W05 Lab: OLTP to Dimensional Modeling

New Attempt

Due Sunday by 6:59am **Points** 75
Submitting a text entry box or a file upload
Available Apr 29 at 7am - Jul 20 at 6:59am

Overview

Task: Create a data warehouse dimensional model by using the MySQL Workbench software.

Purpose: Learn how to re-model a data from an Online Transaction Processing (OLTP) system to an Online Analytical Processing (OLAP) system or data warehouse using a Star Schema as the data warehouse modeling solution.

Instructions

> *Note: This lab should be completed with your group from **W03 Presentation: ETL Processes.***

You have started a new position as a new company. Your manager wants you to learn the difference between a data mart and data warehouse. Your manager let you know that there are many books and online resources that may help you sort out the differences.

Steps

1. Review the preparation articles for this week:
   - **Reverse Engineering**
   - **Forward Engineering**
   - **Creating a New ERD Model**
   - **Basic ERD Modeling:**
     - **Adding a Table**
     - **Creating a Foreign Key**
2. Install MySQL Workbench using **the following installation guide.**
3. You can click on this **CIT425 Model** to download your starting **MySQL Workbench** file.
4. The starting point for the lab is an Online Transaction Processing (OLTP) Video Database ERD. You will find it attached to the lab. Your task is to forward engineer with the model to identify any shortfalls with the design and fix them. You can check for errors by running the forward engineering script, noting the errors and fixing them in the base data model.
5. After you have fixed all the errors, you will have a new Video Model. You use that model to design a star schema with dimension and fact tables. You should build the fact table with transactions; and you should build dimension tables that let you filter for customers, locale, item, and member account.
6. You start with over 60 tables in the completed relational model of the Video Store. You may MySQL Workbench locally, or in a Docker instance to convert the OLTP ERD into a Kimball Star Schema with one fact table and at least two dimension tables. The tables should at least model the following:

- One dimension table should include the item table, inclusive of item ratings, rating agencies, genre, and item types from the common_lookup table data.
- One dimension table should include the member account, contact information including address and telephone information.
- One fact table should include data from the rental and rental_item tables with the rental_item data setting the granularity of the fact table.

7. Submit a screen shot of your MySQL Workbench model