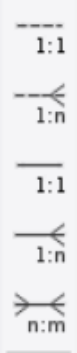
Legend for the diagram

Key: (Part of) Primary Key
Filled Diamond: NOT NULL
Not filled Diamond: NULL
Red colored: (Part of) Foreign key
Blue lined Diamond: Simple attribute (no key)

Can be combined for example:
is a Red colored Key so it's a Primary Key which is also a Foreign Key
is a Yellow (non Red) Key so it's only a Primary Key
is a blue lined filled diamond so it's a NOT NULL simple attribute
is a red colored filled diamond so it's a NOT NULL Foreign Key
is a blue lined not filled diamond so it's a simple attribute which can be NULL
is a red colored not filled diamond so it's a Foreign Key which can be NULL



One-to-one non-identifying relationships
One-to-many non-identifying relationships
One-to-one identifying relationships
One-to-many identifying relationships
Many-to-many identifying relationships

The following sections describe the tables that make up this database, in alphabetic order.

The actor Table

The `actor` table lists information for all actors.
The `actor` table is joined to the `film` table by means of the `film_actor` table.

Columns

- `actor_id`: A surrogate primary key used to uniquely identify each actor in the table.
- `first_name`: The actor first name.
- `last_name`: The actor last name.
- `last_update`: When the row was created or most recently updated.

The address Table

The `address` table contains address information for customers, staff, and stores.
The `address` table primary key appears as a foreign key in the `customer`, `staff`, and `store` tables.

Columns

- `address_id`: A surrogate primary key used to uniquely identify each address in the table.
- `address`: The first line of an address.
- `address2`: An optional second line of an address.
- `district`: The region of an address, this may be a state, province, prefecture, etc.
- `city_id`: A foreign key pointing to the `city` table.
- `postal_code`: The postal code or ZIP code of the address (where applicable).
- `phone`: The telephone number for the address.
- `last_update`: When the row was created or most recently updated.

The category Table

The `category` table lists the categories that can be assigned to a film.
The category table is joined to the `film` table by means of the `film_category` table.

Columns

- `category_id`: A surrogate primary key used to uniquely identify each category in the table.
- `name`: The name of the category.
- `last_update`: When the row was created or most recently updated.

The city Table

The `city` table contains a list of cities.
The `city` table is referred to by a foreign key in the `address` table and refers to the `country` table using a foreign key.

Columns

- `city_id`: A surrogate primary key used to uniquely identify each city in the table.
- `city`: The name of the city.
- `country_id`: A foreign key identifying the country that the city belongs to.
- `last_update`: When the row was created or most recently updated.

The country Table

The `country` table contains a list of countries.
The `country` table is referred to by a foreign key in the `city` table.

Columns

- `country_id`: A surrogate primary key used to uniquely identify each country in the table.
- `country`: The name of the country.
- `last_update`: When the row was created or most recently updated.

The customer Table

The `customer` table contains a list of all customers.
The `customer` table is referred to in the `payment` and `rental` tables and refers to the `address` and `store` tables using foreign keys.

Columns

- `customer_id`: A surrogate primary key used to uniquely identify each customer in the table.
- `store_id`: A foreign key identifying the customer "home store." Customers are not limited to renting only from this store, but this is the store at which they generally shop.
- `first_name`: The customer first name.
- `last_name`: The customer last name.
- `email`: The customer email address.
- `address_id`: A foreign key identifying the customer address in the `address` table.
- `active`: Indicates whether the customer is an active customer.
- `create_date`: The date the customer was added to the system. This date is automatically set using a trigger during an `INSERT`.
- `last_update`: When the row was created or most recently updated.

The film Table

The `film` table is a list of all films potentially in stock in the stores. The actual in-stock copies of each film are represented in the `inventory` table.
The `film` table refers to the `language` table and is referred to by the `film_category`, `film_actor`, and `inventory` tables.

Columns

- `film_id`: A surrogate primary key used to uniquely identify each film in the table.
- `title`: The title of the film.
- `description`: A short description or plot summary of the film.
- `release_year`: The year in which the movie was released.
- `language_id`: A foreign key pointing at the `language` table; identifies the language of the film.
- `original_language_id`: A foreign key pointing at the `language` table; identifies the original language of the film. Used when a film has been dubbed into a new language.
- `rental_duration`: The length of the rental period, in days.
- `rental_rate`: The cost to rent the film for the period specified in the `rental_duration` column.
- `length`: The duration of the film, in minutes.
- `replacement_cost`: The amount charged to the customer if the film is not returned or is returned in a damaged state.
- `rating`: The rating assigned to the film. Can be one of: `G`, `PG`, `PG-13`, `R`, or `NC-17`.
- `special_features`: Lists which common special features are included on the DVD. Can be zero or more of: `Trailers`, `Commentaries`, `Deleted Scenes`, `Behind the Scenes`.
- `last_update`: When the row was created or most recently updated.

The film_actor Table

The `film_actor` table is used to support a many-to-many relationship between films and actors. For each actor in a given film, there will be one row in the `film_actor` table listing the actor and film.
The `film_actor` table refers to the `film` and `actor` tables using foreign keys.

Columns:

- `actor_id`: A foreign key identifying the actor.
- `film_id`: A foreign key identifying the film.
- `last_update`: When the row was created or most recently updated.

The film_text Table

The `film_text` table contains the `film_id`, `title` and `description` columns of the `film` table.

Columns

- `film_id`: A surrogate primary key used to uniquely identify each film in the table.
- `title`: The title of the film.
- `description`: A short description or plot summary of the film.

The inventory Table

The `inventory` table contains one row for each copy of a given film in a given store.
The `inventory` table refers to the `film` and `store` tables using foreign keys and is referred to by the `rental` table.

Columns

- `inventory_id`: A surrogate primary key used to uniquely identify each item in inventory.
- `film_id`: A foreign key pointing to the film this item represents.
- `store_id`: A foreign key pointing to the store stocking this item.
- `last_update`: When the row was created or most recently updated.

The language Table

The `language` table is a lookup table listing the possible languages that films can have for their language and original language values.
The `language` table is referred to by the `film` table.

Columns

- `language_id`: A surrogate primary key used to uniquely identify each language.
- `name`: The English name of the language.
- `last_update`: When the row was created or most recently updated.

The language Table

The `language` table is a lookup table listing the possible languages that films can have for their language and original language values.
The `language` table is referred to by the `film` table.

Columns

- `language_id`: A surrogate primary key used to uniquely identify each language.
- `name`: The English name of the language.
- `last_update`: When the row was created or most recently updated.

The payment Table

The `payment` table records each payment made by a customer, with information such as the amount and the rental being paid for (when applicable).
The `payment` table refers to the `customer`, `rental`, and `staff` tables.

Columns

- `payment_id`: A surrogate primary key used to uniquely identify each payment.
- `customer_id`: The customer whose balance the payment is being applied to. This is a foreign key reference to the `customer` table.
- `staff_id`: The staff member who processed the payment. This is a foreign key reference to the `staff` table.
- `rental_id`: The rental that the payment is being applied to. This is optional because some payments are for outstanding fees and may not be directly related to a rental.
- `amount`: The amount of the payment.
- `payment_date`: The date the payment was processed.
- `last_update`: When the row was created or most recently updated.

The rental Table

The `rental` table contains one row for each rental of each inventory item with information about who rented what item, when it was rented, and when it was returned.
The `rental` table refers to the `inventory`, `customer`, and `staff` tables and is referred to by the `payment` table.

Columns

- `rental_id`: A surrogate primary key that uniquely identifies the rental.
- `rental_date`: The date and time that the item was rented.
- `inventory_id`: The item being rented.
- `customer_id`: The customer renting the item.
- `return_date`: The date and time the item was returned.
- `staff_id`: The staff member who processed the rental.
- `last_update`: When the row was created or most recently updated.

The staff Table

The `staff` table lists all staff members, including information for email address, login information, and picture.
The `staff` table refers to the `store` and `address` tables using foreign keys, and is referred to by the `rental`, `payment`, and `store` tables.

Columns

- `staff_id`: A surrogate primary key that uniquely identifies the staff member.
- `first_name`: The first name of the staff member.

- `last_name`: The last name of the staff member.
- `address_id`: A foreign key to the staff member address in the `address` table.
- `email`: The staff member email address.
- `store_id`: The staff member "home store." The employee can work at other stores but is generally assigned to the store listed.
- `active`: Whether this is an active employee. If employees leave, their rows are not deleted from this table; instead, this column is set to `FALSE`.
- `username`: The user name used by the staff member to access the rental system.
- `password`: The password used by the staff member to access the rental system. The password should be stored as a hash using the `SHA2()` function.
- `last_update`: When the row was created or most recently updated.

The store Table

The `store` table lists all stores in the system. All inventory is assigned to specific stores, and staff and customers are assigned a "home store".
The `store` table refers to the `staff` and `address` tables using foreign keys and is referred to by the `staff`, `customer`, and `inventory` tables.

Columns

- `store_id`: A surrogate primary key that uniquely identifies the store.
- `manager_staff_id`: A foreign key identifying the manager of this store.
- `address_id`: A foreign key identifying the address of this store.
- `last_update`: When the row was created or most recently updated.