SQLite3-CRUD

June 13, 2024

[1]:
```
# here are the steps to install the sqlite3 library in a Python virtual␣
 ↪environment (venv) and use it to perform CRUD operations:
# You should not need to install the sqlite3 module separately using pip for␣
 ↪Python 3.
# The sqlite3 module is part of the Python 3 standard library and comes␣
 ↪pre-installed.
import sqlite3
```

[2]:
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# Create a new SQLite database
conn = sqlite3.connect('advsql.db')
```

[3]:
```
# Create a cursor
c = conn.cursor()
```

[4]:
```
# Create a table
c.execute('''CREATE TABLE users
(id INTEGER PRIMARY KEY, name TEXT, email TEXT)''')
```

[4]:
```
<sqlite3.Cursor at 0x7fd06d3a3540>
```

[5]:
```
# Perform CRUD operations
# Insert one record in Table users
c.execute("INSERT INTO users(name, email) VALUES ('John', 'john@example.com')")
conn.commit()
```

[6]:
```
# select all of the records from Table Users
c.execute("SELECT * FROM users")
print(c.fetchall())
```

```
[(1, 'John', 'john@example.com')]
```

[7]:
```
# Insert three records in Table users
c.execute("INSERT INTO users(name, email) VALUES ('Jack','jack@gmail.com')")
c.execute("INSERT INTO users(name, email) VALUES ('Tom','tom@gmail.com')")
c.execute("INSERT INTO users(name, email) VALUES ('Lucy','lucy@gmail.com')")
conn.commit()
```

[8]:
```
# select all of the records from Table Users
c.execute("SELECT * FROM users")
print(c.fetchall())
```

```
[(1, 'John', 'john@example.com'), (2, 'Jack', 'jack@gmail.com'), (3, 'Tom',
'tom@gmail.com'), (4, 'Lucy', 'lucy@gmail.com')]
```

[9]:
```
# Update data
c.execute("UPDATE users SET email='newemail@gmail.com' WHERE id=1")
conn.commit()
```

[10]:
```
# select all of the records from Table Users
c.execute("SELECT * FROM users")
print(c.fetchall())
```

```
[(1, 'John', 'newemail@gmail.com'), (2, 'Jack', 'jack@gmail.com'), (3, 'Tom',
'tom@gmail.com'), (4, 'Lucy', 'lucy@gmail.com')]
```

[11]:
```
# Delete one record with the id is 4
c.execute("DELETE FROM users WHERE id=4")
conn.commit()
```

[12]:
```
# select all of the records from Table Users
c.execute("SELECT * FROM users")
print(c.fetchall())
```

```
[(1, 'John', 'newemail@gmail.com'), (2, 'Jack', 'jack@gmail.com'), (3, 'Tom',
'tom@gmail.com')]
```

[13]:
```
# close the connection
conn.close()
```

[ ]:
```
# By following these steps, you can install the sqlite3 library in a Python␣
 ↪virtual environment,
# create a SQLite database file, define tables, and perform CRUD (Create, Read,␣
 ↪Update, Delete) operations
# on the data using Python code.
```