



ENABLING SPATIALITE LIBRARY TO BE AVAILABLE IN PYTHON

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Enabling Spatialite Library to be available in Python

Background

In this document I will go through the steps to enable Spatialite library to be available to use in Python 3.9.6. This library is used to load the spatial data into Spatialite Sqlite DB in python. If you need to enable that extension you need to download the extension sets of DLLs that contain "Mod_spatialite.dll" as one of the main DLLs.

Requirements:

- 1- SQLite3.dll
- 2- Mod_spatialite.dll
- 3- Python 3.9.6 or higher
- 4- Elevated Privileges and admin rights to python directory.

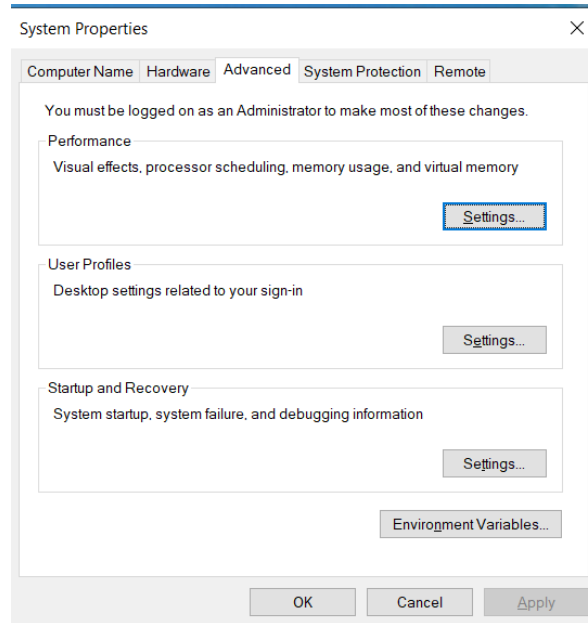
Installation:

- 1- You need to download and update SQLite3.dll in Python to the most updated version that has the r-tree extension needed for Spatialite to work you can download that from :
<https://www.sqlite.org/download.html>

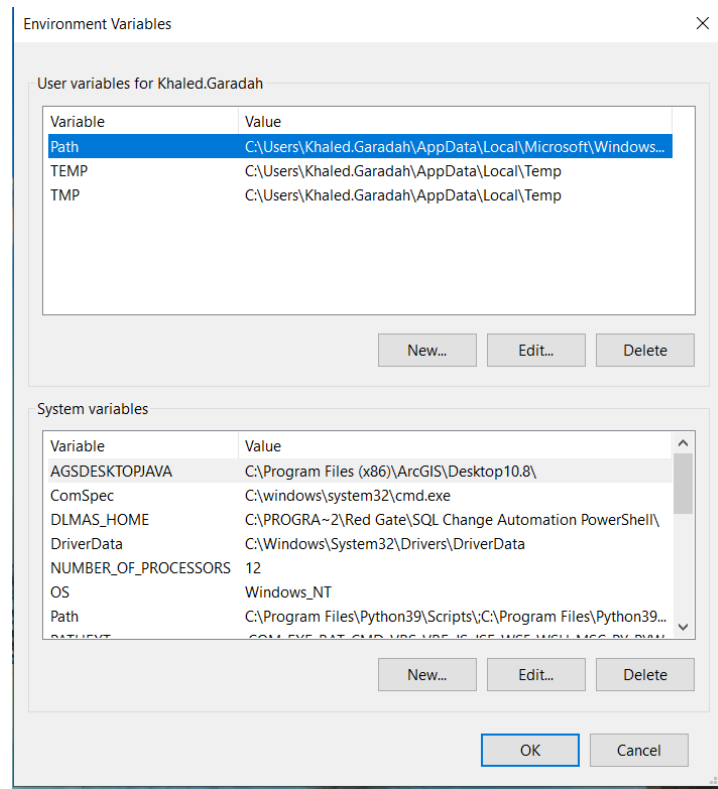
Note:

The version I used 64-bit DLL (x64) for SQLite version 3.37.0.

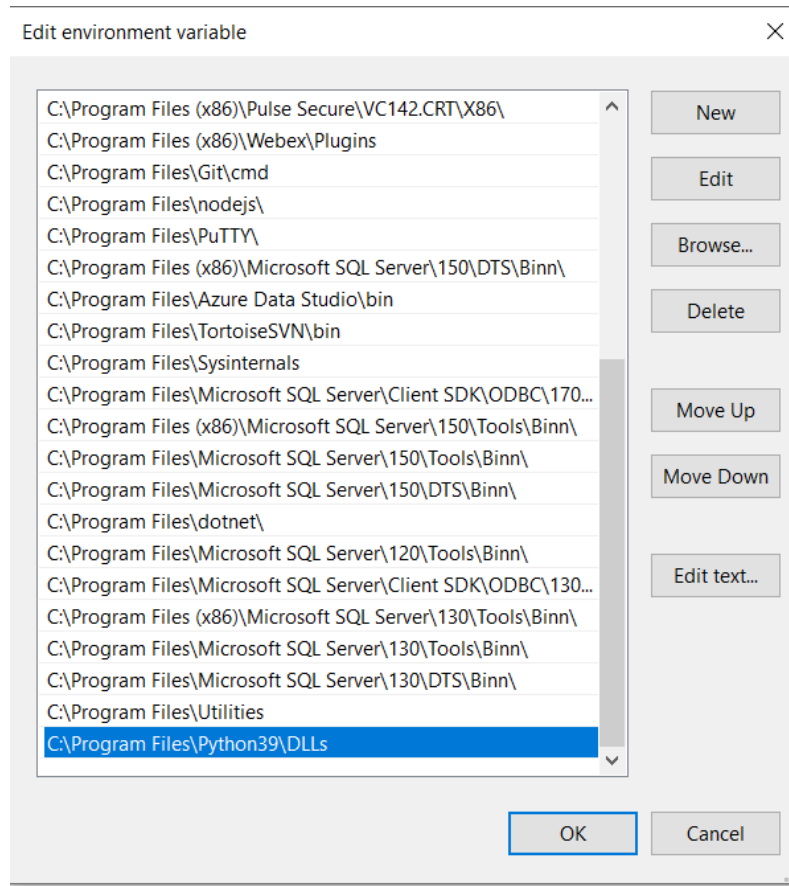
- 2- After you download the DLLs you need to copy it to your Python directory for example:
 C:\Program Files\Python39\DLLs
 You can update the current files by rename the old one to Sqlite3_old.dll then copy the new ones.
- 3- Download and copy the Mod_Spatialite DLLs to your Python DLLs folder same as sqlite3.Dll
 You can download the latest version from
<http://www.gaia-gis.it/gaia-sins/windows-bin-x86/>
- 4- Add the PATH to your PATH directory in Advanced system Property in Windows :



- Click on Environment variables



In System Variables make sure you have the path for Python added as Path
 You can click on Path and Then click on Edit and add your DLLs Path in Python



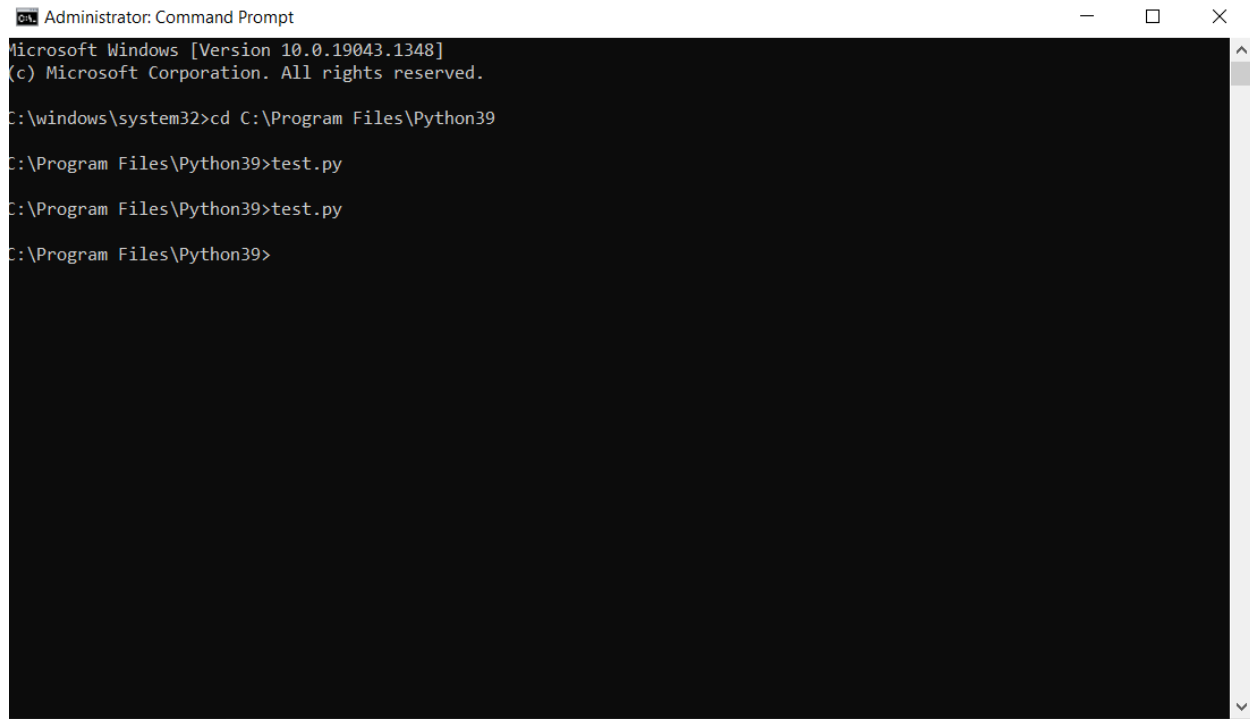
- 5- After all these steps you can run the following Python Code to test the extension and it should run with no errors:

```
import sqlite3
import os

spatialite_path = r'C:\Program Files\Python39\DLLs'
os.environ['PATH'] = spatialite_path + ';' + os.environ['PATH']

conn = sqlite3.connect(":memory:")
conn.enable_load_extension(True)
conn.load_extension("mod_spatialite")
```

Note: I saved the script as test.py and ran it from CMD and it worked fine



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\windows\system32>cd C:\Program Files\Python39

C:\Program Files\Python39>test.py

C:\Program Files\Python39>test.py

C:\Program Files\Python39>
```

Resources :

<https://www.sqlite.org/download.html>

<http://www.gaia-gis.it/gaia-sins/windows-bin-x86/>