

# ENSDBI (IMPLEMENTING CISCO ENTERPRISE SD-BRANCH)

## 1.0

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### Objetivo

This course will help students understand Cisco SD-Branch Architecture and ENFV solution, provide an understanding of Cisco ENCS platform, Cisco Enterprise NFVIS, and Cisco vManage. This course will provide an opportunity to have hands-on experience with Cisco NFVIS and vManage by deploying and managing the VNFs. Upon completing this course, students will be able to meet these objectives:

- Describe the Cisco SD-Branch solution and its architecture;
- Understand the hardware components of the Cisco ENCS 5400 and the Cisco Catalyst 8200 Series EdgeCPE;
- Install and access the Cisco Enterprise NFVIS on Cisco ENCS 5400;
- Understand the VNF Lifecycle management and its deployment;
- Understand the Cisco Enterprise NFVIS Security considerations;
- Understand the Cisco SD-WAN solution and its components;
- Describe the Cisco ENCS orchestration systems and REST APIs;
- Deploy the Cisco ENCS using orchestrators;
- Monitor and troubleshoot Cisco ENFV components using Cisco vManage.

### Público Alvo

Enterprise Network System Installers  
System Integrators  
System Administrators  
Network Administrators  
Solutions Designers

### Pré-Requisitos

The knowledge and skills that students are expected to have before attending this course are:

- Strong understanding of routing protocol operation, including both interior and exterior routing protocol operation;
- Familiarity with Transport Layer Security (TLS) and IP Security (IPsec);
- Basic understanding of Hypervisor and Virtualization.

### Carga Horária

16 horas (2 dias).

### Conteúdo Programático

#### Course Introduction

- Overview
- Course Goal and Objectives
- Course Flow
- Your Training Curriculum

#### Introducing Cisco SD-Branch Architecture and Cisco ENFV Solution

Describe the Cisco SD-Branch solution, Cisco ENFV solution, the Cisco ENCS, and the Cisco Enterprise NFVIS

Describe the need for a Cisco SD-Branch solution  
Describe Cisco SD-Branch solution, its architecture, and benefits  
Describe the ENFV solution and its components  
Describe the infrastructure software NFVIS and list its benefits  
Describe Cisco ENCS hardware platform devices and Cisco NFVIS Supported Virtual Machines  
Explain the key tasks that can be performed by Cisco Enterprise NFVIS

### **Preparing Cisco ENCS Device for Deployment**

Describe the hardware components of the Cisco ENCS 5400 and the Cisco Catalyst 8200 Series Edge uCPE.  
Install and access the Cisco Enterprise NFVIS on the Cisco ENCS 5400. Upgrade the Cisco Enterprise NFVIS and the Cisco ENCS firmware versions  
Understand Cisco ENCS 5400 hardware and its components  
Describe the Cisco Catalyst 8200 Series Edge uCPE devices and their key components  
Install NFVIS on Cisco ENCS hardware device through CIMC and USB  
Upgrade Cisco Enterprise NFVIS and Cisco ENCS firmware versions

### **Deploying VNFs on Cisco ENCS**

Understand the VNF Lifecycle management and its deployment. Understand the Cisco Enterprise NFVIS Security considerations  
Explain VNF and its requirements  
Understand the Lifecycle management of virtual network functions  
Understand the security best practices for enforcing the core elements of network security  
Explain VNF packaging  
Understand VM deployment scenarios  
Understand networking using NFVIS

### **Working with Cisco ENCS Orchestration**

Understand the Cisco SD-WAN solution and components, the Cisco Network Plug and Play (PnP), Cisco ENCS orchestration systems and REST APIs and deploying the ENCS using different orchestrators  
Understand the details of the Cisco SD-WAN solution and its different components  
Understand Plug and Play for Cisco SD-Branch Solution  
Describe Cisco ENCS supported orchestration systems and APIs  
Overview of Cisco SD-WAN Network Design

### **Monitoring and Managing Cisco ENFV Components**

Understand how to use the Cisco vManage to monitor and manage the overall health of the Cisco SD-WAN overlay network. Troubleshoot the Cisco ENFV  
Monitor and Manage Cisco ENFV Components Using Cisco vManage  
Troubleshoot Cisco ENFV Components Using Cisco vManage

### **Labs**

#### **Discovery 1: Explore Cisco ENCS and Cisco Enterprise NFVIS Portal**

Task 1: Access the Cisco Enterprise NFVIS Portal and Check the Summary of Activities on the Devices Using the Cisco Enterprise NFVIS Dashboard  
Task 2: Explore the VM Life Cycle Management and Notifications Tabs  
Task 3: Check the Cisco Enterprise NFVIS Details via the CLI

#### **Discovery 2: Deploy Cisco VMs and VNFs**

Task 1: Access the Cisco Enterprise NFVIS Portal, Configure, and Deploy Cisco ISRV

Task 2: Configure and Deploy Cisco ASAv and Validate the Image

Task 3: Create and Validate the Network Connectivity as Per the Topology

**Discovery 3: Deploy Orchestration using Cisco vManage**

Task 1: Access the Cisco vManage GUI and Upload the Images for Cisco ISRV and ASAv

Task 2: Setting Up the Required Configuration Using the Bootstrap Configuration

Task 3: Attach a Device Template to Build Configuration

**Discovery 4: Monitor and Troubleshoot Cisco ENCS Device**

Task 1: Explore vManage.

Task 2: Access the NFVIS GUI and Perform Monitoring and Troubleshooting.

Task 3: Access the vManage GUI/ CLI and Perform Monitoring and Troubleshooting.