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CS365

Prof. Islam

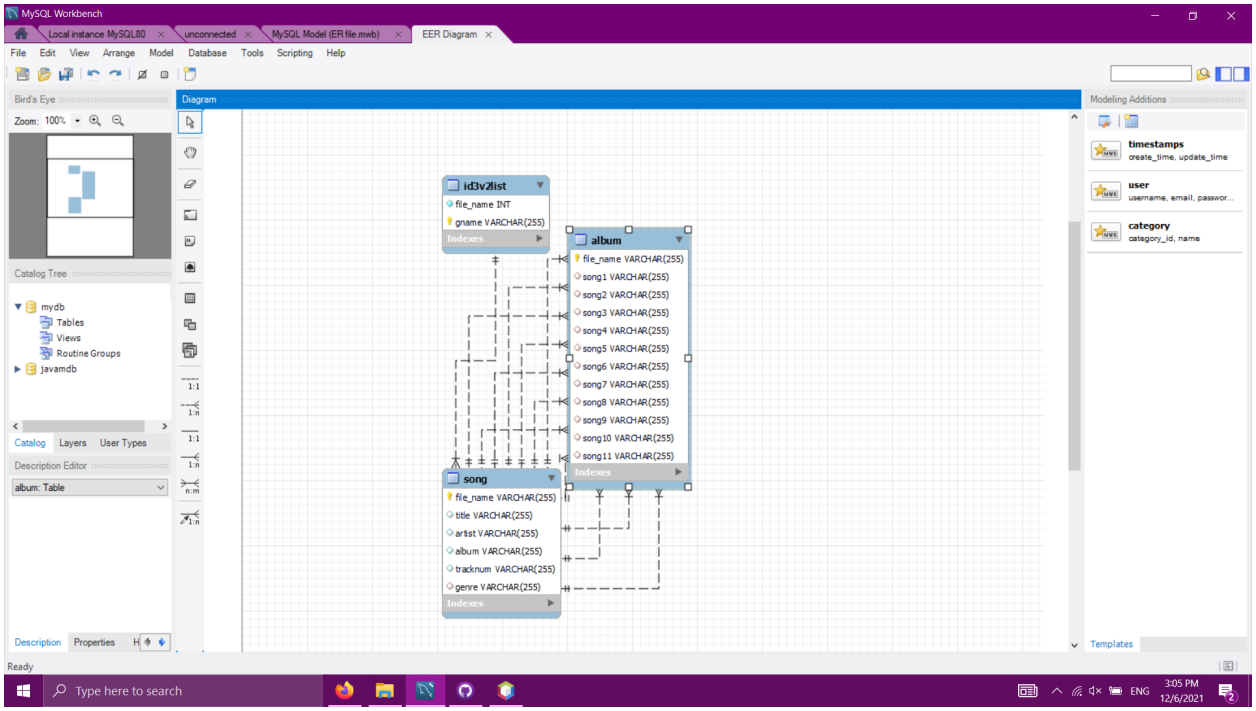
6 December 2021

Term Project

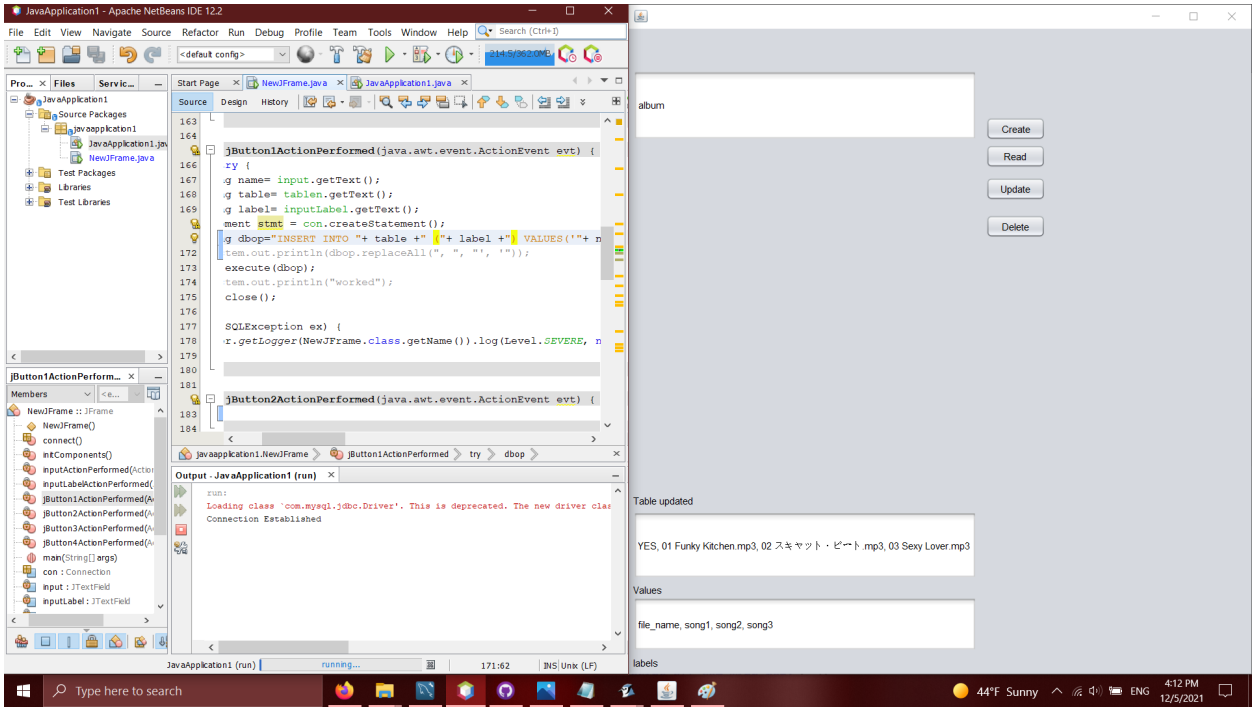
The basis of this project was to make an interactive database that is used to organize music files such as: artist, album, genre, track numbers, etc. This was based on observations about the iD3v2.4 metadata header and its shortcomings. It is the standardized format for audio files. For this project specifically, we used Java and SQL in which a connector was downloaded so Java and SQL were able to communicate with one another. In the Java file, we coded it with create, read, update, and delete statements that the user could operate from a GUI made using Jframe. Java would then successfully connect to an existing database in SQL and relay the CRUD operations. Within each of these statements in Java, multiple queries were executed as well. This is limited by the GUI, we did not want to copy and paste SQL syntax directly, that would render the GUI redundant. The GUI instead has the user input formatted plain text, which the Java application formats to make queries. Because of this, the GUI favors simple queries.

Within the SQL files is where the tables are made with column names and then further populated with the values for those columns. In this specific case, a table “song” was created with the column names: file_name, title, artist, album, track number, and genre. Another table “album” was created with the column names:file_name, which is used to store the album name, and song1-song11. Song1-song11 are foreign keys and need to be in the song table under file_name. A gerne table was also made, it has two columns for an identifying number and a name of the genre. This was made using the iD3v2.4 specifications from the winamp 5.6 update. A script was then created where each of these tables and they were populated with their respective values.

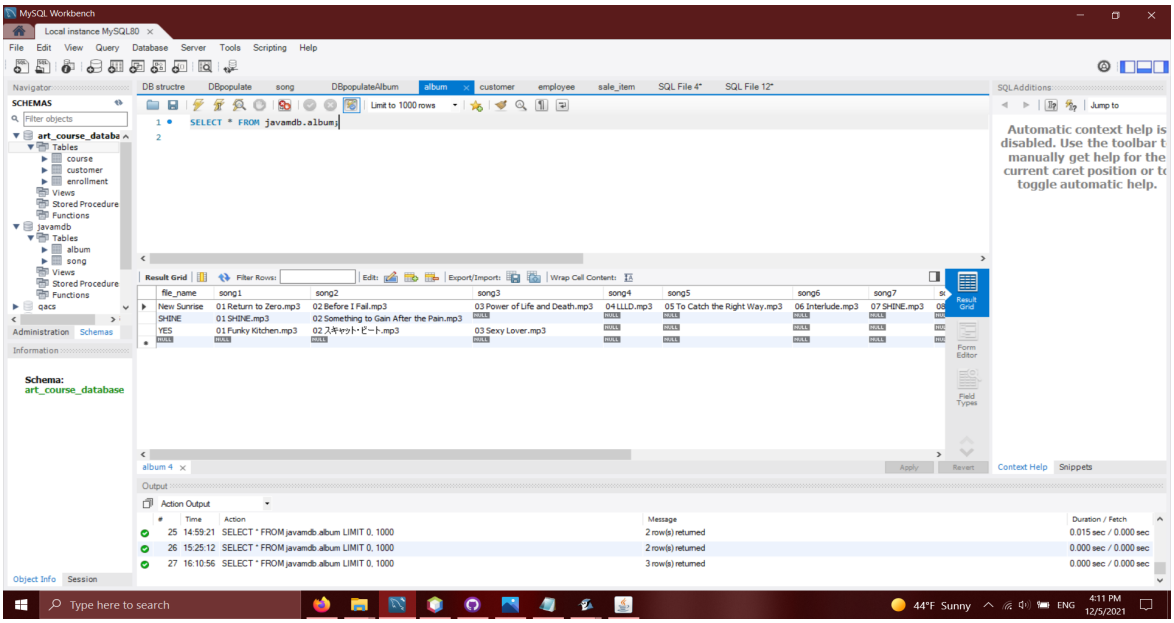
Screenshot 1: ER Diagram

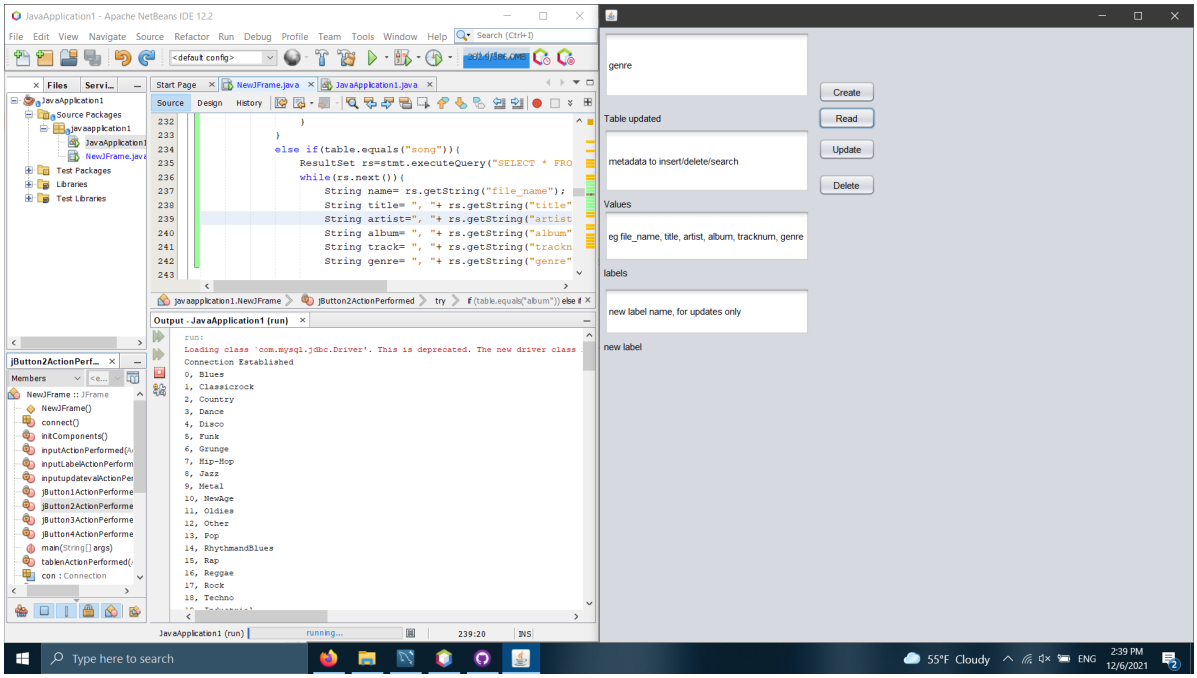


Screenshot 2: Create

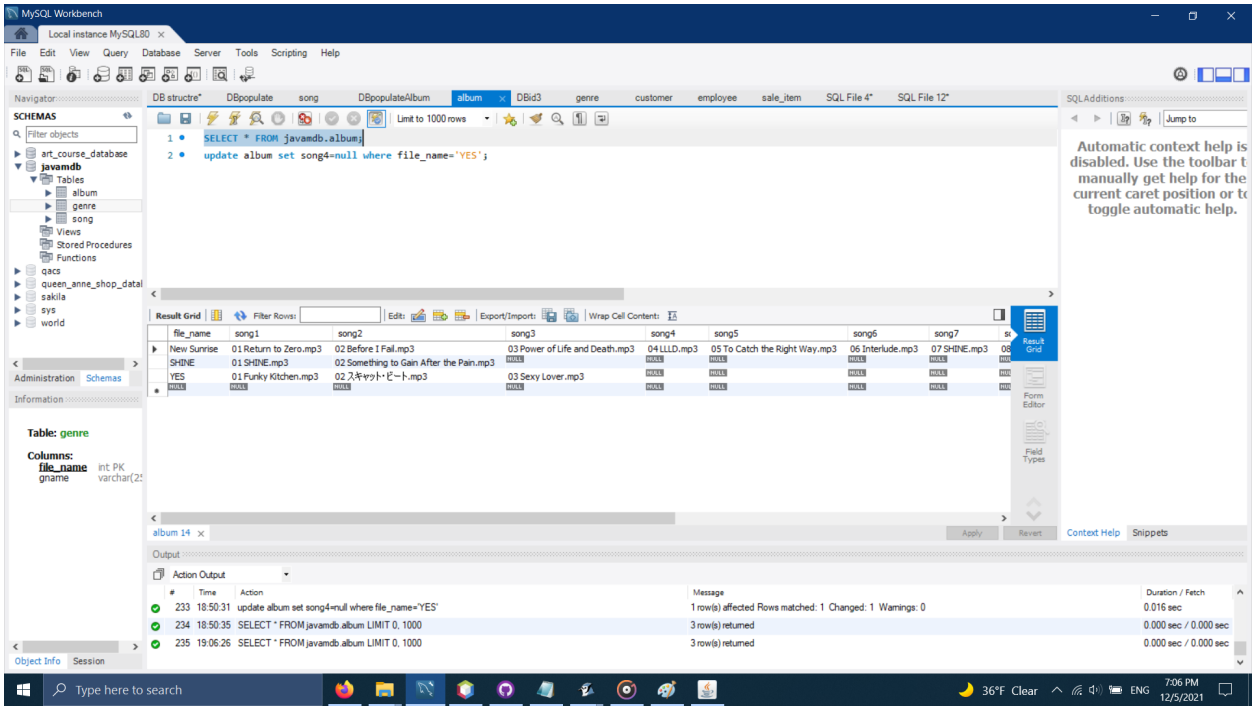


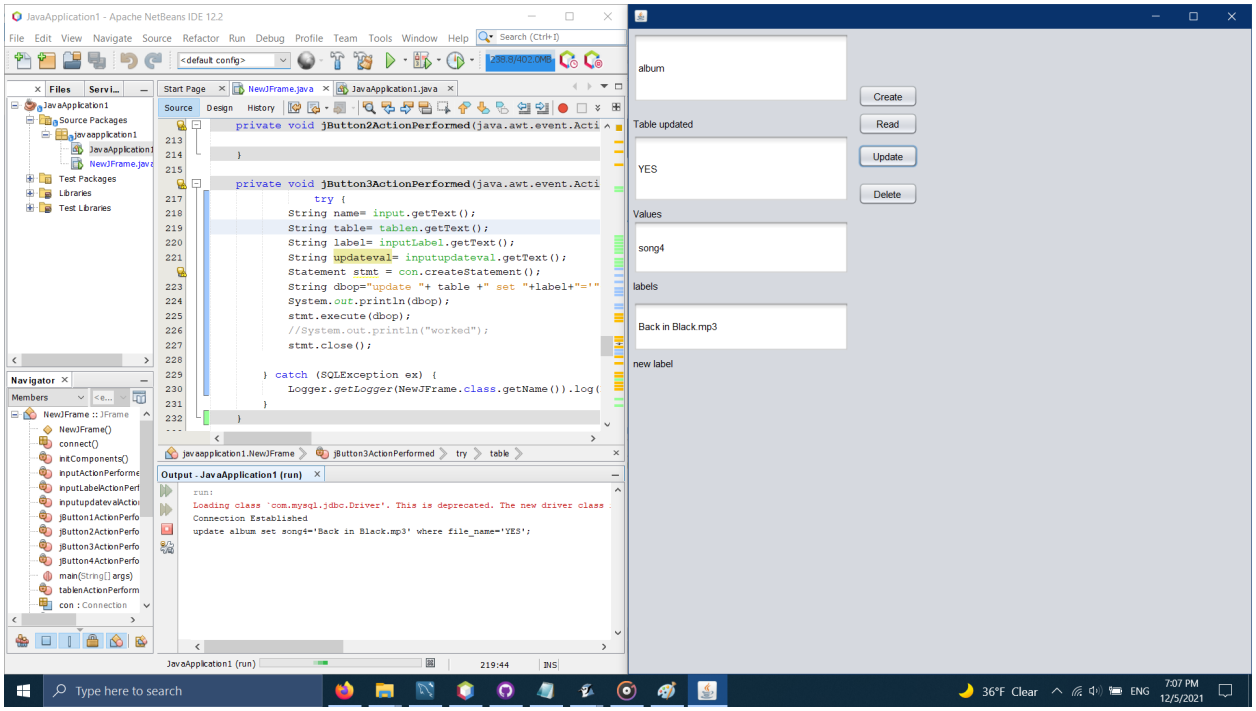
Screenshot 3: Read

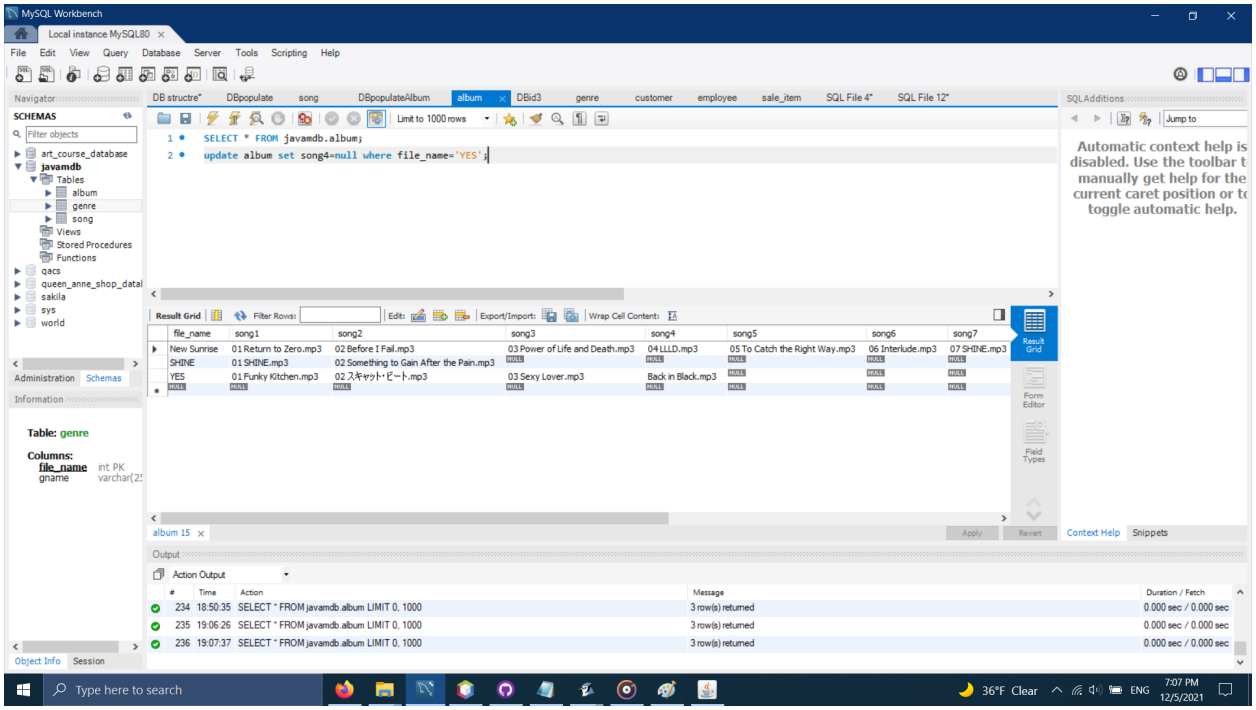




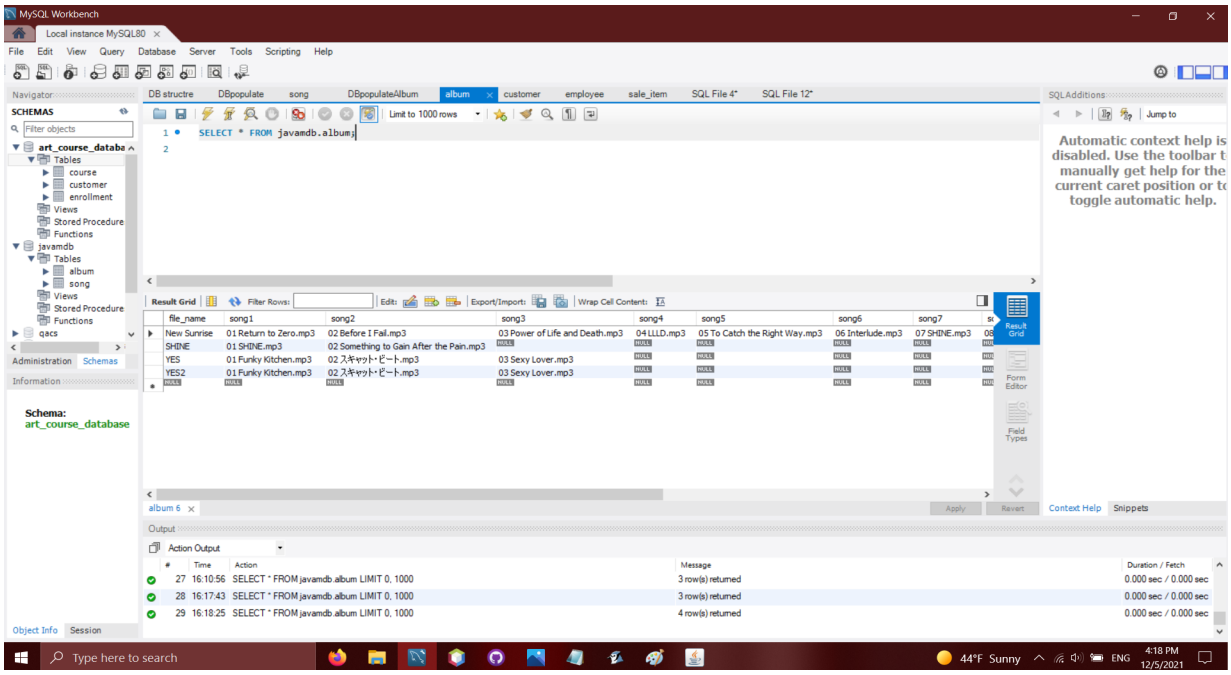
Screenshot 4: Update

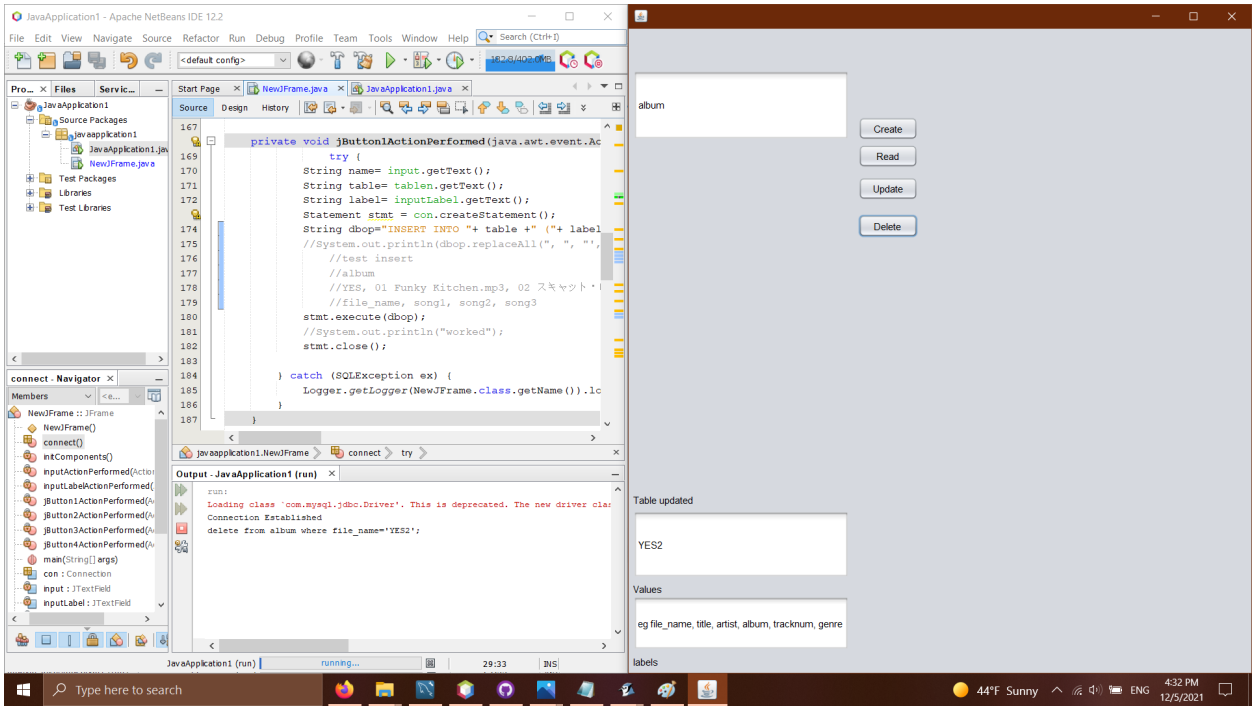

MySQL Workbench
SELECT * FROM javamdb.album;
update album set song4=null where file_name='YES';
Table: genre
Columns:
file_name int PK
gname varchar(25
Action Output
233 18:50:31 update album set song4=null where file_name='YES' 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0 0.016 sec
234 18:50:35 SELECT * FROM javamdb.album LIMIT 0, 1000 3 row(s) returned 0.000 sec / 0.000 sec
235 19:06:26 SELECT * FROM javamdb.album LIMIT 0, 1000 3 row(s) returned 0.000 sec / 0.000 sec
Type here to search
36°F Clear
ENG
7:06 PM
12/5/2021


JavaApplication1 - Apache NetBeans IDE 12.2
private void jButton2ActionPerformed(java.awt.event.Acti
private void jButton3ActionPerformed(java.awt.event.Acti
String name= input.getText();
String table= tablen.getText();
String label= inputLabel.getText();
String updateval= inputupdateval.getText();
Statement stmt = con.createStatement();
String dbop="update "+ table +" set "+label+"='"
System.out.println(dbop);
stmt.execute(dbop);
//System.out.println("worked");
stmt.close();
} catch (SQLException ex) {
Logger.getLogger(NewJFrame.class.getName()).log(
Output - JavaApplication1 (run)
Loading class `com.mysql.jdbc.Driver'. This is deprecated. The new driver class
Connection Established
update album set song4='Back in Black.mp3' where file_name='YES';
album
Table updated
YES
Values
song4
labels
Back in Black.mp3
new label
Create
Read
Update
Delete
Type here to search
36°F Clear
ENG
7:07 PM
12/5/2021



Screenshot 4: Delete





Screenshot 6: Schema Diagram

Schema Diagram

Kaya Pina | December 6, 2021