



Cisco Data Center Labs

Date: February 2012
Author: Jorge Portugal

CloudLab

<http://cloudlab.cisco.com>


What is Cisco CloudLab?

Cisco CloudLab provides a dedicated cloudbased setup to for demonstrations and hands-on labs. Demos and labs consist of pre-packaged virtual Lab Pod (vPod) that can be used on-demand and without the need of advanced scheduling.

How can I get access to Cisco CloudLab?

Cisco CloudLab is available to [Cisco employees](#), [customers](#), [channel](#) and [technology partners](#) for training and demonstration usage. Access to Cisco CloudLab requires a valid Cisco.com (CCO) account which can be [obtained](#) free of charge.

You must have a Cisco employee as sponsor in order to access Cisco CloudLab. Upon initial login you have the opportunity to specify your sponsor, who will receive an e-mail requesting verification of your need for access. Once that verification is received, your access will be enabled and you will receive a confirmation e-mail.

Course	Content	Duration
Cisco Nexus 1000V - General Overview	Cisco Nexus 1000V deployment, Attaching Virtual Machines to the Cisco Nexus 1000V, VMotion and Visibility, Policy-based Virtual Machine connectivity, Traffic Inspection of a Virtual Machine.	3h max
Cisco Nexus 1000V - Installation	Verification of initial setup, Virtual Supervisor Module installation, Virtual Ethernet Module installation, Usage of the Nexus 1000V installer application, Configuration of Nexus 1000V port-profiles, Migration of vSwitch port-groups to the Nexus 1000V.	3h max
 Cisco Virtual Security Gateway (VSG) – Introduction	Creating Zones, Creating Security Policies, Creating Security Profiles, Bind Security Profiles to Port-Profiles, Validate Virtual Machine Security, VMotion and Re-validation of VM Security, Setting up Tenant Level Administration on VNMC.	3h max
Cisco Nexus 1000V - Advanced Security	Prevent ARP Poisoning Attacks, Prevent CAM Table Overflow attacks, Configure RADIUS Authentication	3h max
Cisco Nexus 7000 - Introduction to NX-OS	System Configuration, Management VRF Concept and Basic Connectivity, CLI Familiarization, Role-based access control (RBAC), Configuration Rollback, Configuration Session, OSPF Configuration, Process Restartability, Licensing, Hot Standby Routing	3h max



	Protocol (HSRP).	
Cisco Overlay Transport Virtualization (OTV)	System Verification, OSPF Configuration, Configuring OTV, Verifying OTV, Verifying the VMware vSphere setup, VMotion across Data Center sites.	3h max
Intro: Cisco Nexus 1000V (Pre-Configured)	Attaching Virtual Machines to the Cisco Nexus 1000V, VMotion and Visibility, Policy-based Virtual Machine connectivity.	3h max
Intro: Cisco Virtual Security Gateway (VSG)(Pre-Configured)	Zones, Security Policies and Security Profiles, Binding Security Profiles to Port-Profiles, Validate Virtual Machine Security, VMotion and Validation of VM Security.	3h max
Virtual Extensible LAN (VXLAN)	Verify connectivity between VXLAN connected VMs, Verify upstream device configuration, Verify Cisco Nexus 1000V configuration, Troubleshoot VXLAN functionality	3h

Cisco Demo Remote (dCloudRemote)

<http://www.cisco.com/go/demo>

dCloud Remote is a global, cloud-based demonstration service covering **Borderless, Collaboration** and **Data Centre** demonstrations. Allows anyone from Cisco Field and Channel Partners to users to conduct, customize, and share demonstrations anywhere at any time. Users can show a wide variety of Cisco solutions and products using little or no endpoint equipment either on site or virtually.

When/Where/Who with dCloud Remote?

- Anytime : Schedule at your convenience
- Anywhere: Available in Cisco offices and any location with internet connectivity
- Anyone: Available to the Cisco field and Cisco partners with a valid cisco.com login.
- Flexible scenario support:
 - Virtual Demonstrations via WebEx, TelePresence
 - Customer Pilots
 - Tradeshows

Data Center available demos

Course	Content	Duration
Cisco UCS Manager Simulator v2	UCS Simulator v2 is based on UCSM version 1.4	4h
Cisco UCS with C-Series Integration	Cisco C200 Rack Server Integration with UCSM 1.4	4h
Cisco UCS with Desktop Virtualization v2	Desktop Virtualization solution with VMware View 4.6, Citrix XenDesktop 5.0, Netapp Storage and UCS.	4h
Cisco Unified Computing System v3	UCSM 1.4 with ESXi 4.1 and BMC, newScale/Tidal and Microsoft SCOM	4h
Cisco Virtualization eXperience Infrastructure v1	Based on Cisco VXI solution with VMware View 4.6 and Citrix XenDesktop 5.5, all the Collaboration elements are running on UCS B200 blades.	4h

LabGear

<http://www.nexus-demo.labgear.net/Home.asp>

The Nexus Demonstration Labs are a training and demonstration resource for Cisco Channel Partners focused on Data Center 3.0 solutions. Lab sessions are self-scheduled by participating partners in real-time with immediate confirmation. This can be done after signing up for a LabGear® Remote-Demo™ scheduling account. Scheduled sessions can vary from 1 to 8 hours and can be for immediate or future use.

The technologies showcased in these labs include the following products:

- Nexus 7000
- Nexus 5000 and Nexus 2000
- Nexus 1000v
- MDS 9124
- Cisco UCS C200 Server
- Cisco UCS C250 Server
- Fabric Manager
- Device Manager
- EMC AX4
- NetApp 2020
- Vmware VSphere 4.1
- Emulex Converged Network Adapters

Course	Content	Duration
DCV FLEX-DEMO FLEX-TRAINING	The FlexPod Demonstration Lab is a new resource (currently in pilot phase) that allows Cisco and NetApp Partners to conduct demonstrations that seek to highlight the key value proposition of FlexPod and its business transformation advantages, in the context of a Virtual Desktop Infrastructure (VDI) deployment.	1-10h

GoldLab

Internal: <http://gso-wiki.cisco.com/confluence/display/GOLD/DataCenter+Labs>

External:

- PEC (Partner E-learning Connection): <http://www.cisco.com/go/pec>
- Direct Access: <https://labops-out.cisco.com/labops/accelerate/default.asp>

Course	Content	Duration
DCNI-2 Lab 1/14:Nexus 7000 Hardware Platform	In this activity, you will utilize the existing lab topology and Cisco Nexus 7010 switches to identify and verify their various hardware components. After completing this activity, you will be able to Reset your VDC Cisco Nexus 7010 Start-up Configuration, Assign login credentials for the Network Administrator function, Initialize the management interfaces, and Utilize Cisco NX-OS commands to validate modules	2h
DCNI-2 Lab 2/14:Managing System Configuration	In this activity, you will manage the configuration of a Cisco Nexus 7010 Switch. After completing this activity, you will be able to Assign IP addresses and set key interface parameters, Validate software revision level and available memory, Create a configuration checkpoint and perform rollback operation	2h
DCNI-2 Lab 3/14:Layer 2 Switching	In this activity, you will become familiar with the Layer 2 switching features supported by the Cisco Nexus 7010 and Cisco NX-OS Software. After completing this activity, you will be able to Configure VLANs and PVST+ within each VDC, and activate and validate spanning tree parameters, Create and manage primary and secondary VLANs, assign interfaces to secondary VLANs, and perform mappings, Configure MST regions across both Cisco Nexus 7010 Switches, Enable UDLD on VDC links, and Configure port channels for interswitch VDC links using LACP	2h
DCNI-2 Lab 4/14:First-Hop Redundancy Protocols	In this activity, you will become familiar with the first-hop redundancy protocols, GLBP, and HSRP. After completing this activity, you will be able to Configure HSRP within each VDC and validate its parameters and operation, and Configure GLBP within each VDC and validate its parameters and operation	2h

DCNI-2 Lab 5/14:Configuring Routing Protocols	In this activity, you will become familiar with configuring routing protocols within Cisco NX-OS. After completing this activity, you will be able to Configure VRF instances within each VDC, Create OSPF routing instances for each VDC and assign link authentication, Assign VRF instances to the OSPF routing instances and validate the association, View and validate neighbor adjacencies, Restart an OSPF process in one VDC while viewing neighbor adjacencies, and Utilize various show commands to view routing parameters and visibility of VRF members	2h
DCNI-2 Lab 6/14:Quality of Service	In this activity, you will become familiar with configuring QoS parameters within Cisco NX-OS. After completing this activity, you will be able to Configure type qos and type queueing class maps, Configure type qos and type queueing policy maps, Configure type qos and type queueing service policies, and View and validate the QoS configurations	2h
DCNI-2 Lab 7/14:Cisco Nexus 7000 Security Feature	In this activity, you will become familiar with configuring the security features of the Cisco Nexus 7010 Switch. After completing this activity, you will be able to Create RBAC for each VDC and validate specific privilege levels, View default CoPP configuration and perform modifications using both the CLI and ?setup? menus, Showcase the functionality of atomic programming of Cisco NX-OS Software using the ?configuration session? context. Create IP ACLs using object groups and validate improved ACL creation and editing functionality, and Configure remote access capabilities and hardware security features that provide both control and data plane protection	2h
DCNI-2 Lab 8/14:Cisco Data Center Network Manager	In this activity, you will become familiar with Cisco Data Center Network Manager (DCNM, a Cisco NX-OS utility that provides a GUI companion to the CLI for configuring and managing Cisco Nexus 7000 devices. After completing this activity, you will be able to Configure parameters using the CLI on each physical and virtual device that will enable the successful use of Cisco DCNM, Perform basic discovery functions using Cisco DCNM to determine the current physical inventory, VDC allocations, Layer 2 and Layer 3 configurations, and Validate VDC connectivity, functionality, and resource assignments	2h
DCNI-2 Lab 9/14:Troubleshooting Using SPAN	In this activity, you will become familiar with using the built-in control plane monitoring utility, Ethalyzer. After completing this activity, you will be able to Create SPAN sessions, view, and validate parameters, Configure Cisco Smart Call Home features and parameters, Configure and validate online diagnostic parameters, and Configure EEM event parameters and policy actions	2h

DCNI-2 Lab 10/14: Cisco Nexus 5000 Hardware Platform and System Management	In this activity, you will become familiar with the Cisco Nexus 5000 hardware platform. After completing this activity, you will be able to Perform a Cisco NX-OS Software revision upgrade and view the process, Investigate the hardware components of the Cisco Nexus 5020 Switch and validate system parameters, Create spanning tree instances that include the two Cisco Nexus 7010 Switches, and Configure remote access capabilities and hardware security features that provide both control and data plane protection	2h
DCNI-2 Lab 11/14: Configuring FCoE, the Nexus 2148T Fabric Extender and Configuring N_Port Virtualization on the Cisco Nexus 5020 Switch	In this activity, you will configure FCoE and N_Port virtualization on your the Cisco Nexus 5020 Switch for your pod. After completing this activity, you will be able to Become familiar with and configure the Cisco Nexus 2148T Fabric Extender using the CLI of the Cisco Nexus 5020 Switch, Create server interface pinnings between the Cisco Nexus 2148T front panel interfaces and Cisco Nexus 5020 Switch uplinks, Validate connectivity and configuration parameters between the Cisco Nexus 2148T and Cisco Nexus 5020 Switch, Configure the Cisco Nexus 5020 switch to enable the N_Port virtualization mode globally, Configure server-facing and fabric switch-facing interfaces for the N_Port virtualization mode, Configure the Cisco MDS 9124 Switch to support N_Port virtualization, and Validate N_Port virtualization performance and Fibre Channel operation using various show commands	2h
DCNI-2 Lab 12/14: Configuring the VMware ESX Server and the CNA	In this activity, you will configure zoning on your assigned Cisco Nexus 5020 Switch to enable end-to-end connectivity between the VMware server and JBOD storage device. After completing this activity, you will be able to Configure the CNA to pin its virtual machines to the CNA, Create and assign virtual disks to each virtual machine and establish pinnings between servers and storage devices using the zoning feature of the Cisco Nexus 5020 Switch, and Confirm end-to-end connectivity and visibility between the initiator (VMware server) and target (JBOD)	2h
DCNI-2 Lab 13/14: Implementing vPC with Cisco Nexus 7000	In this lab exercise, you will first setup Nexus 7000 chassis in your assigned VDC to support vPC deployment. Next you will deploy vPC to the access layer of the assigned data center infrastructure. Once vPC is configured you will verify its operation and test the failover scenarios. You will use the Lab Topology and devices to meet lab exercise objectives. After completing this activity, you will be able to Configure vPC prerequisites in the assigned VDC on Nexus 7000 switches, Set up vPC towards the access layer, Inspect and verify vPC functionality and operation, and Test how vPC performs in different failover scenarios	2h
DCNI-2 Lab	In this activity, you will use the Lab Topology and devices to meet lab exercise objectives.	2h

14/14:Implementing OTV with Cisco Nexus 7000	After completing this activity, you will be able to Configure backbone network with support for OTV deployment, Configure OTV Edge devices, Setup Layer-2 DCI using OTV between two Nexus 7000, and Inspect and verify OTV functionality and operation	
Nexus 7000 NX-OS with vPC	Completion of this training will enable the SE to communicate and demonstrate benefits of the Nexus 7000 to customers	2h
Nexus 7000 Overlay Transport Virtualization (OTV)	This instructor-led hands-on lab will introduce the participants to the OTV (Overlay Transport Virtualization) solution for the Nexus 7000. This innovative feature set simplifies Datacenter Interconnect designs, allowing multisite Data Center communication and transparent Layer 2 extension across multiple Data Center sites. OTV accomplishes this without the overhead introduced by MPLS or VPLS. By the end of the laboratory session the participant should be able to understand basic and advanced OTV functionality and configuration with the Nexus 7000.	2h
DCV FabricPath	This hands-on lab will introduce participants to Cisco FabricPath, a Layer-2 NXOS innovation. Participants will learn about the Cisco FabricPath & vPC+ functionality and configuration with the Nexus 7000 & 5000 platforms.	2h
DCV Nexus 5000-2000 VPC	In this lab, students configure a pod containing a pair of Nexus 5000 series switches and a pair of Nexus 2048 fexes in various topologies. These include Virtual Port Channel (VPC) configurations that support LACP down to the connected server, and other topologies that support only failover or adaptive load balancing configurations on the server.	2h
DCV Nexus 5000 FCoE Multihop, NPV	In this lab, students configure Fibre Channel over Ethernet (FCoE) on a pair of Nexus 5000 series switches, which is connected to a Windows Server Converged Network Adapter (CNA), and is connected northbound to a core FCoE infrastructure.	2h
Nexus 5000 + 2000 with FCoE	This lab will provide hands on experience on Implementing and Configuring Nexus 5000 and Nexus 2000 Switches as well as utilizing FCoE feature.	2h
Nexus 1000v	This lab will promote familiarity with the Cisco Nexus 1000V Distributed Virtual Switch for VMWare ESX. You will also Install and configure the Nexus 1000V, add a physical ESX host to the DVS, test the VMotion capability, and much more.	2h
MDS v2	Lab1: Initial Switch Configuration Lab2: Accessing FC Attached Disks Lab3: Configuring High-Availability SAN Extension	2h

Lab4: Configuring IVR for SAN Extension
Lab5: Quickstart Switch Configuration
Lab6: Configuring Call Home
Lab7: Creating VSANs
Lab8: Configuring Interfaces
Lab9: Configuring Zones
Lab10: Configuring PortChannels
Lab11: Implementing an FCIP Tunnel
Lab12: Configuring FCIP High Availability
Lab13: Implementing IVR for SAN Extension
Lab14: Tuning FCIP Performance

UCS Content lab

Lab1 - In this lab, you will familiarize yourself with Cisco UCS Manager. Explore and verify hardware components and LAN/SAN connectivity. Finally, explore predefined UCS management hierarchy and user access control and create additional organizations.

Lab2 - In this lab, you will verify prerequisites for deploying basic service profiles exist. You will deploy basic service profile wizard and associate it with your assigned blade. Lastly, you will install MS Windows 2008 on the configured server.

Lab3 - In this lab, you will create and clone an advanced service profile for MS Windows 2003 server. Create identity pools (MAC, WWNN, WWPN, UUID) and policies to prepare the parameters for multiple advanced service profiles.

UCS Sandbox Lab

In this lab, users have access to an unconfigured UCS Pod with redundant fabric interconnect, 2 chassis, blade servers, local disk storage and access to SAN storage. You will use the Lab Topology and devices in an "out of the box" experience with the UCS POD, and are responsible for the entire setup of UCS, including the upward connectivity to the access layer (N5K switches for LAN and MDS switches for SAN). Students will not at this time do configuration of the upward devices themselves. The provided SAN storage consists of LUN's intended to be "single hosted" (suitable for SAN boot) as well as LUN's capable of being shared between multiple servers within the single UCS Pod (suitable for virtual machines for vmotion, or any other shared storage need).

Cisco VXi Phase II Architecture

This lab provides hands-on configuration experience with Cisco VXi Phase II Architecture.

You will be able to:

- Configure the VXC terminal and 3rd party thin clients.
- Explore also the connections brokers from Citrix and VMware.
- Create virtual desktops, and will explore the way to customize them.
- Explore the collaborations apps inside a virtual desktops
- Explore network optimization techniques to optimize the Virtual desktop experience

Nexus 1000V

Lab	Course	Content	Duration
CloudLab	Cisco Nexus 1000V - Installation	Verification of initial setup, Virtual Supervisor Module installation, Virtual Ethernet Module installation, Usage of the Nexus 1000V installer application, Configuration of Nexus 1000V port-profiles, Migration of vSwitch port-groups to the Nexus 1000V.	3h max
CloudLab	Cisco Nexus 1000V - Advanced Security	Prevent ARP Poisoning Attacks, Prevent CAM Table Overflow attacks, Configure RADIUS Authentication	
CloudLab	Intro: Cisco Nexus 1000V (Pre-Configured)	Attaching Virtual Machines to the Cisco Nexus 1000V, VMotion and Visibility, Policy-based Virtual Machine connectivity.	3h max
CloudLab	Virtual Extensible LAN (VXLAN)	Verify connectivity between VXLAN connected VMs, Verify upstream device configuration, Verify Cisco Nexus 1000V configuration, Troubleshoot VXLAN functionality	3h
GoldLab	Nexus 1000v	This lab will promote familiarity with the Cisco Nexus 1000V Distributed Virtual Switch for VMWare ESX. You will also Install and configure the Nexus 1000V, add a physical ESX host to the DVS, test the VMotion capability, and much more.	2h

VSG

Lab	Course	Content	Duration
CloudLab	Cisco Virtual Security Gateway (VSG) – Introduction	Creating Zones, Creating Security Policies, Creating Security Profiles, Bind Security Profiles to Port-Profiles, Validate Virtual Machine Security, VMotion and Re-validation of VM Security, Setting up Tenant Level Administration on VNMC.	3h max
CloudLab	Intro: Cisco Virtual Security Gateway (VSG)(Pre-Configured)	Zones, Security Policies and Security Profiles, Binding Security Profiles to Port-Profiles, Validate Virtual Machine Security, VMotion and Validation of VM Security.	3h max

Nexus 7000

Lab	Course	Content	Duration
CloudLab	Cisco Nexus 7000 - Introduction to NX-OS	System Configuration, Management VRF Concept and Basic Connectivity, CLI Familiarization, Role-based access control (RBAC), Configuration Rollback, Configuration Session, OSPF Configuration, Process Restartability, Licensing, Hot Standby Routing Protocol (HSRP).	3h max
GoldLab	DCNI-2 Lab 1/14:Nexus 7000 Hardware Platform	In this activity, you will utilize the existing lab topology and Cisco Nexus 7010 switches to identify and verify their various hardware components. After completing this activity, you will be able to Reset your VDC Cisco Nexus 7010 Start-up Configuration, Assign login credentials for the Network Administrator function, Initialize the management interfaces, and Utilize Cisco NX-OS commands to validate modules	2h
GoldLab	DCNI-2 Lab 2/14:Managing System Configuration	In this activity, you will manage the configuration of a Cisco Nexus 7010 Switch. After completing this activity, you will be able to Assign IP addresses and set key interface parameters, Validate software revision level and available memory, Create a configuration checkpoint and perform rollback operation	2h
GoldLab	DCNI-2 Lab 3/14:Layer 2 Switching	In this activity, you will become familiar with the Layer 2 switching features supported by the Cisco Nexus 7010 and Cisco NX-OS Software. After completing this activity, you will be able to Configure VLANs and PVST+ within each VDC, and activate and validate spanning tree parameters, Create and manage primary and secondary VLANs, assign interfaces to secondary VLANs, and perform mappings, Configure MST regions across both Cisco Nexus 7010 Switches, Enable UDLD on VDC links, and Configure port channels for interswitch VDC links using LACP	2h
GoldLab	DCNI-2 Lab 4/14:First-Hop Redundancy Protocols	In this activity, you will become familiar with the first-hop redundancy protocols, GLBP, and HSRP. After completing this activity, you will be able to Configure HSRP within each VDC and validate its parameters and operation, and Configure GLBP within each VDC and validate its parameters and	2h

		operation	
GoldLab	DCNI-2 Lab 5/14:Configuring Routing Protocols	In this activity, you will become familiar with configuring routing protocols within Cisco NX-OS. After completing this activity, you will be able to Configure VRF instances within each VDC, Create OSPF routing instances for each VDC and assign link authentication, Assign VRF instances to the OSPF routing instances and validate the association, View and validate neighbor adjacencies, Restart an OSPF process in one VDC while viewing neighbor adjacencies, and Utilize various show commands to view routing parameters and visibility of VRF members	2h
GoldLab	DCNI-2 Lab 6/14:Quality of Service	In this activity, you will become familiar with configuring QoS parameters within Cisco NX-OS. After completing this activity, you will be able to Configure type qos and type queueing class maps, Configure type qos and type queueing policy maps, Configure type qos and type queueing service policies, and View and validate the QoS configurations	2h
GoldLab	DCNI-2 Lab 7/14:Cisco Nexus 7000 Security Feature	In this activity, you will become familiar with configuring the security features of the Cisco Nexus 7010 Switch. After completing this activity, you will be able to Create RBAC for each VDC and validate specific privilege levels, View default CoPP configuration and perform modifications using both the CLI and ?setup? menus, Showcase the functionality of atomic programming of Cisco NX-OS Software using the ?configuration session? context. Create IP ACLs using object groups and validate improved ACL creation and editing functionality, and Configure remote access capabilities and hardware security features that provide both control and data plane protection	2h
GoldLab	DCNI-2 Lab 8/14:Cisco Data Center Network Manager	In this activity, you will become familiar with Cisco Data Center Network Manager (DCNM, a Cisco NX-OS utility that provides a GUI companion to the CLI for configuring and managing Cisco Nexus 7000 devices. After completing this activity, you will be able to Configure parameters using the CLI on each physical and virtual device that will enable the successful use of Cisco DCNM, Perform basic discovery functions using Cisco DCNM to determine the current physical inventory, VDC allocations,	2h

		Layer 2 and Layer 3 configurations, and Validate VDC connectivity, functionality, and resource assignments	
GoldLab	DCNI-2 Lab 9/14:Troubleshooting Using SPAN	In this activity, you will become familiar with using the built-in control plane monitoring utility, Ethalyzer. After completing this activity, you will be able to Create SPAN sessions, view, and validate parameters, Configure Cisco Smart Call Home features and parameters, Configure and validate online diagnostic parameters, and Configure EEM event parameters and policy actions	2h

Nexus 5000 & Nexus 2000

Lab	Course	Content	Duration
GoldLab	DCV Nexus 5000-2000 VPC	In this lab, students configure a pod containing a pair of Nexus 5000 series switches and a pair of Nexus 2048 fexes in various topologies. These include Virtual Port Channel (VPC) configurations that support LACP down to the connected server, and other topologies that support only failover or adaptive load balancing configurations on the server.	2h
GoldLab	DCNI-2 Lab 10/14: Cisco Nexus 5000 Hardware Platform and System Management	In this activity, you will become familiar with the Cisco Nexus 5000 hardware platform. After completing this activity, you will be able to Perform a Cisco NX-OS Software revision upgrade and view the process, Investigate the hardware components of the Cisco Nexus 5020 Switch and validate system parameters, Create spanning tree instances that include the two Cisco Nexus 7010 Switches, and Configure remote access capabilities and hardware security features that provide both control and data plane protection	2h
GoldLab	DCNI-2 Lab 11/14: Configuring FCoE, the Nexus 2148T Fabric Extender and Configuring N_Port Virtualization on the Cisco Nexus 5020 Switch	In this activity, you will configure FCoE and N_Port virtualization on your the Cisco Nexus 5020 Switch for your pod. After completing this activity, you will be able to Become familiar with and configure the Cisco Nexus 2148T Fabric Extender using the CLI of the Cisco Nexus 5020 Switch, Create server interface pinnings between the Cisco Nexus 2148T front panel interfaces and Cisco Nexus 5020 Switch uplinks, Validate connectivity and configuration parameters between the Cisco Nexus 2148T and Cisco Nexus 5020 Switch, Configure the Cisco Nexus 5020 switch to enable the N_Port virtualization mode globally, Configure server-facing and fabric switch-facing interfaces for the N_Port virtualization mode, Configure the Cisco MDS 9124 Switch to support N_Port virtualization, and Validate N_Port virtualization performance and Fibre Channel operation using various show commands	2h

GoldLab	DCNI-2 Lab 12/14:Configuring the VMware ESX Server and the CNA	In this activity, you will configure zoning on your assigned Cisco Nexus 5020 Switch to enable end-to-end connectivity between the VMware server and JBOD storage device. After completing this activity, you will be able to Configure the CNA to pin its virtual machines to the CNA, Create and assign virtual disks to each virtual machine and establish pinnings between servers and storage devices using the zoning feature of the Cisco Nexus 5020 Switch, and Confirm end-to-end connectivity and visibility between the initiator (VMware server) and target (JBOD)	2h
Goldlab	Nexus 5000 + 2000 with FCoE	This lab will provide hands on experience on Implementing and Configuring Nexus 5000 and Nexus 2000 Switches as well as utilizing FCoE feature.	2h

UCS – Unified Computing System

Lab	Course	Content	Duration
GoldLab	UCS Sandbox Lab	<p>In this lab, users have access to an unconfigured UCS Pod with redundant fabric interconnect, 2 chassis, blade servers, local disk storage and access to SAN storage.</p> <p>You will use the Lab Topology and devices in an "out of the box" experience with the UCS POD, and are responsible for the entire setup of UCS, including the upward connectivity to the access layer (N5K switches for LAN and MDS switches for SAN). Students will not at this time do configuration of the upward devices themselves.</p> <p>The provided SAN storage consists of LUN's intended to be "single hosted" (suitable for SAN boot) as well as LUN's capable of being shared between multiple servers within the single UCS Pod (suitable for virtual machines for vmotion, or any other shared storage need).</p>	
GoldLab	UCS Content lab	<p>Lab1 - In this lab, you will familiarize yourself with Cisco UCS Manager. Explore and verify hardware components and LAN/SAN connectivity. Finally, explore predefined UCS management hierarchy and user access control and create additional organizations.</p> <p>Lab2 - In this lab, you will verify prerequisites for deploying basic service profiles exist. You will deploy basic service profile wizard and associate it with your assigned blade. Lastly, you will install MS Windows 2008 on the configured server.</p> <p>Lab3 - In this lab, you will create and clone an advanced service profile for MS Windows 2003 server. Create identity pools (MAC, WWNN, WWPN, UUID) and policies to prepare the parameters for multiple advanced service profiles.</p>	
dCloud Remote	Cisco Unified Computing	UCSM 1.4 with ESXi 4.1 and BMC, newScale/Tidal and Microsoft SCOM	4h

System v3			
dCloud Remote	Cisco UCS Manager Simulator v2	UCS Simulator v2 is based on UCSM version 1.4	4h

Whole Offer

Lab	Course	Content	Duration
LabGear FlexPod	DCV DCV-OTV FLEX-DEMO FLEX-TRAINING	FlexPod architecture full setup: N7K, N5K, N2K, N1K, MDS, OTV, NetApp	???
GoldLab VXI	Cisco VXI Phase II Architecture	<p>This lab provides hands-on configuration experience with Cisco VXI Phase II Architecture.</p> <p>You will be able to:</p> <ul style="list-style-type: none"> • Configure the VXC terminal and 3rd party thin clients. • Explore also the connections brokers from Citrix and VMware. • Create virtual desktops, and will explore the way to customize them. • Explore the collaborations apps inside a virtual desktops • Explore network optimization techniques to optimize the Virtual desktop experience 	
dCloud Remote VDI	Cisco UCS with Desktop Virtualization v2	Desktop Virtualization solution with VMware View 4.6, Citrix XenDesktop 5.0, Netapp Storage and UCS.	4h
dCloud Remote VXI	Cisco Virtualization eXperience Infrastructure v1	Based on Cisco VXI solution with VMware View 4.6 and Citrix XenDesktop 5.5, all the Collaboration elements are running on UCS B200 blades.	4h

MDS

Lab	Course	Content	Duration
GoldLab	MDS v2	Lab1: Initial Switch Configuration Lab2: Accessing FC Attached Disks Lab3: Configuring High-Availability SAN Extension Lab4: Configuring IVR for SAN Extension Lab5: Quickstart Switch Configuration Lab6: Configuring Call Home Lab7: Creating VSANs Lab8: Configuring Interfaces Lab9: Configuring Zones Lab10: Configuring PortChannels Lab11: Implementing an FCIP Tunnel Lab12: Configuring FCIP High Availability Lab13: Implementing IVR for SAN Extension Lab14: Tuning FCIP Performance	2h

Technologies

Lab	Course	Content	Duration
CloudLab OTV	Cisco Overlay Transport Virtualization (OTV)	System Verification, OSPF Configuration, Configuring OTV, Verifying OTV, Verifying the VMware vSphere setup, VMotion across Data Center sites.	3h max
GoldLab OTV	Nexus 7000 Overlay Transport Virtualization (OTV)	This instructor-led hands-on lab will introduce the participants to the OTV (Overlay Transport Virtualization) solution for the Nexus 7000. This innovative feature set simplifies Datacenter Interconnect designs, allowing multisite Data Center communication and transparent Layer 2 extension across multiple Data Center sites. OTV accomplishes this without the overhead introduced by MPLS or VPLS. By the end of the laboratory session the participant should be able to understand basic and advanced OTV functionality and configuration with the Nexus 7000.	2h
GoldLab OTV	DCNI-2 Lab 14/14:Implementing OTV with Cisco Nexus 7000	In this activity, you will use the Lab Topology and devices to meet lab exercise objectives. After completing this activity, you will be able to Configure backbone network with support for OTV deployment, Configure OTV Edge devices, Setup Layer-2 DCI using OTV between two Nexus 7000, and Inspect and verify OTV functionality and operation	2h
GoldLab FabricPath	DCV FabricPath	This hands-on lab will introduce participants to Cisco FabricPath, a Layer-2 NXOS innovation. Participants will learn about the Cisco FabricPath & vPC+ functionality and configuration with the Nexus 7000 & 5000 platforms.	2h
GoldLab FCoE	DCV Nexus 5000 FCoE Multihop, NPV	In this lab, students configure Fibre Channel over Ethernet (FCoE) on a pair of Nexus 5000 series switches, which is connected to a Windows Server Converged Network Adapter (CNA), and is connected northbound to a core FCoE infrastructure.	2h
GoldLab vPC	DCNI-2 Lab 13/14:Implementing vPC with Cisco Nexus 7000	In this lab exercise, you will first setup Nexus 7000 chassis in your assigned VDC to support vPC deployment. Next you will deploy vPC to the access layer of the assigned data center infrastructure. Once vPC is configured you will verify its operation and test the failover scenarios. You will use the Lab Topology and devices to meet lab exercise objectives. After completing this	2h

		activity, you will be able to Configure vPC prerequisites in the assigned VDC on Nexus 7000 switches, Set up vPC towards the access layer, Inspect and verify vPC functionality and operation, and Test how vPC performs in different failover scenarios	
GoldLab	Nexus 7000 NX-OS with vPC	Completion of this training will enable the SE to communicate and demonstrate benefits of the Nexus 7000 to customers	2h