Hewlett Packard
Enterprise

HPE AppPulse Mobile

Software Version: 2.1

Getting Started with the AppPulse Mobile Open API

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AppPulse Mobile Open API

The AppPulse Mobile Open API enables advanced customers to collect data from AppPulse Mobile and use it for custom needs. For example, you can use the Open API for custom reports, custom integrations with external systems, and custom analysis of data.

The Open API is available for users with a Premium license. If you want to try out the Open API and you do not have a Premium license, please contact us to open a trial.

API Specifications

- **API Format.** The Open API is published as REST APIs, and can be invoked by any REST client. API inputs are defined either as URL parameters, or as a JSON in the request body. The API output format is JSON.
- **Authentication.** The AppPulse Mobile Open API uses authentication based on the oAuth2 protocol (http://oauth.net/2/), which is standard for authorization of open APIs. The oAuth protocol specifies a process for resource owners to authorize access to their server resources without sharing their credentials.

  After you invoke the authentication API using the client ID and client secret, the system returns an encrypted access token valid for 3 hours. For security purposes, if you log in repeatedly using the wrong token you will be locked out for one hour.
- **Rate Limitation.** The API enforces a limit on how many requests you can send in a given period. The current rate limitation is up to 15 APIs every quarter hour (e.g. from 10:00-10:15), per application.

Working With the API

You can try the API using the AppPulse Mobile API Browser, or use it via REST calls. In either case, you must first generate a client secret. This section contains the following:

Before you Begin: Generate a Client Secret

1. Within AppPulse Mobile, select **Settings > Open API**.

   (If you don't see this option you probably don't have a Premium license. Contact support to try out the API.)
2. Click **Generate Client Secret**.
3. Copy the Client ID and Client Secret that are generated, as well as the tenant ID.

   Note that you will not be able to retrieve this secret later! If necessary, you can generate a new client secret. You can also revoke the secret if needed.

How to Use the API Browser (optional)

The API Browser is a tool to help you try out the API - it is not mandatory.

1. Within **Settings > Open API**, click **Open API Browser**.
2. Enter the client ID and secret you just copied, as well as your tenant ID, and click **Authenticate**.

   This generates a token which is valid for the next three hours (by default).
3. Select the relevant API and fill in its parameters.

How to Send REST Requests

To invoke the API, you can use any HTTP client that is available in your development environment (e.g. Java, JavaScript, C#, and so on).

1. If you are sending a REST request, you must first get a token.
   a. Enter the following URL using the POST method:

      `<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/oauth/token`

      Note: To find the SaaS domain, log into AppPulse Mobile and look at your URL. For example, suppose your URL is this:

      `https://emast001papa.saas.hp.com/apmappsServer/index.html?TENANTID=123456#/reports/landingpage`

      In this case, your SaaS domain is `emast001papa.saas.hp.com`.

   b. Add a header `Content-Type: application/json`
   c. In the request body, enter the following (in JSON):

      ```
      {"clientSecret": "<client secret>",

      "clientId": "<client ID>"}
      ```

   This generates a token with an expiration time-stamp. For example:

   ```
   {"token":"123455_f48720f4-c64c-4aec-a697-7f73807601f8","expirationTime":1441202451284}
   ```

2. You can now send REST requests for the API resources described below.
   - For each request, add a header `Authorization: Bearer <token>`.

     Here's an example: `Authorization: Bearer 123455_58e8a93e-c1cf-453f-b06b-f72a936207be.`

   - Add URL parameters as described below for each resource.

Code Example

For an example of code using the Open API, see `https://github.com/hpe-apppulse/openapiclientdemo`.

How to Send REST Requests Using cURL

The following example shows how to get the token using cURL:

```
curl --header "Content-Type: application/json" --request POST --data
{\"clientSecret\":\"<client secret>\",\"clientId\":\"<client ID>\"}
https://emast001papa.saas.hp.com/mobile/openapi/rest/v1/<tenant ID>/oauth/token
```

Within the API browser, after you click the **Try it out** button you see an example of how to use the API in cURL.

Security Considerations

Both the oAuth token and the client secret should be considered sensitive information.

Protect this information according to your company's sensitive data retention policy.

Returned Data

The API returns historical data, from the previous UTC day and backwards.

Here's an example of the data returned:

```
{
  "metaData": {
    "message": "Success",
    "messageCode": 2000,
    "fromDay": "2015-08-02 00:00 UTC",
    "toDay": "2015-11-25 23:59 UTC"
  },
  "data": {
    "avgUIResponseTimeSec": 2.63,
    "slowActionsPercent": 14.64,
    "avgLaunchStartTimeSec": 1.39,
    "avgLaunchResumeTimeSec": 0.54
  }
}
```

The `metaData` section contains a `message` and `messageCode`; if you need to contact HPE Support the `messageCode` will help troubleshoot problems.

The `fromDay` and `toDay` lines show the actual time range for the data collected. If you entered a fromDay of more than one year back, the API returns data from the last year only.

Response Codes

200 – OK

400 – Invalid input (parameters or time range)

401 - API token does not exist (e.g. a new authentication was initiated)

403 - Client secret revoked (e.g. SaaS operator revoked the secret)

404 - Entity not found (e.g. application ID does not exist)

417 – Token expired

429 - Rate limitation breached

500 - Internal error

503 - Open API disabled (e.g. SaaS operator disabled the open API feature)

Note that the response body also contains an error message with more details, as well as message codes for internal use.

API Resources

Note: The following is a list of resources available when this document was published.

For full up-to-date details on the available resources, access the API Browser located at `<SaaS domain>/mobile/openapi/apibrowser/index.html`.

/applications

Enter the following using the GET method:

```
<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/applications/
```

/applications

Get a list of applications for the tenant. For each application, the following are displayed:

- Application name
- Application ID
- Application package name
- OS platform (iOS/Android)
- Slow launch time threshold (sec)
- Slow action response time threshold (sec)
- Heavy battery usage threshold (percent per minute)
- Heave cellular data usage threshold (kilobyte per minute)

/applications/<appid>/versions

- List of all versions of the application
- Latest version (true/false)

/applications/metrics/deviceos

The following example is relevant for all the /metrics/deviceos/<data> APIs.

Enter the following using the GET method:

```
<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/applications/<app
ID>/metrics/deviceos/usage?from_day=<yyyy-mm-dd>&to_day=<yyyy-mm-
dd>&appVersions=
```

/metrics/deviceos/usage

Get details on the most popular devices, broken down by OS. Returns the following:

- Device model
- Device vendor
- Number of average daily users (per device type)

For each device type, returns the following:

- OS name
- OS version
- Number of average daily users (per OS)

/metrics/deviceos/crashes

Get details on the devices that had the most crashes, broken down by OS. Returns the following:

- Device model
- Device vendor
- Number of average daily users (per device type)
- Number of average daily users with crashes (per device type)

For each device type, returns the following:

- OS name
- OS version
- Number of average daily users (per OS)
- Number of average daily users with crashes (per OS)

/metrics/deviceos/performance

Get details on the slowest-performing devices, broken down by OS. Returns the following:

- Device model
- Device vendor
- Number of average daily users (per device type)
- Average response time (per device type)

For each device type, returns the following:

- OS name
- OS version
- Number of average daily users (per OS)
- Average response time (per OS)

/applications/metrics/osdevice

The following example is relevant for all the /metrics/osdevice/<data> APIs.

Enter the following using the GET method:

```
<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/applications/<app
ID>/metrics/osdevice/usage?from_day=<yyyy-mm-dd>&to_day=<yyyy-mm-
dd>&appVersions=
```

/metrics/osdevice/usage

Get details on the most popular OSs, broken down by device. Returns the following:

- OS name
- OS version
- Number of average daily users (per OS)

For each OS, returns the following:

- Device model
- Device vendor
- Number of average daily users (per device type)

/metrics/osdevice/crashes

Get details on the OSs that had the most crashes, broken down by device. Returns the following:

- OS name
- OS version
- Number of average daily users (per OS)
- Number of average daily users with crashes (per OS)

For each OS, returns the following:

- Device model
- Device vendor
- Number of average daily users (per device type)
- Number of average daily users with crashes (per device type)

/metrics/osdevice/performance

Get details on the slowest-performing OSs, broken down by device. Returns the following:

- OS name
- OS version
- Number of average daily users (per OS)
- Average response time (per OS)

For each OS, returns the following:

- Device model
- Device vendor
- Number of average daily users (per device type)
- Average response time (per device type)

/applications/metrics/overview

The following example is relevant for all the /metrics/<data>/overview APIs.

Enter the following using the GET method:

```
<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/applications/<app
ID>/metrics/fundex/overview?from_day=<yyyy-mm-dd>&to_day=<yyyy-mm-
dd>&appVersions=
```

/metrics/fundex/overview

Get an application's Fundex score and breakdown scores. Returns the following:

- Fundex score
- Slow UI points
- Slow launch points
- Crashes points
- Errors points
- Heavy battery usage points
- Heavy cellular usage points

/metrics/performance/overview

Get an application's performance data. Returns the following:

- Average UI response time
- Percentage of slow actions
- Average launch start time
- Average launch resume time

/metrics/resources/overview

Get an application's resources data. Returns the following:

- Percentage of battery usage per minute
- Percentage of data usage per minute
- Battery usage time for user per day (min)
- Cellular data usage time for user per day (min)

/metrics/stability/overview

Get an application's stability data. Returns the following:

- Number of daily users with crashes
- Number of daily users
- Percentage of failed actions

/applications/metrics/useractions

For launch data, enter the following using the GET method:

```
<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/applications/<app
ID>/metrics/launches?from_day=<yyyy-mm-dd>&to_day=<yyyy-mm-dd>&appVersions=
```

For other user action data, the following example is relevant for all the /metrics/useractions/<data> APIs:

```
<SaaS domain>/mobile/openapi/rest/v1/<tenant ID>/applications/<app
ID>/metrics/useractions/crashes?from_day=<yyyy-mm-dd>&to_day=<yyyy-mm-
dd>&appVersions=
```

/metrics/launches

Get an application's launch data. Returns the following:

- Average launch response time
- Average resume response time
- Number of daily users with crashes on launch
- Number of daily users with errors on launch

/metrics/useractions/crashes

Get details on the user actions with the most crashes. Returns the following (for each crash type):

- Action ID
- Screen name
- Action name
- Control type
- Gesture type
- Daily average number of affected users
- Number of crashes
- App versions

Also returns the daily average number of affected users not linked to a particular action.

/metrics/useractions/errors

Get details on the user actions with the most errors. Returns the following (for each error type):

- Action ID
- Screen name
- Action name
- Control type
- Gesture type
- Daily average number of affected users

- Percentage of failed action hits
- App versions

/metrics/useractions/performance

Get details on the slowest-performing user actions. Returns the following (for each user action):

- Action ID
- Screen name
- Action name
- Control type
- Gesture type
- Daily average number of hits
- Percentage of slow hits
- Average response time

/metrics/useractions/usage

Get details on the most popular user actions. Returns the following (for each user action):

- Action ID
- Screen name
- Action name
- Control type
- Gesture type
- Daily average number of users
- Daily average number of hits

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