

PostgreSQL Table Operations



I want to Learn the Following PostgreSQL Topics With Examples, Output and Advanced Information

PostgreSQL Table
 PostgreSQL Create Table
 PostgreSQL Drop Table
 PostgreSQL Show Table
 PostgreSQL Describe Table
 PostgreSQL ALTER table
 PostgreSQL ADD Column
 PostgreSQL Drop column
 Change Column Type
 PostgreSQL Rename Column



Here is an overview of the PostgreSQL topics you've requested, with examples, output, and explanations.

1. PostgreSQL Table

A table is a collection of rows and columns. It is a basic unit of data storage in PostgreSQL.

Example:

```
sql

CREATE TABLE employees (
  id SERIAL PRIMARY KEY,
  name VARCHAR(100),
  age INT,
  department VARCHAR(50)
);
```

Explanation: This creates a table called `employees` with four columns: `id`, `name`, `age`, and `department`.

2. PostgreSQL Create Table

The `CREATE TABLE` command is used to create a new table in the database.

Example:

```
sql

CREATE TABLE products (
  product_id SERIAL PRIMARY KEY,
  name VARCHAR(100),
```

```
price DECIMAL(10, 2)
);
```

Output: Table `products` created successfully.

3. PostgreSQL Drop Table

The `DROP TABLE` command removes an existing table and all its data from the database.

Example:

```
sql

DROP TABLE products;
```

Output: Table `products` dropped successfully.

4. PostgreSQL Show Table

PostgreSQL doesn't have a direct `SHOW TABLE` command, but you can list all tables in a database using:

Example:

```
sql

\dt
```

This will show all tables in the current database (works in `psql` shell).

5. PostgreSQL Describe Table

PostgreSQL uses the `\d` command in the `psql` shell to describe a table.

Example:

```
sql

\d employees
```

Output:

```
sql

      Column      |      Type      | Collation | Nullable | Default
-----|-----|-----|-----|-----
id                | integer        |           | not null |
name              | character varying(100) |           |         |
age               | integer        |           |         |
department         | character varying(50)  |           |         |
```

```
Indexes:
    "employees_pkey" PRIMARY KEY, btree (id)
```

6. PostgreSQL ALTER Table

The `ALTER TABLE` command is used to modify an existing table structure.

Example:

```
sql

ALTER TABLE employees ADD COLUMN salary DECIMAL(10, 2);
```

Explanation: This adds a new column `salary` to the `employees` table.

7. PostgreSQL ADD Column

You can add a new column to an existing table using `ALTER TABLE ... ADD COLUMN`.

Example:

```
sql

ALTER TABLE employees ADD COLUMN hire_date DATE;
```

Explanation: Adds a `hire_date` column of type `DATE` to the `employees` table.

8. PostgreSQL Drop Column

You can remove a column from a table using the `ALTER TABLE ... DROP COLUMN` command.

Example:

```
sql

ALTER TABLE employees DROP COLUMN age;
```

Explanation: This removes the `age` column from the `employees` table.

9. Change Column Type

You can change the data type of an existing column using `ALTER TABLE ... ALTER COLUMN`.

Example:

```
sql

ALTER TABLE employees ALTER COLUMN salary TYPE INTEGER;
```

Explanation: Changes the `salary` column type from `DECIMAL` to `INTEGER`.

10. PostgreSQL Rename Column

You can rename a column using `ALTER TABLE ... RENAME COLUMN`.

Example:

```
sql

ALTER TABLE employees RENAME COLUMN department TO dept;
```

Explanation: Renames the `department` column to `dept` in the `employees` table.

Let me know if you need further explanation on any topic or examples!