Learning Services

Cisco Training on Demand

Designing Cisco Internetwork Solutions (DESGN)

Overview

Designing for Cisco® Internetwork Solutions (DESGN) Version 3.0 is a Cisco Training on Demand course. It introduces you to general approaches and technologies for network design and promotes Cisco solutions in designing and implementing scalable internetworks.

You gain information on the modular approaches to network design and dividing networks into access, distribution, and core layers only and separately for the campus and the WAN module. You learn how to use the Enterprise Composite Model to facilitate planning, designing, implementing, operating, and optimizing (PDIOO) networks by focusing on a certain module and on relations between the modules.

Most network solutions today (for example, voice, video, storage networking, and content networking) are typically overlay solutions spanning several modules, so the composite modular approach is even more relevant and is the main focus of this course. Services virtualization and the Cisco Service-Oriented Network Architecture (SONA) are also described.

Interested in purchasing this course in volume at discounts for your company? Contact ctod-sales@cisco.com.

Duration

The DESGN Training on Demand is a self-paced course based on the 5-day instructor-led training version. It consists of 37 sections of instructor video and text totaling more than 10 hours of instruction along with interactive activities, 7 hands-on lab exercises, content review questions, and challenge questions.

Target Audience

This course is designed for network design, sales, and system engineers, and those preparing for the 200-310 DESGN exam.
Objectives

After completing this course, you should be able to:

- Describe and apply network design methodologies and concepts of modularity and hierarchy
- Design a resilient and scalable campus network and connectivity between parts of your enterprise network
- Design connectivity to the Internet and internal routing for your network
- Integrate collaboration and wireless infrastructure into your core network
- Create scalable IPv4 and IPv6 addressing
- Describe what software-defined networking (SDN) is and describe example solutions

Course Prerequisites

The knowledge and skills recommended before attending this course are:

- A Cisco CCNA® Routing and Switching certification and practical experience with deploying and operating networks based on Cisco network devices and Cisco IOS® Software
- Competent knowledge of wireless topics in the course Implementing Cisco Wireless Network Fundamentals (WIFUND) course
- Completion of the Implementing Cisco IP Switched Networks (SWITCH) course

Course Outline

- Section 1: Design Life Cycle
- Section 2: Characterizing Existing Network
- Section 3: Top-Down Approach
- Section 4: Building a Modular Network
- Section 5: Applying Modularity: Hierarchy in a Network
- Section 6: Applying Modularity: Virtualization Overview
- Section 7: Asking the Right Questions (Paper Lab 1)
- Section 8: Layer2/Layer 3 Demarcation
- Section 9: Layer 2 Design Considerations
- Section 10: High Availability Design Considerations
- Section 11: Layer 3 Design Considerations
- Section 12: Traffic and Interconnections
- Section 13: Design LAN (Paper Lab 2)
- Section 14: Designing a Secure Network
- Section 15: Edge Connectivity Design
- Section 16: WAN Design
- Section 17: Branch Design
- Section 18: Connecting to the Data Center
- Section 19: Design Branch’s Connections to the HQ (Paper Lab 3)
- Section 20: Routing Protocol Considerations
• Section 21: Expanding EIGRP Design
• Section 22: Expanding OSPF Design
• Section 23: Introducing IS-IS
• Section 24: Expanding IS-IS Design
• Section 25: Using BGP to Connect to the Internet
• Section 26: Design Branch Routing (Paper Lab 4)
• Section 27: Understanding Quality of Service
• Section 28: Supporting Wireless Access
• Section 29: Integrating Collaboration
• Section 30: Design Support for Wireless and Collaboration (Paper Lab 5)
• Section 31: Concepts of Good IP Addressing
• Section 32: Creating an Addressing Plan for IPv4
• Section 33: Design IPv4 Addressing Plan (Paper Lab 6)
• Section 34: IPv6 Addressing
• Section 35: Supporting IP Addressing
• Section 36: Design IPv6 Addressing Plan (Paper Lab 7)
• Section 37: SDN Overview

Labs Outline
This course contains seven lab exercises.

Figure 1. Topology for All Labs in Designing Cisco Internetwork Solutions
The labs included in this course are:

- Paper Lab 1: Ask the Right Questions
- Paper Lab 2: Design LAN
- Paper Lab 3: Design Branch’s Connections to the HQ
- Paper Lab 4: Design Branch’s Routing
- Paper Lab 5: Design Support for Wireless and Collaboration
- Paper Lab 6: Design IPv4 Addressing Plan
- Paper Lab 7: Design IPv6 Addressing Plan

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