



Operating Cisco SD-WAN Meraki 2.0 (SDWMER)

COURSE OVERVIEW

This 3-day course is hands-on training on Cisco Meraki SD-WAN implementations, basic and advanced Cisco Meraki SD-WAN Security features that are available on Meraki MX routers. Deep dive into capabilities like Firewall and Traffic, Application-Aware Firewall, AMP Integration, Content Filtering, and Threat protection, and many other advanced features are covered as a part of this training. This course also provides hands-on training on Cisco Meraki SD-WAN Programmability features.

WHO WILL BENEFIT FROM THIS COURSE?

This course is ideal for those who regularly deploy or manage Meraki networks and want to deepen their technical expertise and understanding of the full Meraki product suite and features. This may include professionals with job titles or in roles such as:

- Field deployment technicians
- Network administrators
- Pre-/Post-sales engineers
- Service provider engineers
- Systems engineers
- IT professionals

COURSE OBJECTIVES

Upon completing this course, the learner will be able to meet these overall objectives:

- Introduction to Cisco Meraki SD-WAN Solution and Products/Components
- Understand key concepts of Cisco Meraki SD-WAN
- Implement Meraki SD-WAN Solution
- Understand Cisco Meraki SD-WAN Security Features
- Implement Firewall and IPS Policies
- Understand Cisco SD-WAN Programmability features
- Script APIs to automate Cisco SD-WAN vManage configurations

COURSE OUTLINE

Module 1: Introduction to Meraki SD-WAN and Meraki Key Concepts

- Meraki Centralized Dashboard
- Meraki key concepts
 - Meraki Concentrator Modes
 - VPN Topology
 - Split Tunnel and Full Tunnel
 - Hub and Spoke and VPN Mesh



- Meraki Connection Monitor
- Data Center Redundancy (DC-DC Failover)
- Warm Spare for VPN Concentrators

Module 2: Meraki SD-WAN Deployment Models

- Introduction
- Data Center Deployment
- MX Deployment Considerations
 - MX Deployment Considerations
 - Upstream DC Switching Considerations
 - Routing Considerations
 - Firewall Considerations
- Branch Deployment
 - AutoVPN at the Branch
 - Hub and Spoke VPN Deployment
 - Hub Priorities and Design considerations

Module 3: Meraki SD-WAN Security

- Exploring the SD-WAN and Security Dashboard
- Site-to-site VPN Deep Dive
- Client VPN Technologies
- Access control and Splash Page
- NAT and Port Forwarding
- Firewall and Traffic Shaping
- Content Filtering and Threat Protection
- Meraki and Cisco Umbrella Integration

Module 4: Firewall and Traffic Shaping Policies

- MX Firewall Settings
 - Outbound Rules
 - Appliance Services
 - Layer 7 Firewall Rules
 - Forwarding Rules
- IP Source Address Spoofing Protection
 - Overview and Key Terms
 - NAT Modes Implementation
 - Supported Deployment Topologies
- SD-WAN and Traffic Shaping
 - Uplink Configurations
 - Uplink Selections
 - Global Bandwidth Limitations
 - Traffic Shaping Rules
 - Web Cache



Module 5: SD-WAN Security – Content Filtering and Threat Protection

- MX and Active Directory Integrations
- Content Filtering Implementations and Troubleshooting
- Cisco AMP Integrations and Threat Protection
- Threat Grid Integrations

Module 6: Programmable API

- Meraki Dashboard API with Postman
- Meraki Organization and Networks Import into Postman
- Meraki Devices into the appropriate Networks using APIs
- Troubleshooting Meraki using APIs
- Dashboard
- Device Dashboard

Lab Outline

- Discovery Lab 1: Configure Tags, EtherChannel, Port Mirroring, and Wireless High-Density Deployment
- Discovery Lab 2: Establish Auto VPN Tunneling
- Discovery Lab 3: Configure SVIs and Routing on Cisco Meraki MS Switches
- Discovery Lab 4: Configure Routing and Redistribution on MXs
- Discovery Lab 5: VoIP QoS
- Discovery Lab 6: Configure Traffic Shaping on MR and MX
- Discovery Lab 7: Uplinks Load Balancing
- Discovery Lab 8: L3 and L7 Firewall rules
- Discovery Lab 9: Enable AMP, IDS, and IPS
- Discovery Lab 10: Configure and Apply Access Policies
- Discovery Lab 11: Configure Wireless Guest Access
- Discovery Lab 12: Enable Alerts and Webhooks

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