Designing Cisco Enterprise Networks (ENSLD) v2.0

Duration: 40 Hours (5 Days)

Course Overview

The Designing Cisco Enterprise Networks (ENSLD) v2.0 course is a comprehensive training program aimed at providing network engineers and architects with the knowledge and skills necessary to design an enterprise-grade network based on Cisco's technologies and best practices. This course also helps learners prepare for the 300-420 ENSLD exam, a requirement for the CCNP Enterprise certification. Throughout the course, participants will delve into advanced routing, addressing solutions, enterprise campus network design, WAN, network services, and automation, among other topics. The hands-on lab outline ensures practical experience in designing connectivity, BGP Internet connectivity, campus LANs, resilient enterprise WANs, enterprise QoS, and IPv6 networks. By the end of the course, learners will have the proficiency to create stable, secure, and scalable network designs that support the evolving requirements of modern enterprises.

Audience profile

The Designing Cisco Enterprise Networks (ENSLD) v2.0 course is tailored for professionals involved in enterprise network design and architecture.

- Network Design Engineers
- Network Architects
- Systems Engineers
- Network Analysts
- Network Managers
- Solutions Designers
- Cisco Integrators/Partners
- IT Professionals seeking Cisco CCDP certification
- Infrastructure Engineers
- Technical Decision Makers designing network solutions
- Network Administrators aiming to advance their skills

Course Syllabus

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

- Understanding network fundamentals
- Implementing LANs
- Implementing LAN connectivity

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