StringzNet

Cisco Data Center v3.0

'COURSE CONTENT'

CISCO CERTIFIED CCIE DATA CENTER

StringzNet Solutions

Bangalore (INDIA)

(+91) 9999-828-928

www.stringznet.com

email@stringznet.com

StringzNet Solutions

DATA CENTER VERSION 3.0 – COURSE CONTENT

Module 1) Nexus

- Nexus Hardware
    - Cisco Nexus Switch Architecture for: Nexus 9000/ 7000/ 7700/5000/ 2000
    - Nexus hardware: Chassis, Supervisor Engines, Fabric Modules, Line Cards
- Nexus Software
    - NX-OS Origins & Overview
    - NX-OS vs. IOS
    - NX-OS Modular Architecture
    - High-Availability Features & Capabilities
    - Command Line Interface
    - Operational & Management Features
    - Licensing & Lifecycle
- Virtual Device Context (VDC)
    - What are VDCs?
    - VDC Types
    - Resource Allocation
    - Interface Allocation
    - VDC Operation and Management
- Virtual Port Channel (vPC)
    - Evolution of vPC
    - Why vPC
    - vPC Terminologies
    - vPC Deep Dive
    - vPC & Load Balancing
    - vPC Failure/Failover Scenarios
    - vPC Configuration Optimization Best Practices

Labs:

- Single Sided vPC
- Double Sided vPC
- Enhanced vPC

StringzNet Solutions
Bangalore (INDIA)
(+91) 9999-828-928
www.stringznet.com
email@stringznet.com

- Multicast
    - Why Multicast
    - Multicast Types
    - Multicast Protocols
    - PIM Overview
    - PIM Deployment Modes
    - PIM ASM – Building the Distribution Tree
    - PIM SSM – Building the Distribution Tree
    - PIM-Bi-Directional Shared Tree
    - Phantom Rendezvous Point
    - Any cast Rendezvous Point

- Virtual Extensible Local Area Network (VXLAN)
    - VXLAN Topology
    - Underlay vs Overlay
    - Understanding Overlay based Data Centre
    - VXLAN – What & Evolution
    - VXLAN Terminologies
    - VXLAN Deployment Modes
    - MP-BGP EVPN Control Plane & Distribution of Host Reachability

Lab:

- VXLAN-MPBGP EVPN

Module 2) ACI

- What is ACI
- Why ACI
- ACI Physical Topology
- ACI Building Blocks (Hardware)
- What is APIC
- APIC Protocol
- APIC Maintenance
- Fabric Discovery
- ACI Control Plane Protocols
- ACI Multi-Pod
- ACI Multi-Site
- ACI Micro-Segmentation

Labs:

- Fabric Discovery
- BMH (Bare Metal Host)

StringzNet Solutions
Bangalore (INDIA)
(+91) 9999-828-928
www.stringznet.com
email@stringznet.com

- VMM Integration
- ASAv – Routed Mode
- ASAv – Transparent Mode
- Virtual Port-Channel
- L3Out OSPF
- L3Out Transit Routing
- Inter-Tenant
- L3Out BGP in Common Tenant
- DHCP Relay Agent in ACI
- L2Out – Extended EPG
- L2Out – Extended Bridge Domain
- ACI Multi-PoD
- ACI Multi-Site
- Micro-Segmentation

Module 3) Storage Area Networking

- What is Storage
- What is Storage Area Networking (SAN)
- Storage devices
- RAID
- Storage Techniques – DAS, NAS, SAN
- Essential Components of SAN
- Storage Protocols:
    - Fiber Channel
    - FCOE
    - iSCSI

Module 4) Unified Computing System

- What is UCS?
- Why UCS?
- UCS Components
    - UCS Chassis
    - Fabric Interconnect
    - Fabric Extender
    - UCS Blade Servers
    - Virtual Interface Cards
    - UCS Manager
- Understanding Fabric Interconnect Switching Types
- Use Cases – UCS Internal Components
- UCS Port Types

StringzNet Solutions
Bangalore (INDIA)
(+91) 9999-828-928
www.stringznet.com
email@stringznet.com

- Fabric Connectivity

Lab:

- Boot from SAN

  - Configuring various interfaces in FI
  - Configuring Port-Channel
  - Configuring and allowing VLANs on Port-Channels
  - Configuring Pools – MAC, IP, UUID, WWNN, WWPN and Mgmt.
  - Configuring vNIC templates
  - Configuring LAN Policy
  - Configuring vHBA
  - Configuring SAN Policy
  - Configuring Boot from SAN Policy
  - Configuring Zoning
  - Creating and Applying Service Profile

Module 5) Cisco HyperFlex

- Introducing Hyper convergence and Cisco HyperFlex
- Describing Cisco HyperFlex Hardware Components
- Installing and Expanding Standard ESXi Cisco HyperFlex

Lab:

- Cisco HyperFlex 4.0 Installation and Management

  - HyperFlex Setup Demo
  - HX Cluster Expansion
  - HX Cluster Installation
  - HX Cluster Replication and VM Migration and Failover
  - Operations with HyperFlex Connect
  - Cisco Workload Optimization Manager (CWOM)
  - Operation with HyperFlex Plugin for vSphere

Module 6) Network Automation

- Python – What & Why
- Using Python Interpreter
- Python Data Structure
- Python Operators
- Comments in Python
- Conditional Statements in Python
- Iterative Statements in Python

StringzNet Solutions
Bangalore (INDIA)
(+91) 9999-828-928
www.stringznet.com
email@stringznet.com