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## Implementing & Configuring the Cisco Nexus 1000v

**Duration: 3 Days**    **Course Code: ICNX1V**

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### Overview:

The Cisco Nexus 1000V is a virtual switch that resides within the VMware ESX Server instance and provides operations and management consistency with existing Cisco Nexus and Catalyst switches. The Nexus 1000V leverages the VN-Link specification, together with VMware's vNetwork Distributed Switch framework, to offer tightly integrated network services as part of a comprehensive Data Center server virtualization strategy.

This 3-day course provides you with an indepth look at the design and configuration process for the Cisco Nexus 1000V, including hands-on labs in which you will configure a VMware infrastructure, configure the Nexus 1000V and demonstrate policy mobility during virtual machine migration.

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### Target Audience:

This course provides an introduction to VNLink and the Cisco Nexus 1000V for network engineers who need to gain experience in configuring a VMware virtual networking environment.

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### Objectives:

- **After you complete this course, you will be able to:**
  - Describe the VMware virtual networking environment
  - Describe the Nexus 1000V switch and its role in a virtual server network environment
  - Describe the Nexus 5000, 2000, and 1000V access layer architecture
  - Model and configure virtual access layer topologies
  - Perform basic configuration of ESX virtual machines
  - Import VMs from a SAN
  - Describe the configuration of advanced VMware services
  - Configure VMware clustering services
  - Test VMotion in a VMware network environment
  - Install and configure the Nexus 1000V
  - Configure VN-Link on the Nexus 5000
  - Configure Nexus 1000V network security profiles
  - Describe the network monitoring methods used with the Nexus 1000V
  - Configure Nexus 1000V security policies
  - Monitor and troubleshoot Nexus 1000V environments
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### Prerequisites:

**Delegates should meet the following prerequisites:**

- CCNA level knowledge of Routing and Switching

### Testing and Certification:

**Recommended preparation for exam(s):**

- None applicable at this time
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### Follow-on-Courses:

**The following courses are recommended for further study:**

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## Content:

### Module 1: Networks in a Virtual Server Environment

#### Introduction to the Nexus 1000V

- Data Center Access Layer Networks
- Virtual Environment Overview
- Cisco Virtual Switching Overview
- Feature Overview

#### Server Virtualization Primer

- Server Virtualization
- VMware Virtualization
- Virtual Networking with VMware
- Virtual Storage Networking with VMware
- VMware Environment Management

#### VMware Ethernet Networking

- Virtual Access Layer
- The VMware vSwitch
- VMware Network Configuration
- Distributed Virtual Switching

#### Nexus 1000V Architecture

- Architectural Overview
- Installation and Operation

#### Nexus Design Considerations

- VN-Link
- Access Layer Designs

### Module 2: Virtual Network Configuration

#### Configuring VMware Switching

- Configuring vSwitches
- Configuring VMware DVS

#### Install and Configure Nexus 1000V

- Configure VSM vSwitch Networks
- VSM Virtual Machine Creation
- Initial VSM Configuration
- Connect the VSM to vCenter
- Nexus 1000V HA Configuration

#### Configuring Port Profiles

- Port Profiles
- VLAN Configuration
- Creating Uplink Profiles
- Creating VM data Port Profiles
- Configuring Nexus 1000V Port Channels
- Adding Hosts to the VSM
- Adding VMs to a VSM

#### Configuring Security

- Access Control Lists
- Configuring Access Control Lists
- Understanding Private VLANs
- Configuring Private VLANs

#### Installing and configuring the Nexus 1000V and VN-Link

- IGMP Snooping
- QoS

#### Network Monitoring and Troubleshooting

- Netflow
- SPAN
- Troubleshooting VSM Connectivity
- Troubleshooting VM Connectivity

#### Labs

- Lab 1: Populating the vCenter Database
- Lab 2: Configuring VMware Networking
- Lab 3: Installing the Nexus 1000V
- Lab 4: Configuring Port Profiles
- Lab 5: Nexus 1000V Switch Management
- Lab 6: Configuring Security
- Lab 7: Traffic Flow
- Lab 8: Troubleshooting

## Further Information:

For More information, or to book your course, please call us on 0800/84.009

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