PostgreSQL Data Types

Numeric Data Types:

- **smallint** - small integer
- **integer** - 4-byte integer
- **bigint** - large integer
- **decimal** - fixed precision
- **numeric** - arbitrary precision
- **real** - single-precision floating point
- **double precision** - double-precision floating point
- **smallserial** - small serial integer
- **serial** - auto-incrementing integer
- **bigserial** - big serial integer

Character String Data Types:

* **n** - maximum length or the number of characters that a text field of that type can hold

- **character(n)** - fixed-length character.
- **char(n)** - alias for character(n)
- **character varying(n)** - variable-length character
- **varchar(n)** - alias for character varying(n)
- **text** - variable-length text

Binary Data Types:

- **bytea** - binary data (e.g., `SELECT E'\\x012345'::bytea AS binary_data;`)

Boolean Data Type:

- **boolean** - true or false

Date/Time Data Types:

- **date** - date without time (e.g., `2023-10-25`)
- **time** - time of day (e.g., `14:30:00`)
- **time with time zone** - time of day with time zone added (e.g., `14:00:00-07:00`)
- **timestamp** - date and time (e.g., `2023-10-25 14:30:00`)
- **timestamp with time zone** - date and time with time zone added (e.g., `2023-10-25 14:00:00-07:00`)
- **interval** - time interval (e.g., `1 day 3 hours 30 minutes`)

Geometric Data Types:

- **point** - (x, y) point (e.g, `SELECT point(3.0, 4.0);`)
- **line** - infinite line (e.g, `SELECT 'L (-1, 2), (3, 4)'::line;`)
- **lseg** - line segment (e.g, `SELECT 'LSEG ((1, 2), (3, 4))'::lseg;`)

- **box** - rectangle (e.g, `SELECT 'BOX(1, 2), (3, 4)'::box;`)
- **path** - open or closed path
  (e.g, open path: `SELECT '[(1, 2), (3, 4), (5, 6)]'::path;`
  closed path: `SELECT '[(1, 2), (3, 4), (5, 6), (1, 2)]'::path;`)
- **polygon** - closed shape
  (e.g, `SELECT 'POLYGON((1, 2), (3, 4), (5, 6))'::polygon;`)
- **circle** - circle (e.g, `SELECT 'CIRCLE(2, 3, 4)'::circle;`)

Network Address Data Types:

- **cidr** - IPv4 or IPv6 network
- **inet** - IPv4 or IPv6 host address
- **macaddr** - MAC address

Bit String Data Types:

- **bit(n)** - fixed-length bit string
- **bit varying(n)** - variable-length bit string

Text Search Types:

- **tsvector** - text search document

(e.g., `SELECT to_tsvector('english', 'This is a text document for searching.') AS search_document;`)

- **tsquery** - text search query

(e.g., `SELECT to_tsquery('english', 'searching & document') AS search_query;`)

UUID Data Type:

- **uuid** - universally unique identifier (think: unique id with lots of alphanumeric characters)

JSON Data Types:

- **json** - stores JSON data in its original text format

(e.g., `SELECT '{"name": "John", "age": 30, "city": "New York"}'::json AS json_data;`)

- **jsonb** - stores JSON data in binary format

(e.g., `SELECT '{"name": "John", "age": 30, "city": "New York"}'::jsonb AS jsonb_data;`)

Array Data Types:

- **integer[]** - integer array
- **text[]** - text array

Composite Data Types:

- **record** - record with named fields

Enumerated Types:

- **enum** - user-defined, named values

Special Types:

- **pg_lsn** - log sequence number
- **pg_snapshot** - user-level transaction snapshot
- **uuid-ossp** - UUID generation function