Cisco HyperFlex Implementation and Administration - HXICA

Cisco HyperFlex Implementation and Administration (HXICA) is a 3-day training program designed to provide understanding of how Cisco HyperFlex HX-Series combines compute, storage, and networking into an easy-to-use system that brings new levels of speed and efficiency to IT.

Prerequisites

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

- Familiarity with Cisco Data Center Storage Server/Compute and network Virtualization Infrastructure
- Familiarity withCisco UCS systems
- Basic understanding of Private/Public/Hybrid Cloud infrastructure
- Basic understanding of Data Center management and cloud automation tools.

Course Objectives

After completing this course, the learner will be able to meet these overall objectives:

- Understand the concept of Software Defined Storage in Hyperconvered Infrastructure
- Understand Performance advantages
- Learn about the competitive landscape
- Describe the key features of Cisco HyperFlex Systems
- Describe the Cisco HyperFlex Systems options and bundles
- Discuss the Cisco HyperFlex Systems solution competitive information
- Discuss the Cisco HyperFlex Systems Use Cases

Lesson 1: Introduction to Hyper-converged Infrastructure (HCI)

- Identify the components of a Hyper-converged Infrastructure (HCI)
- Understand the challenges that are being addresses by Hyper-converged Infrastructure
- Explain the benefits of an HCI solution
- Compare First Generation HCI solutions with Cisco HyperFlex

- Overview of the key components and physical topology of the Cisco HyperFlex with Application Centric Infrastructure (ACI) solution

Lesson 2: Cisco HyperFlex Systems Hardware and Software Architecture

- Present the New Features available with the Cisco HX Release 4x
- Understand the capabilities and functionality of the HyperFlex All-Flash server platform
- Overview of the Cisco HyperFlex HX Data Platform hardware components
- Discuss the Cisco HyperFlex system architecture
- Understand the advanced storage features and performance enhancements of the HyperFlex cluster
- Discuss the hardware functionality of the Hyperflex HX server nodes
- Review the management and connectivity details for various HyperFlex HX cluster deployments

Lesson 3: Cisco HyperFlex Systems Use Cases, Solutions and Performance

- Introduce the Cisco Validated Design (CVD) guides that are available for the HyperFlex HX Data Platform solution
- Describe the Cisco HyperFlex All-Flash Systems for Deploying Microsoft SQL Server Database validated design details
- Discuss the Cisco HyperFlex M5 All-Flash Hyperconverged System with up to 600 Citrix XenDesktop Users validated design details
- Identify and compare the performance advantages of the Cisco HyperFlex HCI solution with other vendors for Oracle OLTP, SQL Server and mixed workload operating environments

Lesson 4: HyperFlex Pre-installation Requirements

- Review software requirements for VMware ESXi
- Discuss the physical requirements for successful HX cluster
- Discuss the network requirements for HX Data Platform
- Learn about the port requirements for VMware ESXi and vCenter
- Learn to identify the HyperFlex external connections

Lesson 5: HyperFlex HX Data Platform Installation Best Practices

- Understand the requirements of the northbound switches that are connected to the HyperFlex cluster
- Overview of Cisco UCS the HyperFlex Data Installer utility

- Discuss the VMware vCenter host, licensing and networking parameters that support successful of the HX Data Platform

Lesson 6: Installing Cisco HyperFlex Systems Using the HX Installer

- Understand the benefits of the HX Data Platform automation function to streamline Cisco UCS and VMware vCenter configuration
- Learn about the HyperFlex factory pre-installed hardware and software options
- Overview of the steps required to install, deploy and launch the HX Data Platform Installer
- Discuss HyperFlex cluster creation validation using UCS Manager and VMware vSphere Client/Web Client

Lesson 7: At a glance, post-Install requirements for HX Data Platform

- At a glance, review the post installation capabilities of the HX Installer command line interface
- Review the post install script as a streamlined to perform cluster administrative functions such as Auto Support, email alerts and password changes
- Discuss the HX vSphere Plug-in and the HX Connect utility as two methods to create and manage HyperFlex cluster datastores
- Learn about the use of the HX vSphere Plug-in to create snapshots and ReadyClone VM clones

Lesson 8: HX Data Platform Upgrades

- Discuss creation and upgrade activities
- Describe the value to validate and correct network connectivity.
- Learn about virtual machines
- Overview of successful completion of HX cluster and node upgrades and provide corrective measures to complete

Lesson 9: Upgrading the HX Data Platform

- Overview of an upgrade and key features for HX Data Platform v4x
- Discuss the HX Data Platform upgrade guidelines and recommendations
- Discuss the Cisco HX Data Platform upgrade matrix including Cisco UCS manager and VMware ESXi
- Overview of upgrade validations, checks and pre-upgrade
- Discuss the value to upgrade the Cisco UCS Infrastructure using UCS Manager

- Describe the value and features to upgrade the HX Data Platform, Cisco UCS Server and VMware ESXi using the HX Connect utility

Lesson 10: HyperFlex Stretched Cluster Overview

- Learn about the HyperFlex Stretched Cluster architecture
- Overview of VM installation image file within vCenter
- Discuss the process to create the Stretched Cluster Sites

Lesson 11: HX Data Platform for the Hyper-V Environment

- Discuss the hardware, software network services and port requirements that support the installation of the HX Data Platform for the Hyper-V environment
- Overview of the guidelines and limitations for creating the HyperFlex cluster
- Learn about the HX Data Installer, VM ,and Hyper-V server
- Discuss the HyperFlex cluster for Hyper-V using the HX Data Installer

White boarding, Demonstrations, Use Case and Design Thinking Exercises