Creating a database

CREATING POSTGRESQL DATABASES

SQL

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Course topics

- Commands for building databases

- PostgreSQL data types

- Database normalization

- Database access management

The PostgreSQL Database Management System

- object-relational database management system

- system components are objects

- database is top-level object

The CREATE DATABASE command

```
CREATE DATABASE db_name;
```

```
CREATE DATABASE my_db;
```

```
CREATE DATABASE _my_db;
```

```
CREATE DATABASE 321_db; -- Invalid
```

Scenarios for new database creation

```
CREATE DATABASE ncaa_bb;
```

```
CREATE DATABASE auto_depot;
```

```
CREATE DATABASE pod;
```

Let's practice!

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Creating tables

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The database table

- Variable number of rows

- Fixed number of columns (structure can be altered)

- Columns have specific data type

- Each row is a record

The CREATE TABLE command

```
CREATE TABLE table_name (
    column1_name column1_datatype [col1_constraints],

    column2_name column2_datatype [col2_constraints],

    ...

    columnN_name columnN_datatype [colN_constraints]
);
```

Name Restrictions

- maximum length of 31 characters

- must begin with letter or underscore ("_")

Example table 1

```
CREATE TABLE school (
    id serial PRIMARY KEY,
    name TEXT NOT NULL,
    mascot_name TEXT
);
```

Example table 2

```
CREATE TABLE topic (
    id SERIAL PRIMARY KEY,
    description TEXT NOT NULL
);
```

Table organization

- Which fields should I use?

- How many tables should I add?

- Which data types are best to use for the fields of my table?

Let's practice!

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Creating schemas
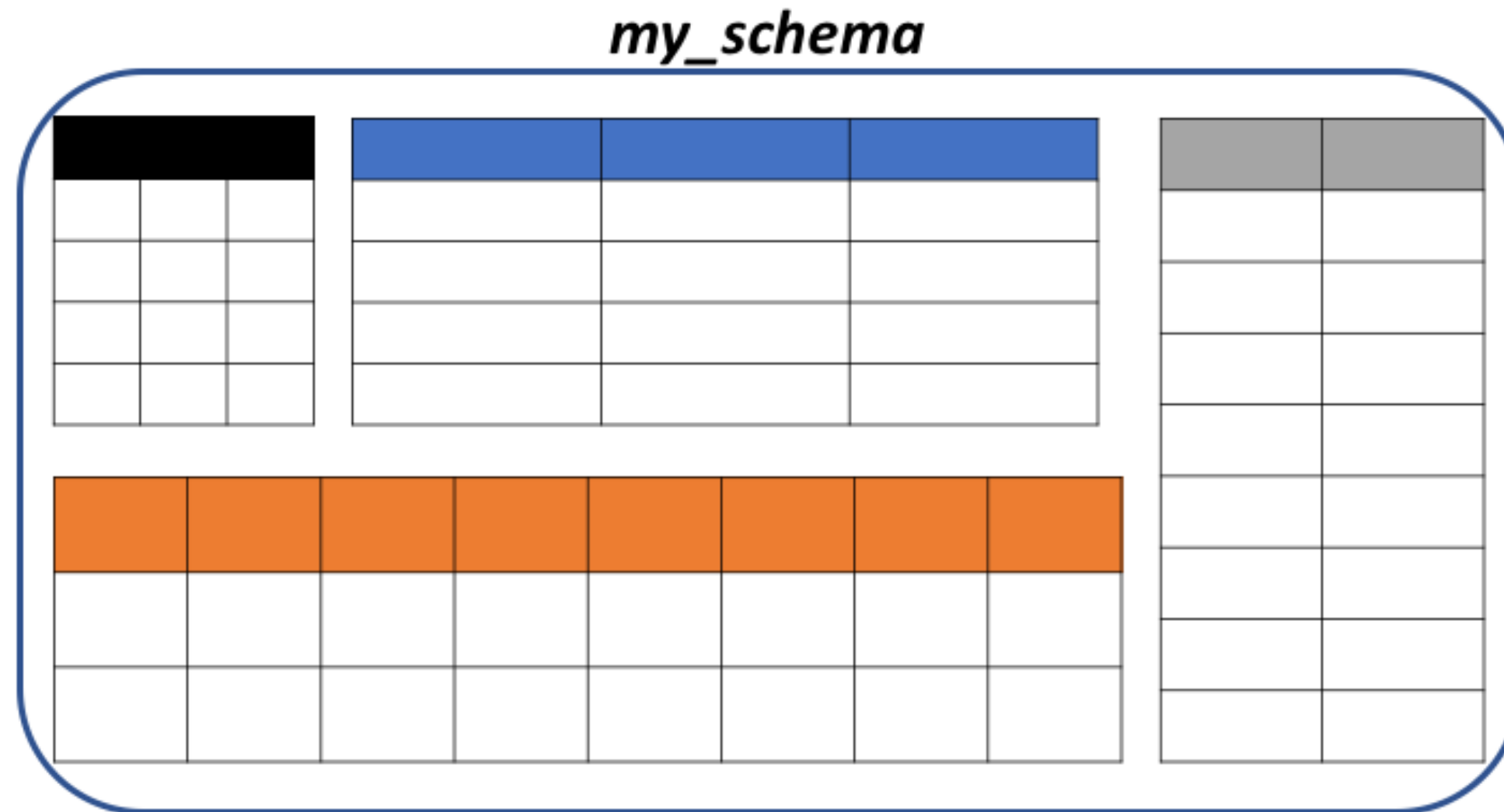
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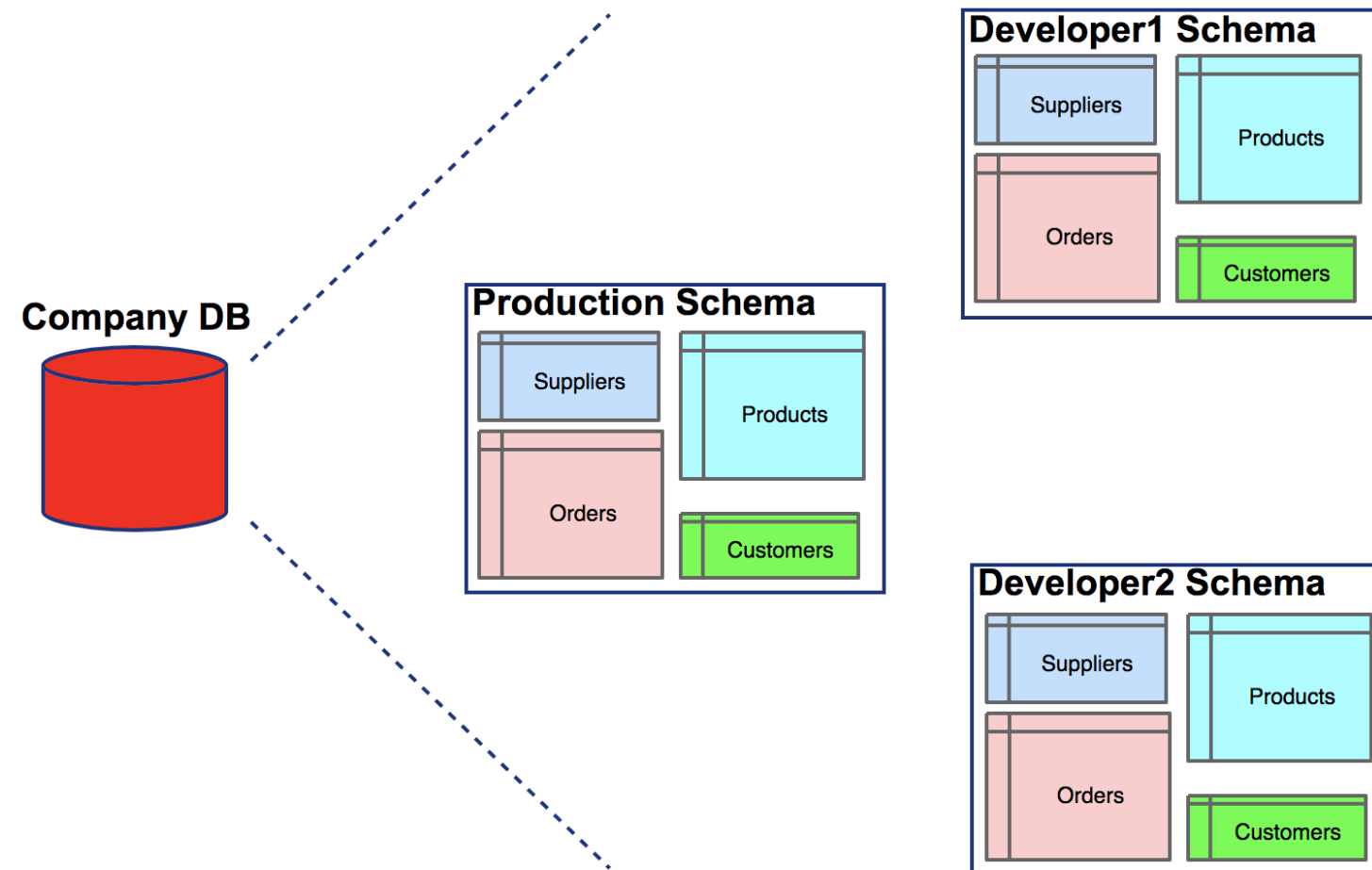
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PostgreSQL schemas
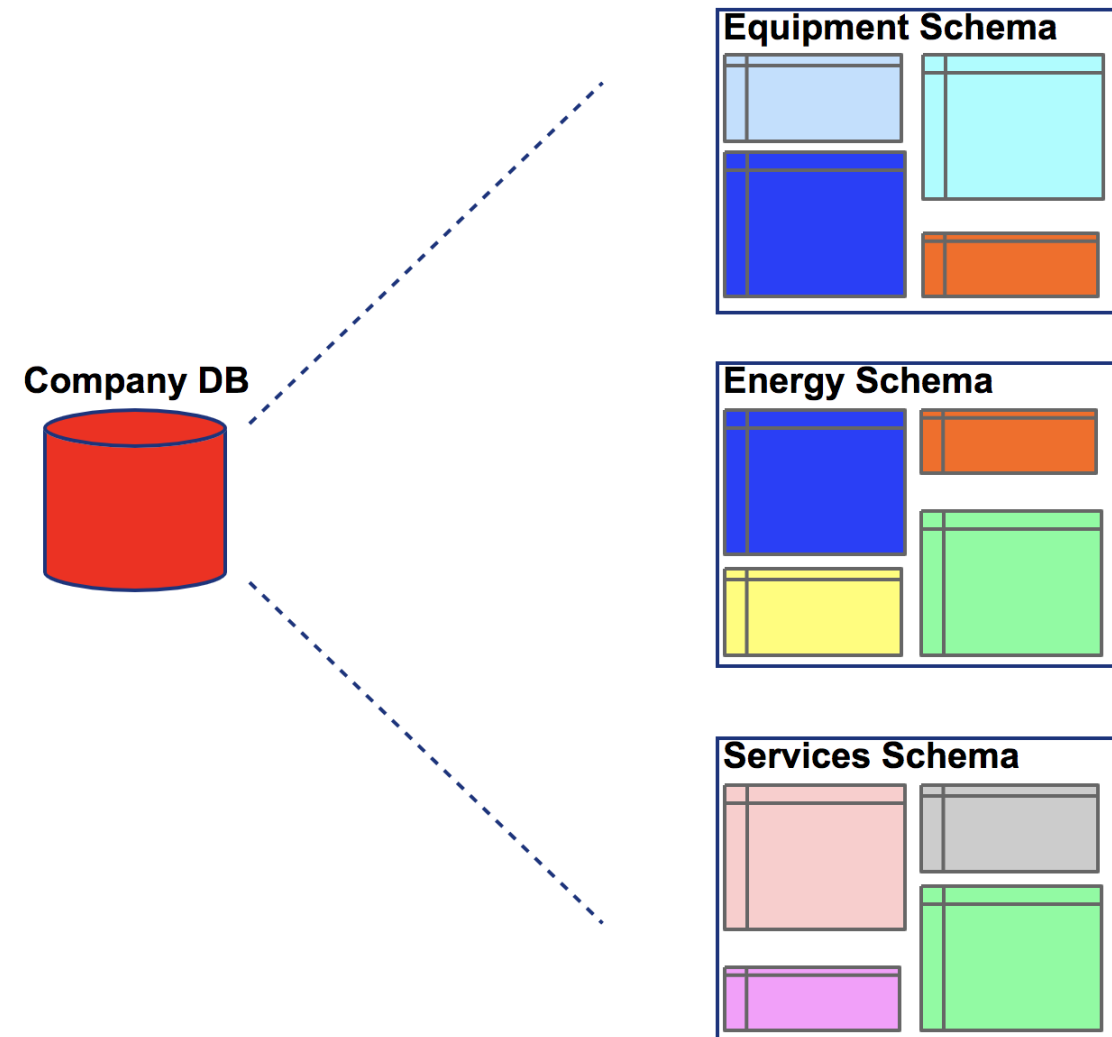
- A named container for tables

my_schema

Schema uses

Providing database users with separate environments

Schemas uses

Organizing database objects into related groups

The default schema

- The `public` schema is the default schema in PostgreSQL

```
CREATE TABLE topic (
    id serial PRIMARY KEY,
    description TEXT NOT NULL
);
```

`public.topic`

The CREATE SCHEMA command

```
CREATE SCHEMA schema_name;
```

```
CREATE SCHEMA division1;
```

```
CREATE TABLE division1.school (
    id serial PRIMARY KEY,
    name TEXT NOT NULL,
    mascot_name TEXT,
    num_scholarships INTEGER DEFAULT 0
);
```

Schema naming restrictions

- Length of name less than 32

- Name begins with letter or underscore ("_")

- Schema name cannot begin with "pg_"

Let's practice!

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