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Data Dictionary

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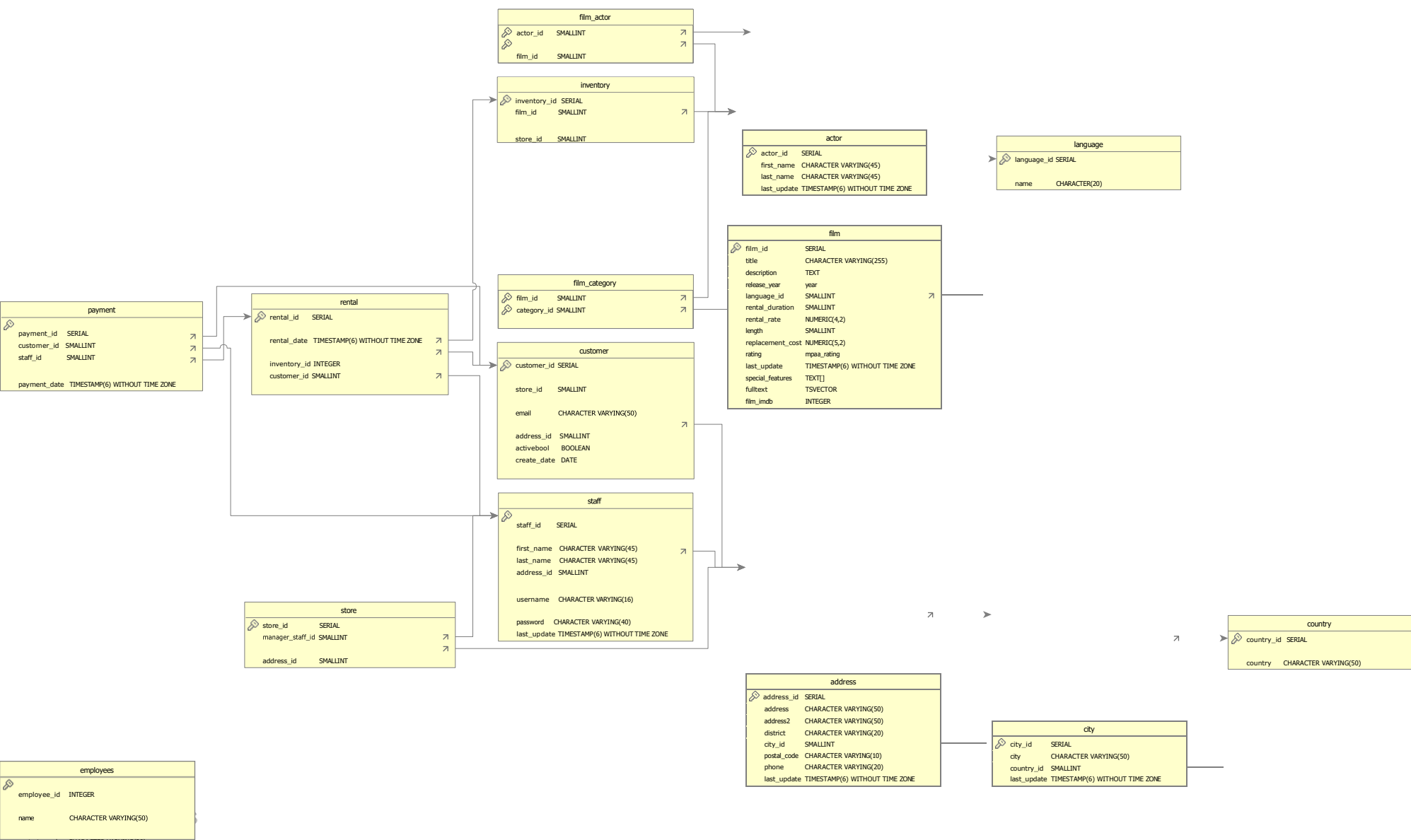
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1. Overview

This data dictionary provides a comprehensive view of the database structure for Rockbuster Stealth. It includes detailed descriptions of fact and dimension tables, key relationships, and column definitions to facilitate data management, analysis, and reporting.

2. Entity Relationship Diagram (ERD)




3. Fact Tables

Each table in the Rockbuster database is detailed below, including information on its role within the database (fact), columns, relationships, and keys. In the tables, "N" indicates that the column allows NULL values, meaning it is optional and may not have data for every record. Columns without "N" are required fields and must contain data for each record.

3.1 Payment Table

Records financial transactions for rental payments.

Columns

	Name	Data Type	N	Description and Attributes
	payment_id	serial		Primary key for Payment records. Auto-increment.
	customer_id	smallint		Foreign key referencing Customer table.
	staff_id	smallint		Foreign key referencing Staff table.
	rental_id	integer		Foreign key referencing Rental table.
	amount	numeric(5,2)		Payment amount for the rental transaction.
	payment_date	timestamp without time zone	N	Date and time of the payment.

Link to

	Table	Join to	Description and Attributes
	Customer	Payment.customer_id = Customer.customer_id	Links each payment to a specific customer.
	Staff	Payment.staff_id = Staff.staff_id	Links each payment to the staff member processing it.
	Rental	Payment.rental_id = Rental.rental_id	Links each payment to a specific rental transaction.

Unique Keys

Columns	Name / Description
payment_id	PK_Payment - Primary key for Payment table.

3.2 Rental Table

Tracks rental transactions for inventory items by customers.

Columns

	Name	Data Type	N	Description and Attributes
→	rental_id	serial		Primary key for Rental records. Auto-increment.
	rental_date	timestamp without time zone		Date and time when the rental was made.
	inventory_id	integer		Foreign key referencing Inventory table.
	customer_id	smallint		Foreign key referencing Customer table.
	return_date	timestamp without time zone	N	Date and time when the rental item was returned.
	staff_id	smallint		Foreign key referencing Staff table.
	last_update	timestamp without time zone		Last time the rental record was updated.

Link to

	Table	Join	Description and Attributes
	Inventory	Rental.inventory_id = Inventory.inventory_id	Links each rental to a specific inventory item.
	Customer	Rental.customer_id = Customer.customer_id	Links each rental to a specific customer.
	Staff	Rental.staff_id = Staff.staff_id	Links each rental to the staff member handling the rental.

Link from

Linked from rental_id in the **Payment** table.

Unique Keys

Columns	Name / Description
rental_id	PK_Rental - Primary key for Rental table.


4. Dimension Tables

Each table in the Rockbuster database is detailed below, including information on its role within the database (dimensions), columns, relationships, and keys. In the tables, "N" indicates that the column allows NULL values, meaning it is optional and may not have data for every record. Columns without "N" are required fields and must contain data for each record.

4.1 Customer Table

Stores personal details and account information for each customer.

Columns

	Name	Data Type	N	Description and Attributes
	customer_id	serial		Primary key for Customer records. Auto-increment.
	store_id	integer	N	Foreign key referencing Store table (nullable).
	first_name	varchar(45)		Customer's first name.
	last_name	varchar(45)		Customer's last name.
	email	varchar(50)	N	Customer's email address (nullable).
	address_id	integer		Foreign key referencing Address table.
	activebool	boolean		Indicates if the customer is active.
	create_date	date		Date the customer account was created.
	last_update	timestamp without time zone	N	Date and time of the last update to the customer record.
	active	integer		Active status (e.g., 1 for active, 0 for inactive).

Link to

	Table	Join	Description and Attributes
	Store	Customer.store_id = Store.store_id	Links customer to a specific store.
	Address	Customer.address_id = Address.address_id	Links customer to a specific address.

Link from

Linked from customer_id in the **Payment** table.

Linked from customer_id in the **Rental** table.

Unique Keys

Columns		Name / Description
	customer_id	PK_Customer - Primary key for Customer table.

4.2 Film Table

Contains details about each film, including title, description, and rating

Columns

	Name	Data Type	N	Description and Attributes
→	film_id	serial		Primary key for Film records. Auto-increment.
	title	varchar(255)		Title of the film.
	description	text	N	Description or synopsis of the film (nullable).
	release_year	integer	N	Year the film was released (nullable).
	language_id	integer		Foreign key referencing Language table.
	rental_duration	integer		Duration (in days) for which the film can be rented.
	rental_rate	numeric(4,2)		Rate per rental.
	length	integer	N	Length of the film in minutes (nullable).
	replacement_cost	numeric(5,2)		Cost to replace the film if lost or damaged.
	rating	varchar(10)	N	Film rating (e.g., PG, R) (nullable).
	special_features	text	N	Special features included with the film, if any (nullable).
	last_update	timestamp without time zone		Date and time of the last update to the film record.

Link to

Table	Join	Description and Attributes
Language	Film.language_id = Language.language_id	Links each film to a specific language.

Link from

Linked from film_id in the **Inventory** table.

Linked from film_id in the **Film_Actor** table.

Linked from film_id in the **Film_Category** table.


Unique Keys

Columns		Name / Description
	film_id	PK_Film - Primary key for Film table.

4.3 Staff Table

Holds information about employees who manage stores and rentals.

Columns

	Name	Data Type	N	Description and Attributes
	staff_id	serial		Primary key for Staff records. Auto-increment.
	first_name	varchar(45)		First name of the staff member.
	last_name	varchar(45)		Last name of the staff member.
	address_id	integer		Foreign key referencing Address table.
	email	varchar(50)	N	Staff member's email address (nullable).
	store_id	integer		Foreign key referencing Store table.
	active	boolean		Indicates if the staff member is currently active.
	username	varchar(16)		Username for staff member's system login.
	password	varchar(40)	N	Password for staff member's system login (nullable).
	last_update	timestamp without time zone		Date and time of the last update to the staff record.

Link to

Table		Join	Description and Attributes
	Address	Staff.address_id = Address.address_id	Links each staff member to a specific address.
	Store	Staff.store_id = Store.store_id	Links each staff member to a specific store.

Link from

Linked from staff_id in the **Payment** table.

Linked from staff_id in the **Rental** table.

Linked from manager_staff_id in the **Store** table.


Unique Keys

Columns		Name / Description
	staff_id	PK_Staff - Primary key for Staff table.

4.4 Store Table

Maintains data on store locations and assigned managers.

Columns

	Name	Data Type	N	Description and Attributes
	store_id	serial		Primary key for Store records. Auto-increment.
	manager_staff_id	integer	N	Foreign key referencing Staff table (nullable).
	address_id	integer		Foreign key referencing Address table.
	last_update	timestamp without time zone		Date and time of the last update to the store record.

Link to

	Table	Join	Description and Attributes
	Staff	Store.manager_staff_id = Staff.staff_id	Links each store to a staff member as manager (if assigned).
	Address	Store.address_id = Address.address_id	Links each store to a specific address.

Link from

Linked from store_id in the **Customer** table.

Linked from store_id in the **Staff** table.

Linked from store_id in the **Inventory** table.


Unique Keys

	Columns	Name / Description
	store_id	PK_Store - Primary key for Store table.

4.5 Film_actor Table

Links films with the actors who appear in them.

Columns

	Name	Data Type	N	Description and Attributes
	actor_id	integer		Foreign key referencing Actor table.
	film_id	integer		Foreign key referencing Film table.
	last_update	timestamp without time zone		Date and time of the last update to the film-actor record.

Link to

	Table	Join	Description and Attributes
	Actor	Film_Actor.actor_id = Actor.actor_id	Links each record to a specific actor.
	Film	Film_Actor.film_id = Film.film_id	Links each record to a specific film.


Unique Keys

	Columns	Name / Description
	actor_id, film_id	PK_Film_Actor - Composite primary key for Film_Actor.

4.6 Inventory Table

Lists individual film copies available for rental at each store.

Columns

	Name	Data Type	N	Description and Attributes
	inventory_id	serial		Primary key for Inventory records. Auto-increment.
	film_id	integer		Foreign key referencing Film table.
	store_id	integer		Foreign key referencing Store table.
	last_update	timestamp without time zone		Date and time of the last update to the inventory record.

Link to

	Table	Join	Description and Attributes
	Film	Inventory.film_id = Film.film_id	Links each inventory item to a specific film.
	Store	Inventory.store_id = Store.store_id	Links each inventory item to a specific store.

Link from

Linked from inventory_id in the **Rental** table.


Unique Keys

Columns		Name / Description
	inventory_id	PK_Inventory - Primary key for Inventory table.

4.7 Film_Category Table

Associates' films with their respective categories.

Columns

	Name	Data Type	N	Description and Attributes
	film_id	integer		Foreign key referencing Film table.
	category_id	integer		Foreign key referencing Category table.
	last_update	timestamp without time zone		Date and time of the last update to the film-category record.

Link to

	Table	Join	Description and Attributes
	Film	Film_Category.film_id = Film.film_id	Links each record to a specific film.
	Category	Film_Category.category_id = Category.category_id	Links each record to a specific category.


Unique Keys

Columns		Name / Description
	film_id, category_id	PK_Film_Category - Composite primary key for Film_Category table.

4.8 Actor Table

Contains details on actors featured in the film collection.

Columns

	Name	Data Type	N	Description and Attributes
	actor_id	serial		Primary key for Actor records. Auto-increment.
	first_name	varchar(45)		First name of the actor.
	last_name	varchar(45)		Last name of the actor.
	last_update	timestamp without time zone		Date and time of the last update to the actor record.

Link to

	Table	Join	Description and Attributes
	Film_Actor	Film_Actor.actor_id = Actor.actor_id	Links each actor to the films they appear in.

Link from

Linked from actor_id in the **Film_Actor** table.


Unique Keys

	Columns	Name / Description
	actor_id	PK_Actor - Primary key for Actor table.

4.9 Category Table

Defines categories or genres for films, such as Action or Comedy.

Columns

	Name	Data Type	N	Description and Attributes
	category_id	serial		Primary key for Category records. Auto-increment.
	name	varchar(25)		Name of the category (e.g., Action, Comedy, Drama).
	last_update	timestamp without time zone		Date and time of the last update to the category record.

Link to

	Table	Join	Description and Attributes
	Film_Category	Film_Category.category_id = Category.category_id	Links each category to associated films.

Link from

Linked from category_id in the **Film_Category** table.


Unique Keys

	Columns	Name / Description
	category_id	PK_Category - Primary key for Category table.

4.10 Language Table

Lists languages in which films are available.

Columns

	Name	Data Type	N	Description and Attributes
	language_id	serial		Primary key for Language records. Auto-increment.
	name	varchar(20)		Name of the language (e.g., English, Spanish, French).
	last_update	timestamp without time zone		Date and time of the last update to the language record.

Link to

	Table	Join	Description and Attributes
	Film	Film.language_id = Language.language_id	Links each film to the language it is available in.


Unique Keys

	Columns	Name / Description
	language_id	PK_Language - Primary key for Language table.

4.11 Address Table

Provides street address information for customers and stores.

Columns

	Name	Data Type	N	Description and Attributes
	address_id	serial		Primary key for Address records. Auto-increment.
	address	varchar(50)		Street address of the location.
	address2	varchar(50)	Y	Additional address information (nullable).
	district	varchar(20)		District or region of the address.

	city_id	integer		Foreign key referencing City table.
	postal_code	varchar(10)	Y	Postal code for the address (nullable).
	phone	varchar(20)		Contact phone number for the address.
	last_update	timestamp without time zone		Date and time of the last update to the address record.

Link to

	Table	Join	Description and Attributes
	City	Address.city_id = City.city_id	Links each address to a specific city.

Link from

Linked from address_id in the **Customer** table.

Linked from address_id in the **Staff** table.

Linked from address_id in the **Store** table.


Unique Keys

	Columns	Name / Description
	address_id	PK_Address - Primary key for Address table.

4.12 City Table

Stores city information linked to addresses.

Columns

	Name	Data Type	N	Description and Attributes
	city_id	serial		Primary key for City records. Auto-increment.
	city	varchar(50)		Name of the city.
	country_id	integer		Foreign key referencing Country table.
	last_update	timestamp without time zone		Date and time of the last update to the city record.

Link to

	Table	Join	Description and Attributes
	Country	City.country_id = Country.country_id	Links each city to a specific country.

Link from

Linked from city_id in the **Address** table.


Unique Keys

	Columns	Name / Description
	city_id	PK_City - Primary key for City table.

4.13 Country Table

Lists countries associated with cities in the address records.

Columns

	Name	Data Type	N	Description and Attributes
	country_id	serial		Primary key for Country records. Auto-increment.
	country	varchar(50)		Name of the country.
	last_update	timestamp without time zone		Date and time of the last update to the country record.

Link to

	Table	Join	Description and Attributes
	City	City.country_id = Country.country_id	Links each country to the cities within it.

Link from

Linked from country_id in the **City** table.

Unique Keys

	Columns	Name / Description
	country_id	PK_Country - Primary key for Country table.