BGP (CONFIGURING BGP ON CISCO ROUTERS) 4.0

Objetivo

Upon completion of the course, students should be able to: Configure, monitor, and troubleshoot basic BGP to enable inter-domain 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 Implement the correct BGP configuration to successfully connect the customer network to the Internet in a network scenario where you must support multiple connections Enable the provider network to behave as a transit autonomous system in a typical service provider network with multiple BGP connections to other autonomous systems Identify common BGP scaling issues and enable route reflection and confederations as possible solutions to these issues in a typical service provider network with multiple BGP connections to other autonomous systems

PÃºblico Alvo

Channel Partners Customers Employees

PrÃ©-Requisitos

Completion of Interconnecting Cisco Networking Devices (ICND1) or Cisco Certified Networking Associate (CCNA) Completion of Building Scalable Cisco Internetworks (BSCI) or equivalent

Carga HorÃ¡ria

40 horas (5 dias).

ConteÃºdo ProgramÃ¡tico

Module 1: BGP Overview
Lesson 1-1: Introducing BGP
Lesson 1-2: Understanding BGP Path Attributes
Lesson 1-3: Establishing BGP Sessions
Lesson 1-4: Processing BGP Routes
Lesson 1-5: Configuring Basic BGP
Lesson 1-6: Monitoring and Troubleshooting BGP
Lesson 1-7: Module Summary
Lesson 1-8: Module Self-Check

Module 2: BGP Transit Autonomous Systems
Lesson 2-1: Working with Transit AS
Lesson 2-2: Interacting with IBGP and EBGP in Transit AS

Lesson 2-3: Forwarding Packets in Transit AS
Lesson 2-4: Monitoring and Troubleshooting IBGP in Transit AS
Lesson 2-5: Module Summary
Lesson 2-6: Module Self-Check

Module 3: Route Selection Using Policy Controls
Lesson 3-1: Using Multihomed BGP Networks
Lesson 3-2: Employing AS Path Filters
Lesson 3-3: Filtering with Prefix Lists
Lesson 3-4: Using Outbound Route Filtering
Lesson 3-5: Applying Route Maps as BGP Filters
Lesson 3-6: Implementing Changes in BGP Policy
Lesson 3-7: Module Summary
Lesson 3-8: Module Self-Check

Module 4: Route Selection Using Attributes
Lesson 4-1: Influencing BGP Route Selection with Weights
Lesson 4-2: Setting BGP Local Preference
Lesson 4-3: Using AS Path Prepending
Lesson 4-4: Understanding BGP Multi-Exit Discriminators
Lesson 4-5: Addressing BGP Communities
Lesson 4-6: Module Summary
Lesson 4-7: Module Self-Check

Module 5: Customer-to-Provider Connectivity with BGP
Lesson 5-1: Understanding Customer-to-Provider Connectivity Requirements
Lesson 5-2: Implementing Customer Connectivity Using Static Routing
Lesson 5-3: Connecting a Customer to a Single Service Provider
Lesson 5-4: Connecting a Multihomed Customer to Multiple Service Providers
Lesson 5-5: Module Summary
Lesson 5-6: Module Self-Check

Module 6: Scaling Service Provider Networks
Lesson 6-1: Scaling IGP and BGP in Service Provider Networks
Lesson 6-2: Introducing and Designing Route Reflectors
Lesson 6-3: Configuring and Monitoring Route Reflectors
Lesson 6-4: Module Summary
Lesson 6-5: Module Self-Check

Module 7: Optimizing BGP Scalability
Lesson 7-1: Improving BGP Convergence
Lesson 7-2: Limiting the Number of Prefixes Received from a BGP Neighbor
Lesson 7-3: Implementing BGP Peer Groups
Lesson 7-4: Using BGP Route Dampening
Lesson 7-5: Module Summary
Lesson 7-6: Module Self-Check

Lab Details

Discovery 1: Configure Basic BGP
Discovery 2: Announcing Networks in BGP
Discovery 3: Implement BGP TTL Security Check
Discovery 4: BGP Route Propagation
Discovery 5: IBGP Full Mesh
Discovery 6: BGP Administrative Distance
Discovery 7: Configure Non-Transit Autonomous System
Discovery 8: Filtering Customer Prefixes
Discovery 9: Prefix-Based Outbound Route Filtering
Discovery 10: Configure Route Maps as BGP Filters
Discovery 11: Configure Per-Neighbor Weights
Discovery 12: Configure and Monitor Local Preference
Discovery 13: Configure Local Preference Using Route Maps
Discovery 14: Configure AS Path Prepending
Discovery 15: Configure MED
Discovery 16: Configure Local Preference Using the Communities
Discovery 17: Configure Route Reflector
Discovery 18: Configure BGP Route Limiting
Discovery 19: Configure BGP Peer Groups
Discovery 20: Configure BGP Route Dampening
Challenge 1: Configure a Basic BGP Network
Challenge 2: Configure a BGP Transit AS
Challenge 3: Configure BGP Using BGP Filtering
Challenge 4: Configure BGP Route Selection Using BGP Attributes
Challenge 5: Configure BGP Route Reflectors