Booktique

Booktique is a system that implements an online book store.

Repository

The source code is available on GitLab at
https://gitlab.com/GiorgiaAuroraAdorni/3rdAssignment/.

Contributors

This project has been developed by Giorgia Adorni (806787) .

Installation

```
$ git clone https://gitlab.com/GiorgiaAuroraAdorni/3rdAssignment.git
$ cd booktique
$ docker-compose up
```

An alternative to `docker-compose up` is the command `docker-compose up --build` that allows the rebuild of the app.
The application will be available at http://localhost:8080/ .
In addition, the `docker-compose.yml` file also starts an instance of pgAdmin to access the database directly: you can reach it at http://localhost:5005/.

Docker Compose also allows to locally run the unit tests:

```
$ docker-compose run app mvn test
```

Application

Booktique is a system that implements an online book store.
The basic interface involves querying books according to the fields ISBN, title, author, publisher, language etc. We support services for buying books. We build a personal profile page which is used for handling customer orders. We implement a ”recommendation system” for recommending related books (prequels and sequels) based on those searched and purchased.

Entities

The model is composed of 9 entities:

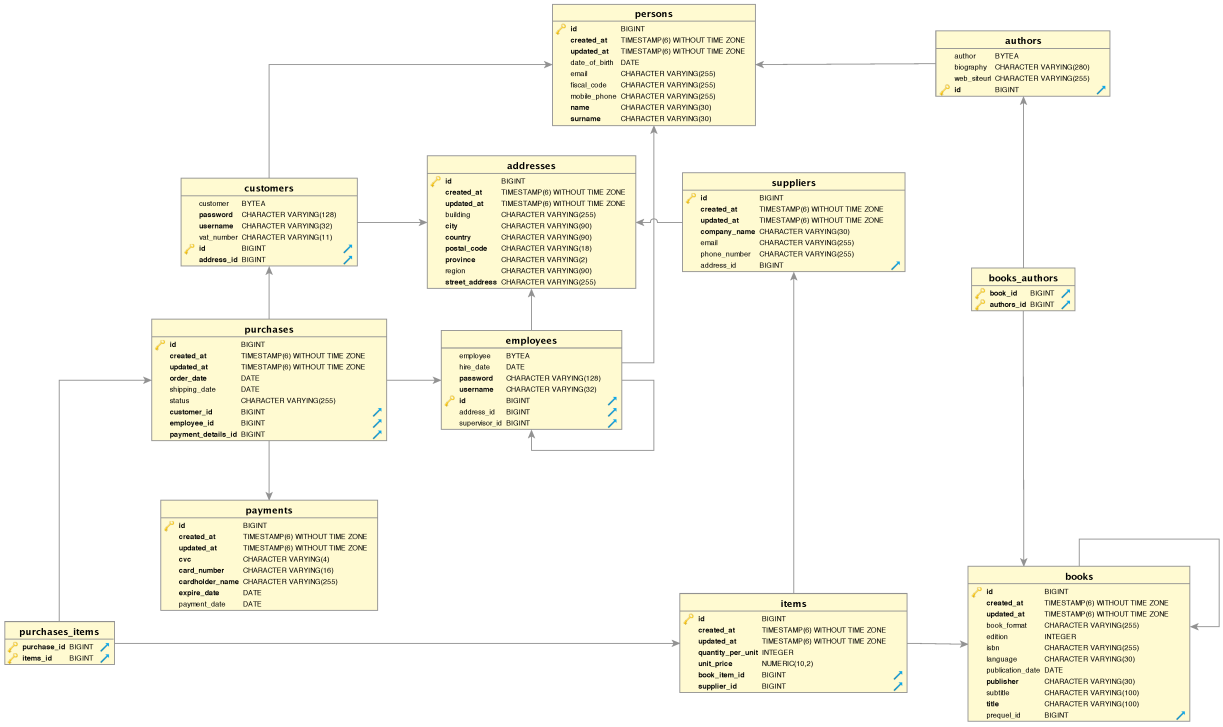
- **book** - items available in the online store. The book object provides a set of information such as title, ISBN, authors, publisher, format etc. A unique id is used as the primary key, despite this the ISBN provides a perfect primary key because every book has a different ISBN.

- **person** - a real person. The person object provides personal information such as name, surname, fiscal code, date of birth, email and telephone number. A unique id is used as a primary key, in addition the fiscal code is marked as a natural identifier as it identifies a person in the real world.
- **author** - the author of the book. Because an author is also a person, the object inherits the same attributes of the person superclass. More information about the author is provided, for example an optional biography and the web site URL.
- **customer** – people who buy books in the online store. Every customer has a basic set of data inherits from the person superclass such as for the authors. Mandatory attributes, such as login credentials and postal address, is added to customers, but can be also provided VAT number.
- **employee** – is a person who carries out activities related to orders. An employee has the same properties of its parent class, in addition he is associated whit another employee as a supervisor. More information about the employee is given, such as the login credentials, the hire date and his postal address.
- **supplier** - organization that provides book to the online store. To the supplier object is associated a unique id as primary key, the company name and other information such as email, telephone number and postal address.
- **item** – articles selected by the customer for purchase in online store. To each item is assigned the reference to the book in the catalog that the customer want to buy, its unit price, the desired quantity and its supplier.
- **purchase** - items ordered. To every purchase is associated a hypothetically unlimited number of items, the customer, the employee who takes charge of the order, order and shipping dates, the total amount, order status and the transaction information (payment type and date).
- **address** - postal information about customer and supplier. In this object is stored the street address, the postal code, the city, region and country name.

Relationships

Between those entities ther's 14 relations, in particular:

- two self-relations: the first one is a One-to-One relation between a book and his prequel, inand in the other between the book and his sequel; the second is a Many-to-One relation between employees and supervisor (each employee is associated with only one supervisor).
- one relation Many-to-Many between books and authors, handled with lazy load.
- one inheritance hierarchy that involves 4 entities: the class person serves as a superclass for employee, author and customer subclass.
  All entities will also inherit from a Auditable abstract class that provides the `createdDate` and `modifiedDate` attributes using **JPA Auditing**. This allows to track changes to the entities made from the Java application.


persons
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
date_of_birth DATE
email CHARACTER VARYING(255)
fiscal_code CHARACTER VARYING(255)
mobile_phone CHARACTER VARYING(255)
name CHARACTER VARYING(30)
surname CHARACTER VARYING(30)
authors
author BYTEA
biography CHARACTER VARYING(280)
web_siteurl CHARACTER VARYING(255)
id BIGINT
customers
customer BYTEA
password CHARACTER VARYING(128)
username CHARACTER VARYING(32)
vat_number CHARACTER VARYING(11)
id BIGINT
address_id BIGINT
addresses
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
building CHARACTER VARYING(255)
city CHARACTER VARYING(90)
country CHARACTER VARYING(90)
postal_code CHARACTER VARYING(18)
province CHARACTER VARYING(2)
region CHARACTER VARYING(90)
street_address CHARACTER VARYING(255)
suppliers
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
company_name CHARACTER VARYING(30)
email CHARACTER VARYING(255)
phone_number CHARACTER VARYING(255)
address_id BIGINT
books_authors
book_id BIGINT
authors_id BIGINT
purchases
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
order_date DATE
shipping_date DATE
status CHARACTER VARYING(255)
customer_id BIGINT
employee_id BIGINT
payment_details_id BIGINT
employees
employee BYTEA
hire_date DATE
password CHARACTER VARYING(128)
username CHARACTER VARYING(32)
id BIGINT
address_id BIGINT
supervisor_id BIGINT
payments
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
cvc CHARACTER VARYING(4)
card_number CHARACTER VARYING(16)
cardholder_name CHARACTER VARYING(255)
expire_date DATE
payment_date DATE
purchases_items
purchase_id BIGINT
items_id BIGINT
items
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
quantity_per_unit INTEGER
unit_price NUMERIC(10,2)
book_item_id BIGINT
supplier_id BIGINT
books
id BIGINT
created_at TIMESTAMP(6) WITHOUT TIME ZONE
updated_at TIMESTAMP(6) WITHOUT TIME ZONE
book_format CHARACTER VARYING(255)
edition INTEGER
isbn CHARACTER VARYING(255)
language CHARACTER VARYING(30)
publication_date DATE
publisher CHARACTER VARYING(30)
subtitle CHARACTER VARYING(100)
title CHARACTER VARYING(100)
prequel_id BIGINT