- TCP

Internet Addressing

- IP Addresses
- Dotted Decimal Notation
- Addressing Rules
- Sample Network Using Class A Address Format
- Getting an IP Network Address

□ iNet+ Certification Study Guide

□ Subnetting Fundamentals

- The Value of Subnetting
- Interconnection of TCP/IP Networks
- The Network Mask
- Creating Subnets
- IP Prefixes
- IP Broadcast Addresses
- CIDR

□ IP Routing

- Overview of Internet Architecture
- Direct Routing
- Indirect Routing
- Building the Routing Table

TCP/IP Applications and Services

□ HTTP

- HTTP Communications
- Request Messages
- Response Messages
- HTTP Headers

□ Telnet

- Common Telnet Uses
- Telnet Server Software
- Using Telnet by Means of a Command Line
- Using Telnet by Means of a Web Browser

□ File Transfer: FTP

- Why Use FTP?
- FTP Server Software
- Anonymous FTP
- Using FTP Clients

□ Messaging: E-Mail and News

- Reading an E-Mail Address
- E-Mail Protocols
- Mail Server Configuration
- NNTP

□ IP Address Management: BOOTP, DHCP, and NAT

- BOOTP Operation
- BOOTP Relay Agents
- TFTP
- DHCP
- NAT

□ IP Name Resolution: HOSTS, DNS, and WINS

- HOSTS File
- DNS
- NetBIOS Name Resolution
- Name Resolution Challenges

Internet Clients and Servers

□ Client Applications

- Web Browsers
- E-Mail Clients
- News Accounts
- Universal Clients
- Upgrading and Maintaining Client Applications

□ Server Platforms

- Server Components
- Hardware Considerations
- Web Server Operating System Considerations
- Desktop Operating Systems
- NOSs
- UNIX vs. Windows 2000

□ Server Applications

- Daemons and Services
- Web Server Software Considerations
- Administration
- Scalability
- Server Management
- Security
- Multiple URL Hosting
- Product Integration
- Vendor-Specific Features and Service Contracts
- Other Internet Servers
- □

Building Web Pages

□ Creating Basic Web Pages

- HTML Overview
- Basic HTML Elements
- Create a Simple Web Page
- Experiment With Heading Levels, Line Breaks, and Lists
- Organizing Your HTML Code
- <META> Tags

□ Adding Graphics

- Inserting Horizontal Rules
- Inserting Graphic Files
- Experiment With Inserting Graphic Files
- Adding a Background

□ Adding Hyperlinks

- Creating a Text Hyperlink
- Creating a Relative Hyperlink
- Creating a Link From a Graphic
- Creating Links to Other Parts of the Current Page

□ Formatting Text

- Setting Default Text Attributes
- Text Color
- Link Text Color
- Default Text Font
- Default Text Size
- Setting Multiple Default Attributes
- Setting Individual Text Attributes

□ Incorporating Tables

- The Parts of a Table
- Create a Table
- Add Formatting to Your Table
- Add Cells to the Table Row
- More Table and Cell Formatting

□ Working With Frames

- Creating Frames
- Frame Target Names

□ Using Forms

- Overall Form Attributes
- Form Fields and Controls
- Drop-Down List Boxes
- Freeform Text Boxes
- Manipulating the Form's Data
- Creating a Test Form

□ Graphic Formats

- Challenges for the Multimedia Web Designer
- Graphic File Formats
- Scalable Vector Graphics

□ Multimedia Formats

- How Streaming Works
- Plug-In Technology
- Streaming Audio Formats
- RealAudio
- Animation Techniques
- Streaming Video Formats
- Complex Multimedia

Dynamic Site Technologies

□ Dynamic Sites and Databases

- The Need for Live Sites
- Types of Dynamic Techniques
- Database Concepts
- Database Management Systems

□ Common Gateway Interface Overview

- A Typical CGI Process
- Exchanging Data With CGI
- Difference Between GET and POST
- Placing CGI Programs on a Web Server

□ Structured Content

- The Need to Separate Content From Appearance
- Structured Data
- XML
- Complementary Standards
-

Troubleshooting

□ Testing a Web Site and Web Server

- Overview of Systems Development Life Cycles
- Typical Levels of Testing
- Testing Principles and Guidelines

□ Common Network Testing Tools

- Winipcfg, IPconfig, and IFconfig
- Ping
- Tracert or Traceroute
- Netstat
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- NSlookup
- Protocol Analyzers (Sniffers)

□ Troubleshooting an Unreachable FTP Site

- Establish the Symptoms
- Identify the Affected Area
- Establish What Has Changed
- Select the Most Probable Cause
- Implement a Solution
- Test the Result
- Recognize the Potential Effects of the Solution
- Document the Solution

□ Troubleshooting an Unreachable Web Site

□ Troubleshooting a Firewall Problem

□ Troubleshooting a Home Office DSL Problem

Security

□ A Layered Approach to Security

- Security Threats
- Layers of Security
- Security Policy
- User Awareness Training
- Physical Security
- Encryption
- Access Control
- User Authentication
- Firewalls
- IPSec
- Virus Prevention and Detection

□ Security Management

- Types of Attacks
- General Web Security Precautions
- Operating System Precautions
- Internet Services Precautions
- Responding to a Security Incident

□ Internet Firewalls

- Types of Firewalls
- Stance of a Firewall
- Cost of a Firewall
- Components of a Firewall System
- Building Block: Packet-Filtering Router
- Building Block: Application-Level Gateway (Proxy Server)
- Building Block: Circuit-Level Gateway
- Web Caching

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