CS-ENSLD

CCNP ENTERPRISE DESIGN ENSLD 300-420: DESIGNING CISCO ENTERPRISE NETWORKS

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
5 Days	Professional	Cisco Enterprise	Instructor Led	N/A

INTRODUCTION

This new five-day Cisco CCNP Enterprise Design ENSLD 300-420 course will provide delegates with the knowledge and skills you need to design an enterprise network.

AUDIENCE PROFILE

This course is primarily intended for:

− System Administrators, Network Design Engineers, Network engineers, System Engineers
− Individuals preparing for the Designing Cisco Enterprise Networks (ENSLD) exam, which is part of Cisco's CCNP Enterprise certification

PREREQUISITES

The knowledge and skills that a learner must have before attending this course are as follows:

− CCNA Certification or equivalent Cisco working experience

COURSE OBJECTIVES

On completion of this course, participants should be familiar with:

− Creating a structured addressing plans for IPv4 and IPv6
− Determining IPv6 migration strategies
− Creating stable, secure, and scalable routing designs for IS-IS
− Creating stable, secure, and scalable routing designs for EIGRP
− Creating stable, secure, and scalable routing designs for OSPF
− Creating stable, secure, and scalable routing designs for BGP
− Multicast routing concepts (source trees, shared trees, RPF, rendezvous points)
− Designing multicast services (SSM, Bidirectional PIM, MSDP)
− Designing network management techniques (in-band versus out-of-band, segmented management networks, prioritizing network management traffic)
− Hierarchical design models ,architecture, LAN media and Spanning Tree Protocol design considerations
− Designing campus networks for high availability
− Designing multi-campus Layer 3 infrastructures
− WAN technologies in enterprise networks
− WAN design and QoS
− SD-Access architecture and SD-Access fabric design considerations for wired and wireless access
− Cisco SD-WAN architecture (orchestration plane, management plane, control plane, data plane, onboarding plane and provisioning, and security)
− Cisco SD-WAN design considerations (control plane design, overlay design, LAN design, high availability, redundancy, scalability, security design, QoS, and multicast over SD-WAN fabric)
− YANG data models with IETF and OpenConfig, along with NETCONF and RESTCONF protocols
− Model-driven telemetry and how it can be used to gather information from network devices.

COURSE CONTENT

Lesson 1: IPv4 Design
- IPv4 Header:
- IPv4 Addressing
- IP Address Subnets
- IP Addressing Design
- Address Assignment and Name Resolution

Lesson 2: IPv6 Design
- IPv6 Header
- IPv6 Address Representation
- IPv6 Address Scope Types and Address Allocations
- IPv6 Mechanisms
- IPv6 Routing Protocols
- IPv4-to-IPv6 Migration Strategies and Deployment Models

Lesson 3: Routing Protocols characteristics, EIGRP and IS-IS
- Routing Protocol Characteristics
- Routing Protocol Metrics and Loop Prevention
- EIGRP:
- IS-IS

Lesson 4: OSPF, BGP and Route Manipulation
- OSPFv2
- OSPFv3
- BGP
- Route Manipulation

Lesson 5: IP Multicast and Network Management
- IP Multicast Review
- Network Management Design

Lesson 6: Enterprise LAN Design and Technologies
- Hierarchical Network Models
- LAN Media
- Spanning Tree Protocol Design Considerations

Lesson 7: Advanced Enterprise Campus Design
- Campus LAN Design and Best Practices:
- High Availability Network Services

Lesson 8: WAN for the Enterprise
- WAN Overview
- WAN Transport Technologies:
- Site-to-Site VPN Design

Lesson 9: WAN Availability and QoS
- WAN Design Methodologies
- Design for High Availability
- Internet Connectivity
- Backup Connectivity
- QoS Strategies
- Designing End-to-End QoS Policies

Lesson 10: SD-Access Design
- SD-Access Architecture:
- SD-Access Fabric Design Considerations for Wired and Wireless Access

Lesson 11: SD-WAN Design
- SD-WAN Architecture
- SD-WAN Design Considerations

Lesson 12: Automation
- Introduction to Network APIs and Protocols
- YANG, NETCONF, and RESTCONF Explored
- IETF, OpenConfig, and Cisco YANG Models
- Model-Driven Telemetry

ASSOCIATED CERTIFICATIONS & EXAM

Exam #300-420 is associated with the new CCNP Enterprise certification. This exam will test a candidate's knowledge of enterprise design, including:

- Advanced addressing and routing solutions
- Advanced enterprise campus networks
- WAN
- Security services
- Network services
- SDA