

MERAKI WIRELESS BOOTCAMP

Day 1

SDN Basics

Module 1: Introduction to Meraki

- The Meraki Mission
- Cisco Meraki: Bringing the Cloud to Enterprise Networks
- Cloud-Managed Networking Architecture
- Benefits of a Cloud-Based Solution
- The Meraki Full Stack: New and Unique Value Proposition
- Meraki Deployment – How it works
- Why Customers Choose Meraki
- Meraki MS Switches Overview
- Meraki MX Security Appliances Overview
- Meraki MR Wireless Access Points Overview
- Meraki API Overview
- Meraki Licensing
- Enterprise Support
- Cisco Meraki Documentation

Module 2: Cloud Management with the Meraki Dashboard

- The Cisco Meraki Dashboard
- Dashboard: Organizational Structure
- Out-of-band Cloud Management
- Loss of Connectivity to the Cisco Meraki Cloud
- Meraki Dashboard Logins
- Create Dashboard Accounts and Organization
- MSP Logins – Manage Multiple Organizations
- Modify an Organization
- View Organizations Health
- Meraki Dashboard Best Practices
- Dashboard Search
- Meraki Help
- Organizational Wide Settings
 - Configure
 - Configuring Organizational Wide Settings
 - Using Configuration Sync to View and Copy Settings
 - Administrators
 - Configuring and Monitoring Licensing
 - Creating Bulk Networks
 - Creating and Managing Networks (sites)
 - Managing the Meraki Inventory
 - Monitor
 - Overview
 - Monitoring the Change log

- Monitoring Login Attempts
 - Monitoring the Security Center
 - Using Location Analytics
 - Monitoring VPN Status
 - Scheduling and Managing Firmware
 - Using the Summary Report
 - Create and Manage Configuration Templates
 - Understand Configuration Templates
 - VLAN Templates
- Network Wide Settings
 - Configure
 - Configuring Network Wide General Settings
 - Traffic Analysis
 - Location and Scanning
 - Configuring CloudShark for Capturing Traffic
 - Manage the Local Status Page
 - Manage Syslog, SNMP, Location, and NetFlow Services
 - Managing Network Admins and Guest Ambassadors
 - Managing Network Users
 - Managing Port Management Privileges
 - Configuring Group Policies
 - Adding Devices to the Network
 - Monitoring Networks
 - Monitoring Clients
 - Monitoring Traffic Analytics
 - Displaying and Exploring the Meraki Topology
 - Performing Packet Captures
 - Using the event Log to Perform Troubleshooting

Day 2

- **Module 3: Meraki MX Security**
- Configuring the Local Status Page
- Adding Appliance to Network
- Device Configuration
- Device Tags & Notes
- Configuring Addressing & VLANs
 - Pass-Through or VPN Concentrator Mode vs NAT Mode
 - Creating VLANs
- DHCP Server Configuration and Options
- Meraki Firewall Configuration
 - Firewall Basics
 - Layer 3 vs Layer 7 Firewall
 - Firewall Outbound Rules
 - Security Appliance Services
 - Layer 7 Firewall Rules
 - Content Filtering
 - Adult Content Filtering
 - Gaming Content Filtering
 - Social Site Content Filtering

- Geo-IP Based Firewalling
- Nat Configuration

Day 3

- Meraki Site-to-Site VPN
 - What is VPN
 - Site-to-Site Hub Configuration
 - Hub Configuration
 - Hub Configuration with an Exit Hub
 - Spoke Configuration
 - Split Tunnel vs Full Tunnel
 - VPN Firewall Rules
 - Monitor VPN Status
- One Arm VPN Concentrator Configuration
 - OSPF Configuration
- Meraki WarmSpare
- SDWAN and Traffic Shaping
 - Uplink configuration
 - Uplink selection
 - Policy based routing
 - Performance based routing
 - Traffic shaping rules
- Meraki Client VPN
 - Enable Client VPN
 - Configure Client VPN
 - Client VPN Authentication Methods
 - VPN Clients
- Meraki Active Directory Integration
 - Active Directory Authentication
 - Active Directory integration with Group Policy
- Meraki Templates
- REST API usage
- Configuring Access Policies

Day 4

1. **Module 4: Meraki Switching**

- MS Switch Platforms and Features
- MS Feature: Multi-gigabit Ethernet
- Cisco Meraki MS Access Switches
- Meraki MS 120/220 Switch Family
- Meraki MS 210/225 Switch Family
- Meraki MS 250/250X Switch Family
- Using Tags to search, monitor and configure Meraki Switches
- Meraki Switch Configuration
- Add a Switch to the Network
- VLAN Configuration
- Configuring Layer 2 and Layer 3

- Configuring Static Routing
- Configuring Access Control Lists (ACL)
- Configuring Access Policies (802.1X)
- Integrating Radius and ISE with Access Policies

- Port Configuration
 - Configuring Ports on a Switch
 - Configuring Ports using Ranges and Search Criteria
 - Configure Link Aggregation on a Switch
 - Configuring Port Schedules
 - Configuring Access Policies
 - 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
 - Monitoring Event Logs
- Troubleshooting Tools
 - Turn on Switch Blinking for Switch Identification
 - Performing Packet Captures
 - Performing Port Reset
 - Performing Throughput Test
 - Performing device Reboots
 - Using ARP and Route Tables for Troubleshooting
 - Troubleshoot using Ping and Traceroutes
- Managing Firmware Upgrades

Module 5: Meraki MR Wireless

- Meraki MR Wireless Overview
- Meraki 2.5G Multigigabit (MGig) Wireless
- Meraki's solution for RF Environments
- Securing Guest Wireless
- Bluetooth Integrated Analytics
- Meraki Location Heatmap
- High Density Wireless
- Zero-Touch Provisioning for Wireless
- Dedicated Scanning Radio for Rouges and Interferences
- Meraki MR Licensing
- IEEE 802.11 Wireless LAN Standards
 - 802.11b/g 2.4 Spectrum
 - 802.11b/g 2.4 Channel Plan
 - 802.11a/ac 5 GHz
 - Channel Planning

- Configuring Meraki APs
 - Connecting APs to the Network
 - Configuring Basic information including Tags
 - Configuring Wireless RF Radio Settings
 - Auto RF
 - Transmit Power Control
 - Channel Selection
 - Band Steering
 - Client Balancing
 - Configuring Floor Plans
 - Placing APs on the FloorPlans
 - Configuring RF Channel and Power Settings
 - Configure Air Marshall to Isolate Rouge APs and Clients

Day 5

- Configuring SSIDs
 - Provisioning SSIDs
 - Open with Splash Pages
 - Click-Through
 - Systems Manager Sign-in
 - Facebook Sign-in
 - Google Sign-in
 - SMS Authenticated
 - Billing Configuration for SSIDs
 - Using Preshared Keys with WPA2
 - Using WPA2-Enterprise SSIDs with 802.1X
 - RADIUS
 - Cisco ISE
 - Configuring Layer 3 Roaming
 - Configuring ISE Integration with Access Policies
 - Configuring Access Policies for Wireless
 - MAC-based Access Control Filtered SSIDs
- Firewall & Traffic Shaping Configuration for Wireless
 - Block local network for Guests
 - Layer 3 Firewall Rules
 - Block Applications
 - Traffic Shaping Rules per SSID
- Monitoring Meraki APs
 - Monitoring AP Status
 - Using Meraki Wireless Health
 - Monitoring Clients
 - Monitoring RF Metrics
 - Monitoring the RF Spectrum
 - Monitoring SSID Availability
- Trouble Shooting
 - Using Heatmaps to Troubleshoot RF Issues
 - Identify Problematic Areas

- Signal Attenuation
- Ping and Traceroute
- Reboot Device
- Blink LEDs
- Throughput
- Checking PCI Compliance
- Using the Event Log for Troubleshooting