

DCUCI

Design Document for “Implementing Cisco Data Center Unified Computing (DCUCI) v5.0”

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Document Purpose

The purpose of this document is to provide project personnel with the high-level information and design of the development project and specifications for the design of the course or learning product.

Product Information

Implementing Cisco Data Center Unified Computing (DCUCI) v5.0 updates DCUCI v4.0. DCUCI v5.0 guides learners through rack installation, provisioning of server hardware, operating systems, hypervisors, and applications. Much of the content is devoted to management and maintenance. DCUCI v5.0 covers the implementation and operation of Cisco Unified Computing System (UCS) in the data center.

This design effort aims to do the following:

- Repurpose, streamline, and update the content to better suit the needs of implementation personnel by aligning course content and labs with actual workflow and preparing learners to configure the latest innovative Cisco UCS solutions.
- Complete an overall update of Cisco data center product portfolio covering hardware and software releases for Cisco UCS B-Series and Cisco UCS C-Series.
- Provide updated implementation guidelines for included technologies.

Project Description

List all project components, such as courses, exams, and other learning products here:

- ILT Course
- Certification Exam

Course Description

Implementing Cisco Data Center Unified Computing (DCUCI) is designed to serve the needs of engineers implementing Cisco UCS B-Series blade servers and Cisco UCS C-Series rack servers.

- Development Project Name: DCUCI
- Full Title of Course: *Implementing Cisco Data Center Unified Computing*
- Course Acronym: DCUCI
- Course Version Number: 5.0
- New course: No
- Replaces: *Cisco Data Center Unified Computing Implementation (DCUCI) v4.0*

Curricula

The course is used in the following curricula, certifications, specializations, and learning maps:

Certifications:

- Cisco Certified Network Professional Data Center

Curricula, specializations, and learning maps:

- Cisco Certified Network Professional Data Center

Delivery Types

The course will be delivered in the following learning mode:

- 5-day instructor-led (classroom) with labs

Deliverables

The deliverables developed for the course are listed and described, including the percentage or hours of study and lecture materials, percentage or hours of practice (such as labs), and the total hours for a typical learner to complete the material.

- High-Level Design Document (HLDD)
- Detailed Design Document (DDD)
- Course Administration Guide (CAG) with course delta included
- Instructor Slides – Microsoft PowerPoint presentations for a 5-day ILT (40 hours)
- Student Guides (SG) – Microsoft Word documents for an extended-hours 5-day ILT (40 hours)
- Lab Guide (LG) – labs/demos/case studies will cover approximately 40% of total ILT time
- Lab configuration files in .txt format

Target Audiences

This section specifies the primary and secondary target audiences of this course by job roles and notes the relevance to each job role.

Job Role	Relevance		
<input checked="" type="checkbox"/> Network Designer	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Network Administrator	<input type="checkbox"/> Primary	<input checked="" type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Storage Administrator	<input type="checkbox"/> Primary	<input checked="" type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Server Administrator	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Network Engineer	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Network Manager	<input type="checkbox"/> Primary	<input checked="" type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Program Manager	<input type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input checked="" type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Project Manager	<input type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input checked="" type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Systems Engineer	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Consulting Systems Engineer	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Technical Solutions Architect	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary
<input checked="" type="checkbox"/> Cisco Integrators/Partners	<input checked="" type="checkbox"/> Primary	<input type="checkbox"/> Secondary	<input type="checkbox"/> Tertiary

Target Theaters and Locales

The primary target theaters for the course are:

- Americas International
- Asia Pacific
- Europe, Middle East, and Africa
- Japan
- United States

The course materials will be developed in English only.

Recommended Skills and Knowledge

This section recommends the skills and knowledge that learners should possess to benefit fully from the course. It includes recommended Cisco learning offerings that the learners may complete to benefit fully from this course.

The knowledge and skills that a learner should have before attending this course are as follows:

- CCNA and DCUFI knowledge and experience until cutover to CCNA DC
- CCNA DC equivalent knowledge and experience
- Server operating systems, hypervisor, and virtualization familiarity
- *Implementing Cisco Storage Networking Solutions (ICSNS)*

Course Evaluation

Effectiveness of the course will be evaluated at these levels of Kirkpatrick's performance evaluation.

- Level 1: Reaction to the course
 - Course effects: This assessment level gauges learner satisfaction, that is, feedback from participants regarding their levels of satisfaction with the offering. This assessment will consist of the Cisco standard program evaluation and will be completed by the learner.
 - Course evaluation: Required (via MTM)
- Level 2: Learning retained
 - Course effects: This assessment level tests for learner achievement following a portion or all of an instructional offering. The strategy for learner assessment calls for the use of written tests in support of the instructional program. Written tests will be administered in accordance with Learning@Cisco standards through proctored certification exams. This assessment will consist of the laboratory exercises and the Cisco Certification Exam.
 - Course evaluation: Required
- Level 3: Performance changes after the course
 - Course effects: N/A
 - Course evaluation: N/A
- Level 4: Results on the job, after the course
 - Course effects: N/A
 - Course evaluation: N/A

Assessment Strategy

This section specifies the assessment approach for the learning product.

- Module-level quizzes integrated into the course (with equal distribution of all types of questions, from recall- to evaluation-level)
- Lab activities with verification/answer-key sections
- The course DCUCI certification exam

Assumptions and Risks

This section lists assumptions and risks and their implications related to development of this product.

Assumption or Risk	Implication
SAVBU SMEs will be available to answer questions within 5 business days.	Without access to BU experts, the accuracy of the finished courseware may be compromised.
A development pod consisting of all the hardware and software equipment required to develop labs must be in place by the deadline of the Prototype delivery.	Delays in acquisition of lab hardware and software will materially delay the handoff dates of the student guide, lab guide, and CAG.
L@C TEC resources will be available to review design documents and content as stated in the accepted development schedule.	Inaccessibility of L@C TEC staff may delay the completion of project deliverables.
All Cisco UCS B-Series and C-Series firmware will be synchronized on Cisco UCS Manager 2.0 release. Cisco UCS C-Series Servers will operate in standalone mode on firmware 1.4.2. The Nexus 5548UP s will operate on Cisco NX-OS version 5.1(3)N1(1a).	It is likely that new versions of software will become available during the development process. It will create a significant additional burden to developers to correct screenshots and add discussions of new features to lecture and lab deliverables. This will materially impact the completion timeline.
QAS resources will be available to edit content as stated in the accepted development schedule.	Inaccessibility of L@C QAS staff may delay the availability dates of project deliverables.
Program scope does not change.	Further changes in scope may cause delays as those changes are discussed, and then the resulting changes are made to the schedule.

Course Design

Course Goal

Implementing Cisco Data Center Unified Computing is a 5-day hands-on course that focuses on deployment and operations of the Cisco Unified Computing System B-Series Blade Servers and C-Series Rack Servers. Participants will learn how to configure and manage Cisco UCS servers using Unified I/O networking for LAN and SAN connectivity, and how to virtualize server hardware identifiers to enable rapid recovery of server operating system images through service profile mobility. Participants will practice configuring fault tolerance, implementing role-based access control (RBAC), backing up and restoring system configurations, and using the monitoring and troubleshooting tools in Cisco UCS Manager and Cisco Integrated Management Controller.

Curriculum Flow

This section illustrates the flow of the curriculum.

This is the suggested course schedule. You may make adjustments based on the skills, knowledge, and preferences of the learners in attendance. The presentation of all topics is optional for noncertification offerings, but you are encouraged to use them because they are designed to reinforce the lesson concepts and ensure that learners apply some of the concepts.

DCUCI 5.0 Timelines

Total time ILT: 28 hours and 00 min
Lecture time: 17 hours and 40 minutes
Lab time: 10 hours and 20 minutes

Module 0 of 5: Course Introduction

Total time: 35 min

Time: 5 min	Module 0 Topic 1 of 5: Course Overview
Time: 5 min	Module 0 Topic 2 of 5: Components of the DCUCI Curriculum
Time: 5 min	Module 0 Topic 3 of 5: Training Curriculum
Time: 5 min	Module 0 Topic 4 of 5: Cisco Online Resources
Time: 15 min	Module 0 Topic 5 of 5: Introductions

Module 1 of 5: Implement Cisco UCS C-Series Rack Servers

Total time: 325 min

Time: 30 min	Module 1 Lesson 1 of 8: Implementing Cisco R-Series Rack Enclosures
Time: 30 min	Module 1 Lesson 2 of 8: Installing Cisco UCS C-Series Server Hardware
Time: 20 min	Module 1 Lesson 3 of 8: Installing Cisco UCS C-Series Servers in a Cisco R-Series Rack Enclosure
Time: 30 min	Module 1 Lesson 4 of 8: Updating Cisco UCS C-Series Firmware with the Host Upgrade Utility

Time: 20 min	Module 1 Lesson 5 of 8: Provisioning Monitoring and Logging on the Cisco UCS C-Series Server
Time: 30 min	Module 1 Lesson 6 of 8: Provisioning LAN and SAN Connectivity in Cisco Integrated Management Controller
Time: 20 min	Module 1 Lesson 7 of 8: Provisioning RAID on the Cisco UCS C-Series Server
Time: 20 min	Module 1 Lesson 8 of 8: Installing VMware ESXi on the Cisco UCS C-Series Server
Time: 30 min	Lab 1-1: Perform Initial C-Series Implementation
Time: 30 min	Lab 1-2: Update Cisco UCS C-Series Firmware from the Cisco UCS Host Upgrade Utility
Time: 30 min	Lab 1-3: Implement LAN and SAN Connectivity
Time: 35 min	Lab 1-4: Install VMware ESXi on Local RAID and Verify SAN Connectivity

Module 2 of 5: Manage the Cisco UCS B-Series

Total time: 375 min

Time: 60 min	Module 2 Lesson 1 of 5: Implementing Role-Based Access Control
Time: 60 min	Module 2 Lesson 2 of 5: Managing and Upgrading Cisco UCS B-Series Firmware
Time: 25 min	Module 2 Lesson 3 of 5: Implementing Backup, Import, and Restore of the Cisco UCS Manager Database
Time: 30 min	Module 2 Lesson 4 of 5: Implementing Logging and Monitoring
Time: 25 min	Module 2 Lesson 5 of 5: Implementing High Availability
Time: 15 min	Instructor Demo: Provision Initial B-Series Configuration
Time: 15 min	Lab 2-1: Provision Cisco UCS Ethernet Connectivity and Management IP Pools
Time: 45 min	Lab 2-2: Configure Role-Based Access Control
Time: 60 min	Lab 2-3: Back Up and Restore Cisco UCS Manager Database Objects
Time: 40 min	Lab 2-4: Configure Logging in Cisco UCS

Module 3 of 5: Implement Cisco UCS B-Series Connectivity

Total time: 210 min

Time: 60 min	Module 3 Lesson 1 of 4: Implementing Cisco UCS B-Series Physical Connectivity
Time: 30 min	Module 3 Lesson 2 of 4: Installing Cisco UCS B-Series Hardware
Time: 60 min	Module 3 Lesson 3 of 4: Implementing LAN Connectivity for Cisco UCS B-Series Hardware
Time: 60 min	Module 3 Lesson 4 of 4: Implementing Cisco UCS B-Series SAN Connectivity

Module 4 of 5: Provision Cisco UCS Compute Resources

Total time: 475 min

Time: 15 min	Module 4 Lesson 1 of 7: Provisioning the Cisco UCS Cluster
Time: 30 min	Module 4 Lesson 2 of 7: Provisioning LAN Networking
Time: 20 min	Module 4 Lesson 3 of 7: Provisioning SAN Networking
Time: 60 min	Module 4 Lesson 4 of 7: Provisioning Resource Pools in Cisco UCS Manager
Time: 90 min	Module 4 Lesson 5 of 7: Provisioning Server Policies in Cisco UCS Manager
Time: 50 min	Module 4 Lesson 6 of 7: Provisioning Service Profiles from Templates in Cisco UCS Manager
Time: 30 min	Module 4 Lesson 7 of 7: Provisioning Cisco UCS C-Series Server Integration in Cisco UCS Manager
Time: 70 min	Lab 4-1: Provision Identity and Resource Pools
Time: 90 min	Lab 4-2: Provision Mobile Service Profiles from Updating Templates
Time: 20 min	Lab 4-3: Test High Availability

Module 5 of 5: Implement Cisco UCS Server Virtualization Features

Total time: 260 min

Time: 80 min	Module 5 Lesson 1 of 3: Provisioning Cisco VM-FEX and Cisco VM-FEX Universal Pass-Through
Time: 30 min	Module 5 Lesson 2 of 3: Provisioning Cisco VM-FEX
Time: 10 min	Module 5 Lesson 3 of 3: Provisioning Cisco VM-FEX Universal Pass-Through
Time: 80 min	Lab 5-1: Provision VMware Integration
Time: 40 min	Lab 5-2: Provision M81-KR Cisco VM-FEX

Job Tasks and Domain and Skill Objectives

These are the job tasks (domains and skill objectives from the audience, as well as job definition and job task analyses that will be taught and practiced in the course).

- | # | Skill Objectives/Job Tasks |
|------------|---|
| 1.0 | Implement Cisco UCS C-Series standalone |
| 1.1 | Implement Cisco UCS C-Series Rack Servers |
| 1.2 | Implement firmware updates |
| 1.3 | Implement Cisco Integrated Management Controller |
| 1.4 | Implement network and storage connectivity |
| 1.5 | Provision hard drives |
| 1.6 | Install VMware ESXi on local hard drives |
| 1.7 | Implement logging and monitoring methods for Cisco UCS |
| 2.0 | Implement Cisco UCS B-Series connectivity |
| 2.1 | Implement Cisco UCS B-Series overall connectivity |
| 2.2 | Implement Cisco UCS B-Series component installation |
| 2.3 | Implement Cisco UCS B-Series LAN connectivity |
| 2.4 | Implement Cisco UCS B-Series SAN connectivity |
| 3.0 | Manage Cisco UCS B-Series |
| 3.1 | Implement security in a Cisco UCS |
| 3.2 | Identify the steps necessary to manage software and firmware versions and upgrades in Cisco UCS Manager |
| 3.3 | Implement backup and import for Cisco UCS database |
| 3.4 | Implement logging and monitoring methods for Cisco UCS |
| 3.5 | Implement the Call Home feature in Cisco UCS Manager |
| 3.6 | Describe high availability for the fabric interconnect cluster |
| 4.0 | Provision Cisco UCS compute resources |
| 4.1 | Provision network connectivity in Cisco UCS |
| 4.2 | Provision storage sources in Cisco UCS |
| 4.3 | Provision resource pools in Cisco UCS |
| 4.4 | Provision resource policies in Cisco UCS |
| 4.5 | Provision service profiles in Cisco UCS |
| 4.6 | Provision operating system parameters in Cisco UCS |
| 4.7 | Provision the base Cisco UCS configuration |
| 4.8 | Provision virtual HBAs |
| 4.9 | Provision vNICs and vNIC policies in Cisco UCS |

- 4.10 Provision Cisco UCS C-Series integration
- 5.0 Implement Cisco UCS server virtualization features
- 5.1 Provision Cisco UCS Manager integration with VMware vCenter Server
- 5.2 Provision Cisco UCS Virtual Machine Fabric Extender (VM-FEX)
- 5.3 Provision VMware DirectPath I/O

Course Structure and Objectives

This section describes the high-level, modular structure of the course and lists the module and lesson objectives. Describe the high-level structure of the course and any principles that apply to all modules.

Module 0: Course Introduction

Module Objective: Advise participants of course flow, prerequisite skills expectations, Cisco Qualified Specialist requirements, and student introductions.

Module 1: Implement Cisco UCS C-Series Rack Servers

Module Objective: Implement Cisco UCS C-Series rack servers in standalone mode. Boot from local hard drive and mount Fibre Channel SAN LUN for shared storage.

Module 1 Lesson 1: Implementing Cisco R-Series Rack Enclosures

Lesson Objective: Install Cisco R-Series rack enclosures in the data center.

Support job task:

- 1.1 Implement Cisco UCS C-Series Rack Servers

M1L1 Enabling Objectives:

- Unpack the Cisco R42610 rack enclosure
- Remove the Cisco R-Series rack from the pallet
- Secure the Cisco R-Series rack to the floor
- Join Cisco R42610 racks into a suite
- Install a Cisco RP208-30-U-1 PDU
- Remove and install side panels
- Remove and install Cisco R-Series rack doors
- Use cabling portholes

Module 1 Lesson 2: Installing Cisco UCS C-Series Server Hardware

Lesson Objective: Install components in the C-Series Rack Server prior to rack mounting.

Support job task:

- 1.1 Implement Cisco UCS C-Series Rack Servers

M1L2 Enabling Objectives:

- Review ESD precautions
- Review how to open C-Series cases
- Compare PCIe riser cards across C-Series models
- Describe CPU population rules for dual- and quad-socket servers

- Describe the importance of color coding internal C-Series components
- Describe DRAM installation and population rules
- Describe fan replacement
- Describe power supply replacement

Module 1 Lesson 3: Installing Cisco UCS C-Series Servers in a Cisco R-Series Rack Enclosure

Lesson Objective: Install Cisco UCS C-Series rack servers in a Cisco R-Series rack.

Support job task:

1.1 Implement Cisco UCS C-Series Rack Servers

M1L3 Enabling Objectives:

- Install the slide-rail assembly into the Cisco R42610 rack enclosure
- Attach the mounting brackets to the server
- Insert the server into the slide rail
- Attach the cable management arm
- Connect the C-Series server to the PDU
- Connect management and data cables

Module 1 Lesson 4: Updating Cisco UCS C-Series Firmware with the Host Upgrade Utility

Lesson Objective: Use the Cisco UCS Host Upgrade Utility to upgrade or downgrade C-Series firmware to the correct version.

Support job task:

1.2 Implement firmware updates

M1L4 Enabling Objectives:

- Download the Cisco UCS Host Upgrade Utility from Cisco.com
- Enable KVM and virtual media in Cisco Integrated Management Controller
- Describe session options available in the KVM
- Launch virtual media and mount the Cisco UCS Host Upgrade Utility ISO image
- Perform an upgrade of all components

Module 1 Lesson 5: Provisioning Monitoring and Logging on the Cisco UCS C-Series Server

Lesson Objective: Provision SNMP and syslog, and use C-Series monitoring tools.

Support job task:

1.7 Implement logging and monitoring methods for Cisco UCS

M1L5 Enabling Objectives:

- Provision SNMP
- Provision syslog destinations for server logging data
- Access data from the server event log
- Export technical support information

Module 1 Lesson 6: Provisioning LAN and SAN Connectivity in Cisco Integrated Management Controller

Lesson Objective: Use Cisco Integrated Management Controller to provision LAN and SAN connectivity for the C-Series server.

Support job task:

1.4 Implement network and storage connectivity

M1L6 Enabling Objectives:

- Provision the Cisco UCS P81E VIC to allow FCoE
- Provision a locally administered MAC address for the A- and B-side 10 Gigabit Ethernet interfaces
- Enable RSS on Ethernet adapters
- Provision locally administered addresses for the Fibre Channel interface WWPN and WWNN
- Provision the Fibre Channel boot target for the A- and B-side Fibre Channel interfaces

Module 1 Lesson 7: Provisioning RAID on the Cisco UCS C-Series Server

Lesson Objective: Use the LSI MegaRAID WebUI to provision local hard drives into a RAID 5 array.

Support job task:

1.5 Provision local hard drives

M1L7 Enabling Objectives:

- Describe the characteristics of RAID levels 0, 1, 5, 6, and 10
- Boot the server in the KVM and access the LSI MegaRAID web user interface
- Add all local hard drives to a RAID 5 array and save the configuration

Module 1 Lesson 8: Installing VMware ESXi on the Cisco UCS C-Series Server Local RAID Array

Lesson Objective: Install VMware ESXi in the C-Series server local hard drives.

Support job task:

1.6 Installing ESXi on local hard drives

M1L8 Enabling Objectives:

- Open a KVM session to the C-Series server
- Map virtual media to the ESXi installer ISO image
- Install ESXi on the local RAID array
- Boot ESXi from the local RAID array
- Configure a management IP address for the ESXi server
- Connect to the ESXi server with the VMware vSphere Client Utility and connect to the VMware File System shared storage LUN on the Fibre Channel storage system

Lab 1-1 Perform Initial C-Series Implementation

Lab Objective: Perform initial Cisco UCS C-Series server configuration.

Support job tasks:

- 1.3 Implement Cisco Integrated Management Controller
- 1.7 Implement logging and monitoring methods for Cisco UCS

Lab 1-1 Enabling Objectives:

- Log into Cisco Integrated Management Controller
- Enable virtual media
- Configure syslog host and test logging
- Access the system event log
- Create and export a tech support report to a TFTP server

Lab 1-2: Update Cisco UCS C-Series Firmware from the Cisco UCS Host Upgrade Utility

Lab Objective: Use the Host Upgrade Utility to update a C200M2 server to a specified version.

Support job task:

- 1.2 Implement firmware updates

Lab 1-2 Enabling Objectives:

- Browse to Cisco.com and locate (but do not download) the ISO file for the Cisco UCS Host Upgrade Utility
- Map virtual media to the Host Upgrade Utility ISO image on the student PC
- Boot the C200 M2 server and run the Host Upgrade Utility to update the server firmware

Lab 1-3: Implement LAN and SAN Connectivity

Lab Objective: Prepare the server to install an operating system and connect to LAN and SAN infrastructures.

Support job task:

- 1.4 Implementing network and storage connectivity

Lab 1-3 Enabling Objectives:

- Configure P81E with WWNN and WWPN
- Enter the LSI MegaRAID BIOS and create a RAID 5 array

Lab 1-4: Install VMware ESXi on Local RAID and Verify SAN Connectivity

Lab Objective: Install ESXi on local storage and connect to VMFS LUN.

Support job tasks:

- 1.4 Implementing network and storage connectivity
- 1.6 Installing VMware ESXi on local hard drives

Lab 1-4 Enabling Objectives:

- Install VMware ESXi on the local RAID array
- Configure LAN connectivity
- Use the VMware vSphere Client to log into the ESXi server and connect to the VMFS LUN

Module 2: Manage the Cisco UCS B-Series

Module Objective: Implement system management, maintenance, and high availability services for Cisco UCS B-Series.

Module 2 Lesson 1: Implementing RBAC

Lesson Objective: Implement local and remote authentication services to restrict privileges and delegate management authority in Cisco UCS Manager.

Support job task:

3.1 Implement security in a Cisco UCS

M2L1 Enabling Objectives:

- Articulate the overall framework of RBAC in the Cisco UCS B-Series
- Implement local users, roles, and privileges
- Implement organizations and locales
- Describe the effective rights of a user as an intersection of roles and locales mapped to a user
- Implement LDAP providers and provider groups
- Implement LDAP/Microsoft Active Directory as an external authentication and authorization service
- Implement Cisco UCS roles mapping to LDAP/Active Directory attributes with LDAP provider maps

Module 2 Lesson 2: Managing and Upgrading Cisco UCS B-Series Firmware

Lesson Objective: List the processes for managing the firmware repository and upgrade or downgrade of Cisco UCS firmware components using the Cisco UCS Manager.

Support job task:

3.2 Identify the steps necessary to manage software and firmware versions and upgrades in Cisco UCS Manager

M2L2 Enabling Objectives:

- Describe where to find Cisco UCS firmware packages on Cisco.com
- Update Cisco UCS firmware
- Direct upgrade of mezzanine adapter, Cisco Integrated Management Controller, and IOM firmware
- Describe software updates on the fabric interconnect
- Describe the requirement for firmware updates via host firmware packages in the service profile
- Describe the differences between the firmware processes of Cisco UCS fabric interconnect and IOM, Cisco Integrated Management Controller, and adapter
- Describe how to update and activate the hardware capability catalog

Module 2 Lesson 3: Implementing Backup, Import, and Restore of the Cisco UCS Manager Database

Lesson Objective: Implement backup and restore capabilities in Cisco UCS Manager.

Support job task:

3.3 Implement backup and import for Cisco UCS database

M2L3 Enabling Objectives:

- Differentiate between the supported backup types and what database objects they map to in the Cisco UCS Manager database
- Differentiate between an import operation and a disaster recover restore operation
- Implement a backup job
- Implement backup jobs to preserve abstracted identities
- Verify that the backup is created and executed
- Implement an import job to restore the AAA user database
- Verify that the AAA user database is restored
- Configure the Cisco UCS 6100/6200 Series Fabric Interconnect for disaster recovery restore

Module 2 Lesson 4: Implementing Logging and Monitoring

Lesson Objective: Implement syslog, Smart Call Home, and SPAN

Support job tasks:

3.4 Implement logging and monitoring methods in Cisco UCS

3.5 Implement the Call Home feature in Cisco UCS Manager

M2L4 Enabling Objectives:

- Describe Cisco UCS Manager management interfaces
- Describe the fault management system and evaluate fault severity levels
- Use the audit log to track administrative changes to the Cisco UCS Manager database
- Describe Cisco UCS Manager operations subject to FSM validation and how to interpret FSM output
- Implement logging options including local buffer, console, and external syslog servers
- Use system event log and system event log policies
- Implement the Smart Call Home feature
- Validate the Smart Call Home feature
- Configure settings for logs, events, and faults
- Configure SPAN to allow protocol analysis

Module 2 Lesson 5: Implementing High Availability

Lesson Objective: Maintain Cisco UCS in a high-availability configuration.

Support job task:

3.6 Describe high availability for the fabric interconnect cluster

M2L5 Enabling Objectives:

- Describe high-availability cluster connection requirements for Cisco UCS B-Series
- Describe intercluster communications and Cisco UCS Manager database synchronization
- Differentiate between cluster partition-in-time and partition-in-space split-brain conditions

- Describe how the Cisco UCS 5108 chassis SEEPROM resolves a split-brain issue in the high-availability cluster
- Modify cluster IP addressing from Cisco UCS Manager GUI and CLI

Instructor Demo: Provision Initial B-Series Configuration

Lab Objective: Perform initial Cisco UCS B-Series cluster configuration (instructor demo)

Support job task:

4.7 Provision the base Cisco UCS configuration

Instructor Demo Enabling Objectives:

- Provision the bootstrap sequence for standalone Cisco UCS Fabric Interconnects
- Provision the bootstrap sequence for clustered Cisco UCS Fabric Interconnects
- Provision the Cisco UCS 6100 with port licenses

Lab 2-1: Provision Cisco UCS Ethernet Connectivity and Management IP Pools

Lab Objective: Perform initial Cisco UCS B-Series cluster configuration.

Support job task:

4.7 Provision the base Cisco UCS configuration

Lab 2-1 Enabling Objectives:

- Provision Ethernet uplink and server ports on the fabric interconnects
- Provision management IP pools

Lab 2-2: Configure RBAC

Lab Objective: Implement authentication with local authentication and Active Directory.

Support job task:

3.1 Implement security in a Cisco UCS

Lab 2-2 Enabling Objectives:

- Implement organizations based on a detailed specification for a large data center
- Implement user roles to segregate server, LAN, and SAN, based on job role
- Implement local user accounts
- Test locale restrictions
- Implement LDAP providers, LDAP provider groups, LDAP group maps, and authentication domains

Lab 2-3: Back Up and Restore Cisco UCS Manager Database Objects

Lab Objective: Backup and restore Cisco UCS configuration objects.

Support job task:

3.3 Implement backup and import for Cisco UCS database

Lab 2-3 Enabling Objectives:

- Implement and execute an all-configuration backup job
- Create import jobs to demonstrate the difference between merge and replace

Lab 2-4: Configure Logging in Cisco UCS

Lab Objective: Implement syslog, SNMP, and Smart Call Home

Support job task:

3.4 Implement logging and monitoring methods in Cisco UCS

3.5 Implement the Call Home feature in Cisco UCS Manager

Lab 2-4 Enabling Objectives:

- Generate and observe a major alarm by shutting down server links to the I/O modules
- Observe the major alarm indicating resolution after the server links are restored
- Disable console and local logging
- Enable syslog and direct output to three student syslog servers to observe output
- Decommission and recommission a Cisco UCS B200 Blade Server and observe FSM progress while device discovery is active
- Implement Smart Call Home and generate an email with device inventory

Module 3: Implement Cisco UCS B-Series Connectivity

Module Objective: Implement generation 1 and generation 2 connectivity.

Module 3 Lesson 1: Implementing Cisco UCS B-Series Physical Connectivity

Lesson Objective: Differentiate between physical connections on the I/O module and the redundant connections for management and data plane over the I/O Mux and midplane.

Support job task:

2.1 Implement B-Series overall connectivity

M3L1 Enabling Objectives:

- Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 2 hardware
- Describe the Cisco UCS 2204/2208XP I/O module architecture including CMC, I/O mux, and CMS
- Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 1 hardware
- Describe the Cisco UCS 2104XP I/O module architecture including CMC, I/O mux, and CMS
- Describe the features of the Cisco UCS VIC 1280 and VIC 1240
- Compare the number of virtual interfaces available on the Cisco UCS M81KR VIC versus the VIC 1280
- Describe new mezzanine cards including M51, M61, and M72
- Describe the Cisco Integrated Management Controller management component of the B-Series blades
- Describe the creation of port channels from the Cisco UCS 6200 Series Fabric Interconnect to the 2204/2208XP I/O module
- Describe the difference between server and uplink port personalities in the fabric interconnect
- Describe the chassis discovery process and monitor using the FSM

- Configure the chassis discovery policy

Module 3 Lesson 2: Installing Cisco UCS B-Series Hardware

Lesson Objective: Install and power up Cisco UCS B-Series hardware

Support job task:

2.2 Implement Cisco UCS B-Series component installation

M3L2 Enabling Objectives:

- Describe ESD precautions necessary when installing B-Series components
- List the steps for opening the case of half-slot and full-slot blade servers
- List the steps for physical installation of rack-mount slides in the enclosure and on the Cisco UCS 5108 chassis
- List the steps for installation and removal of CPU, RAM, and mezzanine cards in B-Series blades
- List the steps for physical installation and removal of local hard drives
- List the steps for physical installation of half-slot and full-slot blade servers
- List the steps for physical installation of I/O modules and power supplies in the Cisco UCS 5108 chassis
- List the steps for physical installation and removal of fan units
- List the steps for physical installation and removal of SFP+ copper twinax and optical modules

Module 3 Lesson 3: Implementing Cisco UCS B-Series LAN Connectivity

Lesson Objective: Implement LAN connectivity for Cisco UCS B-Series hardware

Support job task:

2.3 Implement B-Series LAN connectivity

M3L3 Enabling Objectives:

- Differentiate between uplink, server, appliance, FCoE storage, and monitoring Ethernet port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS fabric interconnect
- Describe the requirements and configuration of port channels from the Cisco UCS fabric interconnect to a northbound switch
- Describe end-host mode and its importance in forwarding over multiple Layer 2 links and maintaining a loop-free topology
- Differentiate end-host mode with switched mode
- Describe the requirements to configure VLANs in Cisco UCS Manager
- Describe the role of vNICs to abstract MAC addresses into a service profile
- Describe the automatic pinning process and recovery from failure
- Describe the configuration of manual pinning and recovery from failure
- Describe the configuration of disjoint Layer 2 domains

Module 3 Lesson 4: Implementing Cisco UCS B-Series SAN Connectivity

Lesson Objective: Implement SAN connectivity for Cisco UCS B-Series hardware

Support job task:

2.4 Implement B-Series SAN connectivity

M3L4 Enabling Objectives:

- Describe Fibre Channel switching
- Describe NPV
- Differentiate between Fibre Channel uplink, Fibre Channel storage, and Fibre Channel monitoring port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS Fabric Interconnect
- Differentiate between benefits and drawbacks of Fibre Channel switching and NPV
- Describe how NPIV allows a single N Port to be associated with multiple FCIDs
- Describe the requirements and configuration of VSANs in Cisco UCS Manager
- Describe the role of the vHBA to abstract WWNNs and WWPNS into a service profile
- Describe the automatic pinning process and recovery from failure
- Describe the configuration of manual pinning and recovery from failure
- Differentiate Ethernet failover from Fibre Channel multipath I/O recovery

Module 4: Provision Cisco UCS Compute Resources

Module Objective: Provision servers by leveraging reusable pools, policies, and templates that allow for rapid provisioning and consistency of policy.

Module 4 Lesson 1: Provisioning the Cisco UCS Cluster

Lesson Objective: Perform initial Cisco UCS cluster setup and provide management IP addresses for blade servers.

Support job task:

4.7 Provision the base Cisco UCS configuration

M4L1 Enabling Objectives:

- Configure the primary cluster peer from the fabric interconnect console
- Configure the secondary cluster peer from the fabric interconnect console and join to the cluster
- Log into the Cisco UCS Manager GUI and assign a pool of management IP addresses for server management

Module 4 Lesson 2: Provisioning LAN Networking

Lesson Objective: Provision VLANs and fabric interconnect uplinks for server connectivity to the Layer 3 data center cloud.

Support job task:

4.1 Provision network connectivity in Cisco UCS

M4L2 Enabling Objectives:

- Provision VLANs for single fabric, both fabrics, and both fabrics configured differently
- Provision VLAN ranges
- Provision private VLANs
- Provision Ethernet uplinks

- Provision Ethernet uplink port channels
- Provision fabric port channels from the Cisco UCS Fabric Interconnect to a Cisco 2204/2208 I/O Module
- Provision FCoE storage ports
- Provision appliance ports and prune VLANs

Module 4 Lesson 3: Provisioning SAN Networking

Lesson Objective: Provision VSANs and fabric interconnect Fibre Channel uplinks for server connectivity to the data center storage cloud.

Support job task:

4.2 Provision storage sources in Cisco UCS

M4L3 Enabling Objectives:

- Provision VSANs for single fabric, both fabrics, and both fabrics configured differently
- Provision Fibre Channel uplinks and VSAN trunking
- Provision Fibre Channel port channels
- Provision direct-attach Fibre Channel storage ports and default zoning

Module 4 Lesson 4: Provisioning Resource Pools in Cisco UCS Manager

Lesson Objective: Provision resource pools for servers, UUIDs, MAC addresses, WWNN, WWPN, and iSCSI.

Support job task:

4.3 Provision resource pools in Cisco UCS

M4L4 Enabling Objectives:

- Provision server pools
- Provision server pool autoplacement
- Provision UUID pools
- Provision MAC pools
- Provision WWNN pools
- Provision WWPN pools
- Provision iSCSI initiator pools

Module 4 Lesson 5: Provisioning Server Policies in Cisco UCS Manager

Lesson Objective: Configure reusable server policies in Cisco UCS Manager.

Support job tasks:

4.5 Provision service profiles in Cisco UCS

4.6 Provision operating system parameters in Cisco UCS

4.8 Provision virtual HBAs

4.9 Provision vNICs and vNIC policies in a Cisco UCS

M4L5 Enabling Objectives:

- Provision a service profile using the expert service profile wizard

- Implement pools and policies in the service profile
- Associate a service profile to a server
- Describe the Cisco UCS Utility Operating System
- Observe the association process using the FSM

Module 4 Lesson 6: Provisioning Service Profiles from Templates in Cisco UCS Manager

Lesson Objective: Provision service profiles with initial and updating templates.

Support job tasks:

- 4.5 Provision service profiles in Cisco UCS
- 4.6 Provision operating system parameters in Cisco UCS
- 4.8 Provision virtual HBAs
- 4.9 Provision vNICs and vNIC policies in a Cisco UCS

M4L6 Enabling Objectives:

- Describe the requirements of service profile templates
- Describe the difference between initial templates and updating templates including operational caveats
- Provision a vNIC template using the template wizard
- Provision a vHBA template using the template wizard
- Provision a service profile template using the template wizard
- Provision multiple servers from a service profile template
- Clone a service profile

Module 4 Lesson 7: Provisioning Cisco UCS C-Series Server Integration in Cisco UCS Manager

Lesson Objective: Provision service profiles with initial and updating templates.

Support job task:

- 4.10 Provision Cisco C-Series integration

M4L7 Enabling Objectives:

- Describe the benefits of C-Series integration
- Describe the physical connectivity requirements for C-Series integration
- Install version 1.2 C-Series server firmware to allow integration with Cisco UCS prior to version 2.0(2xx)
- Describe the C-Series discovery process

Lab 4-1: Provision Identity and Resource Pools

Lab Objective: Create resource pools to facilitate stateless computing and template-based server-farm automation

Support job task:

- 4.1 Provision network connectivity in Cisco UCS
- 4.2 Provision storage sources in Cisco UCS
- 4.3 Provision resource pools in Cisco UCS

- 4.4 Provision resource policies in Cisco UCS
- 4.5 Provision service profiles in Cisco UCS
- 4.6 Provision operating parameters in Cisco UCS

Lab 4-1 Enabling Objectives:

- Provision VLANs and VSANs
- Provision UUID pools
- Provision MAC pools
- Provision WWNN pools
- Provision WWPN pools
- Provision a server pool qualification policy
- Validate that your server is added to the pool after recommission
- Provision an adapter policy to enable RSS
- Provision an adapter policy to set the failback timer for fabric failover
- Provision a QoS system class that allows all Ethernet traffic to use jumbo frames up to an MTU of 9216
- Provision a disk scrub policy

Lab 4-2: Provision Mobile Service Profiles from Updating Templates

Lab Objective: Provision service profiles using pooled (virtualized) hardware identifiers that can be moved between blade servers

Support job tasks:

- 4.8 Provision virtual HBAs
- 4.9 Provision vNICs and vNIC policies in a Cisco UCS

Lab 4-2 Enabling Objectives:

- Provision interface templates for LAN and SAN connectivity
- Provision service profile templates to ensure consistency of policy
- Provision service profiles from templates and associate the service profile to a blade
- Install VMware ESXi 5.x to a Fibre Channel LUN and demonstrate SAN boot

Lab 4-3: Test High Availability

Lab Objective: Demonstrate the function of Cisco UCS high availability configurations by shutting down I/O module interfaces and observe recovery

Support job task:

- 3.6 Describe high availability for the fabric interconnect cluster

Lab 4-3 Enabling Objectives:

- Observe fabric failover and the preservation of LAN and SAN connectivity
- Observe that your servers automatically fail back to Fabric A upon restoration of the IOM link associated with your server

Module 5: Implement Cisco UCS Server Virtualization Features

Module Objective: Implement virtualization features unique to Cisco UCS that improve performance and manageability.

Module 5 Lesson 1: Provisioning Cisco VM-FEX and Cisco VM-FEX Universal Pass-Through

Lesson Objective: Describe Cisco VM-FEX and Cisco VM-FEX universal pass-through technologies.

Support job task:

5.0 Implement Cisco UCS server virtualization features

M5L1 Enabling Objectives:

- Describe VMware vSwitch and vDS
- Describe Cisco Nexus 1000V switching
- Describe Cisco VM-FEX
- Describe Cisco VM-FEX universal pass-through

Module 5 Lesson 2: Provisioning Cisco VM-FEX

Lesson Objective: Provision Cisco VM-FEX in Cisco UCS Manager and VMware vCenter Server.

Support job tasks:

5.1 Provision Cisco UCS Manager integration with VMware vCenter Server

5.2 Provision Cisco UCS Virtual Machine Fabric Extender (VM-FEX)

M5L2 Enabling Objectives:

- Provision VMware ESXi servers with a Cisco VEM
- Provision the secure connection from Cisco UCS Manager to VMware vCenter Server
- Provision port profiles and push to vCenter as port groups
- Provision a dynamic vNIC connection policy and BIOS policy for Cisco VM-FEX
- Join ESXi hosts to the DVS
- Provision VMs to consume port groups on the DVS

Module 5 Lesson 3: Provisioning Cisco VM-FEX Universal Pass-Through

Lesson Objective: Provision VM-FEX universal pass-through in Cisco UCS Manager and VMware vCenter Server.

Support job tasks:

5.1 Provision UCS Manager integration with VMware vCenter Server

5.3 Provision VMware DirectPath I/O

M5L3 Enabling Objectives:

- Describe VMware requirements for universal pass-through mode
- Provision a dynamic vNIC connection policy for Cisco VM-FEX universal pass-through
- Provision a BIOS policy for Cisco VM-FEX universal pass-through
- Associate universal pass-through policies to a service profile
- Provision a port profile for universal pass-through mode

- Provision VMs to connect to Direct Path I/O interfaces
- Verify universal pass-through mode

Lab 5-1: Provision VMware Integration

Lab Objective: Provision VMware vSphere and vCenter on your B200 blade server to facilitate the creation of a data center cluster to demonstrate VM-FEX and VM-FEX UPT with vMotion between vSphere hosts.

Support job task:

5.1 Provision Cisco UCS Manager integration with VMware vCenter Server

Lab 5-1 Enabling Objectives:

- Create a BIOS policy and associate it with the service profile
- Create a dynamic vNIC connection policy with a VMware adapter policy and associate it with the service profile
- Install vCenter on the student PC, create a data center, and add the ESXi host
- Configure vMotion on the vCenter VM from the Cisco UCS B200 on your pod to the Cisco UCS B200 on the neighbor pod
- Provision VMware integration with the wizard in Cisco UCS Manager and a port profile in standard mode

Lab 5-2: Provision M81-KR Cisco VM-FEX

Lab Objective: Provision port profiles and associate a VM with the DVS

Support job task:

5.2 Provision Cisco UCS Virtual Machine Fabric Extender (VM-FEX)

Lab 5-2 Enabling Objectives:

- Import a VM from a template
- Validate VM configuration
- Add ESXi host to the DVS
- Provision the Windows 2008 virtual machine to use the DVS port group
- Validate the VM port state and connectivity with the ping command
- Demonstrate vMotion of hosts and M81-KR port profile mobility

Lab 5-3: Provision M81-KR Cisco VM-FEX Universal Pass-Through

Lab Objective: Provision port profiles and associate a VM to a VMware Direct Path I/O interface.

Support job task:

5.3 Provision VMware DirectPath I/O

Lab 5-3 Enabling Objectives:

- Change the dynamic vNIC connection policy to use the VMwarePassThru adapter
- Change the port profile to universal pass-through mode
- Validate that universal pass-through mode is active
- Test connectivity with ping and file copy

- Demonstrate VMotion of hosts with Cisco VM-FEX universal pass-through

Detailed Course Design

This section details lesson, topic, activity, and lab content within the module/lesson structure of the course. This section is updated while the course contents are developed. At the end of development, the Design Document will be an accurate blueprint of the final course content.

Module 0 of 5 Course Introduction

Module Objective: Advise participants of course flow, prerequisite skills expectations, Cisco Qualified Specialist requirements, and student introductions.

Module 0 Lesson 1 of 1: Course Introduction

Lesson Objective: Sets the context of the course and introduces it to the learners while positioning it in the Learning@Cisco curriculum. Provides information for the course flow, prerequisite skills expectations, Cisco Qualified Specialist requirements, room facilities, and student introductions.

Module 0 Lesson 1 Topic 1 of 5	Course Overview
Topic Objectives	Describe the course goal and objectives.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Graphical representation of the course goals. Information for the prerequisite learner skills and knowledge.
Sources	PPT from DCUCIv4 to be updated with the new version.

Module 0 Lesson 1 Topic 2 of 5	Components of the DCUCI Curriculum
Topic Objectives	Understand the progress through the curriculum and all the components of the curriculum.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide graphic of positioning of course in Cisco Unified Computing Curriculum. Graphical diagram of course flow and all the components with explanation. Provide graphic of icons and symbols used in DCUCI.
Sources	PPT from DCUCIv4 to be updated with the new course flow information.

Module 0 Lesson 1 Topic 3 of 5	Training Curriculum
Topic Objectives	Overview of the certification requirements related to DCUCI and DCUCD classes.
Media Treatment (Visuals)	Lecture using static slides.

Module 0 Lesson 1 Topic 3 of 5	Training Curriculum
Content Types or Media Objects	Cisco Data Center Unified Computing Support Specialist Cisco Data Center Unified Computing Design Specialist Provide information for the recommended ELT modules.
Sources	Cisco Certifications page: http://www.cisco.com/web/learning/le3/le2/le41/le99/le10/learning_certification_type_home_extra_level.html

Module 0 Lesson 1 Topic 4 of 5	Cisco Online Resources
Topic Objectives	Overview of Cisco online resources.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Graphic of Partner Education Connection Graphic of Cisco Support Community Graphic of Cisco NetPro Forums
Sources	Links to Cisco website: http://www.cisco.com/go/pec http://supportforums.cisco.com .

Module 0 Lesson 1 Topic 5 of 5	Student Introductions
Topic Objectives	Get to know students and their motivations for attending the course and their expectations from the course.
Media Treatment (Visuals)	Discussion based on static slide.
Content Types or Media Objects	Provide a slide with bullets for name, company name, certification level, and primary motivation for attending the course.
Sources	Same slide from DCUCIv4, Module 0 Lesson 1

Module 1 of 5: Implement Cisco UCS C-Series Rack Servers

Module Objective: Implement Cisco UCS C-Series Rack Servers in standalone mode. Boot from local hard drive and mount Fibre Channel SAN LUN for shared storage.

Module 1 Lesson 1 of 8: Implementing Cisco R-Series Rack Enclosures

Lesson Objective: Install Cisco R-Series Rack Enclosures in the data center.

Module 1 Lesson 1 Topic 1 of 8	Unpack the Cisco R42610 rack enclosure
Topic Objectives	Brief overview of R42610 Site preparation and considerations for installing the rack Unpack the rack
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with brief description of R42610 rack, site prerequisites, and considerations. Provide graphical representation of the procedure of unpacking the rack.
Sources	“Cisco R Series Rack and RP Series PDU Installation Guide” http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html

Module 1 Lesson 1 Topic 2 of 8	Remove the Cisco R-Series rack from the pallet
Topic Objectives	Explain procedure and precautions to remove the rack from the pallet.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide listing the precautions. Provide slides and graphics with description of the procedure to remove the rack from the pallet.
Sources	“Cisco R Series Rack and RP Series PDU Installation Guide” http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html

Module 1 Lesson 1 Topic 3 of 8	Secure the Cisco R-Series rack to the floor
Topic Objectives	Describe how the rack must be secured to the floor.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the procedure and steps to secure the rack.
Sources	“Cisco R Series Rack and RP Series PDU Installation Guide” http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html

Module 1 Lesson 1 Topic 4 of 8	Join Cisco R42610 racks into a suite
Topic Objectives	Explain the procedure to join Cisco R42610 racks into a suite.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics with description of the procedure to join racks into a suite.
Sources	<p>“Cisco R Series Rack and RP Series PDU Installation Guide”</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html</p>

Module 1 Lesson 1 Topic 5 of 8	Install a Cisco RP208-30-U-1 PDU
Topic Objectives	Explain how to install the RP208-30-U-1 PDU in Cisco R42610 racks.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	<p>Provide slide listing the recommendations and precautions to install the PDU.</p> <p>Provide slide and graphics with description of the procedure to install the PDU in a R42610 rack.</p>
Sources	<p>“Cisco R Series Rack and RP Series PDU Installation Guide”</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html</p>

Module 1 Lesson 1 Topic 6 of 8	Remove and install side panels
Topic Objectives	Explain the procedure to install or remove the side panels of a Cisco R42610 rack.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics with description of the procedure to install and remove side panels for a R42610 rack.
Sources	<p>“Cisco R Series Rack and RP Series PDU Installation Guide”</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html</p>

Module 1 Lesson 1 Topic 7 of 8	Remove and install Cisco R-Series rack doors
Topic Objectives	Explain the procedure to install or remove the doors of a Cisco R42610 rack.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics with description of the procedure to install and remove the doors for a R42610 rack.

Module 1 Lesson 1 Topic 7 of 8	Remove and install Cisco R-Series rack doors
Sources	“Cisco R Series Rack and RP Series PDU Installation Guide” http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html

Module 1 Lesson 1 Topic 8 of 8	Use cabling portholes
Topic Objectives	Explain the portholes of a Cisco R42610 rack can be used.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics with description of how to use the portholes of a R42610 rack.
Sources	“Cisco R Series Rack and RP Series PDU Installation Guide” http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/rack_power/installation/guide/Rack_PDU.html

Module 1 Lesson 2 of 8: Installing Cisco UCS C-Series Server Hardware

Lesson Objective: Install components in the C-Series rack server prior to rack mounting.

Module 1 Lesson 2 Topic 1 of 8	Review ESD precautions
Topic Objectives	Describe ESD precautions
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic listing the needed ESD precautions.
Sources	Update existing slide from DCUCIv4.

Module 1 Lesson 2 Topic 2 of 8	Review how to open C-Series cases
Topic Objectives	Describe the procedures to remove the covers of the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show the procedures to remove the covers of the C-Series servers.
Sources	Use existing slides from DCUCIv4.

Module 1 Lesson 2 Topic 3 of 8	Compare PCIe riser cards across C-Series models
Topic Objectives	Describe the PCIe peripheral cards that can be installed and used in the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the NICs, VIC, HBA, CNAs, and RAID controller PCIe-

Module 1 Lesson 2 Topic 3 of 8	Compare PCIe riser cards across C-Series models
	based cards that can be used in the C-Series servers. Describe the population rules depending on the mode of operation – standalone or in Cisco UCS Manager.
Sources	Install and upgrade guides for C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html Data sheets for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/products_data_sheets_list.html
Module 1 Lesson 2 Topic 4 of 8	Describe CPU population rules for dual- and quad-socket servers
Topic Objectives	Describe the CPU population rules for the dual-socket and quad-socket C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide listing the population rules for the CPUs in the C-Series servers.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html
Module 1 Lesson 2 Topic 5 of 8	Describe the importance of color coding internal C-Series components
Topic Objectives	Describe the importance of color coding of internal C-Series components.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the color coding of the components of the C-Series servers.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html
Module 1 Lesson 2 Topic 6 of 8	Describe DRAM installation and population rules
Topic Objectives	Describe the population rules and installation procedures for the memory of the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics for the installation and population rules for the memory of the C-Series servers.

Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html
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Module 1 Lesson 2 Topic 7 of 8	Describe fan replacement
Topic Objectives	Describe the fan replacement procedure for the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphics for the fan replacement in the C-Series servers.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 2 Topic 8 of 8	Describe power supply replacement
Topic Objectives	Describe power supply replacement for the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic showing how to replace the fan in the C-Series servers.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 3 of 8: Installing Cisco UCS C-Series Servers in Cisco R-Series Rack Enclosures

Lesson Objective: Install a Cisco UCS C-Series rack server Cisco R-Series rack.

Module 1 Lesson 3 Topic 1 of 6	Install the slide-rail assembly into the Cisco R42610 rack enclosure
Topic Objectives	Describe how to install the C-Series servers slide-rail assembly into the Cisco R42610 rack.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic describing the installation process.
Sources	Install and upgrade guides for C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 3 Topic 2 of 6	Attach the mounting brackets to the server
Topic Objectives	Describe the procedure to attach the mounting brackets to the C-Series servers.

Module 1 Lesson 3 Topic 2 of 6	Attach the mounting brackets to the server
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show the procedures to attach the mounting brackets to the C-Series servers.
Sources	Install and upgrade guides for C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 3 Topic 3 of 6	Insert the server into the slide rail
Topic Objectives	Describe how to insert the server into the slide rail.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to insert the server into the slide rail.
Sources	Install and upgrade guides for C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 3 Topic 4 of 6	Attach the cable management arm
Topic Objectives	Describe how to attach the cable management arm.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to show how to attach the cable management arm.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 3 Topic 5 of 6	Connect the C-Series server to the PDU
Topic Objectives	Describe how to connect the C-Series server to the PDU.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to connect the C-Series server to the PDU.
Sources	Cisco R Series Rack and RP Series PDU Installation Guide http://www.cisco.com/en/US/docs/unified_comp/uting/ucs/hw/rack_power/installation/guide/power.html

Module 1 Lesson 3 Topic 6 of 6	Connect management and data cables
Topic Objectives	Describe how to connect management data cables for the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to connect management data cables for the C-Series servers.

Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html
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Module 1 Lesson 4 of 8: Updating the C-Series Firmware with the Host Upgrade Utility

Lesson Objective: Use the Cisco UCS Host Upgrade Utility to upgrade or downgrade C-Series firmware to the correct version.

Module 1 Lesson 4 Topic 1 of 5	Download the Cisco UCS Host Upgrade Utility from Cisco.com
Topic Objectives	Explain how to download the Cisco UCS Host Upgrade Utility from Cisco.com.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic describing how to download the Cisco UCS Host Upgrade Utility from Cisco.com.
Sources	Cisco Host Upgrade Utility Release 1.4(x) Quick Start Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/lomug/1.4.x/install/b_HUUUG_1_4.html

Module 1 Lesson 4 Topic 2 of 5	Enable KVM and virtual media in Cisco Integrated Management Controller
Topic Objectives	Describe the needed configuration to enable KVM and virtual media in Cisco Integrated Media Controller.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show the configuration related to KVM and Virtual Media in the Cisco Integrated Management Controller.
Sources	Use existing slide from DCUCIv4. Install and upgrade guides for C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 4 Topic 3 of 5	Describe session options available in the KVM
Topic Objectives	Describe session options available in the KVM.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the session options available in the KVM.
Sources	Existing slide from DCUCiv4 Install and upgrade guides for C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 1 Lesson 4 Topic 4 of 5	Launch virtual media and mount the Cisco UCS Host Upgrade Utility ISO image
Topic Objectives	Describe how to launch virtual media and mount the Cisco UCS Host Upgrade Utility ISO image.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to describe how to launch virtual media and mount the Cisco UCS Host Upgrade Utility ISO image.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html Cisco Host Upgrade Utility Release 1.4(x) Quick Start Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/lomug/1.4.x/install/b_HUUUG_1_4.html

Module 1 Lesson 4 Topic 5 of 5	Perform an upgrade of all components
Topic Objectives	Describe how to perform an upgrade of all components.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to describe how to perform an upgrade of all components.
Sources	Install and upgrade guides for the C-Series servers. http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html Cisco Host Upgrade Utility Release 1.4(x) Quick Start Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/lomug/1.4.x/install/b_HUUUG_1_4.html

Module 1 Lesson 5 of 8: Provisioning Monitoring and Logging on the C-Series Server

Lesson Objective: Provision SNMP and syslog, and use C-Series monitoring tools.

Module 1 Lesson 5 Topic 1 of 4	Provision SNMP
Topic Objectives	Explain how to provision SNMP.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic describing how to provision SNMP.
Sources	<p>Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4.</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>
Module 1 Lesson 5 Topic 2 of 4	Provision syslog destinations for server logging data
Topic Objectives	Describe the needed configuration to provision syslog destinations for server logging data.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show the needed configuration to provision syslog destinations for server logging data.
Sources	<p>Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4.</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>
Module 1 Lesson 5 Topic 3 of 4	Access data from the server event log
Topic Objectives	Describe how to access and export data from the server event log.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the how to access and export data from the server event log.
Sources	Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide,

Module 1 Lesson 5 Topic 3 of 4	Access data from the server event log
	Release 1.4. http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4 http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html

Module 1 Lesson 5 Topic 4 of 4	Export technical support information
Topic Objectives	Describe how to export technical support information.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to describe how to export technical support information.
Sources	Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4. http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4 http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html

Module 1 Lesson 6 of 8: Provisioning LAN and SAN Connectivity in Cisco Integrated Management Controller

Lesson Objective: Use Cisco Integrated Management Controller to provision LAN and SAN connectivity for the C-Series server.

Module 1 Lesson 6 Topic 1 of 5	Provision the Cisco UCS P81E VIC to allow FCoE
Topic Objectives	Explain how provision the P81E VIC to allow FCoE.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic describing how to provision the P81E VIC to allow FCoE.
Sources	Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4. http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4 http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html

Module 1 Lesson 6 Topic 1 of 5	Provision the Cisco UCS P81E VIC to allow FCoE
	g/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html

Module 1 Lesson 6 Topic 2 of 5	Provision a locally administered MAC address for the A- and B-side 10 Gigabit Ethernet interfaces
Topic Objectives	Describe how to configure a locally administered MAC address for the A- and B-side 10 Gigabit Ethernet interfaces.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show the needed configuration to provision a locally administered MAC address for the A- and B-side 10 Gigabit Ethernet interfaces.
Sources	<p>Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4.</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>

Module 1 Lesson 6 Topic 3 of 5	Enable RSS on Ethernet adapters
Topic Objectives	Describe how to enable RSS on Ethernet adapters.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to describe how to enable RSS on Ethernet adapters.
Sources	<p>Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4.</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>

Module 1 Lesson 6 Topic 4 of 5	Provision locally administered addresses for the Fibre Channel interface WWPN and WWNN
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Module 1 Lesson 6 Topic 4 of 5	Provision locally administered addresses for the Fibre Channel interface WWPN and WWNN
Topic Objectives	Describe how to provision locally administered addresses for the Fibre Channel interface WWPN and WWNN.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to describe how to provision locally administered addresses for the Fibre Channel interface WWPN and WWNN.
Sources	<p>Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4. http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4 http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>

Module 1 Lesson 6 Topic 5 of 5	Provision the Fibre Channel boot target for the A- and B-side Fibre Channel interfaces
Topic Objectives	Describe how to provision the Fibre Channel boot target for the A- and B-side Fibre Channel interfaces.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to describe how to provision the Fibre Channel boot target for the A- and B-side Fibre Channel interfaces.
Sources	<p>Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide, Release 1.4. http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/cli/config/guide/1.4.1/b_Cisco_UCS_C-Series_CLI_Configuration_Guide_141.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4 http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>

Module 1 Lesson 7 of 8: Provisioning RAID on the Cisco UCS C-Series Server

Lesson Objective: Use the LSI MegaRAID web user interface to provision local hard drives into a RAID 5 array.

Module 1 Lesson 7 Topic 1 of 3	Describe the characteristics of RAID levels 0, 1, 5, 6, and 10
Topic Objectives	Explain the characteristics of RAID levels 0, 1, 5, 6, and 10.

Module 1 Lesson 7 Topic 1 of 3	Describe the characteristics of RAID levels 0, 1, 5, 6, and 10
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to explain the characteristics of RAID levels 0, 1, 5, 6, and 10.
Sources	<p>Cisco UCS C460 Server Installation and Service Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C460/install/C460.html</p> <p>MegaRaid SAS Software User Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/3rd-party/lsi/mrsas/userguide/LSI_MR_SAS_SW_UG.pdf</p>

Module 1 Lesson 7 Topic 2 of 3	Boot the server in the KVM and access the LSI MegaRAID web user interface
Topic Objectives	Describe how to boot the server in the KVM and access the LSI MegaRAID web user interface.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show how to boot the server in the KVM and access the LSI MegaRAID web user interface.
Sources	<p>Cisco UCS C460 Server Installation and Service Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C460/install/C460.html</p> <p>MegaRaid® SAS Software User Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/3rd-party/lsi/mrsas/userguide/LSI_MR_SAS_SW_UG.pdf</p>

Module 1 Lesson 7 Topic 3 of 3	Add all local hard drives to a RAID 5 array and save the configuration
Topic Objectives	Describe how to add all local hard drives to a RAID 5 array and save the configuration.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to add all local hard drives to a RAID 5 array and save the configuration.
Sources	<p>Cisco UCS C460 Server Installation and Service Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C460/install/C460.html</p> <p>MegaRaid® SAS Software User Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/3rd-party/lsi/mrsas/userguide/LSI_MR_SAS_SW_UG.pdf</p>

Module 1 Lesson 7 Topic 3 of 3	Add all local hard drives to a RAID 5 array and save the configuration
	party/lsi/mrsas/userguide/LSI_MR_SAS_SW_UG.pdf

Module 1 Lesson 8 of 8: Installing VMware ESXi on the Cisco UCS C-Series Server Local RAID Array

Lesson Objective: Install VMware ESXi in the C-Series server local hard drives.

Module 1 Lesson 8 Topic 1 of 6	Open a KVM session to the C-Series server
Topic Objectives	Explain how to open a KVM session to the C-Series servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphic to explain how to open a KVM session to the C-Series servers.
Sources	<p>Cisco UCS C-Series Servers VMware Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/vmware/install/vmware_install_c.html</p> <p>Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide, Release 1.4 http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/gui/config/guide/1.4.1/b_Cisco_UCS_C-Series_GUI_Configuration_Guide_141.html</p>

Module 1 Lesson 8 Topic 2 of 6	Map virtual media to the ESXi installer ISO image
Topic Objectives	Describe how to map virtual media to the ESXi installer ISO image.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to show how to map virtual media to the ESXi installer ISO image.
Sources	<p>Cisco UCS C-Series Servers VMware Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/vmware/install/vmware_install_c.html</p>

Module 1 Lesson 8 Topic 3 of 6	Install ESXi on the local RAID array
Topic Objectives	Describe how to install ESXi on the local RAID array.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to install ESXi on the local RAID array.
Sources	<p>Cisco UCS C-Series Servers VMware Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/vmware/install/vmware_install_c.html</p>

Module 1 Lesson 8 Topic 3 of 6	Install ESXi on the local RAID array
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Module 1 Lesson 8 Topic 4 of 6	Boot ESXi from the local RAID array
Topic Objectives	Describe how to boot ESXi from the local RAID array.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to boot ESXi from the local RAID array.
Sources	Cisco UCS C-Series Servers VMware Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/vmware/install/vmware_install_c.html
Module 1 Lesson 8 Topic 5 of 6	Configure a management IP address for the ESXi server
Topic Objectives	Describe how to configure a management IP address for the ESXi server.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to configure a management IP address for the ESXi server.
Sources	Cisco UCS C-Series Servers VMware Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/vmware/install/vmware_install_c.html
Module 1 Lesson 8 Topic 6 of 6	Connect to the ESXi server with the VMware vSphere Client Utility and connect to the VMware File System shared storage LUN on the Fibre Channel storage system
Topic Objectives	Describe how to connect to the ESXi server with VMware vSphere Client Utility and connect to the VMware File System shared storage LUN on the Fibre Channel storage system.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the how to connect to the ESXi server with VMware vSphere Client Utility and connect to the VMware File System shared storage LUN on the Fibre Channel storage system.
Sources	Cisco UCS C-Series Servers VMware Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/vmware/install/vmware_install_c.html

Module 1 Lab 1-1: Perform Initial C-Series Implementation

Item	Description
Activity Objectives	Perform initial Cisco UCS C-Series server configuration.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Lab implementation information
Job Aids	Lab topology illustration
Activity Tasks	
Task	Objective
Task 1	Log into Cisco Integrated Management Controller.
Task 2	Enable virtual media.
Task 3	Configure syslog host and test logging.
Task 4	Access the system event log.
Task 5	Create and export tech support report to a TFTP server.
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully connected to the GUI of the Cisco Integrated Management Controller. ▪ Students are able to open virtual media. ▪ Students can see the server's logs at the configured external syslog server. ▪ Students can access the system event log. ▪ Students can see and open the tech support file on the TFTP server.

Module 1 Lab 1-2: Update Cisco UCS C-Series Firmware from the Cisco UCS Host Upgrade Utility

Item	Description
Activity Objectives	Use the Host Upgrade Utility to update a Cisco UCS C200 M2 Server to a specified version
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Lab implementation information Internet access in the lab environment
Job Aids	Lab topology illustration
Activity Tasks	
Task	Objective

Item	Description
Task 1	Browse to Cisco.com and locate (but do not download) the ISO file for the Cisco UCS Host Upgrade Utility
Task 2	Map virtual media to the Host Upgrade Utility ISO image on the student PC.
Task 3	Boot the C200 M2 server and run the Host Upgrade Utility to update the server firmware
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully accessed the Cisco UCS Host Upgrade Utility ISO image at Cisco.com. ▪ Students are able to open virtual media and map successfully the ISO image file for the Cisco Host Upgrade Utility. ▪ Students can successfully boot the server and load the Cisco UCS Host Upgrade Utility image. The students have reached the Cisco UCS Host Upgrade Utility menu.

Module 1 Lab 1-3: Implement LAN and SAN Connectivity

Item	Description
Activity Objectives	Prepare the server to install an operating system and connect to LAN and SAN infrastructures.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Lab implementation information Internet access in the lab environment
Job Aids	Lab topology illustration
Activity Tasks	
Task	Objective
Task 1	Configure P81E with WWNN and WWPN
Task 2	Enter the LSI MegaRAID BIOS and create a RAID 5 array
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully configured P81 with WWNN and WWPN. ▪ Students have successfully configured the LSI MegaRAID BIOS and have created a RAID 5 array.

Module 1 Lab 1-4: Install VMware ESXi on Local RAID and Verify SAN Connectivity

Item	Description
Activity Objectives	Install ESXi on local storage and connect to VMFS LUN.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Updating templates implementation information
Job Aids	Lab topology illustration
Activity Tasks	
Task	Objective
Task 1	Install VMware ESXi on the local RAID array
Task 2	Configure LAN connectivity
Task 3	Use the VMware vSphere Client to log into the ESXi server and connect to the VMFS LUN
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully installed the ESXi on the local RAID array and, after reboot, the server successfully loads the ESXi operating system. ▪ Students have successfully configured LAN connectivity according to the configuration sheet and are able to ping the default gateway. ▪ Students are able to connect to the ESXi host using the VMware vSphere Client utility and can see the VMFS LUN.

Module 2 of 5: Manage the Cisco UCS B-Series

Module Objective: Implement system management, maintenance, and high availability services for Cisco UCS B-Series.

Module 2 Lesson 1 of 5: Implementing Role-Based Access Control

Lesson Objective: Implement local and remote authentication services to restrict privileges and delegate management authority in Cisco UCS Manager.

Module 2 Lesson 1 Topic 1 of 7	Articulate the overall framework of RBAC in Cisco UCS B-Series
Topic Objectives	Describe the overall framework of RBAC in Cisco UCS B-Series.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the overall framework of RBAC in Cisco UCS B-Series.

Module 2 Lesson 1 Topic 1 of 7	Articulate the overall framework of RBAC in Cisco UCS B-Series
Sources	Update existing slides from DCUCIv4 Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 1 Topic 2 of 7	Implement local users, roles, and privileges
Topic Objectives	Describe how to configure local users, roles, and privileges.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure local users, roles, and privileges.
Sources	Update existing slides from DCUCIv4 Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 1 Topic 3 of 7	Implement organizations and locales
Topic Objectives	Describe how to configure organizations and locales.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure organizations and locales.
Sources	Update existing slides from DCUCIv4 Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 1 Topic 4 of 7	Describe the effective rights of a user as an intersection of roles and locales mapped to a user
Topic Objectives	Describe the effective rights of a user as an intersection of roles and locales mapped to a user
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the effective rights of a user as an intersection of roles and locales mapped to a user
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 1 Topic 5 of 7	Implement LDAP providers and provider groups
Topic Objectives	Describe how to configure LDAP providers and provider groups.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure LDAP providers and provider groups.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 1 Topic 6 of 7	Implement LDAP/Microsoft Active Directory as an external authentication and authorization service
Topic Objectives	Describe how to configure LDAP and Active Directory as an external authentication and authorization service.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure LDAP and Active Directory as an external authentication and authorization service.

Module 2 Lesson 1 Topic 6 of 7	Implement LDAP/Microsoft Active Directory as an external authentication and authorization service
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 1 Topic 7 of 7	Implement Cisco UCS roles mapping to LDAP/Active Directory attributes with LDAP provider maps
Topic Objectives	Describe how to configure Cisco UCS roles mapping to LDAP and Active Directory attributes with LDAP provider maps.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure Cisco UCS roles mapping to LDAP and Active Directory attributes with LDAP provider maps.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 2 of 5: Managing and Upgrading Cisco UCS B-Series Firmware

Lesson Objective: List the processes for managing the firmware repository and upgrade or downgrade Cisco UCS firmware components using Cisco UCS Manager.

Module 2 Lesson 2 Topic 1 of 7	Describe where to find Cisco UCS B-Series firmware packages on Cisco.com
Topic Objectives	Describe where to find Cisco UCS B-Series firmware packages on Cisco.com
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing where to find Cisco UCS B-Series firmware packages on Cisco.com.

Module 2 Lesson 2 Topic 1 of 7	Describe where to find Cisco UCS B-Series firmware packages on Cisco.com
Sources	<p>Update existing slides from DCUCIv4.</p> <p>Cisco UCS Manager GUI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html</p> <p>Cisco UCS Manager CLI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html</p>
Module 2 Lesson 2 Topic 2 of 7	Update the Cisco UCS firmware
Topic Objectives	Describe how to update the Cisco UCS B-Series firmware.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to update the Cisco UCS B-Series firmware.
Sources	<p>Update existing slides from DCUCIv4.</p> <p>Cisco UCS Manager GUI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html</p> <p>Cisco UCS Manager CLI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html</p>
Module 2 Lesson 2 Topic 3 of 7	Direct upgrade of the mezzanine adapter, Cisco Integrated Management Controller, and IOM firmware
Topic Objectives	Explain the direct upgrade of the mezzanine adapter, Cisco Integrated Management Controller, and IOM firmware.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics explaining the direct upgrade of the mezzanine adapter, Cisco Integrated Management Controller, and IOM firmware.

Module 2 Lesson 2 Topic 3 of 7	Direct upgrade of the mezzanine adapter, Cisco Integrated Management Controller, and IOM firmware
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 2 Topic 4 of 7	Describe software updates on the fabric interconnect
Topic Objectives	Explain the software update on the fabric interconnect.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics explaining the software update on the fabric interconnect.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 2 Topic 5 of 7	Describe the requirement for firmware updates via host firmware packages in the service profile
Topic Objectives	Describe the requirement for firmware updates via host firmware packages in the service profile.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the requirement for firmware updates via host firmware packages in the service profile.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 2 Topic 5 of 7	Describe the requirement for firmware updates via host firmware packages in the service profile
	ration_Guide_2_0.html
Module 2 Lesson 2 Topic 6 of 7	Describe the differences between the firmware processes of Cisco UCS fabric interconnect and IOM/Cisco Integrated Management Controller/Adapter
Topic Objectives	Describe the differences between the firmware processes of Cisco UCS fabric interconnect and IOM, Cisco Integrated Management Controller, and Adapter.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the differences between the firmware processes of Cisco UCS fabric interconnect and IOM, Cisco Integrated Management Controller, and Adapter.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html
Module 2 Lesson 2 Topic 7 of 7	Describe how to update and activate the hardware capability catalog
Topic Objectives	Describe how to update and activate the hardware capability catalog.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to update and activate the hardware capability catalog
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 of 5: Implementing Backup, Import, and Restore in the Cisco UCS Manager Database

Lesson Objective: Implement backup and restore capabilities in Cisco UCS Manager.

Module 2 Lesson 3 Topic 1 of 8	Differentiate between the supported backup types and what database objects they map to in the Cisco UCS Manager database
Topic Objectives	Differentiate between the supported backup types and what database objects they map to in the Cisco UCS Manager database.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the difference between the supported backup types and what database objects they map to in the Cisco UCS Manager database.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 2 of 8	Differentiate between an import operation and a disaster recover restore operation
Topic Objectives	Explain the differences between an import operation and a disaster recover restore operation.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to explain the differences between an import operation and a disaster recover restore operation.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 3 of 8	Implement a backup job
Topic Objectives	Describe how to configure a backup job.
Media Treatment (Visuals)	Lecture using static slides.

Module 2 Lesson 3 Topic 3 of 8	Implement a backup job
Content Types or Media Objects	Provide slides with graphics to describe how to configure a backup job.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 4 of 8	Implement backup jobs to preserve abstracted identities
Topic Objectives	Describe how to configure backup jobs to preserve abstracted identities.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe to configure backup jobs to preserve abstracted identities.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 5 of 8	Verify that the backup is created and executed
Topic Objectives	Describe how to verify that the backup is created and executed.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to verify that the backup is created and executed.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 6 of 8	Implement an import job to restore the AAA user database
Topic Objectives	Describe how to configure an import job to restore the AAA user database.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to configure an import job to restore the AAA user database.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 7 of 8	Verify that the AAA user database is restored
Topic Objectives	Describe how to verify that the AAA user database is restored.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to verify that the AAA user database is restored.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 3 Topic 8 of 8	Configure the Cisco UCS 6100/6200 Series Fabric Interconnect for disaster recovery restore
Topic Objectives	Describe how to configure the 6100/6200 Series fabric interconnect for disaster recovery restore.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how to configure the 6100/6200 Series fabric interconnect for disaster recovery restore
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide,

Module 2 Lesson 3 Topic 8 of 8	Configure the Cisco UCS 6100/6200 Series Fabric Interconnect for disaster recovery restore
	Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 of 5: Implementing Logging and Monitoring

Lesson Objective: Implement syslog, Smart Call Home, and SPAN.

Module 2 Lesson 4 Topic 1 of 10	Describe Cisco UCS Manager management interfaces
Topic Objectives	Describe Cisco UCS Manager management interfaces.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the management interfaces of the Cisco UCS Manager.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 2 of 10	Describe the fault management system and evaluate fault severity levels
Topic Objectives	Describe the fault management system and evaluate fault severity levels.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the fault management system and evaluate fault severity levels.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 2 of 10	Describe the fault management system and evaluate fault severity levels
	g/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html
Module 2 Lesson 4 Topic 3 of 10	Use the audit log to track administrative changes to the Cisco UCS Manager database
Topic Objectives	Describe how to access and use the audit log to track administrative changes to the Cisco UCS Manager database.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to access and use the audit log to track administrative changes to the Cisco UCS Manager database.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html
Module 2 Lesson 4 Topic 4 of 10	Describe Cisco UCS Manager operations subject to FSM validation and how to interpret FSM output
Topic Objectives	Describe Cisco UCS Manager operations subject to FSM validation and how to interpret FSM output.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing Cisco UCS Manager operations subject to FSM validation and how to interpret FSM output.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html
Module 2 Lesson 4 Topic 5 of 10	Implement logging options including local buffer, console, and external syslog servers
Topic Objectives	Describe how to configure logging options including local buffer, console, and external syslog servers.

Module 2 Lesson 4 Topic 5 of 10	Implement logging options including local buffer, console, and external syslog servers
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure logging options including local buffer, console, and external syslog servers.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 6 of 10	Use system event log and system event log policies
Topic Objectives	Describe how to use system event log and system event log policies.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides showing how to use system event log and system event log policies.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 7 of 10	Implement the Smart Call Home feature
Topic Objectives	Describe how to configure the Smart Call Home feature.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure the Smart Call Home feature.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 7 of 10	Implement the Smart Call Home feature
	Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 8 of 10	Validate the Smart Call Home feature
Topic Objectives	Describe how to validate the Smart Call Home feature.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide with graphics describing how to validate the Smart Call Home feature.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 9 of 10	Configure settings for logs, events, and faults
Topic Objectives	Describe how to configure the settings for logs, events, and faults.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure the settings for logs, events, and faults.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 4 Topic 10 of 10	Configure SPAN to allow protocol analysis
Topic Objectives	Describe how to configure SPAN to allow protocol analysis.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure SPAN to allow protocol analysis.

Module 2 Lesson 4 Topic 10 of 10	Configure SPAN to allow protocol analysis
Sources	<p>Update existing slides from DCUCIv4.</p> <p>Cisco UCS Manager GUI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html</p> <p>Cisco UCS Manager CLI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html</p>

Module 2 Lesson 5 of 5: Implementing High Availability

Lesson Objective: Maintain Cisco UCS in a high-availability configuration.

Module 2 Lesson 5 Topic 1 of 5	Describe high-availability cluster connection requirements for Cisco UCS B-Series
Topic Objectives	Describe high-availability cluster connection requirements for Cisco UCS B-Series.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the high-availability cluster connection requirements for Cisco UCS B-Series.
Sources	<p>Update existing slides from DCUCIv4.</p> <p>Cisco UCS Manager GUI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html</p> <p>Cisco UCS Manager CLI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html</p>

Module 2 Lesson 5 Topic 2 of 5	Describe intercluster communications and Cisco UCS Manager database synchronization
Topic Objectives	Describe intercluster communications and Cisco UCS Manager database synchronization.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the intercluster communications and Cisco UCS Manager database synchronization.
Sources	<p>Update existing slides from DCUCIv4.</p> <p>Cisco UCS Manager GUI Configuration Guide, Release 2.0</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html</p> <p>Cisco UCS Manager CLI Configuration Guide,</p>

Module 2 Lesson 5 Topic 2 of 5	Describe intercluster communications and Cisco UCS Manager database synchronization
	Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 5 Topic 3 of 5	Differentiate between cluster partition-in-time and partition-in-space split-brain conditions
Topic Objectives	Describe the difference between cluster partition-in-time and partition-in-space split-brain conditions.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the difference between cluster partition-in-time and partition-in-space split-brain conditions.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 5 Topic 4 of 5	Describe how the Cisco UCS 5108 Chassis SEEPROM resolves a split-brain issue in the high-availability cluster
Topic Objectives	Describe how the Cisco UCS 5108 Chassis SEEPROM resolves a split-brain issues in the high-availability cluster.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how the Cisco UCS 5108 Chassis SEEPROM resolves a split-brain issue in the high-availability cluster.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Lesson 5 Topic 5 of 5	Modify cluster IP addressing from Cisco UCS Manager GUI and CLI
Topic Objectives	Explain how to modify cluster IP addressing from Cisco UCS Manager GUI and CLI.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to explain how to modify cluster IP addressing from Cisco UCS Manager GUI and CLI.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html

Module 2 Instructor Demo: Provision Initial B-Series Configuration

Item	Description
Activity Objectives	Perform initial Cisco UCS B-Series cluster configuration (Instructor Demo)
Activity Type	Demo
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Access to Cisco UCS Manager GUI interface Lab guide
Command List (Required for Lab)	setup show cluster scope license show usage download license install file clear file
Job Aids	Lab topology illustration
Activity Tasks	
Task	Objective
Task 1	Provision the bootstrap sequence for standalone Cisco UCS fabric interconnects
Task 2	Provision the bootstrap sequence for clustered Cisco UCS fabric interconnects
Task 3	Provision the Cisco UCS 6100 to add port licenses
Activity Verification	Learners have completed the activity when they have attained these results: <ul style="list-style-type: none"> ▪ Instructor has successfully demonstrated

Item	Description
	<p>and explained the initial configuration of a standalone fabric interconnect.</p> <ul style="list-style-type: none"> ▪ Instructor has successfully demonstrated and explained how a cluster is created and the second fabric interconnect is added to the cluster. ▪ Instructor has successfully demonstrated and explained how to add port licenses to the 6100 fabric interconnect.

Module 2 Lab 2-1: Provision Cisco UCS Ethernet Connectivity and Management IP Pools

Item	Description
Activity Objectives	Perform initial Cisco UCS B-Series cluster configuration.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Identity and resource pools implementation information
Activity Tasks	
Task	Objective
Task 1	Provision Ethernet uplink and server ports on the fabric interconnects.
Task 2	Provision management IP pools.
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully configured uplink and server Ethernet ports in Cisco UCS Manager. ▪ Students have successfully configured management IP pools in Cisco UCS Manager.

Module 2 Lab 2-2: Configure Role-Based Access Control

Item	Description
Activity Objectives	Configure authentication with local authentication and Microsoft Active Directory.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Identity and resource pools implementation information
Activity Tasks	
Task	Objective

Item	Description
Task 1	Implement organizations based on a detailed specification for a large data center.
Task 2	Implement user roles to segregate server, LAN, and SAN based on job role.
Task 3	Implement local user accounts.
Task 4	Test locale restrictions.
Task 5	Implement LDAP providers, LDAP provider groups, LDAP group maps, and authentication domains.
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully configured and can see their organizations in Cisco UCS Manager. ▪ Students have successfully configured the user roles for LAN, SAN, and server users and can see them in Cisco UCS Manager. ▪ Students have successfully created local user accounts in Cisco UCS Manager. ▪ Students have successfully tested locale restrictions. ▪ Students have successfully created the LDAP providers, LDAP providers groups, LDAP group maps and authentication domains.

Module 2 Lab 2-3: Back Up and Restore Cisco UCS Manager Database Objects

Item	Description
Activity Objectives	Back up and restore Cisco UCS configuration objects.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Identity and resource pools implementation information
Activity Tasks	
Task	Objective
Task 1	Implement and execute an all-configuration backup job.
Task 2	Create import jobs to demonstrate the difference between merge and replace.
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully created and executed an all-configuration backup job and can see the created backup file on their user PC. ▪ Students have successfully created and executed import jobs to observe the

Item	Description
	changes in the running configuration when using the merge and replace actions.

Module 2 Lab 2-4: Configure Logging in Cisco UCS

Item	Description
Activity Objectives	Implement syslog, SNMP, and Smart Call Home.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Identity and resource pools implementation information
Activity Tasks	
Task	Objective
Task 1	Generate and observe a major alarm by shutting down all server links to the I/O modules.
Task 2	Observe the major alarm indicating resolution after the server links are restored.
Task 3	Disable console and local logging.
Task 4	Enable syslog and direct output to three student syslog servers to observe output.
Task 5	Decommission and recommission a Cisco UCS B200 Blade Server and observe FSM progress while device discovery is active.
Task 6	Implement Smart Call Home and generate an email with device inventory.
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully generated and observed a major alarm after shutting down the server links between the IOM and fabric interconnect A. ▪ Students have successfully observed the major alarm notifying for the resolution of the problem. ▪ Students have successfully disabled console and local logging. ▪ Students have successfully configured remote syslog servers and are able to observe the logs from Cisco UCS on the remote syslog servers. ▪ Students have successfully decommissioned and recommissioned a Cisco UCS B200 Blade Server. In the FSM, they are able to see the successful execution of these processes. ▪ Students have correctly configured the Smart Call Home feature and have successfully sent the inventory to the specified email address.

Module 3 of 5: Implement Cisco UCS B-Series Connectivity

Module Objective: Implement generation 1 and generation 2 connectivity.

Module 3 Lesson 1 of 4: Implementing Cisco UCS B-Series Physical Connectivity

Lesson Objective: Differentiate between physical connections on the I/O module and the redundant connections for management and data plane over the I/O mux and midplane.

Module 3 Lesson 1 Topic 1 of 12	Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 2 hardware
Topic Objectives	Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 2 hardware
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the relationship between I/O uplinks and bandwidth oversubscription with generation 2 hardware.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 1 Topic 2 of 12	Describe the Cisco UCS 2204/2208XP I/O module architecture including CMC, I/O mux, and CMS
Topic Objectives	Describe the Cisco UCS 2204/2208XP I/O module architecture including CMC, I/O mux, and CMS
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the Cisco UCS 2204/2208XP I/O module architecture including CMC, I/O mux, and CMS
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 1 Topic 3 of 12	Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 1 hardware
Topic Objectives	Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 1 hardware.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the relationship between I/O uplinks and bandwidth oversubscription with generation 1 hardware.

Module 3 Lesson 1 Topic 3 of 12	Describe the relationship between I/O uplinks and bandwidth oversubscription with generation 1 hardware
Sources	Update existing slides from DCUCIv4. Cisco UCS 5108 Server Chassis Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 1 Topic 4 of 12	Describe the Cisco UCS 2104XP I/O module architecture including CMC, I/O mux and CMS
Topic Objectives	Describe the Cisco UCS 2104XP I/O module architecture including CMC, I/O mux, and CMS.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides and graphics with description of the Cisco UCS 2104XP I/O module architecture including CMC, I/O mux and CMS
Sources	Update existing slides from DCUCIv4.
Module 3 Lesson 1 Topic 5 of 12	Describe the features of the Cisco UCS VIC 1280 and VIC 1240
Topic Objectives	Describe the features of the Cisco UCS VIC 1280 and VIC 1240.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to list the features of the Cisco UCS VIC 1280 and VIC 1240.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html Cisco UCS Virtual Interface Card 1280 Data Sheet http://www.cisco.com/en/US/prod/collateral/ps10277/ps11551/data_sheet_c78-677682.html
Module 3 Lesson 1 Topic 6 of 12	Compare the number of virtual interfaces available on the Cisco UCS M81KR VIC versus the VIC 1280
Topic Objectives	Compare the number of virtual interfaces available on the Cisco UCS M81KR VIC versus the VIC 1280.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics with a comparison of the number of virtual interfaces available on the Cisco UCS M81KR VIC versus the VIC 1280.

Module 3 Lesson 1 Topic 6 of 12	Compare the number of virtual interfaces available on the Cisco UCS M81KR VIC versus the VIC 1280
Sources	<p>Cisco UCS Virtual Interface Card 1280 Data Sheet http://www.cisco.com/en/US/prod/collateral/ps10277/ps11551/data_sheet_c78-677682.html</p> <p>Cisco UCS M81KR Virtual Interface Card Data Sheet http://www.cisco.com/en/US/prod/collateral/ps10265/ps10280/data_sheet_c78-525049_ps10277_Products_Data_Sheet.html</p>
Module 3 Lesson 1 Topic 7 of 12	Describe new mezzanine cards including M51, M61, and M72
Topic Objectives	Describe new mezzanine cards including M51, M61, and M72.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics describing the new mezzanine cards including M51, M61, and M72.
Sources	<p>Cisco UCS NIC M51KR-B Broadcom BCM57711 Network Adapter Data Sheet http://www.cisco.com/en/US/prod/collateral/ps10265/ps10493/data_sheet_c78-624706.html</p> <p>Cisco UCS CNA M61KR-I Intel Converged Network Adapter http://www.cisco.com/en/US/prod/collateral/ps10265/ps10493/data_sheet_c78-623739.html</p> <p>Cisco UCS CNA M72KR-E Emulex Converged Network Adapter http://www.cisco.com/en/US/prod/collateral/ps10265/ps10493/data_sheet_c78-623740.html</p> <p>Cisco UCS CNA M72KR-Q QLogic Converged Network Adapter http://www.cisco.com/en/US/prod/collateral/ps10265/ps10493/data_sheet_c78-623738.html</p>
Module 3 Lesson 1 Topic 8 of 12	Describe the Cisco Integrated Management Controller management component of the B-Series blades
Topic Objectives	Describe the Cisco Integrated Management Controller management component of the B-Series blades.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the Cisco Integrated Management Controller management component of the B-Series blades.
Sources	<p>Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html</p>

Module 3 Lesson 1 Topic 9 of 12	Describe the creation of port channels from the Cisco UCS 6200 Series Fabric Interconnect to the 2204/2208XP I/O module
Topic Objectives	Describe the creation of port channels from the Cisco UCS 6200 Series Fabric Interconnect to the 2204/2208XP I/O module.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the creation of port channels from the 6200 Series Fabric Interconnect to the 2208/2204XP I/O module.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 1 Topic 10 of 12	Describe the difference between server and uplink port personalities in the fabric interconnect
Topic Objectives	Describe the difference between server and uplink port personalities in the fabric interconnect.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the difference between server and uplink port personalities in the fabric interconnect.
Sources	Update existing slides in DCUCIv4 Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 1 Topic 11 of 12	Describe the chassis discovery process and monitor using the FSM
Topic Objectives	Describe the chassis discovery process and monitor using the FSM.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the chassis discovery process and monitor using the FSM.
Sources	Update existing slides in DCUCIv4 Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 1 Topic 12 of 12	Configure the chassis discovery policy
Topic Objectives	Describe how to configure the chassis discovery policy. Explain the special considerations when having different topologies between the fabric

Module 3 Lesson 1 Topic 12 of 12	Configure the chassis discovery policy
	interconnect and IOM.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe how to configure the chassis discovery policy.
Sources	Update existing slides in DCUCIv4 Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0_chapter_01.html#concept_40AFE09861FA4D02A9879856A1411FAC

Module 3 Lesson 2 of 4: Installing Cisco UCS B-Series Hardware

Lesson Objective: Install and power up Cisco Unified Computing System B-Series hardware.

Module 3 Lesson 2 Topic 1 of 9	Describe ESD precautions necessary when installing B-Series components
Topic Objectives	Describe ESD precautions necessary when installing B-Series components.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the ESD precautions necessary when installing B-Series components.
Sources	Update existing slides from DCUCIv4. Cisco UCS B200 Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/blade.html

Module 3 Lesson 2 Topic 2 of 9	List the steps for opening the case of half-slot and full-slot blade servers
Topic Objectives	List the steps for opening the case of half-slot and full-slot blade servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides and graphics with description of the steps for opening the case of half-slot and full-slot blade servers.
Sources	Update existing slides from DCUCIv4. Cisco UCS B200 Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/blade.html Cisco UCS B440 High Performance Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/quadblade.html

Module 3 Lesson 2 Topic 3 of 9	List the steps for physical installation of rack-mount slides in the enclosure and on the Cisco UCS 5108 chassis
Topic Objectives	List the steps for physical installation of rack-mount slides in the enclosure and on the Cisco UCS 5108 chassis
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps for physical installation of rack-mount slides in the enclosure and on the Cisco UCS 5108 chassis
Sources	Update existing slides from DCUCIv4. Cisco UCS 5108 Server Chassis Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html

Module 3 Lesson 2 Topic 4 of 9	List the steps for installation and removal of CPU, RAM, and mezzanine cards in B-Series blades
Topic Objectives	List the steps for installation and removal of CPU, RAM, and mezzanine cards in B-Series blades.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the steps for installation and removal of CPU, RAM and mezzanine cards in B-Series blades.
Sources	Update existing slides from DCUCIv4. Cisco UCS B200 Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/blade.html Cisco UCS B440 High Performance Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/quadblade.html

Module 3 Lesson 2 Topic 5 of 9	List the steps for physical installation and removal of local hard drives
Topic Objectives	List the steps for physical of installation and removal of local hard drives.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to list the steps for physical of installation and removal of local hard drives.
Sources	Update existing slides from DCUCIv4. Cisco UCS B200 Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/blade.html Cisco UCS B440 High Performance Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/quadblade.html

Module 3 Lesson 2 Topic 5 of 9	List the steps for physical installation and removal of local hard drives
	ng/ucs/hw/chassis/install/quadblade.html
Module 3 Lesson 2 Topic 6 of 9	List the steps for physical installation of half-slot and full-slot blade servers
Topic Objectives	List the steps for physical installation of half-slot and full-slot blade servers.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to explain the steps for physical installation of half-slot and full-slot blade servers.
Sources	Update existing slides from DCUCIv4. Cisco UCS B200 Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/blade.html Cisco UCS B440 High Performance Blade Server Installation and Service Note http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/quadblade.html Cisco UCS 5108 Server Chassis Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html
Module 3 Lesson 2 Topic 7 of 9	List the steps for physical installation of I/O modules and power supplies in the Cisco UCS 5108 chassis
Topic Objectives	List the steps for physical installation of I/O modules and power supplies in the Cisco UCS 5108 chassis.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to list the steps for physical installation of I/O modules and power supplies in the Cisco UCS 5108 chassis.
Sources	Update existing slides from DCUCIv4. Cisco UCS 5108 Server Chassis Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html
Module 3 Lesson 2 Topic 8 of 9	List the steps for physical installation and removal of fan units
Topic Objectives	List the steps for physical installation and removal of fan units.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to list the steps for physical installation and removal of fan units.
Sources	Update existing slides from DCUCIv4. Cisco UCS 5108 Server Chassis Installation Guide

Module 3 Lesson 2 Topic 8 of 9	List the steps for physical installation and removal of fan units
	http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html
Module 3 Lesson 2 Topic 9 of 9	List the steps for physical installation and removal of SFP+ copper twinax and optical modules
Topic Objectives	List the steps for physical installation and removal of SFP+ copper twinax and optical modules.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to list the steps for physical installation and removal of SFP+ copper twinax and optical modules.
Sources	Update existing slides from DCUCIv4. Cisco UCS 5108 Server Chassis Installation Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html

Module 3 Lesson 3 of 4: Implementing LAN Connectivity for Cisco UCS B-Series Hardware

Lesson Objective: Implement LAN connectivity for Cisco UCS B-Series hardware.

Module 3 Lesson 3 Topic 1 of 9	Differentiate between uplink, server, appliance, FCoE storage, and monitoring Ethernet port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS fabric interconnect
Topic Objectives	Differentiate between uplink, server, appliance, FCoE storage, and monitoring Ethernet port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS fabric interconnect.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the difference between uplink, server, appliance, FCoE storage, and monitoring Ethernet port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS fabric interconnect.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 3 Topic 2 of 9	Describe the requirements and configuration of port channels from the Cisco UCS fabric interconnect to a northbound switch
Topic Objectives	Describe the requirements and configuration of port channels from the Cisco UCS fabric interconnect to a northbound switch.

Module 3 Lesson 3 Topic 2 of 9	Describe the requirements and configuration of port channels from the Cisco UCS fabric interconnect to a northbound switch
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides and graphics to describe the requirements and configuration of port channels from the Cisco UCS fabric interconnect to a northbound switch
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 3 of 9	Describe end-host mode and its importance in forwarding over multiple Layer 2 links and maintaining a loop-free topology
Topic Objectives	Describe end-host mode and its importance in forwarding over multiple Layer 2 links and maintaining a loop-free topology.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing end-host mode and its importance in forwarding over multiple Layer 2 links and maintaining a loop-free topology.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 4 of 9	Differentiate end-host mode with switched mode
Topic Objectives	Differentiate end-host mode with switched mode.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to differentiate end-host mode with switched mode.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 5 of 9	Describe the requirements to configure VLANs in Cisco UCS Manager
Topic Objectives	Describe the requirements to configure VLANs in Cisco UCS Manager.

Module 3 Lesson 3 Topic 5 of 9	Describe the requirements to configure VLANs in Cisco UCS Manager
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the requirements to configure VLANs in Cisco UCS Manager.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 6 of 9	Describe the role of vNICs to abstract MAC addresses into a service profile
Topic Objectives	Describe the role of vNICs to abstract MAC addresses into a service profile.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the role of vNICs to abstract MAC addresses into a service profile.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 7 of 9	Describe the automatic pinning process and recovery from failure
Topic Objectives	Describe the automatic pinning process and recovery from failure.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the automatic pinning process and recovery from failure.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 8 of 9	Describe the configuration of manual pinning and recovery from failure
Topic Objectives	Describe the configuration of manual pinning and recovery from failure.
Media Treatment (Visuals)	Lecture using static slides.

Module 3 Lesson 3 Topic 8 of 9	Describe the configuration of manual pinning and recovery from failure
Content Types or Media Objects	Provide slide and graphics to describe the configuration of manual pinning and recovery from failure.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 3 Topic 9 of 9	Describe the configuration of disjoint Layer 2 domains
Topic Objectives	Describe the configuration of disjoint Layer 2 domains.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slide and graphics to describe the configuration of disjoint Layer 2 domains.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 4 of 4: Implementing Cisco UCS B-Series SAN Connectivity

Lesson Objective: Implement SAN connectivity for Cisco UCS B-Series hardware.

Module 3 Lesson 4 Topic 1 of 10	Describe Fibre Channel switching
Topic Objectives	Describe Fibre Channel switching.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the basics of Fibre Channel switching.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 4 Topic 2 of 10	Describe NPV
Topic Objectives	Describe NPV.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe NPV.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0

Module 3 Lesson 4 Topic 2 of 10	Describe NPV
	http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 4 Topic 3 of 10	Differentiate between Fibre Channel uplink, Fibre Channel storage, and Fibre Channel monitoring port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS Fabric Interconnect
Topic Objectives	Differentiate between Fibre Channel uplink, Fibre Channel storage, and Fibre Channel monitoring port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS Fabric Interconnect.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the difference between Fibre Channel uplink, Fibre Channel storage, and Fibre Channel monitoring port personalities of 10 Gigabit Ethernet interfaces on the Cisco UCS Fabric Interconnect.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 4 Topic 4 of 10	Differentiate between benefits and drawbacks of Fibre Channel switching and NPV
Topic Objectives	Differentiate between benefits and drawbacks of Fibre Channel switching and NPV.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the difference between benefits and drawbacks of Fibre Channel switching and NPV.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 4 Topic 5 of 10	Describe how NPIV allows a single N Port to be associated with multiple FCIDs
Topic Objectives	Describe how NPIV allows a single N_Port to be associated with multiple FC_IDs.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe how NPIV allows a single N_Port to be associated with multiple FC_IDs.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide,

Module 3 Lesson 4 Topic 5 of 10	Describe how NPIV allows a single N Port to be associated with multiple FCIDs
	Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 4 Topic 6 of 10	Describe the requirements and configuration of VSANs in Cisco UCS Manager
Topic Objectives	Describe the requirements and configuration of VSANs in Cisco UCS Manager.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the requirements and configuration of VSANs in Cisco UCS Manager.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 4 Topic 7 of 10	Describe the role of the vHBA to abstract WWNNs and WWPNS into a service profile
Topic Objectives	Describe the role of the vHBA to abstract WWNNs and WWPNS into a service profile.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the role of the vHBA to abstract WWNNs and WWPNS into a service profile.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 4 Topic 8 of 10	Describe the automatic pinning process and recovery from failure
Topic Objectives	Describe the automatic pinning process and recovery from failure.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the automatic pinning process and recovery from failure.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 3 Lesson 4 Topic 8 of 10	Describe the automatic pinning process and recovery from failure
	uration_Guide_2_0.html
Module 3 Lesson 4 Topic 9 of 10	Describe the configuration of manual pinning and recovery from failure
Topic Objectives	Describe the configuration of manual pinning and recovery from failure.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to describe the configuration of manual pinning and recovery from failure.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 3 Lesson 4 Topic 10 of 10	Differentiate Ethernet failover from Fibre Channel multipath I/O recovery
Topic Objectives	Differentiate Ethernet failover from Fibre Channel multipath I/O recovery.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics to differentiate Ethernet failover from Fibre Channel multipath I/O recovery.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 of 5: Provision Cisco UCS Compute Resources

Module Objective: Provision servers by leveraging reusable pools, policies, and templates that allow for rapid provisioning and consistency of policy.

Module 4 Lesson 1 of 7: Provisioning the Cisco UCS Cluster

Lesson Objective: Perform initial Cisco UCS cluster setup and provide management IP addresses for blade servers.

Module 4 Lesson 1 Topic 1 of 3	Configure the primary cluster peer from the fabric interconnect console
Topic Objectives	Describe the steps to configure a primary cluster peer from the fabric interconnect console.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to configure a primary cluster peer from the fabric

Module 4 Lesson 1 Topic 1 of 3	Configure the primary cluster peer from the fabric interconnect console
Sources	interconnect console. Update existing slides from DCUCIv4. Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html
Module 4 Lesson 1 Topic 2 of 3	Configure the secondary cluster peer from the fabric interconnect console and join to the cluster
Topic Objectives	Describe the steps to configure a secondary cluster peer from the fabric interconnect console and join to the cluster.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to configure a secondary cluster peer from the fabric interconnect console and join to the cluster.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager CLI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/2.0/b_UCSM_CLI_Configuration_Guide_2_0.html
Module 4 Lesson 1 Topic 3 of 3	Log into the Cisco UCS Manager GUI and assign a pool of management IP addresses for server management
Topic Objectives	Describe how to login to the Cisco UCS Manager GUI and assign a pool of management IP addresses for server management.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to login to the Cisco UCS Manager GUI and assign a pool of management IP addresses for server management.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 2 of 7: Provisioning LAN Networking

Lesson Objective: Configure VLANs and fabric interconnect uplinks for server connectivity to the Layer 3 data center cloud.

Module 4 Lesson 2 Topic 1 of 8	Provision VLANs for single fabric, both fabrics, and both fabrics configured differently
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Module 4 Lesson 2 Topic 1 of 8	Provision VLANs for single fabric, both fabrics, and both fabrics configured differently
Topic Objectives	Describe how to configure VLANs for single fabric, both fabrics, and both fabrics configured differently.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure VLANs for single fabric, both fabrics, and both fabrics configured differently.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 2 Topic 2 of 8	Provision VLAN ranges
Topic Objectives	Describe how to configure VLAN ranges.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure VLAN ranges.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 2 Topic 3 of 8	Provision private VLANs
Topic Objectives	Describe how to configure private VLANs.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure private VLANs.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 2 Topic 4 of 8	Provision Ethernet uplinks
Topic Objectives	Describe how to configure Ethernet uplinks.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure Ethernet uplinks.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 2 Topic 4 of 8	Provision Ethernet uplinks
	g/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 2 Topic 5 of 8	Provision Ethernet uplink port channels
Topic Objectives	Describe how to configure Ethernet uplink port channels.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure Ethernet uplink port channels.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 2 Topic 6 of 8	Provision fabric port channels from the Cisco UCS Fabric Interconnect to a Cisco 2204/2208 I/O Module
Topic Objectives	Describe how to configure fabric port channels.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure fabric port channels.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 2 Topic 7 of 8	Provision FCoE storage ports
Topic Objectives	Describe how to configure FCoE storage ports.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure FCoE storage ports.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 2 Topic 8 of 8	Provision appliance ports and prune VLANs
Topic Objectives	Describe how to configure appliance ports and prune VLANs.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to

Module 4 Lesson 2 Topic 8 of 8	Provision appliance ports and prune VLANs
	configure appliance ports and prune VLANs.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 3 of 7: Provisioning SAN Networking

Lesson Objective: Provision VSANs and fabric interconnect Fibre Channel uplinks for server connectivity to the data center storage cloud.

Module 4 Lesson 3 Topic 1 of 4	Provision VSANs for single fabric, both fabrics, and both fabrics configured differently
Topic Objectives	Describe how to provision VSANs for single fabric, both fabrics, and both fabrics configured differently.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure VSANs for single fabric, both fabrics, and both fabrics configured differently.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 3 Topic 2 of 4	Provision Fibre Channel uplinks and VSAN trunking
Topic Objectives	Describe how to provision Fibre Channel uplinks and VSAN trunking.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure Fibre Channel uplinks.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 3 Topic 3 of 4	Provision Fibre Channel port channels
Topic Objectives	Describe how to provision Fibre Channel port channels.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure Fibre Channel trunking on Fibre Channel port channels.

Module 4 Lesson 3 Topic 3 of 4	Provision Fibre Channel port channels
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 3 Topic 4 of 4	Provision direct-attach Fibre Channel storage ports and default zoning
Topic Objectives	Describe how to provision direct-attach Fibre Channel storage ports and describe the default zoning setting.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to configure direct-attach Fibre Channel storage ports.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 of 7: Provisioning Resource Pools in Cisco UCS Manager

Lesson Objective: Configure resource pools for servers, UUIDs, MAC addresses, WWNN, WWPN, and iSCSI.

Module 4 Lesson 4 Topic 1 of 7	Provision server pools
Topic Objectives	Describe the server pools and how to provision them.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the server pools and how to provision them.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 2 of 7	Provision server pool autoplacement
Topic Objectives	Describe how to provision server pool autoplacement.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision server pool autoplacement.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 2 of 7	Provision server pool autoplacement
	g/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 3 of 7	Provision UUID pools
Topic Objectives	Describe how to provision UUID pools.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision UUID pools.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 4 of 7	Provision MAC pools
Topic Objectives	Describe how to provision MAC pools.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision MAC pools.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 5 of 7	Provision WWNN pools
Topic Objectives	Describe how to provision WWNN pools.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision WWNN pools.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 6 of 7	Provision WWPN pools
Topic Objectives	Describe how to provision WWPN pools.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision WWPN pools.

Module 4 Lesson 4 Topic 6 of 7	Provision WWPN pools
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 4 Topic 7 of 7	Provision iSCSI initiator pools
Topic Objectives	Describe how to provision iSCSI initiator pools.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision iSCSI Initiator pools.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 5 of 7: Provisioning Server Policies in Cisco UCS Manager

Lesson Objective: Configure reusable server policies in Cisco UCS Manager.

Module 4 Lesson 5 Topic 1 of 5	Provision a service profile using the expert service profile wizard
Topic Objectives	Describe how to provision a service profile using the expert service profile wizard.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision a service profile using the expert service profile wizard.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 5 Topic 2 of 5	Implement pools and policies in the service profile
Topic Objectives	Describe how to implement pools and policies in the service profile.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to implement pools and policies in the service profile.

Module 4 Lesson 5 Topic 2 of 5	Implement pools and policies in the service profile
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 5 Topic 3 of 5	Associate a service profile to a server
Topic Objectives	Describe how to associate a service profile to a server.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to associate a service profile to a server.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 5 Topic 4 of 5	Describe the Cisco UCS Utility Operating System
Topic Objectives	Describe the Cisco UCS Utility Operating System.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the Cisco UCS Utility Operating System.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html
Module 4 Lesson 5 Topic 5 of 5	Observe the association process using the FSM
Topic Objectives	Explain how to observe the association process using the FSM.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics explaining how to observe the association process using the FSM.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 of 7: Provisioning Service Profiles from Templates in Cisco UCS Manager

Lesson Objective: Provision service profiles with initial and updating templates.

Module 4 Lesson 6 Topic 1 of 7	Describe the requirements of service profile templates
Topic Objectives	Describe the requirements of service profile templates.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the requirements of service profile templates.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 Topic 2 of 7	Describe the difference between initial templates and updating templates including operational caveats
Topic Objectives	Describe the difference between initial templates and updating templates including operational caveats.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the difference between initial templates and updating templates including operational caveats.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 Topic 3 of 7	Provision a vNIC template using the template wizard
Topic Objectives	Describe how to provision a vNIC template using the template wizard.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision a vNIC template using the template wizard.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 Topic 4 of 7	Provision a vHBA template using the template wizard
Topic Objectives	Describe how to provision a vHBA template using the template wizard.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision a vHBA template using the template wizard.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 Topic 5 of 7	Provision a service profile template using the template wizard
Topic Objectives	Describe how to provision a service profile template using the template wizard.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision a service profile template using the template wizard.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 Topic 6 of 7	Provision multiple servers from a service profile template
Topic Objectives	Describe how to provision multiple servers from a service profile template.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to provision multiple servers from a service profile template.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 6 Topic 7 of 7	Clone a service profile
Topic Objectives	Describe how to clone a service profile.
Media Treatment (Visuals)	Lecture using static slides.

Module 4 Lesson 6 Topic 7 of 7	Clone a service profile
Content Types or Media Objects	Provide slides with graphics describing how to clone a service profile.
Sources	Update existing slides from DCUCIv4. Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html

Module 4 Lesson 7 of 7: Provisioning Cisco UCS C-Series Server Integration in Cisco UCS Manager

Lesson Objective: Provision service profiles with initial and updating templates.

Module 4 Lesson 7 Topic 1 of 4	Describe the benefits of C-Series integration
Topic Objectives	Describe the benefits of C-Series integration.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the benefits of C-Series integration.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html C-Series install and upgrade guides http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 4 Lesson 7 Topic 2 of 4	Describe the physical connectivity requirements for C-Series integration
Topic Objectives	Describe the physical connectivity requirements for C-Series integration.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the physical connectivity requirements for C-Series integration.
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html C-Series install and upgrade guides http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 4 Lesson 7 Topic 3 of 4	Install version 1.2 C-Series server firmware to allow integration with Cisco UCS prior to version 2.0(2xx)
Topic Objectives	Describe how to install the 1.2 C-Series server

Module 4 Lesson 7 Topic 3 of 4	Install version 1.2 C-Series server firmware to allow integration with Cisco UCS prior to version 2.0(2xx)
	firmware to allow integration.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing how to install the 1.2 C-Series server firmware to allow integration.
Sources	C-Series install and upgrade guides http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 4 Lesson 7 Topic 4 of 4	Describe the C-Series discovery process
Topic Objectives	Describe the C-Series discovery process
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the C-Series discovery process
Sources	Cisco UCS Manager GUI Configuration Guide, Release 2.0 http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/b_UCSM_GUI_Configuration_Guide_2_0.html C-Series install and upgrade guides http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

Module 4 Lab 4-1: Provision Identity and Resource Pools

Item	Description
Activity Objectives	Create resource pools to facilitate stateless computing and template-based server-farm automation
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Identity and resource pools lab implementation information
Activity Tasks	
Task	Objective
Task 1	Provision VLANs and VSANs
Task 2	Provision UUID pools
Task 3	Provision MAC pools
Task 4	Provision WWNN pools
Task 5	Provision WWPN pools
Task 6	Provision a server pool qualification policy

Item	Description
Task 7	Validate that your server is added to the pool after recommission
Task 8	Provision an adapter policy to enable RSS
Task 9	Provision an adapter policy to set the failback timer for fabric failover
Task 10	Provision a QoS system class that allows all Ethernet traffic to use jumbo frames up to an MTU of 9216
Task 11	Provision a disk scrub policy
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully created their VLANs and VSANs. ▪ Students have successfully created UUID pools. ▪ Students have successfully created a MAC pool. ▪ Students have successfully created a WWNN pool. ▪ Students have successfully created a WWPN pool. ▪ Students have successfully created a server qualification policy. ▪ Students can observe that the servers are added to their server pool. ▪ Students have successfully created an adapter policy to enable RSS. ▪ Students have successfully configured the adapter policy to enable failover. ▪ Students have successfully enabled and configured a QoS system class to use jumbo frames and MTU of 9216. ▪ Students have successfully created a scrub policy.

Module 4 Lab 4-2: Provision Mobile Service Profiles from Updating Templates

Item	Description
Activity Objectives	Provision service profiles using pooled (virtualized) hardware identifiers that can be moved between blade servers.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Identity and resource pools lab implementation information
Activity Tasks	
Task	Objective

Item	Description
Task 1	Provision interface templates for LAN and SAN connectivity
Task 2	Provision service profile templates to ensure consistency of policy
Task 3	Provision service profiles from templates and associate the service profile to a blade
Task 4	Install VMware ESXi 5.x to a Fibre Channel LUN and demonstrate SAN boot
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully provisioned templates for LAN and SAN connectivity. ▪ Students have successfully created an updating service profile template, using the pools and policies created in the previous lab. ▪ Students have successfully created a service profile from the template and associated it to a blade. ▪ Students have successfully installed VMware ESXi to boot from SAN.

Module 4 Lab 4-3: Test High Availability

Item	Description
Activity Objectives	Demonstrate the function of Cisco UCS high-availability configurations by shutting down I/O module interfaces and observe recovery.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	<p>Student PC</p> <p>Identity and resource pools lab implementation information</p>
Activity Tasks	
Task	Objective
Task 1	Observe fabric failover and the preservation of LAN and SAN connectivity
Task 2	Observe that your servers automatically fail back to Fabric A upon restoration of the IOM link associated with your server
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students are able to observe the repinning of the server interfaces when different links on the IOM are shut down. ▪ Students are able to observe the automatic recovery of I/O module interfaces when the connectivity is restored. ▪ Students are able to observe the fabric failover.

Item	Description
	<ul style="list-style-type: none"> Students are able to observe that the connectivity is immediately restored.

Module 5 of 5: Implement Cisco UCS Server Virtualization Features

Module Objective: Implement virtualization features unique to Cisco UCS that improve performance and manageability.

Module 5 Lesson 1 of 3: Provisioning Cisco VM-FEX and Cisco VM-FEX Universal Pass-Through

Lesson Objective: Provision VM-FEX in Cisco UCS Manager and VMware vCenter Server.

Module 5 Lesson 1 Topic 1 of 4	Describe VMware vSwitch and vDS
Topic Objectives	Describe the switching in the VMware ESXi operating system.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the switching in VMware ESXi.
Sources	DCUCI40 slides

Module 5 Lesson 1 Topic 2 of 4	Describe Cisco Nexus 1000V switching
Topic Objectives	Describe Cisco Nexus 1000V switching and components.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing Cisco Nexus 1000V switching and components.
Sources	DCUCI40 slides

Module 5 Lesson 1 Topic 3 of 4	Describe Cisco VM-FEX
Topic Objectives	Describe Cisco VM-FEX technology.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing Cisco VM-FEX technology.
Sources	Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html

Module 5 Lesson 1 Topic 4 of 4	Describe Cisco VM-FEX universal pass-through
Topic Objectives	Describe Cisco VM-FEX universal pass-through mode.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing Cisco VM-FEX universal pass-through mode.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 2 of 3: Provisioning Cisco VM-FEX

Lesson Objective: Provision VM-FEX in Cisco UCS Manager and VMware vCenter Server.

Module 5 Lesson 2 Topic 1 of 6	Provision VMware ESXi servers with a Cisco VEM
Topic Objectives	Describe the steps to provision VMware ESXi servers with Cisco Virtual Ethernet Module.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision VMware ESXi servers with Cisco Virtual Ethernet Module.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 2 Topic 2 of 6	Provision the secure connection from Cisco UCS Manager to VMware vCenter Server
Topic Objectives	Describe the steps to provision the secure connection from Cisco UCS Manager to VMware vCenter Server.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision the secure connection from Cisco UCS Manager to VMware vCenter Server.
Sources	Cisco UCS Manager VM-FEX for VMware CLI

Module 5 Lesson 2 Topic 2 of 6	Provision the secure connection from Cisco UCS Manager to VMware vCenter Server
	<p>Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>
Module 5 Lesson 2 Topic 3 of 6	Provision port profiles and push to vCenter as port groups
Topic Objectives	Describe the steps to provision port profiles and push to vCenter as port groups.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision port profiles and push to vCenter as port groups.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>
Module 5 Lesson 2 Topic 4 of 6	Provision a dynamic vNIC connection policy and BIOS policy for Cisco VM-FEX
Topic Objectives	Describe the steps to provision dynamic vNICs through a dynamic vNIC connection policy and the needed BIOS policy.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision dynamic vNICs through a dynamic vNIC connection policy and the needed BIOS policy.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 2 Topic 5 of 6	Join ESXi hosts to the DVS
Topic Objectives	Describe the steps to join ESXi hosts to the distributed virtual switch.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to join ESXi hosts to the distributed virtual switch.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 2 Topic 6 of 6	Provision VMs to consume port groups on the DVS
Topic Objectives	Describe the steps to provision VMs to consume port groups on the DVS.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision VMs to consume port groups on the DVS.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 3 of 3: Provisioning Cisco VM-FEX Universal Pass-Through

Lesson Objective: Provision Cisco VM-FEX universal pass-through in Cisco UCS Manager and VMware vCenter Server.

Module 5 Lesson 3 Topic 1 of 7	Describe VMware requirements for universal pass-through mode
Topic Objectives	Describe the VMware requirements for VM-FEX universal pass-through mode.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the VMware requirements for VM-FEX universal pass-through mode.
Sources	Cisco UCS Manager VM-FEX for VMware CLI

Module 5 Lesson 3 Topic 1 of 7	Describe VMware requirements for universal pass-through mode
	<p>Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>
Module 5 Lesson 3 Topic 2 of 7	Provision a dynamic vNIC connection policy for Cisco VM-FEX universal pass-through
Topic Objectives	Describe the steps to provision a dynamic vNIC connection policy for Cisco VM-FEX universal pass-through.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision a dynamic vNIC connection policy for Cisco VM-FEX universal pass-through.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>
Module 5 Lesson 3 Topic 3 of 7	Provision a BIOS policy for Cisco VM-FEX universal pass-through
Topic Objectives	Describe the steps to provision a BIOS policy for Cisco VM-FEX universal pass-through.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision a BIOS policy for Cisco VM-FEX universal pass-through.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide</p> <p>http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 3 Topic 4 of 7	Associate universal pass-through policies to a service profile
Topic Objectives	Describe the steps to associate universal pass-through policies to a service profile.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to associate universal pass-through policies to a service profile.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 3 Topic 5 of 7	Provision a port profile for universal pass-through mode
Topic Objectives	Describe the steps to provision a port profile for universal pass-through mode.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision a port profile for universal pass-through mode.
Sources	<p>Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p> <p>Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html</p>

Module 5 Lesson 3 Topic 6 of 7	Provision VMs to connect to Direct Path I/O interfaces
Topic Objectives	Describe the steps to provision VMs to connect to Direct Path I/O interfaces.
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to provision VMs to connect to Direct Path I/O interfaces.
Sources	Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide

Module 5 Lesson 3 Topic 6 of 7	Provision VMs to connect to Direct Path I/O interfaces
	http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html
Module 5 Lesson 3 Topic 7 of 7	Verify universal pass-through mode
Topic Objectives	Describe the steps to verify universal pass-through mode
Media Treatment (Visuals)	Lecture using static slides.
Content Types or Media Objects	Provide slides with graphics describing the steps to verify universal pass-through mode
Sources	Cisco UCS Manager VM-FEX for VMware CLI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/cli/config_guide/b_CLI_VMware_VM-FEX_UCSM_Configuration_Guide.html Cisco UCS Manager VM-FEX for VMware GUI Configuration Guide http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/vm_fex/vmware/gui/config_guide/b_GUI_VMware_VM-FEX_UCSM_Configuration_Guide.html

Module 5 Lab 5-1: Provision VMware Integration

Item	Description
Activity Objectives	Provision VMware vSphere and vCenter on your Cisco UCS B200 Blade Server to facilitate the creation of a data center cluster to demonstrate Cisco VM-FEX and Cisco VM-FEX universal pass-through with vMotion between vSphere hosts.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Lab implementation information
Activity Tasks	
Task	Objective
Task 1	Create a BIOS policy and associate it with the service profile
Task 2	Create a Dynamic vNIC connection policy with VMware adapter policy and associate it with the service profile

Item	Description
Task 3	Install vCenter on the student PC, create a data center, and add the ESXi host
Task 4	Configure VMotion of the vCenter VM from the Cisco UCS B200 on your pod to the Cisco UCS B200 on the neighbor pod
Task 5	Provision VMware integration with the wizard in Cisco UCS Manager and a port profile in standard mode
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully created a BIOS policy and associated it with the service profile. ▪ Students have successfully mapped the B200 to the shared storage. ▪ Students have successfully created a new data center cluster in vCenter and both vSphere hosts. ▪ Students have successfully configured VMotion from B200 to C200 server. ▪ Students have successfully provisioned the Cisco Nexus 1000V VEM on each ESXi host from the vSphere CLI. ▪ Students have successfully validated that the VEM is installed and loaded on the ESXi hosts.

Module 5 Lab 5-2: Provision M81-KR Cisco VM-FEX

Item	Description
Activity Objectives	Provision port profiles and associate a VM with the DVS.
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC Lab implementation information
Activity Tasks	
Task	Objective
Task 1	Import a VM from a template
Task 2	Validate VM configuration
Task 3	Add ESXi host to the DVS
Task 4	Provision the Windows 2008 virtual machine to use the DVS port group
Task 5	Validate the VM port state and connectivity with the ping command
Task 6	Demonstrate VMotion of hosts and M81-KR port profile mobility.
Activity Verification	Learners have completed the activity when they

Item	Description
	<p>have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully created uplink profiles. ▪ Students have successfully created virtual Ethernet profiles. ▪ Students have successfully provisioned a service profile with dynamic NICs. ▪ Students have successfully configured the windows 2008 VM to use the DVS port group. ▪ Students are able to observe the VMotion of hosts and M81-KR port profile mobility.

Module 5 Lab 5-3: Provision M81-KR Cisco VM-FEX Universal Pass-Through

Item	Description
Activity Objectives	Provision port profiles and associate a VM to a VMware DirectPath I/O interface
Activity Type	Lab
Visual Objective (Required for Lab)	Graphical Lab Topology
Required Resources	Student PC
Activity Tasks	
Task	Objective
Task 1	Change Dynamic vNIC connection policy to use the VMWarePassThru adapter
Task 2	Change the port profile to universal pass-through mode
Task 3	Validate that universal pass-through mode is active
Task 4	Test connectivity with ping and file copy.
Task 5	Demonstrate VMotion of hosts with Cisco VM-FEX universal pass-through
Activity Verification	<p>Learners have completed the activity when they have attained these results:</p> <ul style="list-style-type: none"> ▪ Students have successfully created uplink profiles. ▪ Students have successfully created virtual Ethernet profiles. ▪ Students have successfully provisioned a service profile with dynamic NICs. ▪ Students have successfully configured the windows 2008 VM to use a direct path I/O interface. ▪ Students are able to observe the vMotion of hosts and M81-KR port profile mobility.

Delivery Specifications

This section details the resources and requirements needed for delivery of the learning product.

Required Tools and Resources

Required Item	Explanation and Notes
Student access to remote lab devices	Provides transport for console and GUI access to lab devices
Student access to Cisco.com documentation	Internet access
Student PC	A PC with Remote Desktop access to lab student VMs
Instructor PC	Instructor PC (usually provided by the instructor)

Supporting Personnel

Name	Function
Instructor	Content delivery and classroom support
Remote Lab Proctor	Support personnel for remote labs

Required Classroom Reference Materials

Required Item	Explanation and Notes
Student Guide	
Lab Guide	
Course Evaluation Form	Metrics That Matter Web site link
Course Administration Guide	
Instructor Slide Package	
Other	Classroom roster

Required Classroom Environment

Room setup, layout, logistics, and equipment:

- Overhead projector
- 4'x8' or greater surface area whiteboard
- Usable dry-erase pens in multiple colors
- Tables and chairs to comfortably seat 16 students
- Climate control
- Student PCs with broadband Internet access

Instructor Certification Requirements

Credentials to teach this version of the course are:

- CCSI in good standing
- CCNA until cutover to CCNA DC
- VMware Certified Professional (VCP) certification
- Pass ICSNS 642-359 exam at or above the instructor pass score
- Pass DCUFI 642-992 exam at or above the instructor pass score
- Attend TTT, view on-demand TTT, or sit the DCUCI course and pass exam at or above the instructor pass score

Instructor TTT Attendance Requirements

Certifications required to attend the DCUCI 5.0 Train the Trainer:

- CCSI in good standing
- Currently certified to teach DCUCI

Laboratory Topology (Delivery)

General Information

This lab is based on the common topology used in Data Center Unified Computing (DCUCI and DCUCD) courses. The lab topology includes most elements of an enterprise data center environment—compute infrastructure, storage infrastructure, access layer, LAN core, and SAN.

Overall Lab Description

The lab topology consists of the following lab devices:

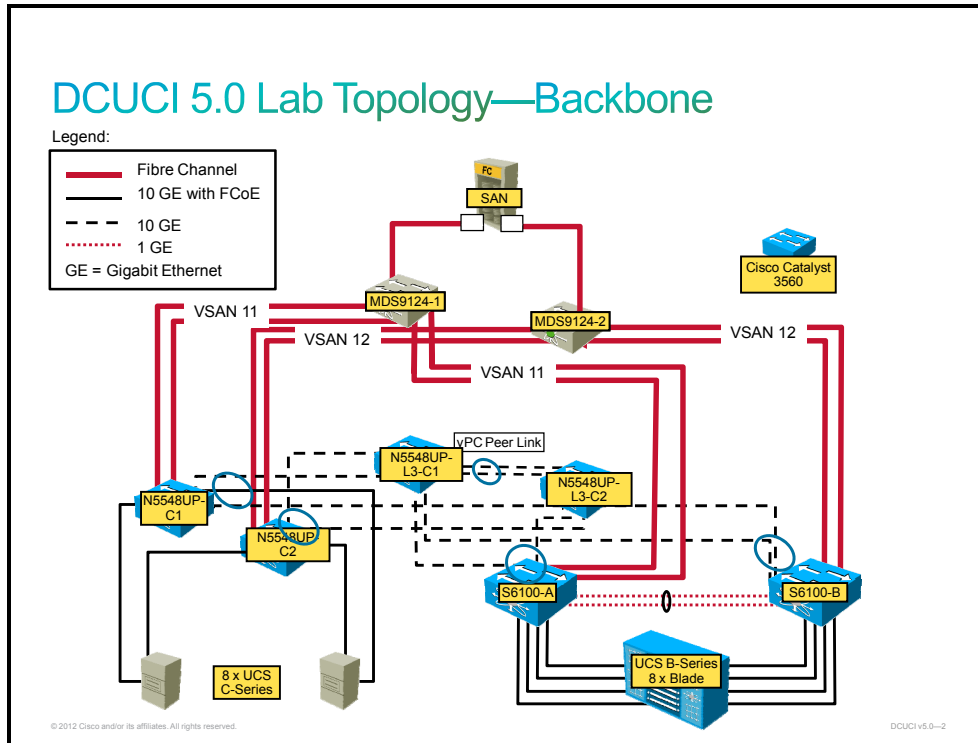
- Two Cisco Nexus 5548 Switches with the following:
 - Layer 3 daughter card
 - 48 fixed 10 Gigabit Ethernet ports
 - Layer 3 license
 - Two power supplies
- Two Cisco Nexus 5548 Switches with the following:
 - 48 fixed 10 Gigabit Ethernet ports
- Two power supplies
 - Eight 10 Gigabit Ethernet SFP+
 - Eight 4-Gb/s Fibre Channel SW SFPs
- Two Cisco MDS 9124 Series Switches
- Fibre Channel storage array with two Fibre Channel interfaces.
- Two Cisco UCS 6120 Fabric Interconnect switches with the following:
 - 8-port 1/2/4-Gb/s Fibre Channel port expansion module
 - Eight 4-Gb/s Fibre Channel SW SFPs
 - Two power supplies
- One Cisco UCS 5108 Chassis
- Two Cisco UCS 2104XP IO Modules
- Eight Cisco UCS B200 M2 Server Blades with the following:
 - M81KR VIC
 - 16GB RAM
 - Two Intel Xeon 56x0 processors
- Eight Cisco UCS C200 M2 Rack Servers with the following:
 - Two Intel Xeon 55x0 processors
 - 16 GB RAM
 - LSI 6G MegaRAID 9260-4i card with RAID 0, 1, 5, 6, 10 support
 - Four SAS or SATA hard drives
 - TPM Module for Cisco UCS C200 M1 Rack Server

— UCS P81E VIC

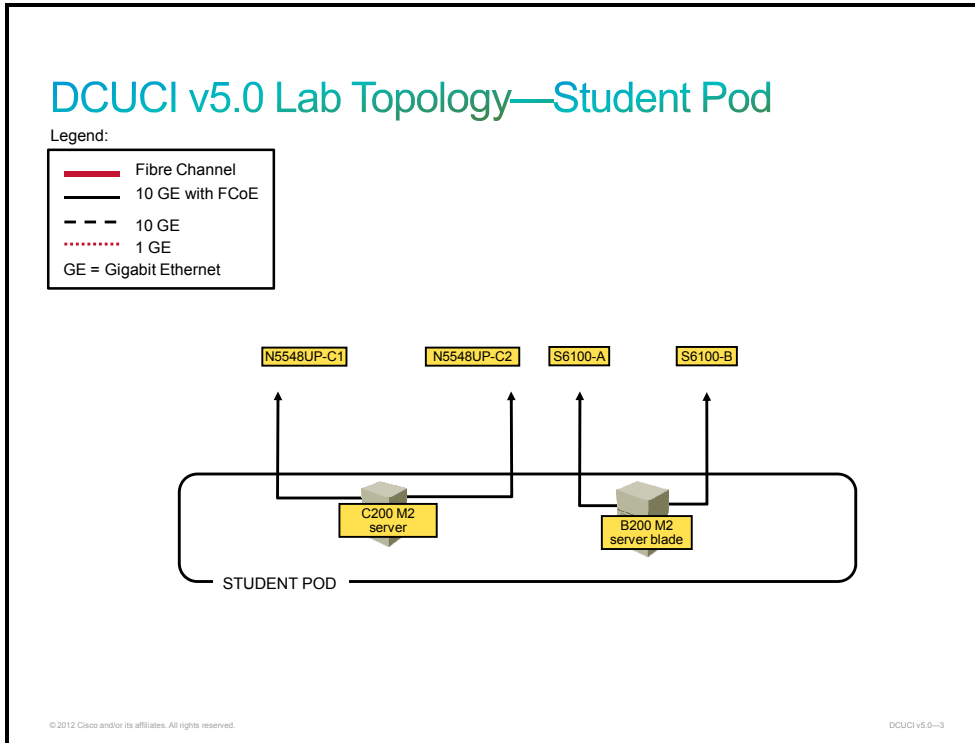
- Four rack-mount servers with VMware vSphere 5.0 hosting student and instructor desktop VMs and VMware vCenter

The lab physical topology is depicted in the following figure.

Lab Topology Diagram (Backbone Pod View)



Lab Topology Diagram (Learner Pod View)



Laboratory Equipment

These tables list the recommended equipment to support the lab activities. These tables assume a class size of 16 learners.

Description	Mfr.	Part Number	Total Qty.
Nexus 5548UP	Cisco	N5K-C5548UP-FA	2
Cisco Nexus 5000 Base OS Software Release 5.1(3)N1(1a)	Cisco	N5KUK9-513N1.1(=)	2
10GBASE-CU SFP+ Cable 5 Meter	Cisco	SFP-H10GB-CU5M	8
Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	Cisco	CAB-9K12A-NA	4
Accessory Kit for Nexus 5548 Chassis	Cisco	N5548-ACC-KIT	2
Cisco Nexus 5548P/5548UP PSU Front-to-Back Airflow module spare, A/C, 100-240V, 750W	Cisco	N55-PAC-750W	2
10GBASE-CU SFP+ Cable 5 Meter		SFP-H10GB-CU5M	4
Nexus 5548 Layer 3 Daughter Card	Cisco	N55-D160L3(=)	2
Cisco Nexus 5500 Layer 3 Base Software License	Cisco	N55-BAS1K9	2
Nexus 5548UP	Cisco	N5K-C5548UP-FA	2
Cisco Nexus 5000 Base OS Software Release 5.1(3)N1(1a)	Cisco	N5KUK9-513N1.1(=)	2
10GBASE-CU SFP+ Cable 5 Meter	Cisco	SFP-H10GB-CU5M	8

Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	Cisco	CAB-9K12A-NA	4
4 Gbps Fibre Channel-SW SFP, LC	Cisco	DS-SFP-FC4G-SW	2
Accessory Kit for Nexus 5548 Chassis	Cisco	N5548-ACC-KIT	2
Nexus 5500 Storage Protocols Services License	Cisco	N55-8P-SSK9	2
Cisco Nexus 5548P/5548UP PSU Front-to-Back Airflow module spare, A/C, 100-240V, 750W	Cisco	N55-PAC-750W	2
Storage Protocols Services Package	Cisco	N55-8P-SSK9	2
FCoE NPV Package	Cisco	N5548-FNPV-SSK9	2
4Gbps Fibre Channel-SW SFP, LC	Cisco	DS-SFP-FC4G-SW=	4
10GBASE-CU SFP+ Cable 5 Meter		SFP-H10GB-CU5M	4
Cisco 3560-X with IP Base Image		WS-C3560X-48T-S	1
Two 10GbE SFP+ ports network module with four physical ports with two SFP+ and two regular SFP ports		C3KX-NM-10G	1
10GBASE-CU SFP+ Cable 5 Meter		SFP-H10GB-CU5M	2
Cisco MDS 9124 Fabric Switch		DS-C9124AP-K9	2
Optional redundant AC power supply (uninstalled), (CTO)		DS-C24-300AC	2
Power Cord, 125VAC 13A NEMA 5-15 Plug, North America		CAB-9K12A-NA	4
4Gbps Fibre Channel-SW SFP, LC		DS-SFP-FC4G-SW=	4
Cisco UCS 6120XP Fabric Interconnect	Cisco	N10-S6100	2
Cisco UCS 5108 Chassis	Cisco	N20-C6508	1
Cisco UCS B-Series Server Blade	Cisco	N20-B6620-1	8
Cisco UCS 2104XP I/O Module	Cisco	N20-I6584	2
Cisco UCS M81KR VIC for B-Series Server Blade	Cisco	N20-AC0002	8
4Gbps Fibre Channel-SW SFP, LC	Cisco	DS-SFP-FC4G-SW=	8
10GBASE-CU SFP+ Cable 5 Meter	Cisco	SFP-H10GB-CU5M	12
Cisco UCS C-Series rack server with P81 NIC	Cisco	R200-1120402W	10
2.13GHz Xeon E5605 80W CPU/4MB cache/DDR3 800MHz	Cisco	A01-X0113	10
4GB DDR3-1333MHz RDIMM/PC3-10600/dual rank 1Gb DRAMs	Cisco	N01-M304GB1	60

Rail Kit - UCS C200, C210 and 250 M1 Rack Servers	Cisco	R250-SLDRAIL	10
Power Cord, 200/240V 6A North America	Cisco	CAB-N5K6A-NA	10
10GBASE-CU SFP+ Cable 5 Meter	Cisco	SFP-H10GB-CU5M	20
Note: CLP may implement any SAN solution that includes two Fibre Channel interfaces and at least 2TB RAID or JBOD storage (RAID 6 or RAID-DP highly recommended)			
FAS2000 Series Storage Appliance	NetApp	FAS2040-R5	1
SATA Disk Shelf	NetApp		1
1TB SATA Hard Drive	NetApp		12
Power Cord, 110V 30A North America	NetApp		2
Fibre Optic patch cords for Fibre Channel SFP	NetApp		8

Software List

Description	Mfr.	Part Number	Total Qty.
Windows 2008 R2	Microsoft		16
Windows 7 Enterprise	Microsoft		8
VMware ESXi 5.0 Enterprise plus	VMware		16
vCenter Server	VMware		8
IPMITool	Open Source		16
Cygwin	Open Source		16
3CDaemon Freeware or other with the same functionality	Open Source		16
FileZilla FTP Server and Client	Open Source		16
PuTTY SSH	Simon Tatham		16

Notes on Delivery Lab Equipment

- Apple MAC OS users need to enable their F11 and Ctrl-H key combinations
- At the beginning of the labs, reset the configuration on the C-Series Cisco Integrated Management Controllers related to the remote KVM, virtual media, and logging functionality.

Development Lab Equipment Requirements

The requirements for the development lab are identical to the delivery lab.

