Document Generated: 11/05/2026

Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Advanced

Course Duration: 5 Days

Administering Cisco UCS X-Series Solutions with Intersight (INTUCSX)



About This Course:

This training focuses on Cisco Intersight, covering both on-premises and Software as a Service (SaaS) models. Participants will gain the ability to understand, describe, and configure Intersight Advanced features like IST, ICO, and IWOM. Additionally, the course includes comprehensive coverage of IMM and UMM modes for UCS, along with understanding, describing, and configuring Cisco X-Series

components such as FI, IFM, X210c Server, and Adv Fabric Module. Participants will learn to create Intersight Pools, Policies, and Management for X-Series, and acquire the skills to design and operate Cisco UCS with Intersight Managed Mode Solutions.

Course Objectives:

- Understand, describe, and configure Cisco Intersight (on prem and SaaS models)
- Understand, describe, and configure Intersight Advanced features (IST, ICO, IWOM)
- Understand, describe, and configure IMM and UMM mode for UCS
- Understand, describe, and configure Cisco X-Series (FI, IFM, X210c Server, Adv Fabric Module)
- Create Intersight Pools, Policies, and Management for X-Series
- Design and operate Cisco UCS with Intersight Managed Mode Solutions

Audience:

The primary audience for this course is as follows:

- Server Administrators
- Systems Engineers
- Storage Administrators
- Technical Solutions Architects
- Integrators and Partners
- Consulting Systems Engineers
- Network Administrators
- Network Engineers
- Network Managers
- Architects

Prerequisites:

None

Course Outline:

Section 1: Intersight Foundations

- Intersight Architecture
- Flexible Deployment Models
- Cisco Intersight Infrastructure Service Licensing
    - Intersight Essentials License Tier
    - Intersight Advantage License Tier
    - Intersight Premier License Tier

Section 2: Monitoring and Maintaining UCS Infrastructure with Intersight

- Device Health and Monitoring
- Standalone Management for UCS C-Series Servers
- Server Compatibility (HCL), Advisories (CVEs), and Contract Status
- Firmware Upgrades

Section 3: Designing & Operationalizing Cisco UCS Solutions with Intersight

- Implementing Cisco Hyperflex with Intersight
- Managing Cisco HyperFlex in vSphere Environment

Section 4: Cisco UCS M5, M6, X Overview and Configuration

- Cisco UCS X-Series with Intersight Deployment
    - Architecture
    - X-Series Fabric Interconnects
    - Compute X-Series
- Power/Cooling Efficiency
    - Cooling Capacity
    - Airflow
    - Thermal Policies
    - Future-Proof Cooling
    - Power Policies
- Compute Series
    - Architecture – C220 M6
    - Architecture – C240 M6
    - Cisco VIC Offerings for M6
    - GPU Offerings for X-Series
    - Management Options for C220 / C240 M6 Rack Servers
- UCS 7th Generation Intel Rack Servers
    - Architecture – C220 M7
    - Architecture – C240 M7
- Intel 4th Gen Intel® Xeon® SP Sapphire Rapids High Level Features
- M7 Memory DIMMs
    - Architecture – C225 M6
    - Architecture – C245 M6

Section 5: Designing Cisco UCS LAN and SAN Connectivity

- LAN Connectivity Overview Gen 4
    - End Host Mode
    - Requirements for Configuring VLANs in Cisco UCS Manager
    - Role of the vNIC in Abstracting MAC Addresses
- Configuring Compute Node SAN Connectivity
- Fibre Channel Switching
    - Fibre Channel Operating Modes
    - EHM and N-Port Virtualization
- Configuring VSANs in Cisco UCS Manager
    - Creating VSANs and FCoE VLANs in Cisco UCS
    - Role of vHBAs when Abstracting WWNNs and WWPNs into a Service Profile

    - Configuring Manual Uplink Pinning and Recovery from Failure

Section 6: Configuring Cisco UCS-X in IMM Mode

- IMM and Domain Profiles
- Domain Policy Concepts and Usage
- Cisco Intersight Server Profiles
    - Creating and Deploying a UCS C-Series Server Profile – Process Overview
    - Importing a Server Profile – Process Overview
    - Upgrading Firmware
- Cisco IMM Transition Tool
- Thermal Policies
- Power Policies

Section 7: Implementing Cisco UCS-X Firmware Updates

- Intersight Platform Firmware Operations Overview
- Intersight Firmware Bundles
- Cisco Stand-Alone Firmware Management
- Cisco HX Firmware Management
- UCS Managed Infrastructure Firmware Management
- UCS Intersight Managed Mode Firmware Management
- Hardware Compatibility List

Section 8: Intersight Workload Optimizer (IWO)

- Intersight Workload Optimizer Overview
- IWO Delivery and Tiers
- Workload Optimizer – What’s New?
- IWO Value Proposition
    - Application Resource Management
    - IWO Market

Section 9: Intersight Cloud Orchestrator (ICO)

- Sample Scenario
- Workflow Designer
- Validate and Execute a Workflow
- ICO – Intersight Cloud Orchestrator
- Infrastructure Orchestration
- Infrastructure as Code with ICO
- Immutability with Intersight Cloud Orchestrator
- Workflow Versions
- Rollback Tasks (Task Designer)

Section 10: Intersight API Overview

- Intersight API Resources
- SDKs / Ansible Modules

- Use Case

Appendix 1: Intersight Kubernetes Services (IKS) and Intersight Workload Engine (IWE)

- IKS Overview
- IKS Policies
- Kubernetes Cluster Profile
- IKS Dashboard
- Container Technologies
- Intersight Integration with HashiCorp Terraform Cloud

Appendix 2: Intersight Services for Terraform (IST)

- Terraform OSS Challenges
- Application & Infrastructure Deployment and Delivery
- Benefits
- Target Workflow
- Deployment
    - Step 1: Deploy an Intersight Assist
    - Step 2: Add Terraform Cloud Target to Intersight
    - Step 3: Deploy Terraform Cloud Agents to Intersight Assist

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Lab Outline:

Labs are designed to assure learners a whole practical experience, through the following practical activities.

- Lab 0: Before You Begin
- Lab 1: Start the Lab
- Lab 2: Dashboard Overview
- Lab 3: Overview
- Lab 4: Operate
- Lab 5: Create Pools and Policies
- Lab 6: Create a Server Profile Template
- Lab 7: Server Firmware Update
- Lab 8: Boot ESXi and Configure
- Lab 9: Cisco Intersight Workload Optimizer

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