

DCIHX

Implementing Cisco HyperFlex

32 horas

Data Center & Cloud

Cisco

INTRODUÇÃO

The Implementing Cisco HyperFlex (DCIHX) course shows you how to deploy and use the Cisco® HyperFlex™ data platform to support multicloud workloads. You will become familiar with HyperFlex components and learn how to install, design, manage, and troubleshoot Cisco HyperFlex to support highly scalable and resilient multicloud implementations. You will also gain hands-on experience focused on installation, management, maintenance, and native replication, and you will explore cluster technologies as well as Cisco Intersight.™

This class will help you use Cisco HyperFlex to:

- Enable multicloud IT with an adaptive platform that powers any application anywhere with the simplicity of hyperconverged infrastructure;
- Gain hands-on experience using Cisco HyperFlex.

OBJETIVO DO CURSO

After taking this course, you should be able to:

- Describe hyperconvergence, Cisco HyperFlex, and the components of Cisco HyperFlex;
- Explain the Cisco Unified Computing System™ (Cisco UCS®) and what makes it valuable to business;
- Describe how Cisco HyperFlex Data Platform (HXDP) and HX maintenance mode work;
- Describe the physical components of Cisco HyperFlex;
- Install and expand Regular vSphere Cisco HyperFlex;
- Manage your Cisco HyperFlex VMware ESXi-based cluster;
- Describe how to maintain Cisco HyperFlex;
- Design a Cisco HyperFlex solution and explain third-party data restore solutions;
- Protect the data on your Cisco HyperFlex cluster using replication and data at rest encryption;
- Describe a stretched cluster and how is it different from a standard cluster;
- Describe an Edge cluster and how is it different from a standard cluster;
- Describe a HyperV-based cluster and how is it different from an ESXi-based cluster;
- Design a multicloud datacenter with Cisco HyperFlex;
- Perform basic troubleshooting tasks and explain Cisco Intersight;
- Explain Cisco HyperFlex releases beyond 3.5(1a).

PÚBLICO-ALVO

Technical and professionals who implement, configure, support and manage data center environments using Cisco Hyperflex Solutions.

PRÉ-REQUISITOS

To fully benefit from this course, you should have the following knowledge:

- Knowledge about data center architecture and products technologies (network, compute, storage network);

Familiarity with VMware vCenter and ESXi;

Familiarity with Microsoft Server 2016 and Hyper-V.

Course Introduction

Course Outline

Course Goals & Objectives

Introducing Hyperconvergence and Cisco HyperFlex

Traditional Data Center Design

What Is Hyperconvergence?

What Is Cisco HyperFlex?

Cisco HyperFlex Primer

Evolution of Cisco HyperFlex

Describing Cisco UCS: The Foundation of Cisco HyperFlex

Cisco Server Deployment Models: Standalone Versus Managed

Cisco UCS Managed Model Benefits

Cisco UCS M5 Overview

Cisco UCS M5 Server Types

Cisco Virtual Interface Cards (VICs) and Their Benefits

Cisco UCS Fabric Interconnects

Cisco UCS Manager

Describing Cisco HyperFlex Software Components

Virtual Machine Hypervisor

Log-Structured File System

Cisco HyperFlex Snapshots Versus VMware Snapshots

Cisco HyperFlex Versus Regular Virtualized Server

Cisco HyperFlex Data Distribution

Writing and Reading Process

Data Optimization Overview

Cisco HyperFlex vs. Other Hyper-Converged Infrastructure (HCI) Solutions

Describing Cisco HyperFlex Hardware Components

HX UCS M4 and M5

Introducing Cisco HyperFlex Servers

Storage Technologies in Cisco HyperFlex

Storage Components of Cisco HyperFlex Converged Nodes

Non-Storage Components of Cisco HyperFlex Converged Nodes

Cisco UCS Fabric Interconnects3

Compute-Only Nodes

Installing and Expanding Standard ESXi Cisco HyperFlex

Installation Summary

Software Prerequisites

Hardware Prerequisites

Cisco HyperFlex Networking

Required Deployment Information

Installing Physical Components

Configure Upstream Switches

Prepare Fabric Interconnects

Deploy the Installer Virtual Machine (VM)

- HyperFlex Installation
- Post-Installation Script
- Cluster Expansion
- Additional Installation Options

Managing Cisco HyperFlex in vSphere Environment

- Management Interfaces Overview
- Cisco HyperFlex Plugin for vCenter
- Cisco HyperFlex Connect
- Storage Command Line Interface
- Representational State Transfer (REST) API Overview
- ReadyClones
- Cisco HyperFlex Snapshots

Maintaining Cisco HyperFlex

- Cisco HyperFlex Upgrade Overview
- Cisco HyperFlex Online Upgrade
- Cisco HyperFlex Offline Upgrade
- HX Maintenance Mode
- ESXi Upgrade
- Moving Cisco Hyperflex Storage Cluster to Another vCenter

Designing Cisco HyperFlex

- Cluster Resiliency: VM-Level
- Cluster Resiliency: HXDP-Level
- Cisco HyperFlex Cluster Scalability
- Cluster Capacity
- Multiple Clusters on One Cisco UCS Domain
- Cisco HyperFlex and External Storages
- Licensing Tiers
- Smart Licensing
- Cisco HyperFlex Positioning
- Graphical Processing Units and Cisco HyperFlex

Protecting Your Data

- Disaster Recovery Overview
- Third-Party Data Restore Solutions
- Cisco HyperFlex Native Replication Solution
- Configuring Native Replication
- Protecting Your VMs with Native Replication
- Restoring Your VMs with Native Replication
- Data at Rest Encryption
- D@RE: Remote Key Management

Introducing Stretched Cluster

- Stretched Cluster Overview
- Prerequisites
- Data Distribution
- Datastores and VM Affinity
- Installation Process

Maintenance and Monitoring

Introducing EDGE Cluster

Cisco HyperFlex EDGE Cluster Overview

Prerequisites and Recommendations

Installation Process

Management and Monitoring

Upgrades and Maintenance

Introducing HyperV-Based Standard Cluster

HyperV-Based Standard Cluster Overview

Prerequisites and Recommendations

Preinstallation Tasks

Installation Process

Post-Installation Process

Maintenance and Monitoring

Designing Multicloud Data Center with Cisco HyperFlex

Cisco UCS Director Overview

Cisco CloudCenter Overview

Cisco Workload Optimization Manager (CWOM) Overview

Design your HyperFlex cluster to run Cisco Container Platform and Kubernetes

Cisco Intersight Overview

HyperFlex: Releases Beyond 4.0(1a)

Introducing Edge Cluster

Describe the Edge cluster and how is it different from a standard cluster

Cisco HyperFlex Edge Cluster Overview

Describe prerequisites and recommendations to deploy your HyperFlex Edge cluster

Deploy Cisco HyperFlex Edge

Manage your Cisco HyperFlex Edge cluster

Upgrade and maintain your Cisco HyperFlex Edge cluster

Troubleshooting Cisco HyperFlex

Troubleshoot any issue that arises on a HyperFlex cluster

Troubleshooting Guidelines

Troubleshoot deployment issues (install, upgrade, expansion)

Generating Tech Support Bundles

Describe how you would collect HyperFlex support bundles

Troubleshoot most common HyperFlex issues

Lab/Practical Outline

Discovery 1: Investigate Software Components of HyperFlex

Discover basic components of standard HyperFlex cluster

Task 1: Explore vCenter

Task 2: Explore HyperFlex Connect

Discovery 2: Investigate Cisco UCS Part of HyperFlex

Discover basic components of standard HyperFlex cluster as related to Cisco UCS

Task 1: Investigate a Server in Cisco UCS Manager

Task 2: Investigate a Fabric Interconnect

Task 3: Investigate a Server Service Profile

Task 4: Investigate a LAN Configuration

Task 5: Investigate an Upstream Switch Configuration

Discovery 3: Install Cisco HyperFlex

Install HyperFlex

Task 1: Get Acquainted with the Virtual Environment

Task 2: Prepare Preinstallation Information

Task 3: Perform Preinstallation Tests

Task 4: Install the Cisco HyperFlex Data Platform

Task 5: Perform Post-Installation Tasks

Task 6: Expand Cluster B

Task 7: Run Postinstall Script Again

Discovery 4: Manage Cisco HyperFlex

Manage a Cisco HyperFlex cluster

Task 1: Review the Status of Cisco HyperFlex Clusters in vCenter

Task 2: Manage Cisco Hyperflex Cluster Using vSphere Client

Task 3: Compare Cisco HyperFlex and vSphere Native Cloning and Snapshotting

Task 4: Manage Cisco Hyperflex Cluster Using HX Connect

Task 5: Connect the HyperFlex Cluster to a remote Syslog Server

Task 6: Explore the Storage Controller CLI

Task 7: Manage the Cisco Hyperflex Cluster Using the REST API

Discovery 5: Protect Your HyperFlex VMs

Protect virtual machines on your HyperFlex cluster using native replication protection mechanisms

Task 1: Configure Replication Network and Pair the Clusters

Task 2: Protect a VM from Cluster B on Cluster A

Task 3: Perform Test Recovery of a VM

Discovery 6: Investigate Stretched Cluster

Discover basic components of stretched HyperFlex cluster

Task 1: Investigate vCenter Configuration

Task 2: Investigate HX Connect Configuration

Task 3: Investigate Both Cisco UCS Managers

Discovery 7: Install and Manage Stretched Cluster

Install and manage stretch cluster

Task 1: Pre-Installation Tasks and Workflow Selection

Task 2: Configure Site A

Task 3: Configure Site B

Task 4: Install the Stretched Cluster

Task 5: Perform Post-Installation Tasks

Task 6: Explore Stretched Cluster Specifics

Discovery 8: Investigate Hyper-V Cluster

Discover basic components of HyperV-based HyperFlex cluster

Task 1: Investigate Cisco UCS Manager of the Hyper-V HyperFlex

Task 2: Investigate the Hyper-V HyperFlex Connect

Discovery 9: Investigate Cisco Intersight

Discover Cisco Intersight

Task 1: Discover Cisco Intersight

Task 2: Explore Administrator Level Features of Intersight

Discovery 10: Investigate HyperFlex Edge

Discover basic components of Edge HyperFlex cluster

Task 1: Investigate vCenter Configuration

Task 2: Investigate Cisco IMC Configuration

Task 3: Investigate the HyperFlex Connect of an Edge Cluster