

Python Script to Extract Data from SQL Server

This document provides step-by-step instructions to set up a Python script that connects to a SQL Server, executes a query, retrieves the results, and saves them to a CSV file. The script uses the `pyodbc` library to establish the connection.

Prerequisites

1. Python installed on your system.
2. `pyodbc` library installed. You can install it using pip:

```
pip install pyodbc
```

Python Script

Below is the Python script to connect to SQL Server, execute a query, and save the results to a CSV file:

```
import pyodbc

import pandas as pd

# Define the connection parameters

server = 'your_server_name' # Replace with your server name

database = 'your_database_name' # Replace with your database name

username = 'your_username' # Replace with your username

password = 'your_password' # Replace with your password

# Establish the connection

conn = pyodbc.connect(

    'DRIVER={ODBC Driver 17 for SQL Server};'
```

```

f'SERVER={server};'

f'DATABASE={database};'

f'UID={username};'

f'PWD={password}'

)

# Define your SQL query

query = '''

SELECT * FROM your_table_name # Replace with your table name or specific SQL query

'''

# Execute the query and fetch the results into a DataFrame

df = pd.read_sql(query, conn)

# Save the results to a CSV file

output_file = 'output.csv'

df.to_csv(output_file, index=False)

# Close the connection

conn.close()

print(f'Data extracted and saved to {output_file}')
```

ODBC Driver Installation

The script uses the `ODBC Driver 17 for SQL Server` to connect to the database. You need to have this driver installed on your system. Follow the instructions below to install the driver.

Windows

1. Download the ODBC Driver 17 for SQL Server from the Microsoft website:

<https://docs.microsoft.com/en-us/sql/connect/odbc/download-odbc-driver-for-sql-server>.

2. Run the installer and follow the on-screen instructions to complete the installation.

Linux

Run the following commands in your terminal to install the ODBC Driver 17 for SQL Server:

```
sudo su
```

```
curl https://packages.microsoft.com/keys/microsoft.asc | apt-key add -
```

```
curl https://packages.microsoft.com/config/ubuntu/$(lsb_release -rs)/prod.list >  
/etc/apt/sources.list.d/mssql-release.list
```

```
exit
```

```
sudo apt-get update
```

```
sudo ACCEPT_EULA=Y apt-get install msodbcsql17
```

```
sudo apt-get install unixodbc-dev
```

macOS

Run the following commands in your terminal to install the ODBC Driver 17 for SQL Server:

```
brew tap microsoft/mssql-release https://github.com/Microsoft/homebrew-mssql-release
```

```
brew update
```

```
HOMEbrew_NO_AUTO_UPDATE=1 brew install msodbcsql17
```

Verifying the Driver Installation

After installing the driver, you can verify its installation by listing the installed ODBC drivers:

```
import pyodbc
```

```
print(pyodbc.drivers())
```

This will print a list of installed ODBC drivers, and you should see `ODBC Driver 17 for SQL Server` in the list.

Conclusion

Once the driver is installed, the script will be able to use it to establish a connection to your SQL Server database. If you encounter any issues with the driver or the connection, ensure that the connection parameters are correct and the driver is properly installed.