

## Exercise 3.10: Data Storage and Structure

### Step 3:

Finalizing the data dictionary drafted in Exercise 3.2

Rockbuster ERD image from *DbVisualizer*



The Rockbuster database has a **snowflake** schema. The fact tables (**rental** & **payment**) are surrounded by dimension tables, which are surrounded by more sub-dimension tables.

List of Tables:

**Fact Tables:**

rental

Column	Data Type	Description
rental_id	INTEGER	Primary key
rental_date	TIMESTAMP(6) WITHOUT TIME ZONE	Date of rental
inventory_id	INTEGER	Foreign key
customer_id	SMALLINT	Foreign key
return_date	TIMESTAMP(6) WITHOUT TIME ZONE	Date of return
staff_id	SMALLINT	Foreign key
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

payment

Column	Data Type	Description
payment_id	INTEGER	Primary key
customer_id	SMALLINT	Foreign key
staff_id	SMALLINT	Foreign key
rental_id	INTEGER	Foreign key
amount	NUMERIC(5,2)	Amount of rental transaction
payment_date	TIMESTAMP(6) WITHOUT TIME ZONE	Date of payment

**Dimension Tables:**

customer

Column	Data Type	Description
customer_id	INTEGER	Primary key
store_id	SMALLINT	Foreign key
first_name	CHARACTER VARYING(45)	First name of customer
last_name	CHARACTER VARYING(45)	Last name of customer
email	CHARACTER VARYING(50)	Email address of customer
address_id	SMALLINT	Foreign key
activebool	BOOLEAN	True if “active”, False if “inactive”
create_date	DATE	Date of customer account creation

last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update
active	INTEGER	Active status represented by '0', inactive status represented by '1'

#### address

Column	Data Type	Description
address_id	INTEGER	Primary key
address	CHARACTER VARYING(50)	Primary address
address2	CHARACTER VARYING(50)	Additional address (optional)
district	CHARACTER VARYING(20)	District name
city_id	SMALLINT	Foreign key
postal_code	CHARACTER VARYING(10)	Postal Code
phone	CHARACTER VARYING(20)	Phone number
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

#### city

Column	Data Type	Description
city_id	INTEGER	Primary key
city	CHARACTER VARYING(50)	Name of city
country_id	SMALLINT	Foreign key
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

#### country

Column	Data Type	Description
country_id	INTEGER	Primary key
country	CHARACTER VARYING(50)	Name of country
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

#### store

Column	Data Type	Description
store_id	INTEGER	Primary key

manager_staff_id	SMALLINT	Foreign key (connects to 'staff_id' of staff member who is the manager of store)
address_id	SMALLINT	Foreign key
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

### staff

Column	Data Type	Description
staff_id	INTEGER	Primary key
first_name	CHARACTER VARYING(45)	First name of staff
last_name	CHARACTER VARYING(45)	Last name of staff
address_id	SMALLINT	Foreign key
email	CHARACTER VARYING(50)	Email address of staff
store_id	SMALLINT	Foreign key
active	BOOLEAN	True if "active", False if "inactive"
username	CHARACTER VARYING(16)	Username of staff
password	CHARACTER VARYING(40)	Password of staff
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update
picture	BYTEA	Staff profile picture

### inventory

Column	Data Type	Description
inventory_id	INTEGER	Primary key
film_id	SMALLINT	Foreign key
store_id	SMALLINT	Foreign key
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

### film

Column	Data Type	Description
film_id	INTEGER	Primary key

title	CHARACTER VARYING(255)	Title of film
description	TEXT	Description of film
release_year	year	Year of film release
language_id	SMALLINT	Foreign key
rental_duration	SMALLINT	Duration of rental
rental_rate	NUMERIC(4,2)	Rate of rental
length	SMALLINT	Length of film
replacement_cost	NUMERIC(5,2)	Cost to replace item
rating	mpaa_rating	MPAA Rating
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update
special_features	TEXT[]	Trailers, Deleted scenes, Behind the scenes, etc.
fulltext	TSVECTOR	Index of 'key words'

#### language

Column	Data Type	Description
language_id	INTEGER	Primary key
name	CHARACTER(20)	Name of language
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

#### category

Column	Data Type	Description
category_id	INTEGER	Primary key
name	CHARACTER VARYING(25)	Name of category
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

#### film\_category

Column	Data Type	Description
film_id	SMALLINT	Composite key
category_id	SMALLINT	Composite key
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

#### actor

Column	Data Type	Description
actor_id	INTEGER	Primary key

first_name	CHARACTER VARYING(45)	Actor's first name
last_name	CHARACTER VARYING(45)	Actors' last name
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update

film\_actor

Column	Data Type	Description
actor_id	SMALLINT	Composite key
film_id	SMALLINT	Composite key
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Time of last update