
Implementing Cisco Enterprise Advanced Routing and Services

DURATION: 5 DAYS

COURSE CODE: ENARSI

FORMAT: LIVE/VIRTUAL

COURSE DESCRIPTION

The Implementing Cisco Enterprise Advanced Routing and Services (ENARSI) v1.0 gives you the knowledge you need to install, configure, operate, and troubleshoot an enterprise network. This course covers advanced routing and infrastructure technologies, expanding on the topics covered in the Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR) v1.0 course.

This course helps prepare you to take the exam, Implementing Cisco® Enterprise Advanced Routing and Services (300-410 ENARSI), which leads to the new CCNP® Enterprise and Cisco Certified Specialist – Enterprise Advanced Infrastructure Implementation certifications. This exam tests your knowledge of implementation and troubleshooting for advanced routing technologies and services.

This course will help you:

- Gain the knowledge you need to install, configure, operate, and troubleshoot an enterprise network
- Qualify for professional-level job roles in advance routing and services
- Prepare for the Implementing Cisco Enterprise Advanced Routing and Services (300-410 ENARSI) exam.

After you pass 300-410 ENARSI:

- You earn the Cisco Certified Specialist – Enterprise Advanced Infrastructure Implementation certification.
- You satisfy the concentration requirement for the new CCNP Enterprise certification. To complete your CCNP Enterprise certification, pass the Enterprise core exam, Implementing Cisco Enterprise Network Core Technologies (350-401 ENCOR).

WHO SHOULD ATTEND

Enterprise network engineers
System engineers
System administrators
Network administrators

PREREQUISITES

Before taking this course, you should have:

- General understanding of network fundamentals
- Basic knowledge of how to implement LANs
- General understanding of how to manage network devices
- General understanding of how to secure network devices
- Basic knowledge of network automation

These Cisco courses are recommended to help you meet these prerequisites:

- Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR) v1.0
- Interconnecting Cisco Networking Devices, Part 1 (ICND1) v3.0
- Interconnecting Cisco Networking Devices, Part 2 (ICND2) v3.0

LEARNING OBJECTIVES

Configure classic Enhanced Interior Gateway Routing Protocol (EIGRP) and named EIGRP for IPv4 and IPv6

Optimize classic EIGRP and named EIGRP for IPv4 and IPv6

Troubleshoot classic EIGRP & named EIGRP for IPv4 & IPv6

Configure Open Shortest Path First (OSPF)v2 and OSPFv3 in IPv4 and IPv6 environments

Optimize OSPFv2 and OSPFv3 behavior

Troubleshoot OSPFv2 for IPv4 and OSPFv3 for IPv4 and IPv6

Implement route redistribution using filtering mechanisms

Troubleshoot redistribution

Implement path control using Policy-Based Routing (PBR) and IP service level agreement (SLA)

Configure Multiprotocol-Border Gateway Protocol (MP-BGP) in IPv4 and IPv6 environments

Optimize MP-BGP in IPv4 and IPv6 environments

Troubleshoot MP-BGP for IPv4 and IPv6

Describe the features of Multiprotocol Label Switching (MPLS)

Describe the major architectural components of an MPLS VPN

Identify the routing and packet forwarding functionalities for MPLS VPNs

Explain how packets are forwarded in an MPLS VPN environment

Implement Cisco Internetwork Operating System (IOS®) Dynamic Multipoint VPNs (DMVPNs)

Implement Dynamic Host Configuration Protocol (DHCP)

Describe the tools available to secure the IPV6 first hop

Troubleshoot Cisco router security features

Troubleshoot infrastructure security and services

COURSE OUTLINE

1. Implementing EIGRP
2. Optimizing EIGRP
3. Troubleshooting EIGRP
4. Implementing OSPF
5. Optimizing OSPF
6. Troubleshooting OSPF
7. Implementing Internal Border Gateway Protocol (IBGP)
8. Optimizing BGP
9. Implementing MP-BGP
10. Troubleshooting BGP
11. Configuring Redistribution
12. Troubleshooting Redistribution
13. Implementing Path Control
14. Exploring MPLS
15. Introducing MPLS L3 VPN Architecture
16. Introducing MPLS L3 VPN Routing
17. Configuring Virtual Routing and Forwarding (VRF)-Lite
18. Implementing DMVPN
19. Implementing DHCP
20. Troubleshooting DHCP
21. Introducing IPv6 First Hop Security
22. Securing Cisco Routers
23. Troubleshooting Infrastructure Security and Services

DISCOVERY LABS

1. Configure EIGRP Using Classic Mode and Named Mode for IPv4 and IPv6
2. Verify the EIGRP Topology Table
3. Configure EIGRP Stub Routing, Summarization, and Default Routing
4. Configure EIGRP Load Balancing and Authentication
5. LAB: Troubleshoot EIGRP Issues
6. Configure OSPFv3 for IPv4 and IPv6
7. Verify the Link-State Database
8. Configure OSPF Stub Areas and Summarization
9. Configure OSPF Authentication
10. Troubleshoot OSPF
11. Implement Routing Protocol Redistribution
12. Manipulate Redistribution
13. Manipulate Redistribution Using Route Maps
14. Troubleshoot Redistribution Issues
15. Implement PBR
16. Configure IBGP & External Border Gateway Protocol (EBGP)
17. Implement BGP Path Selection
18. Configure BGP Advanced Features
19. Configure BGP Route Reflectors
20. Configure MP-BGP for IPv4 and IPv6
21. Troubleshoot BGP Issues
22. Implement PBR
23. Configure Routing with VRF-Lite
24. Implement Cisco IOS DMVPN
25. Obtain IPv6 Addresses Dynamically
26. Troubleshoot DHCPv4 and DHCPv6 Issues
27. Troubleshoot IPv4 and IPv6 Access Control List (ACL) Issues
28. Configure and Verify Control Plane Policing
29. Configure and Verify Unicast Reverse Path Forwarding (uRPF)
30. Troubleshoot Network Management Protocol Issues: Lab 1
31. Troubleshoot Network Management Protocol Issues: Lab 2