

SQL DDL

csc343, Introduction to Databases

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Schema: a kind of namespace

- “psql csc343h-miller” connects you to a database called csc343h-miller.
(Substitute your cdf userid of course.)
- Everything defined (tables, types, etc.) goes into one big pot.
- Schemas let you create different namespaces.
- Useful for logical organization, and for avoiding name clashes.

Creating a schema

- You already have a schema called “public”.
- You can also create your own. Example:
`create schema University;`
- To refer to things inside a particular schema, you can use dot notation:

```
create table University.Student (...);  
select * from University.Student;
```

When you don't use dot notation

- If you refer to a name without specifying what schema it is within:
 - Any new names you define go in the schema called “public”
 - E.g., if you create a table called `frindle`, you actually are defining `public.frindle`.
 - When referring to a name, there is a search path that finds it.

The search path

- To see it the search path:
`show search_path;`
- You can set the search path yourself. Example:
`set search_path to University, public;`
- The default search path is: “\$user”, public
 - schema “\$user” is not created for you, but if you create it, it’s at the front of the search path.
 - schema `public` is created for you.

Removing a schema

- Easy:

```
drop schema University cascade;
```

- “`cascade`” means everything inside it is dropped too.
- To avoid getting an error message if the schema does not exist, add “`if exists`”.

Usage pattern

- You can use this at the top of every DDL file:

```
drop schema if exists University cascade;  
create schema University;  
set search_path to University;
```

- Helpful during development, when you may want to change the schema, or test queries under different conditions.

Workflow

- One effective way to work:
 - Create a DDL file with the schema.
 - Create a file with inserts to put content in the database.
 - In the postgresSQL shell, import these.
 - Run queries directly in the shell or by importing queries written in files.