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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Intermediate

Course Duration: 5 Days

Designing Cisco Enterprise Networks v1.0 (ENSLD)

About this course:

In this 5-day course, Designing Cisco Enterprise Networks (ENSLD) v1.0, students will gain the knowledge and skills needed 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 will help students:

- Prepare to take the exam, Designing Cisco Enterprise Networks v1.0 (ENSLD 300-420), which is part of the CCNP Enterprise and Cisco Certified Specialist - Enterprise Design certifications. 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.

Course Objective:

Upon completing this course, the learner will be able to meet these overall objectives:

- Design EIGRP internal routing for the enterprise network
- Design OSPF internal routing for the enterprise network
- Design IS-IS internal routing for the enterprise network
- Design a network based on customer requirements
- Design BGP routing for the enterprise network
- Describe the different types and uses of MP-BGP address families
- Describe BGP load sharing
- Design a BGP network based on customer requirements
- Decide where 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 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 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 YANG, NETCONF and RESTCON

Audience:

The primary audience for this course is as follows:

- Network design engineers
- Network engineers
- System administrators

Prerequisite:

The knowledge and skills that the learner should have before attending this course are as follows:

- Students 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

Course Outline:

Topics Covered:

- 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 Layer 2 Campus
- Designing 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 PIM-SM
- 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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