

Table of Contents

1 Rockbuster Database ERD

2 Fact Tables

2.1 rental

2.2 payment

3 Dimension Tables

3.1 customer

3.2 staff

3.3 store

3.4 address

3.5 city

3.6 country

3.7 film_category

3.8 category

3.9 inventory

3.10 film

3.11 language

3.12 film_actor

3.13 actor

The diagram illustrates the database schema for a movie rental system. The tables and their attributes are as follows:

- payment**:
 - payment_id SERIAL
 - customer_id SERIAL
 - staff_id SERIAL
 - rental_id INTEGER
 - amount NUMERIC(5,2)
 - payment_date TIMESTAMPS WITHOUT TIME ZONE
- rental**:
 - rental_id SERIAL
 - rental_date TIMESTAMPS WITHOUT TIME ZONE
 - inventory_id INTEGER
 - customer_id SERIAL
 - staff_id SERIAL
 - return_date TIMESTAMPS WITHOUT TIME ZONE
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- store**:
 - store_id SERIAL
 - manager_staff_id SERIAL
 - address_id SERIAL
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- film_actor**:
 - actor_id SERIAL
 - film_id SERIAL
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- inventory**:
 - inventory_id SERIAL
 - film_id SERIAL
 - store_id SERIAL
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- film_category**:
 - film_id SERIAL
 - category_id SERIAL
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- customer**:
 - customer_id SERIAL
 - first_name CHARACTER VARYING(45)
 - last_name CHARACTER VARYING(45)
 - email CHARACTER VARYING(45)
 - address_id SERIAL
 - activation BOOLEAN
 - create_date DATE
 - last_update TIMESTAMPS WITHOUT TIME ZONE
 - active INTEGER
- staff**:
 - staff_id SERIAL
 - first_name CHARACTER VARYING(45)
 - last_name CHARACTER VARYING(45)
 - address_id SERIAL
 - email CHARACTER VARYING(45)
 - store_id SERIAL
 - active BOOLEAN
 - last_update TIMESTAMPS WITHOUT TIME ZONE
 - password CHARACTER VARYING(45)
 - photo BINARY
- film**:
 - film_id SERIAL
 - title CHARACTER VARYING(255)
 - description TEXT
 - release_year YEAR
 - language_id SERIAL
 - original_language_id SERIAL
 - rating NUMERIC(1,1)
 - length SERIAL
 - replacement_cost NUMERIC(5,2)
 - cost_per_unit NUMERIC(5,2)
 - last_update TIMESTAMPS WITHOUT TIME ZONE
 - notes TEXT(1024)
 - action TIMESTAMPS
- actor**:
 - actor_id SERIAL
 - first_name CHARACTER VARYING(45)
 - last_name CHARACTER VARYING(45)
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- category**:
 - category_id SERIAL
 - name CHARACTER VARYING(45)
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- language**:
 - language_id SERIAL
 - name CHARACTER(2)
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- address**:
 - address_id SERIAL
 - address CHARACTER VARYING(45)
 - address2 CHARACTER VARYING(45)
 - district CHARACTER VARYING(45)
 - city_id SERIAL
 - postal_code CHARACTER VARYING(10)
 - phone CHARACTER VARYING(20)
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- city**:
 - city_id SERIAL
 - city CHARACTER VARYING(45)
 - country_id SERIAL
 - last_update TIMESTAMPS WITHOUT TIME ZONE
- country**:
 - country_id SERIAL
 - country CHARACTER VARYING(45)
 - last_update TIMESTAMPS WITHOUT TIME ZONE

Relationships are indicated by lines connecting the tables. Notable relationships include:

- rental** to **payment**: One-to-one relationship.
- rental** to **inventory**: One-to-one relationship.
- rental** to **customer**: One-to-one relationship.
- rental** to **staff**: One-to-one relationship.
- inventory** to **film**: One-to-many relationship.
- film** to **actor**: Many-to-many relationship.
- film** to **category**: Many-to-many relationship.
- customer** to **address**: One-to-many relationship.
- staff** to **address**: One-to-many relationship.
- address** to **city**: One-to-many relationship.
- city** to **country**: One-to-many relationship.

Key Type	Column	Data Type	Description
Primary	payment_id	Serial	Unique identifier of a payment
Foreign	customer_id	SMALLINT	Unique identifier of a customer
Foreign	staff_id	SMALLINT	Unique identifier of a staff
Foreign	rental_id	INTEGER	Unique identifier of a rental
	amount	NUMERIC(5,2)	Amount recorded of each payment transaction
	payment_date	TIMESTAMP (6) WITHOUT TIME ZONE	Date of the payment

	Table	Join
→	rental	rental.rental_id = payment.rental_id
→	customer	customer.customer_id = payment.customer_id
→	staff	staff.staff_id = payment.staff_id

2.2 rental

Key Type	Column	Data Type	Description
Primary	rental_id	SERIAL	Unique identifier of a rental
	rental_date	TIMESTAMP (6) WITHOUT TIME ZONE	Date of the rental
Foreign	inventory_id	INTEGER	Unique identifier of an inventory
Foreign	customer_id	SMALLINT	Unique identifier of a customer
	return_date	TIMESTAMP (6) WITHOUT TIME ZONE	Date of item returned
Foreign	staff_id	SMALLINT	Unique identifier of a staff
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3 Dimension Tables

3.1 customer

Key	Column	Data Type	Description
Primary	customer_id	SERIAL	Unique identifier of a customer
	store_id	SMALLINT	Unique identifier of a store
	first_name	CHARACTER VARYING (45)	First name of the customer
	last_name	CHARACTER VARYING (45)	Last name of the customer
	email	CHARACTER VARYING (45)	Email of the customer
Foreign	address_id	SMALLINT	Address of the customer
	activebool	BOOLEAN	Status of the customer (Active or not active)
	create_date	DATE	Date of creation
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated
	Active	INTEGER	Active / Not Active

3.2 staff

Key	Column	Data Type	Description
Primary	staff_id	SERIAL	Unique identifier of a staff
	store_id	SMALLINT	Unique identifier of a store
	first_name	CHARACTER VARYING (45)	First name of the staff
	last_name	CHARACTER VARYING (45)	Last name of the staff
	email	CHARACTER VARYING (45)	Email of the staff
Foreign	address_id	SMALLINT	Address of the staff
	active	BOOLEAN	Status of the staff (Active or not active)
	username	CHARACTER VARYING (45)	Username of the staff
	password	CHARACTER VARYING (45)	Password of the staff
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated
	Picture	BYTEA	Picture of the staff

3.3 store

Column	Data Type	Description
store_id	SERIAL	Unique identifier of a store
manager_staff_id	SMALLINT	Unique identifier of the store manager
address_id	SMALLINT	Address of the store
last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.4 address

Key	Column	Data Type	Description
Primary	address_id	SERIAL	Unique identifier of an address
	address	CHARACTER VARYING (45)	Address details
	address2	CHARACTER VARYING (45)	Extra address details
	district	CHARACTER VARYING (45)	Name of the district
Foreign	city_id	SMALLINT	Unique identifier of a city
	postal_code	CHARACTER VARYING (45)	Postal code details
	phone	CHARACTER VARYING (45)	Postal code details
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.5 city

Key	Column	Data Type	Description
Primary	city_id	SERIAL	Unique identifier of a city
	city	CHARACTER VARYING (45)	Name of the city
Foreign	country_id	SMALLINT	Unique identifier of a country
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.6 country

Key	Column	Data Type	Description
Primary	country_id	SERIAL	Unique identifier of a country
	country	CHARACTER VARYING (45)	Name of the country
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.7 film_category

Key	Column	Data Type	Description
Foreign	film_id	SMALLINT	Unique identifier of a film
Foreign	category_id	SMALLINT	Unique identifier of a category
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.8 category

Key	Column	Data Type	Description
Primary	category_id	SERIAL	Unique identifier of a category
Foreign	name	CHARACTER VARYING (45)	Name of the category
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.9 inventory

Key	Column	Data Type	Description
Primary	inventory_id	SERIAL	Unique identifier of an inventory
Foreign	film_id	SMALLINT	Unique identifier of a film
	store_id	SMALLINT	Unique identifier of a store
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.10 film

Key	Column	Data Type	Description
Primary	film_id	SERIAL	Unique identifier of a film
	title	CHARACTER VARYING (45)	Title of the film
	description	TEXT	Description of the film
	release_year	year	The year the film was released
Foreign	language_id	SMALLINT	Unique identifier of the language
	rental_duration	SMALLINT	The rental duration of the film
	rental_rate	NUMERIC(4,2)	The rate of the rental of the film
	length	SMALLINT	Duration of the film
	replacement_cost	NUMERIC(5,2)	The cost to replace the film
	rating	mpaa_rating	The rating of the film
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated
	special_features	TEXT[]	Special features of the film
	Fulltext	TSVECTOR	Text of the film

3.11 language

Key	Column	Data Type	Description
Primary	language_id	SERIAL	Unique identifier of the language
	name	CHARACTER (20)	Name of the language
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.12 film_actor

Key	Column	Data Type	Description
Foreign	actor_id	SMALLINT	Unique identifier of the actor
Foreign	film_id	SMALLINT	Unique identifier of the film
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated

3.13 actor

Key	Column	Data Type	Description
Primary	actor_id	SERIAL	Unique identifier of the actor
	first_name	CHARACTER VARYING (45)	First name of the actor
	last_name	CHARACTER VARYING (45)	Last name of the actor
	last_update	TIMESTAMP (6) WITHOUT TIME ZONE	Date and time of record last updated