

# BGP (CONFIGURING BGP ON CISCO ROUTERS) 4.0

## Objetivo

The Configuring BGP on Cisco Routers (BGP) v4.0 course provides students with in-depth knowledge of BGP, the routing protocol that is one of the underlying 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 students with the skills needed 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 students to design and implement efficient, optimal and trouble free BGP networks. After completing this course the student should be able to:

- Given a network scenario with multiple domains, configure, monitor and troubleshoot basic BGP to enable interdomain routing
- Given a network scenario where connections to multiple ISPs must be supported, use BGP policy controls to influence the route selection process with minimal impact on BGP route processing
- Given a network scenario where multiple connections must be supported, use BGP attributes to influence the route selection process
- Given customer connectivity requirements, implement the correct BGP configuration to successfully connect the customer's network to the Internet
- Given a typical service provider network with multiple BGP connections to other autonomous systems, enable the provider network to behave as a transit autonomous system
- Given a typical service provider network, identify common BGP scaling issues and enable route reflection and confederations as possible solutions to these issues
- Given a typical BGP network, use available BGP tools and features to optimize the scalability of the BGP routing protocol

## Público Alvo

Employee Customer Channel Partners/Resellers

## Pré-Requisitos

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

## Carga Horária

40 horas (5 dias).

## Conteúdo Programático

- Module 1: BGP Overview
- Module 2: BGP Transit Autonomous Systems
- Module 3: Route Selection Using Policy Controls
- Module 4: Route Selection Using Attributes
- Module 5: Customer-to-Provider Connectivity with BGP
- Module 6: Scaling Service Provider Networks

Module 7: Optimizing BGP Scalability

- 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