PostgreSQL

1 table represents 1 real world object

Column stores 1 piece of information

How do tables relate

Reduce redundant data

Data Types

PostgreSQL supports a wide range of data types to accommodate various types of data and operations.

1. Numeric Types

**‘integer’**

It’s a signed 4 byte integer, it can store whole number range from -2,147,483,648 to 2,147,483,647

Its commonly used for storing numerical data where fractional values are not needed.

**‘bigint’**

It’s a signed 8 byte integer, allowing for large whole numbers than the ‘integer’ type. It can store whole numbers ranging from -9223372036854775808 to 9223372036854775807

This data type is suitable for cases where extremely large numbers are required.

**‘decimal’/‘numeric’**

These are user defined precision exact numeric data type. They are used for storing numbers with precise decimal values.

The precision and scale can be specified when defining the column

Precision total number of digits

Scale number of digits to the right of the decimal point.

**‘real’**

Its a single precision floating point number.

Its a 4 byte data type, representing a wider range of values compared to integer types but with less precision.

Its suitable for scientific and engineering calculation or cases where precision is not critical.

**‘double precision’**

Its a double precision floating point number.

Its 8 byte data type, providing higher precision compared to the real type.

Its used for applications requiring high precision calculation, such as financial calculation or scientific simulations.

1. Character Types

‘character(n)’/ `char(n)` fixed length character string

`varchar (n) ` variable length character string

`text` variable length character string with no limit

1. Date/Time Types

‘date’ date value

‘time’ time without time zone

‘timestamp’ date and time without time zone

‘timestampz’ date and time with time zone

‘interval’ time interval

1. Boolean type

`boolean` logical boolean

True, 1, t, y, yes, on

False, 0, f, n, no, off

null

1. Binary data types

`bytea` binary data

1. JSON and JSONB Types

`json` stores JSON data in text format

`jsonb` stores JSON data in binary format

1. Geometric Types

`point` represents a point in 2d plane

‘line’ represents infinite line in a 2d plane

‘lseg’ represents a line segment in a 2d plane

‘box’ represents a rectangular box in a 2d plane

‘path’ represents a geometric path in a 2d plane

‘polygon’ represents a closed geometric path in a 2d plane

‘circle’ represents a circle in a 2d plane

1. Network address types

`inet` IP network address

‘cidr’ IP network address with netmask

1. UUID Type

‘uuid’ universally unique identifier

1. Enum Type

‘enum’ user defined enumeration type