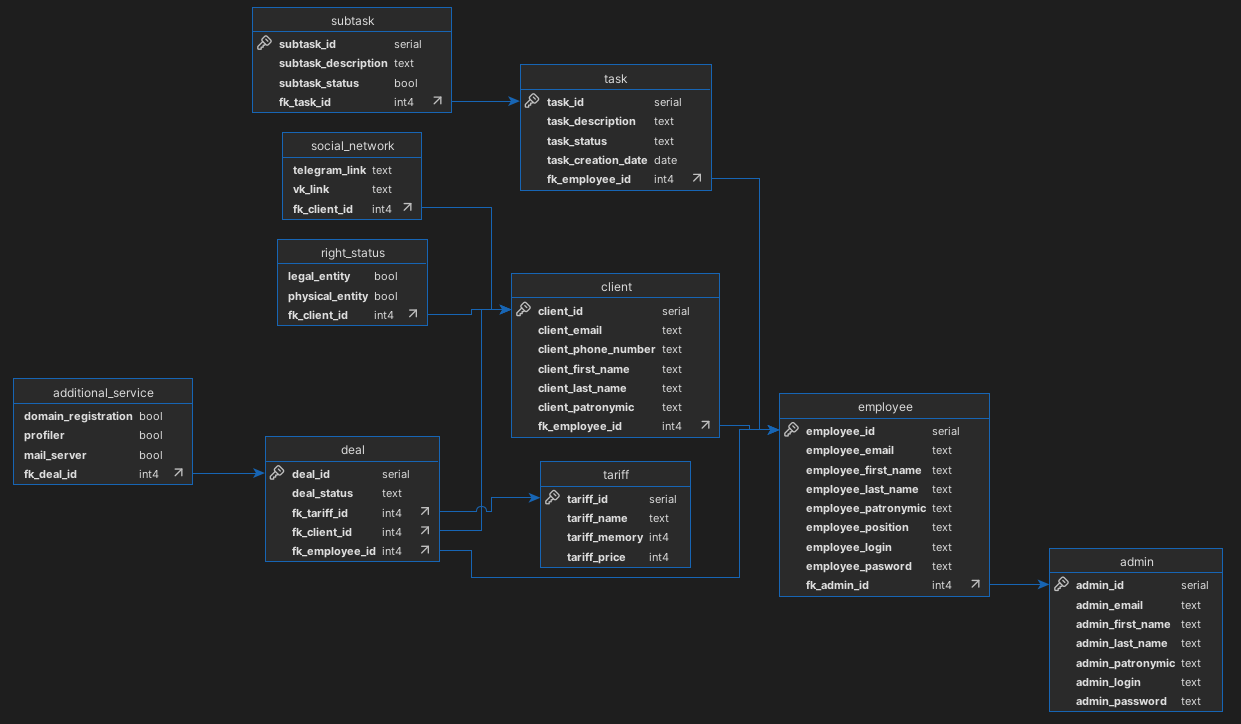
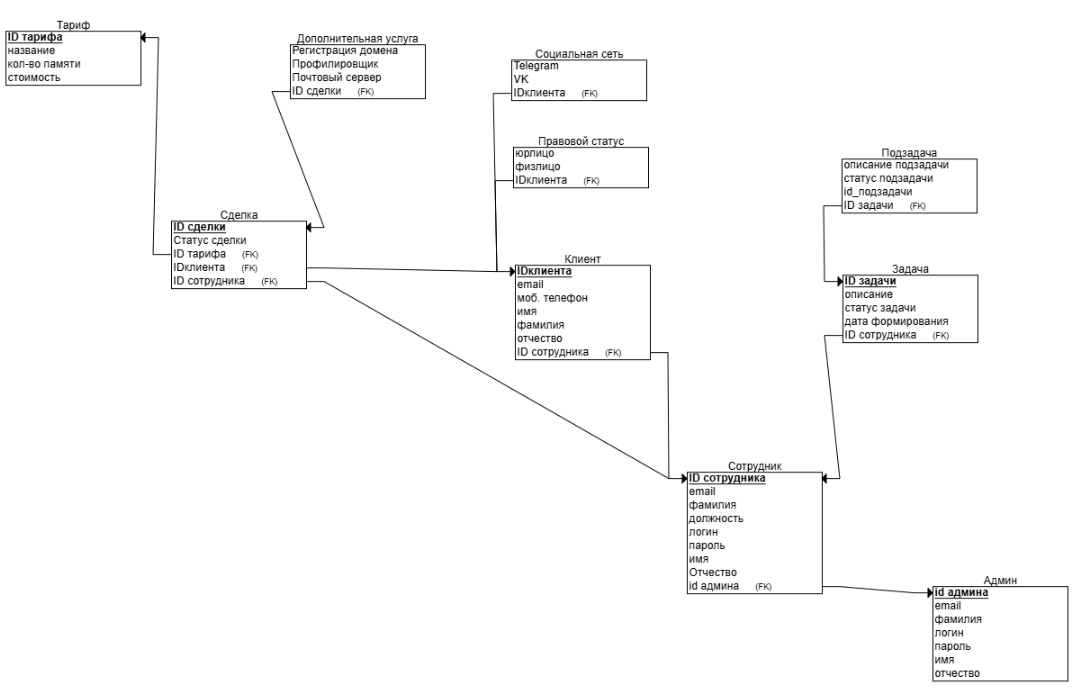
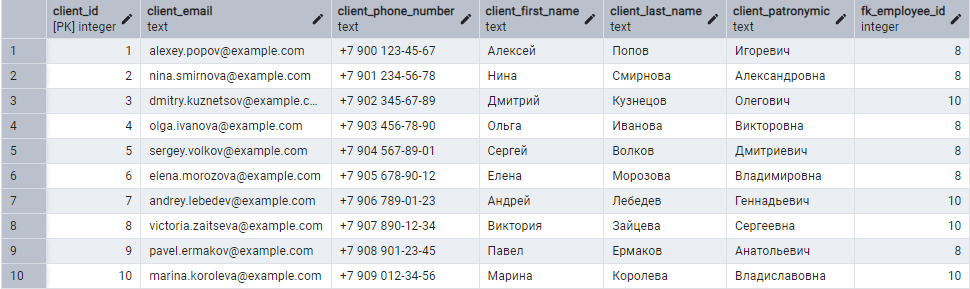
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| --- | --- | --- |
| Лабораторная работа №3  Физическое проектирование БД | Ф.И.О. | Мельников В. Д. |
| Группа | ИВТ-264 |
| Преподаватель | Аль-Мерри Гаис Мохаммед Салех |
| Дата сдачи | 21.03.2025 |

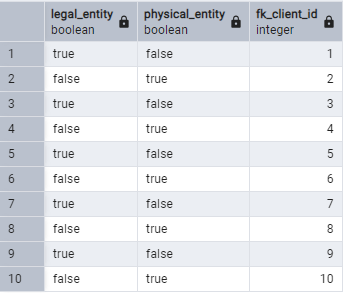
Реализация собственной БД

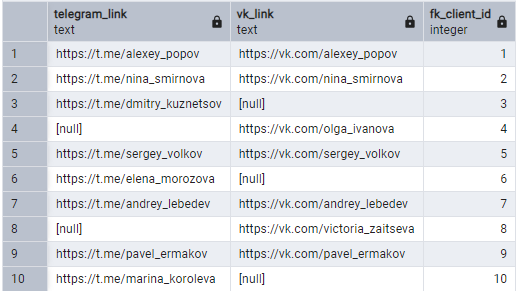




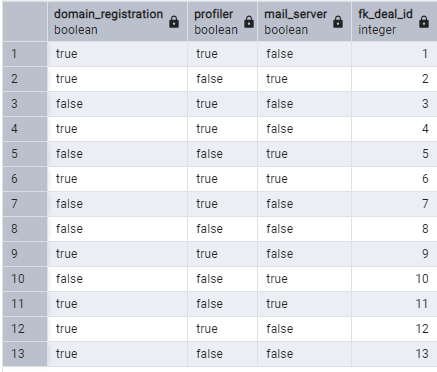
Скриншоты наполненных таблиц

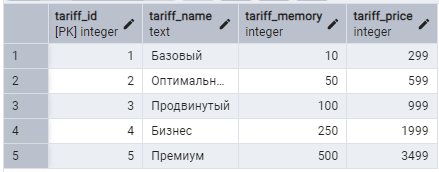


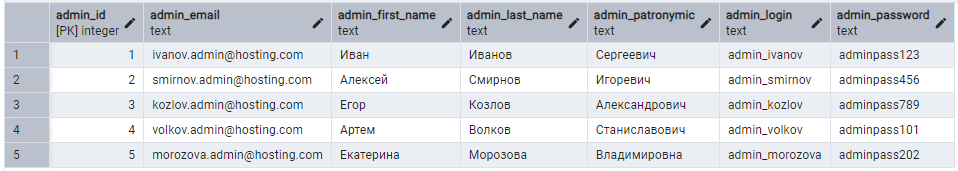


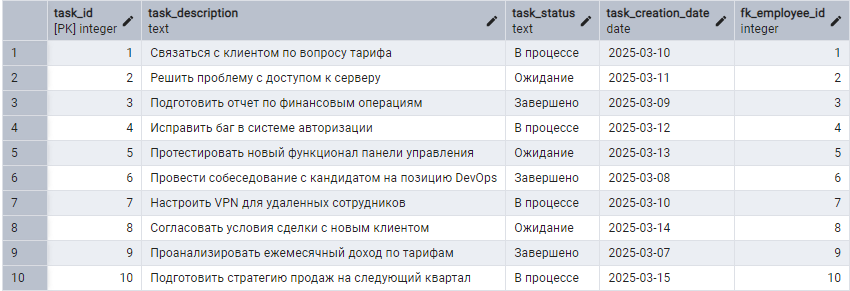
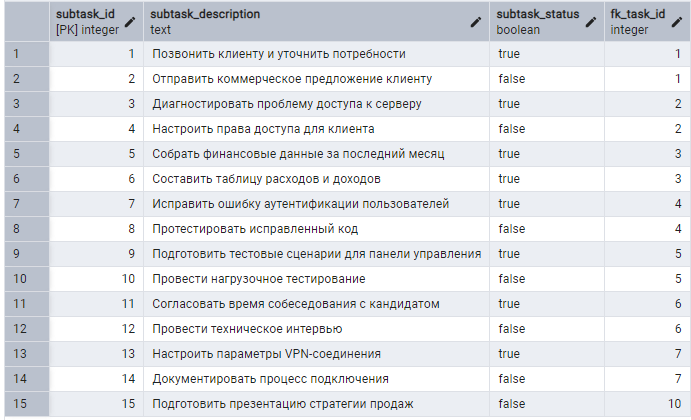








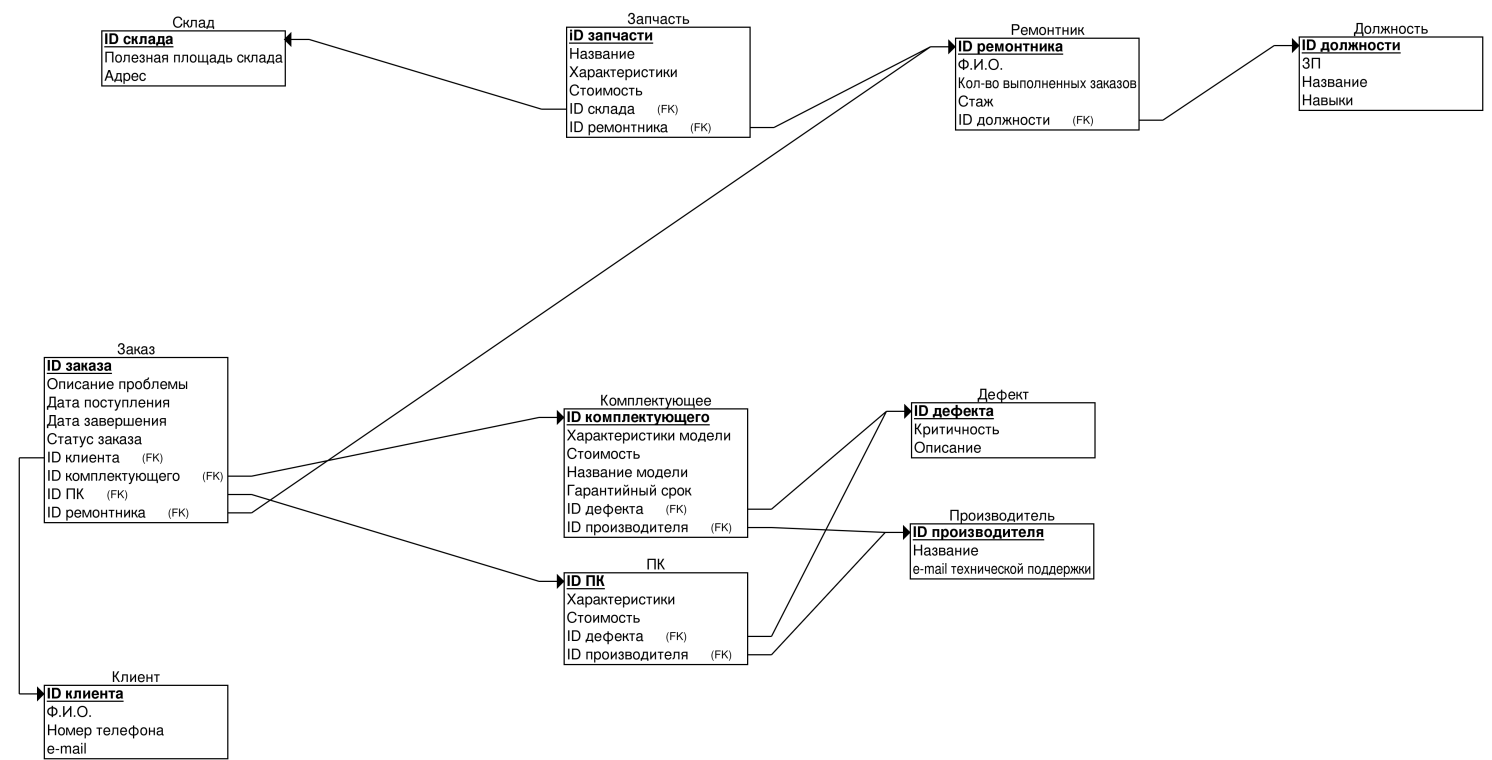




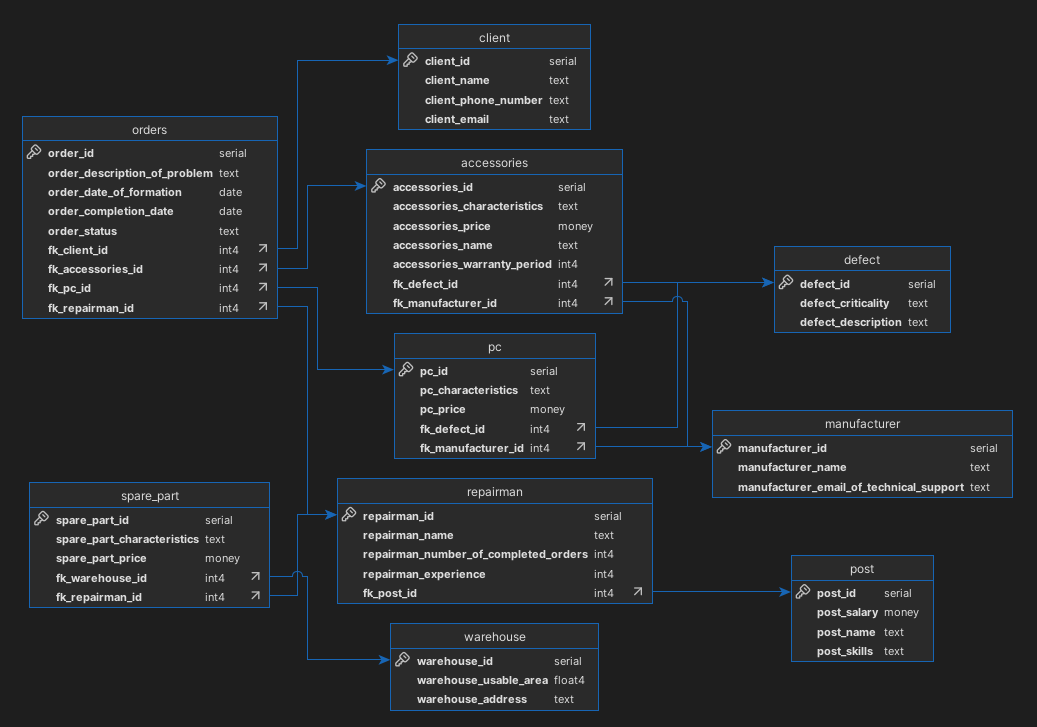


Реализация БД одногруппника

Реляционная схема одногруппника

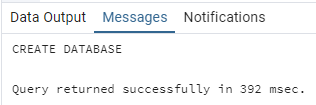


Реляционная схема, сгенерированная на основе созданной БД



Текст написанных SQL-скриптов и скриншот результата их работы

CREATE DATABASE polyakov;



CREATE TABLE warehouse (

warehouse\_id SERIAL PRIMARY KEY,

warehouse\_usable\_area REAL NOT NULL,

warehouse\_address TEXT NOT NULL

);

CREATE TABLE post (

post\_id SERIAL PRIMARY KEY,

post\_salary MONEY NOT NULL,

post\_name TEXT NOT NULL,

post\_skills TEXT NOT NULL

);

CREATE TABLE repairman (

repairman\_id SERIAL PRIMARY KEY,

repairman\_name TEXT NOT NULL,

repairman\_number\_of\_completed\_orders INT DEFAULT 0,

repairman\_experience INT DEFAULT 0,

fk\_post\_id INT REFERENCES post (post\_id)

);

CREATE TABLE spare\_part (

spare\_part\_id SERIAL PRIMARY KEY,

spare\_part\_characteristics TEXT NOT NULL,

spare\_part\_price MONEY NOT NULL,

fk\_warehouse\_id INT REFERENCES warehouse (warehouse\_id),

fk\_repairman\_id INT REFERENCES repairman (repairman\_id)

);

CREATE TABLE client (

client\_id SERIAL PRIMARY KEY,

client\_name TEXT NOT NULL,

client\_phone\_number TEXT NOT NULL,

client\_email TEXT

);

CREATE TABLE defect (

defect\_id SERIAL PRIMARY KEY,

defect\_criticality TEXT NOT NULL,

defect\_description TEXT NOT NULL

);

CREATE TABLE manufacturer (

manufacturer\_id SERIAL PRIMARY KEY,

manufacturer\_name TEXT NOT NULL,

manufacturer\_email\_of\_technical\_support TEXT NOT NULL

);

CREATE TABLE PC (

PC\_id SERIAL PRIMARY KEY,

PC\_characteristics TEXT NOT NULL,

PC\_price MONEY NOT NULL,

fk\_defect\_id INT REFERENCES defect (defect\_id),

fk\_manufacturer\_id INT REFERENCES manufacturer (manufacturer\_id)

);

CREATE TABLE accessories (

accessories\_id SERIAL PRIMARY KEY,

accessories\_characteristics TEXT NOT NULL,

accessories\_price MONEY NOT NULL,

accessories\_name TEXT NOT NULL,

accessories\_warranty\_period INT NOT NULL,

fk\_defect\_id INT REFERENCES defect (defect\_id),

fk\_manufacturer\_id INT REFERENCES manufacturer (manufacturer\_id)

);

CREATE TABLE orders (

order\_id SERIAL PRIMARY KEY,

order\_description\_of\_problem TEXT NOT NULL,

order\_date\_of\_formation DATE NOT NULL,

order\_completion\_date DATE,

order\_status TEXT NOT NULL,

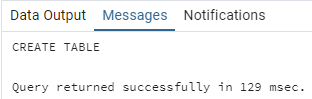
fk\_client\_id INT REFERENCES client (client\_id),

fk\_accessories\_id INT REFERENCES accessories (accessories\_id),

fk\_PC\_id INT REFERENCES PC (PC\_id),

fk\_repairman\_id INT REFERENCES repairman (repairman\_id)

);



INSERT INTO post (post\_id, post\_salary, post\_name, post\_skills)

VALUES (1, 3000, 'Мастер по ремонту', 'Ремонт ПК, замена комплектующих');

INSERT INTO repairman (repairman\_id, repairman\_name, repairman\_number\_of\_completed\_orders, repairman\_experience, fk\_post\_id)

VALUES (1, 'Петр Петров', 50, 5, 1);

INSERT INTO client (client\_id, client\_name, client\_phone\_number, client\_email)

VALUES (1, 'Иван Иванов', '+79123456789', 'ivan.ivanov@example.com');

INSERT INTO manufacturer (manufacturer\_id, manufacturer\_name, manufacturer\_email\_of\_technical\_support)

VALUES (1, 'TechCorp', 'support@techcorp.com');

INSERT INTO defect (defect\_id, defect\_criticality, defect\_description)

VALUES (1, 'Высокая', 'Неисправность материнской платы');

INSERT INTO accessories (accessories\_id, accessories\_characteristics, accessories\_price, accessories\_name, accessories\_warranty\_period, fk\_defect\_id, fk\_manufacturer\_id)

VALUES (1, '16 ГБ DDR4', 100.00, 'Оперативная память', 24, 1, 1);

INSERT INTO PC (PC\_id, PC\_characteristics, PC\_price, fk\_defect\_id, fk\_manufacturer\_id)

VALUES (1, 'Intel i7, 16 ГБ RAM, 1 ТБ SSD', 1200.00, 1, 1);

INSERT INTO orders (order\_description\_of\_problem, order\_date\_of\_formation, order\_status, fk\_client\_id, fk\_accessories\_id, fk\_PC\_id, fk\_repairman\_id)

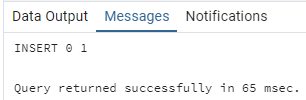
VALUES ('Не включается', '2023-10-01', 'В процессе', 1, 1, 1, 1);

INSERT INTO warehouse (warehouse\_usable\_area, warehouse\_address)

VALUES (500.5, 'ул. Складская, 123');

INSERT INTO spare\_part (spare\_part\_characteristics, spare\_part\_price, fk\_warehouse\_id, fk\_repairman\_id)

VALUES ('Жесткий диск 1 ТБ', 50.00, 1, 1);



ALTER TABLE repairman ADD COLUMN repairman\_email TEXT;

ALTER TABLE repairman ADD COLUMN repairman\_phone\_number TEXT;

ALTER TABLE client ADD COLUMN client\_last\_name TEXT;

ALTER TABLE orders DROP COLUMN order\_completion\_date;

ALTER TABLE accessories DROP COLUMN accessories\_warranty\_period;

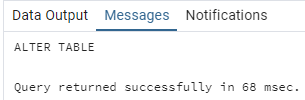
ALTER TABLE orders ADD FOREIGN KEY (fk\_pc\_id) REFERENCES pc (pc\_id);

ALTER TABLE post DROP COLUMN post\_skills;

ALTER TABLE repairman ADD UNIQUE (repairman\_phone\_number);

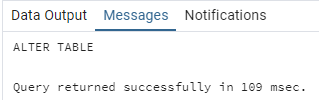
ALTER TABLE client ADD UNIQUE (client\_email);

ALTER TABLE repairman ADD UNIQUE (repairman\_email);



ALTER TABLE repairman RENAME TO employee;

ALTER TABLE orders RENAME COLUMN order\_description\_of\_problem TO order\_description;



DROP TABLE client CASCADE;

DROP TABLE orders CASCADE;

DROP TABLE pc CASCADE;

DROP TABLE defect CASCADE;

DROP TABLE post CASCADE;

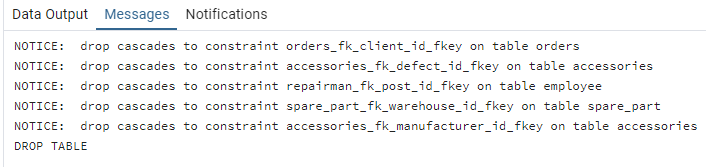
DROP TABLE warehouse CASCADE;

DROP TABLE spare\_part CASCADE;

DROP TABLE employee CASCADE;

DROP TABLE manufacturer CASCADE;

DROP TABLE accessories CASCADE;



DROP DATABASE polyakov;

