

Designing Cisco Enterprise Networks

DURATION: 5 DAYS COURSE CODE: ENSLD FORMAT: LECTURE/LAB

COURSE DESCRIPTION

The Designing Cisco Enterprise Networks (ENSLD) training deepens your knowledge of designing enterprise networks. Topics covered include enterprise network design, including protocols and media for wired and wireless networks, SD-Access, VPN, Quality of Service (QoS), IPv6, and network programmability. This training earns you 40 Continuing Education (CE) credits towards recertification and helps prepare you to take the 300-420 Designing Cisco Enterprise Networks (ENSLD) exam, which is part of the CCNP Enterprise, Cisco Certified Specialist - Enterprise Design certification.

This training will help you:

- Learn the skills, technologies, and best practices needed to design an enterprise network.
- Deepen your understanding of enterprise design including advanced addressing and routing solutions, advanced enterprise campus networks, WAN, security services, network services, and software-defined access SDA.
- Validate your knowledge and prepare to take the 300-420 Designing Cisco Enterprise Networks (ENSLD) exam.

This training earns you 40 Continuing Education (CE) credits

WHO SHOULD ATTEND

- Network design engineers
- Network engineers
- System administrators

PREREQUISITES

Before taking this offering, you should be familiar with the following:

- Understanding network fundamentals
- Implementing LANs
- Implementing LAN connectivity

CERTIFICATION

The ENSLD 300-420 exam certifies your knowledge of enterprise design including advanced addressing and routing solutions, advanced enterprise campus networks, WAN, security services, network services, and SDA

After you pass the ENSLD 300-420 exam:

- You earn the Cisco Certified Specialist - Email Content Security certification
- You will have satisfied the concentration exam requirement for the new CCNP Enterprise certification.
- To complete your CCNP Enterprise certification, you must pass the Implementing Cisco Enterprise Network
- Core Technologies (350-401 ENCOR) exam or its equivalent

LEARNING OBJECTIVES

- Design Enhanced Interior Gateway Routing Protocol (EIGRP) internal routing for the enterprise network
- Design Open Shortest Path First (OSPF) internal routing for the enterprise network
- Design Intermediate System to Intermediate System (IS-IS) internal routing for the enterprise network
- Design a network based on customer requirements
- Design Border Gateway Protocol (BGP) routing for the enterprise network
- Describe the different types and uses of Multiprotocol BGP (MP-BGP) address families
- Describe BGP load sharing
- Design a BGP network based on customer requirements
- Decide where the L2/L3 boundary will be in your Campus network and make design decisions
- Describe Layer 2 design considerations for Enterprise Campus networks
- Design a LAN network based on customer requirements
- Describe Layer 3 design considerations in an Enterprise Campus network
- Examine Cisco SD-Access fundamental concepts
- Describe Cisco SD-Access Fabric Design
- Design a Software-Defined Access (SD-Access) Campus Fabric based on customer requirements
- Design service provider-managed VPNs
- Design enterprise-managed VPNs
- Design a resilient WAN
- Design a resilient WAN network based on customer requirements
- Examine the Cisco SD-WAN architecture
- Describe Cisco SD-WAN deployment options
- Understand Cisco SD-WAN – NAT and hybrid design considerations
- Design Cisco SD-WAN redundancy
- Explain the basic principles of Quality of Service (QoS)
- Design QoS for the WAN
- Design QoS for enterprise network based on customer requirements
- Explain the basic principles of multicast
- Explore multicast with PIM-SM
- Designing rendezvous point distribution solutions
- Describe high-level considerations when doing IP addressing design
- Create an IPv6 addressing plan
- Plan an IPv6 deployment in an existing enterprise IPv4 network
- Describe the challenges that you might encounter when transitioning to IPv6
- Design an IPv6 addressing plan based on customer requirements
- Describe Network APIs and protocols
- Describe Yet Another Next Generation (YANG), Network Configuration Protocol (NETCONF), and Representational State Transfer Configuration Protocol (RESTCONF)

COURSE OUTLINE

Module 1: Designing EIGRP routing

Module 2: Designing OSPF routing

Module 3: Designing IS-IS routing

Module 4: Designing BGP routing and redundancy

Module 5: Exploring BGP Address Families and Attributes

Module 6: Designing an Enterprise Campus LAN

Module 7: Designing Layer 2 Campus

Module 8: Designing a Layer 3 Campus

Module 9: Discovering the Cisco SD-Access Architecture

Module 10: Exploring Cisco SD-Access Fabric Design

Module 11: Exploring Cisco SD-Access Site Design Strategy and Considerations

Module 12: Discovering Service Provider-Managed VPNs

Module 13: Designing Enterprise-Managed VPNs

Module 14: Designing WAN Resiliency

Module 15: Examining Cisco SD-WAN Architectures

Module 16: Examining Cisco SD-WAN Deployment Design Considerations

Module 17: Examining Cisco SD-WAN—NAT and Hybrid Design Considerations

Module 18: Designing Cisco SD-WAN Routing and High Availability

Module 19: Exploring QoS

Module 20: Designing LAN and WAN QoS

Module 21: Introducing Multicast

Module 22: Exploring Multicast with PIM-SM

Module 23: Designing Rendezvous Point Distribution Solutions

Module 24: Designing an IPv4 Address Plan

Module 25: Exploring IPv6

Module 26: Deploying IPv6

Module 27: Introducing Network APIs and Protocols

Module 28: Exploring YANG, NETCONF, RESTCONF, and Model-Driven Telemetry

DISCOVERY LABS

1. Designing Enterprise Connectivity
2. Designing an Enterprise Network with BGP Internet Connectivity
3. Designing an Enterprise Campus LAN
4. Designing SD-Access in the Enterprise
5. Designing Resilient Enterprise WAN
6. Designing QoS in an Enterprise Network
7. Designing an Enterprise IPv6 Network