ASM Educational Center (ASM) *Est. 1992*

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BGP v3.2 - Configuring BGP on Cisco Routers

Course Outline

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

Module 2: BGP Transit Autonomous Systems
Lesson 1: Working with a Transit AS
Lesson 2: Interacting with IBGP and EBGP in a Transit AS
Lesson 3: Forwarding Packets in a Transit AS
Lesson 4: Configuring a Transit AS
Lesson 5: Monitoring and Troubleshooting IBGP in a Transit AS

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

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

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

Module 6: Scaling Service Provider Networks
Lesson 1: Scaling IGP and BGP in Service Provider Networks

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Lesson 2: Introducing Route Reflectors
Lesson 3: Designing Networks with Route Reflectors
Lesson 4: Configuring and Monitoring Route Reflectors
Lesson 5: Introducing Confederations
Lesson 6: Configuring and Monitoring Confederations

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

Lab Outline
Lab 1-1: Initial Lab Setup
Lab 1-2: Configuring Basic BGP
Lab 2-1: Configuring a Transit AS
Lab 3-1: Using Multihomed BGP Networks
Lab 3-2: Employing AS-Path Filters
Lab 3-3: Filtering with Prefix-Lists
Lab 3-4: Implementing Changes in BGP Policy
Lab 4-1: Influencing BGP Route Selection with Weights
Lab 4-2: Setting BGP Local Preference
Lab 4-3: Understanding BGP Multi-Exit Discriminators
Lab 4-4: Addressing BGP Communities
Lab 6-1: Introducing Route Reflectors
Lab 6-2: Configuring and Monitoring Confederations
Lab 7-1: Limiting the Number of Prefixes Received from a BGP Neighbor
Lab 7-2: Implementing BGP Peer Groups
Lab 7-3: Using BGP Route Dampening