BlueCat Training Services empower your staff with hands-on training that keeps pace with the design and deployment of your BlueCat solution. BlueCat experts design distinct learning paths to address the comprehensive needs of your IT organization. Our training offerings equip your staff with the skills needed to optimize your BlueCat solution and realize its full potential.

**IPv6 Fundamentals** gives networking professionals a functional understanding of IPv6 concepts to help prepare them to intelligently discuss next generation Internet addressing as it pertains to IPv6 initiatives within their organizations. Focusing on both IPv6 theory and hands-on labs to reinforce concepts, IPv6 Fundamentals is meant to provide a comprehensive introduction to IPv6 as it pertains to the daily administration of IPAM, DNS and DHCP.

**COURSE VENUES**

Your staff can attend the **IPv6 Fundamentals** Course through our Virtual Instructor-Led Training program.

**AUDIENCE**

The **IPv6 Fundamentals** Course is a 16-hour course designed for individuals employed as DNS, DHCP and IPAM administrators who need to understand the basic concepts of IPv6 and how IPv6 affects basic DNS, DHCP and IPAM services. This course assumes that attendees have a general understanding of networking concepts and TCP/IP protocols, as well as a strong grasp of DNS, DHCP and IP addressing.
COURSE OBJECTIVES

Upon successful completion of the IPv6 Fundamentals Course, attendees are able to:

- Identify the different types of IPv6 addresses and their scope on the network
- Define IPv6 address components including network and interface identifiers
- Create IPv6 Blocks, Networks and Addresses in Address Manager
- Understand how IPv6 address management could be deployed within an organization
- Configure DHCPv6 Address Ranges and Options
- Set up DNS with IPv6 records in the forward and reverse space
- Understand automated addressing schemes available in IPv6 (SLAAC vs. DHCPv6)
- Sample Subnetting Schemes
- Unusual Prefix Sizes

MODULE 1: INTRODUCTION TO IPv6

- IPv6 Background
- Benefits of IPv6
- Limitations of IPv4 Compared to IPv6
- Exploring the Size of the IPv6 Space

MODULE 2: IPv6 ADDRESSING BASICS

- IPv6 Address Structure
- Representation of IPv6 in Hexadecimal Form
- Representation of IPv6 in Binary Form
- Converting Between Binary, Decimal, and Hexadecimal

MODULE 3: ADVANCED IPv6 ADDRESSING

- IPv6 Addressing Abbreviations
- Prefix Versus Interface Identifier
- IPv6 Prefix Types
- Global Unicast Addresses
- Link Local Unicast Addresses
- IPv6 Multicast
- IPv6 Anycast
- IPv6 Interface Identifiers
- EUI-64 Encoding

MODULE 4: SUBNETTING STRATEGIES

- Examining IPv6 Prefixes for Subnetting
- IPv6 Subnetting Approaches
- Unusual Prefix Sizes

MODULE 5: IPv6 NEIGHBOR DISCOVERY

- ICMPv6
- Router Advertisement and Router Solicitation
- Duplicate Address Detection

MODULE 6: IPv6 ADDRESS ALLOCATION

- Defining Stateless Address Autoconfiguration (SLAAC)
- How SLAAC Works
- Defining DHCPv6
- DHCPv6 Address Allocation Process
- DHCPv6 Unique Identifier (DUID)
- Identity Association (IA)
- DHCPv4 vs. DHCPv6

MODULE 7: IPv6 DNS

- DNS and Dual-Stacked Hosts
- DNS Strategies for IPv4 and IPv6
- IPv6 DNS Forward Zones
- IPv6 DNS Reverse Zones

MODULE 8: INTERNETWORKING IPv4 AND IPv6

- Transition Challenges for IPv6
- IPv4 to IPv6 Transition Options
- Dual-Stack Networking
- Protocol Translation

Get Started Today

Visit https://www.bluecatnetworks.com/training/ or email learn@bluecatnetworks.com to inquire about our course schedules and to obtain more information about our training courses.

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