

Course Outline

Cisco ENCS Hands-on Lab Course ENCS: 2 days Instructor Led

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About this course

This Cisco ENCS Hands-on Lab (ENCS) is a 2-day course where students will learn about the role and use of Cisco ENCS Appliances. We will also deep dive into the ENCS Architecture of the 5100 and 5400 series, as well as Network Function Virtualization and their deployment.

At course completion

After completing this course, students will be able to:

- Understand the role and use of Cisco ENCS Appliances
- Deep Dive into the ENCS Architecture – 5100 and 5400 series
- Network Function Virtualization
- NVFIS on ENCS – Deploying NFVs
- ENCS Internal and External Networking – ISRV and SR-IOV
- Orchestrating the ENCS from the Cisco DNA-Center and Cisco NSO

Course Outline

Module 1 (Day 1): Introduction to ENCS Architecture

- Role and need of the Cisco ENCS Appliance
- Cisco ENCS Architecture Deep Dive
 - Cisco ENCS 5100
 - Cisco ENCS 5400
 - Network Function Virtualization Infrastructure
 - Inside the Cisco ENCS 5400 Hardware
- Managing the Cisco 5400 Appliance – Leveraging the Cisco IMC
- Introduction to Virtual Network Functions

Module 2 (Day 1): Cisco ENCS 5400 Networking

- Cisco ENCS 5400 Internal Networking
 - Understanding the X86 Architecture
 - Inbuilt Hardware switch ports with PoE
 - Working of the ENCS Internal Virtual Switch
 - Understanding the SR-IOV on the ENCS 5400
- Cisco ENCS Networks and Bridges
 - LAN Bridge Configuration
 - WAN Bridge Configuration

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- Creating Internal Networks
- Cisco ENCS Default Network Configuration
- Connecting the ENCS to the LAN and WAN Networks
- Understanding ENCS OOB Management

Module 3 (Day 1): Deploying VNFs on the Cisco ENCS

- Understanding the VNF Lifecycle on the ENCS
- Virtual Network Function Requirements
- Creating NFVIS VM Packages
 - Bootstrap Packaging Options
 - Generating the Package file from the CLI and the GUI
- Perform VM image registration and deployment
- Create custom flavors—a flavor is the customized profile of the VM image
- Deploying Cisco and 3rd Party VNFs
 - Connecting the VNF to the Internal Networks
 - Accessing the VNF from the External network

Module 4 (Day 2): Deploying the Cisco ENCS using an Orchestrator

- Deep Dive into the Cisco ISRv – Preinstalled on the Cisco ENCS
- Overview of the Cisco DNA-Center and Cisco NSO
- Overview of the Cisco SD-WAN solution
- Deploying the Cisco ENCS using the Plug and Play – Zero Touch Provisioning

Module 5 (Day 2): Deploying the Cisco SD-Branch Solution on the ENCS 5400

- Deploying and managing the ENCS from the Cisco DNA-Center
- Deploying and managing the ENCS from the Cisco NSO
- Deploying the Cisco SD-WAN Cloud Router on the Cisco ENCS using the Cisco NSO
- Configuring the networking for the SD-WAN Cloud Router using the Cisco NSO
 - Defining a New Catalog
 - Register the NFVIS System into NSO
 - Register the remote VNF
 - Instantiate a VNF on the Remote Site

Lab Details:

This lab is built using the following codes. Each module is supported with an associated lab

- Cisco ENCS 5400 Series
- Cisco NFVIS 3.10

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- Cisco NSO
- Cisco IOS-XE version 16.10
- Cisco SDWAN-XE version 16.10