

# Python nl2sql

Using a custom OpenAI API compatible LLM to convert natural language to sql in python (other sql engines similar):

[requirements.txt](#)

```
openai~=1.24.0
SQLAlchemy~=2.0.29
mysql-connector-python~=8.3.0
llama-index-core~=0.10.33
llama-index-embeddings-openai~=0.1.9
llama-index-llms-openai~=0.1.16
llamaindex-py-client~=0.1.19
```

[nl2sql.py](#)

```
import os
import openai
from sqlalchemy import (create_engine, MetaData)
from llama_index.core import SQLiteDatabase
from llama_index.llms.openai import OpenAI
from llama_index.core.query_engine import NLSQLTableQueryEngine

openai.api_key = "12345"
openai.base_url = "http://ip:port/v1"
llm = OpenAI(temperature=0.1, model="gpt-3.5-turbo")

username = "user"
password = "pass"
host = "ip"
port = 3306
mydatabase = "dbname"

engine =
create_engine(f"mysql+mysqlconnector://{username}:{password}@{host}:{port}/{mydatabase}")

# load all table definitions
metadata_obj = MetaData()
metadata_obj.reflect(engine)

sql_database = SQLiteDatabase(engine)
query_engine = NLSQLTableQueryEngine(sql_database=sql_database,
                                     tables=["table1", "table2",
                                     "table3"], llm=llm)

query_str = "show the contact details of firstname lastname"
```

```
response = query_engine.query(query_str)
print(response)
print(response.metadata)
```

From:  
<http://wuff.dyndns.org/> - **Wulf's Various Things**

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