BIGDATA PROJECT

USE SPOTIFY AUDIO FEATURES TO CATEGORIZE MUSIC

DAG IN AIRFLOW STARTEN

AUFGABE

- Lieder aus einer Spotify-Playlist auslesen

- Anhand ihrer Daten nach Musikkategorien sortieren

- Ergebnis auf einer Website anzeigen

API

Get a Playlist

Get a Playlist

Description	Get a Playlist DOCS
Endpoint	https://api.spotify.com/v1/playlists/{playlist_id}
HTTP Method	GET
OAuth	Required

playlist_id *

3cEYpjA9oz9GiPac4AsH4n

market

ES

fields

items(added_by.id,track(name,href,album(name,href)))

OAuth Token

BQBuA1RODBFFXlhVAkT_ubwOD9_g7jCmEg_iH1ZiLl...   GET TOKEN

TRY IT   FILL SAMPLE DATA

API - PLAYLIST

API - PLAYLIST

```
{
  "collaborative": false,
  "description": "Für deine tägliche Dosis Vitamin D: Die größten Anwärter auf den Sommerhit des
Jahres. Cover: The Chainsmokers, ILLENIUM und Lennon Stella",
  "external_urls": {
    "spotify": "https://open.spotify.com/playlist/37i9dQZF1DWX7rdRjOECPW"
  },
  "followers": {
    "href": null,
    "total": 1150507
  },
  "href": "https://api.spotify.com/v1/playlists/37i9dQZF1DWX7rdRjOECPW",
  "id": "37i9dQZF1DWX7rdRjOECPW",
  "images": [
    {
      "height": null,
      "url": "https://pl.scdn.co/images/pl/default/1ec2c07bf5d9ed36000ab573ae3ecbdf18eef10c",
      "width": null
    }
  ],
  "name": "Sommerhits 2019",
  "owner": {
    "display_name": "Spotify",
    "external_urls": {
      "spotify": "https://open.spotify.com/user/spotify"
    },
    "href": "https://api.spotify.com/v1/users/spotify",
    "id": "spotify",
    "type": "user",
    "uri": "spotify:user:spotify"
  },
  "primary_color": null,
  "public": false,
  "snapshot_id": "MTU2ODE0MzkwMywwMDAwMDA4NDAwMDAwMTZkMWNhOTBiNWUwMDAwMDE2Y2QzM2Q3NGNh",
  "tracks": {
    "href": "https://api.spotify.com/v1/playlists/37i9dQZF1DWX7rdRjOECPW/tracks?
offset=0&limit=100"
```

API - PLAYLIST

```
{
  "added_at": "2019-09-10T19:31:43Z",
  "added_by": {
    "external_urls": {
      "spotify": "https://open.spotify.com/user/"
    },
    "href": "https://api.spotify.com/v1/users/",
    "id": "",
    "type": "user",
    "uri": "spotify:user:"
  },
  "is_local": false,
  "primary_color": null,
  "track": {
    "album": {
      "album_type": "single",
      "artists": [
        {
          "external_urls": {
            "spotify": "https://open.spotify.com/artist/2NjfBq1NflQcKSeiDooVjY"
          },
          "href": "https://api.spotify.com/v1/artists/2NjfBq1NflQcKSeiDooVjY",
          "id": "2NjfBq1NflQcKSeiDooVjY",
          "name": "Tones and I",
          "type": "artist",
          "uri": "spotify:artist:2NjfBq1NflQcKSeiDooVjY"
        }
      ],
      "available_markets": [
        "AU",
        "NZ"
      ],
      "external_urls": {
        "spotify": "https://open.spotify.com/album/31IDBea3eEs57a0joX6TjN"
      },
      "href": "https://api.spotify.com/v1/albums/31IDBea3eEs57a0joX6TjN",
      "id": "31IDBea3eEs57a0joX6TjN",
```

```
  "images": [
    {
      "height": 640,
      "url": "https://i.scdn.co/image/ab67616d0000b27338802659d156935ada63c9e3",
      "width": 640
    },
    {
      "height": 300,
      "url": "https://i.scdn.co/image/ab67616d00001e0238802659d156935ada63c9e3",
      "width": 300
    },
    {
      "height": 64,
      "url": "https://i.scdn.co/image/ab67616d0000485138802659d156935ada63c9e3",
      "width": 64
    }
  ],
  "name": "Dance Monkey",
  "release_date": "2019-05-10",
  "release_date_precision": "day",
  "total_tracks": 1,
  "type": "album",
  "uri": "spotify:album:31IDBea3eEs57a0joX6TjN"
},
"artists": [
  {
    "external_urls": {
      "spotify": "https://open.spotify.com/artist/2NjfBq1NflQcKSeiDooVjY"
    },
    "href": "https://api.spotify.com/v1/artists/2NjfBq1NflQcKSeiDooVjY",
    "id": "2NjfBq1NflQcKSeiDooVjY",
    "name": "Tones and I",
    "type": "artist",
```

API - PLAYLIST

```
          "uri": "spotify:artist:2NjfBq1NflQcKSeiDooVjY"
        }
      ],
      "available_markets": [
        "AU",
        "NZ"
      ],
      "disc_number": 1,
      "duration_ms": 209754,
      "episode": false,
      "explicit": false,
      "external_ids": {
        "isrc": "QZES71982312"
      },
      "external_urls": {
        "spotify": "https://open.spotify.com/track/1rgnBhdG2JDFTbYkYRZAku"
      },
      "href": "https://api.spotify.com/v1/tracks/1rgnBhdG2JDFTbYkYRZAku",
      "id": "1rgnBhdG2JDFTbYkYRZAku",
      "is_local": false,
      "name": "Dance Monkey",
      "popularity": 82,
      "preview_url": "https://p.scdn.co/mp3-preview/7e70b1eb012b7589a6487169bcd6135889ce89aa?
cid=774b29d4f13844c495f206cafdad9c86",
      "track": true,
      "track_number": 1,
      "type": "track",
      "uri": "spotify:track:1rgnBhdG2JDFTbYkYRZAku"
    },
    "video_thumbnail": {
      "url": null
    }
  },
```

Get Audio Features for a Track

Get Audio Features for a Track

Description	Get Audio Features for a Track	DOCS
Endpoint	https://api.spotify.com/v1/audio-features/{id}	
HTTP Method	GET	
OAuth	Required	

id *

6TNK1SFt77MvTFoiTloiFQ

OAuth Token

BQBuA1RODBFFXIhVAkT_ubwOD9_g7jCmEg_iH1ZiLl...   **GET TOKEN**

TRY IT   **FILL SAMPLE DATA**

API - TRACK

API - TRACK

```
{
  "danceability": 0.667,
  "energy": 0.755,
  "key": 11,
  "loudness": -5.893,
  "mode": 0,
  "speechiness": 0.05,
  "acousticness": 0.0533,
  "instrumentalness": 0.0000115,
  "liveness": 0.0795,
  "valence": 0.472,
  "tempo": 97.063,
  "type": "audio_features",
  "id": "6TNK1SFt77MvTFoiTloiFQ",
  "uri": "spotify:track:6TNK1SFt77MvTFoiTloiFQ",
  "track_href": "https://api.spotify.com/v1/tracks/6TNK1SFt77MvTFoiTloiFQ",
  "analysis_url": "https://api.spotify.com/v1/audio-analysis/6TNK1SFt77MvTFoiTloiFQ",
  "duration_ms": 180816,
  "time_signature": 4
}
```

WORKFLOW

Verzeichnisse in Airflow leeren/anlegen	Request zu Spotify: Playlist	Request zu Spotify: Einzelne Lieddaten	Erhaltene Daten in .json speichern
Verzeichnisse in HDFS leeren/anlegen	Daten von Airflow nach HDFS kopieren	Tabellen (Playlist, Lieddaten, Kategorien, Final) anlegen) anlegen	Musikkategorie bestimmen und in Kategorie-Tabelle speichern
Zieldaten in Finaltabelle schreiben	MySql-Tabelle erstellen	Finaldaten in MySql-Tabelle exportieren	Requestdaten löschen

RAW / FINAL / FRONTEND

RAW - PLAYLIST

RAW - LIEDDATEN

danceability	energy	key	loudness	mode	speechiness	acousticness	instrumentalness	liveness	valence	tempo	i
0.825	0.593	6	-6.401	0	0.0988	0.688	1.61E-4	0.17	0.54	98.078	1rg
0.749	0.668	10	-5.964	0	0.0608	0.0373	2.72E-4	0.045	0.366	108.0	7M9
0.759	0.54	9	-6.039	0	0.0287	0.037	0	0.0945	0,75	116.947	0TK
0.759	0.605	7	-7.737	1	0.0433	0.156	0	0.694	0.64	121.049	0mj
0.658	0.831	9	-3.969	1	0.0554	0.693	0	0.159	0.52	130.016	2i2J
0.733	0.859	9	-5.03	0	0.033	0.479	0.0645	0.105	0.52	124.948	02it
0.822	0.743	6	-3.04	0	0.0567	0.285	0	0.102	0.355	96.025	1f38
0.711	0.668	1	-5.649	0	0.0468	0.149	0	0.285	0.532	149.973	5Pw
0.676	0.582	9	-7.58	1	0.128	0.221	0.00627	0.515	0.447	124.012	6sYJ
0.46	0.8	1	-3.584	1	0.05	0.289	0	0.121	0.553	102.46	4NS
0.893	0.748	7	-4.299	0	0.0821	0.272	0	0.093	0.867	117.958	2tnV
0.876	0.856	4	-3.884	1	0.0486	0.0812	0	0.457	0.685	121.991	6He
0.765	0.906	8	-2.097	0	0.0965	0,125	0	0.423	0.95	96.071	0U6
0.759	0.805	0	-6.849	1	0.0753	0.207	0	0.0938	0.782	121.999	1tw
0.667	0.755	11	-5.893	0	0.05	0.0533	0	0.0795	0.472	97.063	6TN
0.676	0.792	5	-4.594	0	0.0351	0.0149	0	0.414	0.57	112.004	3Ds
0.421	0.653	9	-4.85	0	0.398	0.0135	0	0.114	0.733	78.6	2Qr
0.815	0.518	7	-6.594	0	0.0897	0.223	0	0.104	0.877	151.891	1tN.
0.647	0.973	11	-3.642	0	0.0494	0.023	0	0.732	0.595	116.962	7D(
0.795	0.812	1	-4.885	1	0.0614	0.0703	0	0.19	0.615	113.979	3zK
0.763	0.692	1	-6.158	1	0.0381	0.0931	0	0.0644	0.691	124.998	5BA
0.58	0.653	5	-3.818	1	0.0745	0.447	0	0.111	0.175	150.231	6vB
0.847	0.678	9	-8.635	1	0.109	0.0669	0	0.274	0.811	97.984	5dV
0.693	0.678	8	-7.159	1	0.0324	0.0154	0	0.101	0.404	103.952	6oJ
0.661	0.473	3	-7.285	1	0.136	0.338	0	0.11	0.402	128.48	5op
0.456	0.749	6	-4.844	0	0.0834	0.00463	0	0.192	0.253	137.958	4BI
0.777	0.856	2	-4.357	0	0.0553	0.0144	8.85E-4	0.0703	0.521	98.994	3Bh

	id	category
1	2i2JtDSr6GbkRpTToH15SN	Metal
2	02itaCXOdC54J0ISjqqFAp	Metal
3	6HeJtpjpM14EvYhhgkQEj	Metal
4	0U6bQIAh6MCGo1xjbIIx2S	Metal
5	1twCDBPDERLBAYFhGjmNfI	Metal
6	7DC0O3pMpDFefdk51dr7pU	Metal
7	3zKNhkIp4vIzIv1vGPdBLu	Metal
8	3Bhy3iP4BgKZGF29XIfbs8	Metal
9	30f7TNgvsS1AWtyuVqMucH	Metal
10	4PkIDTPGedm0enzdvilLNd	Metal
11	2ksOAxtIxY8yEIEWw8RhgK	Metal
12	64o06p7wl27z7qC2ID4PE0	Metal
13	4au7FRcgZzChASRYu279xH	Metal
14	6E0QvksY8P840Sg2kzPUoy	Metal
15	3zR5cAShCz1ugKIWXGTjI3	Metal
16	0nxYyX5PIHJqF4VSb4CIFV	Metal
17	1rgnBhdG2JDFTbYkYRZAku	Rock
18	7M9w4C8WenIvWfNRAuIZOX	Rock
19	0TK2YIli7K1IeLovkQiNik	Rock
20	0mjAU3yKR1QnXnHtjGJqTM	Rock
21	1f38Gx6xQz6r4H1jGVNBJo	Rock
22	5Pwu8NkDhEkObPp8TvHMUn	Rock
23	6sYJuVcEu4gFHmeTLdHzRz	Rock
24	4NSW0Km5ZG60L8FthUebPJ	Rock
25	2tnVG71enUj33Ic2nFN6kZ	Rock
26	6TNK1SFt77MvTFoiTIoiFQ	Rock
27	3DsLBZjoU5AYxZXsepHtsW	Rock
28	2OrXzQgLCVDRZHkToA0tSR	Rock

RAW - KATEGORIEN

	id	title	artist	category
1	1rgnBhdG2JDFTbYkYRZAku	Dance Monkey	Tones and I	Rock
2	7M9w4C8WenIvWfNRAuIZOX	Narcotic	Younotus,Janieck,Senex	Rock
3	0TK2YIli7K1IeLovkQiNik	Señorita	Shawn Mendes,Camila Cabello	Rock
4	0mjAU3yKR1QnXnHtjGJqTM	Rescue Me	OneRepublic	Rock
5	2i2JtDSr6GbkRpTToH15SN	Back to the Start	Michael Schulte	Metal
6	02itaCXOdC54J0ISjqqFAp	All Around The World (La La La)	R3HAB,A Touch Of Class	Metal
7	1f38Gx6xQz6r4H1jGVNBJo	Loco Contigo (with J. Balvin & Tyga)	DJ Snake,J Balvin,Tyga	Rock
8	5Pwu8NkDhEkObPp8TvHMUn	Better	Lena,Nico Santos	Rock
9	6sYJuVcEu4gFHmeTLdHzRz	Bittersweet Symphony (feat. Emily Roberts)	GAMPER & DADONI,Emily Roberts	Rock
10	4NSW0Km5ZG60L8FthUebPJ	What I Like About You (feat. Theresa Rex)	Jonas Blue,Theresa Rex	Rock
11	2tnVG71enUj33Ic2nFN6kZ	Ride It	Regard	Rock
12	6HeJtpjpM14EvYhhgkQEj	I'm Not Alright	Loud Luxury,Bryce Vine	Metal
13	0U6bQIAh6MCGo1xjbIlx2S	Instagram	Dimitri Vegas & Like Mike,David Guetta,Daddy Yankee,Afro Bros,Natti Natasha,Dimitri Vegas,Like Mike	Metal
14	1twCDBPDERLBAYFhGjmNfI	Viva la Dealer - Gestört aber GeiL Remix	SDP,Capital Bra,Gestört aber GeiL	Metal
15	6TNK1SFt77MvTFoiTIoiFQ	She Got Me	Luca Hänni	Rock
16	3DsLBZjoU5AYxZXsepHtsW	La Libertad	Alvaro Soler	Rock
17	2QrXzOqLCVDRZHkToA0tSR	Never Go Back	Dennis Lloyd	Rock
18	1tNJrcVe6gwLEiZCtprs1u	3 Nights	Dominic Fike	Rock
19	7DC0O3pMpDFefdk51dr7pU	Hotstepper	John Gibbons	Metal
20	3zKNhkIp4vIzIv1vGPdBLu	Tu m'appelles (feat. PEACHY)	Adel Tawil,PEACHY	Metal
21	5BAJMdCQqax0oBQigQTl5h	Dove e quando	Benji & Fede	Rock
22	6vBdBCoOhKHiYDDOcorfNo	Goodbyes (Feat. Young Thug)	Post Malone,Young Thug	Rock
23	5dW1VZPcFqB4n0P08rGDgm	The Git Up	Blanco Brown	Rock
24	6oJ6le65B3SEqPwMRNXWjY	Higher Love	Kygo,Whitney Houston	Rock
25	5opjywL6TBjJRF22TcFDMo	Jetzt rufst du an	Loredana	Rock
26	4Bl3vhxLgSmTxbHTFR7eyd	World At Our Feet	Timmy Trumpet	Rock
27	3Bhy3iP4BgKZGF29Xlfbs8	Get Up	Yellow Claw,KIDDO	Metal
28	4rJcxFOIjjd2sqfgIjksTl	We're The Same	Vigiland,Alexander Tidebrink	Rock

FINAL / MYSQL

FRAGEN?