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“Национальный исследовательский университет ИТМО”

Факультет инфокоммуникационных технологий

ЛАБОРАТОРНАЯ РАБОТА №2

Анализ данных. Построение инфологической модели данных БД

по дисциплине:
«Базы данных»

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Цель работы:

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

Программное обеспечение:

СУБД PostgreSQL 14, 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.

Ход работы:

Была установлена СУБД PostgreSQL версии 14, а также платформа администрирования Pgadmin 4. Согласно индивидуальному заданию была реализована база данных «Отель» в соответствии со схемой ИЛМ (рис.1)

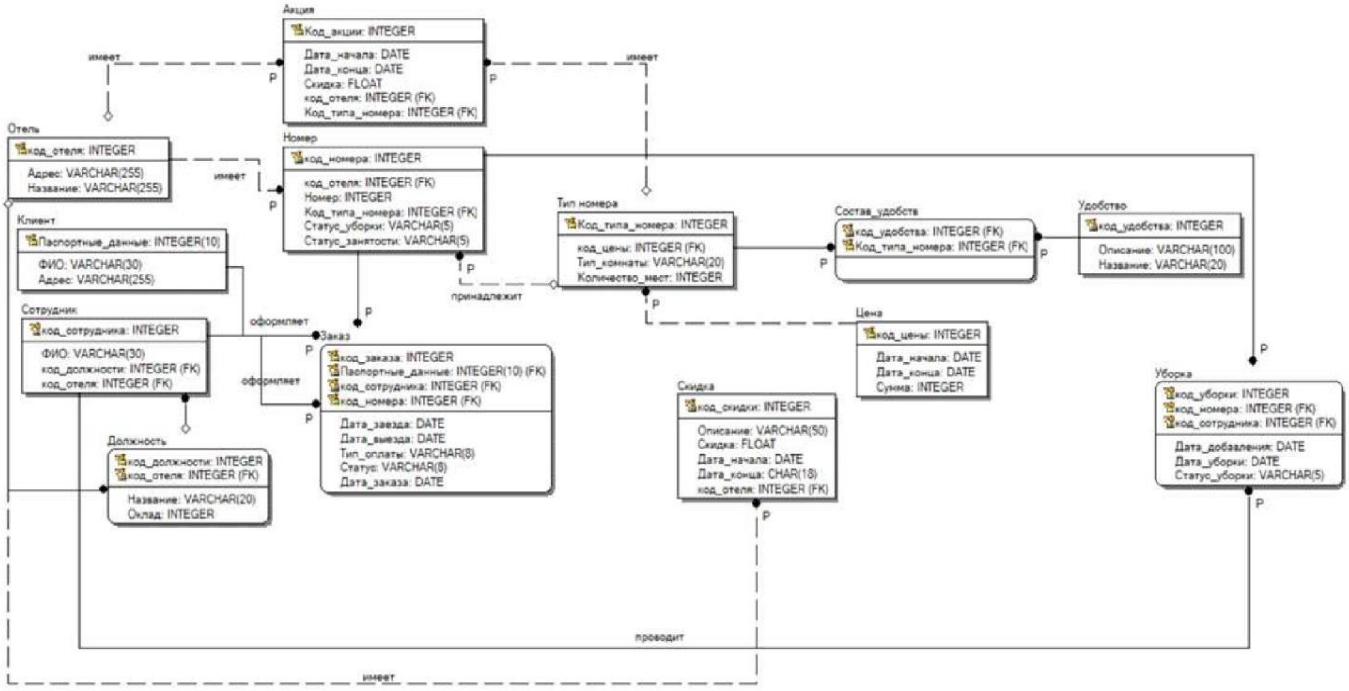

Рисунок 1 – Инфологическая модель базы данных в нотации IDEF1X

Были введены суррогатные ключи для исключения избыточного дублирования данных, внешние ключи (foreign key) и ограничения (check) для поддержания целостности данных. Была создана ER-модель бд (рис. 2).

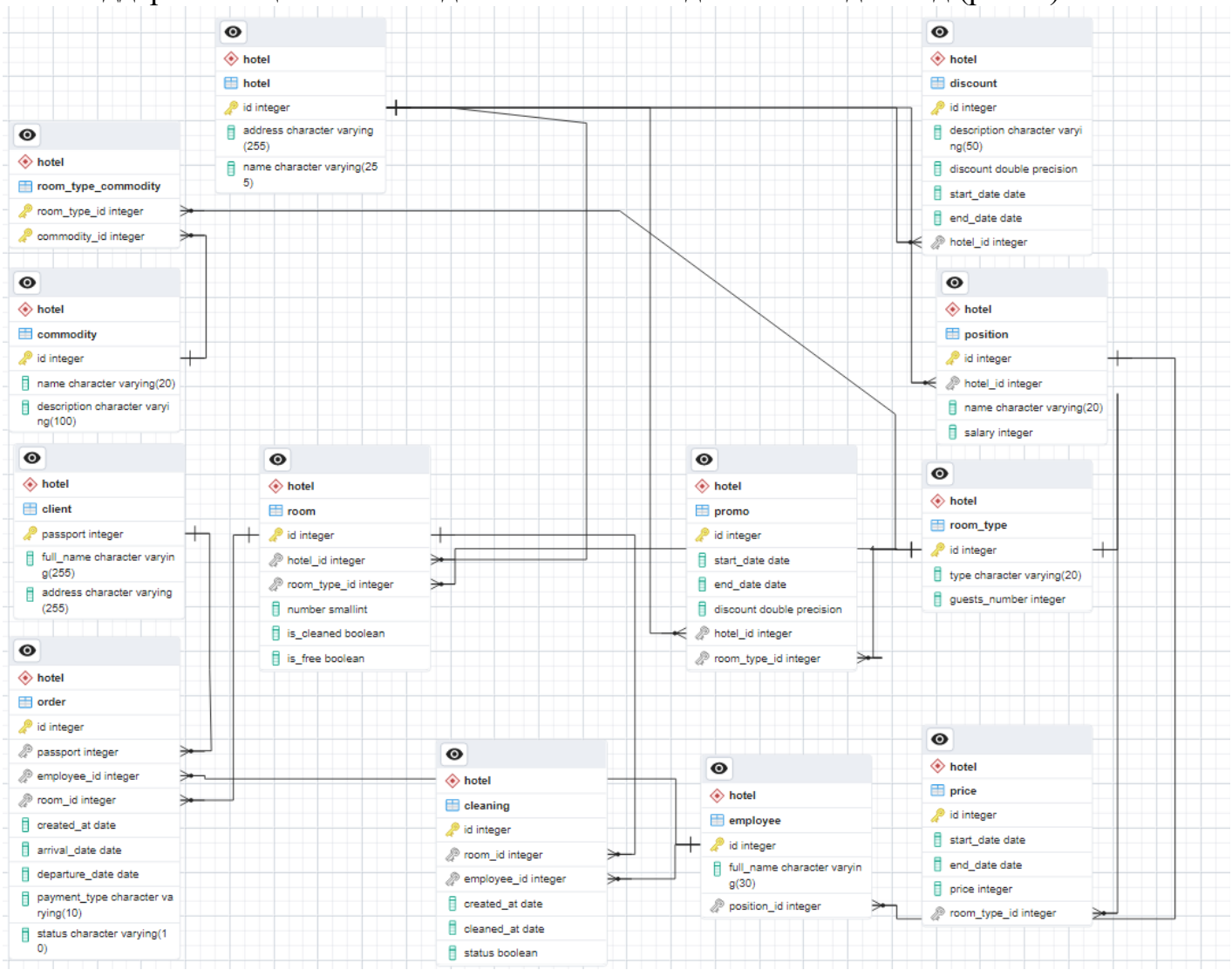

Рисунок 2 – ER диаграмма базы данных

После база данных была наполнена тестовыми данными.

С помощью утилиты pg_dump была создана резервная копия базы данных (рис.3)

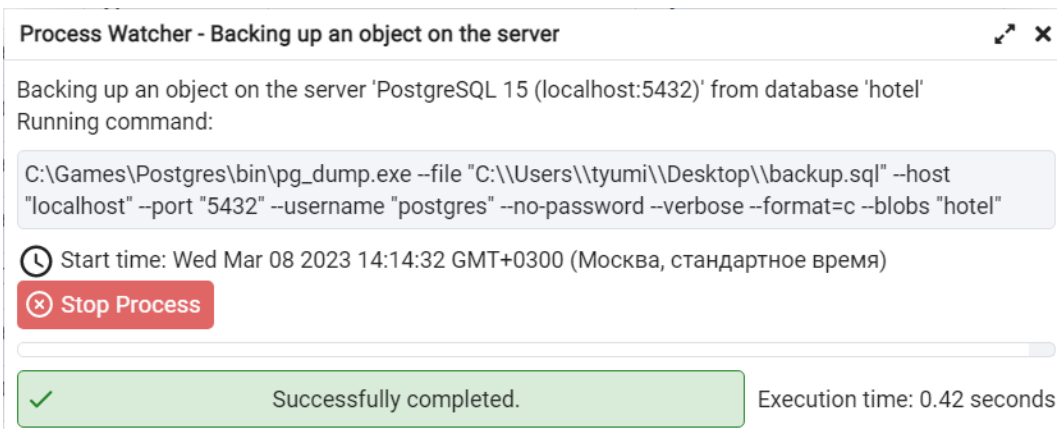

Рисунок 3 – процесс создания резервной копии бд

После – была восстановлена из только что созданной резервной копии (рис. 4).

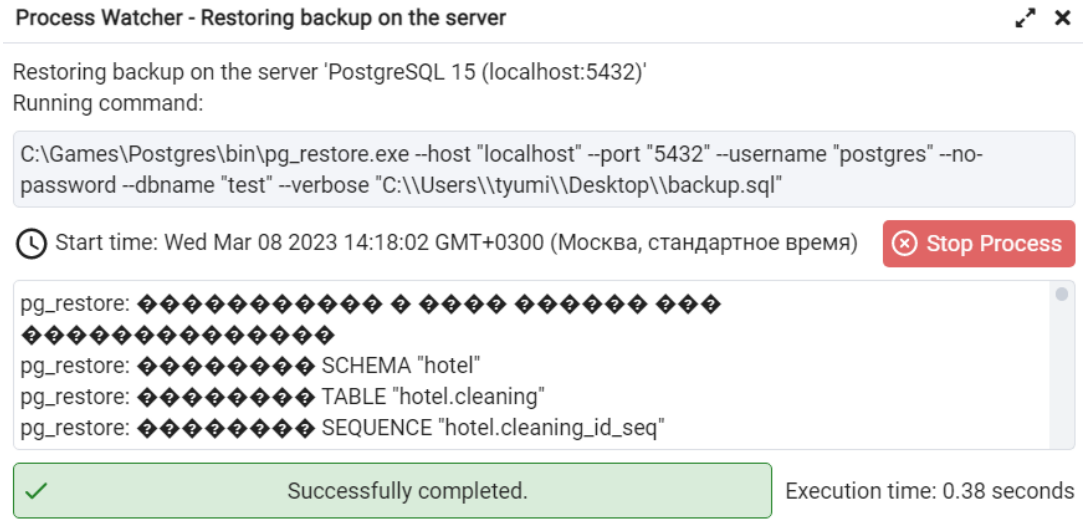

Рисунок 3 – процесс восстановления бд

Листинг резервной копии:

--

-- PostgreSQL database dump

--

-- Dumped from database version 15.2

-- Dumped by pg_dump version 15.2

-- Started on 2023-03-08 14:20:51

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 16400)
-- Name: hotel; Type: SCHEMA; Schema: -; Owner: postgres
--

CREATE SCHEMA hotel;


ALTER SCHEMA hotel OWNER TO postgres;

SET default_tablespace = '';

SET default_table_access_method = heap;

--
-- TOC entry 234 (class 1259 OID 16539)
-- Name: cleaning; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.cleaning (
    id integer NOT NULL,
    room_id integer NOT NULL,
```

```
    employee_id integer NOT NULL,
    created_at date NOT NULL,
    cleaned_at date NOT NULL,
    status boolean NOT NULL
);


ALTER TABLE hotel.cleaning OWNER TO postgres;


--
-- TOC entry 233 (class 1259 OID 16538)
-- Name: cleaning_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--


ALTER TABLE hotel.cleaning ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.cleaning_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);



--
-- TOC entry 217 (class 1259 OID 16409)
```

```
-- Name: client; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.client (
    passport integer NOT NULL,
    full_name character varying(255) NOT NULL,
    address character varying(255) NOT NULL
);


ALTER TABLE hotel.client OWNER TO postgres;

--
-- TOC entry 227 (class 1259 OID 16475)
-- Name: commodity; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.commodity (
    id integer NOT NULL,
    name character varying(20) NOT NULL,
    description character varying(100) NOT NULL
);


ALTER TABLE hotel.commodity OWNER TO postgres;

--
```

```
-- TOC entry 226 (class 1259 OID 16474)
-- Name: commodity_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.commodity ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.commodity_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);



--
-- TOC entry 236 (class 1259 OID 16555)
-- Name: discount; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.discount (
    id integer NOT NULL,
    description character varying(50) NOT NULL,
    discount double precision NOT NULL,
    start_date date NOT NULL,
    end_date date NOT NULL,
    hotel_id integer NOT NULL,
```

```
    CONSTRAINT discount_check CHECK ((start_date <= end_date)),
    CONSTRAINT discount_discount_check CHECK ((discount > (0)::double precision))
);


ALTER TABLE hotel.discount OWNER TO postgres;

--
-- TOC entry 235 (class 1259 OID 16554)
-- Name: discount_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.discount ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.discount_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 221 (class 1259 OID 16439)
-- Name: employee; Type: TABLE; Schema: hotel; Owner: postgres
--
```

```
CREATE TABLE hotel.employee (
    id integer NOT NULL,
    full_name character varying(30) NOT NULL,
    position_id integer NOT NULL
);


ALTER TABLE hotel.employee OWNER TO postgres;

--
-- TOC entry 220 (class 1259 OID 16438)
-- Name: employee_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.employee ALTER COLUMN id ADD GENERATED ALWAYS
AS IDENTITY (
    SEQUENCE NAME hotel.employee_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
```

```
-- TOC entry 216 (class 1259 OID 16402)
-- Name: hotel; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.hotel (
    id integer NOT NULL,
    address character varying(255) NOT NULL,
    name character varying(255) NOT NULL
);


ALTER TABLE hotel.hotel OWNER TO postgres;

--
-- TOC entry 215 (class 1259 OID 16401)
-- Name: hotel_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.hotel ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.hotel_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);
```

```
--
-- TOC entry 238 (class 1259 OID 16568)
-- Name: order; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel."order" (
    id integer NOT NULL,
    passport integer NOT NULL,
    employee_id integer NOT NULL,
    room_id integer NOT NULL,
    created_at date NOT NULL,
    arrival_date date NOT NULL,
    departure_date date NOT NULL,
    payment_type character varying(10) NOT NULL,
    status character varying(10) NOT NULL,
    CONSTRAINT order_check CHECK ((departure_date >= arrival_date))
);


ALTER TABLE hotel."order" OWNER TO postgres;

--
-- TOC entry 237 (class 1259 OID 16567)
-- Name: order_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--
```

```
ALTER TABLE hotel."order" ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.order_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);



--
-- TOC entry 219 (class 1259 OID 16417)
-- Name: position; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel."position" (
    id integer NOT NULL,
    hotel_id integer NOT NULL,
    name character varying(20) NOT NULL,
    salary integer NOT NULL
);



ALTER TABLE hotel."position" OWNER TO postgres;
```

```
--

-- TOC entry 218 (class 1259 OID 16416)

-- Name: position_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres

--


ALTER TABLE hotel."position" ALTER COLUMN id ADD GENERATED ALWAYS
AS IDENTITY (

    SEQUENCE NAME hotel.position_id_seq

    START WITH 1

    INCREMENT BY 1

    NO MINVALUE

    NO MAXVALUE

    CACHE 1

);




--

-- TOC entry 223 (class 1259 OID 16455)

-- Name: price; Type: TABLE; Schema: hotel; Owner: postgres

--


CREATE TABLE hotel.price (

    id integer NOT NULL,

    start_date date NOT NULL,

    end_date date NOT NULL,

    price integer NOT NULL,

    room_type_id integer NOT NULL,
```

```
    CONSTRAINT price_check CHECK ((start_date <= end_date)),
    CONSTRAINT price_price_check CHECK ((price >= 0))
);


ALTER TABLE hotel.price OWNER TO postgres;

--
-- TOC entry 222 (class 1259 OID 16454)
-- Name: price_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.price ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.price_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);


--
-- TOC entry 232 (class 1259 OID 16521)
-- Name: promo; Type: TABLE; Schema: hotel; Owner: postgres
--
```

```
CREATE TABLE hotel.promo (
    id integer NOT NULL,
    start_date date NOT NULL,
    end_date date NOT NULL,
    discount double precision NOT NULL,
    hotel_id integer NOT NULL,
    room_type_id integer NOT NULL,
    CONSTRAINT promo_check CHECK ((end_date >= start_date)),
    CONSTRAINT promo_discount_check CHECK ((discount > (0)::double precision))
);


ALTER TABLE hotel.promo OWNER TO postgres;

--
-- TOC entry 231 (class 1259 OID 16520)
-- Name: promo_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.promo ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.promo_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
```

```
    CACHE 1
);



--
-- TOC entry 230 (class 1259 OID 16501)
-- Name: room; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.room (
    id integer NOT NULL,
    hotel_id integer NOT NULL,
    room_type_id integer NOT NULL,
    number smallint NOT NULL,
    is_cleaned boolean NOT NULL,
    is_free boolean NOT NULL
);



ALTER TABLE hotel.room OWNER TO postgres;

--
-- TOC entry 229 (class 1259 OID 16500)
-- Name: room_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.room ALTER COLUMN id ADD GENERATED ALWAYS AS
```

```
IDENTITY (
    SEQUENCE NAME hotel.room_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);



--
-- TOC entry 225 (class 1259 OID 16463)
-- Name: room_type; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.room_type (
    id integer NOT NULL,
    type character varying(20) NOT NULL,
    guests_number integer NOT NULL,
    CONSTRAINT room_type_guests_number_check CHECK ((guests_number > 0))
);



ALTER TABLE hotel.room_type OWNER TO postgres;

--
-- TOC entry 228 (class 1259 OID 16485)
```

```
-- Name: room_type_commodity; Type: TABLE; Schema: hotel; Owner: postgres
--

CREATE TABLE hotel.room_type_commodity (
    room_type_id integer NOT NULL,
    commodity_id integer NOT NULL
);


ALTER TABLE hotel.room_type_commodity OWNER TO postgres;

--
-- TOC entry 224 (class 1259 OID 16462)
-- Name: room_type_id_seq; Type: SEQUENCE; Schema: hotel; Owner: postgres
--

ALTER TABLE hotel.room_type ALTER COLUMN id ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME hotel.room_type_id_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1
);
```

--

-- TOC entry 3444 (class 0 OID 16539)

-- Dependencies: 234

-- Data for Name: cleaning; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.cleaning (id, room_id, employee_id, created_at, cleaned_at, status) FROM stdin;

\.

--

-- TOC entry 3427 (class 0 OID 16409)

-- Dependencies: 217

-- Data for Name: client; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.client (passport, full_name, address) FROM stdin;

1167417325 Celia Gifford 1216 West Hill Street, Louisville KY 40210

1792718247 Annemarie Ellison 14285 Wycliff Way, Magalia CA 95954

1752570531 Eliseo Oglesby 3111 West Ika Lane, Fayetteville AR 72704

1610526089 Nyasia Kenyon 1430 South Gay Avenue, Panama City FL 32404

1205868007 Josh Delong 407 Bon Air Avenue, Brooklyn Park MD 21225

1795828723 Abdul Carrington 98 Lee Drive, Annapolis MD 21403

\.

--

-- TOC entry 3437 (class 0 OID 16475)

-- Dependencies: 227

-- Data for Name: commodity; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.commodity (id, name, description) FROM stdin;

1 Чайник Электрический чайник.

2 Телевизор Спутниковое телевидение с 30+ каналами

3 Фен Фен "Winder" с насадками

4 Раскладушка Раскладушка, позволяющая поместить в номере еще одно спальное место

5 Джакузи Ванная с джакузи

6 Мини-бар Мини-бар, ассортимент уточняйте у менеджера

7 Балкон Балкон с прекраснейшим видом на город

\.

--

-- TOC entry 3446 (class 0 OID 16555)

-- Dependencies: 236

-- Data for Name: discount; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.discount (id, description, discount, start_date, end_date, hotel_id) FROM stdin;

1 Десятипроцентная скидка пенсионерам 0.1 2023-01-01 2025-01-01 2

2 Десятипроцентная скидка пенсионерам 0.1 2023-01-01 2025-01-01 3

3 Десятипроцентная скидка пенсионерам 0.1 2023-01-01 2025-01-01 4

4 Десятипроцентная скидка пенсионерам 0.1 2023-01-01 2025-01-01 5

5 Десятипроцентная скидка пенсионерам 0.1 2023-01-01 2025-01-01 6

\.

--

-- TOC entry 3431 (class 0 OID 16439)

-- Dependencies: 221

-- Data for Name: employee; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.employee (id, full_name, position_id) FROM stdin;

1 Raiden Hester 1

2 Kaliyah Mora 1

3 Enrique Sullivan 1

4 Randall Underwood 2

5 Mikaela Shaw 2

6 Adelaide Gilbert 3

7 Rory Shannon 3

8 Lyric Zavala4

9 Ansley Chandler 4

10 Paula Petersen 4

11 Heidi Thornton 5

12 Jairo Rosales 5

13 Nicolas Hunter 5

14	Yurem Oconnell	6
15	Cason Hatfield	6
16	Lydia Fritz	6
17	Dania Velazquez	7
18	Aisha Mayo	7
19	Ibrahim Castaneda	8
20	Kaylen Norman	8
21	Saniyah Horton	9
22	Easton Harrington	9
23	Karen Sexton	9
24	Karly Barron	10
25	Rachael Coffey	10
26	Josie Calhoun	10
27	Jessie Oliva	11
28	Hope Merritt	11
29	Samson Spring	11
30	Eleazar Whitaker	12
31	Lauryn Benoit	12
32	Robin Andres	13
33	Jamar Maki	13
34	Marlene Nielson	14
35	Glenn Costa	14
36	Kobe Rosen	14
37	Tanner Mott	15
38	Xander Donnell	15
39	Dajah Storey	15
40	London Varela	16

41	Erika Bassett	16
42	Sam Enriquez	16
43	Caylee Lacey	16
44	Victoria Corral	16
45	Toby Montez	17
46	Kelsie Duval	17
47	Rick Sabo	17
48	Izabella Oakley	17
49	Tai Rhoades	18
50	Jaylon Saavedra	18
51	Marcus Michael	18
52	Starr Goad	19
53	Clay Duong	19
54	Isis Coles	19
55	Tyriq Swann	20
56	Scarlett Nickerson	20
57	Rhiannon Murdock	20
58	Tavion Connolly	20
59	Bryan Lovelace	21
60	Siobhan Pak	21
61	Kourtney Stuckey	21
62	Caylee Lacey	21
63	Jaquelin Hutchings	21
64	Bianca Redding	21
65	Janae Poole	21
66	Antoine Petrie	21
67	Jordan Pimentel	22

68	Patrick Hay	22
69	Yoselin Camacho	22
70	Abbey Schuler	22
71	Dameon Foust	23
72	Cassidy Campbell	23
73	Julieta Haggard	23
74	Triston Dunbar	24
75	Wilfredo Scherer	24
76	Ally Terrell	24
77	Galen Cintron	24
78	Christion Keane	24
79	Brycen Hurtado	25
80	Odalis Aparicio	25
81	Paris Causey	25
82	Charlize Thacker	25
83	Marisela Jaeger	25
84	Nathan Cordero	25
85	Callista Horn	25
86	Brian Walls	25
87	Gregory Schmitz	26
88	Blanca Shifflett	26
89	Anais Parent	26
90	Katlin Rizzo	27
91	Kinsley Neff	27
92	Jaiden Ybarra	28
93	Kalob Fogle	28
94	Gino Chastain	28

95	Estevan Aponte	28
96	Hassan Anguiano	28
97	Montana Morin	28
98	Hassan Anguiano	28
99	Keith Clarkson	28
100	Hannah Roark	29
101	Chester Addison	29
102	Aryanna Cosby	29
103	Nia Kaplan	29
104	Valeria Gunter	30
105	Hope Merritt	30
106	Winter Bynum	30
107	Kelsie Duval	31
108	Mykayla Montano	31
109	Simon Healey	31
110	Tylor Provost	31
111	Kelsie Duval	31
112	Bayley Wesley	32
113	Justice Arndt	32
114	Tina Woodall	32
115	Grant Muse	32
116	Estevan Aponte	32
117	Josh Link	32
118	Makenzi Buck	32
119	Brycen Hurtado	32
120	Tyriq Swann	33
121	Julie Harvey	33

122 Rick Sabo 33

123 Tamara Janssen 34

124 Johnny Dorman 34

\.

--

-- TOC entry 3426 (class 0 OID 16402)

-- Dependencies: 216

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

--

COPY hotel.hotel (id, address, name) FROM stdin;

2 93 NORTH 9TH STREET, BROOKLYN NY 11211 Grand Budapest

3 202 HARLOW ST, BANGOR ME 04401 Marriott

4 1 CLINTON AVE, ALBANY NY 12207 The Luxury Collection Hotels & Resorts

5 7242 ROUTE 9, PLATTSBURGH NY 12901 St Regis Hotels

6 122 W 3RD STREET, GREENSBURG PA 15601 Hyatt

\.

--

-- TOC entry 3448 (class 0 OID 16568)

-- Dependencies: 238

-- Data for Name: order; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel."order" (id, passport, employee_id, room_id, created_at, arrival_date, departure_date, payment_type, status) FROM stdin;

1 1167417325 1 1 2023-02-10 2023-02-11 2023-02-15 card processed

\.

--

-- TOC entry 3429 (class 0 OID 16417)

-- Dependencies: 219

-- Data for Name: position; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel."position" (id, hotel_id, name, salary) FROM stdin;

1 2 Уборщик 20000

2 2 Работник прачечной 20000

3 2 Повар 30000

4 2 Официант 20000

5 2 Менеджер 30000

6 3 Уборщик 20000

7 3 Работник прачечной 20000

8 3 Повар 30000

9 3 Официант 20000

10 3 Менеджер 30000

11 3 Уборщик 20000

12 3 Работник прачечной 20000

13 3 Повар 30000

14 3 Официант 20000

15	3	Менеджер	30000

16	4	Уборщик	20000

17	4	Работник прачечной	20000

18	4	Повар	30000

19	4	Официант	20000

20	4	Менеджер	30000

21	5	Уборщик	20000

22	5	Работник прачечной	20000

23	5	Повар	30000

24	5	Официант	20000

25	5	Менеджер	30000

26	5	Носильщик	20000

27	5	Сантехник	30000

28	6	Уборщик	20000

29	6	Работник прачечной	20000

30	6	Повар	30000

31	6	Официант	20000

32	6	Менеджер	30000

33	6	Носильщик	20000

34	6	Сантехник	30000

\.

--

-- TOC entry 3433 (class 0 OID 16455)

-- Dependencies: 223

-- Data for Name: price; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.price (id, start_date, end_date, price, room_type_id) FROM stdin;

1 2023-01-01 2025-01-01 5000 1

2 2023-01-01 2025-01-01 100002

3 2023-01-01 2030-01-01 150003

4 2023-01-01 2030-01-01 200004

5 2023-01-01 2030-01-01 250005

\.

--

-- TOC entry 3442 (class 0 OID 16521)

-- Dependencies: 232

-- Data for Name: promo; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.promo (id, start_date, end_date, discount, hotel_id, room_type_id) FROM stdin;

\.

--

-- TOC entry 3440 (class 0 OID 16501)

-- Dependencies: 230

-- Data for Name: room; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.room (id, hotel_id, room_type_id, number, is_cleaned, is_free) FROM stdin;

1 2 1 101 t t

2 2 1 102 t t

3 2 1 103 t t

4 2 1 104 t t

5 2 1 105 t t

6 2 1 106 t t

7 2 1 107 t t

8 2 1 108 t t

9 2 1 109 t t

10 2 1 110 t t

11 2 2 201 t t

12 2 2 202 t t

13 2 2 203 t t

14 2 2 204 t t

15 2 2 205 t t

16 2 2 206 t t

17 2 2 207 t t

18 2 2 208 t t

19 2 2 209 t t

20 2 2 210 t t

21 2 3 301 t t

22 2 3 302 t t

23 2 3 303 t t

24 2 3 304 t t

25 2 3 305 t t

26	2	3	306	t	t
27	2	3	307	t	t
28	2	3	308	t	t
29	2	3	309	t	t
30	2	3	310	t	t
32	3	1	101	t	t
33	3	1	102	t	t
34	3	1	103	t	t
35	3	1	104	t	t
36	3	1	105	t	t
37	3	1	106	t	t
38	3	1	107	t	t
39	3	1	108	t	t
40	3	1	109	t	t
41	3	1	110	t	t
42	3	1	201	t	t
43	3	1	202	t	t
44	3	1	203	t	t
45	3	1	204	t	t
46	3	1	205	t	t
47	3	1	206	t	t
48	3	1	207	t	t
49	3	1	208	t	t
50	3	1	209	t	t
51	3	1	210	t	t
52	3	1	301	t	t
53	3	1	302	t	t

54	3	1	303	t	t
55	3	1	304	t	t
56	3	1	305	t	t
57	3	1	306	t	t
58	3	1	307	t	t
59	3	1	308	t	t
60	3	1	309	t	t
61	3	1	310	t	t
62	4	1	101	t	t
63	4	1	102	t	t
64	4	1	103	t	t
65	4	1	104	t	t
66	4	1	105	t	t
67	4	1	106	t	t
68	4	1	107	t	t
69	4	1	108	t	t
70	4	1	109	t	t
71	4	1	110	t	t
72	4	1	201	t	t
73	4	1	202	t	t
74	4	1	203	t	t
75	4	1	204	t	t
76	4	1	205	t	t
77	4	1	206	t	t
78	4	1	207	t	t
79	4	1	208	t	t
80	4	1	209	t	t

81	4	1	210	t	t
82	4	1	301	t	t
83	4	1	302	t	t
84	4	1	303	t	t
85	4	1	304	t	t
86	4	1	305	t	t
87	4	1	306	t	t
88	4	1	307	t	t
89	4	1	308	t	t
90	4	1	309	t	t
91	4	1	310	t	t
92	5	1	101	t	t
93	5	1	102	t	t
94	5	1	103	t	t
95	5	1	104	t	t
96	5	1	105	t	t
97	5	1	106	t	t
98	5	1	107	t	t
99	5	1	108	t	t
100	5	1	109	t	t
101	5	1	110	t	t
102	5	3	201	t	t
103	5	3	202	t	t
104	5	3	203	t	t
105	5	3	204	t	t
106	5	3	205	t	t
107	5	3	206	t	t

108	5	3	207	t	t
109	5	3	208	t	t
110	5	3	209	t	t
111	5	3	210	t	t
112	5	3	301	t	t
113	5	3	302	t	t
114	5	3	303	t	t
115	5	3	304	t	t
116	5	3	305	t	t
117	5	3	306	t	t
118	5	3	307	t	t
119	5	3	308	t	t
120	5	3	309	t	t
121	5	3	310	t	t
122	5	4	401	t	t
123	5	4	402	t	t
124	5	4	403	t	t
125	5	4	404	t	t
126	5	4	405	t	t
127	5	4	406	t	t
128	5	4	407	t	t
129	5	4	408	t	t
130	5	4	409	t	t
131	5	4	410	t	t
132	5	4	501	t	t
133	5	4	502	t	t
134	5	4	503	t	t

135	5	4	504	t	t
136	5	4	505	t	t
137	5	4	506	t	t
138	5	4	507	t	t
139	5	4	508	t	t
140	5	4	509	t	t
141	5	4	510	t	t
142	6	3	101	t	t
143	6	3	102	t	t
144	6	3	103	t	t
145	6	3	104	t	t
146	6	3	105	t	t
147	6	3	106	t	t
148	6	3	107	t	t
149	6	3	108	t	t
150	6	3	109	t	t
151	6	3	110	t	t
152	6	3	201	t	t
153	6	3	202	t	t
154	6	3	203	t	t
155	6	3	204	t	t
156	6	3	205	t	t
157	6	3	206	t	t
158	6	3	207	t	t
159	6	3	208	t	t
160	6	3	209	t	t
161	6	3	210	t	t

162	6	3	301	t	t
163	6	3	302	t	t
164	6	3	303	t	t
165	6	3	304	t	t
166	6	3	305	t	t
167	6	3	306	t	t
168	6	3	307	t	t
169	6	3	308	t	t
170	6	3	309	t	t
171	6	3	310	t	t
172	6	4	401	t	t
173	6	4	402	t	t
174	6	4	403	t	t
175	6	4	404	t	t
176	6	4	405	t	t
177	6	4	406	t	t
178	6	4	407	t	t
179	6	4	408	t	t
180	6	4	409	t	t
181	6	4	410	t	t
182	6	5	501	t	t
183	6	5	502	t	t
184	6	5	503	t	t
185	6	5	504	t	t
186	6	5	505	t	t
187	6	5	506	t	t
188	6	5	507	t	t

189 6 5 508 t t

190 6 5 509 t t

191 6 5 510 t t

\.

--

-- TOC entry 3435 (class 0 OID 16463)

-- Dependencies: 225

-- Data for Name: room_type; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.room_type (id, type, guests_number) FROM stdin;

1 type1 1

2 type2 2

3 type3 3

4 type4 2

5 type5 4

\.

--

-- TOC entry 3438 (class 0 OID 16485)

-- Dependencies: 228

-- Data for Name: room_type_commodity; Type: TABLE DATA; Schema: hotel; Owner: postgres

--

COPY hotel.room_type_commodity (room_type_id, commodity_id) FROM stdin;

1 1

2 1

3 1

4 1

5 1

1 2

2 2

3 2

4 2

5 2

1 3

2 3

3 3

4 3

5 3

2 4

3 4

4 4

5 4

3 7

4 7

5 7

4 5

5 5

5 6

\.

--

-- TOC entry 3454 (class 0 OID 0)

-- Dependencies: 233

-- Name: cleaning_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres

--

SELECT pg_catalog.setval('hotel.cleaning_id_seq', 1, false);

--

-- TOC entry 3455 (class 0 OID 0)

-- Dependencies: 226

-- Name: commodity_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres

--

SELECT pg_catalog.setval('hotel.commodity_id_seq', 7, true);

--

-- TOC entry 3456 (class 0 OID 0)

-- Dependencies: 235

-- Name: discount_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres

--

```
SELECT pg_catalog.setval('hotel.discount_id_seq', 5, true);



--
-- TOC entry 3457 (class 0 OID 0)
-- Dependencies: 220
-- Name: employee_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--

SELECT pg_catalog.setval('hotel.employee_id_seq', 124, true);



--
-- TOC entry 3458 (class 0 OID 0)
-- Dependencies: 215
-- Name: hotel_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--

SELECT pg_catalog.setval('hotel.hotel_id_seq', 6, true);



--
-- TOC entry 3459 (class 0 OID 0)
-- Dependencies: 237
-- Name: order_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--
```

```
SELECT pg_catalog.setval('hotel.order_id_seq', 1, true);



--
-- TOC entry 3460 (class 0 OID 0)
-- Dependencies: 218
-- Name: position_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--

SELECT pg_catalog.setval('hotel.position_id_seq', 34, true);



--
-- TOC entry 3461 (class 0 OID 0)
-- Dependencies: 222
-- Name: price_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--

SELECT pg_catalog.setval('hotel.price_id_seq', 5, true);



--
-- TOC entry 3462 (class 0 OID 0)
-- Dependencies: 231
-- Name: promo_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--
```

```
SELECT pg_catalog.setval('hotel.promo_id_seq', 1, false);



--
-- TOC entry 3463 (class 0 OID 0)
-- Dependencies: 229
-- Name: room_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--

SELECT pg_catalog.setval('hotel.room_id_seq', 191, true);



--
-- TOC entry 3464 (class 0 OID 0)
-- Dependencies: 224
-- Name: room_type_id_seq; Type: SEQUENCE SET; Schema: hotel; Owner: postgres
--

SELECT pg_catalog.setval('hotel.room_type_id_seq', 5, true);



--
-- TOC entry 3263 (class 2606 OID 16543)
-- Name: cleaning cleaning_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres
--

ALTER TABLE ONLY hotel.cleaning
```

```
    ADD CONSTRAINT cleaning_pkey PRIMARY KEY (id);


--

-- TOC entry 3245 (class 2606 OID 16415)

-- Name: client client_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--


ALTER TABLE ONLY hotel.client

    ADD CONSTRAINT client_pkey PRIMARY KEY (passport);


--

-- TOC entry 3255 (class 2606 OID 16479)

-- Name: commodity commodity_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--


ALTER TABLE ONLY hotel.commodity

    ADD CONSTRAINT commodity_pkey PRIMARY KEY (id);


--

-- TOC entry 3240 (class 2606 OID 16595)

-- Name: discount discount_discount_check1; Type: CHECK CONSTRAINT; Schema: hotel; Owner: postgres

--
```

```
ALTER TABLE hotel.discount

    ADD CONSTRAINT discount_discount_check1 CHECK ((discount < (1)::double
precision)) NOT VALID;




--

-- TOC entry 3265 (class 2606 OID 16561)

-- Name: discount discount_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--


ALTER TABLE ONLY hotel.discount

    ADD CONSTRAINT discount_pkey PRIMARY KEY (id);




--

-- TOC entry 3249 (class 2606 OID 16443)

-- Name: employee employee_pkey; Type: CONSTRAINT; Schema: hotel; Owner:
postgres

--


ALTER TABLE ONLY hotel.employee

    ADD CONSTRAINT employee_pkey PRIMARY KEY (id);




--

-- TOC entry 3243 (class 2606 OID 16408)
```

```
-- Name: hotel hotel_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres
--

ALTER TABLE ONLY hotel.hotel
    ADD CONSTRAINT hotel_pkey PRIMARY KEY (id);



--
-- TOC entry 3267 (class 2606 OID 16573)
-- Name: order order_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres
--

ALTER TABLE ONLY hotel."order"
    ADD CONSTRAINT order_pkey PRIMARY KEY (id);



--
-- TOC entry 3247 (class 2606 OID 16432)
-- Name: position position_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres
--

ALTER TABLE ONLY hotel."position"
    ADD CONSTRAINT position_pkey PRIMARY KEY (id);



--
-- TOC entry 3251 (class 2606 OID 16461)
```

-- Name: price price_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.price

    ADD CONSTRAINT price_pkey PRIMARY KEY (id);

--

-- TOC entry 3237 (class 2606 OID 16594)

-- Name: promo promo_discount_check1; Type: CHECK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE hotel.promo

    ADD CONSTRAINT promo_discount_check1 CHECK ((discount < (1)::double precision)) NOT VALID;

--

-- TOC entry 3261 (class 2606 OID 16527)

-- Name: promo promo_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.promo

    ADD CONSTRAINT promo_pkey PRIMARY KEY (id);

--

-- TOC entry 3259 (class 2606 OID 16505)

-- Name: room room_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room

    ADD CONSTRAINT room_pkey PRIMARY KEY (id);

--

-- TOC entry 3257 (class 2606 OID 16489)

-- Name: room_type_commodity room_type_commodity_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room_type_commodity

    ADD CONSTRAINT room_type_commodity_pkey PRIMARY KEY (room_type_id, commodity_id);

--

-- TOC entry 3253 (class 2606 OID 16468)

-- Name: room_type room_type_pkey; Type: CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room_type

    ADD CONSTRAINT room_type_pkey PRIMARY KEY (id);

--

-- TOC entry 3277 (class 2606 OID 16549)

-- Name: cleaning cleaning_employee_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.cleaning

    ADD CONSTRAINT cleaning_employee_id_fkey FOREIGN KEY (employee_id) REFERENCES hotel.employee(id);

--

-- TOC entry 3278 (class 2606 OID 16544)

-- Name: cleaning cleaning_room_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.cleaning

    ADD CONSTRAINT cleaning_room_id_fkey FOREIGN KEY (room_id) REFERENCES hotel.room(id);

--

-- TOC entry 3279 (class 2606 OID 16562)

-- Name: discount discount_hotel_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

```
ALTER TABLE ONLY hotel.discount

    ADD CONSTRAINT discount_hotel_id_fkey FOREIGN KEY (hotel_id)
REFERENCES hotel.hotel(id) ON UPDATE CASCADE ON DELETE CASCADE;




--

-- TOC entry 3269 (class 2606 OID 16444)

-- Name: employee employee_position_id_fkey; Type: FK CONSTRAINT; Schema:
hotel; Owner: postgres

--


ALTER TABLE ONLY hotel.employee

    ADD CONSTRAINT employee_position_id_fkey FOREIGN KEY (position_id)
REFERENCES hotel."position"(id) ON UPDATE CASCADE ON DELETE CASCADE;




--

-- TOC entry 3280 (class 2606 OID 16579)

-- Name: order order_employee_id_fkey; Type: FK CONSTRAINT; Schema: hotel;
Owner: postgres

--


ALTER TABLE ONLY hotel."order"

    ADD CONSTRAINT order_employee_id_fkey FOREIGN KEY (employee_id)
REFERENCES hotel.employee(id) ON UPDATE CASCADE ON DELETE CASCADE;




--
```

-- TOC entry 3281 (class 2606 OID 16574)

-- Name: order order_passport_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel."order"

    ADD CONSTRAINT order_passport_fkey FOREIGN KEY (passport) REFERENCES hotel.client(passport) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3282 (class 2606 OID 16584)

-- Name: order order_room_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel."order"

    ADD CONSTRAINT order_room_id_fkey FOREIGN KEY (room_id) REFERENCES hotel.room(id) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3268 (class 2606 OID 16433)

-- Name: position position_hotel_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel."position"

    ADD CONSTRAINT position_hotel_id_fkey FOREIGN KEY (hotel_id)

REFERENCES hotel.hotel(id) ON UPDATE CASCADE ON DELETE CASCADE NOT VALID;

--

-- TOC entry 3270 (class 2606 OID 16768)

-- Name: price price_room_type_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.price

    ADD CONSTRAINT price_room_type_id_fkey FOREIGN KEY (room_type_id) REFERENCES hotel.room_type(id) ON UPDATE CASCADE ON DELETE CASCADE NOT VALID;

--

-- TOC entry 3275 (class 2606 OID 16528)

-- Name: promo promo_hotel_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.promo

    ADD CONSTRAINT promo_hotel_id_fkey FOREIGN KEY (hotel_id) REFERENCES hotel.hotel(id) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3276 (class 2606 OID 16533)

-- Name: promo promo_room_type_id; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.promo

    ADD CONSTRAINT promo_room_type_id FOREIGN KEY (room_type_id) REFERENCES hotel.room_type(id) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3273 (class 2606 OID 16511)

-- Name: room room_hotel_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room

    ADD CONSTRAINT room_hotel_id_fkey FOREIGN KEY (hotel_id) REFERENCES hotel.hotel(id) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3274 (class 2606 OID 16506)

-- Name: room room_room_type_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room

    ADD CONSTRAINT room_room_type_id_fkey FOREIGN KEY (room_type_id) REFERENCES hotel.room_type(id) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3271 (class 2606 OID 16495)

-- Name: room_type_commodity room_type_commodity_commodity_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room_type_commodity

    ADD CONSTRAINT room_type_commodity_commodity_id_fkey FOREIGN KEY (commodity_id) REFERENCES hotel.commodity(id) ON UPDATE CASCADE ON DELETE CASCADE;

--

-- TOC entry 3272 (class 2606 OID 16490)

-- Name: room_type_commodity room_type_commodity_room_type_id_fkey; Type: FK CONSTRAINT; Schema: hotel; Owner: postgres

--

ALTER TABLE ONLY hotel.room_type_commodity

    ADD CONSTRAINT room_type_commodity_room_type_id_fkey FOREIGN KEY (room_type_id) REFERENCES hotel.room_type(id) ON UPDATE CASCADE ON DELETE CASCADE;

-- Completed on 2023-03-08 14:20:51

--

-- PostgreSQL database dump complete

--

Выводы:

1. Была создана база данных по схеме в нотации IDEF1X.
2. Была создана резервная копия бд и после бд была восстановлена.