

Using Terraform to Automate your Meraki Deployment

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A little about me

- Solutions Engineer @ Cisco for ~15 years
- CCIE Enterprise Infrastructure #42683
- Started working with Cisco products in 1995 with Continental Cablevision.
- Eventually, that turned into RoadRunner Highspeed Online and that's where my automation journey began.
- Using TCL/Expect, shell & Perl scripting a few of us engineers automated everything from collecting interface statistics, checking CMTS status and resetting cable modems to configuration backups and updates.
- Today it's a little bit of python, APIs, the stars and the wind at my back. 😊

My Goals Today

We have 45 minutes together; it's not much time so I'm going to get right to it.

Most importantly, I want you to come away with something you can use in the short term – not something that you have to work hard to grasp but instead – something that you could go back to your hotel room or back to your desk and start using today.

I am happy to schedule time with you in 'Meet the Engineer' to review the content or address any questions you have about it while we are here in town.

After the show, you can reach me on linked In or via my email or Webex @ milipsey@cisco.com

How Orchestration, Automation & Standardization made my Career

- The real goal with any of these terms is standardization.
- When we deploy by hands on keyboard via CLI, we make mistakes it's just a reality.
- How can we deploy quickly while also maintaining standards, speed and flexibility
- GET THINGS DONE

What is Terraform?

Terraform is an Infrastructure-as-Code provisioning tool created by Hashicorp, widely used across IT roles from system administrators to developers. The Meraki Terraform Provider is tailored to work with the Cisco Meraki Dashboard API, providing a powerful and simple Infrastructure-as-Code solution.

The Cisco DevNET team already has more than one introductory lab developed our Developer website for the Meraki API.

<https://developer.cisco.com/meraki/api-v1/terraform/#terraform>

<https://developer.cisco.com/learning/labs/meraki-dashboard-terraform/introduction/>

This is a GREAT Primer that gets you installed and able to use Terraform with the Meraki API

Terraform itself is available here:

<https://registry.terraform.io/providers/CiscoDevNet/meraki/latest>

Why Terraform?

- Infrastructure-as-code software tool created by HashiCorp
 - Used to be Open Source, HashiCorp has changed the license from the Mozilla Public License (MPL 2.0) to the Business Source License (BSL)
- Agentless
- Stateful – it keeps track of the changes you make
- Declarative – describing an intended goal rather than the steps to reach that goal
- Meraki API is supported (as well as others)
 - Catalyst Center, Catalyst SD-WAN, IOS-XE and more
- No special programming skills required but basic knowledge is helpful

Cisco Meraki Terraform Provider

Key Concepts

- Developed by Cisco / Meraki
- Leverages the Meraki Dashboard API
- Maintained by Cisco / Meraki
 - As the API evolves; new capabilities will be added as well.

Terraform Terminology

- Terraform init – initializing the provider plugin
- Terraform plan – check your declarations for validity
- Terraform apply – do it! Execute your plan
- Terraform destroy – delete it – this isn't something I use much with the Meraki provider honestly

```
main.back
1 terraform {
2   required_providers {
3     meraki = {
4       source = "CiscoDevNet/meraki"
5       version = "1.2.0"
6     }
7   }
8 }
9
10 provider "meraki" {
11   api_key = "YOUR API KEY"
12 }
13
```

Modularity & Templates

Key Concepts

Global Overview

Organization
CLAMER25_DEVNET-2080

Network
SITE01_LosAngeles

Network-wide

Assurance

Cellular Gateway

Security & SD-WAN

Switching

Wireless

Cameras [Learn more](#)

Organization

Find in Menu

General

Network name
SITE01_LosAngeles

Network enrollment string

This unique identifier can be used for endpoint enrollment and easy access through the Meraki endpoint page or the Self Service Portal.

Preview of Self Service Portal URL

https://portal.meraki.com/your-enrollment-string-sm

Please note that changing this field may cause existing bookmarks to break. All networks that are part of this combined network will have their enrollment string appended by '-network_type'.

Network notes
Los Angeles Site 2

Country/Region
Select a country/region [Switch to manual country setting](#)

Regulatory domain
Default

Regulatory info
[Download regulatory file](#)

Local time zone
America - Los Angeles (U...)

Traffic analysis

Traffic analysis
Basic: collect generic traffic categories

Custom pie chart
No slices specified.
[Add a slice](#)

TERRAFORM

> .terraform

ORG_CLAMER25_DEVNET-2080 / NETWORKS

> Appliances

> Cameras

> Switches

> Wireless

Us Cases



Let's say you have 5000 sites worldwide and each country you are deployed in has a support team (or more than one for the larger countries) and you need alerts for each country to go to a specific group of people per country?

How would you do that in Meraki?

Demo

Questions?

Resources to continue your learning...

Cisco U learning and other links to build your knowledge:

- [Terraform – Introduction and Configuration](#)
- [Understanding Terraform](#)
- [Developer.cisco.com!](#)
- <https://developer.cisco.com/meraki/api-v1/terraform/#terraform>
- <https://developer.cisco.com/learning/labs/meraki-dashboard-terraform/introduction/>
- <https://registry.terraform.io/providers/CiscoDevNet/meraki/latest>
- My Github repo: <https://github.com/submikester/DEVNET-2080>

Thank you

CISCO Live !

