Sakila Sample Database

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This document describes Sakila sample database installation, structure, usage, and history.

For legal information, see the Legal Notices.

For help with using MySQL, please visit the MySQL Forums, where you can discuss your issues with other MySQL users.

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1 Preface and Legal Notices

This document describes Sakila sample database installation, structure, usage, and history.

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2 Introduction

The Sakila sample database was initially developed by Mike Hillyer, a former member of the MySQL AB documentation team. It is intended to provide a standard schema that can be used for examples in books, tutorials, articles, samples, and so forth. The Sakila sample database also serves to highlight features of MySQL such as Views, Stored Procedures, and Triggers.

Additional information on the Sakila sample database and its usage can be found through the MySQL forums.

The Sakila sample database is the result of support and feedback from the MySQL user community and feedback and user input is always appreciated. Please direct all feedback using the http://www.mysql.com/company/contact/. For bug reports, use MySQL Bugs.

3 History

The Sakila sample database was designed as a replacement to the world sample database, also provided by Oracle.

The world sample database provides a set of tables containing information on the countries and cities of the world and is useful for basic queries, but lacks structures for testing MySQL-specific functionality and features found in MySQL 5 and higher.

Development of the Sakila sample database began in early 2005. Early designs were based on the database used in the Dell whitepaper Three Approaches to MySQL Applications on Dell PowerEdge Servers.

Where Dell's sample database was designed to represent an online DVD store, the Sakila sample database is designed to represent a DVD rental store. The Sakila sample database still borrows film and actor names from the Dell sample database.

Development was accomplished using MySQL Query Browser for schema design, with the tables being populated by a combination of MySQL Query Browser and custom scripts, in addition to contributor efforts (see Section 8, "Acknowledgments").

After the basic schema was completed, various views, stored routines, and triggers were added to the schema; then the sample data was populated. After a series of review versions, the first official version of the Sakila sample database was released in March 2006.

4 Installation

The Sakila sample database is available from https://dev.mysql.com/doc/index-other.html. A downloadable archive is available in compressed tar file or Zip format. The archive contains three files: sakila-schema.sql, sakila-data.sql, and sakila.mwb.

Note

Sakila contains MySQL version specific comments, in that the sakila schema and data depends on the version of your MySQL server. For example, MySQL server 5.7.5 added support for spatial data indexing to InnoDB, so the address table will include a spatial-aware location column for MySQL 5.7.5 and higher.

The sakila-schema.sql file contains all the CREATE statements required to create the structure of the Sakila database including tables, views, stored procedures, and triggers.

The sakila-data.sql file contains the INSERT statements required to populate the structure created by the sakila-schema.sql file, along with definitions for triggers that must be created after the initial data load.

The sakila.mwb file is a MySQL Workbench data model that you can open within MySQL Workbench to examine the database structure. For more information, see MySQL Workbench.

To install the Sakila sample database, follow these steps:

- 1. Extract the installation archive to a temporary location such as C:\temp\ or /tmp/. When you unpack the archive, it creates a directory named sakila-db that contains the sakila-schema.sql and sakila-data.sql files.
- 2. Connect to the MySQL server using the mysql command-line client with the following command:

```
$> mysql -u root -p
```

Enter your password when prompted. A non-root account can be used, provided that the account has privileges to create new databases.

3. Execute the sakila-schema.sql script to create the database structure, and execute the sakila-data.sql script to populate the database structure, by using the following commands:

```
mysql> SOURCE C:/temp/sakila-db/sakila-schema.sql;
mysql> SOURCE C:/temp/sakila-db/sakila-data.sql;
```

Replace the paths to the sakila-schema.sql and sakila-data.sql files with the actual paths on your system.

Note

On Windows, use slashes rather than backslashes when executing the SOURCE command.

4. Confirm that the sample database is installed correctly. Execute the following statements. You should see output similar to that shown here.

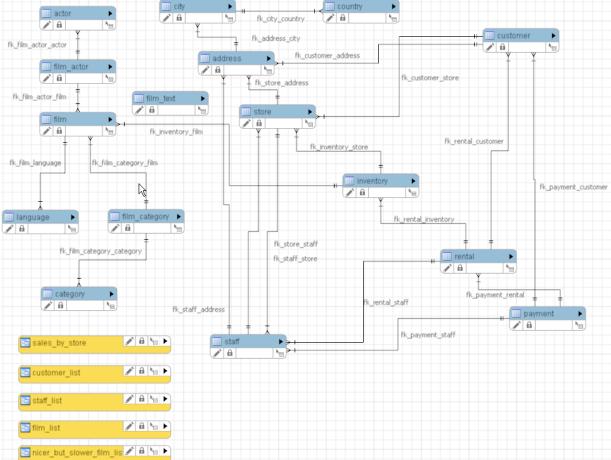
```
mysql> USE sakila;
Database changed
mysql> SHOW FULL TABLES;
BASE TABLE
 actor
 actor_info
                         | VIEW
 address
                           BASE TABLE
                         BASE TABLE
 category
                       BASE TABLE
 city
                        BASE TABLE
BASE TABLE
VIEW
 country
 customer
 customer_list
                       BASE TABLE
 film
                      BASE TABLE
BASE TABLE
 film_actor
 film_category
                         | VIEW
 film_list
 film text
                         BASE TABLE
                         BASE TABLE
 inventory
 language
                          BASE TABLE
 nicer_but_slower_film_list | VIEW
 payment
                           BASE TABLE
                          BASE TABLE
 rental
 sales_by_film_category | VIEW
 sales_by_store
                           VIEW
 staff
                          BASE TABLE
 staff_list
                          | VIEW
                         BASE TABLE
 store
23 rows in set (0.01 sec)
mysql> SELECT COUNT(*) FROM film;
+----+
```

```
COUNT(*)
      1000
1 row in set (0.00 sec)
mysql> SELECT COUNT(*) FROM film_text;
 COUNT(*)
      1000
1 row in set (0.00 sec)
```

5 Structure

The following diagram provides an overview of Sakila sample database structure. The diagram source file (for use with MySQL Workbench) is included in the Sakila distribution and is named sakila.mwb.

Figure 1 The Sakila Schema fk_city_country fk_address_city fk_film_actor_actor



5.1 Tables

The following sections describe the tables that make up the Sakila sample database, in alphabetic order.

5.1.1 The actor Table

The actor table lists information for all actors.

The actor table is joined to the film table by means of the film_actor table.

Columns

- actor_id: A surrogate primary key used to uniquely identify each actor in the table.
- first_name: The actor first name.
- last_name: The actor last name.
- last_update: When the row was created or most recently updated.

5.1.2 The address Table

The address table contains address information for customers, staff, and stores.

The address table primary key appears as a foreign key in the customer, staff, and store tables.

Columns

- address_id: A surrogate primary key used to uniquely identify each address in the table.
- address: The first line of an address.
- address2: An optional second line of an address.
- district: The region of an address, this may be a state, province, prefecture, etc.
- city_id: A foreign key pointing to the city table.
- postal_code: The postal code or ZIP code of the address (where applicable).
- phone: The telephone number for the address.
- last_update: When the row was created or most recently updated.
- location: A Geometry column with a spatial index on it.

Note

The spatial location column is supported as of MySQL 5.7.5. This column is added only when executing the Sakila SQL files against MySQL server 5.7.5 and higher. Additionally, SPATIAL KEY idx_location is also added.

5.1.3 The category Table

The category table lists the categories that can be assigned to a film.

The category table is joined to the film table by means of the film_category table.

Columns

- category_id: A surrogate primary key used to uniquely identify each category in the table.
- name: The name of the category.
- last_update: When the row was created or most recently updated.

5.1.4 The city Table

The city table contains a list of cities.

The city table is referred to by a foreign key in the address table and refers to the country table using a foreign key.

Columns

- city_id: A surrogate primary key used to uniquely identify each city in the table.
- city: The name of the city.
- country_id: A foreign key identifying the country that the city belongs to.
- last update: When the row was created or most recently updated.

5.1.5 The country Table

The country table contains a list of countries.

The country table is referred to by a foreign key in the city table.

Columns

- country id: A surrogate primary key used to uniquely identify each country in the table.
- country: The name of the country.
- last update: When the row was created or most recently updated.

5.1.6 The customer Table

The customer table contains a list of all customers.

The customer table is referred to in the payment and rental tables and refers to the address and store tables using foreign keys.

Columns

- customer id: A surrogate primary key used to uniquely identify each customer in the table.
- store_id: A foreign key identifying the customer "home store." Customers are not limited to renting only from this store, but this is the store at which they generally shop.
- first_name: The customer first name.
- last name: The customer last name.
- email: The customer email address.
- address id: A foreign key identifying the customer address in the address table.
- active: Indicates whether the customer is an active customer. Setting this to FALSE serves as an alternative to deleting a customer outright. Most queries should have a WHERE active = TRUE clause.
- create_date: The date the customer was added to the system. This date is automatically set using a trigger during an INSERT.
- last_update: When the row was created or most recently updated.

5.1.7 The film Table

The film table is a list of all films potentially in stock in the stores. The actual in-stock copies of each film are represented in the inventory table.

The film table refers to the language table and is referred to by the film_category, film_actor, and inventory tables.

Columns

- film_id: A surrogate primary key used to uniquely identify each film in the table.
- title: The title of the film.
- description: A short description or plot summary of the film.
- release_year: The year in which the movie was released.
- language_id: A foreign key pointing at the language table; identifies the language of the film.
- original_language_id: A foreign key pointing at the language table; identifies the original language of the film. Used when a film has been dubbed into a new language.
- rental_duration: The length of the rental period, in days.
- rental_rate: The cost to rent the film for the period specified in the rental_duration column.
- length: The duration of the film, in minutes.
- replacement_cost: The amount charged to the customer if the film is not returned or is returned in a damaged state.
- rating: The rating assigned to the film. Can be one of: G, PG, PG-13, R, or NC-17.
- special_features: Lists which common special features are included on the DVD. Can be zero or more of: Trailers, Commentaries, Deleted Scenes, Behind the Scenes.
- last_update: When the row was created or most recently updated.

5.1.8 The film actor Table

The film_actor table is used to support a many-to-many relationship between films and actors. For each actor in a given film, there will be one row in the film_actor table listing the actor and film.

The film_actor table refers to the film and actor tables using foreign keys.

Columns:

- actor_id: A foreign key identifying the actor.
- film_id: A foreign key identifying the film.
- last_update: When the row was created or most recently updated.

5.1.9 The film_category Table

The film_category table is used to support a many-to-many relationship between films and categories. For each category applied to a film, there will be one row in the film_category table listing the category and film.

The film_category table refers to the film and category tables using foreign keys.

Columns:

- film id: A foreign key identifying the film.
- category id: A foreign key identifying the category.

• last_update: When the row was created or most recently updated.

5.1.10 The film_text Table

The film_text table contains the film_id, title and description columns of the film table, with the contents of the table kept in synchrony with the film table by means of triggers on film table INSERT, UPDATE and DELETE operations (see Section 5.5, "Triggers").

Before MySQL server 5.6.10, the film_text table was the only table in the Sakila sample database that used the MyISAM storage engine. This is because full-text search is used for titles and descriptions of films listed in the film table. MyISAM was used because full-text search support with InnoDB was not available until MySQL server 5.6.10.

Columns

- film_id: A surrogate primary key used to uniquely identify each film in the table.
- title: The title of the film.
- description: A short description or plot summary of the film.

The contents of the film_text table should never be modified directly. All changes should be made to the film table instead.

5.1.11 The inventory Table

The inventory table contains one row for each copy of a given film in a given store.

The inventory table refers to the film and store tables using foreign keys and is referred to by the rental table.

Columns

- inventory_id: A surrogate primary key used to uniquely identify each item in inventory.
- film_id: A foreign key pointing to the film this item represents.
- store_id: A foreign key pointing to the store stocking this item.
- last_update: When the row was created or most recently updated.

5.1.12 The language Table

The language table is a lookup table listing the possible languages that films can have for their language and original language values.

The language table is referred to by the film table.

Columns

- language_id: A surrogate primary key used to uniquely identify each language.
- name: The English name of the language.
- last_update: When the row was created or most recently updated.

5.1.13 The payment Table

The payment table records each payment made by a customer, with information such as the amount and the rental being paid for (when applicable).

The payment table refers to the customer, rental, and staff tables.

Columns

- payment_id: A surrogate primary key used to uniquely identify each payment.
- customer_id: The customer whose balance the payment is being applied to. This is a foreign key
 reference to the customer table.
- staff_id: The staff member who processed the payment. This is a foreign key reference to the staff table.
- rental_id: The rental that the payment is being applied to. This is optional because some payments are for outstanding fees and may not be directly related to a rental.
- amount: The amount of the payment.
- payment_date: The date the payment was processed.
- last_update: When the row was created or most recently updated.

5.1.14 The rental Table

The rental table contains one row for each rental of each inventory item with information about who rented what item, when it was rented, and when it was returned.

The rental table refers to the inventory, customer, and staff tables and is referred to by the payment table.

Columns

- rental_id: A surrogate primary key that uniquely identifies the rental.
- rental date: The date and time that the item was rented.
- inventory_id: The item being rented.
- customer_id: The customer renting the item.
- return date: The date and time the item was returned.
- staff_id: The staff member who processed the rental.
- last_update: When the row was created or most recently updated.

5.1.15 The staff Table

The staff table lists all staff members, including information for email address, login information, and picture.

The staff table refers to the store and address tables using foreign keys, and is referred to by the rental, payment, and store tables.

Columns

- staff_id: A surrogate primary key that uniquely identifies the staff member.
- first name: The first name of the staff member.
- last_name: The last name of the staff member.
- address id: A foreign key to the staff member address in the address table.
- picture: A BLOB containing a photograph of the employee.

- email: The staff member email address.
- store_id: The staff member "home store." The employee can work at other stores but is generally assigned to the store listed.
- active: Whether this is an active employee. If employees leave, their rows are not deleted from this table; instead, this column is set to FALSE.
- username: The user name used by the staff member to access the rental system.
- password: The password used by the staff member to access the rental system. The password should be stored as a hash using the SHA2() function.
- last_update: When the row was created or most recently updated.

5.1.16 The store Table

The store table lists all stores in the system. All inventory is assigned to specific stores, and staff and customers are assigned a "home store".

The store table refers to the staff and address tables using foreign keys and is referred to by the staff, customer, and inventory tables.

Columns

- store_id: A surrogate primary key that uniquely identifies the store.
- manager staff id: A foreign key identifying the manager of this store.
- address_id: A foreign key identifying the address of this store.
- last_update: When the row was created or most recently updated.

5.2 Views

The following sections describe the views that are included with the Sakila sample database, in alphabetic order.

5.2.1 The actor info View

The actor_info view provides a list of all actors, including the films in which they have performed, broken down by category.

The staff_list view incorporates data from the film, actor, category, film_actor, and film_category tables.

5.2.2 The customer list View

The customer_list view provides a list of customers, with first name and last name concatenated together and address information combined into a single view.

The customer_list view incorporates data from the customer, address, city, and country tables.

5.2.3 The film list View

The film_list view contains a formatted view of the film table, with a comma-separated list of actors for each film.

The film_list view incorporates data from the film, category, film_category, actor, and film actor tables.

5.2.4 The nicer_but_slower_film_list View

The nicer_but_slower_film_list view contains a formatted view of the film table, with a comma-separated list of the film's actors.

The nicer_but_slower_film_list view differs from the film_list view in the list of actors. The lettercase of the actor names is adjusted so that the first letter of each name is capitalized, rather than having the name in all-caps.

As indicated in its name, the nicer_but_slower_film_list view performs additional processing and therefore takes longer to return data than the film_list view.

The nicer_but_slower_film_list view incorporates data from the film, category, film_category, actor, and film_actor tables.

5.2.5 The sales_by_film_category View

The sales_by_film_category view provides a list of total sales, broken down by individual film category.

Because a film can be listed in multiple categories, it is not advisable to calculate aggregate sales by totalling the rows of this view.

The sales_by_film_category view incorporates data from the category, payment, rental, inventory, film, film_category, and category tables.

5.2.6 The sales_by_store View

The sales_by_store view provides a list of total sales, broken down by store.

The view returns the store location, manager name, and total sales.

The sales_by_store view incorporates data from the city, country, payment, rental, inventory, store, address, and staff tables.

5.2.7 The staff_list View

The staff_list view provides a list of all staff members, including address and store information.

The staff_list view incorporates data from the staff and address tables.

5.3 Stored Procedures

The following sections describe the stored procedures included with the Sakila sample database, in alphabetic order.

All parameters listed are IN parameters unless listed otherwise.

5.3.1 The film in stock Stored Procedure

Description

The film_in_stock stored procedure determines whether any copies of a given film are in stock at a given store.

Parameters

- p_film_id: The ID of the film to be checked, from the film_id column of the film table.
- p store id: The ID of the store to check for, from the store id column of the store table.
- p_film_count: An OUT parameter that returns a count of the copies of the film in stock.

Return Values

This procedure produces a table of inventory ID numbers for the copies of the film in stock, and returns (in the p_film_count parameter) a count that indicates the number of rows in that table.

Sample Usage

5.3.2 The film not in stock Stored Procedure

Description

The film_not_in_stock stored procedure determines whether there are any copies of a given film not in stock (rented out) at a given store.

Parameters

- p_film_id: The ID of the film to be checked, from the film_id column of the film table.
- p_store_id: The ID of the store to check for, from the store_id column of the store table.
- p_film_count: An OUT parameter that returns a count of the copies of the film not in stock.

Return Values

This procedure produces a table of inventory ID numbers for the copies of the film not in stock, and returns (in the p_film_count parameter) a count that indicates the number of rows in that table.

Sample Usage

```
mysql> CALL film_not_in_stock(2,2,@count);
+-------+
| inventory_id |
+------+
| 9 |
+------+
1 row in set (0.01 sec)
Query OK, 1 row affected (0.01 sec)

mysql> SELECT @count;
+-----+
| @count |
+------+
| 1 |
+------+
1 row in set (0.00 sec)
```

5.3.3 The rewards_report Stored Procedure

Description

The rewards_report stored procedure generates a customizable list of the top customers for the previous month.

Parameters

- min_monthly_purchases: The minimum number of purchases or rentals a customer needed to make in the last month to qualify.
- min_dollar_amount_purchased: The minimum dollar amount a customer needed to spend in the last month to qualify.
- · count_rewardees: An OUT parameter that returns a count of the customers who met the qualifications specified.

Return Values

This procedure produces a table of customers who met the qualifications specified. The table has the same structure as the customer table. The procedure also returns (in the count_rewardees parameter) a count that indicates the number of rows in that table.

Sample Usage

```
mysql> CALL rewards_report(7,20.00,@count);
 598
              | 1
                         WADE
                                      DELVALLE
                                                     | WADE.DELVALLE@sakilacustomer.org
| 599
                        AUSTIN
                                      CINTRON
                                                     AUSTIN.CINTRON@sakilacustomer.org
                                                                                               605
42 rows in set (0.11 sec)
Query OK, 0 rows affected (0.67 sec)
mysql> SELECT @count;
 @count |
     42
1 row in set (0.00 sec)
```

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5.4 Stored Functions

The following sections describe the stored functions included with the Sakila sample database.

5.4.1 The get_customer_balance Function

The get_customer_balance function returns the current amount owing on a specified customer's account.

Parameters

- p_customer_id: The ID of the customer to check, from the customer_id column of the customer table.
- p effective date: The cutoff date for items that will be applied to the balance. Any rentals, payments, and so forth after this date are not counted.

Return Values

This function returns the amount owing on the customer's account.

Sample Usage

5.4.2 The inventory_held_by_customer Function

The inventory_held_by_customer function returns the customer_id of the customer who has rented out the specified inventory item.

Parameters

• p_inventory_id: The ID of the inventory item to be checked.

Return Values

This function returns the <code>customer_id</code> of the customer who is currently renting the item, or <code>NULL</code> if the item is in stock.

Sample Usage

5.4.3 The inventory_in_stock Function

The inventory_function function returns a boolean value indicating whether the inventory item specified is in stock.

Parameters

• p_inventory_id: The ID of the inventory item to be checked.

Return Values

This function returns TRUE or FALSE to indicate whether the item specified is in stock.

Sample Usage

```
mysql> SELECT inventory_in_stock(9);
+------+
| inventory_in_stock(9) |
+-----+
| 0 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT inventory_in_stock(8);
```

5.5 Triggers

The following sections describe the triggers in the Sakila sample database.

5.5.1 The customer_create_date Trigger

The customer_create_date trigger sets the create_date column of the customer table to the current time and date as rows are inserted.

5.5.2 The payment_date Trigger

The payment_date trigger sets the payment_date column of the payment table to the current time and date as rows are inserted.

5.5.3 The rental_date Trigger

The rental_date trigger sets the rental_date column of the rental table to the current time and date as rows are inserted.

5.5.4 The ins_film Trigger

The ins_film trigger duplicates all INSERT operations on the film table to the film_text table.

5.5.5 The upd_film Trigger

The upd_film trigger duplicates all UPDATE operations on the film table to the film_text table.

5.5.6 The del_film Trigger

The del_film trigger duplicates all DELETE operations on the film table to the film_text table.

6 Usage Examples

These are a few usage examples of how to perform common operations using the Sakila sample database. While these operations are good candidates for stored procedures and views, such implementation is intentionally left as an exercise to the user.

- Rent a DVD
- Return a DVD
- Find Overdue DVDs

Rent a DVD

To rent a DVD, first confirm that the given inventory item is in stock, and then insert a row into the rental table. After the rental table is created, insert a row into the payment table. Depending on business rules, you may also need to check whether the customer has an outstanding balance before processing the rental.

```
mysql> SELECT inventory_in_stock(10);
+-----+
| inventory_in_stock(10) |
```

Return a DVD

To return a DVD, update the rental table and set the return date. To do this, first identify the rental_id to update based on the inventory_id of the item being returned. Depending on the situation, it may be necessary to check the customer balance and perhaps process a payment for overdue fees by inserting a row into the payment table.

```
mysql> SELECT rental_id
          FROM rental
          WHERE inventory_id = 10
          AND customer_id = 3
          AND return date IS NULL
          INTO @rentID;
Query OK, 1 row affected (0.01 sec)
mysql> SELECT @rentID;
| @rentID |
 16050 |
1 row in set (0.00 sec)
mysql> UPDATE rental
         SET return_date = NOW()
          WHERE rental id = @rentID;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> SELECT get_customer_balance(3, NOW());
get_customer_balance(3, NOW())
                    0.00
1 row in set (0.13 sec)
```

Find Overdue DVDs

Many DVD stores produce a daily list of overdue rentals so that customers can be contacted and asked to return their overdue DVDs.

To create such a list, search the rental table for films with a return date that is NULL and where the rental date is further in the past than the rental duration specified in the film table. If so, the film

is overdue and we should produce the name of the film along with the customer name and phone number.

```
mysql> SELECT CONCAT(customer.last_name, ', ', customer.first_name) AS customer,
          address.phone, film.title
          FROM rental INNER JOIN customer ON rental.customer_id = customer_customer_id
          INNER JOIN address ON customer.address_id = address.address_id
          INNER JOIN inventory ON rental.inventory_id = inventory.inventory_id
          INNER JOIN film ON inventory.film_id = film.film_id
          WHERE rental.return_date IS NULL
          AND rental_date + INTERVAL film.rental_duration DAY < CURRENT_DATE()
          ORDER BY title
          TITMTT 5:
            | phone | title
customer
 OLVERA, DWAYNE | 62127829280 | ACADEMY DINOSAUR
 HUEY, BRANDON | 99883471275 | ACE GOLDFINGER
 OWENS, CARMEN
               | 272234298332 | AFFAIR PREJUDICE
 HANNON, SETH | 864392582257 | AFRICAN EGG
 COLE, TRACY | 371490777743 | ALI FOREVER
5 rows in set (0.10 sec)
```

7 Known Issues

The design of the Sakila sample database assumes that a staff member of a given store rents inventory items to customers only from that store, not from other stores. This assumption is manifest in that the rental, inventory, staff, and store tables have relationships that form a loop. A customer can have only a single store, but a staff member is not similarly constrained. Were a staff member to rent items from other stores, data in the rental table could become inconsistent.

The solution to this issue is left to the reader. Here are some possible approaches:

- Add a store_id column to the rental table and have foreign keys in the table also reference
 that column to ensure that not only customer_id and inventory_id but also staff_id in the
 inventory table have the same store.
- Add INSERT and UPDATE triggers on the rental table.

8 Acknowledgments

The following individuals and organizations contributed to the initial development of the Sakila sample database. This historical list is no longer updated.

- Roland Bouman: provided valuable feedback throughout the development process, contributed sample views and stored procedures.
- Ronald Bradford: developed the first sample application for use with the Sakila sample database.
- Dave Jaffe: provided schema used in Dell whitepaper and secured permission to use parts thereof in the Sakila sample database.
- Giuseppe Maxia: provided valuable feedback throughout the development process, populated some of the sample data, provided some of the sample views and triggers.

For v1.0, he combined sakila and sakila-spatial by adding MySQL version specific comments within the SQL files.

- Jay Pipes: provided some of the sample stored procedures.
- Zak Greant: provided advice and feedback on licensing.

In addition to the individuals mentioned previously, various other individuals at MySQL and in the MySQL community have provided feedback during the course of development.

9 License for the Sakila Sample Database

The contents of the sakila-schema.sql and sakila-data.sql files are licensed under the New BSD license.

Information on the New BSD license can be found at http://www.opensource.org/licenses/bsd-license.php and http://en.wikipedia.org/wiki/BSD License.

The additional materials included in the Sakila distribution, including this documentation, are not licensed under an open license. Use of this documentation is subject to the terms described in Legal Notices.

For more information, please Contact http://www.mysql.com/about/contact/.

10 Note for Authors

When using the Sakila sample database for articles and books, it is strongly recommended that you explicitly list the version of the Sakila sample database that is used in your examples. This way readers will download the same version for their use and not encounter any differences in their results that may occur from upgrades to the data or schema.

11 Sakila Change History

This section describes changes made in each version of the Sakila sample database.

- Version 1.5
- Version 1.4
- Version 1.3
- Version 1.2
- Version 1.1
- Version 1.0
- Version 0.9
- Version 0.8
- Version 0.7
- Version 0.6
- Version 0.5
- Version 0.4
- Version 0.3
- Version 0.2

Version 1.5

Fixed MySQL Bug #112552: Accented characters were missing from the address fields.

Version 1.4

 Fixed MySQL Bug #112131: Made the film_text.film_id field unsigned to match the other film_id definitions. • Films without an actor were not returned by the film_list and nicer_but_slower_film_list views.

Version 1.3

- Fixed MySQL Bug #106951: Accented characters were missing from the city and country fields; their values were updated using the world database. In addition, the acute accent character itself was also missing.
- Fixed MySQL Bug #107158: Removed five rows in the payment table that had a null rental_id value.

Version 1.2

- Database objects now use utf8mb4 rather than utf8. This change caused a Specified key was too long; max key length is 767 bytes error in MySQL 5.6 for the film.title column, which was declared as VARCHAR(255). The actual maximum title length is 27 characters, so the column was redeclared as VARCHAR(128) to avoid exceeding the maximum key length.
- sakila-schema.sql and sakila-data.sql include a SET NAMES utf8mb4 statement.
- sakila-data.sql was converted from DOS (CRLF) line endings to Unix (LF) line endings.
- The address.location column is a GEOMETRY column that has a SPATIAL index. As of MySQL 8.0.3, SPATIAL indexes are ignored unless the index spatial column has an SRID attribute. The location column was changed to include an SRID 0 attribute for MySQL 8.0.3 and higher.
- The staff.password column was declared as VARCHAR(40) BINARY. This is use of BINARY as shorthand in a character column declaration for specifying a _bin collation, which is deprecated as of MySQL 8.0.17. The column was redeclared as what BINARY is shorthand for, that is, VARCHAR(40) CHARACTER SET utf8mb4 COLLATE utf8mb4 bin.
- In the rewards_report() stored procedure, the min_dollar_amount_purchased parameter was declared as DECIMAL(10,2) UNSIGNED. Use of UNSIGNED with DECIMAL is deprecated as of MySQL 8.0.17. The parameter was redeclared without UNSIGNED.
- The film_in_stock() and film_not_in_stock() stored procedures used the FOUND_ROWS() function, which is deprecated as of MySQL 8.0.17. In each procedure, the FOUND_ROWS() query was replaced by a query that uses COUNT(*) with the same FROM and WHERE clauses as its associated query. This is more expensive than using FOUND_ROWS() but produces the same result.
- The film_text table uses MyISAM rather than InnoDB prior to MySQL 5.6.10 to avoid tablecreation failure in older versions. (However, we still recommend upgrading to MySQL 5.6.10 or higher.)
- The sakila.mwb file for MySQL Workbench was updated per the preceding changes.

Version 1.1

• Removed all MyISAM references. The film_text table, and its FULLTEXT definition, now uses InnoDB. If you use an older MySQL server version (5.6.10 and lower), we recommend upgrading MySQL. If you cannot upgrade, change the ENGINE value for the film_text table to MyISAM in the sakila-schema.sql SQL file.

Version 1.0

• Merged sakila-schema.sql and sakila-spatial-schema.sql into a single file by using MySQL version-specific comments.

Spatial data, such as address.location, is inserted into the sakila database as of MySQL server 5.7.5 (when spatial indexing support was added to InnoDB). Also, InnoDB full-text search is used as of MySQL server 5.6.10, when before MyISAM was used.

Version 0.9

- Added an additional copy of the Sakila example database that includes spatial data with the
 geometry data type. This is available as a separate download, and requires MySQL server 5.7.5 or
 later. To use this database, load the sakila-spatial-schema.sql file rather than the sakilaschema.sql file.
- Modified GROUP BY clause of the nicer_but_slower_film_list and film_list view definitions to be compatible with ONLY_FULL_GROUP_BY SQL mode, which is enabled by default as of MySQL 5.7.5.

Version 0.8

- Corrected upd_film trigger definition to include changes to film_id values.
- Added actor info view.
- Changed error handler for inventory_held_by_customer function. Function now has an exit handler for NOT FOUND instead of the more cryptic 1329.
- · Added template for new BSD license to schema and data files.
- Added READS SQL DATA to the stored procedures and functions where appropriate to support loading on MySQL 5.1.
- Fixed date-range issue in the rewards_report procedure (thanks Goplat).

Version 0.7

- Fixed bug in sales_by_store view that caused the same manager to be listed for every store.
- Fixed bug in inventory_held_by_customer function that caused function to return multiple rows.
- Moved rental_date trigger to sakila-data.sql file to prevent it from interfering with data loading.

Version 0.6

- Added film in stock stored procedure.
- Added film_not_in_stock stored procedure.
- Added inventory_help_by_customer stored function.
- Added inventory in stock stored function.
- Optimized data file for loading (multiple-row INSERT statements, transactions). (Thanks Giuseppe)
- Fixed error in payment table loading script that caused infinitely increasing payment amounts.

Version 0.5

- Added sales_by_store and sales_by_film_category views, submitted by Jay Pipes.
- Added rewards report stored procedure, submitted by Jay Pipes.
- Added get_customer_balance stored procedure.
- Added sakila-data.sql file to load data into sample database.

Version 0.4

• Added password column to staff table (VARCHAR(40) BINARY DEFAULT NULL).

Version 0.3

- Changed address.district to VARCHAR(20).
- Changed customer.first_name to VARCHAR(45).
- Changed customer.last_name to VARCHAR(45).
- Changed customer.email to VARCHAR(50).
- Added payment.rental_id column (an INT NULL column).
- Foreign key added for payment.rental_id to rental.rental_id.
- rental.rental_id added, INT Auto_Increment, made into surrogate primary key, old primary key changed to UNIQUE key.

Version 0.2

- All tables have a last_update TIMESTAMP column with traditional behavior (DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP).
- actor id is now a SMALLINT.
- address id is now a SMALLINT.
- category_id is now a TINYINT.
- city_id is now a SMALLINT.
- country_id is now a SMALLINT.
- customer id is now a SMALLINT.
- first_name, last_name for customer table are now CHAR instead of VARCHAR.
- customer table now has email CHAR(50).
- create_date on customer table is now DATETIME (to accommodate last_update TIMESTAMP).
- customer table has a new ON INSERT trigger that enforces create_date column being set to NOW().
- film id is now SMALLINT.
- film.description now has DEFAULT NULL.
- film.release_year added with type YEAR.
- film.language_id and film.original_language_id added along with language table. For foreign films that may have been subtitled. original_language_id can be NULL, language_id is NOT NULL.
- film.length is now SMALLINT.
- film.category id column removed.
- New table: film_category; allows for multiple categories per film.
- film_text.category_id column removed.
- inventory_id is now MEDIUMINT.

- payment_id is now SMALLINT.
- payment_payment_date is now DATETIME.
- Trigger added to payment table to enforce that payment_date is set to NOW() upon INSERT.
- rental.rent_date is now rental.rental_date and is now DATETIME.
- Trigger added to rental table to enforce that rental_date is set to NOW() upon INSERT.
- staff_id is now TINYINT.
- staff.email added (VARCHAR(50)).
- staff.username added (VARCHAR(16)).
- store_id is now TINYINT.
- film_list view updated to handle new film_category table.
- nicer_but_slower_film_list view updated to handle new film_category table.