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Advanced Cisco SD-WAN Routing, Templates, Policy Configuration, and Troubleshooting (ADVANCED SDWAN) V20
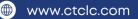
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Course Duration

5 Days

Course Price

$4,795.00
46 CLCs

Methods of Delivery

In-Person ILT
Virtual ILT
Onsite ILT

Certification Exam

300-415

Cisco CE Credits

50

About this Class

This course focuses on High Availability, Advanced Settings, Templates and Configuration Groups, APP-QOE with FEC, TCP OPT DRE, SD-AVC, Per-Tunnel/Adaptive/VPN QoS, Security using SASE/ Cloud/On-Prem, Students will then focus on Routing, including OMP, Service Chaining, BGP, EIGRP, OSPF, On-Demand Routing, DIA Routing through Branches/Hubs/Data Centers. Students will then focus on deploying advanced features of Local Policies and learning how to troubleshoot Local Policy issues. Students will then focus on deploying Advanced features of Centralized Policies and learning how to troubleshoot Central Policy issues.

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How you will benefit

This class will help you:

- Explore and Troubleshoot the initials environment
- Design, Configure, and Troubleshoot Clusters and High Availability
- Learn Advanced Techniques to Deploy Templates with the theme of reusability
  - Deploy and Troubleshoot Transport Bridging
  - Deploy and Troubleshoot Routing including OSPF, BGP, EIGRP
  - Deploy and Troubleshoot Multicast Routing
  - Design, Configure, and Troubleshoot APP-QoE, SD-AVC and QoS Policies
- Design, Configure, and Troubleshoot Advanced Security Policies
- Design, Configure, and Troubleshoot SDWAN Direct Internet Access (DIA)
- Design, Configure, and Troubleshoot SDWAN Unified Communication Integrations
- Design, Configure, and Troubleshoot Local Policies
- Design, Configure, and Troubleshoot Application Aware Routing
- Design, Configure, and Troubleshoot Central Policies (Sites, Hub Spoke, Full Mesh and Custom Topologies)
- Design, Configure, and Troubleshoot Central Policies Including Service Chaining
- Design, Configure, and Troubleshoot Central Policies Including Traffic Rules & CFLOW
- Design, Configure, and Troubleshoot Migration from IWAN

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Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The job roles best suited to the material in this course are:

- Network Technicians / Administrators

Objectives

Upon completing this course, students will be able to meet these objectives:

- SD-WAN Review
- Clusters and High Availability
- SD-AVC and QoS Policies
- Advanced Template Design and Troubleshooting
- Advanced Security Policies on vEdge and IOS-XE Platforms
- Advanced Local Policies on vEdge and IOS-XE Platforms
- Advanced Central Policies on vEdge and IOS-XE Platforms
- Advanced Troubleshooting of Policies on vEdge and IOS-XE Platforms

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Course Outline

Module 0: Introductions

- Lesson 1: Introductions

Module 1: Cisco SD-WAN Overview

- Lesson 1: Cisco SD-WAN Overview
- Lesson 2: SD-WAN Platform Discussion

Module 2: SD-WAN Advanced Settings

- Lesson 1: Design Considerations and Scaling
- Lesson 2: Site Design
- Lesson 3: Advanced Settings
- Lesson 4: Ether Channel Support (20.6)
- Lesson 5: Hot Standby Router Protocol (HSRP)
- Lesson 6: LTE Design and Deployment

Module 3: SD-WAN High Availability

- Lesson 1: Common WAN Topologies Design and Deployment Considerations
- Lesson 2: Active vManage, Backup Inactive vManage, Clustering vManage
- Lesson 3: SD-WAN Disaster Recovery
- Lesson 4: Troubleshooting Cluster Operation

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Course Outline

Module 4: SD-WAN Templates

- Lesson 1: Template Overview
- Lesson 2: Using Python to Import / Export Templates
- Lesson 3: Parsing JSON with Python
- Lesson 4: Create / Delete / Import / Export of Templates

Module 5: SD-WAN APP-QoE, SD-AVC and QoS Policies

- Lesson 1: Meraki Dashboard, Organizations, and Networks
- Lesson 2: Custom Application Identification
- Lesson 3: Bidirectional Forwarding Detection (BFD)
- Lesson 4: Cloud onRamp for SaaS for Office 365
- Lesson 5: Per Tunnel QOS
- Lesson 6: Adaptive QOS
- Lesson 7: SD-WAN 17.6/20.6 - Per VPN QOS
- Lesson 8: TCP Optimization
- Lesson 9: Service Nodes for AppQoE
- Lesson 10: Forward Error Correction (FEC)
- Lesson 11: Packet Duplication

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Course Outline

Module 6: Bridging

- Lesson 1: Transparent Bridging
- Lesson 2: Bridging Template Configuration
- Lesson 3: cEdge Bridging Template Configuration
- Lesson 4: vEdge Bridging Template Configuration

Module 7: Routing Protocols

- Lesson 1: SD-WAN Underlay Routing
- Lesson 2: Static Routes
- Lesson 3: VRRP Enhancements
- Lesson 4: Dynamic Routing Protocols
- Lesson 5: Routing Information Protocols
- Lesson 6: SD-WAN On Demand Tunnels
- Lesson 7: Route Leaking
- Lesson 8: Hierarchical SD-WAN (Regions)

Module 8: Multicast

- Lesson 1: Complete Multicast Support on Cisco SD-WAN
- Lesson 2: vEdge Support

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Course Outline

Module 9: Direct Internet Access (DIA) Overview

- Lesson 1: SD-WAN Direct Internet Access (DIA)
- Lesson 2: Deploying DIA
- Lesson 3: Central Data Policy
- Lesson 4: NAT DIA Route

Module 10: SD-WAN Voice Configuration

- Lesson 1: Voice Integration in SD-WAN
- Lesson 2: Voice Card Feature Templates
- Lesson 3: Call Routing Feature Templates
- Lesson 4: Survivable Remote Site Telephony (SRST)
- Lesson 5: Voice Policies
- Lesson 6: Create a Voice Port Policy
- Lesson 7: Voice Port Translation Profile
- Lesson 8: FXO Supervisory Disconnect
- Lesson 9: Cisco Unified Border Element (CUBE)

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Course Outline

Module 11: Meraki Wireless APIs and Integrations

- Lesson 1: SD-WAN Security
- Lesson 2: SD-WAN Base Security
- Lesson 3: SD-WAN Cloud Security
- Lesson 4: Zscaler Integration
- Lesson 5: SD-WAN Cloud Security Features
- Lesson 6: SD-WAN Integrated Security
- Lesson 7: 17.6/20.6 – Geo-Fencing
- Lesson 8: SD-WAN Security Configuration

Module 12: SD-WAN Local Policy

- Lesson 1: Policy Configuration Overview
- Lesson 2: Local Data Policies

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Course Outline

Module 13: SD-WAN Central Policy

- Lesson 1: Centralized Control Policies
- Lesson 2: Centralized Data Policies
- Lesson 3: Application Aware Routing
- Lesson 4: Service Chaining
- Lesson 5: Traffic Flow Monitoring with Cflowd
- Lesson 6: Policy Construction
- Lesson 7: Platform Support and Scalability

Module 14: SD-WAN Migration

- Lesson 1: SD-WAN Conversation Tool
- Lesson 2: Cisco Sure Tool
- Lesson 3: Migration and Deployment Models
- Lesson 4: Typical Migrations
- Lesson 5: Data Center / Hub Migration
- Lesson 6: Branch / Spoke Site Migration

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Lab Outline

Lab 1: Review & Troubleshoot Initials SDWAN Environment

Lab 2: Create and Troubleshoot SDWAN Clusters

Lab 3: Template / Configurations Groups

Lab 4: Deploy and Troubleshoot Hardware Routers with ztp

Lab 5: Implement Routing Protocol

Lab 6: Advanced Firewall Policy Design

Lab 7: Designing and Implementing Local Policies and QoS Policies

Lab 8: Create Advanced Central Policies

Lab 9: Monitoring the Environment

Lab 10: Troubleshooting