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WHERE GREAT TRAINING HAPPENS EVERYDAY!

CONFIGURING BGP ON CISCO ROUTERS (BGP) V4.1

This course offers comprehensive insights into the underlying foundations of the Internet and advanced technologies like Multiprotocol Label Switching (MPLS). Participants will gain a deep understanding of Border Gateway Protocol (BGP) configuration and operation, equipping them with the skills to optimize network performance and security. This course covers configuring BGP in various network scenarios, managing BGP routing policies, and troubleshooting common BGP issues. By mastering these concepts, attendees will be able to implement and manage robust, scalable, and secure network infrastructures that meet modern enterprise demands.

How you'll benefit

This class will help you:

- Learn the fundamentals of BGP and how to configure it on Cisco IOS routers.
- Gain practical experience with detailed troubleshooting information and exercises to configure and troubleshoot BGP networks effectively.
- Explore BGP network design issues and the usage rules for various BGP features.

Why Attend with Current Technologies CLC

- Our Instructors are in the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The primary audience for this course is as follows:

- Network Engineers
- Network Administrators
- IT Professionals

Prerequisites

The knowledge and skills that a learner must have before attending this course are as follows:

- Intermediate to advanced knowledge of Cisco IOS Software configuration
- Configuring and troubleshooting RIP, EIGRP, OSPF and IS-IS

Course Duration
5 days
Course Price
$4,295.00 or 43 CLCs
Methods of Delivery
- Instructor Led
- Virtual ILT
- On-Site

OUTLINE

Module 1: BGP Overview
- Introduction to BGP
- BGP Session Establishment
- BGP Path Attributes
- BGP Route Processing
- Basic BGP Configuration
- Monitoring and Troubleshooting BGP

Module 2: BGP Transit Autonomous Systems
- Working with a Transit AS
- Interacting with IBGP and EBGP in a Transit AS
- Forwarding Packets in a Transit AS
- Configuring a Transit AS
- Monitoring and Troubleshooting IBGP in a Transit AS

Module 3: Route Selection Using Policy Controls
- Using Multihomed BGP Networks
- Employing AS Path Filters
- Filtering with Prefix Lists
- Using Outbound Route Filtering
- Applying Route Maps as BGP Filters
- Implementing Changes in BGP Policy

Module 4: Route Selection Using Attributes
- Influencing BGP Route Selection with Weights
- Setting BGP Local Preference
- Using AS-Path Prepending
- Understanding BGP Multi-Exit Discriminator (MED)
- Addressing BGP Communities

Module 5: Customer-to-Provider Connectivity with BGP
- Understanding Customer-to-Provider Connectivity Requirements
- Implementing Customer Connectivity Using Static Routes
- Connecting a Multihomed Customer to a Single Service Provider
- Connecting a Multihomed Customer to Multiple Service Providers

Module 6: Scaling Service Provider Networks
- Scaling IGP and BGP in Service Provider Networks
- Introduction to Route Reflectors
- Designing Networks and Route Reflectors
- Configuring and Monitoring Route Reflectors
- Introducing Confederations
- Configuring and Monitoring Confederations

Module 7: Optimizing BGP Scalability
- Improving BGP Convergence
- Limiting the Number of Prefixes Received from a BGP Neighbor
- Implementing BGP Peer Groups
- Using BGP Route Dampening

LAB OUTLINE

Lab 1: Configure Basic BGP

Lab 2: Announcing Networks in BGP

Lab 3: Implement BGP TTL Security Check

Lab 4: BGP Route Propagation

Lab 5: IBGP Full Mesh

Lab 6: BGP Administrative Distance

Lab 7: Configure Non-Transit Autonomous System

Lab 8: Filtering Customer Prefixes

Lab 9: Prefix-Based Outbound Route Filtering

Lab 10: Configure Route Maps as BGP Filters

Lab 11: Configure Per-Neighbor Weights

Lab 12: Configure and Monitor Local Preference

Lab 13: Configure Local Preference Using Route Maps

Lab 14: Configure AS Path Prepending

Lab 15: Configure MED

Lab 16: Configure Local Preference Using the Communities

Lab 17: Configure Route Reflector

Lab 18: Configure BGP Route Limiting

Lab 19: Configure BGP Peer Groups