**Log In Management System**

**with**

**CRUD Operations**

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**Purpose:**

This system allows users to securely log in, manage user records, and perform CRUD (Create, Read, Update, Delete) operations on a MySQL database hosted on phpMyAdmin. It provides an intuitive GUI for efficient interaction.

**Functionality:**

* User Registration: Allows new users to sign up.
* Login System: Authenticates users and redirects them to the CRUD system.

**CRUD Operations:**

* Add a user.
* View all users.
* Update user details.
* Delete users.

**Features:**

* Secure login system.
* User-friendly GUI.
* Real-time validation for input fields.
* Connection to a MySQL database for data storage and retrieval.

**Workflow**

**Login Process:**

* Users launch the application and are greeted with a login screen.
* The user provides their credentials (username and password).
* Upon successful authentication, the system transitions to the main interface for managing records.
* If the login fails, an error message is displayed, prompting the user to retry.

**Sign-Up Process:**

* Users can create a new account using the sign-up feature.
* The system validates the input fields to ensure data integrity.
* A new record is inserted into the database upon successful registration.

**Main Interface (CRUD Operations):**

After logging in, the user accesses the main CRUD interface.

**Features available:**

* Create: Add a new user to the database by filling out the form and clicking the "Add" button.
* Read: View all user records in the system using the "Display All" button, which populates a table with database data.
* Update: Select a record from the table, modify the fields, and click "Update" to save changes.
* Delete: Select a record from the table and click "Delete" to remove it from the database.

**Database Connection:**

The system connects to a MySQL database hosted on phpMyAdmin using JDBC.

It ensures secure communication with proper error handling.

**Error Handling:**

The system displays user-friendly error messages for invalid inputs, empty fields, or database connection issues.

**Setup Instructions**

Prerequisites

* Install Java JDK 8 or above.
* Install NetBeans IDE with Java Swing support.
* Set up a MySQL server and phpMyAdmin.

**Database Configuration:**

Database Configuration in phpMyAdmin

* Open phpMyAdmin in your browser.
* Create a database named sql12749143.
* Import the provided sql12749143.sql file:
* Go to the Import tab in phpMyAdmin.
* Choose the sql12749143.sql file.
* Click Go.

**Application Configuration**

* Open the project in NetBeans.
* Update the DBConnection class with your phpMyAdmin database credentials:

**Update the DBConnection class with your database credentials:**

public class DBConnection {

public static Connection connect() throws SQLException {

String url = "jdbc:mysql://localhost:3306/sql12749143"; // Update with your database name

String user = "your\_username"; // Replace with your database username

String password = "your\_password"; // Replace with your database password

return DriverManager.getConnection(url, user, password);

}

}

**If you want to access or use my database**

* Open phpMyAdmin in your browser.
* Log in using my database credentians.

**Run the Application**

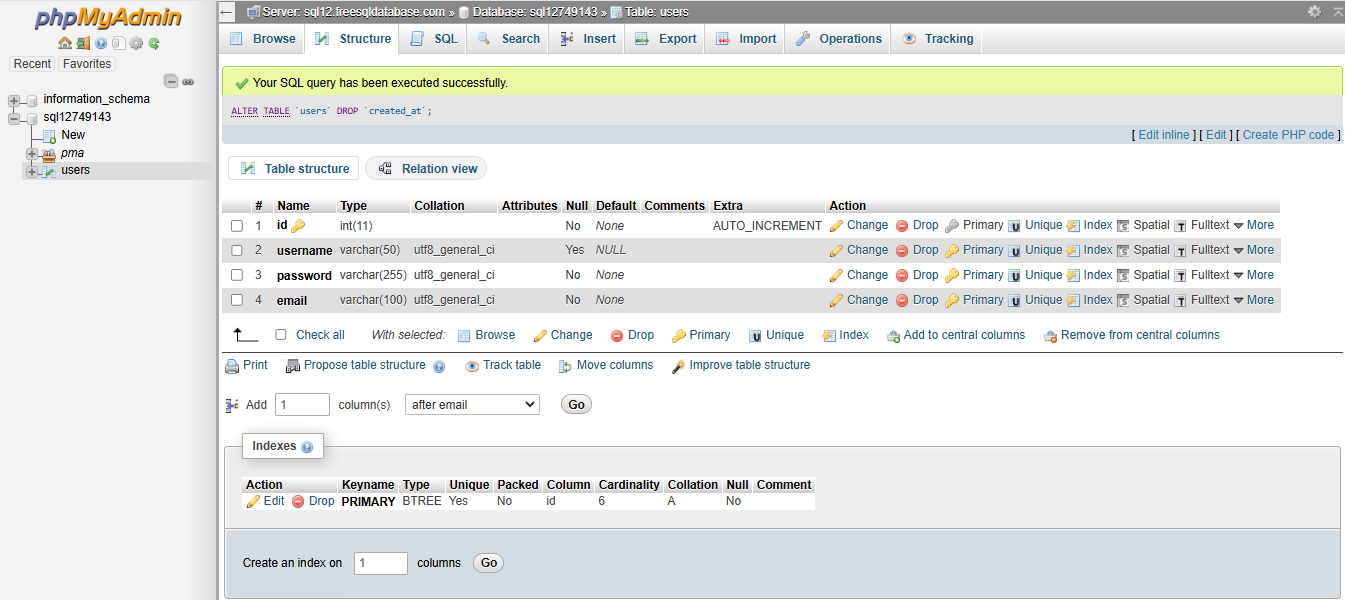
1. Download the LoginApp.java. Go to NetBeans app, go to File - Open project and choose loginApp. Run the LoginApp.java file in NetBeans.
2. Test the system:

* Sign-Up: Register a new user.
* Login: Use the registered credentials to log in.
* CRUD: Add, update, view, and delete users.

**Database Schema**

**Table Users :**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Constraints** |
| **Id** | **INT** | **Primary key,Auto Increment** |
| **Name** | **VARCHAR (50)** | **NOT NULL, UNIQUE** |
| **Password** | **VARCHAR(255)** | **NOT NULL** |
| **Email** | **VARCHAR (100)** | **NOT NULL, UNIQUE** |
|  |  |  |

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**Database Information**

* Database Name: sql12749143
* Username: sql12749143
* Password: 3MtUcBcFDG
* Host: sql12.freesqldatabase.com

**Backup File**

* File Name: sql12749143.sql
* Location: Included in the project folder**.**

**Import Instructions**

* Open phpMyAdmin.
* Create a database namedsql12749143.

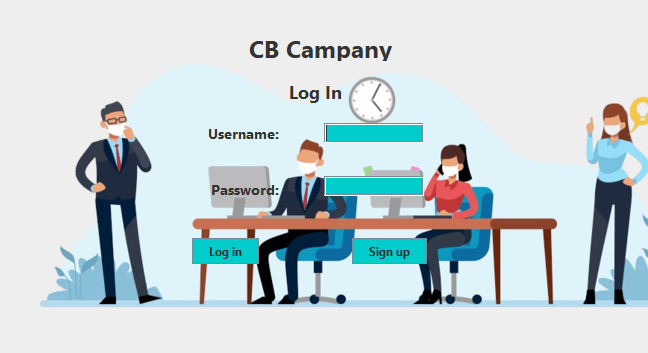
**Import the sql12749143.sql file:**

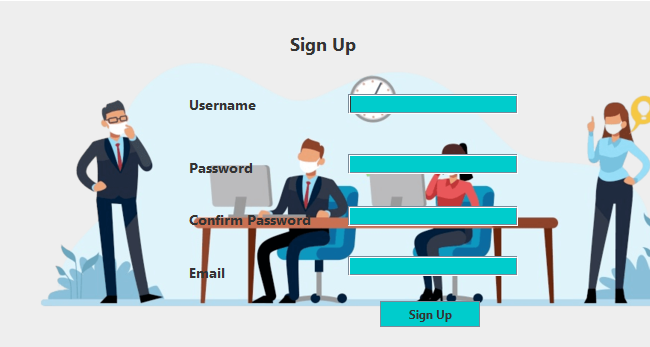
* Go to the Import tab.
* Select the file and click Go.

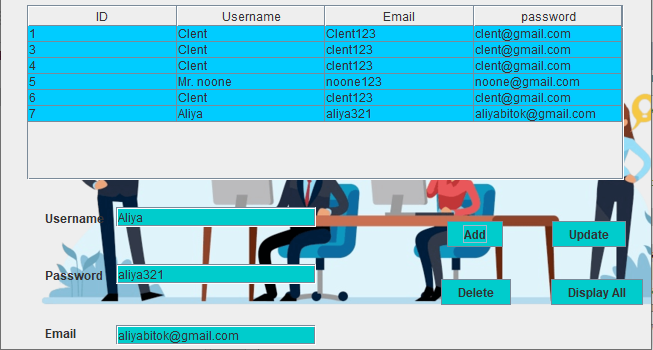
**GitHub Link** (You can download the LoginApp file and sql12749143.sql here if there is a problem on the files I provided):

https://github.com/clent1-commits/FODS-Final-Project-Files

**Login GUI of the loginApp project:**

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**Sing up GUI of the loginApp project:**

**CRUD Interface in the loginApp project:**