CISCO

Cisco DevNet Automation Bootcamp for Meraki

Cisco Training Bootcamps for individuals and small teams

Real-world training for today's IT professional

Cisco Training Bootcamps are 9-day intensive training programs, delivered over 8 weeks for individuals and groups of up to 12 learners, that will help you optimize your network. Through a combination of lectures and hands-on labs, you will learn the fundamentals of automation, such as working on model-driven programmability solutions with Representational State Transfer Configuration Protocol (RESTCONF) and Network Configuration Protocol (NETCONF).

You will study software development toolkits, industry-standard workflows, tools, and Application Programming Interfaces (APIs), such as Python, Ansible, Git, JavaScript Object Notation (JSON), YAML Ain't Markup Language (YAML), Network Configuration Protocol (NETCONF), Representational State Configuration Protocol (RESTCONF), and Yet Another Generation (YANG). During the deep-dive labs, two Cisco Developer Advocates will show you how to work with Cisco Meraki automation and support you as you work with the labs on your own.

How you'll benefit

This course will help you:

- Gain an overview of the skills you need to become a next-generation engineer
- Prepare to accelerate network automation in your organization
- Increase collaboration across internal and external teams using version control systems
- Gain high-demand knowledge and skills in modern programming languages to create powerful APIs that enhance network functioning
- Acquire the skills and knowledge to use APIs to automate the Cisco Meraki managed infrastructure
- Learn how to use Python and Ansible to automate your Cisco Meraki network
- Understand the importance of NetDevOps and how you can use different tools, such as version control and testing, to scale and improve your automation practices
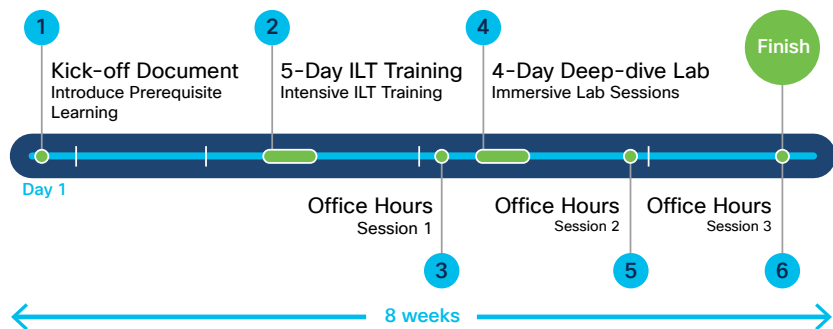
Prerequisites

Before taking this course, you should have the following knowledge and skills:

- Equivalent of CCNA-level knowledge of routing and switching

- Familiarity with the Meraki solution

- Hands-on experience with a programming language (fundamentals of Python data structures and programming constructs, such as loops, conditionals, and classes)

- Basic Linux commands for navigating the file system and executing scripts

- Knowledge of working with text editors

Bootcamp components

- Kick-off document
  Self-study prerequisite materials provided to help you get a head start and prepare for the training

- 5-day instructor-led training
  In-depth Cisco training, including hands-on labs that focus on the foundational concepts you need to know

- Self-study materials
  To help reinforce the knowledge from the 5-day training and help you prepare for the deep-dive lab

- 4-day instructor-led, deep-dive lab
  Dynamic, hands-on training using end-to-end, deep-dive labs to build your confidence and skills

- Office hours support
  Three 2-hour support sessions conducted using a Webex space

1		2		4		Finish
Kick-off Document Introduce Prerequisite Learning		**5-Day ILT Training** Intensive ILT Training		**4-Day Deep-dive Lab** Immersive Lab Sessions		

Day 1

		Office Hours Session 1		Office Hours Session 2	Office Hours Session 3
		3		5	6

← **8 weeks** →

Technology areas

- Network automation
- Meraki

Continuing Education credits

You can earn Cisco [Continuing Education Credits](#) with any Cisco Training Bootcamp and use your credits toward recertification. The Cisco DevNet Automation Bootcamp for Meraki is worth 40 Continuing Education credits.

Cancellation Policy

Cancellation of enrollment within 30 days of the course start date will result in a charge of 100% of the listed class price.

5-day ILT: Outline

The Cisco DevNet Automation Bootcamp for Meraki 5-day ILT course gives you a broad overview of network automation skills and an introduction to DevOps Practices and principles. After the 5-day course, you will apply your new knowledge to explore the Cisco Meraki APIs and integration options.

The course covers data formats and types as well as their value in network automation, along with DevOps tools, such as Ansible and Git. You will learn how to identify common application deployment models and components in the development pipeline and use containerization for local development. You will learn how to integrate programmability and automation with Cisco Meraki™.

- Section 1: Examining Network Management and Operations
  - Lab: Use Network Automation Scripts

- Section 2: Exploring Software Development Methodologies

- Section 3: Using Python for Network Automation
  - Lab: Enforce Python Fundamentals on the Interactive Interpreter
  - Lab: Automate Networks with Netmiko

- Section 4: Describing NetDevOps: DevOps for Networking
  - Lab: Use the Git Version-Control System and Collaborate on an Internal Project

- Section 5: Managing Automation Development Environments
  - Lab: Build Reproduceable Automation Environments

- Section 6: Introducing HTTP Network APIs
  - Lab: Use HTTP-Based APIs with Postman

- Section 7: Reviewing Data Formats and Data Encoding
  - Lab: Explore YAML and JSON Data

- Section 8: Using Python Requests to Automate HTTP-Based APIs
  - Lab: Consume HTTP-Based APIs with Python Requests

- Section 9: Exploring YANG

- Section 10: Using YANG Tools
  - Lab: Explore YANG Tools

- Section 11: Automating Model-Driven APIs with Python
  - Lab: Explore RESTCONF with Python
  - Lab: Explore NETCONF with Python

- Section 12: Introducing Ansible for Network Automation
  - Lab: Configure Network Devices with Ansible
  - Lab: Collect Network Data with Ansible

- Section 13: Templating Configurations with Jinja2
  - Lab: Build and Deploy Configurations with Ansible

- Section 14: Deploying Applications
  - Lab: Utilize Bash Commands for Local Development

- Section 15: Automating Infrastructure
  - Lab: Construct Infrastructure Automation Workflow

- Section 16: Containerization for Local Development
  - Lab: Interpret a Dockerfile
  - Lab: Utilize Docker Commands to Manage Local Developer Environment

- Section 17: Automating Cisco Meraki
  - Lab: Implement Cisco Meraki API Automation

- Section 18: Implementing Meraki Integration APIs
  - Lab: Explore Cisco Meraki Integration APIs
  - Lab: Explore Cisco Meraki Webhook Alerts

- Section 19: Implementing Cisco Meraki Camera Integrations
  - Lab: Set up Environment for Provisioning and Configuring Meraki MV Cameras
  - Lab: Provisioning and Configuring Meraki MV Cameras

4-day deep-dive lab: Outline

The Cisco DevNet Automation Bootcamp for Meraki 4-day deep-dive labs let you take what you learned in the 5-day course and guides you through a hands-on journey in a lab environment. You will learn how to use the Cisco Meraki REST APIs using Postman and Python scripts. You'll experience how the Meraki Python SDKs simplify application development and practice using Ansible Meraki collections to automate your daily tasks.

To reinforce the importance of using good, scalable practices when developing your scripts, you will also learn how to use Git for version control, how to test your scripts, and how to deploy CI/CD pipelines. Finally, you will learn how to plan and execute a minimal viable product (MVP) with the help of examples from the MVP workshop.

Day 1

- Section 1: Overview of Cisco Meraki

- Section 2: Cisco Meraki GUI to REST API

- Section 3: Meraki Dashboard and REST
  - Lab: Use the Meraki GUI and Meraki Dashboard APIs

- Section 4: Meraki Dashboard using Python Scripts
  - Lab: Use Python Request library with Meraki Dashboard REST API

Order Bootcamps

To order Cisco Training Bootcamps, contact your BDM at learning-bdm@cisco.com.

- Section 5: Modeling Meraki Configurations
  - Lab: Create Meraki Configuration Models

Day 2
- Section 6: Meraki Python Dashboard API
  - Lab: Use Python with Meraki Dashboard API SDK

- Section 7: Meraki Action Batches
  - Lab: Use Python and Action Batches to Configure VLANs

- Section 8: Use Ansible with the Meraki Platform
  - Lab: Use Ansible to Configure the Cisco Meraki Platform

Day 3
- Section 9: Introduction to Version Control
  - Lab: Hands-On with Git

- Section 10: Introduction to CI-CD pipelines
  - Lab: Hands-On with Python Unittest

- Section 11: Introduction to CI-CD Pipelines
- Section 12: GitLab Overview and GitLab Pipeline
  - Lab: Configure Meraki with GitLab

Day 4
- Section 13: Meraki Prototyping Workshop
  - Introduction to Meraki Use Cases
  - Lab Review
  - Guided Prototyping and Build (Part 1)
    - Lab: Meraki Use Case Prototype and Build
  - Guided Prototyping and Build (Part 2)
    - Lab: Meraki Use Case Prototype and Build (Cont.)
  - Share & Present
  - Conclusion