Designing Cisco Data Center Infrastructure (CPLL-DCID)

Duration: 180 days

The Designing Cisco Data Center Infrastructure (DCID) Learning Path focuses on data center design based on Cisco solutions and technologies. The Learning Path includes theoretical content and design-oriented case studies that are in the form of activities. The Learning Path includes information on designing data centers with Cisco components and technologies. It covers network designs with virtualization, Layer 2 and Layer 3 technologies and routing protocols, and data center interconnect design options. Also covered are device virtualization technologies such as virtualized network devices with virtual appliances, including virtual switches, virtual routers, and virtual firewalls. Storage and SAN design is covered, including an explanation of Fibre Channel networks. Design practices for the Cisco Unified Computing System (UCS) solution based on Cisco UCS B-Series and C-Series servers, Cisco UCS-X are covered. Management and orchestration topics feature Cisco UCS Manager, Nexus Dashboard Fabric Controller (NDFC), and Cisco Intersight, with additional emphasis on automation solutions such as programmability, Ansible, and Terraform. The Learning Path also addresses the integration of artificial intelligence, real-world use cases, and the design of AI-ready infrastructure.
This Learning Path prepares you for the 300-610 DCID v1.2 exam. If passed, you earn the Cisco Certified Specialist – Data Center Design certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Data Center certification.

Skills You'll Learn

- Describe the physical design of modern data centers and different network types
- Describe design aspects of UCS servers, networking, and hardware
- Describe the storage options for the compute function and the different RAID levels from a high-availability and performance perspective
- Describe security threats and solutions in the data center
- Describe key concepts in artificial intelligence, focusing on traditional AI, machine learning, and deep learning techniques and their applications
- Describe the importance of AI-specific hardware in reducing training times and supporting the advanced processing requirements of AI tasks
- Gain expertise in orchestrating, automating, and monitoring modern data center networks using Cisco Nexus Dashboard and its suite of integrated services

Learning Path Objectives

1. Data Center Network Design: Explore foundational data center network design principles, including physical and logical connectivity, redundancy, and advanced overlay technologies. Gain expertise in creating robust, scalable infrastructures with Layer 1–3 solutions, virtualization, and VXLAN/ACI.
2. Data Center Compute Design: Discover in-depth Cisco UCS design and implementation, covering hardware options, fabric interconnect connectivity, network and server design principles, and configuration best practices.
3. Data Center Storage Design: Gain expertise in data center storage solutions, learning SAN, NAS, hyperconverged systems, Fibre Channel networks, storage virtualization, and storage topology design for optimal performance and availability.
4. Data Center Security Design: Strengthen data center security by mitigating threats, deploying advanced technologies and firewalls, securing storage networks, and implementing RBAC for Cisco UCS and Intersight.
5. Data Center AI/ML Design: Design data centers for AI and ML workloads, covering AI fundamentals, generative AI, use cases, enabling hardware, network challenges, RDMA/RoCE protocols, and sustainable infrastructure practices.
6. Data Center Automation Design: Automate and orchestrate data center operations, covering network and license management, compute orchestration with Cisco Intersight, and programmability using Infrastructure as Code tools like Ansible and Terraform.