



BGP and OS-IS Big IP Network Routing Course Profile

\	BGP and OS-IS Big IP Network Routing	Time	Description
	<p style="text-align: center;">BGP</p> <ul style="list-style-type: none"> • Part I Understanding Advanced BGP <ul style="list-style-type: none"> <li style="text-align: center;">Chapter 1 Advanced BGP Introduction <li style="text-align: center;">Chapter 2 Understanding BGP Building Blocks <li style="text-align: center;">Chapter 3 Tuning BGP Performance <li style="text-align: center;">Chapter 4 Effective BGP Policy Control • Part II Designing BGP Enterprise Networks <ul style="list-style-type: none"> <li style="text-align: center;">Chapter 5 Enterprise BGP Core Network Design <li style="text-align: center;">Chapter 6 Internet Connectivity for Enterprise Networks • Part III Designing BGP Service Provider Networks <ul style="list-style-type: none"> <li style="text-align: center;">Chapter 7 Scalable iBGP Design and Implementation Guidelines <li style="text-align: center;">Chapter 8 Route Reflection and Confederation Migration Strategies <li style="text-align: center;">Chapter 9 Service Provider Architecture • Part IV Implementing BGP Multiprotocol Extensions <ul style="list-style-type: none"> <li style="text-align: center;">Chapter 10 Multiprotocol BGP and MPLS VPN domain Multicast <li style="text-align: center;">Chapter 11 Multiprotocol BGP and Inter <li style="text-align: center;">Chapter 12 Multiprotocol BGP Support for IPv6 • Part V <ul style="list-style-type: none"> <li style="text-align: center;">Multiprotocol BGP Extensions for CLNS Support <li style="text-align: center;">Matrix of BGP Features and Cisco IOS Software Releases <p style="text-align: center;">IS-IS</p> <ul style="list-style-type: none"> • Module 1: Introducing IS-IS <ul style="list-style-type: none"> <li style="text-align: center;">and Basic Configuration Chapter 1: History and Context, IS-IS Overview 		



- **Module 2: Finding the Shortest Path**

Chapter 2: Finding the Shortest Path

Chapter 3: Equal Cost Multipath

Chapter 4: SPF in Pseudocode

- **Module 3: Addressing & Discovery**

Chapter 5: The Structure of an OSI Address

Chapter 6: OSI Addresses in Real Life

Chapter 7: Packet Formats

- **Module 4: Database Synchronization**

Chapter 8: Neighbor Discovery

Chapter 9: Flooding

Chapter 10: Multiaccess Links

Chapter 11: Full Mesh

- **Module 5: Routing IP**

Chapter 12: Routing IP

Chapter 13: Reviewing the Shortest Path

Chapter 14: Building the Routing Table

Chapter 15: Basic IS-IS in the Lab

- **Module 6: Optimization & Flooding Domains**

Chapter 16: Optimizing IS-IS Operation

Chapter 17: Introducing Flooding Domains

Chapter 18: Flooding Domain Operation

- **Module 7: Connecting Flooding Domains**

Chapter 19: Connecting Level 1 to Level 2

Chapter 20: Connecting Level 2 to Level 1



Chapter 21: Flooding Domains Lab

Chapter 22: Attached Bit and Route Leaking Lab

Chapter 23: Flooding Domain Deployment Considerations

- **Module 8: Metrics**

Lesson 24: Metrics and Preferences

Lesson 25: Deploying IS-IS Metrics

Lesson 26: Metrics Deployment Considerations

- **Module 9: Review**

Lesson 27: Review of IS-IS Basic Operation

- **Module 10: Security**

Lesson 28: Security Vulnerabilities

Lesson 29: Security Posture and Solutions

- **Module 11: Multitopology**

Lesson 30: Multitopology IS-IS

Lesson 31: Multitopology in the Lab

- **Module 12: Fast Convergence**

Lesson 32: Optimizing IS-IS Convergence

Lesson 33: Loop-Free Alternates

Lesson 34: Ordered FIB

Lesson 35: Remote Loop-Free Alternate

Lesson 36: IS-IS Interaction with BGP

Lesson 37: Fast Convergence Considerations

- **Module 13: Redistribution**

Chapter 38: Controlling Distribution

- **Module 14: Troubleshooting**

Chapter 39: Useful show Command



Total time

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Tools and Laboratory Considerations

- Course Resource Requirements:

- ✓ GNS3 Simulator
- ✓ UNL LAB
- ✓ CentOS 7 Windows Server 2016 R2
- ✓ Windows 10 client and Ubuntu 18 Client
- ✓ Winscp
- ✓ SNMP MIB Browser
- ✓ ESxi 6.7
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