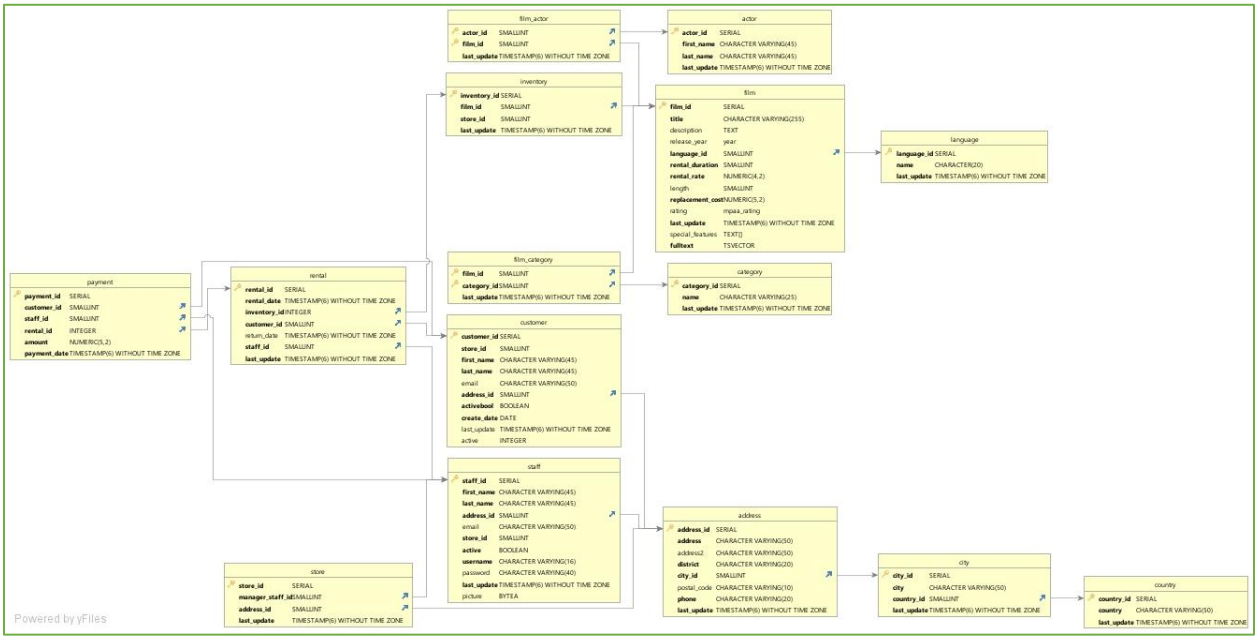
Step 1. Create your Answers document:

Create a new text document and call it “Answers 3.2.” You'll save a copy of your ERD, data dictionary, and written answers in this document.

Step 2. Extract the ERD:

- Download and install DbVisualizer or Lucidchart (if you haven't already done so).
- Extract the ERD from the Rockbuster database and save it as an image (PNG or JPEG) using the instructions in the Exercise.
- Copy-paste the ERD into your answers document.



Step 3. Create the first draft of a data dictionary:

- Take a moment to examine your ERD. Does the Rockbuster database have a snowflake schema or a star schema? Write a brief explanation for your answer.

  This database has a snowflake schema because there are several dimensions and subdimensions that build off those dimensions that aren’t all linked to a single fact table or dimension. For example, “country” is coming off “city” only, while “city” is coming off “address” only.

- List all the fact tables and all the dimension tables in the schema. For each table, list every column and its data type, and write a brief description of the column. To get an idea of what this should look like, check out these example fact and dimension tables.
- If a column name doesn't tell you enough to write a description, you can also view the tables in pgAdmin 4. The SQL syntax for selecting a table is `SELECT * FROM table_name`. So, `SELECT * FROM film` would return the film table, for example.

Fact Tables

Table	Columns	Data Type	Description
Rental	rental_id	integer	a unique identifier for rental
	rental_date	timestamp without time zone	the date and time when the rental is made
	inventory_id	integer	a unique identifier for inventory
	customer_id	smallint	a unique identifier for customer
	return_date	timestamp without time zone	the date and time when the return is made
	staff_id	smallint	a unique identifier for staff
	last_update	timestamp without time zone	the date and time when the last update is made
Payment	payment_id	integer	a unique identifier for payments
	customer_id	smallint	a unique identifier for customer
	staff_id	smallint	a unique identifier for staff
	rental_id	integer	a unique identifier for rental
	amount	numeric	amount paid by the customer
	payment_date	timestamp without time zone	the date and time when a payment is paid

Dimensions

Table	Column	Data Types	Description
Actor	actor_id	integer	a unique identifier for actor
	first_name	character varying	first name of the actor
	last_name	character varying	last name of the actor
	last_update	timestamp without time zone	the date and time when the last update is made
Address	address_id	integer	a unique identifier for address
	address	character varying	the first line of an address
	address2	character varying	an optional second line of an address
	district	character varying	the region of an address
	city_id	smallint	the city of an address
	postal_code	character varying	the postal code of an address
	phone	character varying	the phone number for the address
	last_update	timestamp without time zone	the date and time when the last update is made
Category	category_id	integer	a unique identifier for category
	name	character varying	name of the category
	last_update	timestamp without time zone	the date and time when the last update is made
City	city_id	integer	a unique identifier for city
	city	character varying	name of city
	country_id	smallint	a unique identifier for country
	last_update	timestamp without time zone	the date and time when the last update is made
Country	country_id	integer	a unique identifier for country
	country	character varying	name of country
	last_update	timestamp without time zone	the date and time when the last update is made
Customer	customer_id	integer	a unique identifier for customer
	store_id	smallint	a unique identifier for store
	first_name	character varying	first name of the customer
	last_name	character varying	last name of the customer
	email	character varying	email of the customer
	address_id	smallint	a unique identifier for address

	activebool	boolean	status whether the customer is active or not
	create_date	date	the date when the customer acct was created
	last_update	timestamp without time zone	the date and time when the last update is made
	active	integer	number
Film	film_id	integer	a unique identifier for film
	title	character varying	the title of the film
	description	text	the description of the film
	release_year	integer	the year when the film is released
	language_id	smallint	a unique identifier for language
	rental_duration	smallint	the duration of the rental
	rental_rate	numeric	the date and time when the rental is made
	length	smallint	the length of the film
	replacement_cost	numeric	the cost of replacing the film
	rating	user-defined	the rating of the film
	last_update	timestamp without time zone	the date and time when the last update is made
	special_features	array	the special feature of the film
	fulltext	tsvector	the index type of full-text index
film_actor	actor_id	smallint	a unique identifier for actor
	film_id	smallint	a unique identifier for film
	last_update	timestamp without time zone	the date and time when the last update is made
film_category	film_id	smallint	a unique identifier for film
	category_id	smallint	a unique identifier for category
	last_update	timestamp without time zone	the date and time when the last update is made
Inventory	inventory_id	integer	a unique identifier for inventory
	film_id	smallint	a unique identifier for film
	store_id	smallint	a unique identifier for store
	last_update	timestamp without time zone	the date and time when the last update is made
Language	language_id	integer	a unique identifier for language
	name	character	name of the language
	last_update	timestamp without time zone	the date and time when the last update is made
Staff	staff_id	integer	a unique identifier for staff
	first_name	character varying	first name of the staff
	last_name	character varying	last name of the staff
	address_id	smallint	a unique identifier for address
	email	character varying	email of the staff
	store_id	smallint	a unique identifier for store
	active	boolean	status whether the staff is active or not
	username	character varying	username of the staff
	password	character varying	password of the staff
	last_update	timestamp without time zone	the date and time when the last update is made
	picture	byte	picture of the staff
Store	store_id	integer	a unique identifier for store
	manager_staff_id	smallint	a unique identifier for manager staff
	address_id	smallint	a unique identifier for address
	last_update	timestamp without time zone	the date and time when the last update is made

Step 4. Find information:

Now that your data dictionary and ERD are ready to use, your manager has given you a list of business questions to answer. Use your data dictionary to figure out which tables you'd need to answer the questions below:

- Which actors brought Rockbuster the most revenue?

  payment, rental, inventory, film, film_actor

- What language are the majority of movies in the collection?

  inventory, film, language