

Designing Cisco Enterprise Networks (ENSLD) v1.0

What you'll learn in this course

The **Designing Cisco Enterprise Networks (ENSLD) v1.0** course gives you the knowledge and skills you need to design an enterprise network. This course serves as a deep dive into enterprise network design and expands on the topics covered in the Implementing and Operating Cisco® Enterprise Network Core Technologies (ENCOR) v1.0 course.

This course also helps you prepare to take the **300-420 Designing Cisco Enterprise Networks (ENSLD)** exam which is part of the CCNP® Enterprise and Cisco Certified Specialist - Enterprise Design certifications.

Course duration

- Instructor-led training: 5 days in the classroom with hands-on lab practice
- Virtual instructor-led training: 5 days of web-based instruction with hands-on lab practice
- E-learning: Equivalent of 5 days of classroom instruction

How you'll benefit

This course 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

What to expect in the exam

The **300-420 ENSLD** exam certifies your knowledge of enterprise design including advanced addressing and routing solutions, advanced enterprise campus networks, WAN, security services, network services, and SDA. The exam will be available beginning February 24, 2020.

After you pass the **300-420 ENSLD** exam:

- You earn the Cisco Certified Specialist - Enterprise Design 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 **350-401 Implementing Cisco Enterprise Network Core Technologies (ENCOR)** exam or its equivalent

Who should enroll

- Network design engineers
- Network engineers
- System administrators

How to enroll

- For instructor-led training, visit the [Cisco Learning Locator](#).
- For private group training, visit [Cisco Private Group Training](#).
- For individual e-learning, visit the [Cisco Learning Network Store](#).
- For digital library access, visit [Cisco Learning Library](#).
- For other way to purchase e-learning, contact us at learning-bdm@cisco.com.

Technology areas

- Enterprise networking
- Routing and switching
- Design

Course details

Objectives

After taking this course, you should be able to:

- 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 an 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
- Design Cisco SD-WAN redundancy
- Explain the basic principles of QoS
- Design Quality of Service (QoS) for the WAN
- Design QoS for enterprise network based on customer requirements

- Explain the basic principles of multicast
- 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)

Prerequisites

Before taking this course, you should have earned CCNA® certification or be familiar with:

- Basic network fundamentals and building simple LANs
- Basic IP addressing and subnets
- Routing and switching fundamentals
- Basic wireless networking concepts and terminology

Outline

- Designing EIGRP Routing
- Designing OSPF Routing
- Designing IS-IS Routing
- Designing BGP Routing and Redundancy
- Understanding BGP Address Families
- Designing the Enterprise Campus LAN
- Designing the Layer 2 Campus
- Designing the Layer 3 Campus
- Discovering the Cisco SD-Access Architecture
- Exploring Cisco SD-Access Fabric Design
- Designing Service Provider-Managed VPNs
- Designing Enterprise-Managed VPNs
- Designing WAN Resiliency
- Examining Cisco SD-WAN Architectures
- Cisco SD-WAN Deployment Design Considerations
- Designing Cisco SD-WAN Routing and High Availability
- Understanding QoS
- Designing LAN and WAN QoS
- Exploring Multicast with Protocol-Independent Multicast-Sparse Mode
- Designing Rendezvous Point Distribution Solutions
- Designing an IPv4 Address Plan

- Exploring IPv6
- Deploying IPv6
- Introducing Network APIs and Protocols
- Exploring YANG, NETCONF, RESTCONF, and Model-Driven Telemetry

Lab outline

- Designing Enterprise Connectivity
- Designing an Enterprise Network with BGP Internet Connectivity
- Designing an Enterprise Campus LAN
- Designing Resilient Enterprise WAN
- Designing QoS in an Enterprise Network
- Designing an Enterprise IPv6 Network




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