Cisco Meraki Fundamentals

Cloud-Managed Operations

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This gives a new device name for the AP of “Bridge Gateway - MS350-24X-1 / 11.”; From here, you can perform a GET request for the remaining device attributes to ensure that all the related details are up to date. Examples 4-9 and 4-10 show the related API call and response to retrieve the device details for your access point, ensuring you are working with your intended device.

Example 4-9 *Curl Request to Return and Confirm the Details of the Selected Access Point*

```
curl -L --request GET \
--url https://api.meraki.com/api/v1/devices/Q2BK-XXXX-ABCD \
--header 'Content-Type: application/json' \
--header 'Accept: application/json' \
--header 'X-Cisco-Meraki-API-Key: 75dd5334befXXXXXXXXXXXXX163c0a3fa0b5ca6'
```

Example 4-10 *Curl Request Response Showing the AP Details*

```
{
    "lat": 43.468725028745396,
    "lng": -72.17831212980673,
    "address": "",
    "serial": "Q2BK-XXXX-ABCD",
    "mac": "88:15:44:55:66:77",
    "lanIp": "192.168.1.5",
    "notes": "",
    "tags": [
        "Bridge",
        "Gateway"
    ],
    "url": "https://n1001.meraki.com/Meraki-Wireless/n/Itjxxxxx/manage/nodes/new_
  list/14XXXXX5784",
    "networkId": "N_6558XXXXXX50059",
    "name": "Bridge Gateway",
    "model": "MR32",
    "firmware": "wireless-26-8-3",
    "floorPlanId": null
}
```

Example 4-11 shows the API request sent to configure the new device name for the access point based on the current network location and upstream device.

Example 4-11 *Curl Request to Update the Device Attributes and Rename the Access Point*

```
curl -L --request PUT \
--url https://api.meraki.com/api/v1/devices/Q2BK-XXXX-ABCD \
--header 'Content-Type: application/json' \
--header 'Accept: application/json' \
--header 'X-Cisco-Meraki-API-Key: 75dd5334befXXXXXXXXXXXXX163c0a3fa0b5ca6' \
--data '{
    "name": "Bridge Gateway - MS350-24X-1 / 11",
    "lat": 43.468725028745396,
    "lng": -72.17831212980673,
    "serial": "Q2BK-XXXX-ABCD",
    "mac": "88:15:44:55:66:77",
    "tags": [ "Bridge","Gateway" ],
    "address": "",
    "moveMapMarker": false
}'
```

While this example only refers to a single device, you can easily extend it to multiple devices by providing a list of serial numbers and iterating through this process for each serial number.

Taking this one step further, you could easily configure an additional level of automation that would retrieve the serial number and current device name of all APs, for example, then go through the same steps used in the previous two API examples to compare the current device name with the current LLDP/CDP data from the device and, if necessary, update the device name to reflect the new LLDP/CDP data and location. You could configure this to run automatically once per week or at a similar limited interval, with a manual list of devices being run on a new deployment or when replacing a failed device as needed.

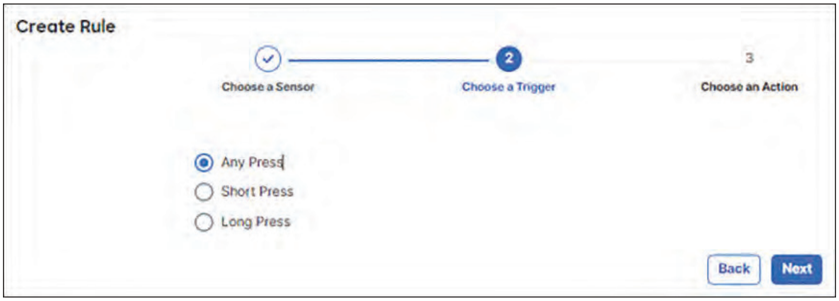
MT Automation

The Meraki MT line of devices is a family of cloud-managed, IoT environmental sensors that are capable of monitoring and alerting through the Meraki Dashboard, allowing further visibility into the physical state of a deployment through the use of the Meraki cloud platform. The MT series of sensors is capable of monitoring various environmental statuses such as temperature, humidity, air quality, door open/close, and more. Through these sensors, you can utilize Dashboard alerts to trigger outside automation, as discussed previously, or you can utilize a device like the MT30 Smart Automation Button to trigger specialized automation from directly within the Dashboard.

Dashboard-Based Automation

When using the MT30 Smart Automation Button, you can configure unique automation actions from the Dashboard based on a simple button press. Actions that can be triggered by a single button push include generating custom SMS or email notifications, recording a snapshot from a specified MV camera, toggling configurations like SSIDs or switchport access, or generating custom webhook alerts.

This configuration is accomplished by defining automation rules from within the Dashboard for each MT30 automation button. You can configure a trigger to be as simple as any press of the button or to be more precise, such as requiring a long press (1+ seconds) to trigger the action, which helps to reduce accidental triggers. Figure 4-5 shows an example of the Dashboard trigger selection options.

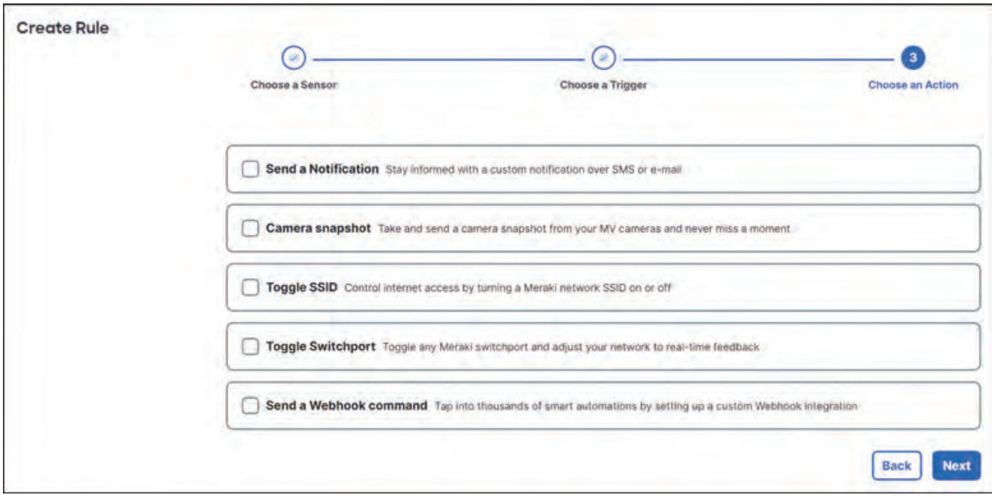


Create Rule

● Any Press
○ Short Press
○ Long Press

Figure 4-5 *The Choose a Trigger Options in the Automation Rule Creation Modal in the Dashboard*

After you define a trigger, you need to define the automation action for the trigger. This is easily configurable from a list provided when navigating through the rule creation module in the Dashboard, as shown in Figure 4-6.



Create Rule

□ **Send a Notification** Stay informed with a custom notification over SMS or e-mail

□ **Camera snapshot** Take and send a camera snapshot from your MV cameras and never miss a moment

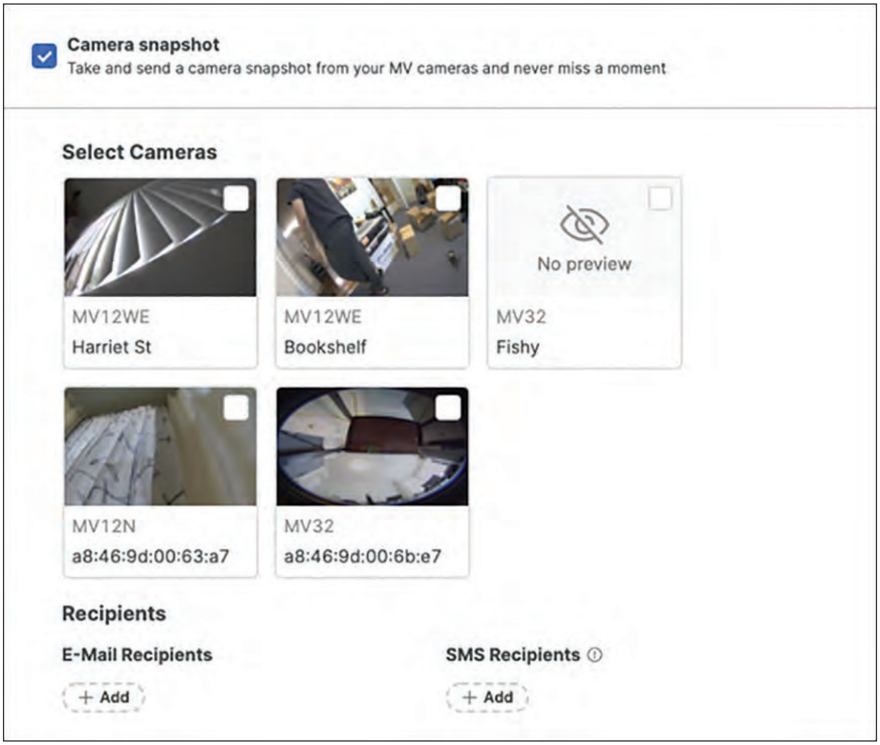
□ **Toggle SSID** Control internet access by turning a Meraki network SSID on or off

□ **Toggle Switchport** Toggle any Meraki switchport and adjust your network to real-time feedback

□ **Send a Webhook command** Tap into thousands of smart automations by setting up a custom Webhook integration

Figure 4-6 *The Choose an Action Options in the Automation Rule Creation Modal in the Dashboard*

For example, if you're configuring a rule to trigger a snapshot from an MV camera on a long press, first choose the **Long Press** trigger and then choose the **Camera Snapshot** action. As you can see in Figure 4-7, you can select up to five cameras to record a snapshot when triggered and you can then configure a custom list of recipients for those snapshots.



☑ **Camera snapshot**
Take and send a camera snapshot from your MV cameras and never miss a moment

Select Cameras

□ MV12WE
Harriet St

□ MV12WE
Bookshelf

□ No preview
MV32
Fishy

□ MV12N
a8:46:9d:00:63:a7

□ MV32
a8:46:9d:00:6b:e7

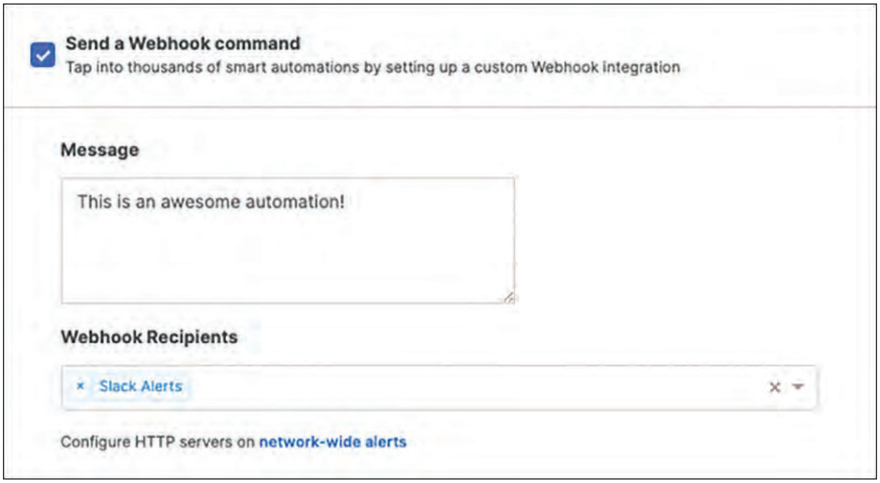
Recipients

E-Mail Recipients
+ Add

SMS Recipients ⓘ
+ Add

Figure 4-7 *The Camera Selection and Recipient Configuration View in the Automation Rule Creation Modal in the Dashboard*

Alternatively, you could configure the rule to trigger a custom webhook notification, in which case you can create a custom webhook message to suit your needs and select which webhook receivers should receive the alert, as shown in Figure 4-8. This option enables you to create essentially entirely custom alerts through the Meraki cloud platform, as the contents of the webhook alert could contain nearly anything and can be sent to nearly any webhook receiver, allowing for limitless possibilities. This allows for quick and easy integration with popular third-party automation platforms like IFTTT (If This Then That) or any other platform capable of receiving and parsing custom webhook notifications.



☑ **Send a Webhook command**
Tap into thousands of smart automations by setting up a custom Webhook integration

Message

This is an awesome automation!

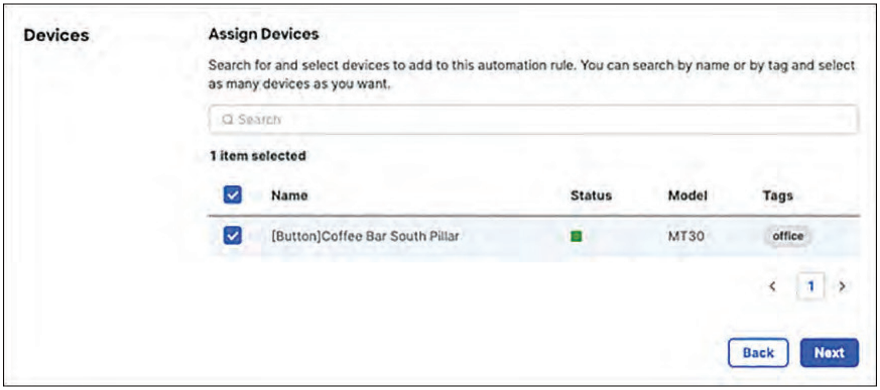
Webhook Recipients

× Slack Alerts

Configure HTTP servers on **network-wide alerts**

Figure 4-8 *The Custom Webhook Command View in the Automation Rule Creation Modal in the Dashboard*

Once you have defined the automation rule, the last step is to assign devices to an automation rule. As demonstrated in Figure 4-9, this is where you determine which devices will trigger specific rules when activated. This allows you to create custom automation rules quickly and easily from within the Dashboard and assign and reconfigure them as needed to best suit your current requirements.



Devices

Assign Devices

Search for and select devices to add to this automation rule. You can search by name or by tag and select as many devices as you want.

Search

1 item selected

☑	Name	Status	Model	Tags
☑	[Button]Coffee Bar South Pillar	🟩	MT30	office

Figure 4-9 *The Device Assignment View in the Automation Rule Creation Modal in the Dashboard*

The MT series of sensors is discussed in more detail in Chapter 9, "IoT Design." You can find additional information regarding using MT sensors for automation at https://documentation.meraki.com by accessing the "MT – Sensors" section on the main page.

Summary

As you can see, the Meraki platform offers some powerful options when it comes to automation, both inside and outside of the Dashboard UI. From templates and MT automation rules to syslog, SNMP, and webhooks for triggering external automation, the potential possibilities are endless. While this chapter only lightly touched on the potential possibilities these types of automation can provide, the implementation of these automation capabilities can be as unique and varied as the number of Meraki platform deployments, enabling Meraki customers to tailor the operation of the Dashboard to best match their workflows and to spend time working on the tasks that are most important instead of dedicating resources to performing simple, repetitive tasks related to maintaining or deploying a site.

In the next chapter, you will encounter some of the more platform-specific best practices to keep in mind when planning the configuration and deployment of MX security appliances.

Additional Reading

Managing Multiple Networks with Configuration Templates: https://documentation.meraki.com/General_Administration/Templates_and_Config_Sync/Managing_Multiple_Networks_with_Configuration_Templates

Meraki Device Reporting – Syslog, SNMP, and API: https://documentation.meraki.com/General_Administration/Monitoring_and_Reporting/Meraki_Device_Reporting_-_Syslog%2C_SNMP%2C_and_API

Webhooks: https://documentation.meraki.com/General_Administration/Other_Topics/Webhooks

Cisco Meraki Dashboard API: https://documentation.meraki.com/General_Administration/Other_Topics/Cisco_Meraki_Dashboard_API

MT Automation Builder: https://documentation.meraki.com/MT/MT_General_Articles/MT_Automation_Builder

Meraki Dashboard API: https://developer.cisco.com/meraki/api-latest/

Meraki Webhooks: https://developer.cisco.com/meraki/webhooks/

Meraki Alert Webhooks: https://developer.cisco.com/learning/labs/dne-meraki-webhooks/introduction/

Meraki Location Scanning API: https://developer.cisco.com/learning/labs/dne-meraki-location-scanning-python/launch-the-location-scanning-api-receiver/

Meraki Captive Portal: https://developer.cisco.com/learning/labs/dne-meraki-captive-portal/introduction-to-the-meraki-captive-portal-lab/

Meraki Vision (MV) Sense: https://developer.cisco.com/learning/labs/dne-meraki-mvsense/introduction/