

# CLDFND (UNDERSTANDING CISCO CLOUD FUNDAMENTALS)

## Objetivo

CLDFND é um curso de cinco dias para Engenheiros de Operações Em Nuvem (Cloud Operations Engineers), Administradores Técnicos em Nuvem (Cloud Technical Administrators), Arquitetos de Infraestrutura em Nuvem (Cloud Infrastructure Architects), e Cisco integradores e parceiros, que realizam atividades em operação e suporte de produtos Cisco para soluções em nuvem (Cloud). Esse curso proporciona os conhecimentos, habilidades e atitudes (KSA) para realizar atividades básicas relacionadas a computação em nuvem (Cloud Computing), e para a preparação para a Certificação CCNA Cloud a nível associado (CCNA Cloud Associate). Após concluir o treinamento o aluno estará apto a: Realizar com êxito o o exame de certificação 210-451 CLDFND (CCNA Cloud); Descrever as características de soluções Cloud Computing (privadas, publicas e híbridas); Descrever os modelos dos serviços Cloud; Comparar os modelos de implantação Cloud; Descrever as principais características de UCS; Definir virtualização de servidores; Descrever as arquiteturas de rede para Data Center; Descrever Cisco ACI; Descrever a virtualização de infra-estrutura; Definir os serviços em virtualização de redes; Descrever os conceitos básicos de armazenamento SAN; Definir os conceitos básicos de armazenamento NAS; Comparar as diferenças entre as tecnologias para acesso em armazenamento; Identificar os dispositivos de armazenamento; Descrever as arquiteturas de referência para infraestrutura convergente

## Público Alvo

O público inclui os profissionais que trabalham em soluções em nuvem, como arquitetos, engenheiros, técnicos, operadores utilizando produtos e soluções Cisco para Nuvem. Profissionais que estejam se preparando para realizar o exame de certificação Cisco CCNA Cloud (Exame 210-451).

## Pré-Requisitos

Os conhecimentos necessários para um excelente aproveitamento deste curso são: conhecimentos fundamentais em redes, em redes de armazenamento (FC, FCoE e VSAN) e computação (servidores e sistemas operacionais).

## Carga Horária

40 horas (5 dias).

## Conteúdo Programático

- Course Introduction
- Overview
- Course Goal and Objectives
- Course Flow
- Additional References

## Introduction to Cloud Computing

Introducing Cloud Computing Basic Concepts

Describing Cloud Computing

Describing Cisco Cloud Computing Evolution

Explaining Business Needs for Cloud Computing

Describing Cloud Computing Characteristics

Describing Cloud Service Models

Describing "as a Service" Models of Cloud Computing

Explaining IaaS

Explaining PaaS

Explaining SaaS

Explaining XaaS

Comparing Cloud Deployment Models

Identifying the Cloud Deployment Models

Describing the Characteristics of Private Cloud Deployment

Describing Public Cloud Deployment

Describing Community Cloud Deployment

Describing the Hybrid Cloud Deployment

Exploring the Cisco Intercloud Solution

Describing Hybrid Cloud Challenges

Describing the Cisco Intercloud Hybrid Cloud Solution

Describing the Cisco Intercloud Fabric Architectural Overview

Describing Cisco Intercloud Fabric Core Services

Describing the Cisco Intercloud Fabric for Business

Describing the Cisco Intercloud Fabric Director Features

Describing the Cisco Intercloud Fabric for Providers

Describing the Intercloud Fabric Deployment Models

## Cloud Networking

Describing Cisco Data Center Network Architecture

Describing Traditional Isolated LAN and SAN Networks

Identifying Cisco Unified Fabric Fundamentals

Describing Cisco Nexus Family of Products

Evaluating VDC on the Cisco Nexus 7000 Series Switch

Exploring Virtual Networking

Describing the Traditional Network Access Layer

Describing the VM Network Access Layer

Explaining Standard vSwitches  
Explaining Distributed Virtual Switches

Identifying Cisco Nexus 1000V Series Switches  
Describing Standard vSwitch Challenges  
Describing Cisco Nexus 1000V Components  
Explaining Cisco Nexus 1000V Benefits  
Explaining High Availability in the Cisco Nexus 1000V Series  
Describing the Integration of Cisco Nexus 1000V Series  
Explaining Cisco VSUM

Define and Analyze Cisco Virtual Networking Service Appliances  
Describing Virtual Networking Service Appliances  
Describing Cisco Prime Network Services Controller in the Data Center Virtual Infrastructure  
Describing VSG in the Data Center Virtual Infrastructure  
Describing Cisco CSR Virtual Router in the Data Center Virtual Infrastructure  
Describing Cisco ASA v Cloud Firewall  
Describing Cisco vWAAS in the Data Center Virtual Infrastructure  
Describing Citrix NetScaler 1000V

Define and Analyze Software Defined Network Fundamentals  
Describing SDN Basic Principles  
Describing SDN Separation of Control and Data  
Describing SDN Programmability  
Describing Cisco ONE Architecture  
Describing VLAN and VXLAN Differences  
Describing NVGRE

Describing the Cisco ACI Solution  
Addressing the Changing Landscape  
Describing the Application-Centric Approach to Managing Your Infrastructure  
Describing Problems That SDN Misses  
Describing the Benefits of Leaf and Spine Architecture  
Describing the Role of the APIC Controller

## Cloud Storage

Comparing Storage  
Describing Block Storage and File-Based Storage Characteristics  
Describing the SCSI Overview  
Describing the Fibre Channel Protocol Overview  
Describing the FCoE Protocol Transporting Options  
Describing the iSCSI Protocol Overview

- Identifying Network-Attached Storage Protocols
- Identifying Storage Thick and Thin Provisioning Methods
- Describing Object Storage Principles

- Describing Fibre Channel Storage Networking Concepts
- Describing the Fibre Channel SAN Topologies
- Identifying Cisco SAN Switches
- Describing the Different Types of Fibre Channel Ports
- Describing the Fibre Channel Addressing
- Describing the FLOGI and the FCNS Processes
- Describing How VSANs Create Multiple Logical SANs
- Describing the Purpose and Use of Zoning and LUN Masking

- Exploring NAS Storage Basic Concepts
- Describing the NAS Topologies
- Describing NAS Shares and Mount Points
- Describing the Different NFS Features and Functions
- Describing the NAS Permissions

- Identifying Cisco MDS and UCS Invicta Products
- Describing the Cisco MDS Products Portfolio
- Explaining the Cisco MDS 9250i Multiservice Modular Switch Capabilities
- Describing the Cisco UCS Invicta Series

## Cloud Compute

- Describing Cisco UCS C-Series Product Family
- Describing Cisco UCS C-Series Products and Benefits
- Describing Cisco UCS C-Series Rack Servers
- Describing Cisco UCS C-Series Network Adapter Card Features
- Describing Cisco UCS C-Series Comprehensive Server Management

- Identifying Cisco UCS B-Series Product Family
- Describing Cisco UCS B-Series Products
- Describing Cisco UCS 5100 Series Blade Server Chassis
- Describing Cisco UCS B-Series Servers
- Describing Cisco UCS Fabric Extender
- Describing Cisco UCS 6200 Series Fabric Interconnect
- Describing Cisco UCS B-Series Network Adapters Features
- Describing Cisco UCS High Availability Features
- Describing Cisco UCS B-Series Connectivity Topology

- Explaining Cisco UCS Blade Provisioning
- Explaining Cisco UCS Service Profiles
- Reviewing Service Profile Policies
- Describing Resource Pools
- Describing Virtual LAN and SAN Adapters

- Reviewing Service Profile Templates
- Describing Cisco UCS Manager
- Describing Cisco UCS Central

- Defining Server Virtualization
- Windows and Linux Operating System Functions
- Traditional Server Deployments
- Server Virtualization
- Describing Hypervisor Responsibilities
- Describing VMware vSphere Virtualization
- Describing Microsoft Hyper-V Virtualization
- Describing Citrix XenServer Virtualization
- Describing KVM Virtualization

- Cloud Automation and Reference Architectures

- Exploring Reference Architecture for Converged Infrastructure
- Describing the Components and Benefits of Reference Architectures
- Describing FlexPod Components and Benefits
- Describing VCE Components and Benefits
- Describing VSPEX Components and Benefits
- Describing HDS UCP Select Components and Benefits

- Describing Cloud Automation, Provisioning, and Management Platforms
- Describing Cloud Computing Operations and Management Challenges
- Describing Cloud Computing Automation and Management Solutions
- Describing the Cisco UCS Director Infrastructure Management and Orchestrate Features
- Describing Cisco Prime Service Catalog
- Describing the Open Stack Cloud Infrastructure Solution

- Labs

- Lab 1: Examine Cisco Intercloud Fabric Director
- Lab 2: Validate VSAN and Zoning
- Lab 3: Validate FLOGI and FCNS
- Lab 4: Explore the Cisco UCS Manager GUI
- Lab 5: Review Cisco UCS B-Series Configuration
- Lab 6: Deploying VMware ESXi Server on Cisco UCS Blade
- Lab 7: Connecting ESXi Server to FC LUN on the Cisco UCS Invicta Storage
- Lab 8: Deploying the Cisco Nexus 1000V Switch with VSUM
- Lab 9: Examine the Cisco Prime Network Services Controller
- Lab 10: Deploying Cisco Virtual Security Gateway
- Lab 11: Deploying Cisco ASA 1000V