
Configuring BGP on Cisco Routers

Duration: 5 Days **Course Code: BGP**

Overview:

The Configuring BGP on Cisco Routers (BGP) course provides students with in-depth knowledge of Border Gateway Protocol (BGP), the routing protocol that is one of the foundations of the Internet and New World technologies such as Multiprotocol Label Switching (MPLS). This curriculum covers the theory of BGP, configuration of BGP on Cisco IOS routers, detailed troubleshooting information, and hands-on exercises that provide learners with the skills that they need to configure and troubleshoot BGP networks in customer environments. Different service solutions in the curriculum cover BGP network design issues and usage rules for various BGP features, preparing learners to design and implement efficient, optimal, and trouble-free BGP networks.

Target Audience:

This course is designed for: Pre- and postsales technical engineers who are responsible for designing, implementing, or troubleshooting BGP networks Personnel who perform other network job functions, such as network performance or design, in a BGP networking environment

Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
 - Configure, monitor, and troubleshoot basic BGP to enable interdomain routing in a network scenario with multiple domains
 - Use BGP policy controls to influence the route selection process with minimal impact on BGP route processing in a network scenario where you must support connections to multiple ISPs
 - Use BGP attributes to influence the route selection process in a network scenario where you must support multiple connections
 - Complete the correct BGP configuration to successfully connect the customer network to the Internet in a network scenario in which multiple connections must be implemented
 - Configure the service provider network to behave as a transit AS in a typical implementation with multiple BGP connections to other autonomous systems
 - Enable route reflection and confederations as possible solutions to BGP scaling issues in a typical service provider network with multiple BGP connections to other autonomous systems
 - Use available BGP tools and features to optimize the scalability of the BGP routing protocol in a typical BGP network
-

Prerequisites:

To gain the prerequisite skills and knowledge, Cisco strongly recommends knowledge of the following courses:

- Implementing Cisco IP Routing (ROUTE)
-

Content:

BGP Overview

- Introducing BGP
- Understanding BGP Path Attributes
- Establishing BGP Sessions
- Processing BGP Routes
- Configuring Basic BGP
- Monitoring and Troubleshooting BGP

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

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

Route Selection Using Attributes

- Influencing BGP Route Selection with Weights
- Setting BGP Local Preference
- Using AS-Path Prepending
- Understanding BGP Multi-Exit Discriminators
- Addressing BGP Communities

Customer-to-Provider Connectivity with BGP

- Understanding Customer-to-Provider Connectivity Requirements
- Implementing Customer Connectivity Using Static Routing
- Connecting a Multihomed Customer to a Single Service Provider
- Connecting a Multihomed Customer to Multiple Service Providers

Scaling Service Provider Networks

- Scaling IGP and BGP in Service Provider Networks
- Introducing Route Reflectors
- Designing Networks with Route Reflectors
- Configuring and Monitoring Route Reflectors
- Introducing Confederations
- Configuring and Monitoring Confederations

Optimizing BGP Scalability

- Improving BGP Convergence
- Limiting the Number of Prefixes Received from a BGP Neighbor
- Implementing BGP Peer Groups
- Using BGP Route Dampening

Further Information:

For More information, or to book your course, please call us on +254 713 027 191

training@clcafrica.com

www.clclearningafrica.com

Computer Learning Centre 2nd Floor Museum Hill Centre, Muthithi Road, Westlands, Nairobi, Kenya