Cisco SD-WAN Cloud (SDWAN-CLD-CT)

This is a five day hands-on course on Cisco SD-WAN Cloud Configuration, Monitoring and Troubleshooting. This course provides the student with the knowledge to connect SD-WAN to SaaS Applications, as well as the ability to connect their Branches to AWS, AZURE, GCP Data Centers in the Cloud. Students will also learn how to Configure, Monitor, and Troubleshoot SD-WAN Co-Locations and SD-WAN Multicloud.

The software applications that are covered in this course include:

- Cisco SD-WAN

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

Objectives

Upon completing this course, you will be able to meet the following objectives:

- SD-WAN Overview
- Cloud Concepts
- Cloud Technologies
- SD-WAN Direct Cloud Access (DCA)
- SD-WAN SaaS
- Cloud On-RAMP for IAAS (AWS)
- Cloud On-RAMP for IAAS (AZURE)
- Cloud Configuration for GCP
- Cloud On-RAMP for MULTI-CLOUD
- Cloud On-RAMP for CO-LOCATIONS

Prerequisites

- Implementing and Configuring Cisco SDWAN (ICSDWAN-CT)

Course Duration
5 day
Course Price
$4,495.00 / 45 CLCs
Methods of Delivery
• Instructor Led
• Virtual ILT
• On-Site

Outline

Module 0: Introductions

Module 1: SD-WAN Overview

- SD-WAN Controller
- SD-WAN WAN Edges supported in Cloud Instances

Module 2: Cloud Concepts

- Cloud Ops vs WAN Ops
- Cloud Connectivity
- Cloud Access Control
- Cloud Network Connectivity
- Cloud Regions
- Cloud Availability Zones
- Virtual Networks
- Cloud Routing
- Internet Gateways VS VPN Gateways
- VPC/VNET: IP Addressing
- Cloud Network Load Balancing
- Cloud Peering
- Cloud Transit Networks

Module 3: Cloud Technologies

- Azure
  - Azure Basics
    - Resource Groups
    - vNets
    - Availability zones
    - Availability Set
    - Workload and Public IP
    - Network Virtual Appliance
    - Load Balancer
    - User Defined Routes
    - Network Security Group
    - VPN Gateway
    - Express Routes
  - Creating VNET for SDWAN
- AWS
  - AWS Basics
    - Region
    - VPCs
    - Availability zones
    - Subnets
    - EC2 Instance
    - Elastic IPs
    - Security Groups

- Internet Gateway
- NAT Gateway
- Route Table
- VPN Gateway
- Direct Connect
- Elastic Load Balancer
  - Subscribe to Amazon machine images
  - Setting AWS resource limits
  - AWS Transit Gateways
  - Creating VPC for SDWAN
  - AWS IAM Role
  - AWS Security Groups
  - Service limits
  - AWS SSH key pair
- Google Cloud
  - GCP Basics
    - Project
    - Region
    - Virtual Private Cloud
    - Availability Zone
    - Subnets
    - Compute Engine
    - Cloud Load Balancer
    - Cloud DNS
    - VPC Routing
    - Cloud VPN & VPC peering
    - VPC Firewall Rules

Module 4: SD-WAN Direct Cloud Access (DCA)

- DCA Prerequisites
  - DNS on VPN 0
  - DIA
- Central Policy Configuration
  - Match Traffic
  - Set QOS
  - Set External Access

Module 5: SD-WAN SaaS

- Supported Platforms and Versions
- SaaS Prerequisites
  - DNS on VPN 0
  - DIA
- SaaS Access Methods
  - Cloud Access through Direct Internet Access Links
  - Cloud Access through a Gateway Site
  - Hybrid Approach
- Supported SaaS Applications
- SaaS Security Options

- SaaS Configuration
  - Common Scenarios for Using Cloud onRamp for SaaS
  - Specify Office 365 Traffic Category
  - Enable Cloud onRamp for SaaS, Cisco IOS XE SD-WAN Devices
  - Configure Applications for Cloud onRamp for SaaS Using Cisco vManage
  - Configure Sites for Cloud onRamp for SaaS Using Cisco vManage
  - View Details of Monitored Applications

Module 6: Cloud On-RAMP for IAAS (AWS)

- Prerequisite AWS Configuration
- Verify prerequisites
- Configure AWS for Cisco SD-WAN
- Cloud On-RAMP for AWS Overview
- Define WAN Edge Type used
- Define Template
- Attach Devices to Template
- Deploy Cloud Onramp
- AWS IAM Role
- Select Region
- Select CPU and Memory
- Transit Networking IP Addresses
- Discover and Map Host VPCs
- AWS to SD-WAN Security
- Monitor Cisco Cloud Onramp for AWS
- Troubleshoot Cisco Cloud Onramp for AWS
- Interconnecting Cisco SD-WAN with AWS Transit Gateway (TGW)

Module 7: Cloud On-RAMP for IAAS (AZURE)

- Prerequisite AZURE Configuration
- Cloud On-RAMP for AZURE
- Configure AWS for Cisco SD-WAN
- Define WAN Edge Type used
- Define Template
- Attach Devices to Template
- Deploy Cloud Onramp
- Select Region
- Discover and Map Host VPCs
- Monitor Cisco Cloud Onramp for Azure
- Troubleshoot Cisco Cloud Onramp for AZURE
- Azure Virtual Wan (VWAN) Integration

Module 8: Cloud Configuration for GCP

- Prerequisite GCP Configuration
- SD-WAN Configuration
- Configure Google Cloud for SD-WAN
- Google Cloud

- o GCP Basics
- o Deploy cEdge Catalyst 8000V Edges
- o Setup IPSEC Connections
- o Setup BGP Connections

Module 9: Cloud On-RAMP for MULTI-CLOUD

- AWS Transit Gateway
- Microsoft vWAN
- Create Cisco Cloud GW
- Discover host VPCs/VNets
- Map Branch nets to VPCs

Module 10: Cloud On-RAMP for CO-LOCATIONS

- SD-WAN CO-LOCATIONS Overview
- Colocation facilities
- Cisco Colocation Equipment
    - o Cisco Cloud Services Platform 5444
    - o Cisco Network Function Virtualization Infrastructure Software (NFVIS)
    - o Virtual Network Functions
    - o Network Fabric
        - ▪ Cisco Catalyst 9500-48Y4C switch
        - ▪ Cisco Catalyst 9500-40X switch
    - o Device Configuration and Connectivity
    - o Sizing the Colocation Solution Devices
- Cisco Colocation Manager
- Deploy Network Services at the Network Edge
- Colocation Solution–Deployment Workflow
- Monitor Cisco SD-WAN Colocation Devices
    - o Cisco Colocation Manager States for Switch Configuration
    - o Cisco Colocation Manager States and Transitions from Host
    - o Cisco Colocation Manager Notifications
    - o VM Alarms
    - o Cloud Services Platform Real-Time Commands
- Colocation High Availability
- Troubleshoot Cisco SD-WAN Cloud onRamp for Colocation Solution
    - o Troubleshoot Catalyst 9500 Issues
    - o Troubleshoot Cloud Services Platform Issues
    - o DHCP IP Address Assignment
    - o Troubleshoot Cisco Colo Manager Issues
    - o Troubleshoot Service Chain Issues
    - o Troubleshoot Physical Network Function Management Issues
    - o Log Collection from CSP
    - o Troubleshoot vManage Issues

LAB OUTLINE

Lab 1: Verify SD-WAN Environment

Lab 2: Configure DIA and NAT for SaaS

Lab 3: Configure SaaS Applications

Lab 4: Configure SaaS Gateways

Lab 5: Monitor and Troubleshoot SaaS Deployment

Lab 6: Configure AWS for an SD-WAN Deployment

Lab 7: Configure Cloud OnRamp for AWS

Lab 8: Monitor and Troubleshoot AWS Deployment

Lab 9: Configure AZure for an SD-WAN Deployment

Lab 10: Configure Cloud OnRamp for Azure

Lab 11: Monitor and Troubleshoot Azure Deployment

Lab 12: Configure GCP for an SD-WAN Deployment

Lab 13: Configure SD-WAN cEdge for GCP

Lab 14: Monitor and Troubleshoot GCP Deployment

Lab 15: Configure a SD-WAN Colocations Deployment

Lab 16: Monitor and Troubleshoot