**Java Swing based Phonebook Application using a cloud hosted MySQL backend**

**System Design:**

**Frontend:** Java Swing AWT based interactive frontend.

**Backend Database:** MySQL 8.0 database hosted on <https://console.clever-cloud.com/>

Host: bubvhjcwfocodkgqw8py-mysql.services.clever-cloud.com

Database Name: bubvhjcwfocodkgqw8py

User: uh3hfr8kr8chwzhn

Password: \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

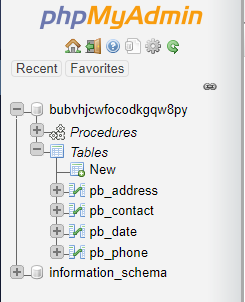
Connection URL: mysql://uh3hfr8kr8chwzhn:sRpGpFx1adXL7ZKy5gnC@bubvhjcwfocodkgqw8py-mysql.services.clever- cloud.com:3306/bubvhjcwfocodkgqw8py

* The Project has been implemented in Apache Netbeans and has leveraged the design mode features to make the interface as utilitarian as possible.
* The application interacts with the cloud hosted MySQL server using the Java Database Connection (JDBC) API.
* The system is implemented using 2 independent programs which need to be executed in the below order of execution:

1. ***csvTablePopulation.java:*** Java program to create normalized tables, create stored procedures on the host server bubvhjcwfocodkgqw8py-mysql.services.clever-cloud.com. These tables are initialized with data provided in the attached csv file.

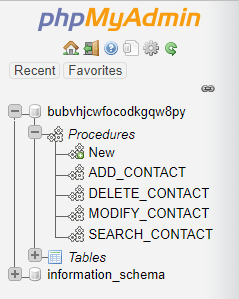
**Tables**

Database Name: uh3hfr8kr8chwzhn



3-n-normalised tables

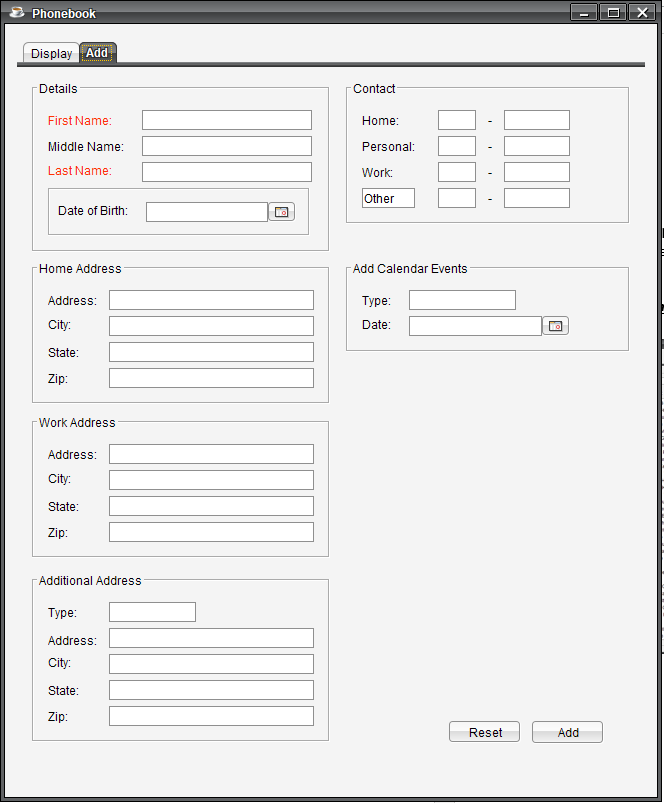
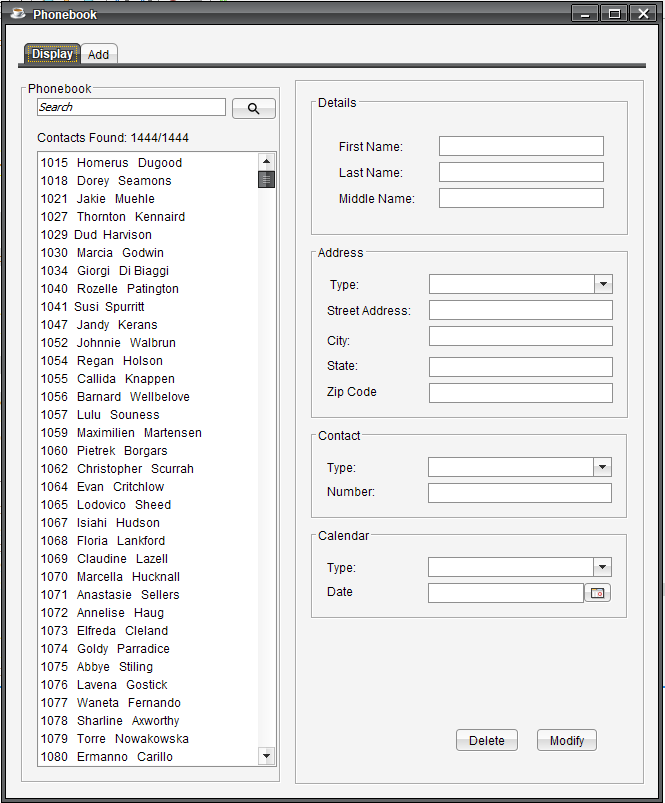
**Stored Procedures**



Stored procedures

The csvTablePopulation.java program creates 4 stored procedures with are invoked by the application program in order to perform the CRUD operations on database.

1. ***MyFrame.java:***



Application GUI View

MyFrame.java application code is implemented with the following classes:

Class MyFrame :

* This class extends the javax.swing.JFrame frame class of the Swing framework.
* Constructor initializes all the GUI components (JLists, JComboboxes, JLabels, JButtons,etc)
* Corresponding action listeners and event handling functions for these components.
* Main function to initialize the MyFrame class and contacts in the phonebook display window.

Class keys.java :

* Java class to hold all static count variables used in the MyFrame.java program

The application can be launched by running the MyFrame. java class.

**Assumptions**

* Form validations haven’t been programmed yet for the fields. It is expected that the user will input appropriate values in the concerned fields.
* Add tabbed window enables a user to enter at most 3 types of addresses. This include a Home, Office and a *custom* address field. The application enables user to add multiple addresses. If number of addresses exceed 3, the user can add the 4th and subsequent addresses through the modify option available in the Display tabbed window.