220-1101-02: CompTIA A+ Certification: Part 3 of 9: Network Fundamentals

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Meet the expert: Patrick Loner has certifications for MCSA, MCSE, MCITP, A+, Network+, Security+, and more. He has been working as a Microsoft Certified Trainer, network administrator, and network consultant for over ten years. He has over a decade of experience working with and teaching about Windows networks with client and server operating systems. He has guided many students toward Microsoft and CompTIA certifications. Most recently, he has worked as a freelance trainer and network consultant specializing in Windows Server 2008 and Microsoft Exchange 2007 and Exchange 2010 implementations, design, and upgrades. Patrick continues to branch out now working with and training on Windows Server 2012, Windows 8, Exchange 2013, and System Center Configuration Manager 2012.

Prerequisites: This course assumes the user has little to experience with computer hardware or software.

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Course description: In this course for the CompTIA A+ 1101-1102 exam, we will cover networking fundamentals, TCP/IP and wireless networks.

Course outline:

Networking Fundamentals
• Introduction
• Networking Fundamentals
• Networking Models
• Workgroups
• domains
• Network Interface Card
• Network Clients
• Network Protocols
• Network Categories
• Internet Connection Types
• Summary

Network Devices
• Introduction
• Network Devices
• Device Capabilities
• Hubs
• Network Switches
• Network Router
• Wireless Access Points
• Modems
• Patch Panel
• Injectors
• Optical Network Terminal
• Software Defined Networking
• VPN
• Demo: VPN
• VLAN

• Network Hosts and Roles
• Internet Appliances
• Demo: SPAM Gateway
• Summary

Network Cabling
• Introduction
• Twisted Pair Cabling
• UTP Categories
• Plenum
• EIA/TIA
• Coaxial Cables
• Fiber Optic Cables
• Fiber Types
• Fiber Connectors
• Networking Tools
• Summary

TCP/IP Fundamentals
• Introduction
• TCP-IP Fundamentals
• Protocol Suite
• Protocols and Ports
• IPV4 Addressing
• Classful Networking
• Basic IPV4 Configuration
• Classless Routing
• Advanced Configuration
• IPV6
• Benefits
• IPV6 Address Space

• IPV6 Address Types
• Configuring Addresses
• Demo: IP Addresses
• Demo: CIDR
• DHCP Processes
• Demo: DHCP Servers
• Name Resolution
• DNS Records
• Demo: Viewing DNS Configurations
• SPAM Management
• Summary

Wireless Networks
• Introduction
• Wireless Networks
• Wireless Protocols
• 802.11a Standards
• Demo: Configure Wireless Access Point
• Summary