



Meraki MS Switches Installing, Configuring, Monitoring, and Troubleshooting v1.0 (MSA-ICMT)

This 3-day Cisco course provide students with the skills to configure, optimize, and troubleshoot a Cisco Meraki solution. Students will learn how to install and optimize Meraki MS Switches. Students will also learn how to configure the Meraki Dashboard. Student will troubleshoot and configure the Meraki environment and learn how to diagnose and resolve user and Network issues that may arise.

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

Course Objectives

Following completion of this course, students will understand, Install, Configure, Monitor, and Troubleshoot the following:

- Navigate and Configure the Dashboard
- Add MX / MS devices to the Dashboard
- Understand and Configure Configuration Templates
- Understand and Configure Group Policies
- Manage / Configure / Integrate Users and Radius Policies
- Configure, Monitor, and Troubleshoot MS Switches
- Troubleshoot devices and Connectivity

Who Should Attend

The primary audience for this course is as follows:

- IT Staff and Managers
- Network and Systems Personnel and Engineers
- Small to mid-sized organizations that require fundamental knowledge on networking terms/concepts and configuration guidance for Meraki equipment
- This also includes organizations looking to implement remote sites, provide a guest wireless solution, and collect user analytics

Course Duration

3 day

Course Price

\$3,495.00 or 35 CLCs

Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

Outline

Module 0: Introduction

- Module Introduction
 - Topic List
- Lesson 1: Introductions
 - Course Goal
 - WebEx Basics
 - General Administration
 - Introductions
 - The Integrated Cisco Network
- Module Summary

Module 1: Introduction to Meraki

Module Introduction

- Topic List
- Lesson 1: Why Cisco Meraki?
 - Cloud Management
- Lesson 2: Meraki Product Overview
 - Meraki MS Switches
 - Meraki MR Wireless Access Points
 - Meraki MX Security and SD-WAN Appliances
 - Meraki MV Vision Security Cameras (MG and MT)
 - Meraki Systems Manager (SM)
 - Meraki MT Sensors Access Points
 - Cisco Meraki Insight
- Lesson 3: Meraki API Overview
- Lesson 4: Meraki Licensing and Support
 - Enterprise Support and Hardware Warranties
 - Cisco Meraki Documentations
- Module Summary

Module 2: Cloud Management with the Meraki Dashboard

- Module Introduction
 - Topic List
- Lesson 1: Overview of the Meraki Dashboard
 - The Cisco Meraki Dashboard
 - The Meraki Phone App
 - Dashboard: Organizational Structure
 - Meraki Dashboard Best Practices – Campus
 - Dashboard Compliance and Data Protection
 - Cloud Reliability
 - Loss of Connectivity to the Cisco Meraki Cloud
 - Safe Configuration
 - Meraki Dashboard Login (1)

- Create Dashboard Account (1)
- Create Dashboard Account and Organization
- Verify Created Account
- First Login to New Organization
- Account Login with Multiple Assigned Organizations
- Manage Multiple Organizations
- View Health Status for Multiple Organizations (1)
- Meraki Dashboard Best Practices - Multiple Locations
- Dashboard Search
- Logged in User Profile
- Modify User Profile (1)
- Announcements
- Lesson 2: Help & Support
 - Meraki Help
 - Dashboard - Help - Get Help (1)
 - Dashboard - Help - Community
 - Dashboard - Help - Marketplace
 - Dashboard - Help - Cases
 - Dashboard - Help - Data Protection Requests
 - Dashboard - Help - New Features
 - Dashboard - Help - Firewall Rules Info
 - Dashboard - Help - API Docs
 - Dashboard - Help - Hardware Replacement
 - Dashboard - Give Your Feedback
- Lesson 3: Organizational Wide Configure Settings
 - Organizational Menu Settings
 - Settings - Org Name and Security Settings
 - Settings - Authentication (1)
 - Configuring SAML SSO with ADFS
 - Configuring SAML SSO with OneLogin
 - Settings - Administration Settings
 - Settings - Privacy and Support Access Settings
 - Settings - SNMP Configuration
 - Settings - Threat Grid
 - Settings - Dashboard API Access
 - Settings - Delete This Organization
 - Organization > CONFIGURE > Configuration Sync
 - Configuration Sync
 - Organization > CONFIGURE > MDM
 - Organization > CONFIGURE > Administrator
 - Create Administrator Account - Org Access
 - Create Administrator Account - Network Access
 - Create Administrator Account - Camera Access
 - Create Administrator Account
 - Verify Administrator Account
 - Deleting an Administrator Account
 - Organization > Configure > Camera Roles
 - Organization > Configure > License Info
 - License Information - Co-Termination
 - Add Licenses to Organization - Co-Termination
 - License History - Co-Termination

- Converting to PDL (Per Device Licensing) (1)
- Licensing & Inventory Page - PDL (1)
- Organization > CONFIGURE > Create Network
- Create Network - Setup Network
- Create Network - Select Devices from Inventory
- Create Network - Add Devices
- Finding Meraki Order Number
- Delete Networks
- Organization > Configure > Inventory
- Organization > Inventory - Searching for Devices
- Organization > Inventory - Claiming Devices
- Organization > Inventory - Unclaiming Devices
- Organization > Add a Device to a Network
- Recovering a Missing or Stolen Device
- Organization > Monitor > Overview > Networks
- Organization > Monitor > Overview > Networks Tags
- Organization > Monitor > Overview > Devices
- Organization > Monitor > Change Log
- Organization > Monitor > Login Attempts
- Organization > Monitor > Security Center (1)
- Organization > Monitor > Location Analytics (1)
- Organization > Monitor > VPN Status
- Organization > Monitor > Firmware Upgrades
- Firmware Upgrades - Scheduling Firmware Upgrades (1)
- Organization > Monitor > Firmware Upgrades (1)
- Organization > Firmware Upgrades > Overview
- Organization > Firmware Upgrades > Firmware Status
- Organization > Firmware Upgrades > Firmware Release Notes
- Organization > Firmware Upgrades > Firmware Roll Back (1)
- Firmware Upgrades Through APIs
- Organization > Monitor > Summary Report (1)
- Organization > Summary Report - Anomalies
- Organization > Summary Report - Clients with High Usage
- Organization > Summary Report - Usage stats
- Organization > Summary Report - Sessions
- Organization > Top SSIDs by Usage
- Organization > Summary Report - Top Devices
- Top Device Models by Usage
- Top Security Appliances by Utilization
- Summary Report - Port Utilization Graph
- Summary Report - Client Stats
- Summary Report - Top Clients by Usage
- Clients
- Organization - Top Client Device Manufacturers
- Organization - Top Operating Systems By Usage
- Organization - Top Application Categories
- Organization - Top Applications by Usage
- Organization - Power Details
- Lesson 4: Network-Wide Settings
 - Network-Wide
 - Network-Wide > Configure > General (1)

- Network-Wide > General > Traffic Analysis
- Network-Wide > General > Location and Scanning
- Network-Wide > General > SMS Auth with Twilio
- Network-Wide > General > CloudShark
- Network-Wide > Wireless Multicast to Unicast Conversion
- Network-Wide > General > Device Configuration (1)
- Network-Wide > General > Reporting > Syslog
- Network-Wide > General > SNMP
- Network-Wide > General > Reporting > Location
- Network-Wide > General > NetFlow
- Network-Wide > General > Firmware Upgrades
- Network-Wide > General > Switch & Wireless Alternate Management Interface (1)
- Network-Wide > General > Status & APIs
- Network-Wide > General > Status
- Network-Wide > General > Umbrella
- Network-Wide > Administration > Org Admins
- Network-Wide > Administration > Network Admin
- Network-Wide > Administration > Guest Ambassadors
- Network-Wide > Admin > Port Management Privileges
- Network-Wide > General > Camera-Only Admins
- Network-Wide > Users > Guest Access
 - Network-Wide > Users (1)
- Network-Wide > Group Policy
 - Network-Wide > Group Policy > New Group
 - Network-Wide > Group Policy > Schedule
 - Network-Wide > Group Policy > Bandwidth
 - Network-Wide > Group Policy > Hostname Visibility
 - Network-Wide > Group Policy > Firewall
 - Firewall - Layer 7 Rules
 - Network-Wide > Group Policy > Umbrella
 - Network-Wide > Group Policy > Traffic Shaping (1)
 - Network-Wide > Group Policy > Wireless Only
 - Network-Wide > Group Policy > Security Appliance Only
- Network-Wide > General > Add Devices
- Network Wide > Monitor > Clients (1)
- Searching for Clients
- Modifying Columns
- Network Wide > Monitor > Clients > Applications
- Network Wide > Monitor > Clients > Ports
- Network Wide > Monitor > Clients > HTTP Content
- Network Wide > Monitor > Clients > Custom Pie Chart
- Changing the Policies Applied to a Client
- Adding a Client
- Display Client Information - Overview (1)
- Display Client Information - Connections (1)
- Display Client Information - Performance (1)
- Display Client Information - Timeline
- Network-Wide > Monitor > Traffic Analytics (1)
- Network-wide > Monitor > Topology
- Topology - L2
- Topology - L3

- Lesson 5: Packet Captures
 - Packet Capture for Multiple Devices (1)
 - Event log (1)
- Lesson 6: Location / Mapping Devices
 - Maps & Floor Plans (1)
 - Maps & Floor Plans - Drag & Drop Devices
 - Maps & Floor Plans - Assign Devices to...
 - Maps & Floor Plans - Geolocate Devices (1)
 - Maps & Floor Plans (1)
- Lesson 7: Configuring Templates
 - Organization > Monitor > Configuration Templates
 - Templates
 - Configuration Templates > Create New Template (1)
 - Configuration Templates
 - Unbinding Networks from a Template
 - Splitting Configuration Templates
 - Combining Configuration Templates
 - Deleting a Configuration Template
 - MR - Wireless Network Templates
 - MX/Z3 - Template VLAN IP Address Range Allocations
 - MX/Z3 - Template VLAN IP Address Range Allocations
 - VLAN Templates
 - Configuration Templates (1)
 - MS Templates
 - Switch Profiles
 - Configuration Templates > Local Overrides (1)
 - Configuration Templates > Local Overrides
- Module Summary

Module 3: Meraki MS Switch Appliances

- Module Introduction
 - Topic List
- Lesson 1: Why use MS?
 - Avoiding Downtime, Client Disruption
 - Cloud Managed from Access through Aggregation
 - Ongoing Feature Updates Delivered from the Cloud
 - MS Feature: Multigigabit Ethernet
 - Integrated Event Logs, Alerts, and Anomaly Detection
 - Advanced Network-Wide Security
- Lesson 2: Meraki MS Switching Platforms
 - Layer 2 Access Switches
 - MS120 Compact Switch
 - MS120 Switch Family
 - MS125 Switch Family
 - Layer 3 Access Switches
 - MS210 Switch Family
 - MS225 Switch Family
 - MS250 Switch Family
 - MS350 Switch Family

- MS355 Switch Family
 - Prepare for 802.11AX with Meraki MS355 Switches
 - MS390 Switch Family
 - Stackable Access Switches MS390
 - Distribution Switches
 - MS410 Switch Family
 - MS425 10GB Switch Family
 - MS450 40GB Switch Family
- Lesson 3: Basic Switch Configuration and Monitoring
 - Switch - Monitor - Switch
 - Add a Switch to Network
 - Move or Remove MS Switch from the Network
 - Switch Overview
 - Switch Status
 - Switch > Monitor > Switch
 - Summary Tab > Change Name of Device
 - Summary Tab > Set Location Data for Maps
 - Summary Tab > IP Information
 - LAN IPv6 Addressing
 - Summary Tab > Device Tags & Notes
 - Summary Tab > Switch Settings (1)
 - Summary Tab
 - Summary Tab > Historical Data
 - Configuring Ports on a Switch (1)
 - Summary or Port Tab > Switch Port Status (1)
 - Summary or Port Tab > Port Status
 - Ports Tab > Individual Port > Historical Data
 - Ports Tab > Individual Port > Configuration
 - Ports Tab > Port Configuration - Access Port
 - Ports Tab > Port Configuration - Trunk Port (1)
 - Ports Tab > Status
 - Ports Tab > Troubleshooting > Packet Capture (1)
 - Ports Tab > Troubleshooting > Cable Test
 - Ports Tab > Troubleshooting > Reset Port
 - Switch > Ports Tab > Packet Counts
 - Switch > Power Tab
 - Switch > Event Log Tab
 - Switch > Location > Map
 - Location Tab > Switch Location > Map
 - Location Tab > Switch Location > Photo (1)
 - Location Tab > Switch Location > Topology
 - Tools Tab > Ping Devices
 - Tools Tab > Ping the Switch
 - Tools Tab > Reboot Device
 - Tools Tab > Blink LEDs
 - Tools Tab > Dashboard Throughput
 - Tools Tab > Traceroute
 - Tools Tab > MTR Traceroute
 - Tools Tab > Cable Test

- Tools Tab > Cycle Ports
- Tools Tab > MAC Forwarding Table
- Tools Tab > Wake Client
- Lesson 4: Provisioning Switch Stacks
 - Stacking Mechanisms and Availability
 - Meraki Stacking: Virtual and Physical
 - Cloud-Managed Physical Stacking
 - Flexible Stacking
 - Provisioning Switch Stacks (1)
 - Create the Switch Stack
 - Delete the Switch Stack
 - View the Stack
 - Configuring Ports on a Stack Switch Ports
 - Blink the Switch
 - Add and Remove Members to the Stack
 - Clone and Replace a Member of the Stack
- Lesson 5: Meraki MS Switch Settings
 - MS Switch > Default Configuration
 - Switch > Switch Settings
 - Switch > Switch Settings > VLAN Configuration
 - Spanning Tree Protocol (STP, RSTP) (1)
 - Switch > Spanning Tree > Port Configuration
 - Switch > Switch Settings > STP Configuration
 - Switch > Switch Settings > Quality of Service
 - Class of Service (CoS) Weight
 - Quality of Service > DSCP Tagging
 - Switch Settings > Multicast Settings
 - Switch Settings > MTU Configuration
 - Switch Settings > Storm Control
 - Switch Settings > Power Supply Settings
- Lesson 6: Configuring Switch Ports
 - Edit and Monitoring Switch Ports (1)
 - Searching for Switch Ports
 - Editing Switch Ports (1)
 - Editing Multiple Switch Ports (1)
- Lesson 7: Link Aggregation
 - Switch Ports > Aggregation (1)
 - Switch Ports > Split the Aggregation
- Lesson 8: Mirroring Switch Ports
 - Mirroring Switch Ports > Modify Columns
 - UnMirror Ports
- Lesson 9: DHCP Server Status
 - DHCP Servers and ARP
 - Switch > DHCP Servers
 - View DHCP Leases Provided by Switches
 - View DHCP Configuration
 - Dynamic ARP Inspection (1)
 - Switch - Configure - Routing & DHCP
 - Routing & DHCP - Initializing Layer 2 Switching
 - Routing & DHCP - Create Layer 2 VLAN

- Layer 3 vs Layer 2 Switch for VLANs
- MS Layer 3 Switching - Supported models
- Enable Layer 3 on Switch or Switch Stack
- Routing & DHCP - Initializing Layer 3 Routing
- Routing & DHCP - Create Layer 3 Interface (1)
- View, Edit, Move, Delete Layer 3 Interfaces
- DHCP - Turn up and Lease Time
- DHCP - DNS Name Servers
- DHCP - Boot Options
- DHCP - Options
- DHCP - Fixed IP Assignments (Reservations)
- DHCP - Reserved IP Ranges (Excluded Addresses)
- Lesson 10: Meraki MS Multicast Configuration
 - How Does IP Multicast Work?
 - Internet Group Management Protocol
 - Enable Multicast Routing
 - IGMP Snooping Querier
 - Multicast Routing
- Lesson 11: Meraki MS Warm Spare - Virtual Router Redundancy Protocol (VRRP)
 - MS Warm Spare (VRRP) Overview
 - MS Warm Spare (VRRP) Configuration
- Lesson 12: Meraki MS - Open Shortest Path First (OSPF)
 - OSPF Areas
 - OSPF LSA Types
 - Normal Area
 - Stub Area
 - Not-So-Stubby Areas (NSSA)
 - Open Shortest Path First (OSPF) Routing
 - Create OSPF Areas
 - Configure Interfaces into OSPF Areas (1)
 - OSPF for Static Routes
 - OSPF Timers
 - OSPF Authentication
 - View OSPF Routes and OSPF Neighbors
- Lesson 13: Meraki MS - Access Control Lists
 - Switch ACL Operation
 - Dashboard Service Rules
 - Switch ACL
 - Explicit Allow with Explicit Deny
 - Source VLAN ACL
 - Access Control Lists
- Lesson 14: Meraki MS - Access Policies (802.1x)
 - Access Policies (802.1X)
 - Access Policy Host Modes (1)
 - Access Policy Types (1)
 - Hybrid Authentication
 - Change of Authorization (CoA)
 - Add an Access Policy
 - Add an Access Policy > Authentication (1)
 - Access Policy

- Lesson 15: Meraki MS - Port Schedules
 - Port Schedules (1)
 - Apply Port Schedule to Ports
- Lesson 16: Meraki MS - Staged Upgrades
 - Staged Upgrades
 - Schedule Multiple Firmware Switch Upgrade Windows
 - Switch > Configure > Staged Upgrades
 - Staged Upgrades > Scheduling
 - Switch > Configure > Staged Upgrades
- Module Summary

LAB OUTLINE

Lab 1: Configuring the Organization

- Configure Organizational Settings
- Add All Devices to Organization
- Create Networks
- Manage Network-Wide Settings
- Create Group Policies
- Manage Firmware Upgrades
- Create Templates
- Manage VLAN Templates
- Bind Templates to Networks

Lab 2: Configuring MS Switches

- Switch Configuration
 - Configure Basic Switch Settings
 - Configure Switch Stack
 - Configure Spanning Tree
 - Create Layer 3 Interfaces
 - Configure DHCP server
 - Create a Static Route
 - Configure OSPF Routing
 - Configure ACLs
 - Create Access Policies
 - Configuring Packet Captures
 - Configure Port Policies
- Configure Switch Using a Network Template
 - Configure Spanning Tree
 - Create Layer 3 Interfaces
 - Create a Static Route
 - Configure OSPF Routing
 - Configure ACLs
 - Create Access Policies
- Configuring Ports
 - Configure Trunk Ports
 - Configure Access Ports

- Set VLAN on Multiple Ports
- Configure Link Aggregation
- Configure Port Schedules
- Configure Port Mirroring
- Meraki Switch Monitoring
 - Monitoring Switch Status
 - Monitoring Switch Port Status
 - Monitoring Real-time and Historical Data
 - Monitoring DHCP on the Switch
 - Monitoring Power
 - Monitoring DHCP and Routing
 - Monitoring Event Logs
 - Summary Reports
- Troubleshooting Tools
 - Turn on Switch Blinking for Switch Identification
 - Performing Packet Captures
 - Performing Cable Tests
 - Performing Port Reset
 - Performing Throughput Tests
 - Performing device Reboots
 - Using ARP and Route Tables for Troubleshooting
 - Troubleshoot using Ping and Traceroutes
- Managing Firmware Upgrades