This solution implements a serverless audio analysis pipeline using **AWS Lambda** to:

1. **Perform Speaker Diarization** using the **PyAnnote API**, which identifies segments of audio and assigns speaker labels.

2. **Transcribe Speech** using **AssemblyAI**, which returns word-level transcriptions with timestamps.

3. **Merge Diarization and Transcription** by aligning each word with its speaker based on timestamp overlap.

4. **Normalize Speaker Labels** by mapping the first speaker who speaks as "parent" and the other as "child" to improve interpretability.

5. **Export Results** as .csv files, one for each input audio file, showing speaker, start time, end time, and spoken text.

Finally, all .csv files are packaged into a .zip archive and returned as a **Base64-encoded** HTTP response from the Lambda function, ready to download.