

# Full-Stack User Management Application

## Overview

This project is a full-stack web application built with Angular (frontend) and .NET (backend), connected to a MySQL database. The application is designed to manage user data with a single-page interface that contains three tabs:

- **Add New User:** A form to input and submit user details to the backend, where they are stored in the MySQL database.
- **View All Users:** A table displaying all user data fetched from the backend.
- **Search, Update, and Delete Users:** A search functionality that allows users to find, update, or delete existing user records.

## Key Features

- **Single Page Application (SPA):** The frontend is developed using Angular with smooth navigation between tabs without reloading the page.
- **Backend with .NET:** The backend provides RESTful API endpoints for creating, retrieving, updating, and deleting user data.
- **MySQL Database:** All user data is stored and managed in a MySQL database.
- **Material UI:** The design is clean and responsive, using Material UI components to ensure a user-friendly interface.

## Tabs Overview

### 1. Add New User


A form with fields: Name, Date of Birth, and Address. Includes a submit button to send data to the backend API for saving in the database.

Add User

View Users

Query & Modify

Name\*

Date of Birth\* 

Address\*

Save

Figure 1: Add User Tab

## 2. View All Users

A table that lists all users retrieved from the backend database. Each row displays the user’s name, date of birth, and address.

Add User

View Users

Query & Modify

Name	Date of Birth	Address
marven	2024-10-03	alexandria
marven sherif	2024-10-02	cairo
test	2024-08-29	test
mohamed	2024-10-03	cairo
marven	2024-10-04	cairo

Items per page: 5

1 – 5 of 6

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Figure 2: View Users Tab

## 3. Search, Update, and Delete Users

The third tab contains search functionality as well as the ability to update or delete users. Below are screenshots for different search criteria and the editing feature.

### Search by Name Only


Add User

View Users

Query & Modify

Search by Name

Search by Address

Search by Date of Birth 

Search










ID	Name	Date of Birth	Address	Actions
20	marven	 10/3/24	alexandria	 
21	marven sherif	 10/2/24	cairo	 
24	marven	 10/4/24	cairo	 

Figure 3: Search by Name Only

## Search by Address Only

The interface shows the 'Search by Address' field with the value 'cairo'. The table below displays the following data:

ID	Name	Date of Birth	Address	Actions
21	marven sherif	10/2/24	cairo	
23	mohamed	10/3/24	cairo	
24	marven	10/4/24	cairo	
25	mina	10/1/24	cairo	

Figure 4: Search by Address Only

## Search by Name and Address

The interface shows the 'Search by Name' field with the value 'marven' and the 'Search by Address' field with the value 'cairo'. The table below displays the following data:

ID	Name	Date of Birth	Address	Actions
21	marven sherif	10/2/24	cairo	
24	marven	10/4/24	cairo	

Figure 5: Search by Name and Address

## Editing a User

The interface shows the 'Search by Name' field with the value 'marven sherif', the 'Search by Address' field with the value 'cairo', and the 'Search by Date of Birth' field with the value '10/2/2024'. The table below displays the following data:

ID	Name	Date of Birth	Address	Actions
21	marven sherif	10/2/2024	cairo	
23	mohamed	10/3/24	cairo	
24	marven	10/4/24	cairo	
25	mina	10/1/24	cairo	

Figure 6: Editing a User

## Architecture

- **Frontend:** Angular with Material UI for design and user interaction.
- **Backend:** .NET with a RESTful API serving user data.
- **Database:** MySQL for storing and managing user records.
- **Communication:** The frontend communicates with the backend API through HTTP requests to create, update, delete, or fetch user data.

## Conclusion

This project provides a robust, full-stack solution for user management with a clean user interface. The application can easily be extended with additional features like authentication, validation, or enhanced user filtering.