Setting up the HospitalManager

Prerequisites

Before you begin, ensure you have the following tools installed on your system:

- **.NET Framework 4.8 or higher**
- **MariaDB Server**
- **MySQL Connector for .NET**

Steps

Step 1: Clone the Project

Clone the **HospitalManager** repository to your local machine. If you don't have the repository, you can create it by setting up a new C# project in Visual Studio.

git clone https://github.com/JackReaperCZ/HospitalManager.git (https://github.com/JackReaperCZ/HospitalManager.git)

Step 2: Set up the MariaDB Database

2.1 Install MariaDBServer

Make sure MariaDB Server is installed. You can download it from the MariaDB official website (https://mariadb.org/).

2.2 Create the Database

Once MariaDB Server is installed and running, create a new database for the HospitalManager project.

1. Open **any supported workbench** for MariaDB.

2. Create a new database by running the following SQL command in the query window:

```
CREATE DATABASE IF NOT EXISTS hospital;
USE hospital;

CREATE TABLE IF NOT EXISTS lekari (
  id INT(11) NOT NULL AUTO_INCREMENT,
  kod INT(11) NOT NULL DEFAULT -1,
  titul VARCHAR(50) NOT NULL,
  jmeno VARCHAR(50) NOT NULL,
  prijmeni VARCHAR(50) NOT NULL,
  email VARCHAR(255) NOT NULL,
  tel INT(9) NOT NULL,
  PRIMARY KEY (id),
  UNIQUE KEY kod (kod)
) ENGINE=InnoDB AUTO_INCREMENT=4 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

CREATE TABLE IF NOT EXISTS leky (
  id INT(11) NOT NULL AUTO_INCREMENT,
  nazev VARCHAR(255) NOT NULL,
  cena FLOAT(10,2) NOT NULL,
  popis LONGTEXT NOT NULL,
  vyrobce VARCHAR(50) NOT NULL,
  PRIMARY KEY (id)
) ENGINE=InnoDB AUTO_INCREMENT=3 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

CREATE TABLE IF NOT EXISTS pacienti (
  id INT(11) NOT NULL AUTO_INCREMENT,
  jmeno VARCHAR(50) NOT NULL,
  prijmeni VARCHAR(50) NOT NULL,
  email VARCHAR(255) NOT NULL,
  tel INT(9) NOT NULL,
    dat_nar DATE NOT NULL,
  PRIMARY KEY (id)
) ENGINE=InnoDB AUTO_INCREMENT=3 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

CREATE TABLE IF NOT EXISTS navstevy (
  id INT(11) NOT NULL AUTO_INCREMENT,
  id_pac INT(11) NOT NULL,
  id_lek INT(11) NOT NULL,
  dat_nav DATETIME DEFAULT NULL,
  pozn LONGTEXT DEFAULT NULL,
  PRIMARY KEY (id),
  CONSTRAINT FK_navstevy_lekari FOREIGN KEY (id_lek) REFERENCES lekari (id) ON DELETE CASCADE ON UPDATE NO ACTION,
  CONSTRAINT FK_navstevy_pacienti FOREIGN KEY (id_pac) REFERENCES pacienti (id) ON DELETE CASCADE ON UPDATE NO ACTION
) ENGINE=InnoDB AUTO_INCREMENT=2 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

CREATE TABLE IF NOT EXISTS predpisy (
  id INT(11) NOT NULL AUTO_INCREMENT,
  id_lekar INT(11) NOT NULL,
  id_lek INT(11) NOT NULL,
  id_pac INT(11) NOT NULL,
  davka_den INT(11) NOT NULL,
  PRIMARY KEY (id),
  CONSTRAINT FK_predpisy_lekari FOREIGN KEY (id_lekar) REFERENCES lekari (id) ON DELETE CASCADE ON UPDATE NO ACTION,
  CONSTRAINT FK_predpisy_leky FOREIGN KEY (id_lek) REFERENCES leky (id) ON DELETE CASCADE ON UPDATE NO ACTION,
  CONSTRAINT FK_predpisy_pacienti FOREIGN KEY (id_pac) REFERENCES pacienti (id) ON DELETE CASCADE ON UPDATE NO ACTION
) ENGINE=InnoDB AUTO_INCREMENT=4 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

Step 3: Configure the Connection String

To allow your application to connect to the MariaDB database, you need to configure the connection string in the project.

1. Open your **HospitalManager** project in Visual Studio or Rider.

2. In the **App.config** file, locate the `<appSetings>` section.

3. Add a connection string similar to the following, updating the DB_USER, DB_PASSWORD, DB_HOST, and DB_DATABASE as needed.

Example:

```
<appSettings>
        <add key="DB_USER" value="root" />
        <add key="DB_PASSWORD" value="pass" />
        <add key="DB_HOST" value="localhost" />
        <add key="DB_DATABASE" value="hospital" />
</appSettings>
```

Step 4: Build and Run the Project

Now that your database is set up and the connection string is configured, you can build and run the project in either **Visual Studio** or **JetBrains Rider**.

In **Visual Studio**:

1. Go to **Build** > **Build Solution** to compile the project.
2. Once the build is successful, press **Ctrl + F5** to run the application without debugging.

In **JetBrains Rider**:

1. Open the **HospitalManager** project in **JetBrains Rider**.
2. Make sure your project is targeting **.NET Framework 4.8+** and that you have the MySQL Connector properly installed.
3. Click on **Build** in the top menu bar, then select **Build Solution** (or use the shortcut `Ctrl + Shift + B`) to compile the project.
4. After the build is successful, you can run the application by clicking the **Run** button in the top-right corner (or use the shortcut `Shift + F10`).

Notes for JetBrains Rider:

- Rider will automatically detect the `App.config` file for your database connection.
- Ensure your MariaDB server is running before you attempt to run the project.
- If you need to debug, you can use the **Debug** button (or `Shift + F9`) to run with debugging enabled.

Step 5: Verify the Application

Once the application is running, u should see the main form of the app open.

Test Cases

Test Case 1: Importing Data from JSON File and Validating

In this test case, we will import patient data from a JSON file and validate that the data is correctly imported into the database.

`#### Steps:

1. Create a JSON file named **patient.json** with sample patient data. Below is an example of how the JSON file could look:

```
{
  "jmeno": "Karel",
  "prijmeni": "Suskal",
  "email": "suskal@gmail.com",
  "telefon": 587635412,
  "datum_nar": "2000-11-11"
}
```

2. Run the app and wait for it to load.

3. Click on `Pacienti` button, folowed by the `Import` button.

4. File selector window should open where we will select our **patient.json** and pressing `Open`

5. The patient from the file upload to our database and we should see him in the table on the right side of the aplication.

Test Case 2: Adding Data Through the UI

This test case will validate that data can be added through the **UI** and saved correctly in the database.

Steps:

1. Launch the **HospitalManager** application.

2. Click on `Pacienti` button, followed by the `Nový` button in the right left corner .

3. Enter the following sample data into the form:

    - **Jméno**: Michael
    - **Přijmení**: Johnson
    - **Email**: johnson@email.com
    - **Telefon**: 869452314
    - **Dat. Nar.**: 1985-10-25

4. Click the **Ok** button to save the information.

5. If out informations are correct we should see the new patient in the table on the right side.