ОТЧЕТ

по проектной работе

«Создание таблиц базы данных POSTGRESQL. Заполнение таблиц рабочими данными»

по дисциплине **«Проектирование и реализация баз данных»**

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УНИВЕРСИТЕТ ИТМО

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Цель работы: овладеть практическими навыками создания таблиц базы данных PostgreSQL 1X, заполнения их рабочими данными, резервного копирования и восстановления БД.

Оборудование: компьютерный класс.

Программное обеспечение: СУБД PostgreSQL 1X, pgAdmin 4.

Практическое задание:

1. Создать базу данных с использованием pgAdmin 4 (согласно индивидуальному заданию).
2. Создать схему в составе базы данных.
3. Создать таблицы базы данных.
4. Установить ограничения на данные: *Primary Key, Unique, Check, Foreign Key.*
5. Заполнить таблицы БД рабочими данными.
6. Создать резервную копию БД.
Указание:
Создать две резервные копии:
− *с расширением CUSTOM для восстановления БД;*
− *с расширением PLAIN для листинга (в отчете);*
− *при создании резервных копий БД настроить параметры Dump options для Type of objects и Queries .*
7. Восстановить БД.

Выполнение:

− наименование БД - Библиотека

− схема логической модели базы данных, сгенерированная в Generate ERD:

Publisher

public

Publisher
- 🔑 publisher_id integer
- name character varying(128)
- city character varying(128)

Book

public

Book
- 🔑 book_id integer
- author character varying(128)
- original_language character varying(128)
- year integer
- translator character varying(128)
- type character varying(128)
- part integer
- pen_name character varying(128)
- 🔑 publisher_id integer
- isbn character varying(32)
- name text

Employee

public

Employee
- 🔑 employee_id integer
- first_name character varying(128)
- last_name character varying(128)
- position character varying(128)

User

public

User
- 🔑 user_id integer
- phone_number character varying(12)
- first_name character varying(128)
- last_name character varying(128)
- address text
- grade character varying(128)

CopyBook

public

CopyBook
- condition character varying(64)
- 🔑 book_copy_id integer
- price money
- 🔑 book_id integer

RegisteredUser

public

RegisteredUser
- 🔑 reg_user_id integer
- reg_date date
- del_date date
- 🔑 user_id integer
- 🔑 employee_id integer

Storage

public

Storage
- 🔑 storage_id integer
- put_date date
- get_date date
- 🔑 book_copy_id integer

Ticket

public

Ticket
- 🔑 copy_book_id integer
- 🔑 ticket_id integer
- 🔑 employee_id integer
- 🔑 reg_user_id integer
- get_date date
- return_date date
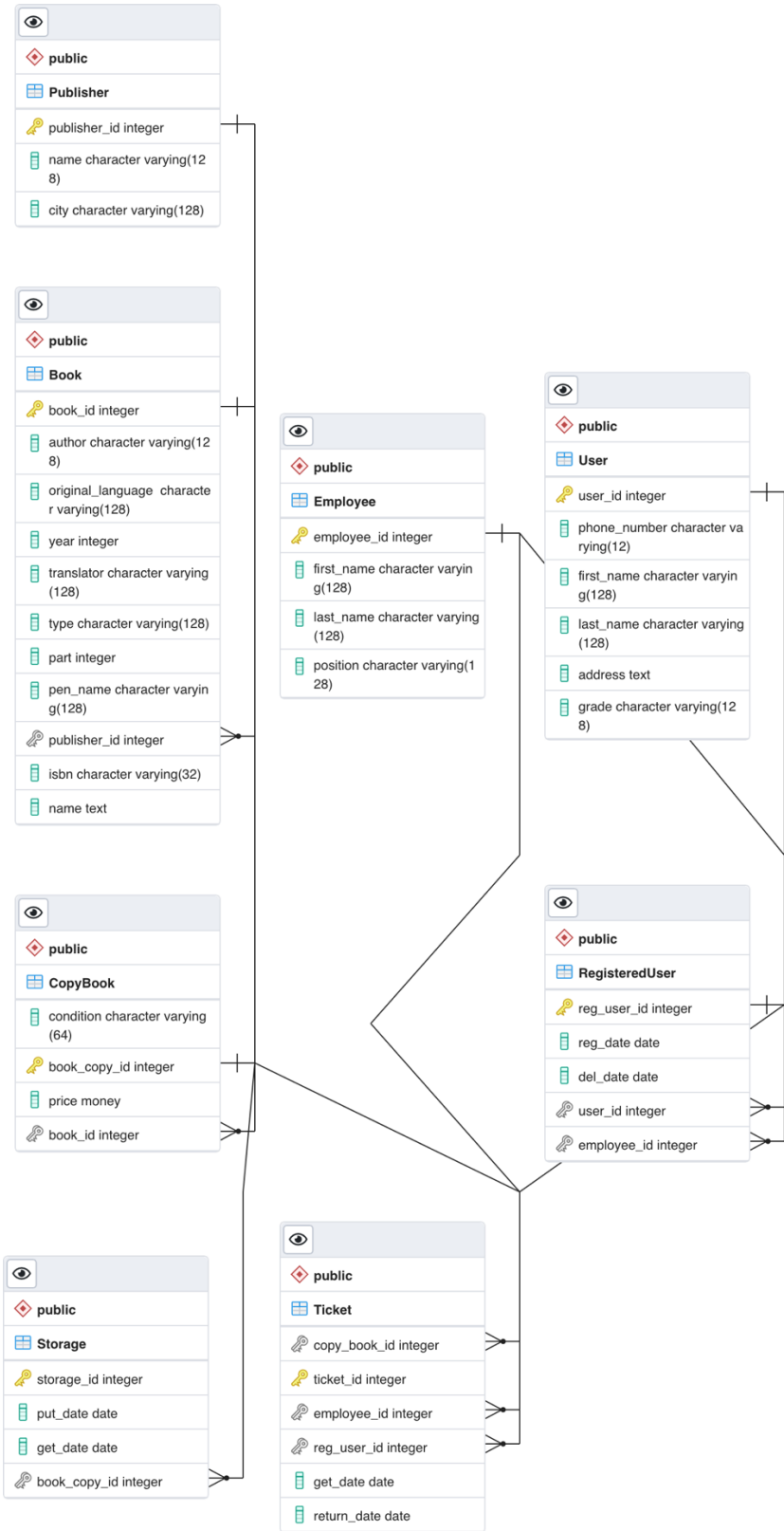
- dump, содержащий скрипты работы с БД:

Создание и заполнение (представлено по одному запросу на заполнение каждой таблицы)

```
--
-- PostgreSQL database dump
--

-- Dumped from database version 14.1
-- Dumped by pg_dump version 14.1

-- Started on 2022-03-01 15:40:46 MSK

SET statement_timeout = 0;
SET lock_timeout = 0;
SET idle_in_transaction_session_timeout = 0;
SET client_encoding = 'UTF8';
SET standard_conforming_strings = on;
SELECT pg_catalog.set_config('search_path', '', false);
SET check_function_bodies = false;
SET xmloption = content;
SET client_min_messages = warning;
SET row_security = off;

SET default_tablespace = '';

SET default_table_access_method = heap;

--
-- TOC entry 209 (class 1259 OID 16535)
-- Name: Book; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."Book" (
    book_id integer NOT NULL,
    author character varying(128),
    "original_language " character varying(128),
    year integer,
    translator character varying(128),
    type character varying(128) NOT NULL,
    part integer,
    pen_name character varying(128),
    publisher_id integer NOT NULL,
    isbn character varying(32) NOT NULL,
    name text
);


ALTER TABLE public."Book" OWNER TO postgres;

--
-- TOC entry 224 (class 1259 OID 16646)
-- Name: Book_book_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."Book" ALTER COLUMN book_id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME public."Book_book_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 211 (class 1259 OID 16553)
```

```sql
-- Name: CopyBook; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."CopyBook" (
    condition character varying(64) NOT NULL,
    book_copy_id integer NOT NULL,
    price money,
    book_id integer NOT NULL
);


ALTER TABLE public."CopyBook" OWNER TO postgres;


--
-- TOC entry 223 (class 1259 OID 16645)
-- Name: CopyBook_book_copy_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."CopyBook" ALTER COLUMN book_copy_id ADD GENERATED BY DEFAULT AS IDENTITY (
    SEQUENCE NAME public."CopyBook_book_copy_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 213 (class 1259 OID 16589)
-- Name: Employee ; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."Employee " (
    employee_id integer NOT NULL,
    first_name character varying(128) NOT NULL,
    last_name character varying(128) NOT NULL,
    "position" character varying(128) NOT NULL
);


ALTER TABLE public."Employee " OWNER TO postgres;


--
-- TOC entry 222 (class 1259 OID 16644)
-- Name: Employee _employee_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."Employee " ALTER COLUMN employee_id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME public."Employee _employee_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 210 (class 1259 OID 16542)
-- Name: Publisher; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."Publisher" (
    publisher_id integer NOT NULL,
    name character varying(128) NOT NULL,
    city character varying(128) NOT NULL
);
```

```sql
ALTER TABLE public."Publisher" OWNER TO postgres;


--
-- TOC entry 221 (class 1259 OID 16643)
-- Name: Publisher_publisher_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."Publisher" ALTER COLUMN publisher_id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME public."Publisher_publisher_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 215 (class 1259 OID 16601)
-- Name: RegisteredUser ; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."RegisteredUser " (
    reg_user_id integer NOT NULL,
    reg_date date NOT NULL,
    del_date date NOT NULL,
    user_id integer NOT NULL,
    employee_id integer NOT NULL
);


ALTER TABLE public."RegisteredUser " OWNER TO postgres;


--
-- TOC entry 220 (class 1259 OID 16642)
-- Name: RegisteredUser _reg_user_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."RegisteredUser " ALTER COLUMN reg_user_id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME public."RegisteredUser _reg_user_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 212 (class 1259 OID 16575)
-- Name: Storage; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."Storage" (
    storage_id integer NOT NULL,
    put_date date NOT NULL,
    get_date date,
    book_copy_id integer NOT NULL
);


ALTER TABLE public."Storage" OWNER TO postgres;


--
-- TOC entry 219 (class 1259 OID 16641)
-- Name: Storage_storage_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--
```

```sql
ALTER TABLE public."Storage" ALTER COLUMN storage_id ADD GENERATED BY DEFAULT AS IDENTITY (
    SEQUENCE NAME public."Storage_storage_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 10000
    CACHE 1
);


--
-- TOC entry 216 (class 1259 OID 16616)
-- Name: Ticket; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."Ticket" (
    copy_book_id integer NOT NULL,
    ticket_id integer NOT NULL,
    employee_id integer NOT NULL,
    reg_user_id integer NOT NULL,
    get_date date NOT NULL,
    return_date date NOT NULL
);


ALTER TABLE public."Ticket" OWNER TO postgres;

--
-- TOC entry 218 (class 1259 OID 16640)
-- Name: Ticket_ticket_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."Ticket" ALTER COLUMN ticket_id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME public."Ticket_ticket_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 214 (class 1259 OID 16594)
-- Name: User; Type: TABLE; Schema: public; Owner: postgres
--

CREATE TABLE public."User" (
    user_id integer NOT NULL,
    phone_number character varying(12) NOT NULL,
    first_name character varying(128) NOT NULL,
    last_name character varying(128) NOT NULL,
    address text NOT NULL,
    grade character varying(128) NOT NULL
);


ALTER TABLE public."User" OWNER TO postgres;

--
-- TOC entry 217 (class 1259 OID 16639)
-- Name: User_user_id_seq; Type: SEQUENCE; Schema: public; Owner: postgres
--

ALTER TABLE public."User" ALTER COLUMN user_id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME public."User_user_id_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
```

```
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 3637 (class 0 OID 16535)
-- Dependencies: 209
-- Data for Name: Book; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Book" (book_id, author, "original_language ", year, translator, type, part, pen_name, publisher_id, isbn, name)
FROM stdin;
1       Pupkin    RU      2000      \N        Magazine 1       \N        1       353535353       Tigers
2       Pupkin    RU      2001      \N        Magazine 1       \N        1       353535333       Monkeys
3       Ted       EN      2020      \N        Comics    1      \N        2       3535352233      Venom
4       John      EN      2015      \N        Comics    1      \N        2       111111111       Spider-Man
5       Petr      RU      2015      \N        Book      1      \N        3       111221111       Along
6       Vasily    EN      2015      \N        Book      1      \N        3       111112111       Who I Am?
7       Vladimir  RU      2015      \N        Guide     1      \N        4       121112111       Math
8       Artem     RU      2015      \N        Guide     1      \N        4       111112112       Economics
9       Armen     RU      2014      \N        Guide     1      \N        5       12221112112     Fresh
watermelons
10      Gurmen    RU      2013      \N        Guide     1      \N        5       1211112112      Cockroaches.
Bees. Ladybugs.
\.


--
-- TOC entry 3639 (class 0 OID 16553)
-- Dependencies: 211
-- Data for Name: CopyBook; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."CopyBook" (condition, book_copy_id, price, book_id) FROM stdin;
Good      1         $40.00    1
Normal    2         $30.00    1
New       3         $65.00    1
New       4         $70.00    2
Good      5         $60.00    2
Good      6         $60.00    2
Normal    7         $50.00    3
Normal    8         $50.00    3
Bad       9         $10.00    4
Bad       10        $10.00    5
\.


--
-- TOC entry 3641 (class 0 OID 16589)
-- Dependencies: 213
-- Data for Name: Employee ; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Employee " (employee_id, first_name, last_name, "position") FROM stdin;
1       Gala      Dushina   Cleaner
2       Nadegda   Petrova   Librarian
3       Valeria   Rubina    Manager
\.


--
-- TOC entry 3638 (class 0 OID 16542)
-- Dependencies: 210
-- Data for Name: Publisher; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Publisher" (publisher_id, name, city) FROM stdin;
1       Funny_Kids          Moscow
```

```
2          Marvel    NY
3          The_Best  Saint-Petersburg
4          ABC       Moscow
5          Garden_Flower    Sochi
\.


--
-- TOC entry 3643 (class 0 OID 16601)
-- Dependencies: 215
-- Data for Name: RegisteredUser ; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."RegisteredUser " (reg_user_id, reg_date, del_date, user_id, employee_id) FROM stdin;
3          2022-01-12          2032-01-12          2          2
4          2022-01-23          2032-01-23          3          2
5          2022-02-01          2032-02-01          7          2
\.


--
-- TOC entry 3640 (class 0 OID 16575)
-- Dependencies: 212
-- Data for Name: Storage; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Storage" (storage_id, put_date, get_date, book_copy_id) FROM stdin;
1          2022-02-20          \N          1
2          2022-02-20          \N          2
3          2022-02-20          \N          3
4          2022-02-20          \N          4
5          2022-02-20          \N          5
6          2022-02-20          \N          6
7          2022-02-20          \N          7
8          2022-02-20          \N          8
9          2022-02-20          \N          9
10         2022-02-20          \N          10
\.


--
-- TOC entry 3644 (class 0 OID 16616)
-- Dependencies: 216
-- Data for Name: Ticket; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Ticket" (copy_book_id, ticket_id, employee_id, reg_user_id, get_date, return_date) FROM stdin;
1          1          2          3          2022-02-19          2022-03-19
2          2          2          4          2022-01-23          2022-02-23
3          3          2          5          2022-01-02          2022-02-02
5          5          2          5          2022-01-01          2022-01-05
\.


--
-- TOC entry 3642 (class 0 OID 16594)
-- Dependencies: 214
-- Data for Name: User; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."User" (user_id, phone_number, first_name, last_name, address, grade) FROM stdin;
2          +79098674455     Vasya      Petrov     Main_street, 32      Student
3          +79098674456     Anna       Vorobyeva           Second_street,18     Student
4          +79098674457     Lev        Kalashov   Main_street, 2       Student
5          +79098674458     Tom        Voronzov   Main_street,76       Student
6          +79098674459     Sveta      Rubleva    Second_street, 45    Student
7          +79098674460     Vladimir   Pubin      Main_street, 1       Student
\.
```

```
--
-- TOC entry 3658 (class 0 OID 0)
-- Dependencies: 224
-- Name: Book_book_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."Book_book_id_seq"', 1, false);


--
-- TOC entry 3659 (class 0 OID 0)
-- Dependencies: 223
-- Name: CopyBook_book_copy_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."CopyBook_book_copy_id_seq"', 1, true);


--
-- TOC entry 3660 (class 0 OID 0)
-- Dependencies: 222
-- Name: Employee _employee_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."Employee _employee_id_seq"', 3, true);


--
-- TOC entry 3661 (class 0 OID 0)
-- Dependencies: 221
-- Name: Publisher_publisher_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."Publisher_publisher_id_seq"', 1, false);


--
-- TOC entry 3662 (class 0 OID 0)
-- Dependencies: 220
-- Name: RegisteredUser _reg_user_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."RegisteredUser _reg_user_id_seq"', 5, true);


--
-- TOC entry 3663 (class 0 OID 0)
-- Dependencies: 219
-- Name: Storage_storage_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."Storage_storage_id_seq"', 10, true);


--
-- TOC entry 3664 (class 0 OID 0)
-- Dependencies: 218
-- Name: Ticket_ticket_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

SELECT pg_catalog.setval('public."Ticket_ticket_id_seq"', 5, true);


--
-- TOC entry 3665 (class 0 OID 0)
-- Dependencies: 217
-- Name: User_user_id_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--
```

```
SELECT pg_catalog.setval('public."User_user_id_seq"', 7, true);


--
-- TOC entry 3469 (class 2606 OID 16541)
-- Name: Book Book_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Book"
    ADD CONSTRAINT "Book_pkey" PRIMARY KEY (book_id);


--
-- TOC entry 3474 (class 2606 OID 16557)
-- Name: CopyBook CopyBook_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."CopyBook"
    ADD CONSTRAINT "CopyBook_pkey" PRIMARY KEY (book_copy_id);


--
-- TOC entry 3481 (class 2606 OID 16593)
-- Name: Employee  Employee _pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Employee "
    ADD CONSTRAINT "Employee _pkey" PRIMARY KEY (employee_id);


--
-- TOC entry 3472 (class 2606 OID 16546)
-- Name: Publisher Publisher_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Publisher"
    ADD CONSTRAINT "Publisher_pkey" PRIMARY KEY (publisher_id);


--
-- TOC entry 3485 (class 2606 OID 16605)
-- Name: RegisteredUser  RegisteredUser _pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."RegisteredUser "
    ADD CONSTRAINT "RegisteredUser _pkey" PRIMARY KEY (reg_user_id);


--
-- TOC entry 3477 (class 2606 OID 16579)
-- Name: Storage Storage_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Storage"
    ADD CONSTRAINT "Storage_pkey" PRIMARY KEY (storage_id);


--
-- TOC entry 3487 (class 2606 OID 16620)
-- Name: Ticket Ticket_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Ticket"
    ADD CONSTRAINT "Ticket_pkey" PRIMARY KEY (ticket_id);


--
-- TOC entry 3483 (class 2606 OID 16600)
```

```
-- Name: User User_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."User"
    ADD CONSTRAINT "User_pkey" PRIMARY KEY (user_id);


--
-- TOC entry 3489 (class 2606 OID 16637)
-- Name: Ticket bookCopy_id; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Ticket"
    ADD CONSTRAINT "bookCopy_id" UNIQUE (copy_book_id);


--
-- TOC entry 3479 (class 2606 OID 16586)
-- Name: Storage book_copy_id; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Storage"
    ADD CONSTRAINT book_copy_id UNIQUE (book_copy_id);


--
-- TOC entry 3467 (class 2606 OID 16638)
-- Name: Ticket get_date < return_date; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Ticket"
    ADD CONSTRAINT "get_date < return_date" CHECK ((get_date < return_date)) NOT VALID;


--
-- TOC entry 3465 (class 2606 OID 16588)
-- Name: Storage get_date > put_date; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Storage"
    ADD CONSTRAINT "get_date > put_date" CHECK ((get_date > put_date)) NOT VALID;


--
-- TOC entry 3466 (class 2606 OID 16647)
-- Name: RegisteredUser  reg_date_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."RegisteredUser "
    ADD CONSTRAINT reg_date_check CHECK ((reg_date < del_date)) NOT VALID;


--
-- TOC entry 3475 (class 1259 OID 16563)
-- Name: fki_book_id; Type: INDEX; Schema: public; Owner: postgres
--

CREATE INDEX fki_book_id ON public."CopyBook" USING btree (book_id);


--
-- TOC entry 3470 (class 1259 OID 16552)
-- Name: fki_publisher_id; Type: INDEX; Schema: public; Owner: postgres
--

CREATE INDEX fki_publisher_id ON public."Book" USING btree (publisher_id);


--
```

```
-- TOC entry 3494 (class 2606 OID 16611)
-- Name: RegisteredUser  Employee_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."RegisteredUser "
    ADD CONSTRAINT "Employee_id" FOREIGN KEY (employee_id) REFERENCES public."Employee "(employee_id);


--
-- TOC entry 3492 (class 2606 OID 16580)
-- Name: Storage Storage_book_copy_id_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Storage"
    ADD CONSTRAINT "Storage_book_copy_id_fkey" FOREIGN KEY (book_copy_id) REFERENCES
public."CopyBook"(book_copy_id);


--
-- TOC entry 3493 (class 2606 OID 16606)
-- Name: RegisteredUser  User_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."RegisteredUser "
    ADD CONSTRAINT "User_id" FOREIGN KEY (user_id) REFERENCES public."User"(user_id);


--
-- TOC entry 3491 (class 2606 OID 16558)
-- Name: CopyBook book_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."CopyBook"
    ADD CONSTRAINT book_id FOREIGN KEY (book_id) REFERENCES public."Book"(book_id);


--
-- TOC entry 3497 (class 2606 OID 16631)
-- Name: Ticket copy_book_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Ticket"
    ADD CONSTRAINT copy_book_id FOREIGN KEY (copy_book_id) REFERENCES public."CopyBook"(book_copy_id);


--
-- TOC entry 3496 (class 2606 OID 16626)
-- Name: Ticket employee_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Ticket"
    ADD CONSTRAINT employee_id FOREIGN KEY (employee_id) REFERENCES public."Employee "(employee_id);


--
-- TOC entry 3490 (class 2606 OID 16547)
-- Name: Book publisher_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Book"
    ADD CONSTRAINT publisher_id FOREIGN KEY (publisher_id) REFERENCES public."Publisher"(publisher_id);


--
-- TOC entry 3495 (class 2606 OID 16621)
-- Name: Ticket reg_user_id; Type: FK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Ticket"
```

```
    ADD CONSTRAINT reg_user_id FOREIGN KEY (reg_user_id) REFERENCES public."RegisteredUser "(reg_user_id);


-- Completed on 2022-03-01 15:40:47 MSK


--
-- PostgreSQL database dump complete
--
```
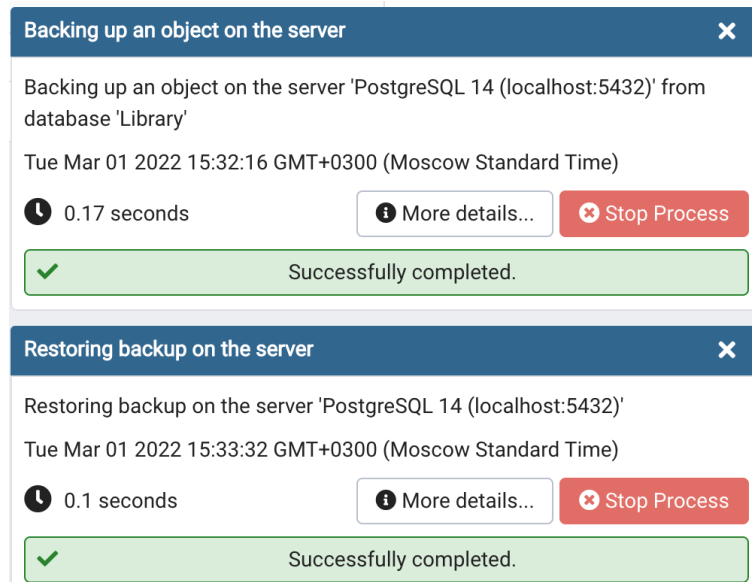
Резервная копия и восстановление

Вывод:

В ходе выполнения лабораторной я спроектировал базу данных и наполнил ее данными. Были установлены ограничения: Florien Keys, Check, Unique. Была построена схема, аналогично той, что мы делали ранее в Erwin Data Modeler. Так же я успешно сделал резервную копию и восстановил из нее БД.