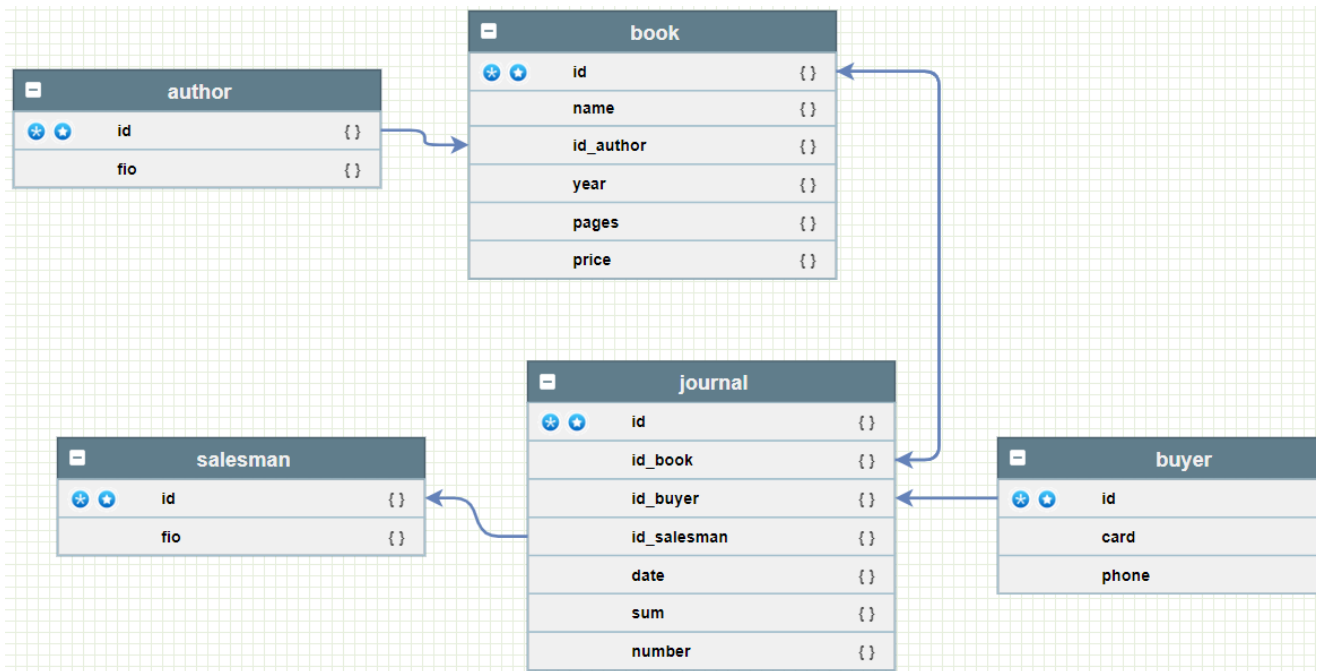## Модель данных

Создание базы данных и подключение к созданной БД

```
postgres=# CREATE DATABASE bookshop;
CREATE DATABASE
postgres=# \c bookshop;
Вы подключены к базе данных "bookshop" как пользователь "postgres".
```

Создание таблиц

```
bookshop=# CREATE TABLE Author(
bookshop(# id SERIAL PRIMARY KEY,
bookshop(# fio varchar(60) NOT NULL);
CREATE TABLE
```

```
bookshop=# CREATE TABLE Buyer(
bookshop(# id SERIAL PRIMARY KEY,
bookshop(# card char(13) NOT NULL,
bookshop(# phone char(11) NOT NULL);
CREATE TABLE
```

```
bookshop=# CREATE TABLE Salesman(
bookshop(# id SERIAL PRIMARY KEY,
bookshop(# fio_s varchar(60) NOT NULL);
CREATE TABLE
```

```
bookshop=# CREATE TABLE Book(
bookshop(# id SERIAL PRIMARY KEY,
bookshop(# name varchar(50) NOT NULL,
bookshop(# year char(4) NOT NULL,
bookshop(# pages varchar(6) NOT NULL,
bookshop(# price varchar(6) NOT NULL,
bookshop(# id_author int NOT NULL,
bookshop(# FOREIGN KEY (id_author) REFERENCES Author(id));
CREATE TABLE
```

```
bookshop=# CREATE TABLE Journal(
bookshop(# id SERIAL PRIMARY KEY,
bookshop(# date date NOT NULL,
bookshop(# sum varchar(8) NOT NULL,
bookshop(# number varchar(5) NOT NULL,
bookshop(# id_book int NOT NULL,
bookshop(# id_buyer int NOT NULL,
bookshop(# id_salesman int NOT NULL,
bookshop(# FOREIGN KEY (id_book) REFERENCES Book(id),
bookshop(# FOREIGN KEY (id_buyer) REFERENCES Buyer(id),
bookshop(# FOREIGN KEY (id_Salesman) REFERENCES Salesman(id));
CREATE TABLE
```

```
bookshop=# CREATE TABLE Journal_Book(
bookshop(# journal_id int,
bookshop(# book_id int,
bookshop(# PRIMARY KEY (journal_id, book_id),
bookshop(# CONSTRAINT fk_journal FOREIGN KEY (journal_id) REFERENCES Journal(id),
bookshop(# CONSTRAINT fk_book FOREIGN KEY (book_id) REFERENCES Book(id));
CREATE TABLE
```

Создание последовательностей

```
bookshop=# create sequence seq_author increment by 1 start with 101 minvalue 100;
CREATE SEQUENCE
bookshop=# create sequence seq_book increment by 1 start with 201 minvalue 200;
CREATE SEQUENCE
bookshop=# create sequence seq_buyer increment by 1 start with 301 minvalue 300;
CREATE SEQUENCE
bookshop=# create sequence seq_journal increment by 1 start with 401 minvalue 400;
CREATE SEQUENCE
bookshop=# create sequence seq_salesman increment by 1 start with 501 minvalue 500;
CREATE SEQUENCE
```

Вывод созданных таблиц и последовательностей

```
bookshop=# \d
                      Список отношений
 Схема  |       Имя        |         Тип          | Владелец
--------+------------------+----------------------+----------
 public | author           | таблица              | postgres
 public | author_id_seq    | последовательность   | postgres
 public | book             | таблица              | postgres
 public | book_id_seq      | последовательность   | postgres
 public | buyer            | таблица              | postgres
 public | buyer_id_seq     | последовательность   | postgres
 public | journal          | таблица              | postgres
 public | journal_book     | таблица              | postgres
 public | journal_id_seq   | последовательность   | postgres
 public | salesman         | таблица              | postgres
 public | salesman_id_seq  | последовательность   | postgres
 public | seq_author       | последовательность   | postgres
 public | seq_book         | последовательность   | postgres
 public | seq_buyer        | последовательность   | postgres
 public | seq_journal      | последовательность   | postgres
 public | seq_salesman     | последовательность   | postgres
(16 строк)
```

Ввод данных в таблицы. Вывод заполненной таблицы с помощью оператора SELECT * FROM название_таблицы.

```
bookshop=# insert into author values (nextval('seq_author'), 'Толстой Лев Николаевич');
INSERT 0 1
bookshop=# insert into author values (nextval('seq_author'), 'Пушкин Александр Сергеевич');
INSERT 0 1
bookshop=# insert into author values (nextval('seq_author'), 'Тургенев Иван Сергеевич');
INSERT 0 1
bookshop=# select * from Author;
 id  |          fio
-----+---------------------------
 101 | Толстой Лев Николаевич
 102 | Пушкин Александр Сергеевич
 103 | Тургенев Иван Сергеевич
(3 строки)
```

```
bookshop=# insert into book values (nextval('seq_book'), 'Война и мир', '1863', '1000', '700', '101');
INSERT 0 1
bookshop=# insert into book values (nextval('seq_book'), 'Капитанская дочка', '1836', '150', '300', '102');
INSERT 0 1
bookshop=# insert into book values (nextval('seq_book'), 'Муму', '1852', '100', '400', '103');
INSERT 0 1
bookshop=# select * from Book;
 id  |       name        | year | pages | price | id_author
-----+-------------------+------+-------+-------+-----------
 201 | Война и мир       | 1863 | 1000  | 700   |       101
 202 | Капитанская дочка | 1836 | 150   | 300   |       102
 203 | Муму              | 1852 | 100   | 400   |       103
(3 строки)
```

```
bookshop=# insert into buyer values (nextval('seq_buyer'), '1234567890123', '89207305638');
INSERT 0 1
bookshop=# insert into buyer values (nextval('seq_buyer'), '1234567895396', '89507305699');
INSERT 0 1
bookshop=# insert into buyer values (nextval('seq_buyer'), '9874567895396', '89507305111');
INSERT 0 1
bookshop=# select * from Buyer;
 id  |     card      |    phone
-----+---------------+-------------
 301 | 1234567890123 | 89207305638
 302 | 1234567895396 | 89507305699
 303 | 9874567895396 | 89507305111
(3 строки)
```

```
bookshop=# insert into salesman values (nextval('seq_salesman'), 'Иванов Иван Иванович');
INSERT 0 1
bookshop=# insert into salesman values (nextval('seq_salesman'), 'Петров Петр Петрович');
INSERT 0 1
bookshop=# select * from Salesman;
 id  |        fio_s
-----+----------------------
 501 | Иванов Иван Иванович
 502 | Петров Петр Петрович
(2 строки)
```

```
bookshop=# insert into Journal (id, id_book, number, sum, date, id_salesman, id_buyer) values (nextval('seq_
journal'), '201', '25', '10000', '25.03.2023', '501', '301');
INSERT 0 1
bookshop=# insert into Journal (id, id_book, number, sum, date, id_salesman, id_buyer) values (nextval('seq_
journal'), '202', '20', '6000', '25.03.2023', '501', '302');
INSERT 0 1
bookshop=# insert into Journal (id, id_book, number, sum, date, id_salesman, id_buyer) values (nextval('seq_
journal'), '203', '10', '4000', '25.03.2023', '501', '303');
INSERT 0 1
bookshop=# insert into Journal (id, id_book, number, sum, date, id_salesman, id_buyer) values (nextval('seq_
journal'), '201', '14', '4000', '26.03.2023', '502', '302');
INSERT 0 1
bookshop=# insert into Journal (id, id_book, number, sum, date, id_salesman, id_buyer) values (nextval('seq_
journal'), '202', '5', '1000', '26.03.2023', '502', '302');
INSERT 0 1
bookshop=# select * from Journal;
 id  |    date     |  sum  | number | id_book | id_buyer | id_salesman
-----+-------------+-------+--------+---------+----------+-------------
 401 | 2023-03-25  | 10000 | 25     |     201 |      301 |         501
 402 | 2023-03-25  | 6000  | 20     |     202 |      302 |         501
 403 | 2023-03-25  | 4000  | 10     |     203 |      303 |         501
 404 | 2023-03-26  | 4000  | 14     |     201 |      302 |         502
 405 | 2023-03-26  | 1000  | 5      |     202 |      302 |         502
(5 строк)
```

```
bookshop=# insert into Journal_Book values ('401', '201');
INSERT 0 1
bookshop=# insert into Journal_Book values ('402', '202');
INSERT 0 1
bookshop=# insert into Journal_Book values ('403', '203');
INSERT 0 1
bookshop=# insert into Journal_Book values ('404', '201');
INSERT 0 1
bookshop=# insert into Journal_Book values ('405', '202');
INSERT 0 1
bookshop=# select * from Journal_Book;
 journal_id | book_id
------------+---------
        401 |     201
        402 |     202
        403 |     203
        404 |     201
        405 |     202
(5 строк)
```