

Tipos básicos SQL

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Categorias dos tipos básicos SQL

Tipos numéricos

Tipos de *string* (caracteres)

Tipos de data e hora

Tipos booleanos

Tipos enumerados

Tipos numéricos

Name	Storage Size	Description	Range
<code>smallint</code>	2 bytes	small-range integer	-32768 to +32767
<code>integer</code>	4 bytes	typical choice for integer	-2147483648 to +2147483647
<code>bigint</code>	8 bytes	large-range integer	-9223372036854775808 to +9223372036854775807
<code>decimal</code>	variable	user-specified precision, exact	up to 131072 digits before the decimal point; up to 16383 digits after the decimal point
<code>numeric</code>	variable	user-specified precision, exact	up to 131072 digits before the decimal point; up to 16383 digits after the decimal point
<code>real</code>	4 bytes	variable-precision, inexact	6 decimal digits precision
<code>double precision</code>	8 bytes	variable-precision, inexact	15 decimal digits precision
<code>smallserial</code>	2 bytes	small autoincrementing integer	1 to 32767
<code>serial</code>	4 bytes	autoincrementing integer	1 to 2147483647
<code>bigserial</code>	8 bytes	large autoincrementing integer	1 to 9223372036854775807

**- inteiro
(integer)**

- real (floating-point)

**- decimal
(precisão +
escala)**

Serial

Serial é um pseudotipo que representa uma sequência de inteiros criado automaticamente

Serial

```
CREATE TABLE table_name(  
    id SERIAL  
);
```



Esses códigos são equivalentes!

```
CREATE SEQUENCE table_name_id_seq;  
  
CREATE TABLE table_name (  
    id integer NOT NULL DEFAULT nextval('table_name_id_seq')  
);  
  
ALTER SEQUENCE table_name_id_seq OWNED BY table_name.id;
```

Tipos de string (caracteres)

Name	Description
<code>character varying(<i>n</i>), varchar(<i>n</i>)</code>	variable-length with limit
<code>character(<i>n</i>), char(<i>n</i>)</code>	fixed-length, blank padded
<code>text</code>	variable unlimited length

```
demostenes.sena — psql -d postgres -U postgres — 113x30
postgres=# select octet_length('ifrn'::varchar(8));
octet_length
-----
4
(1 row)

postgres=#
```

```
demostenes.sena — psql -d postgres -U postgres
postgres=# select octet_length('ifrn'::char(8));
octet_length
-----
8
(1 row)

postgres=#
```

Tipos de data e hora

Name	Storage Size	Description	Low Value	High Value	Resolution
timestamp [(p)] [without time zone]	8 bytes	both date and time (no time zone)	4713 BC	294276 AD	1 microsecond
timestamp [(p)] with time zone	8 bytes	both date and time, with time zone	4713 BC	294276 AD	1 microsecond
date	4 bytes	date (no time of day)	4713 BC	5874897 AD	1 day
time [(p)] [without time zone]	8 bytes	time of day (no date)	00:00:00	24:00:00	1 microsecond
time [(p)] with time zone	12 bytes	time of day (no date), with time zone	00:00:00+1559	24:00:00-1559	1 microsecond
interval [fields] [(p)]	16 bytes	time interval	-178000000 years	178000000 years	1 microsecond

```
demostenes.sena — psql -d postgres -U postgres — 113x30
postgres=# select current_timestamp::timestamp without time zone as timestamp,
[current_date::date as date, current_time::time without time zone as time;
      timestamp      |      date      |      time
-----+-----+-----
 2020-11-09 18:15:33.650224 | 2020-11-09 | 18:15:33.650224
(1 row)
```

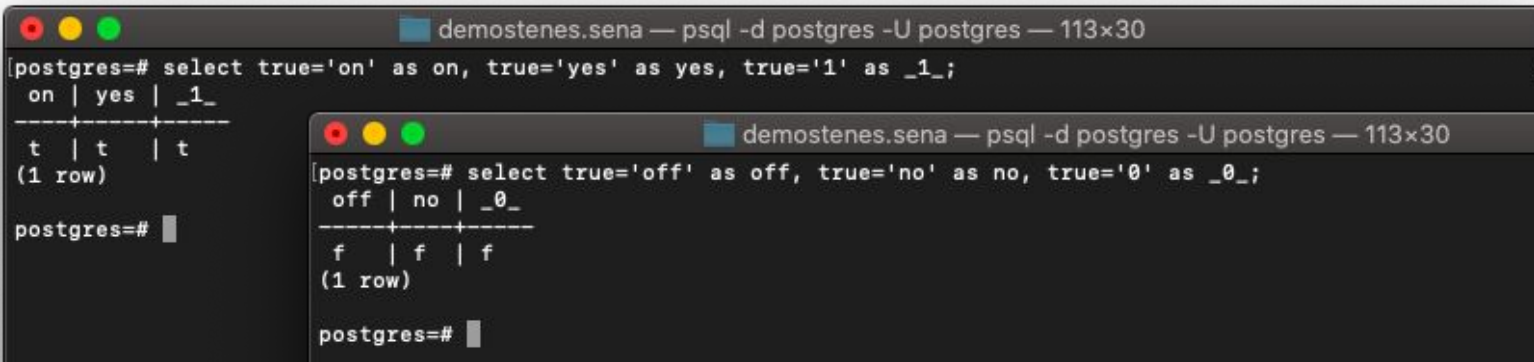
```
postgres=#
```

```
demostenes.sena — psql -d pos
postgres=# select interval '3y 4d 15h 2m 12s';
      interval
-----
 3 years 4 days 15:02:12
(1 row)
```

```
postgres=#
```

Tipos booleanos

Name	Storage Size	Description
boolean	1 byte	state of true or false



The image shows two overlapping terminal windows from a macOS environment. The top window's title bar reads "demostenes.sena — psql -d postgres -U postgres — 113x30". It displays the following SQL query and its result:

```
postgres=# select true='on' as on, true='yes' as yes, true='1' as _1_;
 on | yes | _1_
----+----+---
 t  | t   | t
(1 row)
```

The bottom window's title bar also reads "demostenes.sena — psql -d postgres -U postgres — 113x30". It displays the following SQL query and its result:

```
postgres=# select true='off' as off, true='no' as no, true='0' as _0_;
 off | no | _0_
----+---+---
 f   | f  | f
(1 row)
```


Tipos enumerados

```
CREATE TYPE dia_da_semana AS ENUM  
    ('Dom', 'Seg', 'Ter', 'Qua', 'Qui', 'Sex', 'Sab');
```

Aliases dos tipos

Name	Aliases	Description
<code>bigint</code>	<code>int8</code>	signed eight-byte integer
<code>bigserial</code>	<code>serial8</code>	autoincrementing eight-byte integer
<code>bit [(n)]</code>		fixed-length bit string
<code>bit varying [(n)]</code>	<code>varbit [(n)]</code>	variable-length bit string
<code>boolean</code>	<code>bool</code>	logical Boolean (true/false)
<code>box</code>		rectangular box on a plane
<code>bytea</code>		binary data ("byte array")
<code>character [(n)]</code>	<code>char [(n)]</code>	fixed-length character string
<code>character varying [(n)]</code>	<code>varchar [(n)]</code>	variable-length character string
<code>cidr</code>		IPv4 or IPv6 network address
<code>circle</code>		circle on a plane
<code>date</code>		calendar date (year, month, day)
<code>double precision</code>	<code>float8</code>	double precision floating-point number (8 bytes)
<code>inet</code>		IPv4 or IPv6 host address
<code>integer</code>	<code>int</code> , <code>int4</code>	signed four-byte integer
<code>interval [<i>fields</i>] [(p)]</code>		time span

Tipos específicos PostgreSQL

```
CREATE TABLE cidade (  
    nome          varchar(80),  
    localização   point  
);
```

`point` é um exemplo de tipo de dados específico em PostgreSQL.

Funções e Operadores sobre os tipos

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Mais informações

<https://www.postgresql.org/docs/current/functions.html>

Tipos PostgreSQL

accessing address array bit boolean bytes character cidr composite
data date declaration documentation floating-point format functions geometric home
inet input int integer interval ipv json jsonb line macaddr number numeric
output path pg plane precision range search serial snapshot string
syntax table text **types** values variable-length varying versions xml zone

Mais informações

<https://www.postgresql.org/docs/current/datatype.html>

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