Отчет

по лабораторной работе №3 «Создание таблиц базы данных PostgreSQL. Заполнение таблиц рабочими данными»

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

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ИТМО

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Оглавление

Цель работы

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

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. (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.

Вариант 19. БД «Пассажир»

Описание предметной области:

Информационная система служит для продажи железнодорожных билетов. Билеты могут продаваться на текущие сутки или предварительно (не более чем за 45 суток). Цена билета при предварительной продаже снижается на 5%. Билет может быть приобретен в кассе или онлайн. Если билет приобретен в кассе, необходимо знать, в какой. Для каждой кассы известны номер и адрес. Кассы могут располагаться в различных населенных пунктах.

Поезда курсируют по расписанию, но могут назначаться дополнительные поезда на заданный период или определенные даты.

По всем промежуточным остановкам на маршруте известны название, тип населенного пункта, время прибытия, отправления, время стоянки.

Необходимо учитывать, что местом посадки и высадки пассажира могут быть промежуточные пункты по маршруту.

БД должна содержать следующий минимальный набор сведений: Номер поезда. Название поезда. Тип поезда. Пункт назначения. Пункт назначения для проданного билета. Номер вагона. Тип вагона. Количество мест в вагоне. Цена билета. Дата отправления. Дата прибытия. Дата прибытия для пункта назначения проданного билета. Время отправления. Номер вагона в поезде. Номер билета. Место. Тип места. Фамилия пассажира. Имя пассажира. Отчество пассажира. Паспортные данные.

Выполнение

Схема логической модели базы данных, сгенерированная в Generate ERD (в соответствии с лабораторной работой 2)
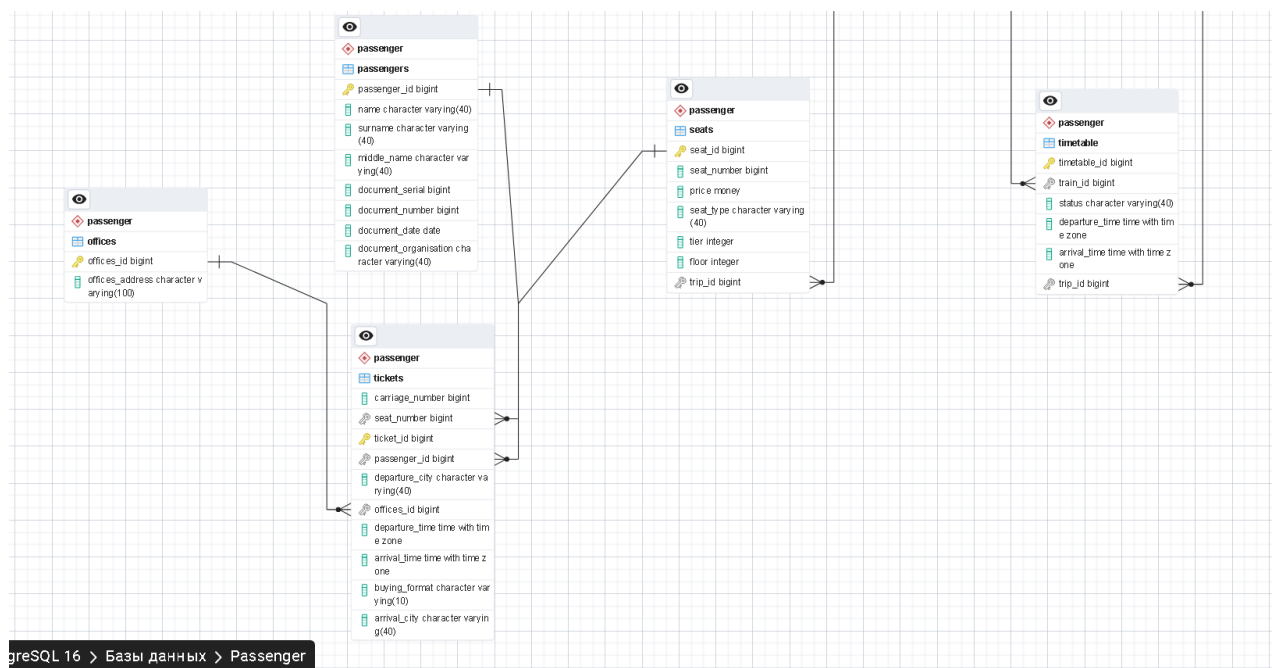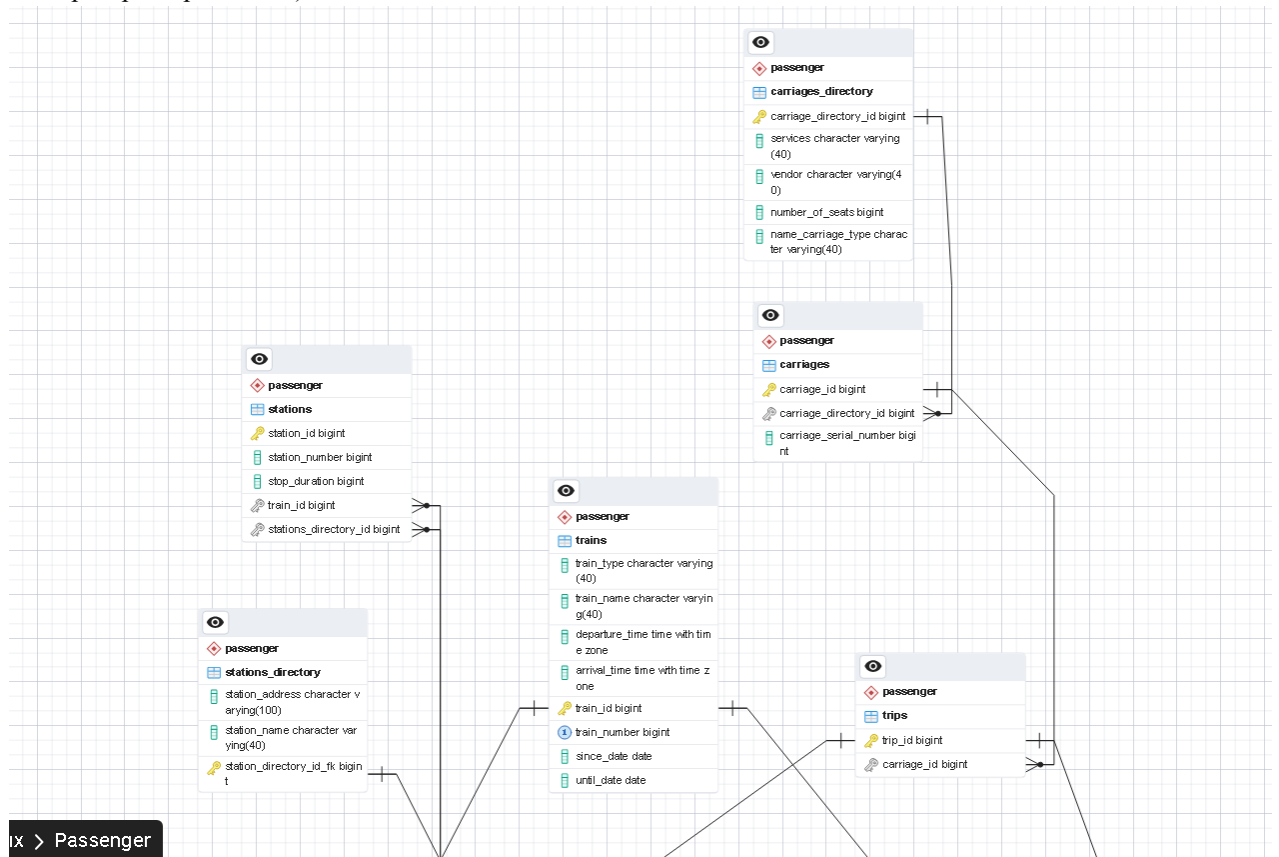
Скрипт резервной копии:

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

-- Dumped from database version 16.0
-- Dumped by pg_dump version 16.0

-- Started on 2023-12-03 16:04:29

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;

--
-- TOC entry 6 (class 2615 OID 16873)
-- Name: passenger; Type: SCHEMA; Schema: -; Owner: postgres
--

CREATE SCHEMA passenger;


ALTER SCHEMA passenger OWNER TO postgres;

SET default_tablespace = '';

SET default_table_access_method = heap;

--
-- TOC entry 216 (class 1259 OID 16874)
-- Name: carriages; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.carriages (
  carriage_id bigint NOT NULL,
  carriage_directory_id bigint NOT NULL,
  carriage_serial_number bigint NOT NULL,
  CONSTRAINT carriage_serial_number_0_check CHECK ((carriage_serial_number > 0))
);


ALTER TABLE passenger.carriages OWNER TO postgres;

--
-- TOC entry 217 (class 1259 OID 16878)
-- Name: carriages_directory; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.carriages_directory (
  carriage_directory_id bigint NOT NULL,
  services character varying(40) NOT NULL,
  vendor character varying(40),
  number_of_seats bigint NOT NULL,
  name_carriage_type character varying(40),
  CONSTRAINT number_of_seats_0_check CHECK ((number_of_seats > 0))
```
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```
);


ALTER TABLE passenger.carriages_directory OWNER TO postgres;


--
-- TOC entry 218 (class 1259 OID 16882)
-- Name: offices; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.offices (
  offices_id bigint NOT NULL,
  offices_address character varying(100) NOT NULL
);


ALTER TABLE passenger.offices OWNER TO postgres;


--
-- TOC entry 219 (class 1259 OID 16885)
-- Name: passengers; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.passengers (
  passenger_id bigint NOT NULL,
  name character varying(40) NOT NULL,
  surname character varying(40) NOT NULL,
  middle_name character varying(40) NOT NULL,
  document_serial bigint NOT NULL,
  document_number bigint NOT NULL,
  document_date date,
  document_organisation character varying(40),
  CONSTRAINT document_number_check CHECK ((document_number > 0)),
  CONSTRAINT document_serial_check CHECK ((document_serial > 0))
);


ALTER TABLE passenger.passengers OWNER TO postgres;


--
-- TOC entry 220 (class 1259 OID 16890)
-- Name: seats; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.seats (
  seat_id bigint NOT NULL,
  seat_number bigint NOT NULL,
  price money NOT NULL,
  seat_type character varying(40) NOT NULL,
  tier integer NOT NULL,
  floor integer NOT NULL,
  trip_id bigint,
  CONSTRAINT seat_number_0_check CHECK ((seat_number > 0))
);


ALTER TABLE passenger.seats OWNER TO postgres;


--
-- TOC entry 221 (class 1259 OID 16894)
-- Name: stations; Type: TABLE; Schema: passenger; Owner: postgres
```

```
--
CREATE TABLE passenger.stations (
  station_id bigint NOT NULL,
  station_number bigint NOT NULL,
  stop_duration bigint NOT NULL,
  train_id bigint NOT NULL,
  stations_directory_id bigint NOT NULL
);


ALTER TABLE passenger.stations OWNER TO postgres;

--
-- TOC entry 222 (class 1259 OID 16897)
-- Name: stations_directory; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.stations_directory (
  station_address character varying(100) NOT NULL,
  station_name character varying(40) NOT NULL,
  station_directory_id_fk bigint NOT NULL
);


ALTER TABLE passenger.stations_directory OWNER TO postgres;

--
-- TOC entry 223 (class 1259 OID 16900)
-- Name: tickets; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.tickets (
  carriage_number bigint NOT NULL,
  seat_number bigint NOT NULL,
  ticket_id bigint NOT NULL,
  passenger_id bigint NOT NULL,
  departure_city character varying(40) NOT NULL,
  offices_id bigint NOT NULL,
  departure_time time with time zone NOT NULL,
  arrival_time time with time zone NOT NULL,
  buying_format character varying(10) NOT NULL,
  arrival_city character varying(40) NOT NULL
);


ALTER TABLE passenger.tickets OWNER TO postgres;

--
-- TOC entry 224 (class 1259 OID 16903)
-- Name: timetable; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.timetable (
  timetable_id bigint NOT NULL,
  train_id bigint NOT NULL,
  status character varying(40) NOT NULL,
  departure_time time with time zone NOT NULL,
  arrival_time time with time zone NOT NULL,
  trip_id bigint,
  CONSTRAINT status_check CHECK (((status)::text = ANY (ARRAY[('scheduled'::character
```

```
varying)::text, ('canceled'::character varying)::text, ('departured'::character
varying)::text])))
);


ALTER TABLE passenger.timetable OWNER TO postgres;


--
-- TOC entry 225 (class 1259 OID 16907)
-- Name: trains; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.trains (
  train_type character varying(40) NOT NULL,
  train_name character varying(40) NOT NULL,
  departure_time time with time zone NOT NULL,
  arrival_time time with time zone NOT NULL,
  train_id bigint NOT NULL,
  train_number bigint NOT NULL,
  since_date date,
  until_date date,
  CONSTRAINT departure_time_and_arrival_time_check CHECK ((departure_time <
arrival_time)),
  CONSTRAINT train_number_0_check CHECK ((train_number > 0)),
  CONSTRAINT train_type_check CHECK (((train_type)::text = ANY
(ARRAY['suburban'::character varying)::text, ('high_speed'::character varying)::text,
('long_distance'::character varying)::text])))
);


ALTER TABLE passenger.trains OWNER TO postgres;


--
-- TOC entry 226 (class 1259 OID 16913)
-- Name: trips; Type: TABLE; Schema: passenger; Owner: postgres
--

CREATE TABLE passenger.trips (
  trip_id bigint NOT NULL,
  carriage_id bigint NOT NULL
);


ALTER TABLE passenger.trips OWNER TO postgres;


--
-- TOC entry 4922 (class 0 OID 16874)
-- Dependencies: 216
-- Data for Name: carriages; Type: TABLE DATA; Schema: passenger; Owner: postgres
--

COPY passenger.carriages (carriage_id, carriage_directory_id, carriage_serial_number)
FROM stdin;
0    0    1
1    1    2
2    2    3
3    3    4
4    4    5
\.
```

```
--
-- TOC entry 4923 (class 0 OID 16878)
-- Dependencies: 217
-- Data for Name: carriages_directory; Type: TABLE DATA; Schema: passenger; Owner:
postgres
--

COPY passenger.carriages_directory (carriage_directory_id, services, vendor,
number_of_seats, name_carriage_type) FROM stdin;
2    eat tavria   3   buisness_class
0    eat, drink  rzd 1    econom_class
1    drink    tavria  2    econom_class
3    drink    rzd 4    buisness_class
4    -    tavria  5    seat
5    drink    tavria  6    seat
6    -    rzd 7    econom_class
\.



--
-- TOC entry 4924 (class 0 OID 16882)
-- Dependencies: 218
-- Data for Name: offices; Type: TABLE DATA; Schema: passenger; Owner: postgres
--

COPY passenger.offices (offices_id, offices_address) FROM stdin;
0    Moscow
1    Saint-P.
2    Voronezh
3    Sochi
4    Smolensk
\.



--
-- TOC entry 4925 (class 0 OID 16885)
-- Dependencies: 219
-- Data for Name: passengers; Type: TABLE DATA; Schema: passenger; Owner: postgres
--

COPY passenger.passengers (passenger_id, name, surname, middle_name, document_serial,
document_number, document_date, document_organisation) FROM stdin;
0    Aleksandr    Polukhin    Vladimirovich    2018    123456    2018-04-12    MVD
1    Aleksandr    Aleksandrov Aleksandrovich    2009    543612    2009-12-23    MVD
2    Ivan    Ivanov    Ivanovich    2018    123456    2018-04-12    MVD
3    Elena    Petrova Vladimirovna    2020    789012    2020-08-25    PassportOffice
\.



--
-- TOC entry 4926 (class 0 OID 16890)
-- Dependencies: 220
-- Data for Name: seats; Type: TABLE DATA; Schema: passenger; Owner: postgres
--

COPY passenger.seats (seat_id, seat_number, price, seat_type, tier, floor, trip_id)
FROM stdin;
0    23    2 134,00 ?    seat    1    1    3
1    21    5 124,00 ?    plazkart    1    2    0
2    19    4 123,00 ?    compartment 2    1    1
3    45    4 312,00 ?    compartment 2    2    2
```

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--
-- *TOC entry 4927 (class 0 OID 16894)*
-- *Dependencies: 221*
-- *Data for Name: stations; Type: TABLE DATA; Schema: passenger; Owner: postgres*
--

COPY passenger.stations (station_id, station_number, stop_duration, train_id, stations_directory_id) FROM stdin;
```
0	1	23	0	1
1	32	12	1	0
2	456	2	2	2
4	1328	21	3	3
\.
```


--
-- *TOC entry 4928 (class 0 OID 16897)*
-- *Dependencies: 222*
-- *Data for Name: stations_directory; Type: TABLE DATA; Schema: passenger; Owner: postgres*
--

COPY passenger.stations_directory (station_address, station_name, station_directory_id_fk) FROM stdin;
```
Moscow, Saint-P. street, 24	Leningradskiy vokzal	0
Saint-P., Ligovskiy prospect, 32	Moscowskiy vokzal	1
Voronezh, Chernyahovskogo street, 1	Voronezh-1	2
Volgograd, Volgogradskay street, 25	Volgograd-1	3
\.
```


--
-- *TOC entry 4929 (class 0 OID 16900)*
-- *Dependencies: 223*
-- *Data for Name: tickets; Type: TABLE DATA; Schema: passenger; Owner: postgres*
--

COPY passenger.tickets (carriage_number, seat_number, ticket_id, passenger_id, departure_city, offices_id, departure_time, arrival_time, buying_format, arrival_city) FROM stdin;
```
0	1	0	0	Saint-P.	0	11:43:00+03	18:43:00+03	online	Moscow
1	3	1	1	Volgograd	3	05:32:00+03	22:54:00+03	ofline	Moscow
2	2	2	2	Voronezh	2	10:32:00+03	23:15:00+03	ofline	Saint-P.
3	2	3	3	Moscow	3	23:43:00+03	10:32:00+03	online	Saint-P.
\.
```


--
-- *TOC entry 4930 (class 0 OID 16903)*
-- *Dependencies: 224*
-- *Data for Name: timetable; Type: TABLE DATA; Schema: passenger; Owner: postgres*
--

COPY passenger.timetable (timetable_id, train_id, status, departure_time, arrival_time, trip_id) FROM stdin;
```
0	0	canceled	11:43:00+03	19:23:00+03	0
1	1	scheduled	05:43:00+03	11:56:00+03	1
2	3	departured	11:24:00+03	22:31:00+03	2
```

```
\.


--
-- TOC entry 4931 (class 0 OID 16907)
-- Dependencies: 225
-- Data for Name: trains; Type: TABLE DATA; Schema: passenger; Owner: postgres
--

COPY passenger.trains (train_type, train_name, departure_time, arrival_time, train_id,
train_number, since_date, until_date) FROM stdin;
high_speed  sapsan  12:30:00+03 17:30:00+03 0   7   2023-01-01  2023-03-01
long_distance   standart    11:43:00+03 23:31:00+03 1   214 2023-01-01  2023-09-01
suburban    standart    09:35:00+03 19:42:00+03 2   104 2023-06-01  2023-09-01
high_speed  lastochka   05:45:00+03 11:43:00+03 3   8   2023-06-01  2023-12-01
suburban    standart    08:23:00+03 17:54:00+03 4   554 2023-01-01  2023-12-01
\.



--
-- TOC entry 4932 (class 0 OID 16913)
-- Dependencies: 226
-- Data for Name: trips; Type: TABLE DATA; Schema: passenger; Owner: postgres
--

COPY passenger.trips (trip_id, carriage_id) FROM stdin;
1   2
0   1
2   0
3   3
\.



--
-- TOC entry 4733 (class 2606 OID 16916)
-- Name: tickets buying_format_ckeck; Type: CHECK CONSTRAINT; Schema: passenger; Owner:
postgres
--

ALTER TABLE passenger.tickets
  ADD CONSTRAINT buying_format_ckeck CHECK (((buying_format)::text = ANY
(ARRAY[('online'::character varying)::text, ('ofline'::character varying)::text]))) NOT
VALID;



--
-- TOC entry 4739 (class 2606 OID 16918)
-- Name: carriages carriages_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.carriages
  ADD CONSTRAINT carriages_pkey PRIMARY KEY (carriage_id);



--
-- TOC entry 4742 (class 2606 OID 16920)
-- Name: carriages_directory carriages_types_pkey; Type: CONSTRAINT; Schema: passenger;
Owner: postgres
--

ALTER TABLE ONLY passenger.carriages_directory
```

```
    ADD CONSTRAINT carriages_types_pkey PRIMARY KEY (carriage_directory_id);


--
-- TOC entry 4744 (class 2606 OID 16922)
-- Name: offices cash_registers_pkey; Type: CONSTRAINT; Schema: passenger; Owner:
postgres
--

ALTER TABLE ONLY passenger.offices
    ADD CONSTRAINT cash_registers_pkey PRIMARY KEY (offices_id);


--
-- TOC entry 4746 (class 2606 OID 16924)
-- Name: passengers passengers_pkey; Type: CONSTRAINT; Schema: passenger; Owner:
postgres
--

ALTER TABLE ONLY passenger.passengers
    ADD CONSTRAINT passengers_pkey PRIMARY KEY (passenger_id);


--
-- TOC entry 4748 (class 2606 OID 16926)
-- Name: seats seats_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.seats
    ADD CONSTRAINT seats_pkey PRIMARY KEY (seat_id);


--
-- TOC entry 4754 (class 2606 OID 16928)
-- Name: stations_directory station_directory_id_pkey; Type: CONSTRAINT; Schema:
passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.stations_directory
    ADD CONSTRAINT station_directory_id_pkey PRIMARY KEY (station_directory_id_fk);


--
-- TOC entry 4752 (class 2606 OID 16930)
-- Name: stations stations_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.stations
    ADD CONSTRAINT stations_pkey PRIMARY KEY (station_id);


--
-- TOC entry 4759 (class 2606 OID 16932)
-- Name: tickets tickets_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.tickets
    ADD CONSTRAINT tickets_pkey PRIMARY KEY (ticket_id);
```

```
--
-- TOC entry 4761 (class 2606 OID 16934)
-- Name: timetable timetable_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.timetable
  ADD CONSTRAINT timetable_pkey PRIMARY KEY (timetable_id);


--
-- TOC entry 4763 (class 2606 OID 16936)
-- Name: trains train_number; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.trains
  ADD CONSTRAINT train_number UNIQUE (train_number);


--
-- TOC entry 4765 (class 2606 OID 16938)
-- Name: trains trains_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.trains
  ADD CONSTRAINT trains_pkey PRIMARY KEY (train_id);


--
-- TOC entry 4767 (class 2606 OID 16940)
-- Name: trips trip_id_pkey; Type: CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.trips
  ADD CONSTRAINT trip_id_pkey PRIMARY KEY (trip_id);


--
-- TOC entry 4740 (class 1259 OID 16941)
-- Name: fki_carriage_directory_id_fk; Type: INDEX; Schema: passenger; Owner: postgres
--

CREATE INDEX fki_carriage_directory_id_fk ON passenger.carriages USING btree
(carriage_directory_id) WITH (deduplicate_items='false');


--
-- TOC entry 4755 (class 1259 OID 16942)
-- Name: fki_office_id_fk; Type: INDEX; Schema: passenger; Owner: postgres
--

CREATE INDEX fki_office_id_fk ON passenger.tickets USING btree (offices_id) WITH
(deduplicate_items='false');


--
-- TOC entry 4756 (class 1259 OID 16943)
-- Name: fki_pessenger_id_fk; Type: INDEX; Schema: passenger; Owner: postgres
--

CREATE INDEX fki_pessenger_id_fk ON passenger.tickets USING btree (passenger_id) WITH
(deduplicate_items='false');
```

```
--
-- TOC entry 4757 (class 1259 OID 16944)
-- Name: fki_seat_id_fk; Type: INDEX; Schema: passenger; Owner: postgres
--

CREATE INDEX fki_seat_id_fk ON passenger.tickets USING btree (seat_number) WITH
(deduplicate_items='false');


--
-- TOC entry 4749 (class 1259 OID 16945)
-- Name: fki_station_id_fk; Type: INDEX; Schema: passenger; Owner: postgres
--

CREATE INDEX fki_station_id_fk ON passenger.stations USING btree (station_id) WITH
(deduplicate_items='false');


--
-- TOC entry 4750 (class 1259 OID 16946)
-- Name: fki_train_id_fk; Type: INDEX; Schema: passenger; Owner: postgres
--

CREATE INDEX fki_train_id_fk ON passenger.stations USING btree (train_id) WITH
(deduplicate_items='false');


--
-- TOC entry 4768 (class 2606 OID 16947)
-- Name: carriages carriage_directory_id_fk; Type: FK CONSTRAINT; Schema: passenger;
Owner: postgres
--

ALTER TABLE ONLY passenger.carriages
  ADD CONSTRAINT carriage_directory_id_fk FOREIGN KEY (carriage_directory_id)
REFERENCES passenger.carriages_directory(carriage_directory_id);


--
-- TOC entry 4777 (class 2606 OID 16952)
-- Name: trips carriage_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner: postgres
--

ALTER TABLE ONLY passenger.trips
  ADD CONSTRAINT carriage_id_fk FOREIGN KEY (carriage_id) REFERENCES
passenger.carriages(carriage_id);


--
-- TOC entry 4772 (class 2606 OID 16957)
-- Name: tickets offices_register_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner:
postgres
--

ALTER TABLE ONLY passenger.tickets
  ADD CONSTRAINT offices_register_id_fk FOREIGN KEY (offices_id) REFERENCES
passenger.offices(offices_id) NOT VALID;
```

-- TOC entry 4773 (class 2606 OID 16962)
-- Name: tickets passenger_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner:
postgres
--

```
ALTER TABLE ONLY passenger.tickets
  ADD CONSTRAINT passenger_id_fk FOREIGN KEY (passenger_id) REFERENCES
passenger.passengers(passenger_id);
```

--
-- TOC entry 4774 (class 2606 OID 16967)
-- Name: tickets seat_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner: postgres
--

```
ALTER TABLE ONLY passenger.tickets
  ADD CONSTRAINT seat_id_fk FOREIGN KEY (seat_number) REFERENCES
passenger.seats(seat_id);
```

--
-- TOC entry 4770 (class 2606 OID 16972)
-- Name: stations station_directory_id_fk; Type: FK CONSTRAINT; Schema: passenger;
Owner: postgres
--

```
ALTER TABLE ONLY passenger.stations
  ADD CONSTRAINT station_directory_id_fk FOREIGN KEY (stations_directory_id) REFERENCES
passenger.stations_directory(station_directory_id_fk);
```

--
-- TOC entry 4775 (class 2606 OID 16977)
-- Name: timetable train_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner: postgres
--

```
ALTER TABLE ONLY passenger.timetable
  ADD CONSTRAINT train_id_fk FOREIGN KEY (train_id) REFERENCES
passenger.trains(train_id);
```

--
-- TOC entry 4771 (class 2606 OID 16982)
-- Name: stations train_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner: postgres
--

```
ALTER TABLE ONLY passenger.stations
  ADD CONSTRAINT train_id_fk FOREIGN KEY (train_id) REFERENCES
passenger.trains(train_id);
```

--
-- TOC entry 4769 (class 2606 OID 16987)
-- Name: seats trip_id_fk; Type: FK CONSTRAINT; Schema: passenger; Owner: postgres
--

```
ALTER TABLE ONLY passenger.seats
  ADD CONSTRAINT trip_id_fk FOREIGN KEY (trip_id) REFERENCES passenger.trips(trip_id);
```

```
--
-- TOC entry 4776 (class 2606 OID 16992)
-- Name: timetable trip_id_fkey; Type: FK CONSTRAINT; Schema: passenger; Owner:
postgres
--

ALTER TABLE ONLY passenger.timetable
  ADD CONSTRAINT trip_id_fkey FOREIGN KEY (trip_id) REFERENCES passenger.trips(trip_id)
NOT VALID;



--
-- TOC entry 4921 (class 0 OID 16890)
-- Dependencies: 220
-- Name: seats; Type: ROW SECURITY; Schema: passenger; Owner: postgres
--

ALTER TABLE passenger.seats ENABLE ROW LEVEL SECURITY;

-- Completed on 2023-12-03 16:04:29

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

--

Вывод

В данной лабораторной работе я овладела практическими навыками создания таблиц базы данных PostgreSQL 1X, заполнения их рабочими данными, резервного копирования и восстановления БД. Также в таблицах были установлены ограничения с помощью внутренних инструментов (pkey, fk, chek, unic). Познакомился с утилитами для резервного копирования и восстановаления