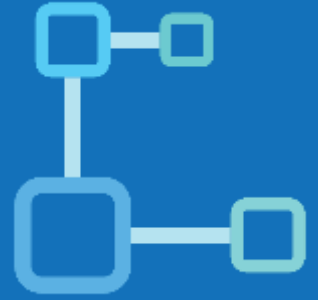




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DATABASE



Index

Indexes are a common way to enhance database performance. An **index** allows the database server to find and retrieve specific rows much faster than it could

An index allows the database server to find and retrieve specific rows much faster than it could do without an index. But indexes also add overhead to the database system as a whole, so they should be used sensibly.

Syntax :

```
CREATE INDEX index_name  
ON table_name (column1, column2, ...);
```

Example

```
Create index emp_index  
On Test ("First_name");
```

Advantages

Index

Their use in queries usually results in much better performance.

They make it possible to quickly retrieve (fetch) data.

They can be used for sorting. A post-fetch-sort operation can be eliminated

Unique indexes guarantee uniquely identifiable records in the database.

Example

```
Create table test(first_name text not null,  
                 last_name text not null,  
                 company_name text not null,  
                 address text not null,  
                 city text not null);
```

```
create index emp_index on text("first_name");
```

```
drop index emp_index;
```

```
Explain select *  
from test  
where first_name='Ahmed';
```

Schema

A database schema is the skeleton structure that represents the **logical view** of the entire database. It defines how the data is organized and how the relations among them are associated. It formulates all the constraints that are to be applied on the data.

After creation of database, by default Postgres provide 'public schema', all the database objects such as index, stored procedure, tables and sequences are contained inside into schema

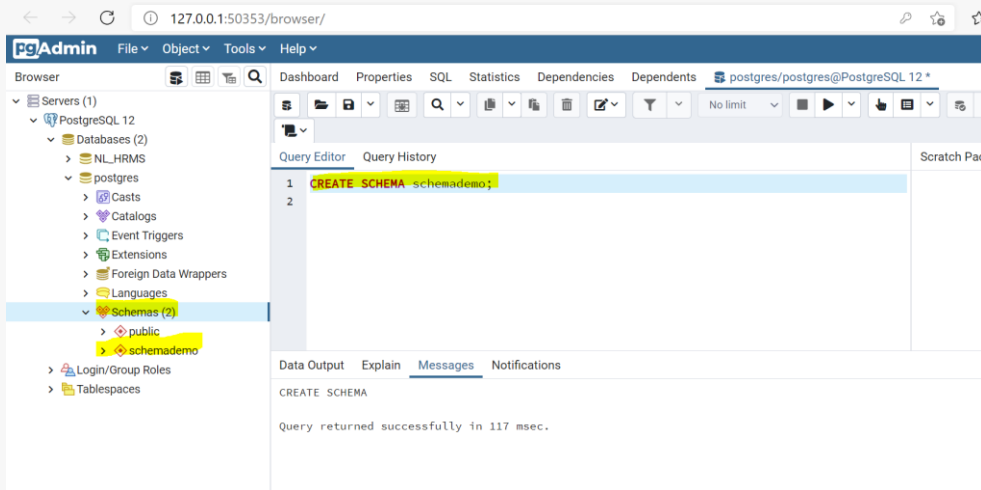
A database can have one or more schemas, whereas each schema exists for only one database, and two schemas can contain different objects,

Schema creation:

We can create schema using query tool or by UI. The cmd for schema creation is

Create schema `<schema_name>;`

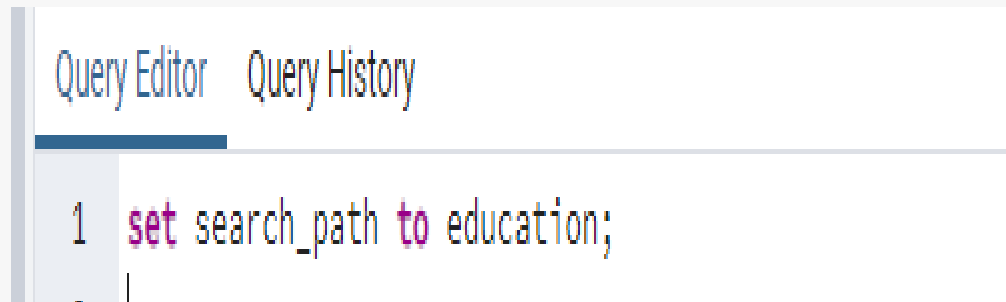
Example



Note: After creation of schema, it is necessary to set search path which is pointing to newly created schema, this can be achieved by using the below command

SET search_path to schema_name;

For our use case the schema_name will be education.





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Thank you