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«НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ ИТМО»

Отчет

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

по дисциплине «Проектирование и реализация баз данных»

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Цель работы

Овладеть практическими навыками создания сервера БД, самой БД, схем и таблиц базы данных PostgreSQL 16, заполнения их рабочими данными, резервного копирования и восстановления БД.

Практическое задание

Создать базу данных с использованием pgAdmin 4 (согласно индивидуальному заданию).

1. Создать схему в составе базы данных.
2. Создать таблицы базы данных.
3. Установить ограничения на данные: *Primary Key, Unique, Check, Foreign Key*.
4. Заполнить таблицы БД рабочими данными.
5. 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.

Вариант 10. «Автовокзал»

Описание предметной области

Описание предметной области: С автовокзала ежедневно отправляется несколько междугородных/международных автобусных рейсов. Номер рейса определяется маршрутом и временем отправления. По всем промежуточным остановкам на маршруте известны название, тип населенного пункта, время прибытия, отправления, время стоянки.

Автобусы курсируют по расписанию, но могут назначаться дополнительные рейсы на заданный период или определенные даты.

Билеты могут продаваться предварительно, но не ранее чем за 10 суток. В билете указывается номер места в автобусе. На каждый рейс может продаваться не более 10 билетов без места, цена на которые снижается на 10%. Пунктами отправления и назначения, согласно билету, могут быть промежуточные остановки.

Билеты могут продаваться в кассе автовокзала или онлайн.

Необходимо учитывать, что местом посадки и высадки пассажира могут быть промежуточные остановки согласно купленному билету.

На каждый рейс формируется экипаж из двух водителей.

БД должна содержать следующий минимальный набор сведений: Номер рейса. Номер водителя. Номер автобуса. Паспортные данные водителя. Пункт отправления. Пункт назначения. Промежуточные остановки. Дата отправления. Время отправления. Время в пути. Тип автобуса. Количество мест в автобусе. Страна. Производитель. Год выпуска. Номер билета. Номер места в автобусе (при наличии). Цена билета. ФИО пассажира. Паспортные данные пассажира.

Выполнение

Название создаваемой БД – “Bus_station” (Автовокзал)

Схема логической модели базы данных, сгенерированная в Generate ERD, находится на рисунке 1.

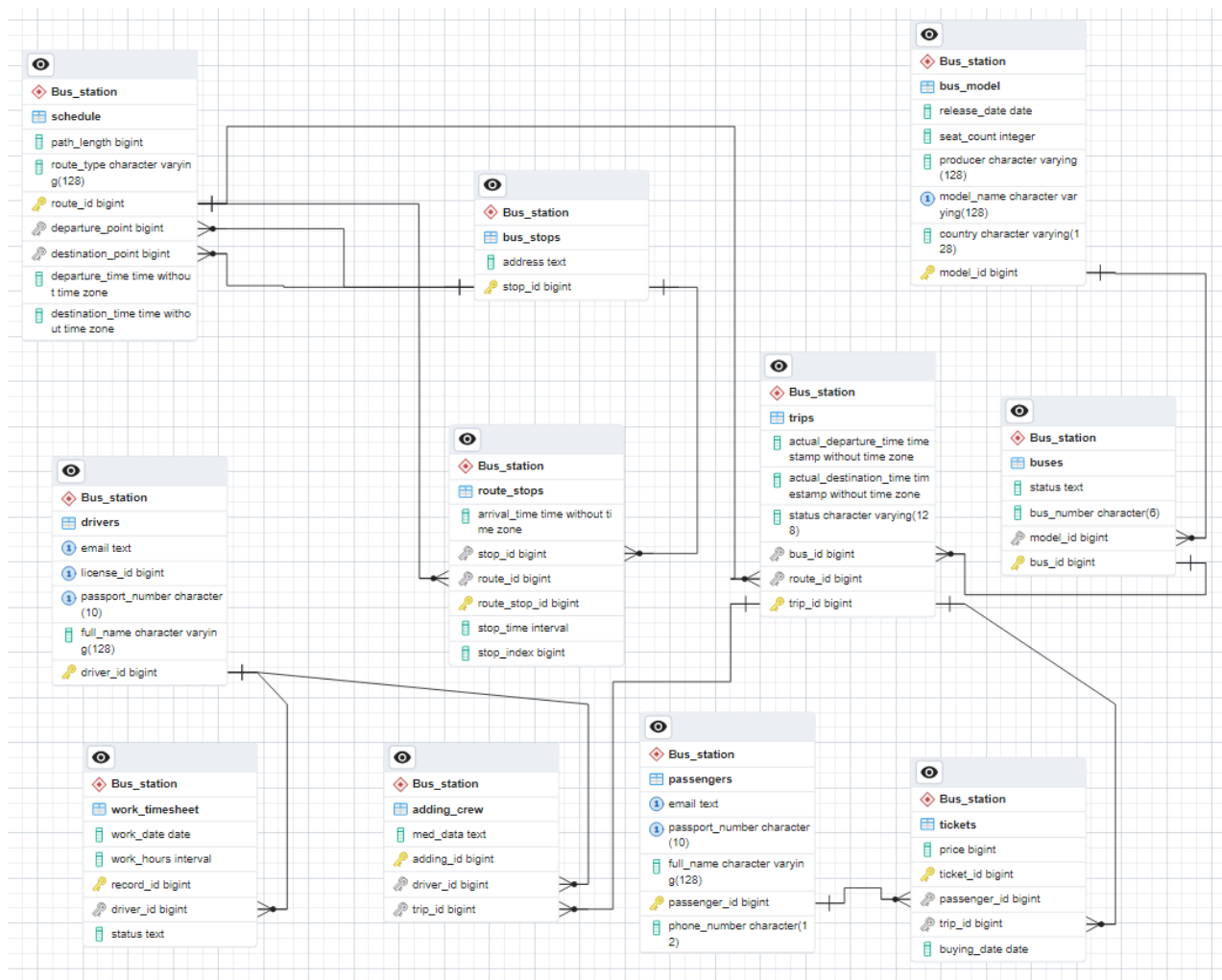


Рисунок 1 — ERD-схема базы данных

На рисунке 2 изображен пример создания таблицы поездок. При создании были использованы ограничения первичного ключа на столбец trip_id и два ограничения внешних ключа на столбцы bus_id и route_id.

```
5 CREATE TABLE IF NOT EXISTS "Bus_station".trips
6 (
7     actual_departure_time timestamp without time zone DEFAULT '1970-01-01 00:00:00'::timestamp without time zone,
8     actual_destination_time timestamp without time zone DEFAULT '1970-01-01 00:00:00'::timestamp without time zone,
9     status character varying(128) COLLATE pg_catalog."default" NOT NULL,
10    bus_id bigint NOT NULL,
11    route_id bigint NOT NULL,
12    trip_id bigint NOT NULL DEFAULT nextval('"Bus_station".trips_trip_id_seq'::regclass),
13    CONSTRAINT trips_pkey PRIMARY KEY (trip_id),
14    CONSTRAINT trips_bus_id_fkey FOREIGN KEY (bus_id)
15        REFERENCES "Bus_station".buses (bus_id) MATCH SIMPLE
16        ON UPDATE NO ACTION
17        ON DELETE NO ACTION
18        NOT VALID,
19    CONSTRAINT trips_route_id_fkey FOREIGN KEY (route_id)
20        REFERENCES "Bus_station".schedule (route_id) MATCH SIMPLE
21        ON UPDATE NO ACTION
22        ON DELETE NO ACTION
23        NOT VALID
24 )
```

Рисунок 2 — Пример создания таблицы

На рисунке 3 представлен пример таблицы passengers с данными. Заполнение происходило с помощью скрипта, написанного на ЯП python.

Query

Query History

1

2

SELECT * FROM "Bus_station".passengers;

Data Output

Messages

Notifications

	email text	passport_number character	full_name character varying (128)	passenger_id [PK] bigint
1	testpass123@yandex.ru	4040200200	test_passenger	1
2	test-pass123@yandex.ru	4040200201	test_passenger_2	8
3	Gary92@yandex.ru	1000000001	Gary	13
4	Raul86@yandex.ru	1000000005	Raul	109
5	Joe68@yandex.ru	1000000006	Joe	110
6	Gabriel33@yandex.ru	1000000007	Gabriel	111
7	Mark38@yandex.ru	1000000008	Mark	112
8	Joseph39@yandex.ru	1000000009	Joseph	113
9	Patrick27@yandex.ru	1000000010	Patrick	114
10	Luis58@yandex.ru	1000000011	Luis	115
11	Steven55@yandex.ru	1000000012	Steven	116
12	Rafael73@yandex.ru	1000000013	Rafael	117
13	Alex47@yandex.ru	1000000014	Alex	118
14	Joshua39@yandex.ru	1000000015	Joshua	119
15	Dan98@yandex.ru	1000000016	Dan	120
16	Sergio26@yandex.ru	1000000017	Sergio	121
17	David49@yandex.ru	1000000018	David	122
18	Peter52@yandex.ru	1000000019	Peter	123
19	Mike47@yandex.ru	1000000020	Mike	124
20	Mark49@yandex.ru	1000000021	Mark	125
21	Brian0@yandex.ru	1000000022	Brian	126
22	Chris96@yandex.ru	1000000023	Chris	127
Total rows: 106 of 106		Query complete 00:00:00.059		

Рисунок 3 - пример заполнения таблицы данными

Листинг бэкапа

```
-- PostgreSQL database dump
-- Dumped from database version 16.0
-- Dumped by pg_dump version 16.0
-- Started on 2023-10-26 13:48:42

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 16399)
-- Name: Bus_station; Type: SCHEMA; Schema: -; Owner: postgres

CREATE SCHEMA "Bus_station";
ALTER SCHEMA "Bus_station" OWNER TO postgres;
SET default_tablespace = '';
SET default_table_access_method = heap;

-- TOC entry 225 (class 1259 OID 16517)
-- Name: adding_crew; Type: TABLE; Schema: Bus_station; Owner: postgres

CREATE TABLE "Bus_station".adding_crew (
    med_data text,
    adding_id bigint NOT NULL,
    driver_id bigint NOT NULL,
    trip_id bigint NOT NULL
);
```



```
ALTER TABLE "Bus_station".adding_crew OWNER TO postgres;
```

```
-- TOC entry 227 (class 1259 OID 16559)
```

```
-- Name: adding_crew_adding_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres
```

```
CREATE SEQUENCE "Bus_station".adding_crew_adding_id_seq
```

```
START WITH 1
```

```
INCREMENT BY 1
```

```
NO MINVALUE
```

```
NO MAXVALUE
```

```
CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".adding_crew_adding_id_seq OWNER TO postgres;
```

```
-- TOC entry 4934 (class 0 OID 0)
```

```
-- Dependencies: 227
```

```
-- Name: adding_crew_adding_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres
```

```
ALTER SEQUENCE "Bus_station".adding_crew_adding_id_seq OWNED BY "Bus_station".adding_crew.adding_id;
```

```
-- TOC entry 218 (class 1259 OID 16428)
```

```
-- Name: bus_model; Type: TABLE; Schema: Bus_station; Owner: postgres
```

```
CREATE TABLE "Bus_station".bus_model (
```

```
release_date date DEFAULT '1970-01-01'::date,
```

```
seat_count integer NOT NULL,
```

```
producer character varying(128) NOT NULL,
```

```
model_name character varying(128) NOT NULL,
```

```
country character varying(128) NOT NULL,
```

```
model_id bigint NOT NULL,
```

```
CONSTRAINT bus_model_seat_count_check CHECK ((seat_count > 2))
```

```
);
```

```
ALTER TABLE "Bus_station".bus_model OWNER TO postgres;
```

-- TOC entry 228 (class 1259 OID 16569)

-- Name: bus_model_model_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres

```
CREATE SEQUENCE "Bus_station".bus_model_model_id_seq
```

```
    START WITH 1
```

```
    INCREMENT BY 1
```

```
    NO MINVALUE
```

```
    NO MAXVALUE
```

```
    CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".bus_model_model_id_seq OWNER TO postgres;
```

-- TOC entry 4935 (class 0 OID 0)

-- Dependencies: 228

-- Name: bus_model_model_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres

```
ALTER SEQUENCE "Bus_station".bus_model_model_id_seq OWNED BY "Bus_station".bus_model.model_id;
```

-- TOC entry 220 (class 1259 OID 16447)

-- Name: bus_stops; Type: TABLE; Schema: Bus_station; Owner: postgres

```
CREATE TABLE "Bus_station".bus_stops (
```

```
    address text,
```

```
    stop_id bigint NOT NULL
```

```
);
```

```
ALTER TABLE "Bus_station".bus_stops OWNER TO postgres;
```

-- TOC entry 230 (class 1259 OID 16596)

-- Name: bus_stops_stop_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres

```
CREATE SEQUENCE "Bus_station".bus_stops_stop_id_seq
```

```
START WITH 1  
INCREMENT BY 1  
NO MINVALUE  
NO MAXVALUE  
CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".bus_stops_stop_id_seq OWNER TO postgres;
```

```
-- TOC entry 4936 (class 0 OID 0)  
-- Dependencies: 230  
-- Name: bus_stops_stop_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres
```

```
ALTER SEQUENCE "Bus_station".bus_stops_stop_id_seq OWNED BY "Bus_station".bus_stops.stop_id;
```

```
-- TOC entry 221 (class 1259 OID 16455)  
-- Name: buses; Type: TABLE; Schema: Bus_station; Owner: postgres
```

```
CREATE TABLE "Bus_station".buses (  
    status text NOT NULL,  
    bus_number character(6) NOT NULL,  
    model_id bigint NOT NULL,  
    bus_id bigint NOT NULL  
);
```

```
ALTER TABLE "Bus_station".buses OWNER TO postgres;
```

```
--  
-- TOC entry 229 (class 1259 OID 16582)  
-- Name: buses_bus_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres  
--
```

```
CREATE SEQUENCE "Bus_station".buses_bus_id_seq
```

```
START WITH 1
```

```
INCREMENT BY 1
```

```
NO MINVALUE
```

```
NO MAXVALUE
```

```
CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".buses_bus_id_seq OWNER TO postgres;
```

```
--
```

```
-- TOC entry 4937 (class 0 OID 0)
```

```
-- Dependencies: 229
```

```
-- Name: buses_bus_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER SEQUENCE "Bus_station".buses_bus_id_seq OWNED BY "Bus_station".buses.bus_id;
```

```
--
```

```
-- TOC entry 217 (class 1259 OID 16413)
```

```
-- Name: drivers; Type: TABLE; Schema: Bus_station; Owner: postgres
```

```
--
```

```
CREATE TABLE "Bus_station".drivers (
```

```
    email text,
```

```
    license_id bigint NOT NULL,
```

```
    passport_number character(10) NOT NULL,
```

```
    full_name character varying(128) NOT NULL,
```

```
    driver_id bigint NOT NULL
```

```
);
```

```
ALTER TABLE "Bus_station".drivers OWNER TO postgres;
```

```
--
```

```
-- TOC entry 235 (class 1259 OID 16668)
```

```
-- Name: drivers_driver_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres
```

```
--
```

```
CREATE SEQUENCE "Bus_station".drivers_driver_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".drivers_driver_id_seq OWNER TO postgres;
```

```
--
-- TOC entry 4938 (class 0 OID 0)
-- Dependencies: 235
-- Name: drivers_driver_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres
--
```

```
ALTER SEQUENCE "Bus_station".drivers_driver_id_seq OWNED BY "Bus_station".drivers.driver_id;
```

```
--
-- TOC entry 216 (class 1259 OID 16400)
-- Name: passengers; Type: TABLE; Schema: Bus_station; Owner: postgres
--
```

```
CREATE TABLE "Bus_station".passengers (
    email text,
    passport_number character(10) NOT NULL,
    full_name character varying(128) NOT NULL,
    passenger_id bigint NOT NULL,
    phone_number character(12)
);
```

```
ALTER TABLE "Bus_station".passengers OWNER TO postgres;
```

```
--  
-- TOC entry 234 (class 1259 OID 16648)  
-- Name: passengers_passenger_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres  
--
```

```
CREATE SEQUENCE "Bus_station".passengers_passenger_id_seq  
    START WITH 1  
    INCREMENT BY 1  
    NO MINVALUE  
    NO MAXVALUE  
    CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".passengers_passenger_id_seq OWNER TO postgres;
```

```
--  
-- TOC entry 4939 (class 0 OID 0)  
-- Dependencies: 234  
-- Name: passengers_passenger_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER SEQUENCE "Bus_station".passengers_passenger_id_seq OWNED BY  
"Bus_station".passengers.passenger_id;
```

```
--  
-- TOC entry 226 (class 1259 OID 16534)  
-- Name: route_stops; Type: TABLE; Schema: Bus_station; Owner: postgres  
--
```

```
CREATE TABLE "Bus_station".route_stops (  
    arrival_time time without time zone DEFAULT '00:00:00'::time without time zone NOT NULL,  
    stop_id bigint NOT NULL,  
    route_id bigint NOT NULL,  
    route_stop_id bigint NOT NULL,
```

```
stop_time interval NOT NULL,  
stop_index bigint  
);
```

```
ALTER TABLE "Bus_station".route_stops OWNER TO postgres;
```

```
--
```

```
-- TOC entry 237 (class 1259 OID 16704)
```

```
-- Name: route_stops_route_stop_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres
```

```
--
```

```
CREATE SEQUENCE "Bus_station".route_stops_route_stop_id_seq
```

```
START WITH 1
```

```
INCREMENT BY 1
```

```
NO MINVALUE
```

```
NO MAXVALUE
```

```
CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".route_stops_route_stop_id_seq OWNER TO postgres;
```

```
--
```

```
-- TOC entry 4940 (class 0 OID 0)
```

```
-- Dependencies: 237
```

```
-- Name: route_stops_route_stop_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER SEQUENCE "Bus_station".route_stops_route_stop_id_seq OWNED BY
```

```
"Bus_station".route_stops.route_stop_id;
```

```
--
```

```
-- TOC entry 219 (class 1259 OID 16439)
```

```
-- Name: schedule; Type: TABLE; Schema: Bus_station; Owner: postgres
```

--

```
CREATE TABLE "Bus_station".schedule (  
    path_length bigint DEFAULT 0 NOT NULL,  
    route_type character varying(128),  
    route_id bigint NOT NULL,  
    departure_point bigint NOT NULL,  
    destination_point bigint NOT NULL,  
    departure_time time without time zone NOT NULL,  
    destination_time time without time zone NOT NULL  
);
```

```
ALTER TABLE "Bus_station".schedule OWNER TO postgres;
```

--

```
-- TOC entry 231 (class 1259 OID 16610)  
-- Name: schedule_route_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres  
--
```

```
CREATE SEQUENCE "Bus_station".schedule_route_id_seq  
    START WITH 1  
    INCREMENT BY 1  
    NO MINVALUE  
    NO MAXVALUE  
    CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".schedule_route_id_seq OWNER TO postgres;
```

--

```
-- TOC entry 4941 (class 0 OID 0)  
-- Dependencies: 231  
-- Name: schedule_route_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres  
--
```



```
ALTER SEQUENCE "Bus_station".schedule_route_id_seq OWNED BY "Bus_station".schedule.route_id;
```

```
--
```

```
-- TOC entry 224 (class 1259 OID 16501)
```

```
-- Name: tickets; Type: TABLE; Schema: Bus_station; Owner: postgres
```

```
--
```

```
CREATE TABLE "Bus_station".tickets (
```

```
    price bigint DEFAULT 0 NOT NULL,
```

```
    ticket_id bigint NOT NULL,
```

```
    passenger_id bigint NOT NULL,
```

```
    trip_id bigint NOT NULL,
```

```
    buying_date date NOT NULL
```

```
);
```

```
ALTER TABLE "Bus_station".tickets OWNER TO postgres;
```

```
--
```

```
-- TOC entry 232 (class 1259 OID 16634)
```

```
-- Name: tickets_ticket_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres
```

```
--
```

```
CREATE SEQUENCE "Bus_station".tickets_ticket_id_seq
```

```
    START WITH 1
```

```
    INCREMENT BY 1
```

```
    NO MINVALUE
```

```
    NO MAXVALUE
```

```
    CACHE 1;
```

```
ALTER SEQUENCE "Bus_station".tickets_ticket_id_seq OWNER TO postgres;
```

```
--  
-- TOC entry 4942 (class 0 OID 0)  
-- Dependencies: 232  
-- Name: tickets_ticket_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER SEQUENCE "Bus_station".tickets_ticket_id_seq OWNED BY "Bus_station".tickets.ticket_id;
```

```
--  
-- TOC entry 223 (class 1259 OID 16482)  
-- Name: trips; Type: TABLE; Schema: Bus_station; Owner: postgres  
--
```

```
CREATE TABLE "Bus_station".trips (  
    actual_departure_time timestamp without time zone DEFAULT '1970-01-01 00:00:00'::timestamp without time  
zone,  
    actual_destination_time timestamp without time zone DEFAULT '1970-01-01 00:00:00'::timestamp without time  
zone,  
    status character varying(128) NOT NULL,  
    bus_id bigint NOT NULL,  
    route_id bigint NOT NULL,  
    trip_id bigint NOT NULL  
);
```

```
ALTER TABLE "Bus_station".trips OWNER TO postgres;
```

```
--  
-- TOC entry 236 (class 1259 OID 16687)  
-- Name: trips_trip_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres  
--
```

```
CREATE SEQUENCE "Bus_station".trips_trip_id_seq  
    START WITH 1
```

INCREMENT BY 1

NO MINVALUE

NO MAXVALUE

CACHE 1;

ALTER SEQUENCE "Bus_station".trips_trip_id_seq OWNER TO postgres;

--

-- TOC entry 4943 (class 0 OID 0)

-- Dependencies: 236

-- Name: trips_trip_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres

--

ALTER SEQUENCE "Bus_station".trips_trip_id_seq OWNED BY "Bus_station".trips.trip_id;

--

-- TOC entry 222 (class 1259 OID 16470)

-- Name: work_timesheet; Type: TABLE; Schema: Bus_station; Owner: postgres

--

CREATE TABLE "Bus_station".work_timesheet (

work_date date NOT NULL,

work_hours interval DEFAULT '00:00:00'::interval NOT NULL,

record_id bigint NOT NULL,

driver_id bigint NOT NULL,

status text,

CONSTRAINT work_timesheet_work_hours_check CHECK ((work_hours < '12:00:00'::interval))

);

ALTER TABLE "Bus_station".work_timesheet OWNER TO postgres;

--

-- TOC entry 233 (class 1259 OID 16641)

-- Name: work_timesheet_record_id_seq; Type: SEQUENCE; Schema: Bus_station; Owner: postgres

--

CREATE SEQUENCE "Bus_station".work_timesheet_record_id_seq

START WITH 1

INCREMENT BY 1

NO MINVALUE

NO MAXVALUE

CACHE 1;

ALTER SEQUENCE "Bus_station".work_timesheet_record_id_seq OWNER TO postgres;

--

-- TOC entry 4944 (class 0 OID 0)

-- Dependencies: 233

-- Name: work_timesheet_record_id_seq; Type: SEQUENCE OWNED BY; Schema: Bus_station; Owner: postgres

--

ALTER SEQUENCE "Bus_station".work_timesheet_record_id_seq OWNED BY

"Bus_station".work_timesheet.record_id;

--

-- TOC entry 4700 (class 2604 OID 16560)

-- Name: adding_crew adding_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".adding_crew ALTER COLUMN adding_id SET DEFAULT
nextval('"Bus_station".adding_crew_adding_id_seq'::regclass);

--

-- TOC entry 4688 (class 2604 OID 16570)

-- Name: bus_model model_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".bus_model ALTER COLUMN model_id SET DEFAULT
nextval('"Bus_station".bus_model_model_id_seq'::regclass);

--

-- TOC entry 4691 (class 2604 OID 16597)

-- Name: bus_stops stop_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".bus_stops ALTER COLUMN stop_id SET DEFAULT
nextval('"Bus_station".bus_stops_stop_id_seq'::regclass);

--

-- TOC entry 4692 (class 2604 OID 16583)

-- Name: buses bus_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".buses ALTER COLUMN bus_id SET DEFAULT
nextval('"Bus_station".buses_bus_id_seq'::regclass);

--

-- TOC entry 4686 (class 2604 OID 16669)

-- Name: drivers driver_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".drivers ALTER COLUMN driver_id SET DEFAULT
nextval('"Bus_station".drivers_driver_id_seq'::regclass);

--

-- TOC entry 4685 (class 2604 OID 16649)

-- Name: passengers passenger_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".passengers ALTER COLUMN passenger_id SET DEFAULT
nextval('"Bus_station".passengers_passenger_id_seq'::regclass);

--

-- TOC entry 4702 (class 2604 OID 16705)

-- Name: route_stops route_stop_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".route_stops ALTER COLUMN route_stop_id SET DEFAULT
nextval('"Bus_station".route_stops_route_stop_id_seq'::regclass);

--

-- TOC entry 4690 (class 2604 OID 16611)

-- Name: schedule route_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".schedule ALTER COLUMN route_id SET DEFAULT
nextval('"Bus_station".schedule_route_id_seq'::regclass);

--

-- TOC entry 4699 (class 2604 OID 16635)

-- Name: tickets ticket_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".tickets ALTER COLUMN ticket_id SET DEFAULT
nextval('"Bus_station".tickets_ticket_id_seq'::regclass);

--

-- TOC entry 4697 (class 2604 OID 16688)

-- Name: trips trip_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

```
ALTER TABLE ONLY "Bus_station".trips ALTER COLUMN trip_id SET DEFAULT
nextval('"Bus_station".trips_trip_id_seq'::regclass);
```

--

-- TOC entry 4694 (class 2604 OID 16642)

-- Name: work_timesheet record_id; Type: DEFAULT; Schema: Bus_station; Owner: postgres

--

```
ALTER TABLE ONLY "Bus_station".work_timesheet ALTER COLUMN record_id SET DEFAULT
nextval('"Bus_station".work_timesheet_record_id_seq'::regclass);
```

--

-- TOC entry 4916 (class 0 OID 16517)

-- Dependencies: 225

-- Data for Name: adding_crew; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--

```
COPY "Bus_station".adding_crew (med_data, adding_id, driver_id, trip_id) FROM stdin;
```

\\.

--

-- TOC entry 4909 (class 0 OID 16428)

-- Dependencies: 218

-- Data for Name: bus_model; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--

```
COPY "Bus_station".bus_model (release_date, seat_count, producer, model_name, country, model_id) FROM stdin;
```

2011-09-16	11	SCANIA	SCANIA58lk	Sweden	1
2017-01-10	24	MERCEDES	MERCEDES48kj	Germany	2
2017-04-03	29	LOTOS	LOTOS99jn	Russia	3
2014-03-12	29	VOLGABUS	VOLGABUS28nm	Russia	4

2012-05-23	27	GAZ	GAZ93md	Russia	5
2017-09-03	24	ZIL	ZIL51dr	Russia	6
2010-07-19	31	JAC	JAC79rt	Germany	7
2022-08-23	33	DAEWOO	DAEWOO21ts	South Korea	8
2011-06-25	25	KIA	KIA54sw	South Korea	9
2012-03-21	25	IRISBUS	IRISBUS96wq	France	10

\\

--

-- TOC entry 4911 (class 0 OID 16447)

-- Dependencies: 220

-- Data for Name: bus_stops; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--

COPY "Bus_station".bus_stops (address, stop_id) FROM stdin;

Town0 1

Town1 2

Town2 3

Town3 4

Town4 5

Town5 6

Town6 7

Town7 8

Town8 9

Town9 10

\\

--

-- TOC entry 4912 (class 0 OID 16455)

-- Dependencies: 221

-- Data for Name: buses; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--


```
COPY "Bus_station".buses (status, bus_number, model_id, bus_id) FROM stdin;
```

```
working 100001 2      1
working 100002 8      2
working 100003 3      3
working 100004 9      4
working 100005 5      5
working 100006 9      6
working 100007 7      7
working 100008 3      8
working 100009 5      9
working 100010 1     10
working 100011 10    11
working 100012 8     12
working 100013 5     13
working 100014 8     14
working 100015 3     15
working 100016 6     16
working 100017 7     17
working 100018 2     18
working 100019 5     19
working 100020 8     20
```

```
\.
```

```
--
```

```
-- TOC entry 4908 (class 0 OID 16413)
```

```
-- Dependencies: 217
```

```
-- Data for Name: drivers; Type: TABLE DATA; Schema: Bus_station; Owner: postgres
```

```
--
```

```
COPY "Bus_station".drivers (email, license_id, passport_number, full_name, driver_id) FROM stdin;
```

```
driverSteven16@mail.ru 1000001 20000000001 Steven 1
driverJonathan15@mail.ru 1000002 20000000002 Jonathan2
driverMatthew35@mail.ru 1000003 20000000003 Matthew3
driverWilliam99@mail.ru 1000004 20000000004 William 4
```

driverScott93@mail.ru	10000052000000005	Scott	5
driverNick49@mail.ru	10000062000000006	Nick	6
driverJason99@mail.ru	10000072000000007	Jason	7
driverJim43@mail.ru	10000082000000008	Jim	8
driverChristian40@mail.ru	10000092000000009	Christian	9
driverBob77@mail.ru	10000102000000010	Bob	10
driverAlejandro51@mail.ru	10000112000000011	Alejandro	11
driverHector59@mail.ru	10000122000000012	Hector	12
driverJoel1@mail.ru	10000132000000013	Joel	13
driverMike26@mail.ru	10000142000000014	Mike	14
driverJeff23@mail.ru	10000152000000015	Jeff	15
driverMatthew2@mail.ru	10000162000000016	Matthew	16
driverJoel60@mail.ru	10000172000000017	Joel	17
driverGabriel58@mail.ru	10000182000000018	Gabriel	18
driverThomas40@mail.ru	10000192000000019	Thomas	19
driverJeff3@mail.ru	10000202000000020	Jeff	20

\.

--

-- TOC entry 4907 (class 0 OID 16400)

-- Dependencies: 216

-- Data for Name: passengers; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--

COPY "Bus_station".passengers (email, passport_number, full_name, passenger_id, phone_number) FROM stdin;

testpass123@yandex.ru	4040200200	test_passenger	1	\N
test-pass123@yandex.ru	4040200201	test_passenger_2	8	\N
Gary92@yandex.ru	1000000001	Gary	13	\N
Raul86@yandex.ru	1000000005	Raul	109	\N
Joe68@yandex.ru	1000000006	Joe	110	\N
Gabriel33@yandex.ru	1000000007	Gabriel	111	\N
Mark38@yandex.ru	1000000008	Mark	112	\N
Joseph39@yandex.ru	1000000009	Joseph	113	\N
Patrick27@yandex.ru	1000000010	Patrick	114	\N

Luis58@yandex.ru	1000000011	Luis	115	\N
Steven55@yandex.ru	1000000012	Steven	116	\N
Rafael73@yandex.ru	1000000013	Rafael	117	\N
Alex47@yandex.ru	1000000014	Alex	118	\N
Joshua39@yandex.ru	1000000015	Joshua	119	\N
Dan98@yandex.ru	1000000016	Dan	120	\N
Sergio26@yandex.ru	1000000017	Sergio	121	\N
David49@yandex.ru	1000000018	David	122	\N
Peter52@yandex.ru	1000000019	Peter	123	\N
Mike47@yandex.ru	1000000020	Mike	124	\N
Mark49@yandex.ru	1000000021	Mark	125	\N
Brian0@yandex.ru	1000000022	Brian	126	\N
Chris96@yandex.ru	1000000023	Chris	127	\N
Carlos18@yandex.ru	1000000024	Carlos	128	\N
Adam64@yandex.ru	1000000025	Adam	129	\N
Julio56@yandex.ru	1000000026	Julio	130	\N
Danny17@yandex.ru	1000000027	Danny	131	\N
Javier38@yandex.ru	1000000028	Javier	132	\N
Chris50@yandex.ru	1000000029	Chris	133	\N
Jay70@yandex.ru	1000000030	Jay	134	\N
Gabriel19@yandex.ru	1000000031	Gabriel	135	\N
Jorge54@yandex.ru	1000000032	Jorge	136	\N
Joshua41@yandex.ru	1000000033	Joshua	137	\N
Juan51@yandex.ru	1000000034	Juan	138	\N
Jason22@yandex.ru	1000000035	Jason	139	\N
Sean21@yandex.ru	1000000036	Sean	140	\N
Julio50@yandex.ru	1000000037	Julio	141	\N
Tyler4@yandex.ru	1000000038	Tyler	142	\N
Jack34@yandex.ru	1000000039	Jack	143	\N
Ryan96@yandex.ru	1000000040	Ryan	144	\N
Brian62@yandex.ru	1000000041	Brian	145	\N
Kyle89@yandex.ru	1000000042	Kyle	146	\N
Patrick42@yandex.ru	1000000043	Patrick	147	\N
Michael83@yandex.ru	1000000044	Michael	148	\N
Jaime90@yandex.ru	1000000045	Jaime	149	\N

Alex66@yandex.ru	1000000046	Alex	150	\N
Adam34@yandex.ru	1000000047	Adam	151	\N
Joe61@yandex.ru	1000000048	Joe	152	\N
Joel20@yandex.ru	1000000049	Joel	153	\N
Jim53@yandex.ru	1000000050	Jim	154	\N
Joel64@yandex.ru	1000000051	Joel	155	\N
Andrew78@yandex.ru	1000000052	Andrew	156	\N
Jay47@yandex.ru	1000000053	Jay	157	\N
Greg41@yandex.ru	1000000054	Greg	158	\N
Steven1@yandex.ru	1000000055	Steven	159	\N
Jacob45@yandex.ru	1000000056	Jacob	160	\N
Kyle72@yandex.ru	1000000057	Kyle	161	\N
Jay75@yandex.ru	1000000058	Jay	162	\N
Chris36@yandex.ru	1000000059	Chris	163	\N
Cesar66@yandex.ru	1000000060	Cesar	164	\N
Alex52@yandex.ru	1000000061	Alex	165	\N
Bryan65@yandex.ru	1000000062	Bryan	166	\N
Charles24@yandex.ru	1000000063	Charles	167	\N
Andrea53@yandex.ru	1000000064	Andrea	168	\N
Bryan24@yandex.ru	1000000065	Bryan	169	\N
Jaime29@yandex.ru	1000000066	Jaime	170	\N
Alex71@yandex.ru	1000000067	Alex	171	\N
Chris28@yandex.ru	1000000068	Chris	172	\N
Mario9@yandex.ru	1000000069	Mario	173	\N
Gabriel73@yandex.ru	1000000070	Gabriel	174	\N
Christian87@yandex.ru	1000000071	Christian	175	\N
Jay38@yandex.ru	1000000072	Jay	176	\N
Tyler42@yandex.ru	1000000073	Tyler	177	\N
Jim96@yandex.ru	1000000074	Jim	178	\N
Ben61@yandex.ru	1000000075	Ben	179	\N
Victor13@yandex.ru	1000000076	Victor	180	\N
Paul26@yandex.ru	1000000077	Paul	181	\N
Raul20@yandex.ru	1000000078	Raul	182	\N
Mark94@yandex.ru	1000000079	Mark	183	\N
Matt39@yandex.ru	1000000080	Matt	184	\N

Alex97@yandex.ru	1000000081	Alex	185	\N
Jaime57@yandex.ru	1000000082	Jaime	186	\N
Tom48@yandex.ru	1000000083	Tom	187	\N
Adrian88@yandex.ru	1000000084	Adrian	188	\N
Sergio92@yandex.ru	1000000085	Sergio	189	\N
Jonathan10@yandex.ru	1000000086	Jonathan	190	\N
Gary26@yandex.ru	1000000087	Gary	191	\N
Kyle79@yandex.ru	1000000088	Kyle	192	\N
George3@yandex.ru	1000000089	George	193	\N
John39@yandex.ru	1000000090	John	194	\N
William18@yandex.ru	1000000091	William	195	\N
Jacob93@yandex.ru	1000000092	Jacob	196	\N
Mario88@yandex.ru	1000000093	Mario	197	\N
Scott36@yandex.ru	1000000094	Scott	198	\N
Bob100@yandex.ru	1000000095	Bob	199	\N
Manuel21@yandex.ru	1000000002	Manuel	9	\N
Robert76@yandex.ru	1000000096	Robert	200	\N
James57@yandex.ru	1000000097	James	201	\N
Jack21@yandex.ru	1000000098	Jack	202	\N
Matthew1@yandex.ru	1000000099	Matthew	203	\N
Jonathan19@yandex.ru	1000000100	Jonathan	204	\N
Danny56@yandex.ru	1000000101	Danny	205	\N
David6@yandex.ru	1000000102	David	206	\N
Robert30@yandex.ru	1000000003	Robert	10	\N
Jose22@yandex.ru	1000000004	Jose	11	\N
George33@yandex.ru	1000000103	George	207	\N
David63@yandex.ru	1000000104	David	208	\N

\.

--

-- TOC entry 4917 (class 0 OID 16534)

-- Dependencies: 226

-- Data for Name: route_stops; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--

```
COPY "Bus_station".route_stops (arrival_time, stop_id, route_id, route_stop_id, stop_time, stop_index) FROM stdin;
```

```
\.
```

```
--
```

```
-- TOC entry 4910 (class 0 OID 16439)
```

```
-- Dependencies: 219
```

```
-- Data for Name: schedule; Type: TABLE DATA; Schema: Bus_station; Owner: postgres
```

```
--
```

```
COPY "Bus_station".schedule (path_length, route_type, route_id, departure_point, destination_point, departure_time, destination_time) FROM stdin;
```

```
\.
```

```
--
```

```
-- TOC entry 4915 (class 0 OID 16501)
```

```
-- Dependencies: 224
```

```
-- Data for Name: tickets; Type: TABLE DATA; Schema: Bus_station; Owner: postgres
```

```
--
```

```
COPY "Bus_station".tickets (price, ticket_id, passenger_id, trip_id, buying_date) FROM stdin;
```

```
\.
```

```
--
```

```
-- TOC entry 4914 (class 0 OID 16482)
```

```
-- Dependencies: 223
```

```
-- Data for Name: trips; Type: TABLE DATA; Schema: Bus_station; Owner: postgres
```

```
--
```

```
COPY "Bus_station".trips (actual_departure_time, actual_destination_time, status, bus_id, route_id, trip_id) FROM stdin;
```

```
\.
```

--

-- TOC entry 4913 (class 0 OID 16470)

-- Dependencies: 222

-- Data for Name: work_timesheet; Type: TABLE DATA; Schema: Bus_station; Owner: postgres

--

COPY "Bus_station".work_timesheet (work_date, work_hours, record_id, driver_id, status) FROM stdin;

2023-10-22	08:00:001	1	\N
------------	-----------	---	----

2023-10-20	10:00:005	4	\N
------------	-----------	---	----

2023-10-21	08:00:006	2	\N
------------	-----------	---	----

2023-10-22	08:00:007	3	\N
------------	-----------	---	----

\.

--

-- TOC entry 4945 (class 0 OID 0)

-- Dependencies: 227

-- Name: adding_crew_adding_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres

--

SELECT pg_catalog.setval('"Bus_station".adding_crew_adding_id_seq', 3, true);

--

-- TOC entry 4946 (class 0 OID 0)

-- Dependencies: 228

-- Name: bus_model_model_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres

--

SELECT pg_catalog.setval('"Bus_station".bus_model_model_id_seq', 10, true);

--

-- TOC entry 4947 (class 0 OID 0)

-- Dependencies: 230

-- Name: bus_stops_stop_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres

--

SELECT pg_catalog.setval('Bus_station'.bus_stops_stop_id_seq', 10, true);

--

-- TOC entry 4948 (class 0 OID 0)

-- Dependencies: 229

-- Name: buses_bus_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres

--

SELECT pg_catalog.setval('Bus_station'.buses_bus_id_seq', 20, true);

--

-- TOC entry 4949 (class 0 OID 0)

-- Dependencies: 235

-- Name: drivers_driver_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres

--

SELECT pg_catalog.setval('Bus_station'.drivers_driver_id_seq', 20, true);

--

-- TOC entry 4950 (class 0 OID 0)

-- Dependencies: 234

-- Name: passengers_passenger_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres

--

SELECT pg_catalog.setval('Bus_station'.passengers_passenger_id_seq', 208, true);

--


```
-- TOC entry 4951 (class 0 OID 0)
-- Dependencies: 237
-- Name: route_stops_route_stop_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres
--
```

```
SELECT pg_catalog.setval('"Bus_station".route_stops_route_stop_id_seq', 1, false);
```

```
--
-- TOC entry 4952 (class 0 OID 0)
-- Dependencies: 231
-- Name: schedule_route_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres
--
```

```
SELECT pg_catalog.setval('"Bus_station".schedule_route_id_seq', 30, true);
```

```
--
-- TOC entry 4953 (class 0 OID 0)
-- Dependencies: 232
-- Name: tickets_ticket_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres
--
```

```
SELECT pg_catalog.setval('"Bus_station".tickets_ticket_id_seq', 11, true);
```

```
--
-- TOC entry 4954 (class 0 OID 0)
-- Dependencies: 236
-- Name: trips_trip_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres
--
```

```
SELECT pg_catalog.setval('"Bus_station".trips_trip_id_seq', 3, true);
```

```
--  
-- TOC entry 4955 (class 0 OID 0)  
-- Dependencies: 233  
-- Name: work_timesheet_record_id_seq; Type: SEQUENCE SET; Schema: Bus_station; Owner: postgres  
--
```

```
SELECT pg_catalog.setval('"Bus_station".work_timesheet_record_id_seq', 7, true);
```

```
--  
-- TOC entry 4749 (class 2606 OID 16567)  
-- Name: adding_crew adding_crew_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE ONLY "Bus_station".adding_crew  
    ADD CONSTRAINT adding_crew_pkey PRIMARY KEY (adding_id);
```

```
--  
-- TOC entry 4706 (class 2606 OID 16732)  
-- Name: bus_model bus_model_country_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE "Bus_station".bus_model  
    ADD CONSTRAINT bus_model_country_check CHECK (((country)::text ~ '[a-zA-Z]::text)) NOT VALID;
```

```
--  
-- TOC entry 4733 (class 2606 OID 16500)  
-- Name: bus_model bus_model_model_name_key; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE ONLY "Bus_station".bus_model  
    ADD CONSTRAINT bus_model_model_name_key UNIQUE (model_name);
```

--

-- TOC entry 4735 (class 2606 OID 16576)

-- Name: bus_model bus_model_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".bus_model

ADD CONSTRAINT bus_model_pkey PRIMARY KEY (model_id);

--

-- TOC entry 4739 (class 2606 OID 16604)

-- Name: bus_stops bus_stops_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".bus_stops

ADD CONSTRAINT bus_stops_pkey PRIMARY KEY (stop_id);

--

-- TOC entry 4709 (class 2606 OID 16730)

-- Name: buses buses_bus_number_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE "Bus_station".buses

ADD CONSTRAINT buses_bus_number_check CHECK ((bus_number ~ '^[A-Z]{1}[0-9]{3}[A-Z]{2}\$'::text))
NOT VALID;

--

-- TOC entry 4741 (class 2606 OID 16590)

-- Name: buses buses_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

```
ALTER TABLE ONLY "Bus_station".buses
```

```
ADD CONSTRAINT buses_pkey PRIMARY KEY (bus_id);
```

```
--
```

```
-- TOC entry 4710 (class 2606 OID 16752)
```

```
-- Name: buses buses_status_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER TABLE "Bus_station".buses
```

```
ADD CONSTRAINT buses_status_check CHECK ((status = ANY (ARRAY['working'::text, 'under repair'::text, 'not working'::text]))) NOT VALID;
```

```
--
```

```
-- TOC entry 4705 (class 2606 OID 16734)
```

```
-- Name: drivers drivers_email_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER TABLE "Bus_station".drivers
```

```
ADD CONSTRAINT drivers_email_check CHECK ((email ~~  
'[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}'::text)) NOT VALID;
```

```
--
```

```
-- TOC entry 4725 (class 2606 OID 16719)
```

```
-- Name: drivers drivers_email_key; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY "Bus_station".drivers
```

```
ADD CONSTRAINT drivers_email_key UNIQUE (email);
```

```
--
```

```
-- TOC entry 4727 (class 2606 OID 16717)
```

-- Name: drivers drivers_license_id_key; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".drivers

ADD CONSTRAINT drivers_license_id_key UNIQUE (license_id);

--

-- TOC entry 4729 (class 2606 OID 16721)

-- Name: drivers drivers_passport_number_key; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".drivers

ADD CONSTRAINT drivers_passport_number_key UNIQUE (passport_number);

--

-- TOC entry 4731 (class 2606 OID 16676)

-- Name: drivers drivers_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".drivers

ADD CONSTRAINT drivers_pkey PRIMARY KEY (driver_id);

--

-- TOC entry 4703 (class 2606 OID 16733)

-- Name: passengers passengers_email_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE "Bus_station".passengers

ADD CONSTRAINT passengers_email_check CHECK ((email ~
'[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}'::text)) NOT VALID;

```
--  
-- TOC entry 4719 (class 2606 OID 16715)  
-- Name: passengers passengers_email_key; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE ONLY "Bus_station".passengers  
    ADD CONSTRAINT passengers_email_key UNIQUE (email);
```

```
--  
-- TOC entry 4721 (class 2606 OID 16713)  
-- Name: passengers passengers_passport_number_key; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE ONLY "Bus_station".passengers  
    ADD CONSTRAINT passengers_passport_number_key UNIQUE (passport_number);
```

```
--  
-- TOC entry 4704 (class 2606 OID 16750)  
-- Name: passengers passengers_phone_number_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE "Bus_station".passengers  
    ADD CONSTRAINT passengers_phone_number_check CHECK ((phone_number ~ '^+[1-9][0-9]{7, 14}$':text))  
NOT VALID;
```

```
--  
-- TOC entry 4723 (class 2606 OID 16656)  
-- Name: passengers passengers_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres  
--
```

```
ALTER TABLE ONLY "Bus_station".passengers
```

```
ADD CONSTRAINT passengers_pkey PRIMARY KEY (passenger_id);
```

```
--
```

```
-- TOC entry 4751 (class 2606 OID 16710)
```

```
-- Name: route_stops route_stops_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY "Bus_station".route_stops
```

```
ADD CONSTRAINT route_stops_pkey PRIMARY KEY (route_stop_id);
```

```
--
```

```
-- TOC entry 4716 (class 2606 OID 16751)
```

```
-- Name: route_stops route_stops_stop_index_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER TABLE "Bus_station".route_stops
```

```
ADD CONSTRAINT route_stops_stop_index_check CHECK ((stop_index > 0)) NOT VALID;
```

```
--
```

```
-- TOC entry 4717 (class 2606 OID 16749)
```

```
-- Name: route_stops route_stops_stop_time_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres
```

```
--
```

```
ALTER TABLE "Bus_station".route_stops
```

```
ADD CONSTRAINT route_stops_stop_time_check CHECK ((stop_time < '01:00:00'::interval)) NOT VALID;
```

```
--
```

```
-- TOC entry 4708 (class 2606 OID 16735)
```

```
-- Name: schedule schedule_path_length_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner:
```

postgres

--

ALTER TABLE "Bus_station".schedule

ADD CONSTRAINT schedule_path_length_check CHECK ((path_length > 0)) NOT VALID;

--

-- TOC entry 4737 (class 2606 OID 16618)

-- Name: schedule schedule_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".schedule

ADD CONSTRAINT schedule_pkey PRIMARY KEY (route_id);

--

-- TOC entry 4747 (class 2606 OID 16640)

-- Name: tickets tickets_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".tickets

ADD CONSTRAINT tickets_pkey PRIMARY KEY (ticket_id);

--

-- TOC entry 4715 (class 2606 OID 16731)

-- Name: tickets tickets_price_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE "Bus_station".tickets

ADD CONSTRAINT tickets_price_check CHECK ((price > 0)) NOT VALID;

--

-- TOC entry 4713 (class 2606 OID 16736)

-- Name: trips trips_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE "Bus_station".trips

ADD CONSTRAINT trips_check CHECK ((actual_departure_time < actual_destination_time)) NOT VALID;

--

-- TOC entry 4745 (class 2606 OID 16693)

-- Name: trips trips_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".trips

ADD CONSTRAINT trips_pkey PRIMARY KEY (trip_id);

--

-- TOC entry 4714 (class 2606 OID 16754)

-- Name: trips trips_status_check; Type: CHECK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE "Bus_station".trips

ADD CONSTRAINT trips_status_check CHECK (((status)::text = ANY ((ARRAY['estimated'::character varying, 'delayed'::character varying, 'arrived'::character varying])::text[]))) NOT VALID;

--

-- TOC entry 4743 (class 2606 OID 16647)

-- Name: work_timesheet work_timesheet_pkey; Type: CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".work_timesheet

ADD CONSTRAINT work_timesheet_pkey PRIMARY KEY (record_id);

--

-- TOC entry 4711 (class 2606 OID 16753)

-- Name: work_timesheet work_timesheet_status_check; Type: CHECK CONSTRAINT; Schema: Bus_station;
Owner: postgres

--

ALTER TABLE "Bus_station".work_timesheet

ADD CONSTRAINT work_timesheet_status_check CHECK ((status = ANY (ARRAY['ok'::text, 'sick leave'::text, 'vacation'::text]))) NOT VALID;

--

-- TOC entry 4760 (class 2606 OID 16677)

-- Name: adding_crew adding_crew_driver_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".adding_crew

ADD CONSTRAINT adding_crew_driver_id_fkey FOREIGN KEY (driver_id) REFERENCES
"Bus_station".drivers(driver_id) NOT VALID;

--

-- TOC entry 4761 (class 2606 OID 16699)

-- Name: adding_crew adding_crew_trip_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".adding_crew

ADD CONSTRAINT adding_crew_trip_id_fkey FOREIGN KEY (trip_id) REFERENCES
"Bus_station".trips(trip_id) NOT VALID;

--

-- TOC entry 4754 (class 2606 OID 16577)

-- Name: buses buses_model_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".buses

ADD CONSTRAINT buses_model_id_fkey FOREIGN KEY (model_id) REFERENCES
"Bus_station".bus_model(model_id) NOT VALID;

--

-- TOC entry 4762 (class 2606 OID 16624)

-- Name: route_stops route_stops_route_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".route_stops

ADD CONSTRAINT route_stops_route_id_fkey FOREIGN KEY (route_id) REFERENCES
"Bus_station".schedule(route_id) NOT VALID;

--

-- TOC entry 4763 (class 2606 OID 16619)

-- Name: route_stops route_stops_stop_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".route_stops

ADD CONSTRAINT route_stops_stop_id_fkey FOREIGN KEY (stop_id) REFERENCES
"Bus_station".bus_stops(stop_id) NOT VALID;

--

-- TOC entry 4752 (class 2606 OID 16737)

-- Name: schedule schedule_departure_point_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".schedule

ADD CONSTRAINT schedule_departure_point_fkey FOREIGN KEY (departure_point) REFERENCES
"Bus_station".bus_stops(stop_id) NOT VALID;

```

--
-- TOC entry 4753 (class 2606 OID 16742)
-- Name: schedule schedule_destination_point_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres
--

ALTER TABLE ONLY "Bus_station".schedule

    ADD CONSTRAINT schedule_destination_point_fkey FOREIGN KEY (destination_point) REFERENCES
"Bus_station".bus_stops(stop_id) NOT VALID;

--
-- TOC entry 4758 (class 2606 OID 16658)
-- Name: tickets tickets_passenger_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres
--

ALTER TABLE ONLY "Bus_station".tickets

    ADD CONSTRAINT tickets_passenger_id_fkey FOREIGN KEY (passenger_id) REFERENCES
"Bus_station".passengers(passenger_id) NOT VALID;

--
-- TOC entry 4759 (class 2606 OID 16694)
-- Name: tickets tickets_trip_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres
--

ALTER TABLE ONLY "Bus_station".tickets

    ADD CONSTRAINT tickets_trip_id_fkey FOREIGN KEY (trip_id) REFERENCES "Bus_station".trips(trip_id)
NOT VALID;

--
-- TOC entry 4756 (class 2606 OID 16591)
-- Name: trips trips_bus_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres
--

ALTER TABLE ONLY "Bus_station".trips

    ADD CONSTRAINT trips_bus_id_fkey FOREIGN KEY (bus_id) REFERENCES "Bus_station".buses(bus_id)

```

NOT VALID;

--

-- TOC entry 4757 (class 2606 OID 16629)

-- Name: trips trips_route_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner: postgres

--

ALTER TABLE ONLY "Bus_station".trips

ADD CONSTRAINT trips_route_id_fkey FOREIGN KEY (route_id) REFERENCES
"Bus_station".schedule(route_id) NOT VALID;

--

-- TOC entry 4755 (class 2606 OID 16682)

-- Name: work_timesheet work_timesheet_driver_id_fkey; Type: FK CONSTRAINT; Schema: Bus_station; Owner:
postgres

--

ALTER TABLE ONLY "Bus_station".work_timesheet

ADD CONSTRAINT work_timesheet_driver_id_fkey FOREIGN KEY (driver_id) REFERENCES
"Bus_station".drivers(driver_id) NOT VALID;

-- Completed on 2023-10-26 13:48:42

--

-- PostgreSQL database dump complete

--

Вывод

В ходе выполнения лабораторной работы, я перенес схему, спроектированную в нотации IDEF1X в PostgreSQL, получил практику использования простейших SQL запросов, отработал использование программы PGAdmin4 для удобной работы с сервером БД, а также изучил возможность резервного копирования и восстановления БД, что безусловно

необходимо периодически делать при работе с базой для сохранности структуры и данных.