Мамонов Антон 3ИСиП-19-1

Описание pg_class

```
postgres=# \d pg_class
                         Таблица "pg_catalog.pg_class"
       Столбец        |     Тип      | Правило сортировки | Допустимость NULL | По умолчанию
----------------------+--------------+--------------------+-------------------+-------------
 oid                  | oid          |                    | not null          |
 relname              | name         |                    | not null          |
 relnamespace         | oid          |                    | not null          |
 reltype              | oid          |                    | not null          |
 reloftype            | oid          |                    | not null          |
 relowner             | oid          |                    | not null          |
 relam                | oid          |                    | not null          |
 relfilenode          | oid          |                    | not null          |
 reltablespace        | oid          |                    | not null          |
 relpages             | integer      |                    | not null          |
 reltuples            | real         |                    | not null          |
 relallvisible        | integer      |                    | not null          |
 reltoastrelid        | oid          |                    | not null          |
 relhasindex          | boolean      |                    | not null          |
 relisshared          | boolean      |                    | not null          |
 relpersistence       | "char"       |                    | not null          |
 relkind              | "char"       |                    | not null          |
 relnatts             | smallint     |                    | not null          |
 relchecks            | smallint     |                    | not null          |
 relhasrules          | boolean      |                    | not null          |
 relhastriggers       | boolean      |                    | not null          |
 relhassubclass       | boolean      |                    | not null          |
 relrowsecurity       | boolean      |                    | not null          |
 relforcerowsecurity  | boolean      |                    | not null          |
 relispopulated       | boolean      |                    | not null          |
 relreplident         | "char"       |                    | not null          |
 relispartition       | boolean      |                    | not null          |
 relrewrite           | oid          |                    | not null          |
 relfrozenxid         | xid          |                    | not null          |
 relminmxid           | xid          |                    | not null          |
 relacl               | aclitem[]    |                    |                   |
 reloptions           | text[]       | C                  |                   |
 relpartbound         | pg_node_tree | C                  |                   |
Индексы:
    "pg_class_oid_index" PRIMARY KEY, btree (oid)
    "pg_class_relname_nsp_index" UNIQUE CONSTRAINT, btree (relname, relnamespace)
    "pg_class_tblspc_relfilenode_index" btree (reltablespace, relfilenode)
```

Подробное описание pg_tables

```
postgres=# \d+ pg_tables
                            Представление "pg_catalog.pg_tables"
   Столбец   |  Тип  | Правило сортировки | Допустимость NULL | По умолчанию | Хранение | Описание
-------------+-------+--------------------+-------------------+--------------+----------+----------
 schemaname  | name  |                    |                   |              | plain    |
 tablename   | name  |                    |                   |              | plain    |
 tableowner  | name  |                    |                   |              | plain    |
 tablespace  | name  |                    |                   |              | plain    |
 hasindexes  | boolean |                  |                   |              | plain    |
 hasrules    | boolean |                  |                   |              | plain    |
 hastriggers | boolean |                  |                   |              | plain    |
 rowsecurity | boolean |                  |                   |              | plain    |
Определение представления :
 SELECT n.nspname AS schemaname,
    c.relname AS tablename,
    pg_get_userbyid(c.relowner) AS tableowner,
    t.spcname AS tablespace,
    c.relhasindex AS hasindexes,
    c.relhasrules AS hasrules,
    c.relhastriggers AS hastriggers,
    c.relrowsecurity AS rowsecurity
   FROM pg_class c
     LEFT JOIN pg_namespace n ON n.oid = c.relnamespace
     LEFT JOIN pg_tablespace t ON t.oid = c.reltablespace
  WHERE c.relkind = ANY (ARRAY['r'::"char", 'p'::"char"]);
```

Полный список схем

```
postgres=#
postgres=#
postgres=# CREATE DATABASE data_catalog;
CREATE DATABASE
postgres=# CREATE TEMP TABLE t(n integer);
CREATE TABLE
postgres=# \c data_catalog
Вы подключены к базе данных "data_catalog" как пользователь "postgres".
data_catalog=# \dnS
           Список схем
        Имя         | Владелец
--------------------+----------
 information_schema | postgres
 pg_catalog         | postgres
 pg_toast           | postgres
 public             | postgres
(4 строки)
```

Список представлений в information_schema

Используем шаблон:

```
data_catalog=# \dv information_schema.*
                        ┬яшёюъ ю€эю°хэшщ
      ┬ÏхЬр         |            ╙ь              |    ┬ШЯ       | ┬ырфхыхУ
-------------------+-------------------------------------+-----------------+----------
 information_schema | _pg_foreign_data_wrappers           | яЁхфё€ртыхэшх    | postgres
 information_schema | _pg_foreign_servers                 | яЁхфё€ртыхэшх    | postgres
 information_schema | _pg_foreign_table_columns           | яЁхфё€ртыхэшх    | postgres
 information_schema | _pg_foreign_tables                  | яЁхфё€ртыхэшх    | postgres
 information_schema | _pg_user_mappings                   | яЁхфё€ртыхэшх    | postgres
 information_schema | administrable_role_authorizations   | яЁхфё€ртыхэшх    | postgres
 information_schema | applicable_roles                    | яЁхфё€ртыхэшх    | postgres
 information_schema | attributes                          | яЁхфё€ртыхэшх    | postgres
 information_schema | character_sets                      | яЁхфё€ртыхэшх    | postgres
 information_schema | check_constraint_routine_usage      | яЁхфё€ртыхэшх    | postgres
 information_schema | check_constraints                   | яЁхфё€ртыхэшх    | postgres
 information_schema | collation_character_set_applicability | яЁхфё€ртыхэшх  | postgres
 information_schema | collations                          | яЁхфё€ртыхэшх    | postgres
 information_schema | column_column_usage                 | яЁхфё€ртыхэшх    | postgres
 information_schema | column_domain_usage                 | яЁхфё€ртыхэшх    | postgres
 information_schema | column_options                      | яЁхфё€ртыхэшх    | postgres
```

Запросы к системному каталогу

```
data_catalog=#  \set ECHO_HIDDEN on
data_catalog=# \d+ pg_views
********* ЗАПРОС *********
SELECT c.oid,
  n.nspname,
  c.relname
FROM pg_catalog.pg_class c
    LEFT JOIN pg_catalog.pg_namespace n ON n.oid = c.relnamespace
WHERE c.relname OPERATOR(pg_catalog.~) '^(pg_views)$' COLLATE pg_catalog.default
  AND pg_catalog.pg_table_is_visible(c.oid)
ORDER BY 2, 3;
*************************
```

```
********* ЗАПРОС *********
SELECT r.rulename, trim(trailing ';' from pg_catalog.pg_get_ruledef(r.oid, true))
FROM pg_catalog.pg_rewrite r
WHERE r.ev_class = '12245' AND r.rulename != '_RETURN' ORDER BY 1;
*************************

                        ╨Ёхфё€ртыхэшх "pg_catalog.pg_views"
   ┬€юысхУ   | ┬ШЯ  | ╨Ёртшю ёюЁё€шЁютъш | ─юяёё€€шьюё€№ NULL | ╨ю €ьюыУрэш■ | ┌Ёрэшыш·х | ╨яшёрэшх
-------------+------+-------------------+-------------------+--------------+-----------+---------
 schemaname  | name |                   |                   |              | plain     |
 viewname    | name |                   |                   |              | plain     |
 viewowner   | name |                   |                   |              | plain     |
 definition  | text |                   |                   |              | extended  |
╫яЁхффхыхэшх яЁхфё€ртыхэшя :
 SELECT n.nspname AS schemaname,
    c.relname AS viewname,
    pg_get_userbyid(c.relowner) AS viewowner,
    pg_get_viewdef(c.oid) AS definition
   FROM pg_class c
     LEFT JOIN pg_namespace n ON n.oid = c.relnamespace
  WHERE c.relkind = 'v'::"char";


data_catalog=#  \set ECHO_HIDDEN off
```