

Sistemas de Banco de Dados
Instalação do Postgres, To join

O objetivo desta aula é instalarmos o módulo servidor de máquinas virtuais de modo a ficarmos independentes do curso visa a aplicação da SQL embutida em uma linguagem java. Dessa forma subentende-se que o uso de transpor, mas a sua utilização conjugada a uma linguagem de trabalhos, será necessário instalar e configurar o postgres.

- 1 Caso você encontre problemas em instalar algum buscador de programas possíveis de serem instalados o programa:
 - 1.1 `sudo apt install aptitude`
 - 1.2 Para buscar por um programa digite
- 2 Iniciamos com a instalação do postgres. Para isso:
 - 2.1 `sudo apt install postgresql-12`

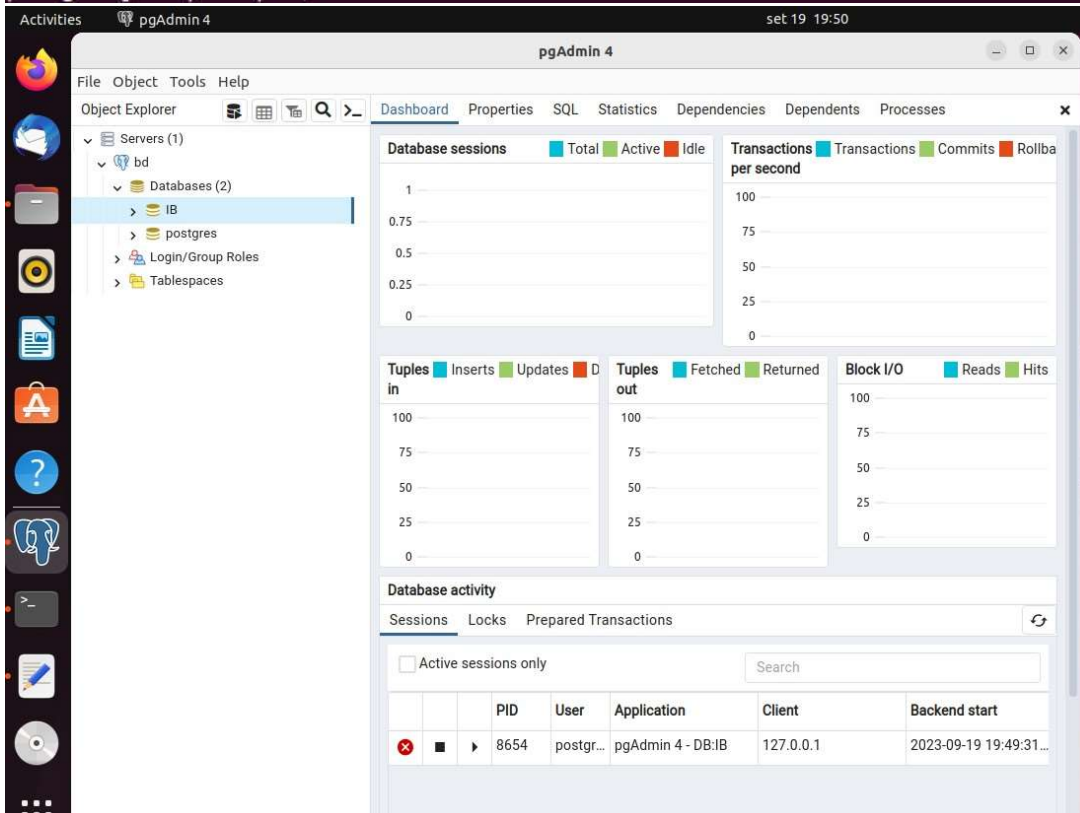
```
bd@BD2: ~  
Selecting previously unselected package aptitude-common.  
(Reading database ... 204990 files and directories currently installed.)  
Preparing to unpack .../aptitude-common_0.8.13-3ubuntu1_all.deb ...  
Unpacking aptitude-common (0.8.13-3ubuntu1) ...  
Selecting previously unselected package libcwidget4:amd64.  
Preparing to unpack .../libcwidget4_0.5.18-5build1_amd64.deb ...  
Unpacking libcwidget4:amd64 (0.5.18-5build1) ...  
Selecting previously unselected package libxapian30:amd64.  
Preparing to unpack .../libxapian30_1.4.18-4_amd64.deb ...  
Unpacking libxapian30:amd64 (1.4.18-4) ...  
Selecting previously unselected package aptitude.  
Preparing to unpack .../aptitude_0.8.13-3ubuntu1_amd64.deb ...  
Unpacking aptitude (0.8.13-3ubuntu1) ...  
Setting up libxapian30:amd64 (1.4.18-4) ...  
Setting up libcwidget4:amd64 (0.5.18-5build1) ...  
Setting up aptitude-common (0.8.13-3ubuntu1) ...  
Setting up aptitude (0.8.13-3ubuntu1) ...  
update-alternatives: using /usr/bin/aptitude-curses to provide /usr/bin/aptitude  
(aptitude) in auto mode  
Processing triggers for man-db (2.10.2-1) ...  
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...  
bd@BD2: ~$  
  
Get:24 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages  
[783 kB]  
Get:25 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en  
[143 kB]  
Get:26 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Me  
tadata [40,0 kB]  
Get:27 http://br.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages  
[983 kB]  
Get:28 http://br.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en  
[214 kB]  
Get:29 http://br.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 DEP-11 M  
etadata [288 kB]  
Get:30 http://br.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 DEP-11  
Metadata [940 B]  
Get:31 http://br.archive.ubuntu.com/ubuntu jammy-backports/main amd64 DEP-11 Met  
adata [4.912 B]  
Get:32 http://br.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 DEP-11  
Metadata [17,9 kB]  
Fetched 9.302 kB in 8s (1.218 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
57 packages can be upgraded. Run 'apt list --upgradable' to see them.  
bd@BD2:~$
```

```
bd@BD2: ~  
p postgresql-pltcl-14:i386 - PL/Tcl procedural language for PostgreSQL  
v postgresql-postgis -  
v postgresql-postgis-scripts -  
v postgresql-powa -  
v postgresql-q3c -  
p postgresql-server-dev-14 - development files for PostgreSQL 14 server  
p postgresql-server-dev-14:i386 - development files for PostgreSQL 14 server  
p postgresql-server-dev-all - extension build tool for multiple PostgreS  
p prometheus-postgres-exporter - Prometheus exporter for PostgreSQL server  
p puppet-module-puppetlabs-postgr - Puppet module for PostgreSQL database  
p pure-ftpd-postgresql - Secure and efficient FTP server with Postg  
p python-django-postgres-extra-do - Extended PostgreSQL for Django (Documentat  
p python3-django-postgres-extra - Extended PostgreSQL for Django (Python3 ve  
p python3-postgresfixture - Fixture for creating PostgreSQL clusters a  
p python3-postgresql - pgsq driver, cluster management tools, an  
p python3-testing.postgresql - Python testing.* framework - PostgreSQL he  
p r-cran-rpostgresql - GNU R package providing database interface  
p rt4-db-postgresql - PostgreSQL database backend for request-tr  
p rt5-db-postgresql - PostgreSQL database backend for request-tr  
p ruby-dataobjects-postgres - PostgreSQL adapter for ruby-dataobjects  
p sisu-postgresql - SiSU dependencies for use with PostgreSQL  
p tcl8.6-tdbc-postgres - Tcl Database Connectivity  
p tntdb-postgresql4v5 - PostgreSQL backend for tntdb database acce  
bd@BD2: ~$
```

```
bd@BD2: ~  
TIME: pt_BR.UTF-8  
The default database encoding has accordingly been set to "LATIN1".  
The default text search configuration will be set to "english".  
  
Data page checksums are disabled.  
  
fixing permissions on existing directory /var/lib/postgresql/14/main ... ok  
creating subdirectories ... ok  
selecting dynamic shared memory implementation ... posix  
selecting default max_connections ... 100  
selecting default shared_buffers ... 128MB  
selecting default time zone ... America/Sao_Paulo  
creating configuration files ... ok  
running bootstrap script ... ok  
performing post-bootstrap initialization ... ok  
syncing data to disk ... ok  
update-alternatives: using /usr/share/postgresql/14/man/man1/postmaster.1.gz to  
provide /usr/share/man/man1/postmaster.1.gz (postmaster.1.gz) in auto mode  
Setting up postgresql-contrib (14+238) ...  
Processing triggers for man-db (2.10.2-1) ...  
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...  
bd@BD2: ~$
```



```
bd@BD2: ~  
Enabling conf charset.  
Enabling conf localized-error-pages.  
Enabling conf other-vhosts-access-log.  
Enabling conf security.  
Enabling conf serve-cgi-bin.  
Enabling site 000-default.  
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.  
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.  
Setting up libapache2-mod-wsgi-py3 (4.9.0-1ubuntu0.1) ...  
apache2_invoke: Enable module wsgi  
Setting up pgadmin4-web (7.6) ...  
Setting up pgadmin4 (7.6) ...  
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...  
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...  
Processing triggers for hicolor-icon-theme (0.17-2) ...  
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...  
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...  
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...  
Processing triggers for man-db (2.10.2-1) ...  
bd@BD2:~$  
  
Retype new password:  
passwd: password updated successfully  
bd@BD2:~$  
bd@BD2:~$ su postgres  
Password:  
postgres@BD2: /home/bd$
```



Activities Terminal set 19 19:52

bd@BD2: ~/Downloads

```

psql:IB.dump:397: ERROR: multiple primary keys for table "conta" are not allowed
psql:IB.dump:405: ERROR: multiple primary keys for table "deposito" are not allowed
psql:IB.dump:413: ERROR: multiple primary keys for table "emprestimo" are not allowed
psql:IB.dump:420: ERROR: relation "fki_agencia" already exists
psql:IB.dump:427: ERROR: relation "fki_cliente" already exists
psql:IB.dump:434: ERROR: relation "fki_deposito" already exists
psql:IB.dump:441: ERROR: relation "fki_emprestimo" already exists
psql:IB.dump:449: ERROR: constraint "fk_agencia" for relation "conta" already exists
psql:IB.dump:457: ERROR: constraint "fk_cliente" for relation "conta" already exists
psql:IB.dump:465: ERROR: constraint "fk_deposito" for relation "deposito" already exists
psql:IB.dump:473: ERROR: constraint "fk_emprestimo" for relation "emprestimo" already exists
REVOKE
REVOKE
GRANT
GRANT
bd@BD2:~/Downloads$

```

Scratch Pad

	nome_agencia [PK] character varying (50)	cidade_agencia character varying (50)	ativo_agencia double precision
1	Central	São Tome das Letras	28897.09
2	Cidade Jardim	Contagem	51329.58
3	Gameleira	Pedro Leopoldo	9391.12
4	Pampulha	Santa Luzia	79725.92
5	PUC	Pedro Leopoldo	66088.85
6	UFMG	Betim	83193.66

Total rows: 6 of 6 Query complete 00:00:00.297 Ln 1, Col 23

pgAdmin 4

File Object Tools Help

Object Explorer

- bd
 - Databases (2)
 - IB
 - Cast
 - Catalogs
 - Event Triggers
 - Extensions
 - Foreign Data Wrappers
 - Languages
 - Publications
 - Schemas (1)
 - public
 - Aggregates
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Operators
 - Procedures
 - Sequences
 - Tables (5)
 - Trigger Functions
 - Types
 - Views

Dashboard Properties SQL Statistics Dependencies Dependents Processes IB/

IB/postgres@bd

Query Query History

```

1 DO
2 $do$
3 BEGIN
4 FOR num IN 1..100000 LOOP
5 insert into deposito values (num, 93134, 'Pampulha', 'G
6 1.00);
7 END LOOP;
8 END
9 $do$;
10

```

Data Output Messages Notifications

DO

Query returned successfully in 8 secs 315 msec.

Total rows: 6 of 6 Query complete 00:00:08.315 Ln 1, Col 1

Activities pgAdmin 4 set 19 20:00

pgAdmin 4

File Object Tools Help

Object Explorer

- Servers (1)
 - bd
 - Databases (2)
 - IB

IB/postgres@bd

Query

```
1 select nome_cliente, numero_conta, nome_agencia from em
2 intersect
3 select nome_cliente, numero_conta, nome_agencia from de
4
```

Data Output

	nome_cliente character varying (80)	numero_conta integer	nome_agencia character varying (50)
1	Germano Luiz de Paula	93134	Pampulha
2	Germano Luiz de Paula	28154	UFMG
3	Clayton Pereira Bonfim	3694	UFMG
4	Everardo Monfort Leitão	3438	PUC
5	Andre Cabral da Silva	89893	PUC

Total rows: 5 of 5 Query complete 00:00:00.208 Ln 1, Col 1

pgAdmin 4

File Object Tools Help

Object Explorer

- Servers (1)
 - bd
 - Databases (2)
 - IB

IB/postgres@bd

Query

```
1 SELECT e.nome_cliente, e.numero_conta, e.nome_agencia
2 FROM emprestimo e
3 INNER JOIN deposito d
4 ON e.nome_cliente = d.nome_cliente
5 AND e.numero_conta = d.numero_conta
6 AND e.nome_agencia = d.nome_agencia;
7
```

Data Output

	nome_cliente character varying (80)	numero_conta integer	nome_agencia character varying (50)
1	Everardo Monfort Leitão	3438	PUC
2	Germano Luiz de Paula	93134	Pampulha
3	Germano Luiz de Paula	93134	Pampulha
4	Germano Luiz de Paula	93134	Pampulha
5	Germano Luiz de Paula	93134	Pampulha
6	Germano Luiz de Paula	93134	Pampulha
7	Germano Luiz de Paula	93134	Pampulha
8	Germano Luiz de Paula	93134	Pampulha

Total rows: 1000 of 100006 Query complete 00:00:00.397 Ln 7, Col 1

pgAdmin 4

File Object Tools Help

Object Explorer

- Servers (1)
 - bd
 - Databases (2)
 - IB
 - Casts
 - Catalogs
 - Event Triggers
 - Extensions
 - Foreign Data Wrappers
 - Languages
 - Publications
 - Schemas (1)
 - public
 - Aggregates
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Operators
 - Procedures
 - Sequences
 - Tables (5)
 - Trigger Functions
 - Types
 - Views

IB/postgres@bd

Query Query History

```
1 SELECT DISTINCT
2     e.nome_cliente, e.numero_conta, e.nome_agencia
3 FROM
4     emprestimo e,
5     deposito d
6 WHERE
7     e.nome_cliente = d.nome_cliente
8     AND e.numero_conta = d.numero_conta
9     AND e.nome_agencia = d.nome_agencia;
10
```

Data Output Messages Notifications

	nome_cliente character varying (80)	numero_conta integer	nome_agencia character varying (50)
1	Andre Cabral da Silva	89893	PUC
2	Clayton Pereira Bonfim	3694	UFMG
3	Everardo Monfort Leitão	3438	PUC
4	Germano Luiz de Paula	28154	UFMG
5	Germano Luiz de Paula	93134	Pampulha

Total rows: 5 of 5 Query complete 00:00:00.380 Ln 10, Col 1

pgAdmin 4

File Object Tools Help

Object Explorer

- Servers (1)
 - bd
 - Databases (2)
 - IB
 - Casts
 - Catalogs
 - Event Triggers
 - Extensions
 - Foreign Data Wrappers
 - Languages
 - Publications
 - Schemas (1)
 - public
 - Aggregates
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Operators
 - Procedures
 - Sequences
 - Tables (5)
 - Trigger Functions
 - Types
 - Views

IB/postgres@bd

Query Query History

```
22 WHERE
23     c.nome_cliente = nome_cliente_param
24 GROUP BY
25     c.nome_cliente
26 ) AS subquery;
27
28 RETURN faixa;
29 END;
30 $$ LANGUAGE plpgsql;
31
32 select faixa_cliente(nome_cliente), nome_cliente from c
33
34
```

Data Output Messages Notifications

	faixa_cliente text	nome_cliente [PK] character varying (80)
1	D	Adilson de Oliveira
2	C	Alexandre Marcio de Souza
3	D	Alysson Melim Rocha
4	D	Anderson Adilson de Oliveira
5	D	Andrade de Freitas
6	B	Andre Cabral da Silva
7	C	Bruno Miranda Pacheco de Castro
8	D	Bruno Tadeu Pita

Total rows: 49 of 49 Query complete 00:00:00.230 Ln 32, Col 1

pgAdmin 4

File Object Tools Help

Object Explorer

- Servers (1)
 - bd
 - Databases (2)
 - IB
 - Cast
 - Catalogs
 - Event Triggers
 - Extensions
 - Foreign Data Wrappers
 - Languages
 - Publications
 - Schemas (1)
 - public
 - Aggregates
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Operators
 - Procedures
 - Sequences
 - Tables (5)
 - Trigger Functions
 - Types
 - Views

IB/postgres@bd

Query

```
11 LEFT JOIN
12     conta co ON c.nome_cliente = co.nome_cliente
13 LEFT JOIN
14     agencia a ON co.nome_agencia = a.nome_agencia
15 WHERE
16     c.nome_cliente = nome_cliente_param
17 GROUP BY
18     c.nome_cliente, c.cidade_cliente;
19 END;
20 $$ LANGUAGE plpgsql;
21
22 select nome_cliente, contas_cliente(nome_cliente), cidade_cliente
23
```

Query History

Scratch Pad

Data Output

	nome_cliente [PK] character varying (80)	contas_cliente record
1	Adilson de Oliveira	("Adilson de Oliveira",Pampulha-40907,"Belo Horizonte")
2	Alexandre Marcio de Souza	("Alexandre Marcio de Souza",UFMG-39587,Divinópolis)
3	Alysson Melim Rocha	("Alysson Melim Rocha","Cidade Jardim-39220, Gameleira-84374","Governador
4	Anderson Adilson de Oliveira	("Anderson Adilson de Oliveira",Pampulha-90061,Itambacuri)
5	Andrade de Freitas	("Andrade de Freitas","Cidade Jardim-23548, Pampulha-96517, PUC-91810",Div
6	Andre Cabral da Silva	("Andre Cabral da Silva",Gameleira-17483, Gameleira-93878, Pampulha-55629
7	Bruno Miranda Pacheco de Castro	("Bruno Miranda Pacheco de Castro","PUC-22412, UFMG-79302,Itambacuri)
8	Bruno Tardeu Pita	("Bruno Tardeu Pita","Central-26378, Gameleira-4564, PUC-11506","Governador

Total rows: 49 of 49 Query complete 00:00:00.201 Ln 23, Col 1