CompTIA NET+ Cert, Part 04 of 17: TCP/IP Addressing and Data[replaced]

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 some experience with computer hardware, software, and understands the concept of a computer network. The user should have viewed CompTIA NET+ Cert: Implementations and Models before taking this course.

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Course description: ** this course is updated for current certification N10-008 with parts 1 through 7 starting at https://www.learnnowonline.com/course/npe**

In this session we'll look at a number of very important elements of computer networking. First the TCP/IP protocol has six core protocols that make up the suite, each with a different role or function to provide. You'll see how these protocols work together to provide communication. Secondly you'll look at the fundamentals of IP addressing. The components of the address were the network ID and the host ID and were similar in function to a mailing address. The subnet mask helps to make this distinction. We will look at the configuration and use of both standard and custom IP address schemes. Then we'll discuss the next generation of the TCP/IP protocol and the features that it provides Finally we'll look at various delivery techniques that designers and engineers use to account for the differences in nodes on the network that are attempting to communicate with one another. While it was a lot of information, I hope you aren't overloaded because this is all extremely important information for you to understand.

Course outline:

TCP/IP Protocol Suite
- Introduction
- TCP
- TCP (Contd)
- IP
- IP Data Packet Delivery
- UDP
- ARP
- ICMP
- IGMP
- Summary

IP Addressing Fundamentals
- Introduction
- Data Packets
- Network Addresses
- Network Names
- IP Addresses
- Subnets
- Subnets (Contd)
- Subnet Masks
- Demo: IP Addresses & Masks
- Demo: Ipconfig
- Summary

IP Addressing Fundamentals (Cont.)
- Introduction
- IP Address Assignment Rules
- Binary and Decimal Conversion
- Binary ANDing
- ICANN
- IP Address Classes
- IP Address Classes (Cont.)
- Private IP Addresses
- Local/Remote Addressing Proc.
- Default Gateways
- Summary

Custom Subnets
- Introduction
- Custom TCP/IP Subnets
- Custom Subnet Masks
- Variable Length Subnet Masks
- Classless Inter Domain Routing
- Summary

IPV6 Addressing
- Introduction
- IPv4 Address Space Limitations
- IPv4 Address Space Lim. (cont)
- IPv6
- IPv6 Addresses
- Demo: IPv6
- Demo:Config IPV6
- Summary

Delivery Techniques
- Introduction
- Connections
- Flow Control
- Buffering
- Data Windows
- Error Detection
- Parity Check
- Cyclic Redundancy Check
- Summary