Dayton Hannaford

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Prof. Evans

Module 10: Adding a Database

Database Connection Guide

Overview:

This is a quick guide that explains how to set up the MySQL database and run my Video Game Achievement Manager program hopefully without issue.

Additional Info:

1. **Database name:** videogamemanager_main
2. **User and password:** user / UserPassword1
3. **Database host:** localhost
4. **Database port:** 3306
5. **There is data inserted into the database when using the export.** Most data is for userID '911'.

Prerequisites:

Before running the program, please ensure you have:

- **Java Runtime Environment (JRE) 8 or higher** installed.

- **MySQL Server** installed on your machine.
  (Tested on MySQL 8.0+)

If MySQL is not installed, download it from the MySQL Downloads page and follow the installation instructions for your OS (I use Windows).

Setting Up the Database:

1. Importing the Database Schema

I have provided a SQL dump file named *VideoGameManager_Main_DatabaseExport.sql* This file contains the SQL commands needed to re-create schema and also adds in some data, Mainly for userID '911'.

To Import the Schema:

1. **Open the MySQL Command Line (In Admin may help):**

   o **Windows:**
      Open Command Prompt and navigate to the MySQL bin directory (for example:
      cd "C:\Program Files\MySQL\MySQL Server 8.0\bin").

   o **macOS/Linux:**
      Open your Terminal application.

2. **Run the Import Command:**
   Execute the following command (replace 'your_username' with your MySQL username and adjust the path as needed):

```
mysql -u your_username -p < path\to\ VideoGameManager_Main_DatabaseExport.sql
```
   o After entering your MySQL password, MySQL will execute the script and create the database and tables as defined in the dump file.

2. Verifying the Database

1. After importing, log into the MySQL command line and run:

```
SHOW DATABASES;
USE videogamemanager_main;    -- Replace with the actual database name if different
SHOW TABLES;
```

This confirms that the database and tables have been created correctly.

Using the Program:

When you run the JAR file via the bat file (or however you choose), the program will ask you for the following connection details:

1. **MySQL Host:**
   For example, I used 'localhost' since MySQL is running locally.

2. **MySQL Port:**
   The default for me was 3306. If your MySQL server uses a different port, enter that number.

3. **Database Name:**
   Enter the name of the database created by the SQL dump (for example, I used 'videogamemanager_main').

4. **MySQL Username and Password:**
   Enter your MySQL credentials. These credentials are likely different from mine.

5. **UserID for the Application:**
   Finally, you will be prompted for a UserID to use within the application.

After entering the connection details, the program will connect to your MySQL server. If the connection is successful, the main GUI will launch, and you can start managing your video game achievements.

Tips & Troubleshooting:

I did run into issues with not having a suitable driver when running the jar vs straight from IntelliJ. I rebuilt the JAR to include the dependencies, to try and ensure it was as simple as running the JAR going forward. Should you have that issue, you would need to ensure that you're using the POM file with a clean/rebuilt maven in the IDE (if running that way).

Table DDL:

```
CREATE TABLE `games` (
  `game_id` int NOT NULL AUTO_INCREMENT,
  `user_id` int NOT NULL,
  `title` varchar(255) NOT NULL,
  `release_year` int NOT NULL,
  `total_achievements` int NOT NULL,
  `achievements_completed` int NOT NULL,
  `completion_percentage` decimal(5,2) GENERATED ALWAYS AS ((case when (`total_achievements` = 0)
then 0 else ((`achievements_completed` * 100.0) / `total_achievements`) end)) STORED,
  `game_completed` tinyint(1) GENERATED ALWAYS AS ((case when (`total_achievements` =
`achievements_completed`) then 1 else 0 end)) STORED,
  PRIMARY KEY (`game_id`)
) ENGINE=InnoDB AUTO_INCREMENT=67 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```