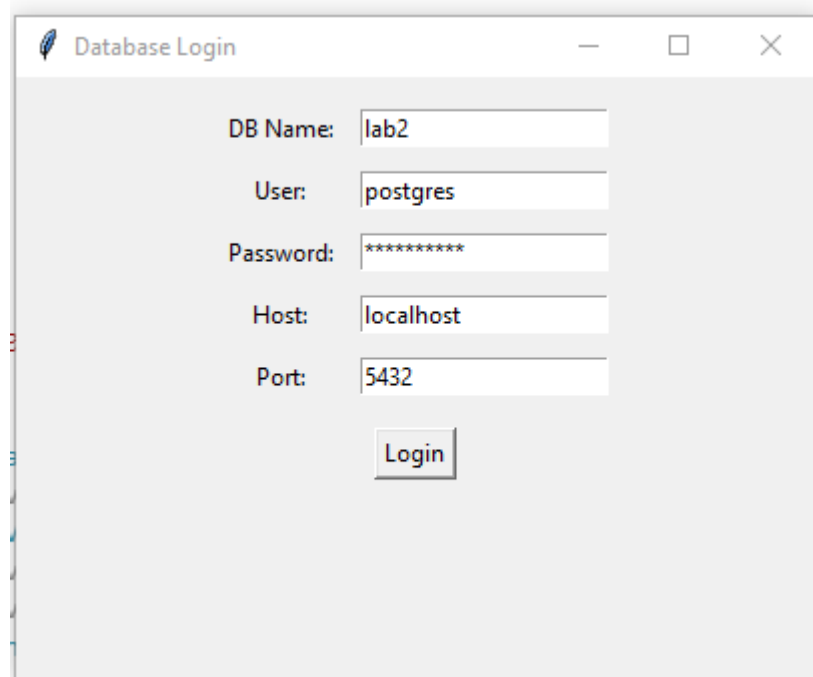


Bài tập 2 : Kết nối Database

MSSV : 2274802010004 – Nguyễn Hoàng An

1 Giao diện App

Giao diện đăng nhập

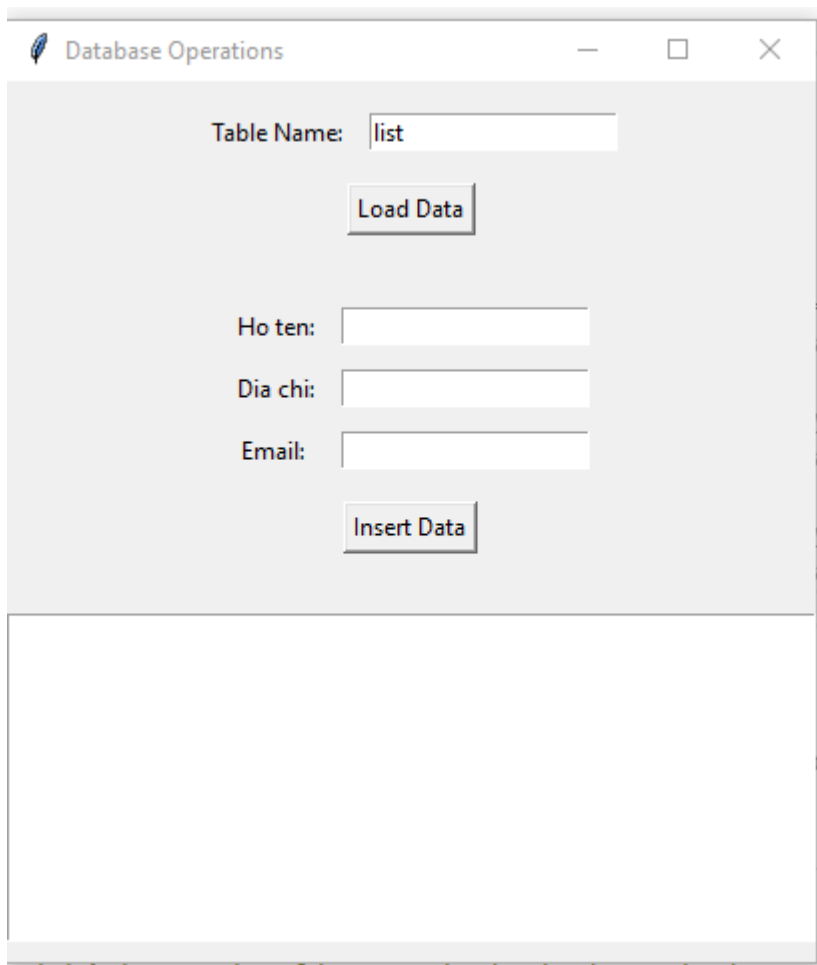


The image shows a screenshot of a web application window titled "Database Login". The window has a light gray background and a title bar with a feather icon and standard window controls (minimize, maximize, close). The main content area contains five labeled input fields arranged vertically:

- DB Name:** The input field contains the text "lab2".
- User:** The input field contains the text "postgres".
- Password:** The input field contains seven asterisks "*****".
- Host:** The input field contains the text "localhost".
- Port:** The input field contains the text "5432".

Below these input fields, centered, is a button labeled "Login".

Giao diện sau khi đăng nhập thành công



The screenshot shows a window titled "Database Operations" with a feather icon. Inside the window, there is a form with the following elements:

- A label "Table Name:" followed by a text input field containing the text "list".
- A button labeled "Load Data" below the "Table Name" field.
- A label "Ho ten:" followed by a text input field.
- A label "Dia chi:" followed by a text input field.
- A label "Email:" followed by a text input field.
- A button labeled "Insert Data" below the "Email" field.
- A large, empty rectangular area at the bottom of the window, likely for displaying data.

2 .Chức năng của App

- Cho phép người dùng kết nối với cơ sở dữ liệu (Database)
- Cho phép người dùng nhập thông tin như họ tên, địa chỉ, email sau đó lưu những thông tin đã nhập lên cơ sở dữ liệu của người dùng .
- Khi nhấn vào nút load database thì app sẽ hiển thị ra các thông tin mà người dùng đã nhập bao gồm Họ tên, Địa chỉ, Email.

3 Mã nguồn của app

```
Bai2.py > DatabaseApp > create_widgets
1 import tkinter as tk
2 from tkinter import messagebox
3 import psycopg2
4 from psycopg2 import sql
5
6 class LoginApp:
7     def __init__(self, root):
8         self.root = root
9         self.root.title("Database Login")
10
11         #Set window size
12         self.root.geometry("400x300")
13
14         # Login fields
15         self.db_name = tk.StringVar(value='lab2')
16         self.user = tk.StringVar(value='postgres')
17         self.password = tk.StringVar(value='0963631472')
18         self.host = tk.StringVar(value='localhost')
19         self.port = tk.StringVar(value='5432')
20         self.table_name = tk.StringVar(value='list')
21
22         # Create the login GUI elements
23         self.create_login_widgets()
24
25     def create_login_widgets(self):
26         login_frame = tk.Frame(self.root)
27         login_frame.pack(pady=10)
28
29         tk.Label(login_frame, text="DB Name:").grid(row=0, column=0, padx=5, pady=5)
30         tk.Entry(login_frame, textvariable=self.db_name).grid(row=0, column=1, padx=5, pady=5)
31
32         tk.Label(login_frame, text="User:").grid(row=1, column=0, padx=5, pady=5)
33         tk.Entry(login_frame, textvariable=self.user).grid(row=1, column=1, padx=5, pady=5)
34
35         tk.Label(login_frame, text="Password:").grid(row=2, column=0, padx=5, pady=5)
36         tk.Entry(login_frame, textvariable=self.password, show="*").grid(row=2, column=1, padx=5, pady=5)
37
38         tk.Label(login_frame, text="Host:").grid(row=3, column=0, padx=5, pady=5)
39
40         tk.Label(login_frame, text="Host:").grid(row=3, column=0, padx=5, pady=5)
41         tk.Entry(login_frame, textvariable=self.host).grid(row=3, column=1, padx=5, pady=5)
42
43         tk.Label(login_frame, text="Port:").grid(row=4, column=0, padx=5, pady=5)
44         tk.Entry(login_frame, textvariable=self.port).grid(row=4, column=1, padx=5, pady=5)
45
46         tk.Button(login_frame, text="Login", command=self.login).grid(row=5, columnspan=2, pady=10)
47
48     def login(self):
49         try:
50             conn = psycopg2.connect(
51                 dbname=self.db_name.get(),
52                 user=self.user.get(),
53                 password=self.password.get(),
54                 host=self.host.get(),
55                 port=self.port.get()
56             )
57             messagebox.showinfo("Success", "Connected to the database successfully!")
58             self.root.destroy() # Close the login window
59             self.open_database_app(conn) # Open the main database app
60         except Exception as e:
61             messagebox.showerror("Error", f"Error connecting to the database: {e}")
62
63     def open_database_app(self, conn):
64         root = tk.Tk()
65         DatabaseApp(root, conn, self.table_name.get()) # Pass the table_name to DatabaseApp
66         root.mainloop()
67
68 class DatabaseApp:
69     def __init__(self, root, conn, table_name):
70         self.root = root
71         self.root.title("Database Operations")
72         self.conn = conn
73         self.cur = conn.cursor()
74         self.table_name = tk.StringVar(value=table_name) # Initialize table_name as StringVar
```



```

74
75     # Create the GUI elements
76     self.create_widgets()
77
78     def create_widgets(self):
79         # Query section
80         query_frame = tk.Frame(self.root)
81         query_frame.pack(pady=10)
82
83         tk.Label(query_frame, text="Table Name:").grid(row=0, column=0, padx=5, pady=5)
84         tk.Entry(query_frame, textvariable=self.table_name).grid(row=0, column=1, padx=5, pady=5)
85
86         tk.Button(query_frame, text="Load Data", command=self.load_data).grid(row=1, columnspan=2, pady=10)
87
88         # Insert section
89         insert_frame = tk.Frame(self.root)
90         insert_frame.pack(pady=10)
91
92         self.column1 = tk.StringVar()
93         self.column2 = tk.StringVar()
94         self.column3 = tk.StringVar()
95
96         tk.Label(insert_frame, text="Ho ten:").grid(row=0, column=0, padx=5, pady=5)
97         tk.Entry(insert_frame, textvariable=self.column1).grid(row=0, column=1, padx=5, pady=5)
98
99         tk.Label(insert_frame, text="Dia chi:").grid(row=1, column=0, padx=5, pady=5)
100        tk.Entry(insert_frame, textvariable=self.column2).grid(row=1, column=1, padx=5, pady=5)
101
102        tk.Label(insert_frame, text="Email: ").grid(row=2, column=0, padx=5, pady=5)
103        tk.Entry(insert_frame, textvariable=self.column3).grid(row=2, column=1, padx=5, pady=5)
104
105        self.data_display = tk.Text(self.root, height=10, width=50)
106        self.data_display.pack(pady=10)
107
108        tk.Button(insert_frame, text="Insert Data", command=self.insert_data).grid(row=3, columnspan=2, pady=10)
109
110    def load_data(self):
111        try:
112            query = sql.SQL("SELECT * FROM {}").format(sql.Identifier(self.table_name.get()))
113            self.cur.execute(query)
114            rows = self.cur.fetchall()
115            self.data_display.delete(1.0, tk.END)
116            for row in rows:
117                self.data_display.insert(tk.END, f"{row}\n")
118        except Exception as e:
119            messagebox.showerror("Error", f"Error loading data: {e}")
120
121    def insert_data(self):
122        try:
123            insert_query = sql.SQL("INSERT INTO {} (hoten, diachi,email) VALUES (%s, %s)").format(sql.Identifier(self.table_name.get()))
124            data_to_insert = (self.column1.get(), self.column2.get())
125            self.cur.execute(insert_query, data_to_insert)
126            self.conn.commit()
127            messagebox.showinfo("Success", "Data inserted successfully!")
128        except Exception as e:
129            messagebox.showerror("Error", f"Error inserting data: {e}")
130
131    if __name__ == "__main__":
132        root = tk.Tk()
133        app = LoginApp(root)
134        root.mainloop()

```

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```



4.GitHub

Link github : <https://github.com/NguyenHoang-An/BaiTap/tree/main/BaiTap2>