

Implementing and Troubleshooting the Cisco Cloud Infrastructure - On Demand (CLDINF 1.1)

Modality: On Demand

Duration: 40 Hours

CLC: 15 Units

About the course:

Implementing and Troubleshooting the Cisco Cloud Infrastructure course is designed to teach students about Cisco Cloud Infrastructure. The course teaches about the components and characteristics of cloud infrastructure along with the overview of Cisco NX-OS (Nexus operating system). The e-learning course includes all the key elements of Cisco cloud infrastructure which help students in preparation for the Cisco Exam.

The modules in this course discuss in great details about the storage components of cloud infrastructure and cloud infrastructure network components. The participants of this course will also get to learn how to troubleshoot multiple components and also get to practice configuring with the provision of engaging labs.

Course Outline:

Module 1: Cloud Infrastructure Overview

- Components
- Characteristics
- Fabric extender benefits
- Nexus 5k, 7k and 9k series switches
- MDS
- Cisco NX-OS
 - Architecture
 - Features
 - System resiliency
 - Extensibility
 - Security
 - Efficiency
 - Virtualization
- Cisco UCS
 - Portfolio
 - Network equipment
 - C-series rack servers
 - M-series
 - Invicta
 - Manager
 - Central

- Director
 - Performance manager
- FCoE protocol and characteristics
- Server virtualization
- VM benefits
- Hyper-V
- Cloud management platforms
- Hypervisor on server set up

Module 2: Cloud Infrastructure Computing Component

- Deploy hypervisors
- Lights-out management network
- UCS cloud platform implementation
 - Service profile network configuration
 - LAN and SAN separation
 - Server boot policies
- Troubleshooting methodology
 - UCS tools
 - Compute infrastructure troubleshooting scenarios
 - Service profiles
 - Boot policies

Module 3: Cloud Infrastructure Storage Component

- Cloud storage implementation
 - Storage types
 - Considerations
 - SAN protocols
 - Virtual SANs
 - Zoning modes
 - Zoning configuration
 - Provisioning storage space
- Storage access configuration
 - Fibre channel storage
 - iSCSI
 - SAN/iSCSI boot
 - NAS-based
 - Access rights, file and folder permissions
- Storage infrastructure troubleshooting methodology
- Storage troubleshooting scenarios

Module 4: Cloud Infrastructure Network Component

- Virtual device context (VDC) overview
- VDC with VLANs and VRFs
- FCoE VDC
- Port channels

- VXLAN
 - Architecture
 - Packet format
 - Tunnel endpoint
 - Gateway
 - Unicast packet flow
 - Broadcast, unknown unicast and multicast flow
- VMware standard vSwitch
- Nexus 1000V
- VSM-to-VEM communication
- Hypervisor VTEP implementation
- UCS network configuration elements
- MAC pool
- Network policy
- iSCSI vNICs
- Server management
- Network infrastructure troubleshooting methodology

Module 5: Troubleshoot Multiple Components

- Multiple components troubleshooting scenarios
- Storage provisioning using UCS director workflows troubleshooting
- VM provisioning troubleshooting

Labs:

- UCS Manager and UCS Director Quickstart
- Deploy CentOS Host on UCS Blade Server
- Deploy ESXi Hosts on Remote Storage
- Troubleshoot Storage Access
- Configure Network Server Connectivity
- Configure Virtual Network Connectivity
- Troubleshoot Network Connectivity (Optional Challenge)
- Troubleshoot Capstone Lab (Optional Challenge)