Engineering Cisco Meraki Solutions Training

Duration: **4 Day**

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What Can You Achieve with This Training?

- Develop a comprehensive understanding of the **Cisco Meraki platform** and strengthen your ability to plan, design, and implement cloud-managed enterprise networks.
- Use the **Cisco Meraki Dashboard** to centrally administer network devices, configurations, security policies, and operational activities.
- Design **scalable and highly available network architectures** for new deployments and the expansion of existing environments.
- Improve connectivity and performance through **VPN, WAN, dynamic routing, QoS, and traffic shaping** technologies.
- Apply **monitoring, logging, reporting, and advanced troubleshooting** techniques to identify and resolve network issues.
- Prepare for the **Cisco Meraki Solutions Specialist (ECMS 500-220)** exam and earn **24 Continuing Education (CE) credits** toward recertification.

The **Engineering Cisco Meraki Solutions Training** develops the technical knowledge and skills required to **plan, design, deploy, secure, and operate Cisco Meraki-based enterprise networks**.

This comprehensive programme combines the content of **Engineering Cisco Meraki Solutions Part 1 and Part 2** into a single training experience. Participants explore Cisco Meraki architecture and cloud-managed networking while learning how complex network environments can be administered through a centralized platform.

The course covers **Cisco Meraki cloud solutions, Dashboard administration, product families, licensing, and network security protocols**. It also examines the planning of new network architectures, expansion of existing deployments, and the design considerations involved in scalability and high availability.

Technical modules address **routing, VPN and WAN topologies, Quality of Service (QoS), traffic shaping, switching, wireless networking, endpoint management, and physical security**.

The operational modules focus on **application monitoring, logging, alerting, reporting, auditing, and troubleshooting**. Participants learn how Cisco Meraki tools can improve network visibility and support structured problem resolution.

The training also supports preparation for the **Cisco Meraki Solutions Specialist (ECMS 500-220)** certification exam.

Exams and Certification

The **Engineering Cisco Meraki Solutions Training** supports preparation for the **Cisco Meraki Solutions Specialist (ECMS 500-220)** certification exam.

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Exam Details:

- **Exam name:** Cisco Meraki Solutions Specialist
- **Exam code:** ECMS 500-220
- **Exam duration:** 90 minutes
- **Associated certification:** Cisco Meraki Solutions Specialist

The exam assesses knowledge and skills in**cloud management, design, implementation, monitoring, and troubleshooting**.

Candidates who successfully pass the exam earn the**Cisco Meraki Solutions Specialist** certification.

Prerequisites

Before attending, participants should hold a**Cisco Certified Network Associate (CCNA)** certification or have equivalent knowledge and experience in the following areas.

General Networking Knowledge and Experience

- Practical involvement in **designing, deploying, scaling, configuring, and administering enterprise networks**
- Experience with **IPsec** and related **VPN technologies**
- Knowledge of hierarchical network segmentation and design principles covering**access, distribution, and core layers**
- Strong foundational understanding of **IP addressing and subnetting** for building **local area networks (LANs)**
- Basic knowledge of network **Authentication, Authorization, and Accounting (AAA)** services
- Solid understanding of dynamic routing protocols, particularly**OSPF and BGP**
- Foundational knowledge of wired and wireless**Quality of Service (QoS)** mechanisms, packet queuing, and their practical application
- Familiarity with **threat modeling** concepts and techniques used to identify, assess, and respond to cybersecurity threats
- Understanding of **network security controls, security protocols, network management practices, and data protection**
- Intermediate knowledge of **radio frequency (RF)** concepts, wireless design principles, and current **802.11 standards**
- Familiarity with wireless security practices, including **802.1X access control**, **Wireless**

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Intrusion Detection Systems (WIDS), and **Wireless Intrusion Prevention Systems (WIPS)**

- Understanding of monitoring and logging technologies, particularly**SNMP, Syslog, and Webhooks**, along with related tools and components
- Basic knowledge of **Application Programming Interfaces (APIs)** and common formats and approaches such as **REST and JSON**

Recommended Preparatory Training

The following Cisco courses may help participants meet these prerequisites:

- **Implementing and Administering Cisco Solutions (CCNA)**
- **Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR)**

Who Should Attend

This course is suitable for IT professionals involved in, or seeking to specialize in, the**design, implementation, security, and administration of Cisco Meraki network solutions**.

It is particularly relevant to **network engineers, network administrators, systems engineers, network architects, technical consultants, and network operations specialists**.

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What You Will Learn

By the end of this course, participants will be able to:

- Explain **Cisco Meraki cloud architecture**, administration, and licensing models.
- Identify the hardware characteristics and capabilities of **Cisco Meraki product families**.
- Apply recommended **troubleshooting practices** and determine when to engage Cisco Meraki Support.
- Plan **new Cisco Meraki architectures** and develop strategies for expanding existing deployments.
- Evaluate network designs that support **scalable management and high availability**.
- Describe how **Cisco Meraki Dashboard tools** can automate and scale deployment processes.
- Use **dynamic routing protocols** to extend networks and improve **WAN performance**.
- Evaluate **QoS, policy-based routing, performance-based routing, and traffic shaping** configurations.
- Design and integrate **VPN and WAN topologies**.
- Apply **network security, expansion, and traffic management** practices within Cisco Meraki environments.
- Implement **switching configurations** and create **guest networks**.
- Apply **wireless network configuration** techniques and related security practices.
- Explain endpoint management capabilities available through **Cisco Meraki Systems Manager**.
- Describe the applications of **physical security solutions**.
- Improve network visibility through **application monitoring**.
- Explain how to prepare and administer **monitoring, logging, and alerting services**.
- Configure **reporting and auditing** capabilities in the Cisco Meraki Dashboard.
- Monitor, analyse, and troubleshoot **network issues** using Cisco Meraki tools.

Training Outline

1. Introduction to the Cloud and Cisco Meraki Dashboard

- Exploring **cloud-managed networking** and the Cisco Meraki platform
- Understanding centralized administration through the **Cisco Meraki Dashboard**

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2. Cisco Meraki Products and Administration

- Introducing **Cisco Meraki product families** and their primary capabilities
- Examining **administration, licensing, and device configuration** approaches

3. Introduction to Cisco Meraki Troubleshooting

- Reviewing fundamental **troubleshooting techniques** for Cisco Meraki environments
- Exploring support tools and the role of **Cisco Meraki Technical Support**

4. Planning New Cisco Meraki Architectures and Expanding Existing Deployments

- Identifying requirements for **new Cisco Meraki network architectures**
- Evaluating strategies for **expanding and scaling existing deployments**

5. Designing for Scalable Management and High Availability

- Reviewing design principles for **centralized and scalable network administration**
- Evaluating architectures that support **high availability**

6. Automating and Scaling Cisco Meraki Deployments

- Exploring deployment automation through **Cisco Meraki Dashboard tools**
- Reviewing methods for managing **large-scale network environments**

7. Designing Routing on the Cisco Meraki Platform

- Examining **routing design** within Cisco Meraki networks
- Using **dynamic routing protocols** to expand network connectivity and improve WAN performance

8. Introduction to QoS and Traffic Shaping Design

- Exploring **Quality of Service (QoS)** configurations and their applications
- Reviewing **policy-based and performance-based routing**
- Using **traffic shaping** to manage network traffic and optimize WAN performance

9. Building VPN and WAN Topologies

- Examining **Virtual Private Network (VPN)** and **Wide Area Network (WAN)** topologies
- Designing and integrating different **VPN and WAN architectures**

10. Securing, Expanding, and Shaping the Network

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- Reviewing **Cisco Meraki network security** capabilities
- Exploring network expansion and **traffic policy** implementation
- Managing network access and traffic flow according to operational requirements

11. Switched Network Concepts and Practices

- Understanding **switched network** design and administration principles
- Applying switching configurations within Cisco Meraki environments
- Configuring **guest networks**

12. Wireless Configuration Practices and Concepts

- Exploring **wireless network design and configuration** within Cisco Meraki
- Evaluating wireless connectivity, access, and security requirements

13. Endpoint Management Concepts and Practices

- Introducing **endpoint management** principles and administrative processes
- Exploring device management through **Cisco Meraki Systems Manager**

14. Physical Security Concepts and Practices

- Reviewing **physical security** approaches within the Cisco Meraki ecosystem
- Examining management capabilities and use cases for physical security solutions

15. Gaining Network Insight by Monitoring Applications

- Understanding how **application monitoring** improves network visibility
- Analysing application traffic and network usage through **monitoring tools**

16. Preparing Monitoring, Logging, and Alerting Services

- Planning **monitoring, logging, and alerting** capabilities
- Reviewing the configuration and use of **network event logs and alert mechanisms**

17. Reporting and Auditing in the Cisco Meraki Dashboard

- Configuring **reporting capabilities** through the Cisco Meraki Dashboard
- Exploring **auditing** functions and network administration records

18. Network Visibility and Troubleshooting with Cisco Meraki Tools

- Monitoring **network conditions and performance** through Cisco Meraki tools

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- Identifying, analysing, and resolving **network issues**
- Using centralized management information to support troubleshooting