Introducing Cisco Data Center Technologies (DCICT) v6.x

Course Summary

Description

In this course, you will be introduced to Cisco technologies and products that are deployed in the data center: network virtualization, network technologies, Unified computing, automation and orchestration, and the Cisco Application-Centric Infrastructure (ACI). The introductory level of knowledge that is provided in these courses is targeted for individuals who can perform basic configuration tasks. The hands on lab exercises focus on configuring features on Cisco Nexus Operating System (Cisco NX-OS), Cisco Unified Computing System (Cisco UCS), and Cisco UCS Director.

Objectives

After taking this course, students will be able to:

- Describe and configure Cisco UCS
- Describe and configure Cisco data center virtualization
- Describe and configure Cisco data center networking
- Describe and configure Cisco automation and orchestration
- Describe and verify Cisco ACI

Topics

- Cisco Data Center Network Virtualization
- Cisco Data Center Network Technologies Configuration
- Cisco Unified Computing System
- Data Center Automation and Orchestration
- Cisco Application-Centric Infrastructure

Audience

This course is designed for network designers, administrators, engineers, managers, storage administrators, server administrators, program managers, project managers, and systems engineers.

Prerequisites

Before taking this course, students should have a good understanding of networking protocols and the VMware environment.

Duration

Five days

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Course Outline

I. Cisco Data Center Network Virtualization
- A. Functional Planes of Cisco Nexus Switches
- B. Cisco Nexus Operating System VRF Contexts
- C. Virtual Device Contexts
- D. Function of Overlays
- E. Virtualization
- F. Virtual Switches

II. Cisco Data Center Network Technologies Configuration
- A. Cisco Fabric Extender Connectivity
- B. Port Channels and Virtual Port Channels
- C. Cisco FabricPath
- D. Unified Port Feature of Cisco Nexus Switches
- E. Cisco Unified Fabric

III. Cisco Unified Computing System
- A. Data Center Server Connectivity
- B. Cisco IMC Supervisor
- C. Cisco UCS Manager Operations
- D. Role-Based Access Control
- E. Hardware Abstraction in Cisco UCS

IV. Data Center Automation and Orchestration
- A. Utility of Application Programming Interfaces
- B. Cloud Computing Basic Concepts
- C. Cloud Attributes and Service Models
- D. Cisco UCS Director
- E. VDCs, Tenants, and Policies
- F. Orchestration
- G. Managing Catalogs and Templates
- H. Reporting in Cisco UCS Director (CloudSense)

V. Cisco Application-Centric Infrastructure
- A. Cisco ACI
- B. Cisco ACI Fabric
- C. Programming and Orchestrating Cisco ACI

VI. Labs
- A. Connect to Cisco Nexus Series Switches Using SSH
- B. Configure VRFs
- C. Explore the Elements of Virtual Device Contexts
- D. Install VMware ESXi on UCS C-Series Rack Server
- E. Install VMware vCenter Server Appliance
- F. Install Cisco Virtual Switch Update Manager
- G. Install Cisco Nexus 1000V with VSUM
- H. Configure a Port Group in the DVS
- I. Configure the Cisco Nexus 2000 Fabric Extender
- J. Configure Virtual Port Channels
- K. Configure Virtual Port Channels with FEX
- L. Configure Cisco FabricPath
- M. Configure Unified Ports on Cisco Nexus Switch
- N. Implement FCoE
- O. Install and Configure the Cisco IMC Supervisor
- P. Navigate the Cisco UCS Manager GUI Interfaces
- Q. Configure Local RBAC
- R. Configure Pools
- S. Configure a Service Profile Template
- T. Configure Cisco NX-OS with APIs
- U. Explore the Management Information Tree of the Cisco UCS Manager XML API
- V. Configure Cisco UCS Manager with the Postman REST Plugin for Google Chrome
- W. Install and Configure User Accounts in Cisco UCS Director
- X. Add Virtual and Physical Accounts to Cisco UCS Director
- Y. Customize Cisco UCS Director
- Z. Explore Cisco UCS Director Monitoring Capabilities
- AA. Create Policies and VDCs
- BB. Create a Catalog and Provision a VM Using the Self-Service Portal
- CC. Explore Cisco UCS Director Built-In Reports
- DD. View Chargeback and Reports