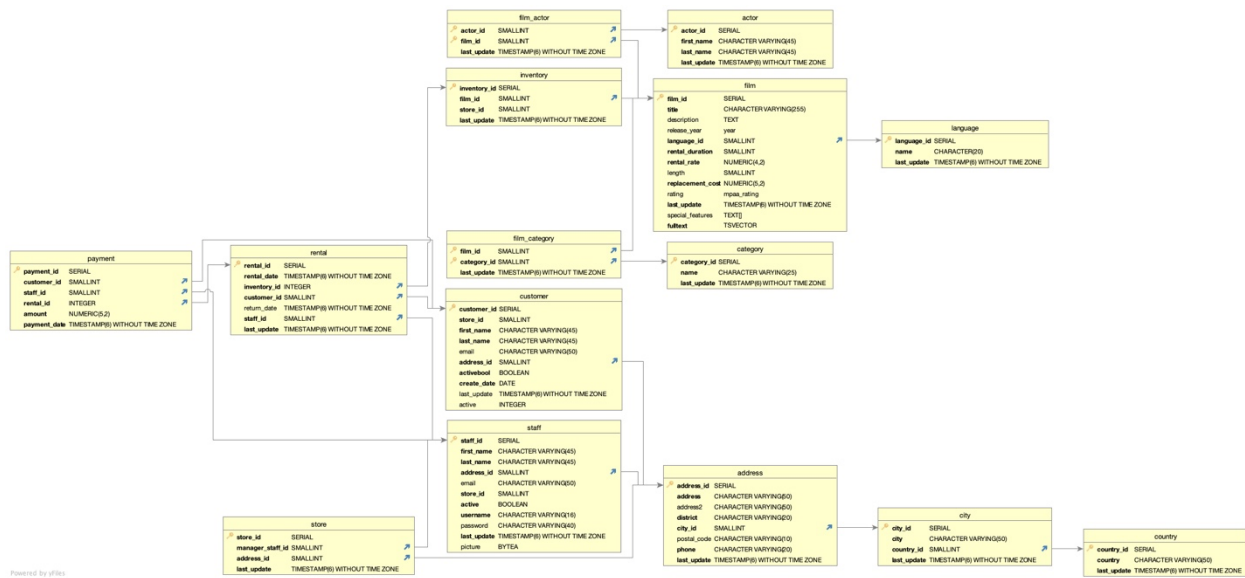


Entity Relationship Diagram (ERD) generated through DBVisualizer.



3a.- Does the Rockbuster database has a star schema or snowflake schema?

This is a Snowflake schema. The “payment” and “rental” tables are Fact tables that connect to each other and to other Dimension tables such as “customer”, “staff”, and “inventory”, which at the same time connect with sub-Dimension tables such as “film actor”, “film”, “film category”, “address”, and “store”, which also connect with other sub-tables like “actor”, “language”, “category”, “city”, and “country”.

3b.- List all the Fact tables and Dimension tables in the schema. Also, list each table’s columns and its data type, and write a brief description of the column.

Fact Table

Payment Table

Columns	Data Type	Description
payment_id	SERIAL	Unique ID of payment transaction
customer_id	SMALLINT	Unique customer ID
staff_id	SMALLINT	Unique staff ID
rental_id	INTEGER	Unique rental transaction ID
amount_id	Numeric(5,2)	Monetary value of payment transaction

payment_date	TIMEZONESTAMP(6) WITHOUT TIMEZONE	Date of transaction—date when the transaction's tuple was created
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Fact Table

Rental Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
rental_id	SERIAL	Unique rental transaction ID
rental_date	TIMEZONESTAMP(6) WITHOUT TIMEZONE	Date of rental
inventory_id	INTEGER	Unique item (film) ID
customer_id	SMALLINT	Unique customer ID
return_date	TIMEZONESTAMP(6) WITHOUT TIMEZONE	Date when the item (film) is returning
staff_id	SMALLINT	Unique staff ID
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When a (the) specific rental tuple was last updated/modified.

Dimension Table***?

Customer Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
customer_id	SERIAL	Unique customer ID
store_id	SMALLINT	Unique store ID
first_name	CHARACTER VARYING(45)	Customer's first name
last_name	CHARACTER VARYING(45)	Customer's last name
email	CHARACTER VARYING(10)	Customer's email
address_id	SMALLINT	Customer's address
activebool ***	BOOLEAN	Truth/Logic values
create_date	DATE	When the customer's tuple was created
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When the customer's tuple was last updated.
active	INTEGER	Customer's status

Dimension Table***?

Staff Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
staff_id	SERIAL	Unique staff ID
first_name	CHARACTER VARYING(45)	Staff member's first name

last_name	CHARACTER VARYING(45)	Staff member's last name
address_id	SMALLINT	Staff member's address
email	CHARACTER VARYING(45)	Staff member's email
store_id	SMALLINT	Unique store ID
active***	BOOLEAN	Truth/Logic values
username	CHARACTER VARYING(16)	Unique staff members username
password	CHARACTER VARYING(40)	Password to access with staff members username
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When the staff member's tuple was last updated
picture	BYTEA	Picture to identify staff member

Dimension Table***?

Inventory Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
inventory_id	SERIAL	Unique inventory ID
film_id	SMALLINT	Unique film ID
store_id	SMALLINT	Unique store ID
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When the inventory item's tuple was last updated

Dimension Table

Store Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
store_id	SERIAL	Unique Store's ID
manager_staff_id	SMALLINT	Unique staff manager ID— matching <i>store_id</i> and <i>address_id</i>
address_id	SMALLINT	Unique store's address ID— matching <i>store_id</i> and manager id
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When the a <i>store_id</i> tuple was last updated/modified

Dimension Table

Address Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
address_id	SERIAL	Customer's and/or Staff member's addresses
address	CHARACTER VARYING(50)	Customer's and/or Staff memmber' address

address2	CHARACTER VARYING(50)	Customer's and/or Staff member's additional or complementary address
district	CHARACTER VARYING(20)	District of the address
city_id	SMALLINT	City of the address
postal_code	CHARACTER VARYING(10)	Postal Code of the address
phone	CHARACTER VARYING(20)	Customer's and/or Staff member's phone number
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When the <i>address_id</i> tuple was last updated

Dimension Table

Film Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
film_id	SERIAL	Unique film ID
title	CHARACTER VARYING(255)	Film's title
description	TEXT	Film's synopsis
release_year	year	Which year the film was released
language_id	SMALLINT	Unique language ID
rental_duration	SMALLINT	Number of days a film can be rented for
rental_rate	NUMERIC(4,2)	Film's rental price
length	SMALLINT	Film's duration time/length
replacement_cost	NUMERIC(5,2)	How much to charge to customer in case film was lost or damaged
rating	mpaa_rating	The type of audience aloud to watch the film
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When the <i>film_id</i> tuple was last updated
special_features	TEXT[]	Additional/supporting material to the film such as trailers, commentaries, deleted scenes, etc.
fulltext	TSVECTOR	Related words to lookup for film

Dimension Table

Film Actor

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
actor_id	SAMLLINT	Unique actor ID
film_id	SMALLINT	Unique film ID

last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	when the <i>actor_id</i> tuple was last updated
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Dimension Table

Film Category

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
film_id	SAMLLINT	Unique film ID
category_id	SMALLINT	Unique film category
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When <i>film_id</i> tuple was last updated

Dimension Table

Actor Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
actor_id	SERIAL	Unique actor ID
first_name	CHARACTER VARYING(45)	Actor's first name
last_name	CHARACTER VARYING(45)	Actor's last name
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When <i>actor_id</i> tuple was last updated

Dimension Table

Category Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
category_id	SERIAL	Unique category ID
name	CHARACTER VARYING(25)	Category's name
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When <i>category_id</i> tuple was last updated

Dimension Table

Language Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
language_id	SERIAL	Unique language ID
name	CHARACTER(20)	Language's name
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When <i>language_id</i> tuple was last updated

Dimension Table

City Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
city_id	SERIAL	Unique city ID
city	CHARACTER VARYING(50)	City's name

country_id	SMALLINT	Country in which such city is in
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When <i>city_id</i> tuple was last updated

Dimension Table

Country Table

<i>Columns</i>	<i>Data Type</i>	<i>Description</i>
country_id	SERIAL	Unique country ID
country	CHARACTER VARYING(50)	Country's name
last_update	TIMEZONESTAMP(6) WITHOUT TIMEZONE	When <i>country_id</i> tuple was last updated

4a and 4b.- Use the created dictionary to answer which tables would you use to answer the following queries:

Which actors brought Rockbuster the most revenue?

“payment” relating info on “rental”, relating info on “inventory”, relating info on “film” and “film_actor”, relating with “actor” table. All of those tables relate to each other, and all of them contain relevant information that will relate the actor with the made revenue by the rented film(s) he or she was in, and order it as a ranking.

What language are the majority of movies in the collection?

“film_category” table relating with “film” table, relating with “language” table. All of those tables relate one with the other in that specific order.