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«САНКТ-ПЕТЕРБУРГСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ
УНИВЕРСИТЕТ ИТМО»
Факультет среднего профессионального образования

ОТЧЁТ
О ПРАКТИЧЕСКОЙ РАБОТЕ № 4

по теме: Анализ данных. Создание таблиц базы данных PostgreSQL. Заполнение таблиц рабочими данными.

по дисциплине: Основы проектирования баз данных

Специальность 09.02.07 Информационные системы и программирование

Проверил:

_____ Говоров А.И.

Дата: «____» _____ 2020г.

Оценка _____

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Санкт-Петербург 2020

ПОСТАНОВКА ЗАДАЧИ

Цель лабораторной работы №6: овладеть практическими навыками создания таблиц базы данных PostgreSQL 10 (11), заполнения их рабочими данными, резервного копирования и восстановления баз данных.

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. Заполнить таблицы рабочими данными.
5. Создать резервную копию базы данных.
6. Восстановить базу данных на другом ПК.

ВЫПОЛНЕНИЕ

Dump, содержащий скрипты работы БД, представлен ниже:

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

CREATE TABLE public."Bidding" (
    "ID_Bidding" integer NOT NULL,
    "Date_Bidding" date NOT NULL,
    "Manager_Response" character varying
);

ALTER TABLE public."Bidding" OWNER TO postgres;

CREATE TABLE public."Brokers" (
    "ID_Broker" integer NOT NULL,
    "Name" character varying NOT NULL,
    "Phone_Number" numeric NOT NULL,
    "ID_Offices" integer NOT NULL
);

ALTER TABLE public."Brokers" OWNER TO postgres;

CREATE TABLE public."Consignments" (
    "ID_Consignment" integer NOT NULL,
    "Start_Date" date NOT NULL,
    "Prepayment" boolean,
    "Status" character varying,
    "ID_Broker" integer NOT NULL,
    "Sell_Price" integer
);

ALTER TABLE public."Consignments" OWNER TO postgres;
```

```
CREATE TABLE public."Firm" (
    "Firm_Number" integer NOT NULL,
    "Name" character varying NOT NULL,
    "Country" character varying NOT NULL
);

ALTER TABLE public."Firm" OWNER TO postgres;

CREATE TABLE public."Goods" (
    "ID_Good" integer NOT NULL,
    "Production_date" date NOT NULL,
    "Expiration_Date" date NOT NULL,
    "Measure" character varying NOT NULL,
    "Goods_Name" character varying NOT NULL,
    "Firm_Number" integer NOT NULL,
    "Price" integer
);

ALTER TABLE public."Goods" OWNER TO postgres;

CREATE TABLE public."Goods_In_Consignments" (
    "ID_Goods_Cons" integer NOT NULL,
    "Amount_Goods" integer NOT NULL,
    "ID_Consignment" integer NOT NULL,
    "ID_Good" integer NOT NULL
);

ALTER TABLE public."Goods_In_Consignments" OWNER TO postgres;

CREATE TABLE public."Offices" (
    "ID_Office" integer NOT NULL,
    "Name" character varying NOT NULL,
    "Country" character varying NOT NULL
);

ALTER TABLE public."Offices" OWNER TO postgres;

CREATE TABLE public."Sale" (
    "ID_Sale" integer NOT NULL,
    "ID_Consignment" integer NOT NULL,
    "ID_Bidding" integer NOT NULL,
    "Status" boolean NOT NULL
);
```

```
ALTER TABLE public."Sale" OWNER TO postgres;

CREATE TABLE public."Work" (
    "Date" date NOT NULL,
    "Amount" integer NOT NULL,
    "ID_Office" integer NOT NULL
);

ALTER TABLE public."Work" OWNER TO postgres;

COPY public."Bidding" ("ID_Bidding", "Date_Bidding", "Manager_Response")
FROM stdin;
1	2000-10-02	Yes
2	2000-10-03	Yes
3	2000-10-04	No
4	2000-10-05	Yes
5	2000-10-06	No
6	2000-10-07	No
7	2000-10-08	Yes
8	2000-10-09	Yes
9	2000-10-10	Yes
10	2000-10-11	Yes
\.
COPY public."Brokers" ("ID_Broker", "Name", "Phone_Number", "ID_Offices")
FROM stdin;
1	Brian Goodman	89213455434	1
2	Brian Goodson	89276354736	2
3	Deril Dixon	89273633546	3
4	Andrew Cinema	89376477336	4
5	Fedor Ivanov	89273644563	5
6	Carmen Din	89273644836	6
7	Oxen Pie	89223644758	7
8	Donald Beem	89273354645	8
9	Anton Gavrilin	82933567445	9
10	Paul Hartman	89213453837	10
\.

COPY public."Consignments" ("ID_Consignment", "Start_Date", "Prepayment",
"Status", "ID_Broker", "Sell_Price") FROM stdin;
1	2000-01-01	t	Sold	3	1000
2	2000-02-01	t	Sold	2	1230
3	2000-03-01	f	In Stock	5	3320
4	2000-04-01	t	In Stock	8	760
5	2000-05-01	f	In Stock	4	5430
6	2000-06-01	f	Sold	1	1100
```

```
7	2000-07-01	f	Sold	7	2000
8	2000-08-01	t	Sold	6	2500
9	2000-09-01	t	In Stock	10	2200
10	2000-10-01	t	In Stock	9	2200
\.

COPY public."Firm" ("Firm_Number", "Name", "Country") FROM stdin;
1	Apple	USA
2	Samsung	USA
3	Huawei	China
4	Xiaomi	China
5	Yandex	Russia
6	Google	USA
7	Vkontakte	Russia
8	Microsoft	USA
9	HP	USA
10	Amazon	USA
\.

COPY public."Goods" ("ID_Good", "Production_date", "Expiration_Date",
"Measure", "Goods_Name", "Firm_Number", "Price") FROM stdin;
1	2000-01-01	2001-01-01	Dollar	stock	1	100
2	2000-02-01	2001-02-01	Dollar	fututres\n	2	100
3	2000-03-01	2001-03-01	Yuan	bond\n	3	100
4	2000-04-01	2001-04-01	Yuan	bond	4	200
5	2000-05-01	2001-05-01	Roubles	futures	5	200
6	2000-06-01	2001-06-01	Dollar	futures	6	200
7	2000-07-01	2002-07-01	Roubles	stock	7	300
8	2000-08-01	2003-08-01	Dollar	bond	8	300
9	2000-09-01	2002-09-01	Dollar	futures	9	400
10	2000-10-01	2001-10-01	Dollar	stock	10	400
\.

COPY public."Goods_In_Consignments" ("ID_Goods_Cons", "Amount_Goods",
"ID_Consignment", "ID_Good") FROM stdin;
1	100	1	1
2	100	2	2
3	50	3	3
4	50	4	4
5	50	5	5
6	200	6	6
7	200	7	7
8	200	8	8
9	150	9	9
10	150	10	10
```

```
\.

COPY public."Offices" ("ID_Office", "Name", "Country") FROM stdin;
1	ForexClub	USA
2	FxPro	USA
3	Global FX	Canada
4	Fibo Group	Russia
5	Finam	USA
6	Nord FX	Norway
7	FBS	China
8	Forex4You	China
9	XM	Sweden
10	eToro	Sweden
\.

COPY public."Sale" ("ID_Sale", "ID_Consignment", "ID_Bidding", "Status")
FROM stdin;
1	1	1	t
2	2	2	t
6	6	6	t
7	7	7	t
8	8	8	t
3	3	3	f
4	4	4	f
5	5	5	f
9	9	9	f
10	10	10	f
\.

COPY public."Work" ("Date", "Amount", "ID_Office") FROM stdin;
2000-01-01	10	1
2000-01-02	10	2
2000-01-03	20	3
2000-01-04	20	4
2000-01-05	20	5
2000-01-06	30	6
2000-01-07	30	7
2000-01-08	30	8
2000-01-09	50	9
2000-01-10	50	10
\.

ALTER TABLE ONLY public."Bidding"
    ADD CONSTRAINT "Biddiing_pkey" PRIMARY KEY ("ID_Bidding");
```

```
ALTER TABLE ONLY public."Brokers"
   ADD CONSTRAINT "Brokers_pkey" PRIMARY KEY ("ID_Broker");

ALTER TABLE ONLY public."Consignments"
   ADD CONSTRAINT "Consignments_pkey" PRIMARY KEY
("ID_Consignment");

ALTER TABLE ONLY public."Firm"
   ADD CONSTRAINT "Firm_pkey" PRIMARY KEY ("Firm_Number");

ALTER TABLE ONLY public."Goods_In_Consignments"
   ADD CONSTRAINT "Goods_In_Consignments_pkey" PRIMARY KEY
("ID_Goods_Cons");

ALTER TABLE ONLY public."Goods"
   ADD CONSTRAINT "Goods_pkey" PRIMARY KEY ("ID_Good");

ALTER TABLE ONLY public."Offices"
   ADD CONSTRAINT "Offices_pkey" PRIMARY KEY ("ID_Office");

ALTER TABLE ONLY public."Sale"
   ADD CONSTRAINT "Sale_pkey" PRIMARY KEY ("ID_Sale");

ALTER TABLE ONLY public."Work"
   ADD CONSTRAINT "Work_pkey" PRIMARY KEY ("Date");

ALTER TABLE ONLY public."Goods"
   ADD CONSTRAINT "Firm_Number_FK" FOREIGN KEY ("ID_Good")
REFERENCES public."Firm"("Firm_Number");

ALTER TABLE ONLY public."Sale"
   ADD CONSTRAINT "ID_Bidding" FOREIGN KEY ("ID_Bidding")
REFERENCES public."Bidding"("ID_Bidding");

ALTER TABLE ONLY public."Consignments"
   ADD CONSTRAINT "ID_Brokers" FOREIGN KEY ("ID_Broker")
REFERENCES public."Brokers"("ID_Broker");

ALTER TABLE ONLY public."Goods_In_Consignments"
   ADD CONSTRAINT "ID_Consignment" FOREIGN KEY ("ID_Consignment")
REFERENCES public."Consignments"("ID_Consignment");

ALTER TABLE ONLY public."Sale"
   ADD CONSTRAINT "ID_Consignment" FOREIGN KEY ("ID_Consignment")
REFERENCES public."Consignments"("ID_Consignment");
```

```
ALTER TABLE ONLY public."Goods_In_Consignments"
   ADD CONSTRAINT "ID_Good" FOREIGN KEY ("ID_Good")
REFERENCES public."Goods"("ID_Good");

ALTER TABLE ONLY public."Work"
   ADD CONSTRAINT "ID_Office" FOREIGN KEY ("ID_Office")
REFERENCES public."Offices"("ID_Office");

ALTER TABLE ONLY public."Brokers"
   ADD CONSTRAINT "ID_Offices" FOREIGN KEY ("ID_Offices")
REFERENCES public."Offices"("ID_Office");
```

ВЫВОД

В практической работе №6 были получены практические навыки создания таблиц базы данных PostgreSQL 10 (11), заполнения их рабочими данными, резервного копирования и восстановления баз данных.