

## Design Document

Schema and Tables created in MySQL database. SQL File containing DDL for creation of tables and DML for insertion of initial data is placed in the project folder.

### Database Design:

- Database used MySQL, MySQL Workbench
- Database is already populated with the data from .csv provided in the document.
- Following is the table name and its corresponding primary key

Table	Primary Key – Column name
Contact	contact_id
Address	address_id
Phone	phone_id
Date	date_id

- Contact\_id present in other tables (addresses, phone number and date) acts as foreign key links to the contact\_id in contact table
- Primary keys in tables are auto incremented.
- Deletion of data Contact ID for a particular contact will be a CASCADE DELETE and it will result in deletion of all its respective data from other tables as well.

### User Interface Design:

- Technologies used are HTML/JSP, JSTL script
- The default home page will have list of options to Search for a contact based on their contact id or first name or last name. Options also include to add a new Contact to the database and also to view all the contacts in the database.
- The search resultant contact will be displayed with options to edit or delete the contact from the same page.

### BackEnd Design:

- Technologies used are Java JDK 1.8, maven, Servlets
- Hosted on Oracle weblogic server 14.1.1
- A .war file is generated from the .class files and is deployed on server.
- The deployed web application now will run on the server. It will link all the jsp and servlets files and will launch the Controller Servlet, which is the heart of the web application.

- It communicates with the java object to set and get values and pass it and read from the jsp files, which is displayed on the UI screen.

#### Design Assumptions:

- User can search for contact in the single search field, user can pass contact id or the first name or the last name of the contact to look for a contact.
- Converted initial provided contact.csv file into insert queries as per the tables structure
- User can search from different pages like Edit Contact page and All Contacts page.
- Once the user clicks the add/edit button, they should save the data after modification to save in database.
- Once a contact is deleted, it is permanently deleted from the database and cannot be retrieved.
- User must fill out the Data field while adding a new contact or editing an existing contact.
- When searching for contact through home page, the search will retrieve the respective contact and will be displayed on the page.
- The .xml config file contains the configuration details for the server.
- Please pass credentials as needed in the .xml config file.
- Database URL: 'jdbc:mysql://localhost:3306/Contacts?serverTimezone=UTC'