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CCNA Data Center

Course Guide

Cisco Certified Network Associate (CCNA) Data Center exam tests a candidate's knowledge of networking concepts for the Data Center environment, based on Nexus-OS.

Cisco is globally accepted exam
The Cisco exams are trusted and accepted by leading employers, educational institutions and governments worldwide.

For a details of this market-leading exams, go to
http://www.cisco.com/web/learning/certifications/associate/ccna_security/index.html

CCNA Data Center Course Objectives

The CCNA Data Center builds the knowledge & capacity for the Data Center environment, based on Nexus-OS.

Cisco Data Center Networking (640-911)

Describe How a Network Works
Describe the purpose and functions of various network devices
- Interpret a network diagram
- Define physical network topologies

Select the components required to meet a network specification
- Switches
- Describe and identify Nexus hardware specifications
- Describe and identify Nexus licensing requirements

Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network
- IP
- TCP
- UDP

Describe the purpose and basic operation of the protocols in the OSI and TCP
- TCP/IP
- OSI layers

Configure, Verify and Troubleshoot a Switch with VLANs and Interswitch Communications Using Nexus
Explain the technology and media access control method for Ethernet
- IEEE 802 protocols
- CSMA/CD

Explain basic switching concepts and the operation of Cisco switches
- Layer 2 addressing
- MAC table
- Flooding

Describe and configure enhanced switching technologies
- VTP
- VLAN
- 802.1q
- STP

Implement an IP Addressing Scheme and IP Services to Meet Network Requirements in a Medium-Size Enterprise Branch Office Network Using Nexus
Describe the operation and benefits of using private and public IP addressing
- Classfull IP addressing
- RFC 1918
- RFC 4193

Describe the difference between IPv4 and IPv6 addressing schemes
- Comparative address space
- Host addressing

Configure, Verify, and Troubleshoot Basic Router Operation and Routing on Cisco Devices Using Nexus
Describe and configure basic routing concepts
- Packet forwarding
- Router look-up process (Exec mode, Exec commands, Configuration mode)

Describe the operation of Cisco routers
- Router boot-up process
- POST
- Router components

Cisco Data Center Technologies (640-916)
Cisco Data Center Fundamentals Concepts
- Describe network architectures for the Data Center describe the purpose and functions of various network devices i.e. LAN, SAN
- Describe the Modular Approach in Network Design
- Describe the data center core layer
- Describe the data center aggregation layer
- Describe the data center access layer
- Describe the collapse core model
- Describe FabricPath
- Identify key differentiator between DCI and network interconnectivity
- Describe, configure, and verify vPC
- Describe the functionality of and configuration of port channels
- Describe and configure virtual device context (VDC)
- Describe the edge/core layers of the SAN
- Describe the Cisco Nexus product family
- Configure and verify network connectivity
- Identify control and data plane traffic
- Perform initial set up

Data Center Unified Fabric
- Describe FCoE
- Describe FCoE multihop
- Describe VIFs
- Describe FEX products
- Perform initial set up

Storage Networking
- Describe initiator target
- Verify SAN switch operations
- Describe basic SAN connectivity
- Describe the different storage array connectivity
- Verify name server login
- Describe, configure, and verify zoning
- Perform initial set up
- Describe, configure, and verify VSAN

DC Virtualization
- Describe device Virtualization
- Describe Server Virtualization
- Describe Nexus 1000v
- Verify initial set up and operation for Nexus 1k

Unified Computing
- Describe and verify discovery operation
- Describe, configure, and verify connectivity
- Perform initial set up
- Describe the key features of UCSM

Data Center Network Services
- Describe standard ACE features for load balancing
- Describe server load balancing virtual context and HA
- Describe server load balancing management options
- Describe the benefits of Cisco Global Load Balancing Solution
- Describe how the Cisco global load balancing solution integrates with local Cisco load balancers
- Describe Cisco WAAS needs and advantages in the Data Center.

Practical Approach
A real-time example will be given throughout the lectures, starting from design, analysis, implementation and maintenance of network.

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