```
Omada OpenAPI Cookbook
OpenAPI has finally been supported on Omada Cloud Based Controller since v5.14.2. We have been waiting for this feature for a too long time. So today, I am going to share how to use Omada
OpenAPI for starters.
Purpose of this article:
 1. introduce what is Omada OpenAPI
 2. Explain how to use Omada OpenAPI with a step-by-step example.
 3. Explain the difference between Omada OpenAPI and Web API
What is Omada OpenAPI
Omada SDN controller provide OpenAPI for third-party integration. Omada OpenAPI supports the REST API for most of the Controller's features. Almost all the operation/monitoring you can do on
Omada SDN Controller web UI, you can do by using Omada OpenAPI. This allows you to integrate with your own applications, for example, the CRM system, automation system.
Omada SDN provides two types of API authorization, Authorization code mode and Client mode. For more details about these two mode, you can check the Omada API document. On our Cookbook,
we will use Client mode for simplicity.
Example of using Omada API.
Omada Controller supports working at MSP mode and normal mode. For MSP mode, you can create an OpenAPI application under MSP view, or under Customer View, it depends on your needs. For
normal mode, you can create an OpenAPI application under Global view, the operations are similar.
Note:
 1. On our example, we will use Omada Cloud Based Controller and MSP mode for illustration.
 2. some API interface may support only authorization code mode, for example /openapi/v1/msp/{mspld}/customers. For more details, plesae refer to the OpenAPI document.
Step 1. Create an OpenAPI Application
Login the Controller with Main Admin/Admin account. Go to MSP view - Settings - Platform Integration page and Click "Add New App". Choose Mode as "Client" and select MSP role Customer
Privileges and Customer Role as you need.
       tp-link omada Demo Hotel Cloud-MSP MSP Mode
                                                                                                                            Organization: MSP View 1
         System Settings
                                   Open API
        MSP Settings
  0
                                       Add New App
         Server Settings
  4
                                       App Name:
                                                                   mytest
         Account Security
  5
                                                                   Client
                                       Mode:
         Platform Integration 3
  岜
                                                                  MSP Administrator 6
                                       MSP Role:
         Maintenance
                                       Customer Privileges:

    All (Including all new-created Customer)

                                                                 Customer
         Export Data
                                                                 None
                                                           8
                                       Customer Role:
                                                                   Administrator
                                                                                            \vee
                                         Apply
                                                     Cancel
                                           9
After applying, you will see the Client ID, Client Secret.
   Open API
         APPLICATION
                                              CLIENT ID
                                                                                   CLIENT SECRET
                                                                                                                        MODE
                                                                                                                                                                  ACTION
                                                                                   0eed80275445451790046636 @
                                                                                                                        Client
         mytest
                                              874b
                                                         10 / page
        Showing 1-1 of 1 records
                                                                               Go to page:
           + Add New App
                                       Online API Document
And click the eye icon, you will see the interface access address and Omada ID. These information will be used for granting the API access.
      View Open API Attributes
                                                                                                                                                              X
      Interface Access Address:
                                                                 https://euw1-omada-northbound.tplinkcloud.com
      Omada ID:
                                                                 d7a2b74a3acaf62af37e3230d4865ae3
           OK
Step 2. Get the accessToken and refreshToken
To call the API, we will use Postman. You can use their online version or download the desktop application from their official website.
to call the API, you need first get the accessToken and RefreshToken.
On Post Man, add a new request, method choose POST, URL use <a href="https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token.">https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token.</a>
Note: <a href="https://euw1-omada-northbound.tplinkcloud.com/">https://euw1-omada-northbound.tplinkcloud.com/</a> is the interface access address you get from above step, and /openapi/authorize/token is the first API you need use.
Then add a Query Params, key is grant_type, value is client_credentials.
                                                                                                                                                          No environment
         POST Login
                                                                                                                                                                          Share
       Omada OpenAPI Test / Client Credentials Mode Acess / Login
                                                                                                                                                            Save
                       https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=client_credentials
                                                                                                                                                                    Send
    POST
  Params 43 Authorization
                                                                                 Settings •
                                Headers (8)
                                                                                                                                                                          Cookies
                                                 Body •
                                                                       Tests
  Query Params
                                                                   Value
           Key
                                                                                                                          Description
                                                                                                                                                                   ••• Bulk Edit
                                                                                       5
                                                                   client_credentials
           grant_type
                        4
           Key
                                                                                                                           Description
                                                                   Value
On the Body, use Jason format, and add the following key: value pairs.
"omadacId": "d7a2b74a3acaf62af37e3230d4865ae3",
"client_id": "cc258c1d98a24218949dab58e997874b",
"client_secret":"0eed8027544545179004663603c61fc4"
                                                                                                                                                           No environment
         POST Login
       Omada OpenAPI Test / Client Credentials Mode Acess / Login
                                                                                                                                                                          Share
                                                                                                                                                            Save
                       https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=client_credentials
                                                                                                                                                                    Send
    POST
                                                                       Tests
                              Headers (8)
               Authorization
                                                 Body •
                                                                                                                                                                          Cookies

    ○ none
    ○ form-data
    ○ x-www-form-urlencoded
    ○ raw
    ○ binary
    ○ GraphQL
    JSON

                                                                                                                                                                        Beautify
               "omadacId": "d7a2b74a3acaf62af37e3230d4865ae3",
               "client_id":"cc258c1d98a24218949dab58e997874b",
           "client_secret": "0eed8027544545179004663603c61fc4"
      5
Now, you can click "Send" to call the API. If successful, it will return the accessToken and refreshToken as below:
      Omada OpenAPI Test / Client Credentials Mode Acess / Get accessToken
                                                                                                                                                                          Share
                                                                                                                                                            Save
                      https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=client_credentials
                                                                                                                                                                    Send
   POST
              Authorization
                                Headers (8)
                                                                       Settings •
                                                                                                                                                                          Cookies
 Params •
                                                 Body •
                                                            Scripts
 Query Params
                                                                                                                          Description
          Key
                                                                                                                                                                   ••• Bulk Edit
                                                                   Value
          grant_type
                                                                  client_credentials
          Key
                                                                                                                          Description
                                                                   Value
                                                                                                                                                         Save as example •••
                                                                                                            Status: 200 OK Time: 59 ms Size: 1.26 KB
       Cookies Headers (9) Test Results
  Pretty
                        Preview
                                      Visualize
                                                    JSON ∨
               "errorCode": 0,
               "msg": "Open API Get Access Token successfully.",
              "result": {
                    <mark>accessToken":</mark> "AT-hooW7G5UFxCNk5MajEVZ6APMBasduV3a",
                   "tokenType": "bearer",
    6
                   "expiresIn": 7200,
                    "refreshToken": "RT-Ifv5l0Ius4yVGbYLyLYcILg7pGGkAF8n"
   10
Note: If you are using local controller, and haven't imported the SSL cert, you will encounter an error. Please go to Settings and disable the "Enable SSL certificate verification".
                      https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=client_credentials
                                                                                                                                                                     Send
  POST
                                Headers (8)
                                                                                 Settings •
                                                                                                                                                                           Cookies
              Authorization
                                                 Body •
                                                            Scripts
                                                                       Tests
 Params •
Enable SSL certificate verification
                                                                                                                                  OFF 2
Verify SSL certificates when sending a request. Verification failures will result in the request being aborted.
                                                                                                                             Restore Default
Automatically follow redirects
                                                                                                                              ON
Follow HTTP 3xx responses as redirects.
                                                                                                                            Default: Settings
Step 3. Access API Interface
after getting the accessToken, you now can access to the Omada SDN's OpenAPI.
Let's use /openapi/v1/msp/{mspld}/general-setting as an example. For details of this API, you can check the Omada OpenAPI document.
In MSP mode, the mspld is the omadacid you get from the OpenAPI application in MSP review which is d7a2b74a3acaf62af37e3230d4865ae3 in our example.
Using Get method.
Auth type choose Bearer Token, and value use "AccessToken=AT-hooW7G5UFxCNk5MajEVZ6APMBasduV3a" which you get from the above step.
                                                                                                                                                          🖺 Save 🗸
       Omada OpenAPI Test / Client Credentials Mode Acess / Query Site
                                                                                                                                                                            Share
                       https://euw1-omada-northbound.tplinkcloud.com/openapi/v1/msp/d7a2b74a3acaf62af37e3230d4865ae3/general-setting
                                                                                                                                                      1
    GET
                                                                                                                                                                     Send
                                                                        Settings
               Authorization •
                                  Headers (7)
                                                             Scripts
                                                                                                                                                                           Cookies
                                                    Body
  Params •
 Auth Type
                                                   Token
                                                                                                         AccessToken=AT-O2ZNvqWkWDLVLLIHjrgJ...
                          2
    Bearer Token
 The authorization header will be
 automatically generated when you send the
 request. Learn more about Bearer Token
 authorization.
Send the API request, you will get the following response successfully.
                                                                                                                                                          No environment
         POST Login
                                     GET Query Site
        Omada OpenAPI Test / Client Credentials Mode Acess / Query Site
                                                                                                                                                                          Share
                                                                                                                                                            Save
                       https://euw1-omada-northbound.tplinkcloud.com/openapi/v1/msp/d7a2b74a3acaf62af37e3230d4865ae3/general-setting
    GET
                                                                                                                                                                    Send
                                                                                                                                                                          Cookies
                                                                        Settings
  Params •
               Authorization •
                                  Headers (7)
                                                    Body
                                                             Scripts
  Auth Type
                                                  Token
                                                                                                        AccessToken=AT-O2ZNvqWkWDLVLLIHjrgJ...
    Bearer Token
  The authorization header will be
 automatically generated when you send the
 request. Learn more about Bearer Token
 authorization.
                                                                                                        Status: 200 OK Time: 82 ms Size: 1.28 KB Save as example
 Body Cookies Headers (9) Test Results
                                                                                                                                                                       Pretty
               Raw
                                      Visualize
                                                     JSON
                         Preview
                "errorCode": 0,
                "msg": "Success.",
                "result": {
      4
                     "dst": {
                          "enable": false,
      6
                          "end": {},
                          "endTime": 0,
                          "lastEnd": 0,
      9
                          "lastStart": 0,
    10
                          "nextEnd": 0,
    11
                          "nextStart": 0,
    12
                          "start": {},
    13
                         "startTime": 0,
    14
                          "status": false
    15
    16
                     "name": "Demo Hotel Cloud-MSP",
    17
                     "timeZone": "Europe/London"
    18
    19
    20
Note: the OpenAPI token will be valid for 2 hours. And refresh token will be valid for 14 days. If the accessToken expires, you can refresh the accessToken by usign refreshToken, the API interface is
/openapi/authorize/token, method is POST. If the refresh token also expires, you need to re-apply for the token following Step 2.
Here we explain how to refresh the accessToken using refreshToken.
method choose POST
request URL: https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token
In the Params, add grant_type: refresh_token, refresh_token: RT-Ifv5l0lus4yVGbYLyLYclLg7pGGkAF8n
                                                                                                                                                         🖺 Save
      Omada OpenAPI Test / Client Credentials Mode Acess / refresh accessToken
                                                                                                                                                                            Share
                           2
                      https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=refresh_token&refresh_token=RT-Ifv5I0lus4yV ...
                                                                                                                                                                     Send
  POST
                                                                                                                                                                           Cookies
             Authorization
Params •
                               Headers (8)
                                                 Body •
                                                            Scripts
                                                                       Settings
Query Params
                                                                                                                           Description
                                                                   Value
                                                                                                                                                                    ••• Bulk Edit
         grant_type
                                                                  refresh_token
         refresh_token
                                                                  RT-Ifv5I0Ius4yVGbYLyLYcILg7pGGkAF8n
                                                                                                                           Description
          Key
                                                                   Value
in the body:
"client_id": "cc258c1d98a24218949dab58e997874b",
"client_secret":"0eed8027544545179004663603c61fc4"
                                                                                                                                                         🖺 Save
      Omada OpenAPI Test / Client Credentials Mode Acess / refresh accessToken
                                                                                                                                                                           Share
                       https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=refresh_token&refresh_token=RT-Ifv5I0lus4yV...
   POST
                                                                                                                                                                     Send
                                                                                                                                                                          Cookies
                                Headers (8)
                                                                       Settings
 Params •
               Authorization
                                                 Body •
                                                            Scripts
                                                           O raw ○ binary ○ GraphQL JSON ∨
             ○ form-data ○ x-www-form-urlencoded
                                                                                                                                                                         Beautify
     1
               "client_id": "cc258c1d98a24218949dab58e997874b",
               "client_secret": "0eed8027544545179004663603c61fc4"
     3
send the request, you will refresh the accessToken as shown below
                                                                                                                                                          🖺 Save
       Omada OpenAPI Test / Client Credentials Mode Acess / refresh accessToken
                                                                                                                                                                            Share
                       https://euw1-omada-northbound.tplinkcloud.com/openapi/authorize/token?grant_type=refresh_token&refresh_token=RT-Ifv5I0Ius4yV...
                                                                                                                                                                     Send
    POST
  Params •
               Authorization
                                Headers (8)
                                                  Body •
                                                             Scripts
                                                                        Settings
                                                                                                                                                                           Cookies
   ○ none ○ form-data ○ x-www-form-urlencoded ○ raw ○ binary ○ GraphQL JSON ∨
                                                                                                                                                                          Beautify
      1
           "client_id": "cc258c1d98a24218949dab58e997874b",
           "client_secret":"0eed8027544545179004663603c61fc4"
      3
      4
                                                                                                                                                           Save as example •••
                                                                                                         Status: 200 OK Time: 45 ms Size: 1.26 KB
        Cookies Headers (9) Test Results
Body
                                      Visualize
   Pretty
                                                     JSON ∨
               Raw
                         Preview
      1
               "errorCode": 0,
                "msg": "Open API Get Access Token successfully.",
      3
                "result": {
      4
                     "accessToken": "AT-hooW7G5UFxCNk5MajEVZ6APMBasduV3a",
      5
                     "tokenType": "bearer",
      6
                     "expiresIn": 6943,
                     "refreshToken": "RT-Ifv510Ius4yVGbYLyLYcILg7pGGkAF8n"
      8
      9
    10
Example:
Here is an example we created on Postman, in this example, we will grant the access - refresh the token - get MSP general settings - get customerId - create a new site - and create/modify the SSID.
https://documenter.getpostman.com/view/11903827/2sA3rwMu8q
What is the differences between Omada OpenAPI and Omada web API.
simply speaking, web API may change with Omada controller version upgrades due to feature changes, that means you may need to update your integration works from time to time, that will be very
annoying sometimes. With OpenAPI, the API interface will keep the same mostly, that keep your integration work much easier.
Omada OpenAPI starts from /openapi, for example /openapi/v1/{omadacId}/sites/{siteId}/wireless-network/wlans/{wlanId}/ssids.
Omada web API starts from /api/v2/ (from SDN v4.x.x), for example, /{omadacld}//api/v2/sites/{siteKey}/setting/wlans/{wlanId}/ssids.
You can also get the Omada Web API in web browser developer mode (by presessing Fn + F12). Do the operation (for example, creating an SSID) on the Omada Web UI, and at the same time, check
from Network - Filename, you will se the Web API as shown on the picture below.
                                                                            2.4 GHz
        Transmission
                                                                                                                                                                      test
                                                              None
                                                                            5 GHz
        VPN
                            ~
 ííí
                                       Showing 1-2 of 2 records
                                                                               Go to page:
        Profiles
                            ~
        Authentication
                                          + Create New Wireless Network
                         Debugger ↑ Network {} Style Editor 	 Performance ② Memory ☐ Storage ★ Accessibility ः Application
               Console
    Inspector
                                                                                              9
    Filter URLs
                                                                                                      All HTML CSS JS XHR Fonts Images
                                                                                                                                                         Disable Cache
                                                                                                                                        Media
                                                                                                                   ▶ Headers
Status
       Method
               Domain
                              File
                                                                    Initiator
                                                                                  Type
                                                                                          Transferred
                                                                                                         Size
                                                                                                                               Cookies
                                                                                                                                       Request
                                                                                                                                                Response
                                                                                                                                                          Timings
                                                                                                                                                                  Stack Trace
                                                                                                                                                                             Security
                                                                                                                                                                            Block Resend
200
                                                                                                                   Filter Headers
       GET
               euw1-api-omad...
                              timeranges?_t=1722722433077
                                                                    axios-0472d464.js...
                                                                                          458 B
                                                                                                         53 B
                                                                                  json
200
       OPTIONS a euw1-api-omad...
                             ssids
                                                                    xhr
                                                                                          443 B
                                                                                                         0 B
                                                                                   plain
                                                                                                                   ▼ POST
       POST
               euw1-api-omad...
                                                                    axios-0472d464.js... json
                                                                                          485 B
                                                                                                         79 B
                                                                                                                    Host: euw1-api-omada-controller.tplinkcloud.com
                                                                                                         0 B
200
       OPTIONS a euw1-api-omad... ssids?currentPage=1&currentPageSize=10&_t=17227224 xhr
                                                                                          430 B
                                                                                   plain
                                                                                                                    Filename: /df5cba769f8b780404301f9ba63f07c2/a
200
       GET
               euw1-api-omad... ssids?currentPage=1&currentPageSize=10&_t=17227224 axios-0472d464.js...
                                                                                          2.45 kB
                                                                                                         2.04 kB
                                                                                                                     etting/wlans/66ae93c051eaac7b0d5999e5/ssids
200
       OPTIONS a euw1-api-omad...
                              idle-timeout?_=1722722405614
                                                                                          443 B
                                                                                                         0 B
                                                                                                                    Address: 54.229.10.149:443
200
                                                                                                         83 B
       GET
               euw1-api-omad... | idle-timeout?_=1722722405614
                                                                    jquery-4cb867216... json
                                                                                          488 B
0
       GET
                                                                                          NS_BINDING_ABO...
               euw1-omada-co... FeedbackHover.svg
                                                                    jquery-4cb867216...
                                                                                                         0 B
                                                                                                                    Status
                                                                                                                                200 OK (?)
200
       GET
               euw1-omada-contr... Feedback.svg
                                                                                          cached
                                                                                                         53.23 kB
                                                                                                                    Version
                                                                                                                                HTTP/1.1
                                                                                   svg
                                                                                                                                485 B (79 B size)
                                                                                                                    Transferred
200
                                                                                                         0 B
       OPTIONS
               euw1-api-omad... | idle-timeout?_=1722722405615
                                                                                   plain
                                                                                          443 B
                                                                                                                    Referrer Policy
                                                                                                                                strict-origin-when-cross-origin
200
       GET
               euw1-api-omad... | idle-timeout?_=1722722405615
                                                                    jquery-4cb867216...
                                                                                          488 B
                                                                                                         83 B
                                                                                  json
                                                                                                                    Request Priority
    20 requests 56.66 kB / 10.99 kB transferred Finish: 3.57 min
                                                                                                                    DNS Resolution System
for more information about Omada SDN web API, you can refer to this community thread:
https://community.tp-link.com/en/business/forum/topic/253944
Cause the web API may change, It would be better for you to use OpenAPI. OpenAPI is safer, easier, and more poerfule. But I also notice TP-LINK still use web API for their External Portal
Authenticaiton and External Radius Authentication. I don't understand why, maybe they have their considerations and reasons to do so.
[External Portal Authentication] https://www.tp-link.com/us/support/faq/2912/
[External Radius Authentication] https://www.tp-link.com/uk/support/faq/3231/
```

Related to what you're working on (4)

Omada API

See all Context