



# Troubleshooting Cisco Data Center Unified Computing Infrastructure - DCITUC

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## Course Details

### Course Outline

#### 1. Troubleshooting Cisco UCS B-Series Architecture and Initialization

- Troubleshooting Cisco UCS B-Series System Initialization
- Standalone vs. Cluster Fabric Interconnect Mode
- Cisco UCS Internal Components
- Cisco UCS Split Brain and Partition in Time Issues
- Troubleshoot Cisco UCS Cluster Wiring Issues
- Troubleshoot Cisco UCS Manager IP Connectivity Failure
- Troubleshoot Cisco UCS Manager Java Issues
- KVM Issue 1: Inability to Ping KVM IP Address
- KVM Issue 2: KVM Launching Failure
- Troubleshoot Cisco UCS Initialization Issues with Fabric Interconnect Reboots
- UCS Manager GUI and UCS Manager CLI
- Troubleshooting Cisco UCS with Embedded Tools
- Cisco UCS CLI scope Command
- Cisco UCS CLI connect Command
- Cisco UCS CLI connect nxos Command
- Cisco UCS CLI connect iom Command
- Other Cisco UCS CLI Commands
- Tech Support File
- System Event Log
- Core Dumps
- Cisco Call Home
- Finite State Machine
- Ethalyzer
- Troubleshooting Cisco UCS Hardware Discovery



- Cisco UCS B-Series System Main Components
- Verify the Discovery of Chassis and Blades
- Chassis Discovery Policy
- Troubleshoot Chassis Discovery Failure
- Troubleshoot Blade Server Issues

## **2. Troubleshooting Cisco UCS Configuration**

- Troubleshooting UCS Server Deployment
- Stateless Computing
- Service Profiles
- Service Profile Templates
- Server Pools
- Troubleshoot Service Profile Association Failure Due to a MAC Address Issue
- Troubleshoot Service Profile Association Failure Due to a WWPN Issue
- Troubleshoot Service Profile Association Failure Due to a WWNN Issue
- Troubleshoot Service Profile Association Failure Due to a UUID Issue
- Troubleshoot Service Profile Association Failure Due to a QoS Issue
- Other Service Profile Association Issues
- Verifying Service Profile Association Using FSM
- Cisco UCS Management Configuration
- User Roles Inside Cisco UCS Manager
- Organizational Structure in Cisco UCS Manager
- RBAC and Remote Authentication
- Troubleshoot Authentication Failure Due to a Connectivity Issue
- Troubleshoot Authentication Failure Due to an LDAP Configuration Issue
- Testing LDAP Server
- Testing LDAP Server Group

## **3. Troubleshooting Cisco UCS Operation**

- Troubleshooting Cisco UCS Server Boot
- Troubleshoot Server Boot Failure Due to a RAID1 Cluster Migration Issue
- Troubleshooting Operating System Drivers
- Identify and Download Appropriate Operating System Drivers



- Troubleshoot Microsoft Windows 2008 R2 Installation Failure
- Troubleshooting Remote Access
- Reset Cisco IMC of a Blade Server
- Troubleshoot Cisco IMC Connectivity Issue

#### **4. Troubleshooting Cisco UCS LAN and SAN Connectivity**

- Troubleshooting Cisco UCS LAN Connectivity
- Troubleshooting Interface Link-Level Issues
- Troubleshooting Connectivity Issues for Some Servers
- Troubleshooting Intermittent Connectivity
- Troubleshooting Disjoint Layer 2 Networks
- Troubleshooting Redundant Connectivity
- Fabric Interconnect Cluster ID Mismatch
- vNIC Failover Does Not Work When Uplink Fails
- Case Study: Troubleshoot Failover Connectivity
- Uplink Port Channel Does Not Become Active
- Troubleshooting Cisco UCS B-Series SAN Connectivity
- SAN Connectivity: Verify Fabric Interconnect Mode
- SAN Connectivity: Verify VSANs in Cisco UCS Manager
- SAN Connectivity: Verify Fibre Channel Uplinks
- SAN Connectivity: Verify Service Profile Association
- SAN Connectivity: Fibre Channel Databases on the Core SAN Switch
- SAN Connectivity: SAN Fabric Connectivity Verification
- SAN Connectivity: VSANs and Zones on the Core SAN Switch
- SAN Connectivity: Problem Resolution
- SAN Connectivity: Directly Attached Storage
- Troubleshooting Cisco UCS B-Series SAN Boot
- Troubleshooting SAN Boot on the Server Adapter
- Troubleshooting Boot from iSCSI Target
- Using SPAN for Troubleshooting
- Using SPAN for Ethernet Traffic
- Using SPAN for Fibre Channel Traffic



- Verifying Packet Flow

## **5. Troubleshooting Cisco UCS Hardware**

- Sources of Information on Cisco UCS
- Troubleshooting Server Performance Issues
- Troubleshooting Memory

## **6. Troubleshooting Cisco UCS C-Series Architecture and Configuration**

- Troubleshooting Cisco UCS C-Series Initialization
- Standalone Mode vs. Integration with Cisco UCS Manager
- Cisco IMC in Cisco UCS C-Series Servers
- Cisco IMC GUI
- Cisco IMC CLI
- Troubleshooting Guidelines
- Troubleshooting Cisco IMC Issues
- Export a Tech Support File
- Cisco UCS C-Series Password Recovery

## **7. Troubleshooting Cisco UCS C-Series Hardware and Firmware**

- Troubleshooting Cisco UCS C-Series Boot Process
- How to Break Into Server BIOS
- How to Break Into RAID Controller BIOS
- Troubleshoot Operating System Bootup Issue
- Troubleshooting RAID-Specific Issues
- Troubleshooting Memory
- Troubleshooting DIMM Issues

## **8. Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity**

- Cisco UCS C-Series VIC 1225 Overview
- Troubleshooting Cisco IMC Link
- Troubleshooting Cisco UCS C-Series LAN Connectivity
- Server Does Not Have Network Connectivity
- Operating System Cannot Communicate with the Network
- Troubleshooting UCS C-Series SAN Connectivity
- Server Is Unable to Connect to SAN



- Using SPAN to Capture Cisco UCS C-Series Server Traffic
- Troubleshooting Cisco UCS C-Series SAN Boot
- Cisco UCS C-Series Server Boots from Local Disk

## **9. Troubleshooting Cisco UCS Network Connectivity**

- Troubleshooting Connectivity Configuration
- Benefits of Integrating Cisco UCS C-Series Servers with Cisco UCS Manager
- Hardware Requirements for the Integration
- Architectures for Integrating Cisco UCS C-Series Servers with Cisco UCS Manager
- Configure the Fabric Interconnects
- Troubleshoot a FEX Discovery Issue
- Verify Cisco UCS C-Series Server Integration with Cisco UCS Manager
- Troubleshoot Server Integration Failure Due to a Discovery Issue
- Troubleshoot Server Integration Failure Due to a VIC or mLOM Issue

## **10. Labs**

- Troubleshoot Compute—Cisco UCS Management and Service Profile Deployment
- Troubleshoot Compute—Cisco UCS Integrated C-Series Server Boot from SAN
- Troubleshoot Compute—LAN Connectivity, Part 1
- Troubleshoot Compute—LAN Connectivity, Part 2
- Troubleshoot Compute—Cisco UCS C-Series Server Boot from SAN
- Troubleshoot Compute—Network Connectivity