

Spotify Enhanced Bulk API

v2.4

Version	2.4
Updated on	Jan 29, 2018
New Features added	1. Sub30SecondStreams:track_id, user_id, length, timestamp, country, product, region 2. Aggregated Streams : saves.free and saves.premium

The Spotify Analytics Bulk API can be used to collect various forms of data. In this initial release, data is provided in a compressed bulk format described below. The API uses OAuth 2.0 to authenticate requests.

Authentication

Before any data can be accessed, an authentication token is needed. To request an OAuth token, send a HTTP POST request to <https://ws.spotify.com/oauth/token> that includes the parameters described below. As for any POST request, the parameters should be URL encoded.

Parameter name	Description
grant_type	Should always be "client_credentials".
client_id	The account name.
client_secret	The secret password.

Example:

```
curl -dgrant_type=client_credentials -dclient_id=acme -dclient_secret=E31Fw3eHDdXgsye2  
https://ws.spotify.com/oauth/token
```

will send a POST request to <https://ws.spotify.com/oauth/token> with the following body:

```
grant_type=client_credentials&client_id=acme&client_secret=E31Fw3eHDdXgsye2
```

An example response is provided below. The attributes are described in the table.

```
{"access_token": "P8DR9bQUp5KrXlp5D5y7L2KDwqjV73gjFFcNyEUmBNRwfVzHxhWFs8xfMamcpszcGTKGsF2f9FFI",  
"expires_in": 28800}
```

Attribute	Description
access_token	The access token that needs to be included in all future requests.
expires_in	The number of seconds that the token is valid.

All future requests must contain a query string parameter named `oauth_token` containing the token that was provided in the authentication request. For example, given the token above a request will look like this.

```
wget -O streams.gz  
https://ws.spotify.com/analytics/api/<licensor_name>/streams/2017/03/10/US?oauth_token=NAozChsKEGVsZXZlbn  
NldmVubXVzaWMSABoAJbagSVkSFKbMdP9J9g5OoNMjz55BIVpTYa8O
```

Streams Resource

The streams resource contains compressed bulk data. The resource URLs looks like this:

https://ws.spotify.com/analytics/api/<licensor_name>v2/streams/<year>/<month>/<day>/<country> □

The URL parameters are described below.

Parameter name	Description
licensor	The licensor, for example sony. This will be appended by “v2” if the resource has new fields, e.g., if your licensor name is “bigmusic” then you would use “bigmusicv2” in this call. Notice, that at this point streams and users have v2, while tracks do not.
Resource	Either “streams”, “users” or “tracks”. This is described in more detail under data format.
year	The year, for example 2017.

month	The month, for example 06.
day	The day of the month, for example 09.
country (only when requesting the streams)	The country, for example SE.

Data format

There are three different parts in the streams resource, they are: *streams*, *tracks*, and *users*. All files contain gzipped data with tab-separated fields. The first fields will contain header information such as the version and ID, with a later field giving more detailed data as a json formatted string.

The streams part is segmented on country so when requesting this resource, a country has to be specified. Tracks and users are not segmented by country so for these parts a country should not be provided in the request.

Streams

An example request for umg streams for 2017-08-08 in Sweden.

```
wget -O streams.gz
https://ws.spotify.com/analytics/api/<licensor_name>v2/streams/2017/08/08/SE?oauth_token=P8DR9bQUp5KrXlp5D5y7L2KDwqjV73gjFFcNyEUmBNRwfVzHxhWfs8xfMamcpszcGTKGsF2f9FFI
```

The streams file contains all streams made in a specific country for a licensor and UTC day. Only actual streams are included, not plays from local tracks that are stored on the user's computer.

The following fields are given in the streams file:

Field	Description
Data	Json formatted dictionary containing all additional fields in the data. The reason json is used is to make it easier to add new fields while not breaking old parsers of the data. See the next table for more details on the data field.

The following data is provided in the data field:

Field	Description	Example
message	Message header to identify the message.	APIStreamData
version	What version of the API this line corresponds to.	2
user_id	A unique identifier for the user account initiating the stream. The Customer Id is kept constant over time but is unique per licensor.	000000d8df8042fc4b6c96e921789f49
track_id	The Spotify ID of the track streamed.	d9452215c02041e09cc4ee1e20748c9d
shuffle	Boolean indicator to show if stream originated from a shuffle play. Shall report 'Y' if play occurred during shuffle play; else 'N'.	Y
repeat_play	Indicator to show if the play originated for via a repeat play. Shall report 'Y' if play occurred during shuffle play; else 'N'.	Y
cached *	A flag to indicate if the stream was made offline and later logged (Y/N) Not in use / empty.	Y
country	The country the stream originates from, given as a two-letter ISO country code.	US
timestamp	UTC time when the stream was made, given in YYYYMMDDThh:mm:ss time format (rounded to the nearest minute).	20170612T15:30:00:29:59
utc_timestamp_of_fset	UTC timestamp offset for user location (e.g. "-8:00 for California, "-5:00" for New York, etc.)	-8:00
offline_timestamp *	UTC time when the stream was actually made, if the stream was played in offline mode, given in YYYYMMDDThh:mm:ss time format, rounded to nearest minute.	20170106T16:30:00
length	Length of stream rounded to full seconds. Will never be greater than 900 sec (15 min) as a cap.	234
source	From where in the client the stream was initiated, has values: ☐ "other", "search", "artist",	others_playlist

	"album", "collection", "others_playlist", "chart", "radio".	
source_uri	The URI of the playlist, if it was a playlist_other stream, and the playlist had over 100 unique listeners the previous week. For personalized lists that are aggregated, the Spotify URI will be replaced with the label for the aggregation – "discoverWeekly", "releaseRadar", "dailyMix.	spotify:user:spotify:playlist:4mJ1bfBwQoJhyARirQ4Mgu or discoverWeekly or releaseRadar or dailyMix
device_type	Data indicating type of hardware device that stream was made from when available for a device type where possible. Data provided must be granular enough to differentiate between distinct types of hardware . The following shall be reported, where possible: personal computer, cell phone, tablet, connected audio device (e.g. Sonos, connected hi-fi, etc.), built-in car application, smart tv device (e.g. Apple TV, Chromecast, etc.), gaming console, other	tablet
os	Field indicating which OS the stream was made from	Android / iOS / Windows / Mac OSX / etc.
content_type_flag	Flag to indicate if the streamed content was a "video" or "audio"	audio
completion_flag	Field indicates if the song/video was streamed to its full length or skipped before that. Value indicated with Y or N .	Y

** As of now the client does not report cached & offline_timestamp very reliably due to the factors outside of our control, hence the data may not be highly accurate.*

Example line:

```
{
  "message": "APIStreamData",
  "version": 2,
  "user_id": "#####",
  "track_id": "XXXXXX#####",
  "timestamp": "20180127T22:08:00",
  "cached": "N",
  "offline_timestamp": "20180127T22:04:00",
  "length": 214,
  "source": "radio",
  "source_uri": "",
  "device_type": "cell phone",
  "os": "iOS",
  "shuffle": "N",
  "repeat_play": "N",
  "utc_timestamp_offset": "-04:00",
  "content_type_flag": "audio",
  "completion_flag": "Y"
}
```

Tracks

The tracks file contains more detailed information on the tracks that were streamed and can be used as a source of track information when parsing the streams file.

<https://ws.spotify.com/analytics/api/<licensor>/tracks/<year>/<month>/<day>>

An example request for umg tracks for 2017-08-08.

```
wget -O tracks.gz
https://ws.spotify.com/analytics/api/<licensor_name>/tracks/2017/08/08/?oauth_token=P8DR9bQUp5KrXlp5D5y7L2
KDwqjV73gjFFcNyEUmBNRwfVzHxhWFS8xfMamcpszcGTKGsF2f9FFI
```

The following fields are given in the tracks file:

Field	Description
Data	Json formatted dictionary containing all additional fields in the data. The reason for using json is make it easier to add new fields while maintaining old parsers of the data. See the next table for more details on the data field.

The following data is provided in the data field:

Field	Description	Example
message	Message header to identify the message.	APITrackData
version	What version of the API this line corresponds to.	2
track_id	The Spotify ID of the track streamed, same as in streams file.	0000d013ba314f31aae2045de4209a5b
uri	The Spotify URI code (alternative track ID used in client)	spotify:track:000n1Rci26RRmpHUiyBSyf
isrc	ISRC of the recording or '?' if no ISRC was provided in the metadata for the track.	DEC711621978
album_code	UPC (or EAN if no UPC is given) of the album containing this track or '?' if no UPC or EAN was provided in the metadata for the album.	886446100623
album_artist	Artist name given for the album containing this track.	Die drei !!!

track_artist	Artist name given for this track.	Die drei !!!
track_name	Name of the track.	22. Dez. 2014: In die falsche Richtung - Teil 03
album_name	Name of the album containing this track.	Eisprinzessin in Not

Example line:

```
{ "message": "APITrackData", "version": 2, "track_id": "#####", "uri": "spotify:track:#####",
  "isrc": "#####", "album_code": "#####", "album_artist": "Die drei !!!", "track_artists": "Die drei !!!", "track_name": "22. Dez.
  2014: In die falsche Richtung - Teil 03", "album_name": "Eisprinzessin in Not" }
```

Users

The users file contains detailed information for the users given in the streams file.

https://ws.spotify.com/analytics/api/<licensor_name>v2/users/<year>/<month>/<day>/

An example request for umg users for 2017-08-08.

```
wget -O users.gz
https://ws.spotify.com/analytics/api/<licensor_name>v2/users/2017/08/08?oauth_token=P8DR9bQUp5KrXIp5D5y7L
2KDwqjV73gjFFcNyEUmBNRwfVzHxhWFS8xfMamcpszcGTKGsF2f9FFI
```

The following fields are given in the users file:

Field	Description
Data	Json formatted dictionary containing all additional fields in the data. The reason for using json is make it easier to add new fields while maintaining old parsers of the data. See the next table for more details on the data field.

The following data is provided in the data field:

Field	Description	Example
message	Message header to identify the message.	APIUserData
version	What version of the API this line corresponds to.	2

user_id	A unique identifier for the user account initiating the stream. The User ID is kept constant over time but is unique per licensor.	0000080bd1184977f3540303bbed7051
access	Service access type the user has: premium, ad, unlimited, weekpass	premium
type	The type of product the user has: trial, partner, standard, student, family, comp-account	paid
product	The Spotify product of this user. Either premium (P), free (F), basic-desktop (U), open (O), daypass (D), limited (L), Winback or Intro. If the user changes product during a day, the last product will be given.	winback
partner	The name of the partner through which the user has a premium account	telia-se
referral	Not in use / empty.	
country	The country the user is registered in. Given as a 2 letter ISO country code.	SE
birth_year	Year of birth for the user.	1990
gender	The gender of the user, either male or female.	male
region	The region code of the user: DMA-code for US, ISO-code for other countries	501
zipcode *	Zip Code or Postal Code information of the user, or an empty string if not available, consisting of: □US - first 3 digits Other: first 2 digits Not in use / empty.	13

* Spotify reports valid zip code based on user's input.

Example line:

```
{ "message": "APIUserData", "version": 2, "user_id": "#####", "access": "premium", "type": "paid", "product": "promo", "partner": "", "referral": "", "country": "BR", "birth_year": "1996", "gender": "male", "region": "BR-CE", "zipcode": "12" }
```

Sub 30s Streams

The streams file contains detailed information for user streams under 30 seconds.

https://ws.spotify.com/analytics/api/<licensor_name>v2/sub_30_sec_streams/<year>/<month>/<day>/<country>

An example request for umg users for 2017-08-08.

```
wget -O sub_30_sec_streams.gz
https://ws.spotify.com/analytics/api/<licensor_name>v2/sub_30_sec_streams/2018/01/01/SE?oauth_token=P8DR9bQUp5KrXlp5D5y7L2KDwqjV73gjFFcNyEUmBNRwfVzHxhWFs8xfMamcpszcGTKGsF2f9FFI
```

The following fields are given in the users file:

Field	Description
Data	Json formatted dictionary containing all additional fields in the data. The reason for using json is make it easier to add new fields while maintaining old parsers of the data. See the next table for more details on the data field.

The following data is provided in the data field:

Field	Description	Example
message	Message header to identify the message.	APISkipsData
version	What version of the API this line corresponds to.	2
user_id	A unique identifier for the user account initiating the stream. The Customer Id is kept constant over time but is unique per licensor.	000000d8df8042fc4b6c96e921789f49
track_id	The Spotify ID of the track streamed.	d9452215c02041e09cc4ee1e20748c9d
length	Length of stream rounded to full seconds. Will never be greater than 30 seconds	22

timestamp	UTC time when the stream was made, given in YYYYMMDDThh:mm:ss time format (rounded to the nearest minute).	20170612T15:30:00:29:59
country	The country the stream originates from, given as a two-letter ISO country code.	US
region	The region code of the user: DMA-code for US, ISO-code for other countries	501
product	The Spotify product of this user. Either premium (P), free (F), basic-desktop (U), open (O), daypass (D), limited (L), Winback or Intro. If the user changes product during a day, the last product will be given.	winback

Example line:

```
{ "message": "APISkipsData", "version": 2, "user_id": "#####", "track_id": "#####",
  "timestamp": "20180115T06:06:00", "length": 16, "country": "SG", "region": "", "product": "family-master" }
```

Aggregated Streams Bulk Resource 2.4

The aggregated streams resource contains all streams for a licenser for a day. The resource URL looks like this:

https://ws.spotify.com/analytics/api/<licensor_name>v2/aggregatedstreams/<year>/<month>/<day>

The URL parameters are described below.

Parameter name	Description
licensor	The licenser, for example wagram appended with “v2”
year	The year, for example 2013.
month	The month, for example 10.
day	The day of the month, for example 28.

An example request for UMG aggregated streams for 2013-10-28.

```
wget -O aggregated.gz
https://ws.spotify.com/analytics/api/<licensor_name>v2/aggregatedstreams/2013/10/28/?oauth_token=<auth_token>
```

Aggregated Streams Bulk format

The resource will serve a json object with the following structure:

```
{
  "streams": {
    "total": <total_number_of_streams>,
    "country": {
      "<country>": {
        "sex": {
          "<sex>": {
            "age": {
              "<age_bucket>": <number_of_streams_for_sex_and_age_bucket>
            }
          }
        }
      }
    },
    "total": <total_number_of_streams_in_country>
  },
  "skips": {
    "total": <total_number_of_skips>,
    "country": {
      "<country>": {
        "total": <total_number_of_skips_in_country>
      }
    }
  },
  "saves": {
    "total": <total_number_of_saves>,
    "country": {
      "<country>": {
        "total": <total_number_of_saves_in_country>
        "product": {
          "free": <total_number_of_saves_with_free>
          "premium": <total_number_of_saves_with_premium>
        }
      }
    }
  },
  "trackv2": {
    "name": "<track_name>",
    "href": "<spotify_uri>",
    "isrc": "<track_isrc>"
  },
  "album": {
    "name": "<album_name>",
    "href": "<spotify_uri>"
  },
  "artists": {
    "names": "<artist_name>",
    "hrefs": "<spotify_uri>"
  },
  "message_name": "APIAggregatedStreamData",
  "version": "2",
  "date": <date>,
  "licensor": "<licensor_name>",
  "label": "<label_name>"
}
```

Below is an example:

```
{
  "streams": {
    "total": 0,
    "country": {
      "GB": {
        "total": 0,
        "sex": {
          "unknown": {
            "age": {
              "": 0
            }
          }
        },
        "AU": {
          "total": 0,
          "sex": {
            "unknown": {
              "age": {
                "": 0
              }
            }
          },
          "IE": {
            "total": 0,
            "sex": {
              "unknown": {
                "age": {
                  "": 0
                }
              }
            },
            "NL": {
              "total": 0,
              "sex": {
                "unknown": {
                  "age": {
                    "": 0
                  }
                }
              }
            },
            "skips": {
              "total": 0,
              "country": {
                "GB": {
                  "total": 0,
                  "AU": {
                    "total": 0,
                    "IE": {
                      "total": 0,
                      "NL": {
                        "total": 0,
                        "saves": {
                          "total": 5,
                          "country": {
                            "GB": {
                              "total": 2,
                              "product": {
                                "free": 1,
                                "premium": 1
                              },
                              "AU": {
                                "total": 1,
                                "product": {
                                  "premium": 1
                                },
                                "IE": {
                                  "total": 1,
                                  "product": {
                                    "premium": 1
                                  },
                                  "NL": {
                                    "total": 1,
                                    "product": {
                                      "premium": 1
                                    },
                                    "trackv2": {
                                      "name": "My Name First ____ Your Name\\",
                                      "href": "spotify:track:0KObqFyMoei0QCmGB9o1K9",
                                      "isrc": "",
                                      "album": {
                                        "name": "Muppets Most Wanted",
                                        "href": "spotify:album:#####",
                                        "artists": {
                                          "names": "Name",
                                          "hrefs": "spotify:artist:#####",
                                          "spotify:artist:#####",
                                          "message_name": "APIAggregatedStreamData",
                                          "version": "2",
                                          "date": "2018-01-27",
                                          "licensor": "Label Name",
                                          "label": "Licensor Name"
                                        }
                                      }
                                    }
                                  }
                                }
                              }
                            }
                          }
                        }
                      }
                    }
                  }
                }
              }
            }
          }
        }
      }
    }
  }
}
```

The following fields are given in the json object:

Field	Description	Example
licensor	The licensor	Wagram
album.name	Name of the album	Mon Coffret Naissance
album.href	Spotify URI of the album	spotify:album:1ZPk485ne31zeP1AY8vSar
message_name	name of the API message	APIAggregatedStreamData
track.name	Name of the track	Bonsoir Madame la Lune
track.href	Spotify URI of the track	spotify:track:18wwmUOYAd8vehDVoB6Slz
track.isrc	ISRC of the track	USMC15804831
label	The label	Wagram Music
version	Version of the API message	2
streams.total	Total number of streams for the song for the date	1
skips.total	Total number of 1 – 29,999ms plays per country	
saves.total	Total number of Savers per country. Given a single user can save a track multiple times (e.g. to multiple playlists), we only count a maximum of 1 save/user.	
saves.free	Total number of Savers per country per free product type. Given a single user	2

	can save a track multiple times (e.g. to multiple playlists), we only count a maximum of 1 save/user	
saves.premium	Total number of Savers per country per premium product type. Given a single user can save a track multiple times (e.g. to multiple playlists), we only count a maximum of 1 save/user	3
country	The country	FR
country.total	Total number of streams for the song in the country for the date	1
age	An age span	23-27
sex	The user gender	female
date	The date requested	2013-11-28
artists.names	Name of the artists, comma-separated if several	Solhal
artists.hrefs	Spotify URI of the artists, comma-separated if several	spotify:artist:1DdkQf8O1DrLtaHqF5iXVF