

# BGP

## Configuring BGP on Cisco Routers



### Associated Certifications: CCIP

The Configuring BGP on Cisco Routers (BGP) v3.2 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.

### Course Contents

- BGP Overview
- BGP Transit Autonomous Systems
- Route Selection Using Policy Controls
- Route Selection Using Attributes
- Customer to Provider Connectivity with BGP
- Scaling Service Provider Networks
- Optimizing BGP Scalability

### Knowledge Prerequisites

ROUTE - Implementing Cisco IP Routing



### Reservation and Registration

We will be glad to make a free and non-binding course reservation for you for the duration of two weeks. On [www.experteach-benelux.com](http://www.experteach-benelux.com) under *Registration*, you can conveniently make course reservations, registrations, and hotel reservations. Alternatively, call us under +31 (0)76 52 32 950.

For closed groups of participants, we can modify the course contents according to your requirements. Do not hesitate to contact us!



# BGP

**5 days** €2,350 exclusive of V.A.T.

#### Course date (dd.mm.yy)/Location

30.01.-03.02.12 Breda 16.04.-20.04.12 Brussels

Up-to-date information: [www.experteach-benelux.com](http://www.experteach-benelux.com) BGPC



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- 1. BGP Overview**
  - 1.1. Introducing BGP
  - 1.2. Understanding BGP Path Attributes
  - 1.3. Establishing BGP Sessions
  - 1.4. Processing BGP Routes
  - 1.5. Configuring Basic BGP
  - 1.6. Monitoring and Troubleshooting BGP
  
- 2. BGP Transit Autonomous Systems**
  - 2.1. Working with a Transit AS
  - 2.2. Interacting with IBGP and EBGP in a Transit AS
  - 2.3. Forwarding Packets in a Transit AS
  - 2.4. Configuring a Transit AS
  - 2.5. Monitoring and Troubleshooting IBGP in a Transit AS
  
- 3. Route Selection Using Policy Controls**
  - 3.1. Using Multihomed BGP Networks
  - 3.2. Employing AS-Path Filters
  - 3.3. Filtering with Prefix-Lists
  - 3.4. Using Outbound Route Filtering
  - 3.5. Applying Route-Maps as BGP Filters
  - 3.6. Implementing Changes in BGP Policy
  
- 4. Route Selection Using Attributes**
  - 4.1. Influencing BGP Route Selection with Weights
  - 4.2. Setting BGP Local Preference
  - 4.3. Using AS-Path Prepending
  - 4.4. Understanding BGP Multi-Exit Discriminators
  - 4.5. Addressing BGP Communities
  
- 5. Customer-to-Provider Connectivity with BGP**
  - 5.1. Understanding Customer-to-Provider Connectivity Requirements
  - 5.2. Implementing Customer Connectivity Using Static Routing
  - 5.3. Connecting a Multihomed Customer to a Single Service Provider
  - 5.4. Connecting a Multihomed Customer to Multiple Service Providers
  
- 6. Scaling Service Provider Networks**
  - 6.1. Scaling IGP and BGP in Service Provider Networks
  - 6.2. Introducing Route Reflectors
  - 6.3. Designing Networks with Route Reflectors
  - 6.4. Configuring and Monitoring Route Reflectors
  - 6.5. Introducing Confederations
  - 6.6. Configuring and Monitoring Confederations
  
- 7. Optimizing BGP Scalability**
  - 7.1. Improving BGP Convergence
  
- 7.2. Limiting the Number of Prefixes Received from a BGP Neighbor**
- 7.3. Implementing BGP Peer Groups**
- 7.4. Using BGP Route Dampening**



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