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Building a web service to get customer details using Node JS and PostgreSQL

Technology Stack:

PostgreSQL 10.4, Node JS - Express and pg packages

Step 1: Create a database, table along with insertion and query operations in PostgreSQL DB

- Navigate to PostgreSQL installation directory, click on SQL Shell and create a database using below command

```
[postgres=# create database kt;  
CREATE DATABASE  
postgres=# ]
```

Fig: Creating database

- Confirm that database is created by opening pgAdmin4 in installation directory

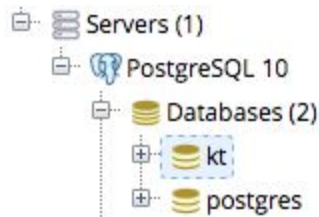


Fig: Confirming database creation

- Change from default to newly created database

```
[postgres=# \c kt;  
You are now connected to database "kt" as user "postgres".  
kt=# ]
```

Fig: Changing database

- Create table in the database

```
kt=# create table customers(customer_id int primary key not null, name text, age int, address char(50));  
CREATE TABLE
```

Fig: Creating table

- Listing tables in a database

```
[kt=# \d
      List of relations
 Schema | Name      | Type  | Owner
-----+-----+-----+-----
 public | customers | table | postgres
(1 row)
```

Fig: Listing tables in a database

- We can also confirm table creation by navigating to pgadmin page

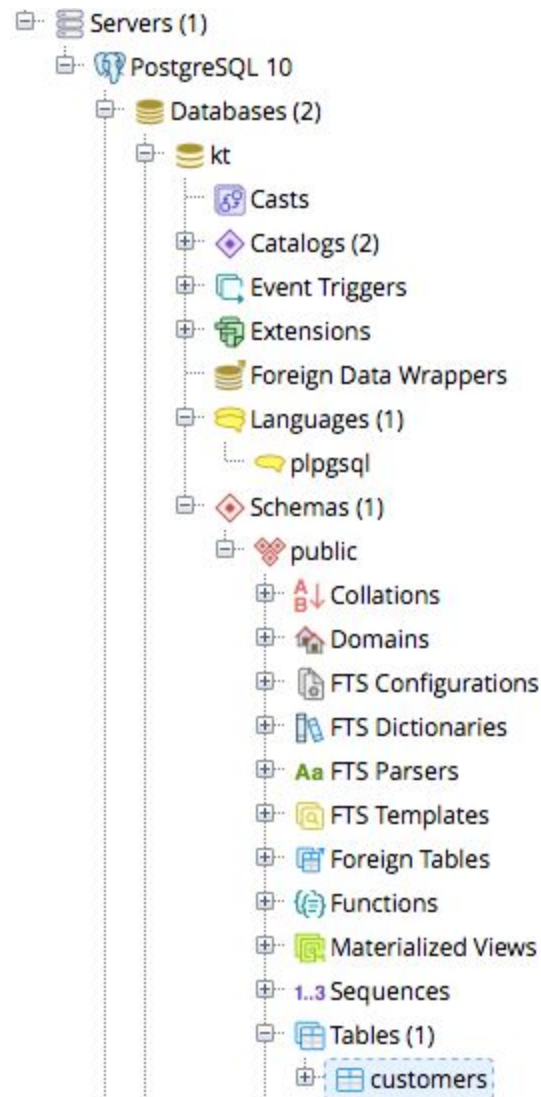


Fig: Confirming table creation

- Open query window for tables in pgadmin page

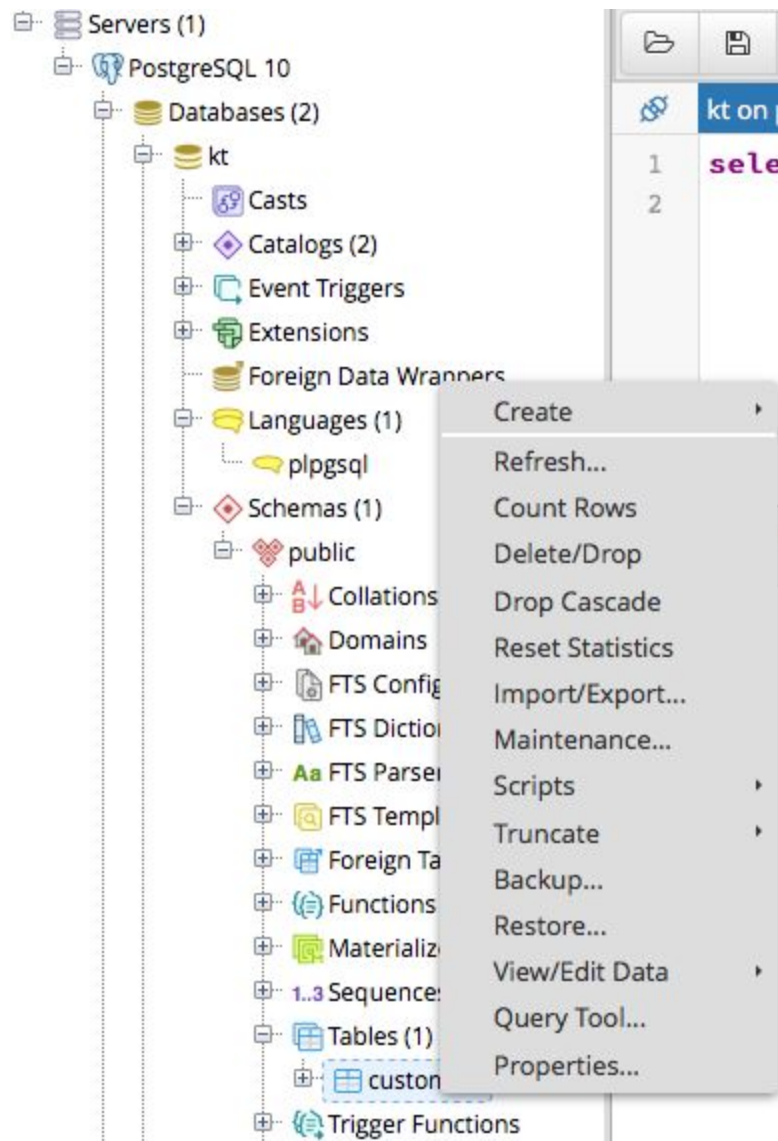


Fig:Opening query window

- Type SQL queries and click on



kt on postgres@PostgreSQL 10

```
1 select * from customers;
2
3 insert into customers values(1, 'Heisenberg', 55, 'Dallas TX');
4 insert into customers values(2, 'Deadpool', -1, 'Buffalo NY');
5
```

Data Output Explain Messages Query History

	customer_id integer	name text	age integer	address character (50)	
1	1	Heis...	55	Dallas TX	...
2	2	Dea...	-1	Buffalo NY	...

Fig:Query execution

Note: Operations like table creation can also be done using pgadmin GUI.

Step 2 : Create a Node JS application using pg package

- Install pg package

`npm install pg`

- Create pool object with connection details

```
const { Pool, Client } = require('pg')

const pool = new Pool({
  user: 'postgres',
  host: 'localhost',
  database: 'kt',
  password: 'password',
  port: 5432,
})
```

Fig: Pool object

- Execute query

```
pool.query('select * from customers', (err, res) => {
  response.send(res.rows);
  pool.end()
})
```

Fig: Query execution

Screenshots:

Welcome to Node JS - PostgreSQL Demo

Clicking below will fetch data from /api/getCustomers

Get Customer Data

Fig: Node JS application

```
[{"customer_id":1,"name":"Heisenberg","age":55,"address":"Dallas TX"}
{"customer_id":2,"name":"Deadpool","age":-1,"address":"Buffalo NY"}]
```

Fig: /api/getCustomers response