Отчет
По Лабораторной работе 1
Создание БД в СУБД PostgreSQL. Резервное копирование и
восстановление БД
по дисциплине «**Базы данных**»

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Цель работы: овладеть практическими навыками установки СУБД PostgreSQL и создания базы данных в pgadmin 4, создания таблиц базы данных PostgreSQL 1X, заполнения их рабочими данными, резервного копирования и восстановления БД

Программное обеспечение: СУБД PostgreSQL 1X, 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.
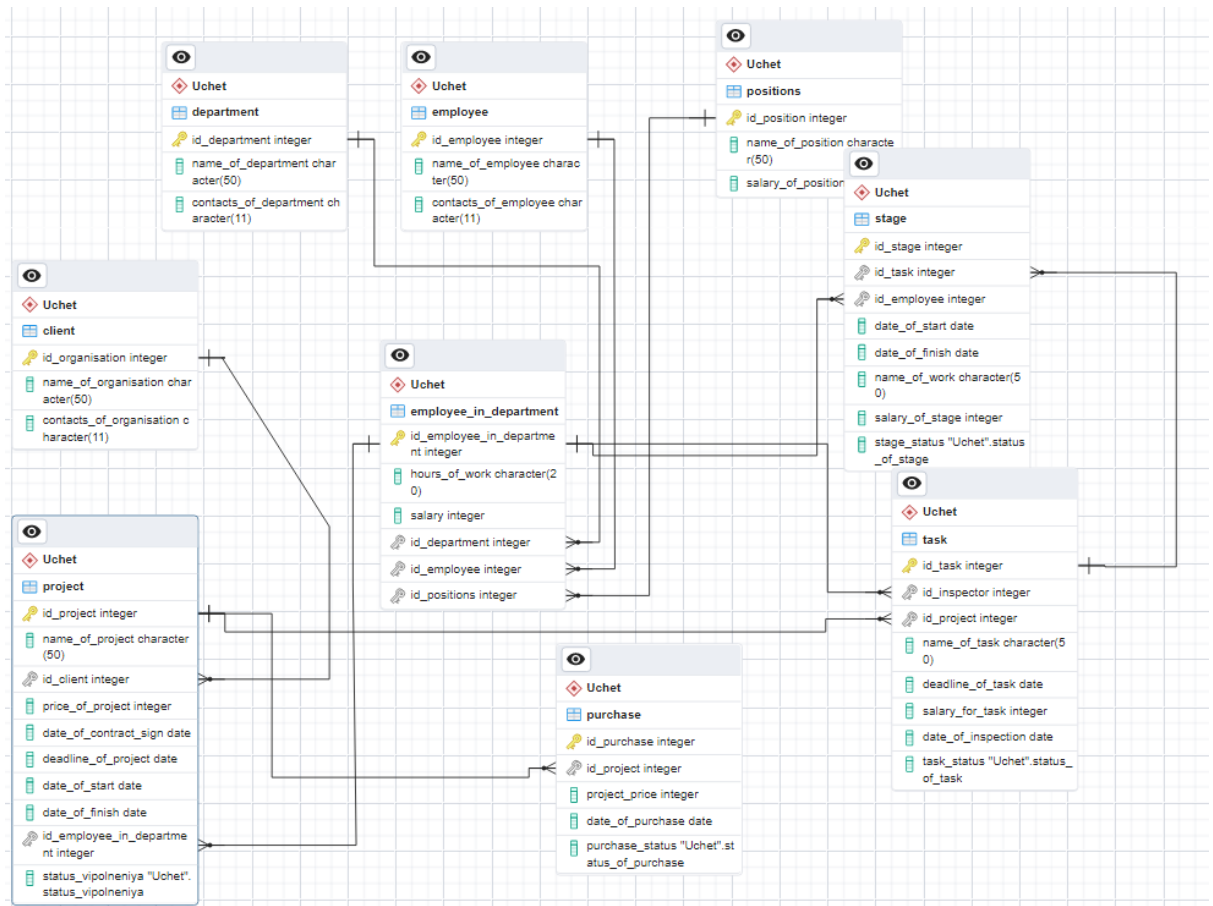*Указание:*
Создать две резервные копии:
- *с расширением CUSTOM для восстановления БД;*
- *с расширением PLAIN для листинга (в отчете);*
- *при создании резервных копий БД настроить параметры Dump options для Type of objects и Queries .*
1. Восстановить БД.

Выполнение:

I. Название создаваемой БД – "Uchet".

II. схема логической модели базы данных, сгенерированная в Generate ERD

IV. Backup работы

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

-- Dumped from database version 15.2
-- Dumped by pg_dump version 15.2

-- Started on 2023-05-01 19:28:54

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: Uchet; Type: SCHEMA; Schema: -; Owner: postgres
--
```

```sql
CREATE SCHEMA "Uchet";


ALTER SCHEMA "Uchet" OWNER TO postgres;

--
-- TOC entry 883 (class 1247 OID 16705)
-- Name: status_of_purchase; Type: TYPE; Schema: Uchet; Owner: postgres
--

CREATE TYPE "Uchet".status_of_purchase AS ENUM (
    'Оплачен',
    'Ожидает оплаты',
    'Не оплачен'
);


ALTER TYPE "Uchet".status_of_purchase OWNER TO postgres;

--
-- TOC entry 901 (class 1247 OID 16799)
-- Name: status_of_stage; Type: TYPE; Schema: Uchet; Owner: postgres
--

CREATE TYPE "Uchet".status_of_stage AS ENUM (
    'Не начат',
    'Выполняется',
    'Заморожен',
    'Звершен',
    'Завершен'
);


ALTER TYPE "Uchet".status_of_stage OWNER TO postgres;

--
-- TOC entry 895 (class 1247 OID 16760)
-- Name: status_of_task; Type: TYPE; Schema: Uchet; Owner: postgres
--

CREATE TYPE "Uchet".status_of_task AS ENUM (
    'Выполняется',
    'Заморожен',
    'Завершен'
);


ALTER TYPE "Uchet".status_of_task OWNER TO postgres;

--
-- TOC entry 871 (class 1247 OID 16660)
-- Name: status_vipolneniya; Type: TYPE; Schema: Uchet; Owner: postgres
--

CREATE TYPE "Uchet".status_vipolneniya AS ENUM (
    'Не начат',
    'Выполняется',
    'Заморожен',
    'Завершен'
);
```

```
ALTER TYPE "Uchet".status_vipolneniya OWNER TO postgres;

SET default_tablespace = '';

SET default_table_access_method = heap;

--
-- TOC entry 225 (class 1259 OID 16670)
-- Name: client; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".client (
    id_organisation integer NOT NULL,
    name_of_organisation character(50) NOT NULL,
    contacts_of_organisation character(11) NOT NULL
);


ALTER TABLE "Uchet".client OWNER TO postgres;

--
-- TOC entry 224 (class 1259 OID 16669)
-- Name: client_id_organisation_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".client_id_organisation_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".client_id_organisation_seq OWNER TO postgres;

--
-- TOC entry 3472 (class 0 OID 0)
-- Dependencies: 224
-- Name: client_id_organisation_seq; Type: SEQUENCE OWNED BY; Schema:
Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".client_id_organisation_seq OWNED BY
"Uchet".client.id_organisation;


--
-- TOC entry 232 (class 1259 OID 16712)
-- Name: department; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".department (
    id_department integer NOT NULL,
    name_of_department character(50) NOT NULL,
    contacts_of_department character(11) NOT NULL
);
```

```sql
ALTER TABLE "Uchet".department OWNER TO postgres;


--
-- TOC entry 231 (class 1259 OID 16711)
-- Name: department_id_department_seq; Type: SEQUENCE; Schema: Uchet;
Owner: postgres
--

CREATE SEQUENCE "Uchet".department_id_department_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".department_id_department_seq OWNER TO postgres;


--
-- TOC entry 3473 (class 0 OID 0)
-- Dependencies: 231
-- Name: department_id_department_seq; Type: SEQUENCE OWNED BY; Schema:
Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".department_id_department_seq OWNED BY
"Uchet".department.id_department;


--
-- TOC entry 230 (class 1259 OID 16698)
-- Name: employee; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".employee (
    id_employee integer NOT NULL,
    name_of_employee character(50) NOT NULL,
    contacts_of_employee character(11) NOT NULL
);


ALTER TABLE "Uchet".employee OWNER TO postgres;


--
-- TOC entry 229 (class 1259 OID 16697)
-- Name: employee_id_employee_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".employee_id_employee_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".employee_id_employee_seq OWNER TO postgres;
```

```
--
-- TOC entry 3474 (class 0 OID 0)
-- Dependencies: 229
-- Name: employee_id_employee_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".employee_id_employee_seq OWNED BY
"Uchet".employee.id_employee;


--
-- TOC entry 222 (class 1259 OID 16637)
-- Name: employee_in_department; Type: TABLE; Schema: Uchet; Owner:
postgres
--

CREATE TABLE "Uchet".employee_in_department (
    id_employee_in_department integer NOT NULL,
    hours_of_work character(20) NOT NULL,
    salary integer NOT NULL,
    id_department integer NOT NULL,
    id_employee integer NOT NULL,
    id_positions integer NOT NULL,
    CONSTRAINT salary CHECK ((salary > 0))
);


ALTER TABLE "Uchet".employee_in_department OWNER TO postgres;

--
-- TOC entry 219 (class 1259 OID 16634)
-- Name: employee_in_department_id_department_seq; Type: SEQUENCE; Schema:
Uchet; Owner: postgres
--

CREATE SEQUENCE "Uchet".employee_in_department_id_department_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".employee_in_department_id_department_seq OWNER TO
postgres;

--
-- TOC entry 3475 (class 0 OID 0)
-- Dependencies: 219
-- Name: employee_in_department_id_department_seq; Type: SEQUENCE OWNED BY;
Schema: Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".employee_in_department_id_department_seq OWNED BY
"Uchet".employee_in_department.id_department;


--
-- TOC entry 218 (class 1259 OID 16633)
```

```
-- Name: employee_in_department_id_employee_in_department_seq; Type:
SEQUENCE; Schema: Uchet; Owner: postgres
--

CREATE SEQUENCE
"Uchet".employee_in_department_id_employee_in_department_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".employee_in_department_id_employee_in_department_seq
OWNER TO postgres;

--
-- TOC entry 3476 (class 0 OID 0)
-- Dependencies: 218
-- Name: employee_in_department_id_employee_in_department_seq; Type:
SEQUENCE OWNED BY; Schema: Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".employee_in_department_id_employee_in_department_seq
OWNED BY "Uchet".employee_in_department.id_employee_in_department;


--
-- TOC entry 220 (class 1259 OID 16635)
-- Name: employee_in_department_id_employee_seq; Type: SEQUENCE; Schema:
Uchet; Owner: postgres
--

CREATE SEQUENCE "Uchet".employee_in_department_id_employee_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".employee_in_department_id_employee_seq OWNER TO
postgres;

--
-- TOC entry 3477 (class 0 OID 0)
-- Dependencies: 220
-- Name: employee_in_department_id_employee_seq; Type: SEQUENCE OWNED BY;
Schema: Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".employee_in_department_id_employee_seq OWNED BY
"Uchet".employee_in_department.id_employee;


--
-- TOC entry 221 (class 1259 OID 16636)
-- Name: employee_in_department_id_positions_seq; Type: SEQUENCE; Schema:
Uchet; Owner: postgres
```

```
--

CREATE SEQUENCE "Uchet".employee_in_department_id_positions_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".employee_in_department_id_positions_seq OWNER TO
postgres;

--
-- TOC entry 3478 (class 0 OID 0)
-- Dependencies: 221
-- Name: employee_in_department_id_positions_seq; Type: SEQUENCE OWNED BY;
Schema: Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".employee_in_department_id_positions_seq OWNED BY
"Uchet".employee_in_department.id_positions;


--
-- TOC entry 234 (class 1259 OID 16724)
-- Name: positions; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".positions (
    id_position integer NOT NULL,
    name_of_position character(50) NOT NULL,
    salary_of_position integer NOT NULL,
    CONSTRAINT salary_of_position CHECK ((salary_of_position >= 0))
);


ALTER TABLE "Uchet".positions OWNER TO postgres;

--
-- TOC entry 233 (class 1259 OID 16723)
-- Name: positions_id_position_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".positions_id_position_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".positions_id_position_seq OWNER TO postgres;

--
-- TOC entry 3479 (class 0 OID 0)
-- Dependencies: 233
```

```
--
-- Name: positions_id_position_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".positions_id_position_seq OWNED BY
"Uchet".positions.id_position;


--
-- TOC entry 217 (class 1259 OID 16618)
-- Name: project; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".project (
    id_project integer NOT NULL,
    name_of_project character(50) NOT NULL,
    id_client integer NOT NULL,
    price_of_project integer NOT NULL,
    date_of_contract_sign date NOT NULL,
    deadline_of_project date NOT NULL,
    date_of_start date,
    date_of_finish date,
    id_employee_in_department integer NOT NULL,
    status_vipolneniya "Uchet".status_vipolneniya NOT NULL,
    CONSTRAINT date_of_contract_sign CHECK ((date_of_contract_sign > '1999-
01-01'::date)),
    CONSTRAINT date_of_finish CHECK ((date_of_finish > '1999-01-
01'::date)),
    CONSTRAINT date_of_start CHECK ((date_of_start > '1999-01-01'::date)),
    CONSTRAINT "date_of_start <= date_of_finish" CHECK ((date_of_start <=
date_of_finish)),
    CONSTRAINT deadline_of_project CHECK ((deadline_of_project > '1999-01-
01'::date)),
    CONSTRAINT price_of_project CHECK ((price_of_project > 0))
);


ALTER TABLE "Uchet".project OWNER TO postgres;

--
-- TOC entry 216 (class 1259 OID 16617)
-- Name: project_id_client_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".project_id_client_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".project_id_client_seq OWNER TO postgres;

--
-- TOC entry 3480 (class 0 OID 0)
-- Dependencies: 216
-- Name: project_id_client_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
```

```
--

ALTER SEQUENCE "Uchet".project_id_client_seq OWNED BY
"Uchet".project.id_client;


--
-- TOC entry 223 (class 1259 OID 16645)
-- Name: project_id_employee_in_department_seq; Type: SEQUENCE; Schema:
Uchet; Owner: postgres
--

CREATE SEQUENCE "Uchet".project_id_employee_in_department_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".project_id_employee_in_department_seq OWNER TO
postgres;

--
-- TOC entry 3481 (class 0 OID 0)
-- Dependencies: 223
-- Name: project_id_employee_in_department_seq; Type: SEQUENCE OWNED BY;
Schema: Uchet; Owner: postgres
--

ALTER SEQUENCE "Uchet".project_id_employee_in_department_seq OWNED BY
"Uchet".project.id_employee_in_department;


--
-- TOC entry 215 (class 1259 OID 16615)
-- Name: project_id_project_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".project_id_project_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".project_id_project_seq OWNER TO postgres;

--
-- TOC entry 3482 (class 0 OID 0)
-- Dependencies: 215
-- Name: project_id_project_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".project_id_project_seq OWNED BY
"Uchet".project.id_project;
```

```
--
-- TOC entry 228 (class 1259 OID 16683)
-- Name: purchase; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".purchase (
    id_purchase integer NOT NULL,
    id_project integer NOT NULL,
    project_price integer NOT NULL,
    date_of_purchase date,
    purchase_status "Uchet".status_of_purchase NOT NULL,
    CONSTRAINT project_price CHECK ((project_price > 0))
);


ALTER TABLE "Uchet".purchase OWNER TO postgres;

--
-- TOC entry 227 (class 1259 OID 16682)
-- Name: purchase_id_project_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".purchase_id_project_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".purchase_id_project_seq OWNER TO postgres;

--
-- TOC entry 3483 (class 0 OID 0)
-- Dependencies: 227
-- Name: purchase_id_project_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".purchase_id_project_seq OWNED BY
"Uchet".purchase.id_project;


--
-- TOC entry 226 (class 1259 OID 16681)
-- Name: purchase_id_purchase_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".purchase_id_purchase_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;
```

```sql
ALTER TABLE "Uchet".purchase_id_purchase_seq OWNER TO postgres;


--
-- TOC entry 3484 (class 0 OID 0)
-- Dependencies: 226
-- Name: purchase_id_purchase_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".purchase_id_purchase_seq OWNED BY
"Uchet".purchase.id_purchase;



--
-- TOC entry 242 (class 1259 OID 16780)
-- Name: stage; Type: TABLE; Schema: Uchet; Owner: postgres
--

CREATE TABLE "Uchet".stage (
    id_stage integer NOT NULL,
    id_task integer NOT NULL,
    id_employee integer NOT NULL,
    date_of_start date,
    date_of_finish date,
    name_of_work character(50) NOT NULL,
    salary_of_stage integer NOT NULL,
    stage_status "Uchet".status_of_stage NOT NULL,
    CONSTRAINT "date_of_finish >= date_of_start" CHECK ((date_of_finish >=
date_of_start)),
    CONSTRAINT salary_of_stage CHECK ((salary_of_stage >= 0))
);


ALTER TABLE "Uchet".stage OWNER TO postgres;

--
-- TOC entry 241 (class 1259 OID 16779)
-- Name: stage_id_employee_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".stage_id_employee_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".stage_id_employee_seq OWNER TO postgres;

--
-- TOC entry 3485 (class 0 OID 0)
-- Dependencies: 241
-- Name: stage_id_employee_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--
```

```
ALTER SEQUENCE "Uchet".stage_id_employee_seq OWNED BY
"Uchet".stage.id_employee;


--
-- TOC entry 239 (class 1259 OID 16777)
-- Name: stage_id_stage_seq; Type: SEQUENCE; Schema: Uchet; Owner: postgres
--

CREATE SEQUENCE "Uchet".stage_id_stage_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".stage_id_stage_seq OWNER TO postgres;

--
-- TOC entry 3486 (class 0 OID 0)
-- Dependencies: 239
-- Name: stage_id_stage_seq; Type: SEQUENCE OWNED BY; Schema: Uchet; Owner:
postgres
--

ALTER SEQUENCE "Uchet".stage_id_stage_seq OWNED BY "Uchet".stage.id_stage;


--
-- TOC entry 240 (class 1259 OID 16778)
-- Name: stage_id_task_seq; Type: SEQUENCE; Schema: Uchet; Owner: postgres
--

CREATE SEQUENCE "Uchet".stage_id_task_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".stage_id_task_seq OWNER TO postgres;

--
-- TOC entry 3487 (class 0 OID 0)
-- Dependencies: 240
-- Name: stage_id_task_seq; Type: SEQUENCE OWNED BY; Schema: Uchet; Owner:
postgres
--

ALTER SEQUENCE "Uchet".stage_id_task_seq OWNED BY "Uchet".stage.id_task;


--
-- TOC entry 238 (class 1259 OID 16749)
-- Name: task; Type: TABLE; Schema: Uchet; Owner: postgres
--
```

```
CREATE TABLE "Uchet".task (
    id_task integer NOT NULL,
    id_inspector integer NOT NULL,
    id_project integer NOT NULL,
    name_of_task character(50) NOT NULL,
    deadline_of_task date NOT NULL,
    salary_for_task integer NOT NULL,
    date_of_inspection date,
    task_status "Uchet".status_of_task NOT NULL,
    CONSTRAINT date_of_inspection CHECK ((date_of_inspection > '1990-01-
01'::date)),
    CONSTRAINT salary_for_task CHECK ((salary_for_task >= 0))
);


ALTER TABLE "Uchet".task OWNER TO postgres;

--
-- TOC entry 236 (class 1259 OID 16747)
-- Name: task_id_inspector_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".task_id_inspector_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".task_id_inspector_seq OWNER TO postgres;

--
-- TOC entry 3488 (class 0 OID 0)
-- Dependencies: 236
-- Name: task_id_inspector_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".task_id_inspector_seq OWNED BY
"Uchet".task.id_inspector;


--
-- TOC entry 237 (class 1259 OID 16748)
-- Name: task_id_project_seq; Type: SEQUENCE; Schema: Uchet; Owner:
postgres
--

CREATE SEQUENCE "Uchet".task_id_project_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".task_id_project_seq OWNER TO postgres;
```

```
--
-- TOC entry 3489 (class 0 OID 0)
-- Dependencies: 237
-- Name: task_id_project_seq; Type: SEQUENCE OWNED BY; Schema: Uchet;
Owner: postgres
--

ALTER SEQUENCE "Uchet".task_id_project_seq OWNED BY
"Uchet".task.id_project;


--
-- TOC entry 235 (class 1259 OID 16746)
-- Name: task_id_task_seq; Type: SEQUENCE; Schema: Uchet; Owner: postgres
--

CREATE SEQUENCE "Uchet".task_id_task_seq
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;


ALTER TABLE "Uchet".task_id_task_seq OWNER TO postgres;

--
-- TOC entry 3490 (class 0 OID 0)
-- Dependencies: 235
-- Name: task_id_task_seq; Type: SEQUENCE OWNED BY; Schema: Uchet; Owner:
postgres
--

ALTER SEQUENCE "Uchet".task_id_task_seq OWNED BY "Uchet".task.id_task;


--
-- TOC entry 3243 (class 2604 OID 16673)
-- Name: client id_organisation; Type: DEFAULT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".client ALTER COLUMN id_organisation SET DEFAULT
nextval('"Uchet".client_id_organisation_seq'::regclass);


--
-- TOC entry 3247 (class 2604 OID 16715)
-- Name: department id_department; Type: DEFAULT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".department ALTER COLUMN id_department SET DEFAULT
nextval('"Uchet".department_id_department_seq'::regclass);


--
-- TOC entry 3246 (class 2604 OID 16701)
```

```
--
-- Name: employee id_employee; Type: DEFAULT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".employee ALTER COLUMN id_employee SET DEFAULT
nextval('"Uchet".employee_id_employee_seq'::regclass);


--
-- TOC entry 3239 (class 2604 OID 16640)
-- Name: employee_in_department id_employee_in_department; Type: DEFAULT;
Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department ALTER COLUMN
id_employee_in_department SET DEFAULT
nextval('"Uchet".employee_in_department_id_employee_in_department_seq'::reg
class);


--
-- TOC entry 3240 (class 2604 OID 16641)
-- Name: employee_in_department id_department; Type: DEFAULT; Schema:
Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department ALTER COLUMN id_department
SET DEFAULT
nextval('"Uchet".employee_in_department_id_department_seq'::regclass);


--
-- TOC entry 3241 (class 2604 OID 16642)
-- Name: employee_in_department id_employee; Type: DEFAULT; Schema: Uchet;
Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department ALTER COLUMN id_employee
SET DEFAULT
nextval('"Uchet".employee_in_department_id_employee_seq'::regclass);


--
-- TOC entry 3242 (class 2604 OID 16643)
-- Name: employee_in_department id_positions; Type: DEFAULT; Schema: Uchet;
Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department ALTER COLUMN id_positions
SET DEFAULT
nextval('"Uchet".employee_in_department_id_positions_seq'::regclass);


--
-- TOC entry 3248 (class 2604 OID 16727)
-- Name: positions id_position; Type: DEFAULT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".positions ALTER COLUMN id_position SET DEFAULT
nextval('"Uchet".positions_id_position_seq'::regclass);
```

```
--
-- TOC entry 3236 (class 2604 OID 16621)
-- Name: project id_project; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".project ALTER COLUMN id_project SET DEFAULT
nextval('"Uchet".project_id_project_seq'::regclass);


--
-- TOC entry 3237 (class 2604 OID 16623)
-- Name: project id_client; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".project ALTER COLUMN id_client SET DEFAULT
nextval('"Uchet".project_id_client_seq'::regclass);


--
-- TOC entry 3238 (class 2604 OID 16646)
-- Name: project id_employee_in_department; Type: DEFAULT; Schema: Uchet;
Owner: postgres
--

ALTER TABLE ONLY "Uchet".project ALTER COLUMN id_employee_in_department SET
DEFAULT nextval('"Uchet".project_id_employee_in_department_seq'::regclass);


--
-- TOC entry 3244 (class 2604 OID 16686)
-- Name: purchase id_purchase; Type: DEFAULT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".purchase ALTER COLUMN id_purchase SET DEFAULT
nextval('"Uchet".purchase_id_purchase_seq'::regclass);


--
-- TOC entry 3245 (class 2604 OID 16687)
-- Name: purchase id_project; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".purchase ALTER COLUMN id_project SET DEFAULT
nextval('"Uchet".purchase_id_project_seq'::regclass);


--
-- TOC entry 3252 (class 2604 OID 16783)
-- Name: stage id_stage; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".stage ALTER COLUMN id_stage SET DEFAULT
nextval('"Uchet".stage_id_stage_seq'::regclass);


--
-- TOC entry 3253 (class 2604 OID 16784)
-- Name: stage id_task; Type: DEFAULT; Schema: Uchet; Owner: postgres
```

```
--

ALTER TABLE ONLY "Uchet".stage ALTER COLUMN id_task SET DEFAULT
nextval('"Uchet".stage_id_task_seq'::regclass);


--
-- TOC entry 3254 (class 2604 OID 16785)
-- Name: stage id_employee; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".stage ALTER COLUMN id_employee SET DEFAULT
nextval('"Uchet".stage_id_employee_seq'::regclass);


--
-- TOC entry 3249 (class 2604 OID 16752)
-- Name: task id_task; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".task ALTER COLUMN id_task SET DEFAULT
nextval('"Uchet".task_id_task_seq'::regclass);


--
-- TOC entry 3250 (class 2604 OID 16753)
-- Name: task id_inspector; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".task ALTER COLUMN id_inspector SET DEFAULT
nextval('"Uchet".task_id_inspector_seq'::regclass);


--
-- TOC entry 3251 (class 2604 OID 16754)
-- Name: task id_project; Type: DEFAULT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".task ALTER COLUMN id_project SET DEFAULT
nextval('"Uchet".task_id_project_seq'::regclass);


--
-- TOC entry 3449 (class 0 OID 16670)
-- Dependencies: 225
-- Data for Name: client; Type: TABLE DATA; Schema: Uchet; Owner: postgres
--

COPY "Uchet".client (id_organisation, name_of_organisation,
contacts_of_organisation) FROM stdin;
1       OOO RZHAKA                                      88005553535
2       IP CMEX                                         88888888888
3       OAO LOL                                         87777777777
\.


--
-- TOC entry 3456 (class 0 OID 16712)
-- Dependencies: 232
-- Data for Name: department; Type: TABLE DATA; Schema: Uchet; Owner:
postgres
```

```
--

COPY "Uchet".department (id_department, name_of_department,
contacts_of_department) FROM stdin;
1       CONTROL                                         89123456789
2       OPERATION                                       89897889123
3       CRM                                             89008007000
\.


--
-- TOC entry 3454 (class 0 OID 16698)
-- Dependencies: 230
-- Data for Name: employee; Type: TABLE DATA; Schema: Uchet; Owner:
postgres
--

COPY "Uchet".employee (id_employee, name_of_employee, contacts_of_employee)
FROM stdin;
567     ALFRED                                          89567567567
456     LENA                                            89456456456
345     VLADISLAV                                       89345345345
234     FEDOR                                           89888888888
123     DIMA                                            89825832761
678     GEORGE                                          89678678678
\.


--
-- TOC entry 3446 (class 0 OID 16637)
-- Dependencies: 222
-- Data for Name: employee_in_department; Type: TABLE DATA; Schema: Uchet;
Owner: postgres
--

COPY "Uchet".employee_in_department (id_employee_in_department,
hours_of_work, salary, id_department, id_employee, id_positions) FROM
stdin;
16      33                      30000   3       678     2
15      34                      40000   3       567     1
14      37                      30000   2       456     2
13      36                      40000   2       345     1
12      35                      30000   1       234     2
11      30                      40000   1       123     1
\.


--
-- TOC entry 3458 (class 0 OID 16724)
-- Dependencies: 234
-- Data for Name: positions; Type: TABLE DATA; Schema: Uchet; Owner:
postgres
--

COPY "Uchet".positions (id_position, name_of_position, salary_of_position)
FROM stdin;
1       HEAD OF DEPARTMENT                              40000
2       WORKER                                          30000
\.
```

```
--
-- TOC entry 3441 (class 0 OID 16618)
-- Dependencies: 217
-- Data for Name: project; Type: TABLE DATA; Schema: Uchet; Owner: postgres
--

COPY "Uchet".project (id_project, name_of_project, id_client,
price_of_project, date_of_contract_sign, deadline_of_project,
date_of_start, date_of_finish, id_employee_in_department,
status_vipolneniya) FROM stdin;
2       HW_1
        2       50000   2023-04-14      2023-05-
14      \N      \N      14      Не начат
1       TEST_1
        1       100000  2023-04-15      2023-05-15      2023-04-
15      \N      14      Выполняется
3       HW_2
        3       50000   2023-04-13      2023-05-13      2023-04-14      2023-
04-23  13      Завершен
\.


--
-- TOC entry 3452 (class 0 OID 16683)
-- Dependencies: 228
-- Data for Name: purchase; Type: TABLE DATA; Schema: Uchet; Owner:
postgres
--

COPY "Uchet".purchase (id_purchase, id_project, project_price,
date_of_purchase, purchase_status) FROM stdin;
3       3       50000   2023-04-13      Оплачен
2       2       50000   \N      Не оплачен
1       1       100000  \N      Ожидает оплаты
\.


--
-- TOC entry 3466 (class 0 OID 16780)
-- Dependencies: 242
-- Data for Name: stage; Type: TABLE DATA; Schema: Uchet; Owner: postgres
--

COPY "Uchet".stage (id_stage, id_task, id_employee, date_of_start,
date_of_finish, name_of_work, salary_of_stage, stage_status) FROM stdin;
1113    111     13      2023-04-16      2023-04-16      сделать общий
документ с полезной информацией        500     Завершен
1112    111     14      2023-04-16      2023-04-16      посомтреть информацию
в учебной литературе            1000    Завершен
1111    111     13      2023-04-15      2023-04-15      посмотреть информацию
в интернете             1000    Завершен
1121    112     13      2023-04-15      2023-04-15      посмотреть информацию
в интернете             1000    Завершен
1122    112     13      2023-04-16      2023-04-16      посмотреть информацию
в учебной литературе\n          1000    Завершен
1123    112     13      2023-04-17      2023-04-17      сделать общий
документ с поленой информацией         500     Завершен
1131    113     14      2023-04-18      2023-04-20      ипользуя документ
выполнить задание               2000    Завершен
1132    113     14      2023-04-21      2023-04-21      красиво оформить
        1000    Завершен
```

```
1133    113     14      2023-04-22      2023-04-23      сдать задание
        500     Завершен
1102    110     14      2023-04-16      \N      перевести на другой язык
        500     Заморожен
\.


--
-- TOC entry 3462 (class 0 OID 16749)
-- Dependencies: 238
-- Data for Name: task; Type: TABLE DATA; Schema: Uchet; Owner: postgres
--

COPY "Uchet".task (id_task, id_inspector, id_project, name_of_task,
deadline_of_task, salary_for_task, date_of_inspection, task_status) FROM
stdin;
113     11      3       выполнение
        2023-04-23      15000   2023-04-17      Завершен
112     12      3       сбор материала
        2023-04-17      10000   2023-04-16      Завершен
110     11      1       выполнение
        2023-04-25      15000   2023-04-20      Выполняется
109     12      2       сбор материала
        2023-05-14      10000   \N      Заморожен
111     11      1       сбор материала
        2023-04-19      10000   2023-04-18      Завершен
\.


--
-- TOC entry 3491 (class 0 OID 0)
-- Dependencies: 224
-- Name: client_id_organisation_seq; Type: SEQUENCE SET; Schema: Uchet;
Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".client_id_organisation_seq', 1, false);


--
-- TOC entry 3492 (class 0 OID 0)
-- Dependencies: 231
-- Name: department_id_department_seq; Type: SEQUENCE SET; Schema: Uchet;
Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".department_id_department_seq', 1, false);


--
-- TOC entry 3493 (class 0 OID 0)
-- Dependencies: 229
-- Name: employee_id_employee_seq; Type: SEQUENCE SET; Schema: Uchet;
Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".employee_id_employee_seq', 1, false);


--
-- TOC entry 3494 (class 0 OID 0)
```

```
--
-- Dependencies: 219
-- Name: employee_in_department_id_department_seq; Type: SEQUENCE SET;
Schema: Uchet; Owner: postgres
--

SELECT
pg_catalog.setval('"Uchet".employee_in_department_id_department_seq', 1,
true);


--
-- TOC entry 3495 (class 0 OID 0)
-- Dependencies: 218
-- Name: employee_in_department_id_employee_in_department_seq; Type:
SEQUENCE SET; Schema: Uchet; Owner: postgres
--

SELECT
pg_catalog.setval('"Uchet".employee_in_department_id_employee_in_department
_seq', 1, true);


--
-- TOC entry 3496 (class 0 OID 0)
-- Dependencies: 220
-- Name: employee_in_department_id_employee_seq; Type: SEQUENCE SET;
Schema: Uchet; Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".employee_in_department_id_employee_seq',
1, false);


--
-- TOC entry 3497 (class 0 OID 0)
-- Dependencies: 221
-- Name: employee_in_department_id_positions_seq; Type: SEQUENCE SET;
Schema: Uchet; Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".employee_in_department_id_positions_seq',
1, true);


--
-- TOC entry 3498 (class 0 OID 0)
-- Dependencies: 233
-- Name: positions_id_position_seq; Type: SEQUENCE SET; Schema: Uchet;
Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".positions_id_position_seq', 1, false);


--
-- TOC entry 3499 (class 0 OID 0)
-- Dependencies: 216
-- Name: project_id_client_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--
```

```sql
SELECT pg_catalog.setval('"Uchet".project_id_client_seq', 1, false);


--
-- TOC entry 3500 (class 0 OID 0)
-- Dependencies: 223
-- Name: project_id_employee_in_department_seq; Type: SEQUENCE SET; Schema:
Uchet; Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".project_id_employee_in_department_seq',
1, false);


--
-- TOC entry 3501 (class 0 OID 0)
-- Dependencies: 215
-- Name: project_id_project_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".project_id_project_seq', 1, false);


--
-- TOC entry 3502 (class 0 OID 0)
-- Dependencies: 227
-- Name: purchase_id_project_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".purchase_id_project_seq', 1, false);


--
-- TOC entry 3503 (class 0 OID 0)
-- Dependencies: 226
-- Name: purchase_id_purchase_seq; Type: SEQUENCE SET; Schema: Uchet;
Owner: postgres
--

SELECT pg_catalog.setval('"Uchet".purchase_id_purchase_seq', 1, false);


--
-- TOC entry 3504 (class 0 OID 0)
-- Dependencies: 241
-- Name: stage_id_employee_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".stage_id_employee_seq', 1, false);


--
-- TOC entry 3505 (class 0 OID 0)
-- Dependencies: 239
-- Name: stage_id_stage_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--
```

```sql
SELECT pg_catalog.setval('"Uchet".stage_id_stage_seq', 1, false);


--
-- TOC entry 3506 (class 0 OID 0)
-- Dependencies: 240
-- Name: stage_id_task_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".stage_id_task_seq', 1, false);


--
-- TOC entry 3507 (class 0 OID 0)
-- Dependencies: 236
-- Name: task_id_inspector_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".task_id_inspector_seq', 1, false);


--
-- TOC entry 3508 (class 0 OID 0)
-- Dependencies: 237
-- Name: task_id_project_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".task_id_project_seq', 1, false);


--
-- TOC entry 3509 (class 0 OID 0)
-- Dependencies: 235
-- Name: task_id_task_seq; Type: SEQUENCE SET; Schema: Uchet; Owner:
postgres
--

SELECT pg_catalog.setval('"Uchet".task_id_task_seq', 1, false);


--
-- TOC entry 3274 (class 2606 OID 16675)
-- Name: client client_pkey; Type: CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".client
    ADD CONSTRAINT client_pkey PRIMARY KEY (id_organisation);


--
-- TOC entry 3262 (class 2606 OID 16691)
-- Name: purchase date_of_purchase; Type: CHECK CONSTRAINT; Schema: Uchet;
Owner: postgres
--

ALTER TABLE "Uchet".purchase
```

```
    ADD CONSTRAINT date_of_purchase CHECK ((date_of_purchase > '1990-01-
01'::date)) NOT VALID;


--
-- TOC entry 3280 (class 2606 OID 16717)
-- Name: department department_pkey; Type: CONSTRAINT; Schema: Uchet;
Owner: postgres
--

ALTER TABLE ONLY "Uchet".department
    ADD CONSTRAINT department_pkey PRIMARY KEY (id_department);


--
-- TOC entry 3272 (class 2606 OID 16652)
-- Name: employee_in_department employee_in_department_pkey; Type:
CONSTRAINT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department
    ADD CONSTRAINT employee_in_department_pkey PRIMARY KEY
(id_employee_in_department);


--
-- TOC entry 3278 (class 2606 OID 16703)
-- Name: employee employee_pkey; Type: CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".employee
    ADD CONSTRAINT employee_pkey PRIMARY KEY (id_employee);


--
-- TOC entry 3282 (class 2606 OID 16730)
-- Name: positions positions_pkey; Type: CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".positions
    ADD CONSTRAINT positions_pkey PRIMARY KEY (id_position);


--
-- TOC entry 3270 (class 2606 OID 16626)
-- Name: project project_pkey; Type: CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".project
    ADD CONSTRAINT project_pkey PRIMARY KEY (id_project);


--
-- TOC entry 3276 (class 2606 OID 16689)
-- Name: purchase purchase_pkey; Type: CONSTRAINT; Schema: Uchet; Owner:
postgres
--
```

```
ALTER TABLE ONLY "Uchet".purchase
    ADD CONSTRAINT purchase_pkey PRIMARY KEY (id_purchase);



--
-- TOC entry 3286 (class 2606 OID 16787)
-- Name: stage stage_pkey; Type: CONSTRAINT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".stage
    ADD CONSTRAINT stage_pkey PRIMARY KEY (id_stage);



--
-- TOC entry 3284 (class 2606 OID 16758)
-- Name: task task_pkey; Type: CONSTRAINT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".task
    ADD CONSTRAINT task_pkey PRIMARY KEY (id_task);



--
-- TOC entry 3287 (class 2606 OID 16676)
-- Name: project id_client; Type: FK CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".project
    ADD CONSTRAINT id_client FOREIGN KEY (id_client) REFERENCES
"Uchet".client(id_organisation) NOT VALID;



--
-- TOC entry 3289 (class 2606 OID 16731)
-- Name: employee_in_department id_department; Type: FK CONSTRAINT; Schema:
Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department
    ADD CONSTRAINT id_department FOREIGN KEY (id_department) REFERENCES
"Uchet".department(id_department) NOT VALID;



--
-- TOC entry 3290 (class 2606 OID 16741)
-- Name: employee_in_department id_employee; Type: FK CONSTRAINT; Schema:
Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department
    ADD CONSTRAINT id_employee FOREIGN KEY (id_employee) REFERENCES
"Uchet".employee(id_employee) NOT VALID;



--
-- TOC entry 3295 (class 2606 OID 16793)
-- Name: stage id_employee; Type: FK CONSTRAINT; Schema: Uchet; Owner:
postgres
--
```

```
ALTER TABLE ONLY "Uchet".stage
    ADD CONSTRAINT id_employee FOREIGN KEY (id_employee) REFERENCES
"Uchet".employee_in_department(id_employee_in_department);



--
-- TOC entry 3288 (class 2606 OID 16653)
-- Name: project id_employee_in_department; Type: FK CONSTRAINT; Schema:
Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".project
    ADD CONSTRAINT id_employee_in_department FOREIGN KEY
(id_employee_in_department) REFERENCES
"Uchet".employee_in_department(id_employee_in_department) NOT VALID;



--
-- TOC entry 3293 (class 2606 OID 16772)
-- Name: task id_inspector; Type: FK CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".task
    ADD CONSTRAINT id_inspector FOREIGN KEY (id_inspector) REFERENCES
"Uchet".employee_in_department(id_employee_in_department) NOT VALID;



--
-- TOC entry 3291 (class 2606 OID 16736)
-- Name: employee_in_department id_positions; Type: FK CONSTRAINT; Schema:
Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".employee_in_department
    ADD CONSTRAINT id_positions FOREIGN KEY (id_positions) REFERENCES
"Uchet".positions(id_position) NOT VALID;



--
-- TOC entry 3292 (class 2606 OID 16692)
-- Name: purchase id_project; Type: FK CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".purchase
    ADD CONSTRAINT id_project FOREIGN KEY (id_project) REFERENCES
"Uchet".project(id_project) NOT VALID;



--
-- TOC entry 3294 (class 2606 OID 16767)
-- Name: task id_project; Type: FK CONSTRAINT; Schema: Uchet; Owner:
postgres
--

ALTER TABLE ONLY "Uchet".task
    ADD CONSTRAINT id_project FOREIGN KEY (id_project) REFERENCES
"Uchet".project(id_project) NOT VALID;
```

```
--
-- TOC entry 3296 (class 2606 OID 16788)
-- Name: stage id_task; Type: FK CONSTRAINT; Schema: Uchet; Owner: postgres
--

ALTER TABLE ONLY "Uchet".stage
    ADD CONSTRAINT id_task FOREIGN KEY (id_task) REFERENCES
"Uchet".task(id_task);


-- Completed on 2023-05-01 19:28:54

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

Выводы:

В ходе работы с pgAdmin я научился создавать базы данных, заполнять их данными, а также делать backup и восстанавливать базу данных. Этот инструмент оказался очень удобным, что значительно облегчило процесс работы с базами данных. За время работы я освоил основные функции pgAdmin и получил навыки, которые помогут мне в дальнейшей работе с базами данных.