CISC-12 - DCID - DESIGNING CISCO DATA CENTER INFRASTRUCTURE V8.0

Categoria: **Cisco**

INFORMAZIONI SUL CORSO

Durata:	Categoria:	Qualifica Istruttore:	Dedicato a:	Produttore:
5 Giorni	Cisco	Cisco Certified Instructor	Professionista IT	Cisco

OBIETTIVI

After completing this course, you should be able to:

- Describe the physical design of modern data centers and different network types
- Describe how to design and manage the physical layer infrastructure of modern data centers
- Understand the multi-layered concept of data center redundancy, encompassing hardware, software, topological, and site-level resiliency
- Describe the Layer 2 forwarding options and protocols that are used in a data center
- Describe the Layer 3 forwarding options and protocols that are used in a data center
- Describe virtual infrastructure options and their considerations when deploying
- Describe overlay networks and operation of VXLAN and ACI
- Describe Fabric Interconnect operation and connectivity
- Describe Cisco UCS hardware options and hardware design
- Describe UCS connectivity for LAN and SAN
- Describe design aspects of UCS servers, networking, and hardware
- Describe physical design of modern data centers and different network types
- Describe the storage options for the compute function and the different RAID levels from a high-availability and performance perspective
- Describe Fibre Channel concepts and architecture
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- Describe Fibre Channel topologies and design
- Describe the hyperconverged solution and integrated systems
- Describe security threats and solutions in the data center
- Describe advanced data center security technologies and best practices
- Describe security options in the storage network
- Describe RBAC and integration with directory servers to control access rights on UCS Manager
- Describe key concepts in artificial intelligence, focusing on traditional AI, machine learning, and deep learning techniques and their applications.
- Describe generative AI, its challenges, and future trends, while examining the nuances between traditional and modern AI methodologies
- Explain how AI enhances network management and security through intelligent automation, predictive analytics, and anomaly detection
- Describe the importance of AI-specific hardware in reducing training times and supporting the advanced processing requirements of AI tasks

- Describe key network challenges from the perspective of AI/ML application requirements
- Explain the mechanisms and operations of RDMA and RoCE protocols
- Describe the role of optical and copper technologies in enabling AI/ML data center workloads
- Understand the compute hardware required to run AI/ML solutions
- Describe sustainable AI infrastructure practices, focusing on environmental and economic sustainability
- Describe Cisco network management models and license management approaches
- Provide learners with knowledge and skills to manage and automate compute infrastructure lifecycle using Cisco Intersight and related platforms for scalable, secure hybrid data centers
- Gain expertise in orchestrating, automating, and monitoring modern data center networks using Cisco Nexus Dashboard and its suite of integrated services
- Describe the design considerations of datacenter automation through programmability
- Analyze and plan for using orchestration with Ansible and Terraform to deploy, configure and operate Cisco data centers

PREREQUISITI

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Implement data center networking, including Local Area Network (LAN) and Storage Area Network (SAN)
- Describe data center storage
- Implement data center virtualization
- Implement Cisco Unified Computing System
- Implement data center automation and orchestration with the focus on Cisco Application Centric Infrastructure (ACI), Cisco Nexus Dashboard, and Cisco Intersight
- Describe products in the Cisco Data Center Nexus and Multilayer Director Switch (MDS) families

Recommended prerequisites:

- CCNA - Implementing and Administering Cisco Solutions
- DCFNDU - Understanding Cisco Data Center Foundations
- DCCOR - Implementing and Operating Cisco Data Center Core Technologies

CONTENUTI

Course Outline

- Data Center Topologies
- Layer 1 Connectivity
- Data Center Redundancy
- Layer 2 Connectivity
- Layer 3 Connectivity
- Virtual Resources
- Overlay Networks
- Fabric Interconnect Connectivity
- Cisco Unified Computing System Server Options
- Cisco UCS Network Design
- Cisco Unified Computing System Server Design
- Cisco Unified Computing System Configuration
- Storage Options and Design
- Fibre Channel Networks

-Storage Virtualization
-Fibre Channel Topologies
-Hyperconverged and Integrated Systems
-Basic Data Center Security
-Advanced Data Center Security
-Storage Security
-Cisco Unified Computing System Role-Based Access Control
-Fundamentals of AI
-Generative AI
-AI Use Cases
-AI-Enabling Hardware
-Key Network Challenges and Requirements for AI Workloads
-Application-Level Protocols
-AI Transport
-AI Compute Resources
-AI Sustainability
-Network and License Management
-Compute Management and Orchestration
-Network Orchestration
-Data Center Programmability and Automation
-Infrastructure as Code Automation

Lab Outline: there are no labs associated with this training.

INFO

Esame: 300-610 - Designing Cisco Data Center Infrastructure
Materiale didattico: Materiale didattico ufficiale Cisco in formato digitale
Costo materiale didattico: incluso nel prezzo del corso a Calendario
Natura del corso: Operativo (previsti lab su PC)