

CCIE Data Center v3.0



Join us for the best CCIE Data Center v3.0 training

#1192, 5th Main Road, 20th Cross, Sector 7, HSR Layout,
Bangalore-560102, Phone: +91 80 42019151

NEXUS MODULE

- Introduction to NXOS
- Hardware
 - 9K
 - 7K
 - 5K
 - 2K
- Virtual Device Context (VDC)
- Virtual Port-Channel (VPC)
 - Introduction to vPC
 - vPC Terminologies
 - vPC Control Plane
 - vPC Data Plane (L2 + L3)
 - vPC with HSRP
 - vPC Loop avoidance
 - Types of VPC (Regular/E-vPC/Back to Back VPC)
 - vPC Lab (Regular/EVPC/B2B vpc/VPC + HSRP)
- Multicast
 - Introduction to PIM
 - PIM Dense Mode
 - PIM Sparse Mode
 - PIM ASM vs SSM
- OTV (Not in DC v3)
 - Underlay vs Overlay
 - L2 extension concept
 - OTV as a DCI
 - OTV terminologies
 - OTV functioning
 - Unicast OTV (Adjacency/MAC Learning/BUM)
 - Multicast OTV (Adjacency/MAC Learning/BUM)
- VXLAN
 - VXLAN Introduction
 - Advantage/Limitation of VXLAN
 - VXLAN Terminologies
 - VXLAN Packet Format
 - VXLAN Data Plane Based forwarding
 - HER (Head End Replication)
 - F&L (Flood & Learn)
 - VXLAN Control Plane Based forwarding
 - MP-BGP L2 EVPN
 - L2 VNI vs L3 VNI & VXLAN IRB

NEXUS LABS

Virtual Device Context (VDC)

- Task 1: Check basic information of N7K
- Task 2: Create a Non-Default VDC
- Task 3: Allocate interfaces to the vdc
- Task 4: Change the CPU-share and boot-order for the vdc
- Task 5: Create a new resource template
- Task 6: Assign the mgmt IP address to the vdc
- Task 7: Create local users and check access

Virtual Port-Channel (VPC)

- Task 1: Building Virtual Port-Channel
- Task 2: Changing the Role-Priority by bouncing the peer-link
- Task 3: Changing the Role-Priority by enabling vPC Role Pre-empt
- Task 4: Make the peer-keepalive link down and check the behavior
- Task 5: Make the peer-link down and check the behavior
- Task 6: Peer-Switch
- Task 7: vPC with HSRP (Peer-Gateway)
- Task 8: Dual-Sided vPC

Virtual Extensible LAN (VXLAN)

- Task 1: Same VLAN, Same VNI, Same Subnet, Same Mcast-group
- Task 2: Same VLAN, Same VNI, Different Subnet, Same Mcast-group
- Task 3: Different VLAN, Same VNI, Different Subnet, Same Mcast-group
- Task 4: Different VLAN, Different VNID, Different Subnet, Same Mcast-group
- Task 5: Different VLAN, Different VNID, Different Subnet, Different Mcast-group on both VTEPs
- Task 6: Different VLAN, Different VNID, Different Subnet, Different Mcast-group (Between VTEPs)
- Task 7: Extending L2 Bridging using BGP-eVPN (Asymmetric IRB)
- Task 8: Inter-VNI routing using L3 VNI and BGP-eVPN
- Task 9: VXLAN + VPC
- Task 10: Multicast (ASM/SSM)

APPLICATION CENTRIC INFRASTRUCTURE (ACI) MODULE

- Introduction to SDN
- Nexus 9K Hardware Revisit
- ACI Introduction
- ACI Leaf & Spine architecture
- APIC Controller
- Protocols in ACI
 - ISIS
 - MP-BGP
 - VXLAN
 - COOP
 - Opflex
 - LLDP
 - DHCP
- APIC Initialization & Cluster
- ACI Fabric Discovery
- ACI Dashboard Overview
- Terminologies in ACI
 - Tenant
 - VRF & BD
 - Application Profile & EPG
 - Contracts & Filters
- ACI Policy Construct
- 3 Tier Architecture in ACI
- ACI packet forwarding
- Bare Metal in ACI
- VMM integration
- L2 Out
- VPC in ACI
- L3 out in ACI
- Transit Routing in ACI
- L4-L7 Integration in ACI
- Inter-Tenant Communication in ACI
- Micro segmentation in ACI
- Introduction to Multi Pod & Multi Site in ACI

ACI LABS

- Task 1: ACI Fabric Initialization
- Task 2: Configuring VLAN Pools
- Task 3: Configuring Physical and External Domains
- Task 4: Configuring Interface policies for Leafs and Spines
 - Link Level Policy
 - CDP Interface
 - LLDP Interface
 - Port-Channel Policy
- Task 5: Creating Interface Policy Group
 - Leaf Access Port
 - PC Interface

Contact US

+91 80 42019151

training@netmetric-solutions.com

- VPC Interface
- Task 6: Configuring Interface Profiles
 - Leaf Profile
 - FEX Profile
- Task 7: Creating Switch Profile
- Task 8: Bare-Metal Host Communication
 - End points in the same EPG under the same Application Profile.
- Task 9: VMM Integration
- Task 10: Intra-Tenant Communication
- Task 11: Inter-Tenant Communication
- Task 12: ASAv Integration in Transparent Mode
- Task 13: ASAv Integration in Routed Mode
- Task 14: L3Out OSPF Communication
- Task 15: L3Out BGP Communication
- Task 16: L2 Extension using OTV
- Task 17: Configuring OOB Contracts for Fabric Management
- Task 18: Configuring ACI fabric as DHCP Relay Agent
- Task 19: Configuring Monitoring Sessions in ACI
- Task 20: Configure ACI for Transit-Routing
- Task 21: Configuring Loop-prevention Mechanism, BPDU Guard, End-Point Movement, End-point Retention Policy, IP Aging Policy/GARP
- Task 22: Configuring Security Policies in ACI.
 - AAA
 - LDAP
 - RADIUS

STORAGE & UNIFIED COMPUTING SYSTEM (UCS)

Storage

- Introduction to Storage
- Topologies in Storage
 - DAS
 - NAS
 - SAN
- JBOD, RAID
- Introduction to Storage Protocols
 - iSCSI
 - FC
 - FCoE
- What is FC?
- Addressing schemes in FC
- Fabric Services
 - FLOGI
 - PLOGI
 - PRLI
 - PRLO
- NPV, NPIV, Zoning
- What is FCoE?
- How FCoE is a lossless protocol?
 - PFC (Priority Flow Control)
 - ETS (Enhanced Transmission Selection)
 - DCBx (Data Center Bridging Exchange)
- Types of MAC addresses for a CNA.

Contact US

+91 80 42019151

training@netmetric-solutions.com

- FCoE Initialization Protocol (FIP)
- Configuring FCoE

UCS

- What is UCS?
- Benefits
- Components
 - Fabric Interconnect
 - Clustering
 - Hardware models
 - Types of ports
 - Modes of FI
 - Chassis
 - Hardware model
 - SEEPROM
 - IOM (Input/output Module)
 - Hardware models
 - Components of IOM
 - VIC (Virtual Interface Card)
 - Hardware models
 - Pinning
- Introduction to GUI
- Configuring interfaces on FI
- Aggregating Server ports into a port-channel
- Creating Port-channel
- Creating VLANs and allowing them through PCs.
- Creating MAC & IP Pool
- Creating vNIC Templates
- Creating LACP, LAN Connectivity, Network Control, Storage Disk Group Policies
- Creating Storage Profile
- Creating WWNN & WWPN Pool
- Creating VSANs
- Creating FC / FCoE Port-channels
- Creating vHBA Templates
- Creating SAN Connectivity Policy
- Configuring NTP on UCSM
- Creating UUID Pool
- Creating Scrub, Maintenance, KVM, Local Disk & Boot Policies
- Configuring zoning on N5K.
- Configuring FCoE on N5K.
- Creating a Service Profile Template
- Creating a Service Profile from the template.
- Associating Service Profile with server.
- Boot from SAN Lab Demonstration

UCS LABS

- Task 1: Discovering compute devices and chassis
- Task 2: Understanding and configuring UCS Infrastructure Connectivity
- Task 3: Configuring UCS Global Policies
- Task 4: Configuring VLANs and VSANs
- Task 5: Configuring Resource Pools in UCS
- Task 6: Converting Interfaces on FI
- Task 7: Configuring Uplink Port-channels
- Task 8: Creating VLAN-GROUPs
- Task 9: Configuring NTP on UCS
- Task 10: Creating Policies

- Network Control Policy*
- Local-Disk Configuration Policy*
- LACP Policy*
- Storage Profile*
- Storage Policy*
- Multicast Policy*
- vNIC Template*
- LAN Connectivity Policy*
- QoS Policy*
- vHBA Template*
- SAN Connectivity Policy*
- vMedia Policy*

- Task 11: Converting Interfaces to FC on 5K
- Task 12: Configuring VSANs and Zone Distributions
- Task 13: Configuring FCoE on 5K
- Task 14: Checking FLOGI Database
- Task 15: Creating Boot Policies
- Task 16: Creating Service Profile Template
- Task 17: Creating Service Profile
- Task 18: Configure Boot from SAN
- Task 19: Configuring Appliance VLANs
- Task 20: Creating Overlay vNIC and Booting using SAN

DATA CENTER AUTOMATION & ORCHESTRATION

Data Center Automation and Orchestration

- Data center tasks using scripts (Python and Ansible)
- Create, Read, Update, Delete using RESTful APIs
- Deploy and modify configurations
- Statistics, Data Collection

Data Center Automation and Orchestration using tools

- DCNM
- UCSD
 - Tasks
 - Workflows
 - Catalog

Contact US

+91 80 42019151

training@netmetric-solutions.com

- Intersight
- CloudCenter Suite
 - Applications
 - Deployments
 - Action Orchest

NETMETRIC SOLUTIONS

NETMETRIC SOLUTIONS

NETMETRIC SOLUTIONS

Contact US

+91 80 42019151

training@netmetric-solutions.com