1. A database that is in use today describes the world population throughout history

    beginning in 1800. One element of data would include how many people lived on the

    planet in a particular year. The way data is categorized is based on if the data are

    numbers, letters, or characters. Data is raw material meaning that there is no context

    behind it. This is where information and data are different. Information is described as

    data with context. Information conveys the message of the data and outputs it to users, so

    they can learn and understand what the data is trying to convey. An example of

    information within the population database would be evaluating the growth rate of the

    world population from the previous year. Once data is processed, the value that

    information provides can lead to researchers solving problems, proposing theories, and

    predicting future events based upon the information the processed data provided to them.

2. The hierarchal model is a database model structured like a tree. It starts from one parent

    node and branches off into child nodes. A child can only have one parent meaning that

    two records in the same level in the hierarchy model cannot share a child. This means

    that if someone wanted to find a record within the database, they must start from the root

    node and search through the entire tree structure to retrieve the record. The network

    model is similar to the hierarchal model; however, a network model is represented as a

    schema where a network model is a flexible graph that offers many relationships between

    parent and child nodes. Each model has its shortcomings compared to the relational

model because it uses tables. With the use of keys, it makes it easier to relate records in databases by linking relational tables together. In my opinion, I think that XML can be very useful in the database world. This is because both humans and computers can interpret and understand new elements that users create. This means that the computer can organize the elements in a way that databases can organize and process the elements, so that they can have context and meaning.
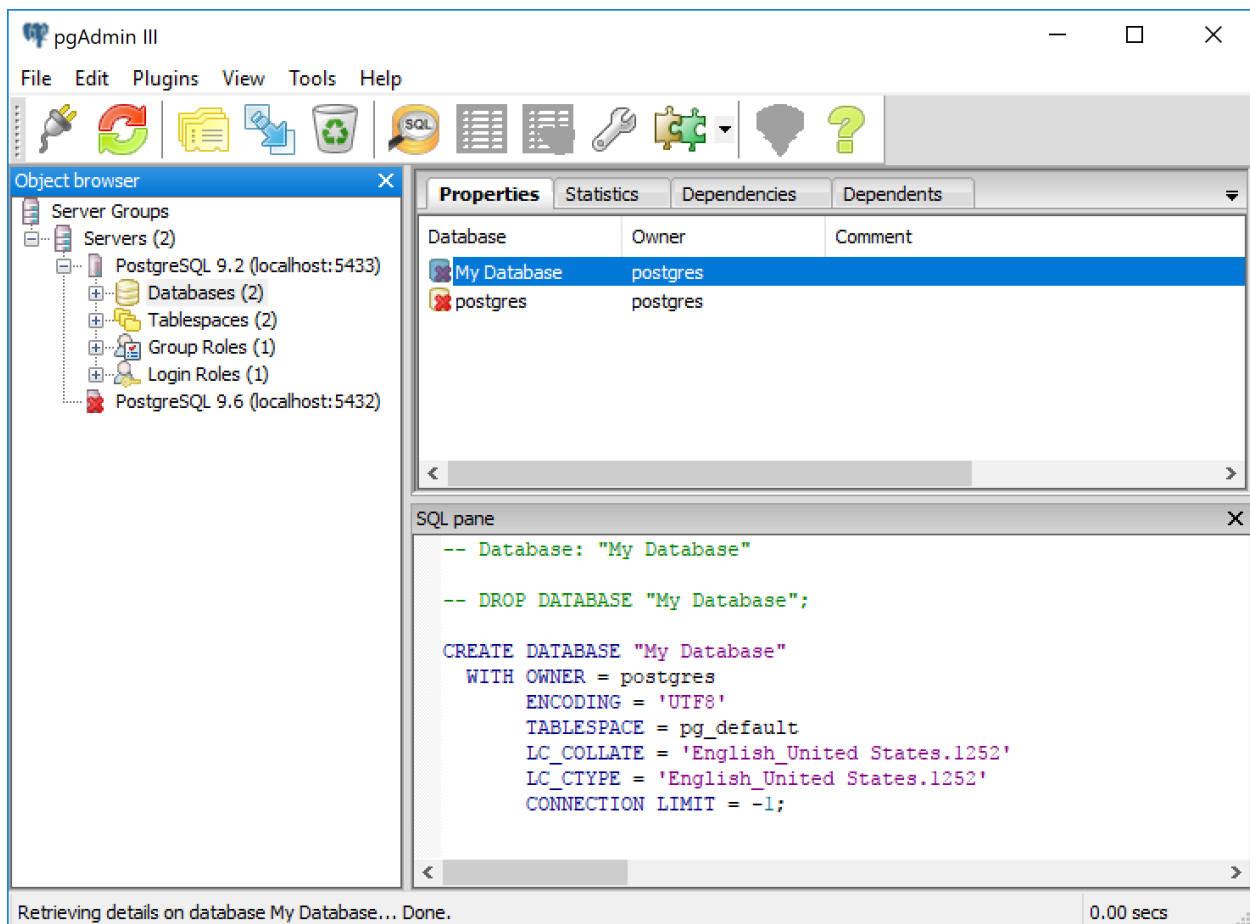
SQL Editor | Graphical Query Builder

Previous queries

```
SELECT *
FROM Customers;
```

Output pane

Data Output | Explain | Messages | History

	cid character(4)	name character varying(16)	city character varying(20)	discount numeric(5,2)
1	c001	Tiptop	Duluth	10.00
2	c002	Basics	Dallas	12.00
3	c003	Allied	Dallas	8.00
4	c004	ACME	Duluth	8.00
5	c005	Weyland-Yutani	Acheron	0.00
6	c006	ACME	Kyoto	0.00

OK.   DOS   Ln 2, Col 16, Ch 26   6 rows.   11 ms

SQL Editor | Graphical Query Builder

Previous queries

```
SELECT Customers.name, Products.name, Agents.name, Agents.city
FROM Customers, Products, Agents, Orders
WHERE customers.cid=orders.cid AND orders.pid=products.pid AND orders.aid=agents.aid AND Agents.city = 'New York'
ORDER BY Customers.name ASC
```

Output pane

Data Output | Explain | Messages | History

	name character varying(16)	name character varying(16)	name character varying(16)	city character varying(20)
1	ACME	comb	Smith	New York
2	Tiptop	comb	Smith	New York
3	Tiptop	pencil	Gray	New York

OK.   DOS   Ln 4, Col 10, Ch 231   3 rows.   11 ms

Three-color maze ⇨

In this maze, get from the upper left to the lower right, traveling along edges in the order red, yellow, blue. You must finish on a blue edge to exit the maze!