

Python Script for Downloading Spotify Playlist Songs in MP3 Format

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1 Introduction

This report details the development of a Python script designed to download songs from a Spotify playlist in MP3 format. The script leverages the Pytube library for downloading and converting YouTube videos to MP3, and utilizes the Spotify API to access playlist information.

2 Project Features

2.1 Spotify API Integration

- The script uses the Spotify API to fetch playlist details, including song titles and artists.
- Authentication with Spotify is performed to access playlist data securely.
- Playlist information is extracted and processed to identify the corresponding songs on YouTube.

2.2 YouTube and Pytube Integration

- The script uses the YouTube API and the Pytube library to search for and download songs based on the playlist information retrieved from Spotify.
- Pytube handles the downloading of YouTube videos and converting them to MP3 format.
- Error handling is implemented to manage issues such as unavailable videos or failed downloads.

3 Technology Stack

- **Python:** The programming language used to write the script.
- **Pytube:** A Python library for downloading YouTube videos and handling conversions.
- **Spotify API:** Used for accessing playlist information from Spotify.
- **YouTube API:** Used for searching and retrieving video URLs for downloading.

4 System Workflow

4.1 Fetching Playlist Information

- The script authenticates with the Spotify API and retrieves the playlist data, including track names and artists.
- The playlist information is parsed to identify each song for searching on YouTube.

4.2 Downloading and Converting Songs

- For each song, the script searches YouTube using the Pytube library to find the corresponding video.
- The selected video is downloaded and converted to MP3 format using Pytube's functionality.
- The MP3 files are saved to the specified directory on the local system.

5 Conclusion

The Python script successfully integrates the Spotify API and YouTube API to download and convert songs from a Spotify playlist into MP3 format. By leveraging the Pytube library, the script automates the process of retrieving and converting music, providing a streamlined solution for playlist management.