**Qur'an Real-Time Translation (Local Tool) — Step-by-Step Guide**

This guide helps you run a simple local pipeline that takes Arabic Qur'an recitation, transcribes it, and matches it to ayahs with English translation. No web server needed. Just Python + Whisper.

**🚀 What You Need Installed**

* Python 3.8+
* FFmpeg
* OpenAI Whisper
* fuzzywuzzy (for matching)

**✅ 1. Set Up Your Environment**

1. Open Terminal (macOS)
2. Navigate to your project folder:
3. cd ~/Documents/UNT/Quran\_translator
4. Create a virtual environment:
5. python3 -m venv venv
6. source venv/bin/activate
7. Install dependencies:
8. pip install openai-whisper ffmpeg-python torch fuzzywuzzy python-Levenshtein

**🔹 2. Install FFmpeg (if you haven’t already)**

brew install ffmpeg

Test:

ffmpeg -version

**📻 3. Prepare Audio File**

* Use a real Qur'an recitation (e.g., download from [https://quranicaudio.com](https://quranicaudio.com/))
* Convert it to .wav:

ffmpeg -i input.mp3 -ar 16000 -ac 1 my\_audio.wav

**🧠 4. Transcribe Using Whisper**

whisper my\_audio.wav --language ar --output\_format txt

This creates my\_audio.txt containing Arabic transcription.

**📝 5. Prepare whisper\_output.txt**

1. Open my\_audio.txt
2. Copy only the Arabic lines
3. Paste into a new file: whisper\_output.txt

Each line = one ayah/sentence:

بسم الله الرحمن الرحيم

الحمد لله رب العالمين

الرحمن الرحيم

**📒 6. Download & Combine Qur'an Arabic + English JSON**

If not already done:

1. Download from: <https://github.com/risan/quran-json>
2. Use quran.json and quran\_en.json
3. Run combine\_quran\_json.py (see code in project) to produce:
4. quran\_ar\_en.json

**🔎 7. Run the Matching Script**

Make sure whisper\_output.txt and quran\_ar\_en.json are in the same folder.

Run:

python match\_ayahs.py

You'll see matched Arabic + English:

📖 Whisper: الحمد لله رب العالمين

🏛 Surah 1, Ayah 2

🧠 Arabic: الحمد لله رب العالمين

🌍 English: [All] praise is [due] to Allah, Lord of the worlds

**🔍 8. Optional: Save to File**

python match\_ayahs.py > results.txt

**🚧 Project Folder Structure**

Quran\_translator/

├── venv/

├── my\_audio.wav

├── my\_audio.txt

├── whisper\_output.txt

├── quran.json

├── quran\_en.json

├── quran\_ar\_en.json

├── combine\_quran\_json.py

├── match\_ayahs.py

└── results.txt

You're now fully set up to transcribe Qur'an recitations and view real-time translations. Want to convert this into a web app next? Let's go!