

OUR LEARNING EXCLUSIVE

- Custom exam prep software and materials
- Exam delivery in the classroom, with a **98% success rate**
- Course-specific thinQtank® Learning publications to make the learning fun and engaging
- Extended hours of training, including immersive hands-on exercises
- **We do not teach the test.** We always deliver valuable hands-on experience
- All reading material and study guides sent to you when you register
- Every course taught by expert Meraki professionals

TRAINING CAMP FORMAT

thinQtank® Learning delivers this course as an **instructor-led training camp**, with the exam sat in the classroom as part of the camp. Camps are scheduled by cohort rather than to a fixed calendar, and the balance of lecture and practical lab work is set to suit the group and the delivery method. Contact us for the schedule covering your dates.

PREREQUISITES

- A CCNA certification, or equivalent general networking knowledge
- Active experience with enterprise network design, IPsec and VPN technologies
- Hierarchical network segmentation — access, distribution and core layers
- Strong IP addressing and subnetting
- Authentication, authorization and accounting (AAA) services
- Dynamic routing protocols, OSPF and BGP in particular
- Wired and wireless QoS fundamentals
- Threat modelling and cybersecurity analysis
- Network security controls and data protection
- RF concepts and the 802.11 wireless standards, at intermediate level
- Wireless security best practice — 802.1X, WIDS and WIPS
- Logging and monitoring protocols — SNMP, syslog and webhooks
- Basic API familiarity — REST and JSON

DELIVERY METHODS

- Instructor-led training
- Immersive live-online training
- On-site and custom delivery

COURSE OVERVIEW

thinQtank® Learning offers an industry-unique training camp in which students earn the **Cisco Meraki Solutions Specialist** certification. As with all our Cisco training experiences, the exam is delivered in the classroom.

Engineering Cisco Meraki Solutions gives you the core knowledge and skills to deploy, plan, design, implement and operate complex Cisco Meraki solutions. This camp combines the **Part 1 and Part 2** trainings into one.

It prepares you for roles focused on implementing, securing and managing Cisco Meraki™ networks from a centralised dashboard — Meraki's cloud-based solutions, network security protocols, the design of scalable architectures, and troubleshooting strategy.

Passing **500-220** earns the Cisco Meraki Solutions Specialist certification, and the training is worth **24 Continuing Education credits** toward recertification.

EXAM

500-220 ECMS — Engineering Cisco Meraki Solutions

This outline follows course version 1.0.

Passing it earns the **Cisco Meraki Solutions Specialist** certification, and the training is worth **24 Continuing Education credits** toward recertification.

TARGET AUDIENCE

- Anyone pursuing the **Cisco Meraki Solutions Specialist** certification
- Anyone seeking foundational knowledge and skills for Cisco Meraki solutions — cloud management, design, implementation, monitoring and troubleshooting across the product suite

EXCLUSIVE LEARNING PACKAGE

- A Cisco-approved ECMS training program
- After-course instructor coaching benefits
- Custom interactive study materials built around passing on the first attempt
- Exam voucher included, and the exam delivered in the classroom

COURSE OBJECTIVES

On completing this course you will be able to:

- Explain Cisco Meraki cloud architecture, administration and licensing models
- Identify the hardware and capabilities across the Cisco Meraki product families
- Apply troubleshooting best practice and support escalation procedures
- Design and expand Cisco Meraki network architectures
- Architect scalable management and high-availability solutions
- Automate deployments using dashboard tools and APIs
- Implement dynamic routing protocols for WAN optimisation
- Configure QoS, traffic shaping and performance-based routing
- Design VPN and SD-WAN topologies
- Establish network security, switching and wireless configurations
- Deploy endpoint and physical security solutions
- Monitor applications, and configure logging and alerting services
- Generate compliance reports and troubleshoot issues

COURSE OUTLINE

01 Introducing the Cloud and the Cisco Meraki Dashboard

- Single Pane of Glass Management
- Cisco Meraki Full-Stack Capabilities
- Cisco Meraki Devices and the Cloud
- Benefits of a Cloud-Based Solution
- Dashboard Organizational Structure
- Multiorganizational Structure
- Licensing
- Dashboard Demonstration

02 Introducing Cisco Meraki Products and Administration

- Cisco Meraki MX Security and SD-WAN Appliance
- Cisco Meraki MS Switches
- Cisco Meraki MR Wireless Access Points
- Cisco Meraki Systems Manager Endpoint Management
- Cisco Meraki MV Security Cameras
- Cisco Meraki Insight Web-Based Application Analytics
- Advanced Dashboard Usage Demonstration

03 Introducing Cisco Meraki Troubleshooting

- Dashboard Synchronization
- Monitoring and Troubleshooting Tools
- Tool Integration into Existing Systems
- Application Programming Interfaces
- Cisco Meraki Support Engagement
- Troubleshooting Demonstration

04 Planning New Architectures and Expanding Existing Deployments

- Solution Sizing
- Dashboard User Interface Features Exploration
- Licensing Considerations
- Reference Materials

05 Designing for Scalable Management and High Availability

- Role-Based Access Control
- Tag Design and Structure
- Cisco Meraki MX Security Appliance High Availability
- Cisco Meraki MS Switch High Availability
- High-Density Wireless Design

06 Automating and Scaling Cisco Meraki Deployments

- RBAC with SAML
- SAML Configuration and Role Creation
- Network Cloning
- Configuration Template Management
- Network Provisioning with APIs
- Google Sheets and Script Editor Integration with the Dashboard API

07 Designing Routing on the Cisco Meraki Platform

- Routing Across Cisco Meraki Networks
- Layer 3 Routing Configuration — creating, editing and moving SVIs
- Dynamic Routing with OSPF
- BGP for Scalable WAN Routing and Redundancy

08 Introducing QoS and Traffic Shaping Design

- Wireless and Wired QoS Design
- Network Preparation for Voice Services
- Traffic Shaping and Prioritization on the Cisco Meraki MX Platform

09 Building VPN and WAN Topologies

- Cisco Meraki MX VPN Operation Modes
- VPN Design and Topologies
- Auto VPN Architecture
- Scalable VPN Topology Design
- Cisco Meraki vMX Integration
- SD-WAN Fundamentals
- SD-WAN Design Implementation

10 Securing, Expanding, and Shaping the Network

- Cisco Meraki Security Overview
- Default Behavior and Rule-Processing Order
- Advanced Security Services
- Content Filtering
- Cisco Umbrella Integration

11 Introducing Switched Network Concepts and Practices

- Access Policies Using Cisco Meraki Authentication
- Switch Settings Cloning
- Switch Templates and Profiles
- LAN and WLAN Guest Access Best Practices

COURSE OUTLINE CONTINUED

12 Implementing Wireless Configuration Practices and Concepts

- Dashboard Maps and Floor Plans
- RF Profiles
- Wireless Encryption and Authentication
- SSID Modes for Client IP Addressing
- Bluetooth Low Energy (BLE) Scanning
- Wireless Threat Detection

13 Introducing Endpoint Management Concepts and Practices

- Cisco Meraki Systems Manager Platform Overview
- Device Deployment Methodologies
- Application and Containerization Profile Deployment
- Security Policies and Compliance Enforcement
- Network Group Policy Integration with Systems Manager
- Agentless Onboarding with Trusted Access

14 Introducing Physical Security Concepts and Practices

- Cisco Meraki MV Architectures
- Flexible Camera Deployments with Wireless
- Product Portfolio, Features and Functionalities
- Motion Search, Recap, Heat Maps and Person Detection
- Business Intelligence Applications

15 Gaining Network Insight by Monitoring Applications

- Cisco Meraki Insight Overview
- Scaling and Licensing Considerations
- Tracked Applications and WAN Health Analysis

16 Preparing, Monitoring, Logging, and Alerting Services

- Logging Capabilities
- Event, Change and Video Access Logs
- Monitoring Tools and Services
- Supported Alerts
- Cisco Meraki Dashboard API

17 Setting Up Reporting and Auditing in the Cisco Meraki Dashboard

- Cisco Meraki Reports Generation
- Firmware Management Through the Dashboard
- PCI Auditing and Compliance

18 Gaining Visibility and Resolving Issues Using Cisco Meraki Tools

- Troubleshooting Methods
- Logging Capabilities
- Security Center Overview
- Wireless Troubleshooting Tools
- Cloud Application Performance Troubleshooting
- Auto VPN Troubleshooting
- VPN Status, Firewall and Static Port Forwarding
- Local Status Page Utilization

LABS OUTLINE

- 01 Configure the Cisco Meraki Dashboard
- 02 Enable Advanced Features and Optimize Networking
- 03 Troubleshoot the Network Using the Cisco Meraki Dashboard
- 04 Configure Tags, Link Aggregation, Port Mirroring, and High-Density SSIDs
- 05 Establish Auto VPN
- 06 Configure Virtual Interfaces and Routing on Cisco Meraki MS Switches
- 07 Configure Routes and Redistribution
- 08 Configure QoS
- 09 Configure Traffic Shaping
- 10 Configure Load Balancing
- 11 Define Firewall Rules
- 12 Enable Advanced Malware Protection
- 13 Enable Content Filtering
- 14 Configure and Apply Access Policies
- 15 Configure Wireless Guest Access
- 16 Configure SSIDs

- 17 Implement RF Profiles
- 18 Implement Air Marshal
- 19 Create Cisco Meraki Systems Manager Configuration Profiles
- 20 Define Security Policies
- 21 Enforce End-to-End Security
- 22 Set Up Motion Alerts
- 23 Deploy Wireless Cameras
- 24 Manage Video Retention
- 25 Enable Alerts
- 26 Add Monitoring and Reporting
- 27 Generate and Analyze Summary Reports
- 28 Manage Firmware
- 29 Generate a PCI Compliance Report
- 30 Troubleshoot an Offline Device
- 31 Troubleshoot Content Filtering
- 32 Troubleshoot Remote Site Connectivity

TERMS

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