Лабораторная работа №2

по предмету "Проектирование баз данных"
Вариант 1

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Вариант 1. Заказ продуктов, товаров в магазине

1. Инициализация схемы

SQL-скрипт:

```sql
CREATE EXTENSION IF NOT EXISTS "uuid-ossp";

CREATE TABLE category (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    name text NOT NULL
);

CREATE TABLE product (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    name text NOT NULL UNIQUE,
    description text,
    price int NOT NULL,
    category_id uuid REFERENCES category(id) NOT NULL
);

CREATE TABLE category_parameter (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    category_id uuid REFERENCES category(id) NOT NULL,
    name text NOT NULL
);

CREATE TABLE product_parameter (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    product_id uuid REFERENCES product(id) NOT NULL,
    category_param_id uuid REFERENCES category_parameter(id) NOT NULL,
    value text NOT NULL
);

CREATE TABLE store (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    location text NOT NULL,
    name text NOT NULL
);

CREATE TABLE store_product (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    product_id uuid REFERENCES product(id) NOT NULL,
    store_id uuid REFERENCES store(id) NOT NULL,
    amount int NOT NULL
);

CREATE TABLE app_user (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    username text NOT NULL,
    password text NOT NULL,
    name text NOT NULL,
    surname text NOT NULL,
    phone_number text NOT NULL,
    verified boolean NOT NULL DEFAULT false
);
```
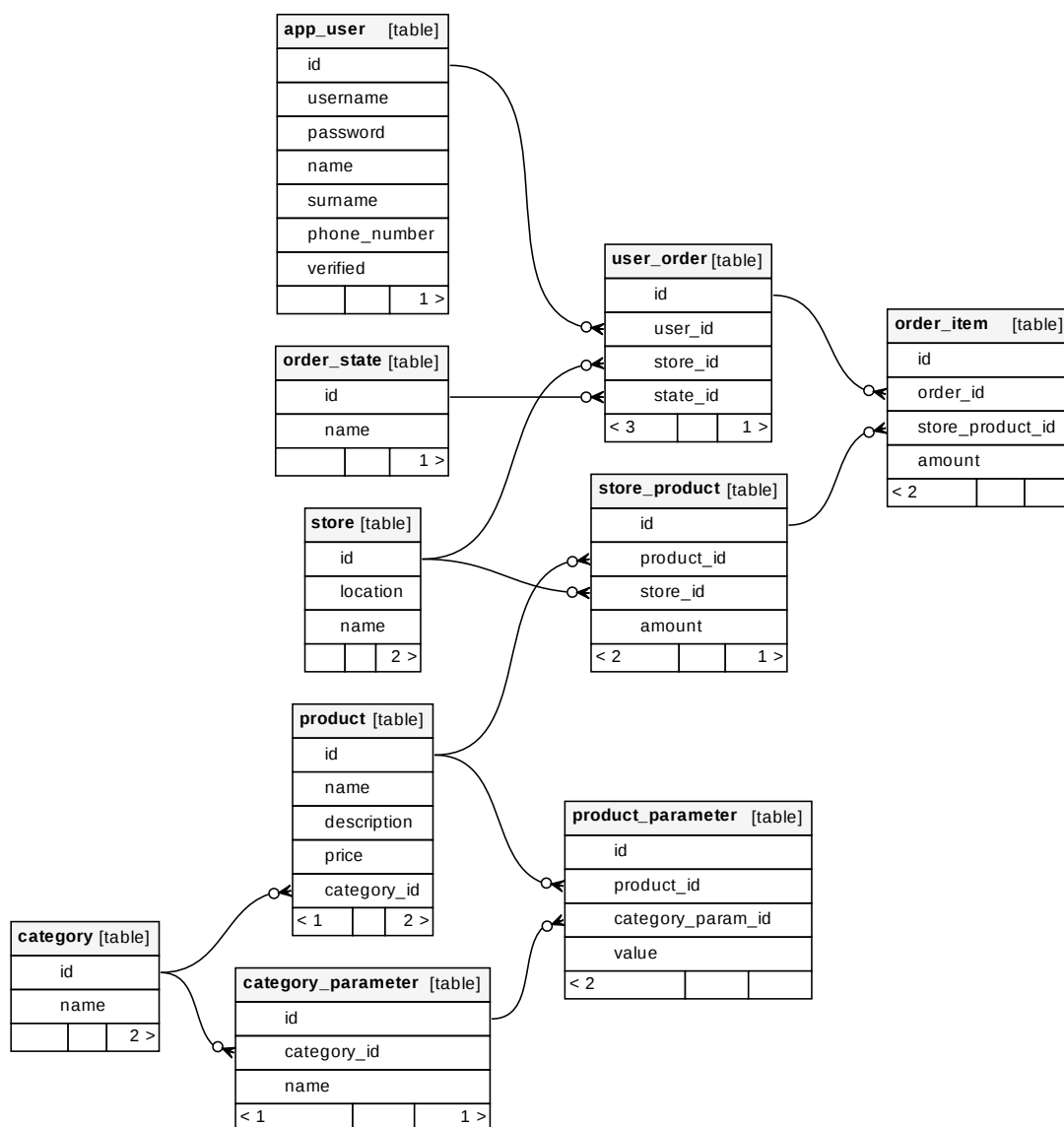
```
CREATE TABLE order_state (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    name text NOT NULL
);

CREATE TABLE user_order (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    user_id uuid REFERENCES app_user(id) NOT NULL,
    store_id uuid REFERENCES store(id) NOT NULL,
    state_id uuid REFERENCES order_state(id) NOT NULL
);

CREATE TABLE order_item (
    id uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    order_id uuid REFERENCES user_order(id) NOT NULL,
    store_product_id uuid REFERENCES store_product(id) NOT NULL,
    amount int NOT NULL DEFAULT 1
);
```

Сгенерированная на основе схемы данных диаграмма:

Generated by SchemaSpy

2. Заполнение данных

Заполнение данных с помощью SQL:

```sql
INSERT INTO order_state (name)
VALUES ('COLLECTING'), ('BOOKED'), ('PAID'), ('DELIVERED');

INSERT INTO category (name)
VALUES ('Alcohol'),
       ('Fruits'),
       ('Vegetables'),
       ('Dairy'),
       ('Grocery');

INSERT INTO category_parameter (category_id, name)
VALUES ((SELECT id FROM category WHERE name = 'Alcohol'), 'ABV'),
       ((SELECT id FROM category WHERE name = 'Alcohol'), 'Country'),
       ((SELECT id FROM category WHERE name = 'Fruits'), 'Country'),
       ((SELECT id FROM category WHERE name = 'Vegetables'), 'Country'),
       ((SELECT id FROM category WHERE name = 'Dairy'), 'Fat %'),
       ((SELECT id FROM category WHERE name = 'Dairy'), 'Lactose');

INSERT INTO store (location, name)
VALUES ('St. Petersburg', 'Peter the Great delivery market'),
       ('Moscow', 'Mausoleum market'),
       ('Izmir', 'Waiting for Irish visa market');
```

Заполнение данных с помощью CSV:

```
name,description,price,category
Pinot Grigio,Italian white wine,100000,Alcohol
Bordeaux,French red wine,50000,Alcohol
Campo Viejo Rioja,Spanish red wine,120000,Alcohol
Apples,Local apples,5000,Fruits
Peaches,Local peaches,6000,Fruits
Carrot,Local carrot,4500,Vegetables
Potato,Local potato,4000,Vegetables
Yogurt,Turkish yogurt,10000,Dairy
Milk "Happy farmer",,10000,Dairy
Milk "Prostokvashino",,11000,Dairy
Spaghetti "Barilla",,15000,Grocery
```

```
psql --username=postgres --echo-all -v ON_ERROR_STOP=1
        -c "CREATE TEMP TABLE product_uploaded (
        name text NOT NULL UNIQUE,
        description text,
        price int NOT NULL,
        category text not null);"
        -c "\copy product_uploaded FROM 'lab2/products.csv' WITH (FORMAT CSV, DELIMITER ',',
        -c "INSERT INTO product (name, description, price, category_id)
        SELECT p.name, p.description, p.price, c.id
        FROM product_uploaded p
        JOIN category c ON p.category = c.name;"
```