



CISCO SD-WAN  
SOLUTIONS TRAINING

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UPGRADE YOUR KNOWLEDGE

# Cisco SD-WAN Solutions Training

## Course Overview

This course provides the candidate knowledge of Cisco's SD-WAN solution including SD-WAN architecture, controller deployment, edge router deployment, policies, security, quality of service, multicast and management and operations. The course, Cisco SD-WAN Solutions, helps candidates to prepare for the following exam-Implementing Cisco SD-WAN Solutions [ENSDWI 300-415].

## Duration & Module Coverage

Duration: 16 Days (40hrs)

Session Options	Module Coverage
<b>Session Weekdays[4] :</b>	<b>Day 1 - Module 1</b>
2.5 hours per day	<b>Day 2 - Module 2</b>
	<b>Day 3 - Module 2 [contd.]</b>
	<b>Day 4 - Module 3</b>
<b>Session Weekends:</b>	<b>Day 5 - Module 3 [contd.]</b>
2.5 hours per day	<b>Day 6 - Module 3 [contd.]</b>
	<b>Day 7 - Module 3 [contd.]</b>
	<b>Day 8 - Module 3 [contd.]</b>
	<b>Day 9 - Module 4</b>
	<b>Day 10 - Module 4 [contd.]</b>
	<b>Day 11 - Module 4 [contd.]</b>
	<b>Day 12 - Module 4 [contd.]</b>
	<b>Day 13 - Module 5</b>
	<b>Day 14 - Module 5 [contd.]</b>
	<b>Day 15 - Module 5 [contd.]</b>
	<b>Day 16- Module 6</b>

## Learning Goals

**By the end of this course participants will be able to:**

1. Understand architecture of SD-WAN Architecture and Components
2. Understand deployment of controllers and edge devices on-cloud and on-premises.
3. Understand and configure control plane and data plane policies and templates.
4. Understand implementation of security and quality of service.
5. Understand software upgrades, monitoring and reporting from vManage

## Pre-Requisites

The candidate should have good knowledge of following topics as a pre-requisite for this course:

- Understanding of basic networking, OSI and TCP/IP model and WAN technology.
- Understanding of interior and exterior gateway routing protocols.
- Understanding of IP security, Transport Layer Security and Virtual Private Networks [VPNs].



## Teaching Methodology

This is a very hands-on course where participants carry out practical exercises according to the lab guide provided. The concepts are taught through implementation of real-world use-cases. Our exercises have been carefully designed to replicate scenarios participants will face in real life work conditions.

## Who Should Take This Course?

This course is designed for network professionals- network designers and network solution architects with knowledge of networking and above mentioned pre-requisites looking forward to gain understanding of Cisco SD-WAN configuration and troubleshooting.

# Course Content

## 1. Cisco SD-WAN Architecture

- Describe architecture and components of SD-WAN
- Describe orchestration plane component - vBond
- Describe management plane component - vManage
- Describe control plane component - vSmart
- Describe data plane component- vEdge
- Describe WAN edge devices types and capabilities- vEdge and cEdge.

## 2. Controller Deployment

- Describe controller cloud deployment
- Deploy controller on private cloud
- Providing scalability and redundancy in controller
- Configure enterprise root CA on premise
- White-listing the controllers
- Establish and troubleshoot control-plane connectivity between controllers

## 3. Router Deployment

- On-boarding WAN edges- vEdge, cEdge and ISR routers
- Orchestration with Zero Touch Provisioning/ Plug-and-play
- Single and regional hub deployments
- Configure and verify data plane connectivity
- Configure and verify TLOC
- Configure and verify OMP
- Understand and configure TLOC extension
- Configure and verify CLI and vManage feature templates
- Configure and verify routing protocols- OSPF and BGP using templates
- Configure and verify VRRP using templates

## 4. Policies

- Configure and verify control policies
- Configure and verify data policies
- Configure and verify end-to-end VPN segmentation
- Configure and verify SD-WAN Application Aware Routing



- Configure and verify direct internet access

## 5. Security and Quality of Service

- Configure and verify service insertion
- Configure and verify application aware firewall
- Configure and verify QoS on WAN edge routers
- Configure and verify Scheduling, Queuing, Shaping and Policing

## 6. Management and Operations

- Describe monitoring and reporting from vManage
- Configuring and verify monitoring and reporting
- Describe REST API monitoring
- Describe software upgrade from vManage

# Practical Learning Exercises

A lab guide will be provided to each student with requirement scenarios. Along with lab guide cloud access will be provided to individual labs for self practice.

There would be scenarios for implementing, verifying and troubleshooting all modules covered in the course.

Lab Components:

- vManage: 1
- vSmart: 1
- vBond: 1
- vEdge: 5
- ISR 4K: 1
- Enterprise Root CA Server: 1
- Cisco 7200 IOS Router: 3
- Cisco IOL Layer-2 Switch: 5
- Windows Management PC: 1
- Cisco Plug and Play Account