ROUTE - IMPLEMENTING CISCO IP ROUTING V2.0

Course Code: 5590

Gain advanced IPv4 and IPv6 routing skills in medium-to-large networks.

EXCLUSIVE TO GLOBAL KNOWLEDGE - Accelerate your Cisco learning experience with complimentary access to the IT Skills Video On-Demand Library, Boson practice exams, Introduction to Cybersecurity digital learning course, course recordings, IT Resource Library, and digital courseware. Learn more

In this course, you will gain the knowledge and skills needed to plan, implement, and monitor a scalable routed network. You will focus on routing protocols for both IPv4 and IPv6: EIGRP and OSPF for an enterprise and BGP for enterprise Internet connectivity. You will also learn how to redistribute routes, implement path control, and secure Cisco routers.

For on-demand learning, you will have access to this course for 12 months from the purchase date.

This course includes 30 Cisco e-lab credits. Your e-Lab credits are good for 90 days after your course ends and can be used for additional practice on the course you just completed or to explore technologies from other courses in the Global Knowledge e-Lab portfolio. Learn more.

What You'll Learn

- Routing protocols, network technologies, and remote connectivity options
- RIPng in an IPv6 environment
- Technologies, operations, and metrics that EIGRP uses
- Configure and verify EIGRP in IPv4 and IPv6 environments including optimizing its behavior and named EIGRP configuration
- Multiarea OSPF including over different network types and how to optimize its database
• Configure and verify OSPFv2 in IPv4 environments and OSPFv3 in IPv4 and IPv6 environments
• Route redistribution and how it is implemented using distribute list, prefix list, and route map filtering mechanisms
• Use Cisco Express Forwarding for efficient Layer 3 packet forwarding
• Implement path control using policy based routing and IP Service Level Agreement (SLA)
• Establishing enterprise Internet connectivity for IPv4 and IPv6
• BGP for enterprise IPv4 and IPv6 Internet connectivity
• Secure Cisco routers according to best practices including the configuring routing protocol authentication

Who Needs to Attend
• Network engineers and technicians
• Support engineers
• Systems engineers
• Network analysts
• Senior network administrators
• Anyone involved in planning, implementing, verifying, and troubleshooting routing protocols in enterprise networks

Prerequisites
• Taking ICND1 v2.0 and ICND2 v2.0 (or CCNAX v2.0) is highly recommended
• Know how to:
  - Configure network fundamentals, including the ability to establish Internet, LAN, and WAN connectivity using both IPv4 and IPv6
  - Operate and support a medium-sized LAN that has multiple switches, including VLANs, trunking, and spanning tree functionality
  - Troubleshoot IPv4 and IPv6 connectivity issues
  - Configure and troubleshoot EIGRP and OSPF, for both IPv4 and IPv6
  - Configure devices for SNMP, Syslog, and NetFlow
  - Manage network device security, Cisco device configurations, Cisco IOS images, and licenses
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CLASSROOM LIVE  $3,595 USD  5 days

Classroom Live Outline

1. Basic Network and Routing Concepts
   • Differentiating Routing Protocols
   • Understanding Network Technologies
   • Connecting Remote Locations with the Headquarters
   • Implementing RIPng

2. EIGRP Implementation
   • Establishing EIGRP Neighbor Relationships
   • Building the EIGRP Topology Table
   • Optimizing EIGRP Behavior
   • Configuring EIGRP for IPv6
   • Discovering Named EIGRP Configuration

3. OSPF Implementation
   • Establishing OSPF Neighbor Relationship
   • Building the Link State Database
   • Optimizing OSPF Behavior
   • Configuring OSPFv3

4. Configuration of Redistribution
   • Implementing Basic Routing Protocol Redistribution
   • Manipulating Redistribution Using Route Filtering

5. Path Control Implementation
   • Using Cisco Express Forwarding Switching
   • Implementing Path Control

6. Enterprise Internet Connectivity
   • Planning Enterprise Internet Connectivity
   • Establishing Single-Homed IPv4 Internet Connectivity
• Establishing Single-Homed IPv6 Internet Connectivity
• Improving Resilience of Internet Connectivity
• Considering Advantages of Using BGP
• Implementing Basic BGP Operations
• Using BGP Attributes and Path Selection Process
• Controlling BGP Routing Updates
• Implementing BGP for IPv6 Internet Connectivity

7. Routers and Routing Protocol Hardening
   • Securing Cisco Routers
   • Describing Routing Protocol Authentication Options
   • Configuring EIGRP Authentication
   • Configuring OSPF Authentication
   • Configuring BGP Authentication

Classroom Live Labs
Lab 1: Configuring IPv6 and RiPng
Lab 2: Configuring EIGRP for IPv4
Lab 3: Investigating EIGRP for IPv4 Behavior
Lab 4: Configuring EIGRP for IPv6
Lab 5: Configuring Named EIGRP for IPv4 and IPv6
Lab 6: Configuring OSPF for IPv4
Lab 7: Investigating OSPF for IPv4 Behavior
Lab 8: Optimizing OSPF for IPv4
Lab 9: Configure OSPFv3
Lab 10: Configuring Route Redistribution and Filtering
Lab 11: Configuring Path Control
Lab 12: Configuring Basic Internet Connectivity
Lab 13: Configuring BGP for IPv4
Lab 14: Configuring BGP for IPv6
Lab 15: Configuring EIGRP Authentication
Lab 16: Configuring OSPF and BGP Authentication

Students will get an additional 10 e-lab credits to use in the 30 days following class.
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Virtual Classroom Live Outline

1. Basic Network and Routing Concepts
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Lab 6: Configuring OSPF for IPv4
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ON-DEMAND $750 USD

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Supplemental Assets

Mentoring: Mentors are available to help you with your studies for the certification exams. You can reach them by entering a Mentored Chat Room or by using the Email My Mentor service.

Class Notes / Study Guides: Printable study guide and class notes are intended to support your transfer of knowledge and skills from courses to the workplace. Use these to follow along with instruction, review prior to certification exams, or to reference on the job.

Test Prep Exams: Practice tests will help you prepare for a certification exam. You can take a test prep exam in Study Mode (where you receive feedback after each question) or in Certification Mode (designed to mimic a certification exam) as many times as you want.

Lab Simulations: Task-based multipath scenarios provide realistic practice of technology subjects or applications.

Pre and Post Courseware Assessments: Section-based assessments offer a range of practice and testing options within the section, including feedback and tracking.
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| BLENDED LIVE | $3,235 USD |

Blended Live Outline

[This delivery format includes both instructor-led sessions and on-demand sessions]

Week 1 - Course Kick-off

Class session:
- Introduction to course
- Overview of blended learning methodology
- Introduction to the Boson Exam Environment

On-Demand modules to complete by next week’s class:
- Describing Routing Protocols
- Implementing RIPng

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.

Week 2 - Network Principles

Class session:
- Review: Network Principles
- Challenge: Network Principles practice exam

On-Demand modules to complete by next week’s class:
- Implementing EIGRP
- Configuring EIGRP for IPv6
- Discovering Named EIGRP Configuration

Reminder: To maximize your time and participation in next week’s lab exercises,
please complete the above modules prior to class.

Week 3 – Layer 3 Technologies: EIGRP

Class session:
- Review: Layer 3 Technologies: EIGRP
- Challenge: Layer 3 Technologies: EIGRP practice exam

On-Demand modules to complete by next week’s class:
- Establishing OSPF
- Optimizing OSPF Behavior
- Configuring OSPFv3

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.

Week 4 – Layer 3 Technologies: OSPF

Class session:
- Review: Layer 3 Technologies: OSPF
- Challenge: Layer 3 Technologies: OSPF practice exam

On-Demand modules to complete by next week’s class:
- Configuring Redistribution
- Implementing BGP
- Implementing BGP for IPv6

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.

Week 5 – Layer 3 Technologies: Redistribution and BGP

Class session:
- Review: Layer 3 Technologies: Redistribution and BGP
- Challenge: Layer 3 Technologies: Redistribution and BGP practice exam

On-Demand modules to complete by next week’s class:
- Implementing Path Control
- Establishing Internet Connectivity
- Securing Cisco Routers
- Configuring EIGRP Authentication
- Configuring OSPF and BGP Authentication

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.
Week 6 - Infrastructure Services and Security

Class session:

- Review: Infrastructure Services and Security
- Challenge: Infrastructure Services and Security practice exam
- Challenge: ROUTE practice exam
- Course review and wrap-up

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PRIVATE GROUP TRAINING 5 days

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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