Designing Cisco Network Service Architectures v2.1

Course ID#: 1575-923-ZZ-W
Hours: 35

Course Content

Course Description:

Designing Cisco Network Service Architectures (ARCH) v2.1 is a five-day instructor-led course. The aim of the course is to enable students to perform the conceptual, intermediate, and detailed design of a network infrastructure that supports desired network solutions over intelligent network services, in order to achieve effective performance, scalability, and availability. By applying solid Cisco network solution models and recommended design practices, students can provide viable, stable enterprise internetworking solutions. The course presents concepts and examples that are necessary to design converged enterprise networks.
The course builds on the Designing for Cisco Internetwork Solutions (DESGN) course. Students will learn additional aspects of modular campus design, advanced addressing and routing designs, WAN service designs, enterprise data center, and security designs.

Prerequisites:

Before taking this course, learners should be familiar with internetworking technologies, Cisco products, and Cisco IOS features.

Cisco Certified Network Associate (CCNA®) level-of-knowledge, Designing for Cisco Internetwork Solutions (DESGN) level-of-knowledge, Implementing Cisco IP Switched Networks (SWITCH) level-of-knowledge, and Implementing Cisco IP Routing (ROUTE) level-of- knowledge prerequisite skills are strongly recommended for students attending the ARCH course.

CCDP Certification requires CCNA certification, CCDA certification, and passing the Implementing Cisco IP Switched Networks (642-813 SWITCH), Implementing Cisco IP Routing (642-902 ROUTE), and Designing Cisco Network Service Architectures (642-873 ARCH) exams.

- The recommended courses for CCNA are Interconnecting Cisco Network Devices Part 1 (ICND1) and Interconnecting Cisco Network Devices Part 2 (ICND2).
- The recommended course for CCDA is Designing for Cisco Internetwork Solutions (DESGN).
- The recommended course for ROUTE is Implementing Cisco IP Routing.
- The recommended course for SWITCH is Implementing Cisco IP Switched Networks.

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Topics:

Module 1: Cisco Network Architectures for the Enterprise
- Network Architectures for the Enterprise
- Cisco PPDIOO Approach

Module 2: Enterprise Campus Network Design
- High Availability in the Enterprise Campus
- Layer 2 Design Recommendations
- Layer 3 Design Recommendations
- Designing the Layer 2-to-Layer 3 Boundary
- Enterprise Network Virtualization Technologies
- Infrastructure Services Considerations

Module 3: Advanced Addressing and Routing Design
- Advanced Addressing Design
- Advanced Routing Design
- Scalable EIGRP Design
- Scalable OSPF Design
- Scalable BGP Design

Module 4: Advanced WAN Services Design Considerations
- Optical Technologies for WANs
- Using Metro Ethernet, VPLS, and MPLS VPN Technologies
- Advanced WAN Service Implementations

Module 5: Enterprise Data Center Design
- Core and Aggregation Layer Design
- Access Layer Design
- Scaling the Data Center Architecture
- Spanning-Tree Sizing and High Availability

Module 6: E-Commerce Module Design
- Common Component Designs for the E-Commerce Module
- Integrated e-Commerce Designs

Module 7: SAN Design Considerations
- SAN Components and Technologies
- SAN and SAN Extension Design
- Integrated Fabric Designs Using Cisco Nexus Technology

Module 8: Security Services Design
- Firewall Design Considerations
- Network Admission Control Design
- Intrusion Detection and Prevention Designs

Module 9: IPsec and SSL VPN Design
- Remote Access VPN Design
- Site-to-Site VPN Design
- IPsec VPN Technologies
- VPN Management and Scaling

Module 10: IP Multicast Design
- IP Multicast
- PIM and RP Considerations
- IP Multicast Security

Module 11: Network Management Capabilities with Cisco IOS Software
- Embedded Management Capabilities
- NetFlow Considerations
- NBAR Considerations
- IP SLA Considerations