Санкт-Петербургский национальный исследовательский университет информационных технологий, механики и оптики

Лабораторная работа№ 1.2

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

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Санкт-Петербург

2022

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

Оборудование: компьютерный класс.

Программное обеспечение: СУБД PostgreSQL 1Х, 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.

ТЕХНОЛОГИЯ ВЫПОЛНЕНИЯ РАБОТЫ:
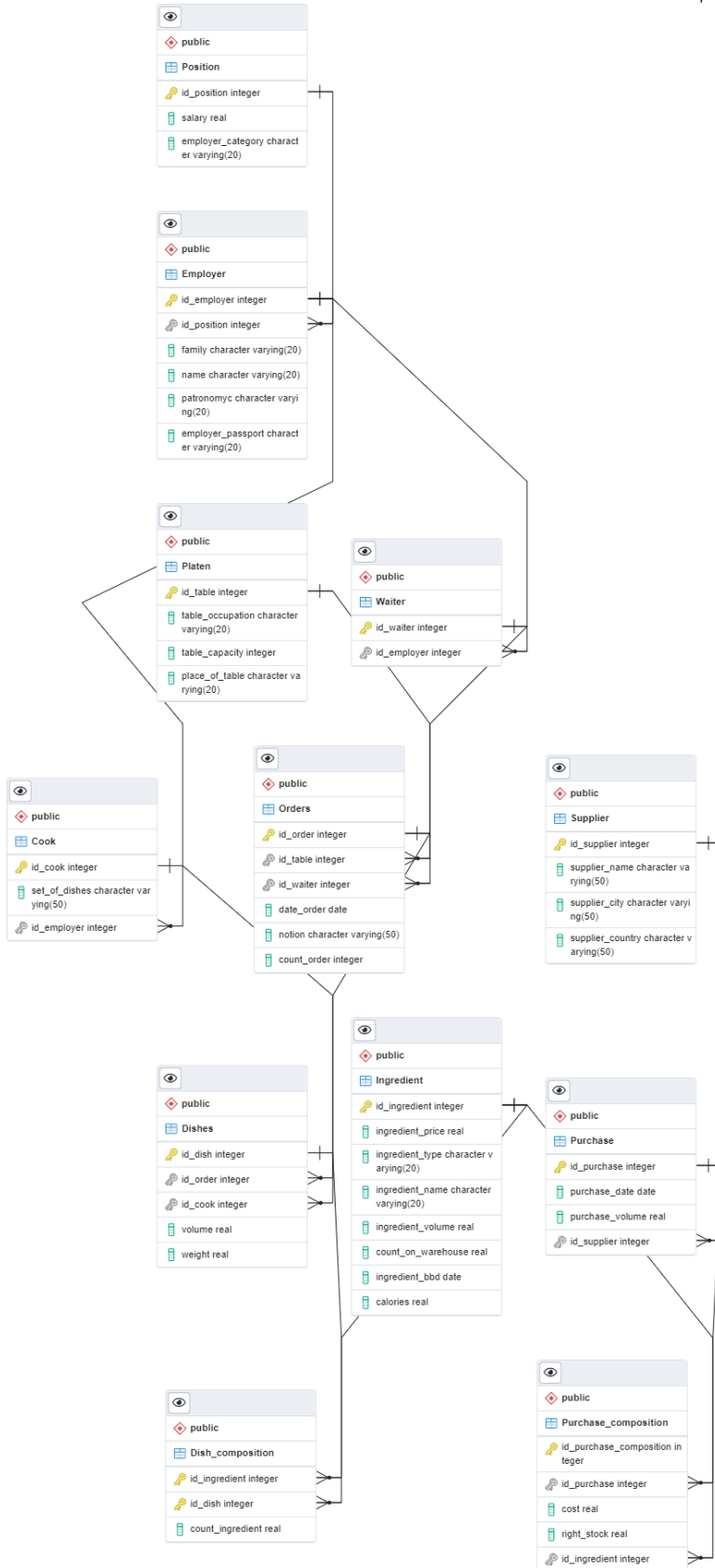
1. Название БД

Вариант 13. «Ресторан»

 Описание предметной области: Сотрудники ресторана – повара и официанты. За каждым официантом закреплены определенные столы. Каждый повар готовит определенный набор блюд. Запас продуктов на складе не должен быть ниже заданного значения. Цена заказа складывается из стоимости ингредиентов и наценки, которая составляет 40% стоимости ингредиентов. БД должна содержать следующий минимальный набор сведений: ФИО сотрудника. Паспортные данные сотрудника. Категория сотрудника. Должность сотрудника. Оклад сотрудника. Наименование ингредиента. Код ингредиента. Дата закупки. Объем закупки. Количество продукта на складе. Необходимый запас продукта. Срок годности. Цена ингредиента. Поставщик. Наименование блюда. Код блюда. Объем ингредиента. Номер стола. Дата заказа. Код заказа. Количество. Название блюда. Ингредиенты, входящие в блюдо. Тип ингредиента.

Состав реквизитов сущностей:

a) **Ингредиент** (<u>ID ингредиента</u>, цена ингредиента, тип ингредиента, название ингредиента, объём ингредиента, количество на складе, срок годности, калорийность)

b) **Поставщик** (<u>ID поставщика</u>, имя поставщика, город поставщика, страна поставщика)

c) **Стол** (<u>ID стола</u>, размещение стола, занятость стола, вместимость стола)

d) **Должность** (<u>ID должности</u>, оклад, категория сотрудника)

e) **Закупки** (<u>ID закупки</u>, ID поставщика, дата закупки, объём закупки)

f) **Состав закупки** (<u>ID состава закупки</u>, ID закупки, ID ингредиента, стоимость, нужный запас)

g) **Сотрудники** (<u>ID сотрудника</u>, ID должности, Фамилия, имя, отчество, паспорт сотрудника)

h) **Официант** (<u>ID Официанта</u>, ID сотрудника)

i) **Заказы** (<u>ID заказа</u>, ID стола, ID Официанта, Дата заказа, Примечание, Количество заказа)

j) **Повара** (<u>ID Повара</u>, ID сотрудника, набор блюд)

k) **Блюдо** (<u>ID блюда</u>, ID заказа, ID повара, объём, вес)

l) **Состав Блюда** (ID ингредиента, ID блюда, количество ингредиентов)

2. Схема логической модели БД в нотации IDEF1X:

Position
- 🔑 id_position integer
- salary real
- employer_category character varying(20)

Employer
- 🔑 id_employer integer
- 🔑 id_position integer
- family character varying(20)
- name character varying(20)
- patronomyc character varying(20)
- employer_passport character varying(20)

Platen
- 🔑 id_table integer
- table_occupation character varying(20)
- table_capacity integer
- place_of_table character varying(20)

Waiter
- 🔑 id_waiter integer
- 🔑 id_employer integer

Cook
- 🔑 id_cook integer
- set_of_dishes character varying(50)
- 🔑 id_employer integer

Orders
- 🔑 id_order integer
- 🔑 id_table integer
- 🔑 id_waiter integer
- date_order date
- notion character varying(50)
- count_order integer

Supplier
- 🔑 id_supplier integer
- supplier_name character varying(50)
- supplier_city character varying(50)
- supplier_country character varying(50)

Dishes
- 🔑 id_dish integer
- 🔑 id_order integer
- 🔑 id_cook integer
- volume real
- weight real

Ingredient
- 🔑 id_ingredient integer
- ingredient_price real
- ingredient_type character varying(20)
- ingredient_name character varying(20)
- ingredient_volume real
- count_on_warehouse real
- ingredient_bbd date
- calories real

Purchase
- 🔑 id_purchase integer
- purchase_date date
- purchase_volume real
- 🔑 id_supplier integer

Dish_composition
- 🔑 id_ingredient integer
- 🔑 id_dish integer
- count_ingredient real

Purchase_composition
- 🔑 id_purchase_composition integer
- 🔑 id_purchase integer
- cost real
- right_stock real
- 🔑 id_ingredient integer

Заполнение таблиц рабочими данными

Для заполнения использовался скрипт: *INSERT INTO (модификатор доступа)."Имя таблицы"(столбцы) VALUES (значения)*

	id_order [PK] integer	id_table integer	id_waiter integer	date_order date	notion character varying (50)	count_order integer
1	111161	111151	111131	2022-05-31	no	20
2	111162	111151	111133	2022-06-01	no salt	17
3	111163	111153	111132	2022-06-02	no chilly	4
4	111164	111155	111131	2022-06-03	no sugar	5
5	111165	111157	111132	2022-06-04	no	8
6	111166	111158	111133	2022-06-05	no	10
7	111167	111158	111132	2022-06-07	no	11
8	111168	111159	111133	2022-06-08	no	20

```
INSERT INTO public."Orders"(
    id_order, id_table, id_waiter, date_order, notion, count_order)
    VALUES
    (111161, 111151, 111131, '2022-05-31' :: date, 'no', 20),
    (111162, 111151, 111133, '2022-06-01' :: date, 'no salt', 17),
    (111163, 111153, 111132, '2022-06-02' :: date, 'no chilly', 4),
    (111164, 111155, 111131, '2022-06-03' :: date, 'no sugar', 5),
    (111165, 111157, 111132, '2022-06-04' :: date, 'no', 8),
    (111166, 111158, 111133, '2022-06-05' :: date, 'no', 10),
    (111167, 111158, 111132, '2022-06-07' :: date, 'no', 11),
    (111168, 111159, 111133, '2022-06-08' :: date, 'no', 20),
    (111169, 111153, 111131, '2022-06-09' :: date, 'no', 4),
```

ДАМП СО СКРИПТАМИ:

Создаем базу данных:

CREATE DATABASE courses WITH TEMPLATE = template0
ENCODING = 'UTF8' LOCALE = 'Russian_Russia.1251';
ALTER DATABASE VAR13 OWNER TO postgres;
\connect VAR13
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;
--
-- Name: courses; Type: SCHEMA; Schema: -; Owner: postgres
```

<mark>Создаем схему:</mark>

```
CREATE SCHEMA VAR13;
ALTER SCHEMA VAR13 OWNER TO postgres;
SET default_tablespace = '';
SET default_table_access_method = heap;
```

<mark>Создаем таблицы:</mark>

```
--
-- TOC entry 3435 (class 0 OID 49173)
-- Dependencies: 209
-- Data for Name: Cook; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Cook" (id_cook, set_of_dishes, id_employer) FROM stdin;
111141     fried/stewed 111123
111142     stewed/boiled        111124
111143     boiled/fried 111125
\.



--
-- TOC entry 3436 (class 0 OID 49176)
-- Dependencies: 210
-- Data for Name: Dish_composition; Type: TABLE DATA; Schema: public; Owner:
postgres
--
```

COPY public."Dish_composition" (id_ingredient, id_dish, count_ingredient) FROM stdin;

111181	111171	1
111182	111171	1
111186	111171	3
111186	111172	2
111184	111172	2
111188	111172	4
111183	111173	2
111188	111173	2
111182	111173	1
111185	111174	1
111181	111174	2
111186	111174	2
111184	111175	3
111181	111175	2
111187	111175	2
111183	111176	3
111182	111176	2
111187	111176	2
111187	111177	4
111188	111177	4
111186	111177	4
111187	111178	4
111188	111178	4
111181	111179	3
111182	111179	2
111181	111800	3

\.

--

-- TOC entry 3437 (class 0 OID 49179)

-- Dependencies: 211

-- Data for Name: Dishes; Type: TABLE DATA; Schema: public; Owner: postgres

--

```
COPY public."Dishes" (id_dish, id_order, id_cook, volume, weight) FROM stdin;
111171	111161	111141	150.5	420
111172	111162	111142	90.3	115.2
111173	111163	111143	40.6	50
111174	111164	111142	45.2	55.7
111175	111165	111143	75.5	90.1
111176	111166	111141	80	100.2
111177	111167	111143	85.3	125.2
111178	111168	111142	160.3	330.7
111179	111169	111141	36.6	78.8
111800	111700	111142	455.5	774.7
\.
```

--
-- TOC entry 3438 (class 0 OID 49182)
-- Dependencies: 212
-- Data for Name: Employer; Type: TABLE DATA; Schema: public; Owner: postgres
--

```
COPY public."Employer" (id_employer, id_position, family, name, patronomyc, employer_passport) FROM stdin;
111121	111114	Nagiev	Dmitriy	Vladimirovich	6716 53355
111122	111111	Victoryia	Lazareva	Sergeevna	6728 22837
111123	111113	Dobroslave	Shiryaev	Nurzupaevicg	6111 11111
111124	111113	IsmailDarzaev	Umarshapaevich	6111 195851
111125	111113	Maxim	Prihodko	Tatianovich	6111 133337
111126	111112	Ksenya	Sergeeva	Sergeevna	11 124566
111127	111112	Mihail	Romanov	Yanovich	6666 133728
111128	111112	Mihail	Zaxarov	Yanovich	6636 135628
\.
```

--
-- TOC entry 3439 (class 0 OID 49185)
-- Dependencies: 213

-- Data for Name: Ingredient; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Ingredient" (id_ingredient, ingredient_price, ingredient_type, ingredient_name, ingredient_volume, count_on_warehouse, ingredient_bbd, calories) FROM stdin;

111181	100	no vegan	eggs	50	400	2022-08-31	115.5
111182	45	vegan	bread	35.5	40	2022-06-30	45.5
111183	170	no vegan	chicken	400	150	2022-07-15	170.5
111184	300	no vegan	beef	450	250	2022-07-10	245.5
111185	250	no vegan	pig	445	225	2022-07-10	235.5
111186	70	vegan	grain	60	500	2023-01-01	0.85
111187	80	vegan	fruits	70	500	2022-06-30	15.8
111188	80	vegan	vegetables	70	500	2022-06-30	15.8

\.

--
-- TOC entry 3440 (class 0 OID 49188)
-- Dependencies: 214
-- Data for Name: Orders; Type: TABLE DATA; Schema: public; Owner: postgres
--

COPY public."Orders" (id_order, id_table, id_waiter, date_order, notion, count_order) FROM stdin;

111161	111151	111131	2022-05-31	no	5
111162	111151	111133	2022-06-01	no salt	6
111163	111153	111132	2022-06-02	no chilly	3
111164	111155	111131	2022-06-03	no sugar	4
111165	111157	111132	2022-06-04	no	4
111166	111158	111133	2022-06-05	no	4
111167	111158	111132	2022-06-07	no	5
111168	111159	111133	2022-06-08	no	2
111169	111153	111131	2022-06-09	no	3
111700	111159	111132	2022-06-10	no sauce	2

\.

--

-- TOC entry 3441 (class 0 OID 49191)

-- Dependencies: 215

-- Data for Name: Platen; Type: TABLE DATA; Schema: public; Owner: postgres

--

COPY public."Platen" (id_table, table_occupation, table_capacity, place_of_table) FROM stdin;

111151	armored	5	exit
111152	free	5	exit
111153	armored	2	kitchen
111155	armored	4	middle room
111154	free	20	middle room
111156	free	10	kitchen
111157	armored	4	middle room
111158	armored	4	exit
111159	armored	2	middle room

\.

--

-- TOC entry 3442 (class 0 OID 49194)

-- Dependencies: 216

-- Data for Name: Position; Type: TABLE DATA; Schema: public; Owner: postgres

--

COPY public."Position" (id_position, salary, employer_category) FROM stdin;

111111	30000	manager
111112	25000	waiter
111113	60000	cook
111114	75000	director
111115	15000	cleaner
111116	20000	barmen

\.

--

-- TOC entry 3443 (class 0 OID 49197)

-- Dependencies: 217

-- Data for Name: Purchase; Type: TABLE DATA; Schema: public; Owner: postgres

--

COPY public."Purchase" (id_purchase, purchase_date, purchase_volume, id_supplier) FROM stdin;

111101	2022-04-28	272625	111191
111102	2022-04-29	70000	111193
111103	2022-04-30	51491	111192

\.

--

-- TOC entry 3444 (class 0 OID 49200)

-- Dependencies: 218

-- Data for Name: Purchase_composition; Type: TABLE DATA; Schema: public; Owner: postgres

--

COPY public."Purchase_composition" (id_purchase_composition, id_purchase, cost, right_stock, id_ingredient) FROM stdin;

111004	111102	40000	500	111187
111005	111102	40000	500	111188
111001	111101	25500	400	111183
111002	111101	75000	450	111184
111003	111101	56250	445	111185
111006	111103	40000	400	111181
111007	111103	1800	40	111182
111008	111103	35000	500	111186

\.

--

-- TOC entry 3445 (class 0 OID 49203)

-- Dependencies: 219

-- Data for Name: Supplier; Type: TABLE DATA; Schema: public; Owner: postgres

--

COPY public."Supplier" (id_supplier, supplier_name, supplier_city, supplier_country) FROM stdin;
111191   Soslan   MoscowCity   Moscow
111192   Seraphim   Pittsburg   Russia
111193   Ramzan   Chechnya   Kavkaz
\.

--

-- TOC entry 3448 (class 0 OID 49208)

-- Dependencies: 222

-- Data for Name: Waiter; Type: TABLE DATA; Schema: public; Owner: postgres

--

COPY public."Waiter" (id_waiter, id_employer) FROM stdin;
111131   111126
111132   111127
111133   111128
\.

--

-- TOC entry 3455 (class 0 OID 0)

-- Dependencies: 220

-- Name: Supplier_id_supplier_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres

--

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

--

-- TOC entry 3456 (class 0 OID 0)

-- Dependencies: 221

-- Name: Table_id_table_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

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

--
-- TOC entry 3457 (class 0 OID 0)
-- Dependencies: 223
-- Name: Waiter_id_waiter_seq; Type: SEQUENCE SET; Schema: public; Owner: postgres
--

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

--
-- TOC entry 3210 (class 2606 OID 49212)
-- Name: Cook Cook_id_cook_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Cook"
    ADD CONSTRAINT "Cook_id_cook_check" CHECK ((id_cook > 0)) NOT VALID;

--
-- TOC entry 3229 (class 2606 OID 49214)
-- Name: Cook Cook_id_cook_id_cook1_key; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Cook"
    ADD CONSTRAINT "Cook_id_cook_id_cook1_key" UNIQUE (id_cook) INCLUDE (id_cook);

--
-- TOC entry 3231 (class 2606 OID 49216)
-- Name: Cook Cook_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Cook"
    ADD CONSTRAINT "Cook_pkey" PRIMARY KEY (id_cook);

--
-- TOC entry 3211 (class 2606 OID 49217)
-- Name: Dish_composition Dish_composition_count_ingredient_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Dish_composition"
    ADD CONSTRAINT "Dish_composition_count_ingredient_check" CHECK ((count_ingredient > (0)::double precision)) NOT VALID;

--
-- TOC entry 3212 (class 2606 OID 49218)
-- Name: Dish_composition Dish_composition_id_dish_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Dish_composition"
    ADD CONSTRAINT "Dish_composition_id_dish_check" CHECK ((id_dish > 0)) NOT VALID;

--
-- TOC entry 3213 (class 2606 OID 49219)
-- Name: Dish_composition Dish_composition_id_ingredient_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Dish_composition"
    ADD CONSTRAINT "Dish_composition_id_ingredient_check" CHECK
((id_ingredient > 0)) NOT VALID;

--

-- TOC entry 3234 (class 2606 OID 49221)

-- Name: Dish_composition Dish_composition_pkey; Type: CONSTRAINT; Schema:
public; Owner: postgres

--

ALTER TABLE ONLY public."Dish_composition"
    ADD CONSTRAINT "Dish_composition_pkey" PRIMARY KEY (id_ingredient,
id_dish);

--

-- TOC entry 3214 (class 2606 OID 49222)

-- Name: Dishes Dishes_id_dish_check; Type: CHECK CONSTRAINT; Schema:
public; Owner: postgres

--

ALTER TABLE public."Dishes"
    ADD CONSTRAINT "Dishes_id_dish_check" CHECK ((id_dish > 0)) NOT
VALID;

--

-- TOC entry 3237 (class 2606 OID 49224)

-- Name: Dishes Dishes_id_dish_id_dish1_key; Type: CONSTRAINT; Schema:
public; Owner: postgres

--

ALTER TABLE ONLY public."Dishes"
    ADD CONSTRAINT "Dishes_id_dish_id_dish1_key" UNIQUE (id_dish)
INCLUDE (id_dish);

--

-- TOC entry 3239 (class 2606 OID 49226)

-- Name: Dishes Dishes_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Dishes"

   ADD CONSTRAINT "Dishes_pkey" PRIMARY KEY (id_dish);

--

-- TOC entry 3215 (class 2606 OID 49227)

-- Name: Dishes Dishes_volume_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Dishes"

   ADD CONSTRAINT "Dishes_volume_check" CHECK ((volume > (0)::double precision)) NOT VALID;

--

-- TOC entry 3216 (class 2606 OID 49228)

-- Name: Dishes Dishes_weight_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Dishes"

   ADD CONSTRAINT "Dishes_weight_check" CHECK ((weight > (0)::double precision)) NOT VALID;

--

-- TOC entry 3217 (class 2606 OID 49229)

-- Name: Employer Employer_id_employer_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

```
ALTER TABLE public."Employer"
    ADD CONSTRAINT "Employer_id_employer_check" CHECK ((id_employer > 0))
NOT VALID;
```

--
-- TOC entry 3243 (class 2606 OID 49231)
-- Name: Employer Employer_id_employer_id_employer1_key; Type: CONSTRAINT; Schema: public; Owner: postgres
--

```
ALTER TABLE ONLY public."Employer"
    ADD CONSTRAINT "Employer_id_employer_id_employer1_key" UNIQUE
(id_employer) INCLUDE (id_employer);
```

--
-- TOC entry 3245 (class 2606 OID 49233)
-- Name: Employer Employer_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

```
ALTER TABLE ONLY public."Employer"
    ADD CONSTRAINT "Employer_pkey" PRIMARY KEY (id_employer);
```

--
-- TOC entry 3218 (class 2606 OID 49234)
-- Name: Ingredient Ingredient_id_ingredient_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

```
ALTER TABLE public."Ingredient"
    ADD CONSTRAINT "Ingredient_id_ingredient_check" CHECK ((id_ingredient >
0)) NOT VALID;
```

--

-- TOC entry 3248 (class 2606 OID 49236)

-- Name: Ingredient Ingredient_id_ingredient_id_ingredient1_key; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Ingredient"

    ADD CONSTRAINT "Ingredient_id_ingredient_id_ingredient1_key" UNIQUE (id_ingredient) INCLUDE (id_ingredient);

--

-- TOC entry 3250 (class 2606 OID 49238)

-- Name: Ingredient Ingredient_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Ingredient"

    ADD CONSTRAINT "Ingredient_pkey" PRIMARY KEY (id_ingredient);

--

-- TOC entry 3219 (class 2606 OID 49239)

-- Name: Orders Orders_id_order_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Orders"

    ADD CONSTRAINT "Orders_id_order_check" CHECK ((id_order > 0)) NOT VALID;

--

-- TOC entry 3252 (class 2606 OID 49241)

-- Name: Orders Orders_id_order_id_order1_key; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Orders"

ADD CONSTRAINT "Orders_id_order_id_order1_key" UNIQUE (id_order) INCLUDE (id_order);

--
-- TOC entry 3254 (class 2606 OID 49243)
-- Name: Orders Orders_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Orders"
    ADD CONSTRAINT "Orders_pkey" PRIMARY KEY (id_order);

--
-- TOC entry 3220 (class 2606 OID 49244)
-- Name: Platen Platen_id_table_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Platen"
    ADD CONSTRAINT "Platen_id_table_check" CHECK ((id_table > 0)) NOT VALID;

--
-- TOC entry 3258 (class 2606 OID 49246)
-- Name: Platen Platen_id_table_key; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Platen"
    ADD CONSTRAINT "Platen_id_table_key" UNIQUE (id_table);

--
-- TOC entry 3260 (class 2606 OID 49248)
-- Name: Platen Platen_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Platen"
    ADD CONSTRAINT "Platen_pkey" PRIMARY KEY (id_table);

--

-- TOC entry 3221 (class 2606 OID 49249)

-- Name: Platen Platen_table_capacity_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Platen"
    ADD CONSTRAINT "Platen_table_capacity_check" CHECK ((table_capacity > 0)) NOT VALID;

--

-- TOC entry 3222 (class 2606 OID 49250)

-- Name: Position Position_id_position_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Position"
    ADD CONSTRAINT "Position_id_position_check" CHECK ((id_position > 0)) NOT VALID;

--

-- TOC entry 3262 (class 2606 OID 49252)

-- Name: Position Position_id_position_id_position1_key; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Position"
    ADD CONSTRAINT "Position_id_position_id_position1_key" UNIQUE (id_position) INCLUDE (id_position);

--

-- TOC entry 3264 (class 2606 OID 49254)

-- Name: Position Position_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Position"

   ADD CONSTRAINT "Position_pkey" PRIMARY KEY (id_position);

--

-- TOC entry 3223 (class 2606 OID 49255)

-- Name: Position Position_salary_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Position"

   ADD CONSTRAINT "Position_salary_check" CHECK ((salary > (0)::double precision)) NOT VALID;

--

-- TOC entry 3225 (class 2606 OID 49256)

-- Name: Purchase_composition Purchase_composition_id_purchase_composition_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Purchase_composition"

   ADD CONSTRAINT "Purchase_composition_id_purchase_composition_check" CHECK ((id_purchase_composition > 0)) NOT VALID;

--

-- TOC entry 3271 (class 2606 OID 49258)

-- Name: Purchase_composition Purchase_composition_id_purchase_composition_id_purchase_co_key; Type:

CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Purchase_composition"
    ADD CONSTRAINT
"Purchase_composition_id_purchase_composition_id_purchase_co_key" UNIQUE
(id_purchase_composition) INCLUDE (id_purchase_composition);

--
-- TOC entry 3273 (class 2606 OID 49260)
-- Name: Purchase_composition Purchase_composition_pkey; Type: CONSTRAINT;
Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Purchase_composition"
    ADD CONSTRAINT "Purchase_composition_pkey" PRIMARY KEY
(id_purchase_composition);

--
-- TOC entry 3224 (class 2606 OID 49261)
-- Name: Purchase Purchase_id_purchase_check; Type: CHECK CONSTRAINT;
Schema: public; Owner: postgres
--

ALTER TABLE public."Purchase"
    ADD CONSTRAINT "Purchase_id_purchase_check" CHECK ((id_purchase > 0))
NOT VALID;

--
-- TOC entry 3266 (class 2606 OID 49263)
-- Name: Purchase Purchase_id_purchase_id_purchase1_key; Type: CONSTRAINT;
Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Purchase"

ADD CONSTRAINT "Purchase_id_purchase_id_purchase1_key" UNIQUE (id_purchase) INCLUDE (id_purchase);

--
-- TOC entry 3268 (class 2606 OID 49265)
-- Name: Purchase Purchase_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Purchase"
    ADD CONSTRAINT "Purchase_pkey" PRIMARY KEY (id_purchase);

--
-- TOC entry 3226 (class 2606 OID 49266)
-- Name: Supplier Supplier_id_supplier_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE public."Supplier"
    ADD CONSTRAINT "Supplier_id_supplier_check" CHECK ((id_supplier > 0)) NOT VALID;

--
-- TOC entry 3277 (class 2606 OID 49268)
-- Name: Supplier Supplier_id_supplier_key; Type: CONSTRAINT; Schema: public; Owner: postgres
--

ALTER TABLE ONLY public."Supplier"
    ADD CONSTRAINT "Supplier_id_supplier_key" UNIQUE (id_supplier);

--
-- TOC entry 3279 (class 2606 OID 49270)
-- Name: Supplier Supplier_pkey; Type: CONSTRAINT; Schema: public; Owner:

postgres

--

ALTER TABLE ONLY public."Supplier"
    ADD CONSTRAINT "Supplier_pkey" PRIMARY KEY (id_supplier);

--

-- TOC entry 3227 (class 2606 OID 49271)

-- Name: Waiter Waiter_id_waiter_check; Type: CHECK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE public."Waiter"
    ADD CONSTRAINT "Waiter_id_waiter_check" CHECK ((id_waiter > 0)) NOT VALID;

--

-- TOC entry 3281 (class 2606 OID 49273)

-- Name: Waiter Waiter_id_waiter_id_waiter1_key; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Waiter"
    ADD CONSTRAINT "Waiter_id_waiter_id_waiter1_key" UNIQUE (id_waiter) INCLUDE (id_waiter);

--

-- TOC entry 3283 (class 2606 OID 49275)

-- Name: Waiter Waiter_pkey; Type: CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Waiter"
    ADD CONSTRAINT "Waiter_pkey" PRIMARY KEY (id_waiter);

```
--
-- TOC entry 3240 (class 1259 OID 49276)
-- Name: fki_Cook_id_cook_fkey; Type: INDEX; Schema: public; Owner: postgres
--

CREATE INDEX "fki_Cook_id_cook_fkey" ON public."Dishes" USING btree (id_cook);


--
-- TOC entry 3235 (class 1259 OID 49277)
-- Name: fki_Dishes_id_dish_fkey; Type: INDEX; Schema: public; Owner: postgres
--

CREATE INDEX "fki_Dishes_id_dish_fkey" ON public."Dish_composition" USING btree (id_dish);


--
-- TOC entry 3232 (class 1259 OID 49278)
-- Name: fki_Employer_id_employer_fkey; Type: INDEX; Schema: public; Owner: postgres
--

CREATE INDEX "fki_Employer_id_employer_fkey" ON public."Cook" USING btree (id_employer);


--
-- TOC entry 3274 (class 1259 OID 49279)
-- Name: fki_Ingredient_id_ingredient_fkey; Type: INDEX; Schema: public; Owner: postgres
--

CREATE INDEX "fki_Ingredient_id_ingredient_fkey" ON public."Purchase_composition" USING btree (id_ingredient);
```

--

-- TOC entry 3241 (class 1259 OID 49280)

-- Name: fki_Orders_id_order_fkey; Type: INDEX; Schema: public; Owner: postgres

--

CREATE INDEX "fki_Orders_id_order_fkey" ON public."Dishes" USING btree (id_order);

--

-- TOC entry 3246 (class 1259 OID 49281)

-- Name: fki_Position_id_position_fkey; Type: INDEX; Schema: public; Owner: postgres

--

CREATE INDEX "fki_Position_id_position_fkey" ON public."Employer" USING btree (id_position);

--

-- TOC entry 3275 (class 1259 OID 49282)

-- Name: fki_Purchase_id_purchase_fkey; Type: INDEX; Schema: public; Owner: postgres

--

CREATE INDEX "fki_Purchase_id_purchase_fkey" ON public."Purchase_composition" USING btree (id_purchase);

--

-- TOC entry 3269 (class 1259 OID 49283)

-- Name: fki_Purchase_id_supplier_fkey; Type: INDEX; Schema: public; Owner: postgres

--

CREATE INDEX "fki_Purchase_id_supplier_fkey" ON public."Purchase" USING btree (id_purchase);

--

-- TOC entry 3255 (class 1259 OID 49284)

-- Name: fki_Table_id_table_fkey; Type: INDEX; Schema: public; Owner: postgres

--

CREATE INDEX "fki_Table_id_table_fkey" ON public."Orders" USING btree (id_table);

--

-- TOC entry 3256 (class 1259 OID 49285)

-- Name: fki_Waiter_id_waiter_fkey; Type: INDEX; Schema: public; Owner: postgres

--

CREATE INDEX "fki_Waiter_id_waiter_fkey" ON public."Orders" USING btree (id_waiter);

--

-- TOC entry 3287 (class 2606 OID 49286)

-- Name: Dishes Cook_id_cook_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Dishes"
    ADD CONSTRAINT "Cook_id_cook_fkey" FOREIGN KEY (id_cook) REFERENCES public."Cook"(id_cook) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3285 (class 2606 OID 49291)

-- Name: Dish_composition Dishes_id_dish_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Dish_composition"

   ADD CONSTRAINT "Dishes_id_dish_fkey" FOREIGN KEY (id_dish) REFERENCES public."Dishes"(id_dish) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3284 (class 2606 OID 49296)

-- Name: Cook Employer_id_employer_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Cook"

   ADD CONSTRAINT "Employer_id_employer_fkey" FOREIGN KEY (id_employer) REFERENCES public."Employer"(id_employer) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3295 (class 2606 OID 49301)

-- Name: Waiter Employer_id_employer_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Waiter"

   ADD CONSTRAINT "Employer_id_employer_fkey" FOREIGN KEY (id_employer) REFERENCES public."Employer"(id_employer) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3286 (class 2606 OID 49306)

-- Name: Dish_composition Ingredient_id_ingredient_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Dish_composition"

   ADD CONSTRAINT "Ingredient_id_ingredient_fkey" FOREIGN KEY (id_ingredient) REFERENCES public."Ingredient"(id_ingredient) ON UPDATE

RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3293 (class 2606 OID 49311)

-- Name: Purchase_composition Ingredient_id_ingredient_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Purchase_composition"

    ADD CONSTRAINT "Ingredient_id_ingredient_fkey" FOREIGN KEY (id_ingredient) REFERENCES public."Ingredient"(id_ingredient) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3288 (class 2606 OID 49316)

-- Name: Dishes Orders_id_order_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Dishes"

    ADD CONSTRAINT "Orders_id_order_fkey" FOREIGN KEY (id_order) REFERENCES public."Orders"(id_order) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3290 (class 2606 OID 49321)

-- Name: Orders Platen_id_table_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Orders"

    ADD CONSTRAINT "Platen_id_table_fkey" FOREIGN KEY (id_table) REFERENCES public."Platen"(id_table) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3289 (class 2606 OID 49326)

-- Name: Employer Position_id_position_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Employer"

    ADD CONSTRAINT "Position_id_position_fkey" FOREIGN KEY (id_position) REFERENCES public."Position"(id_position) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3294 (class 2606 OID 49331)

-- Name: Purchase_composition Purchase_id_purchase_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Purchase_composition"

    ADD CONSTRAINT "Purchase_id_purchase_fkey" FOREIGN KEY (id_purchase) REFERENCES public."Purchase"(id_purchase) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3292 (class 2606 OID 49336)

-- Name: Purchase Purchase_id_supplier_fkey; Type: FK CONSTRAINT; Schema: public; Owner: postgres

--

ALTER TABLE ONLY public."Purchase"

    ADD CONSTRAINT "Purchase_id_supplier_fkey" FOREIGN KEY (id_purchase) REFERENCES public."Purchase"(id_purchase) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

--

-- TOC entry 3291 (class 2606 OID 49341)

-- Name: Orders Waiter_id_waiter_fkey; Type: FK CONSTRAINT; Schema: public;

Owner: postgres

--

ALTER TABLE ONLY public."Orders"

   ADD CONSTRAINT "Waiter_id_waiter_fkey" FOREIGN KEY (id_waiter) REFERENCES public."Waiter"(id_waiter) ON UPDATE RESTRICT ON DELETE RESTRICT DEFERRABLE INITIALLY DEFERRED;

-- Completed on 2022-04-17 17:22:04

--

-- PostgreSQL database dump complete

--Созданием бэкапа и его восстановление:

Backing up an object on the server

Backing up an object on the server 'PostgreSQL 14 (localhost:5432)' from database 'VAR13'

Sun Apr 17 2022 17:22:03 GMT+0300 (Москва, стандартное время)

🕐 1.02 seconds   ℹ More details...   ⊗ Stop Process

✔   Successfully completed.

Restoring backup on the server

Restoring backup on the server 'PostgreSQL 14 (localhost:5432)'

Sun Apr 17 2022 17:20:23 GMT+0300 (Москва, стандартное время)

🕐 0.65 seconds   ℹ More details...   ⊗ Stop Process

✔   Successfully completed.

Вывод:

PgAdmin – достаточно удобная программа для создания баз данных PostgreSQL, обладающая приемлемо интуитивным интерфейсом, разобраться с которым новичку не доставит великих проблем. Но, к сожалению, программа обладает неявными ограничениями или даже багами, с которыми новичку самостоятельно справиться будет гораздо тяжелее. К примеру, с чем столкнулся Я: невозможность задать ограничение для столбца, если его имя содержит символы верхнего регистра, необходимость использовать скрипты SELECT, INSERT, DELETE, etc., так как программа не воспринимает стандартный метод ввода SQL.