



Desenvolvimento de Software para WEB

Aula 16 - Persistência - PostgreSQL

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Introdução



CREATE



READ



UPDATE



DELETE

C

R

U

D

Introdução

- **READ**

- `SELECT * FROM table_name;`

- **Exemplo:**

- **Todos os usuários**

- `SELECT * FROM users;`

- **Um usuário específico**

- `SELECT * FROM users WHERE id=1;`

Introdução

- **CREATE**

- INSERT INTO table_name (column1, column2, column3, ...) VALUES (value1, value2, value3, ...);
- **Exemplo:**
 - INSERT INTO users (id, username, name) VALUES (1, 'chico', 'Francisco');

Introdução

- **UPDATE**

- UPDATE table_name SET column1 = value1, column2 = value2, ... WHERE condition;
- **Exemplo:**
 - UPDATE users SET name = 'Antonio' WHERE id = 1;

Introdução

- **DELETE**
 - DELETE FROM table_name WHERE condition;
 - **Exemplo:**
 - DELETE FROM users WHERE id = 1;

Instalação

- Windows e Linux:
 - <https://www.enterprisedb.com/downloads/postgres-postgresql-downloads>
 - <http://technobytz.com/install-postgresql-9-3-ubuntu.html>

Instalação

- PGADMIN3
 - `sudo apt-get install pgadmin3=1.22.2-4 pgadmin3-data=1.22.2-4`
 - <https://www.pgadmin.org/download/>
 - <http://www.indjango.com/ubuntu-install-postgresql-and-pgadmin/>

Configurações

- Crie um usuário
 - **postgres**
- A senha de postgres é:
 - **postgres**



Object browser

Server Groups

Properties

Statistics

Dependencies

Dependents

Properties

No properties are available for the current selection

SQL pane

New Server Registration

Properties SSL SSH Tunnel Advanced

Name

Host

Port

Service

Maintenance DB ▼

Username

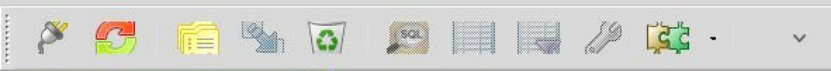
Password

Store password ☒

Colour

Group ▼

Ajuda Cancelar



Object browser

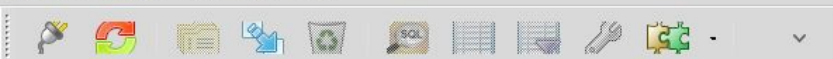
- Server Groups
 - Servers (1)
 - root (localhost:5432)
 - Databases (2)
 - Tablespaces (2)
 - Group Roles (0)
 - Login Roles (1)

Properties Statistics Dependencies Dependents

Property	Value
Description	root
Service	
Hostname	localhost
Host Address	
Port	5432
Maintenance database	postgres
Username	postgres
Store password?	Yes
Restore environment?	Yes
Version string	PostgreSQL 9.4.21 on x86_64-pc-linux-gnu (Ubuntu 9.4.21-1.pgdg14.04+1), compiled by gcc (Ubuntu 4.8.4-2ubuntu1~14.04.4) 4.8.4, 64-bit
Version number	9.4
Last system OID	12174
Connected?	Yes

SQL pane





Object browser

- Server Groups
 - Servers (1)
 - root (localhost:5432)
 - Databases (2)
 - caos
 - postgres
 - Tablespaces
 - Group Roles
 - Login Roles (1)

Refresh

New Database...

Reports >

Properties


Statistics

Dependencies

Dependents

Database	Owner	Comment
caos	postgres	
postgres	postgres	default administrative connection database


SQL pane

New Database... 


Properties Definition Variables Privileges Security Labels SQL

Name

OID

Owner 

Comment



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Object browser

- Server Groups
 - Servers (1)
 - root (localhost:5432)
 - Databases (3)
 - caos
 - postgres
 - projetoweb**
 - Catalogs (2)
 - Event Triggers (0)
 - Extensions (1)
 - Schemas (1)
 - Slony Replication (0)
 - Tablespaces (2)
 - Group Roles (0)
 - Login Roles (1)

Properties

Statistics

Dependencies

Dependents

Property	Value
Name	projetoweb
OID	16476
Owner	postgres
ACL	
Tablespace	pg_default
Default tablespace	pg_default
Encoding	UTF8
Collation	pt_BR.UTF-8
Character type	pt_BR.UTF-8
Default schema	public
Default table ACL	
Default sequence ACL	
Default function ACL	

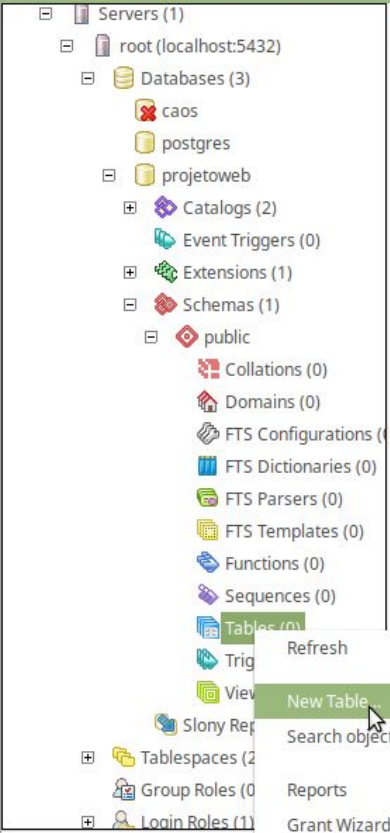
SQL pane

```
-- Database: projetoweb
-- DROP DATABASE projetoweb;

CREATE DATABASE projetoweb
  WITH OWNER = postgres
      ENCODING = 'UTF8'
      TABLESPACE = pg_default
      LC_COLLATE = 'pt_BR.UTF-8'
      LC_CTYPE = 'pt_BR.UTF-8'
      CONNECTION LIMIT = -1;
```



Object browser



Properties

Statistics

Dependencies

Dependents

Table	Owner	Comment
-------	-------	---------

SQL pane

New Table...

< Properties Definition Inherits Like Columns Constraints Auto-vacuum >

Name

OID

Owner ▼

Schema ▼

Comment

Use Slony ▼

Ajuda OK Cancelar



Object browser

- [-] Databases (3)
 - [-] caos
 - [-] postgres
- [-] projetoweb
 - [-] Catalogs (2)
 - [-] Event Triggers (0)
 - [-] Extensions (1)
 - [-] Schemas (1)
 - [-] public
 - [-] Collations (0)
 - [-] Domains (0)
 - [-] FTS Configurations (0)
 - [-] FTS Dictionaries (0)
 - [-] FTS Parsers (0)
 - [-] FTS Templates (0)
 - [-] Functions (0)
 - [-] Sequences (1)
 - [-] id
 - [-] Tables (1)
 - [-] Trigger Functions (0)
 - [-] Views (0)
- [-] Slony Replication
- [-] Tablespaces (2)
- [-] Group Roles (0)
- [-] Login Roles (1)

Properties

Statistics

Dependencies

Dependents

Sequence

Owner

Comment



id

postgres

SQL pane

Refresh

New Sequence...

Search objects...

Object List Report

Grant Wizard...



Object browser

- [-] Catalogs (2)
 - [-] Event Triggers (0)
- [-] Extensions (1)
- [-] Schemas (1)
 - [-] public
 - [-] Collations (0)
 - [-] Domains (0)
 - [-] FTS Configurations (0)
 - [-] FTS Dictionaries (0)
 - [-] FTS Parsers (0)
 - [-] FTS Templates (0)
 - [-] Functions (0)
 - [-] Sequences (1)
 - id
 - [-] Tables (1)
 - [-] users
 - Columns (0)
 - [-] Constraints (0)
 - [-] Indexes (0)
 - [-] Rules (0)
 - [-] Triggers (0)
 - [-] Trigger Functions (0)
 - [-] Views (0)
 - [-] Slony Replication (0)
- [-] Tablespaces (2)
- [-] Group Roles (0)

Properties

Statistics

Dependencies

Dependents

Column	Owner	Comment
--------	-------	---------

Refresh

New Column

Search objects...

Object List Report

New Column...

Properties Definition Variables Privileges Security Labels SQL

Name

Data type ▼

Length

Precision

Comment

Use Slony ▼

Ajuda OK Cancelar

Object browser

- caos
- postgres
- projeto
 - Catalogs (2)
 - Event Triggers (0)
 - Extensions (1)
 - Schemas (1)
 - public
 - Collations (0)
 - Domains (0)
 - FTS Configurations (0)
 - FTS Dictionaries (0)
 - FTS Parsers (0)
 - FTS Templates (0)
 - Functions (0)
 - Sequences (1)
 - users_id_seq
 - Tables (1)
 - users
 - Columns (3)
 - username
 - password
 - id
 - Constraints (0)
 - Indexes (0)

Properties

Statistics

Dependencies

Dependents

Property	Value
Name	id
Position	5
Data type	bigint
Collation	
Default	nextval('users_id_seq'::regclass)
Sequence	users_id_seq
Not NULL?	Yes
Primary key?	No
Foreign key?	No
Storage	PLAIN
Inherited	No
Statistics	-1
System column?	No

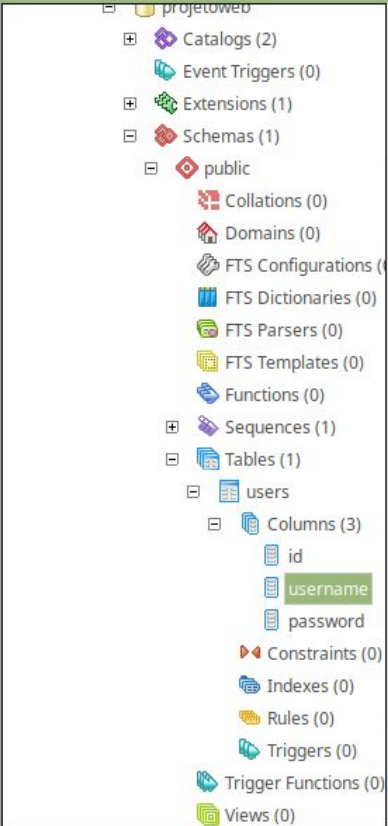
SQL pane

```
-- Column: id
-- ALTER TABLE users DROP COLUMN id;

ALTER TABLE users ADD COLUMN id bigint;
ALTER TABLE users ALTER COLUMN id SET NOT NULL;
ALTER TABLE users ALTER COLUMN id SET DEFAULT nextval('users_id_seq'::regclass);
```



Object browser



Properties Statistics Dependencies Dependents

Property	Value
Name	username
Position	4
Data type	text
Collation	pg_catalog."default"
Default	
Sequence	
Not NULL?	Yes
Primary key?	No
Foreign key?	No
Storage	EXTENDED
Inherited	No
Statistics	-1
System column?	No

SQL pane

```
-- Column: username
-- ALTER TABLE users DROP COLUMN username;

ALTER TABLE users ADD COLUMN username text;
ALTER TABLE users ALTER COLUMN username SET NOT NULL;
```



Object browser

- projectoweb
 - Catalogs (2)
 - Event Triggers (0)
 - Extensions (1)
 - Schemas (1)
 - public
 - Collations (0)
 - Domains (0)
 - FTS Configurations (0)
 - FTS Dictionaries (0)
 - FTS Parsers (0)
 - FTS Templates (0)
 - Functions (0)
 - Sequences (1)
 - Tables (1)
 - users
 - Columns (3)
 - id
 - username
 - password
 - Constraints (0)
 - Indexes (0)
 - Rules (0)
 - Triggers (0)
 - Trigger Functions (0)
 - Views (0)

Properties

Statistics

Dependencies

Dependents

Property	Value
Name	password
Position	5
Data type	text
Collation	pg_catalog."default"
Default	
Sequence	
Not NULL?	No
Primary key?	No
Foreign key?	No
Storage	EXTENDED
Inherited	No
Statistics	-1
System column?	No

SQL pane

```
-- Column: password
-- ALTER TABLE users DROP COLUMN password;
ALTER TABLE users ADD COLUMN password text;
```

DAO - 1

- **Reaproveite o código do webservice REST e acrescente a dependência do postgresql no pom.xml**

```
<dependency>  
    <groupId>org.postgresql</groupId>  
    <artifactId>postgresql</artifactId>  
    <version>42.2.5</version>  
</dependency>
```


DAO - 2

- **Crie o arquivo de propriedades da conexão com o banco:**
 - **db.properties**
driver=org.postgresql.Driver
url=jdbc:postgresql://localhost:5432/projetoweb
user=postgres
password=postgres



Quick Access



Project Explorer

- Random
- rest
- rest_persistence
 - Deployment Descriptor: Exemplo de REST
 - Java Resources
 - src/main/java
 - src/main/resources
 - src/test/java
 - Libraries
 - JavaScript Resources
 - Deployed Resources
 - src
 - main
 - java
 - resources
 - db.properties
 - uploads.properties
 - webapp
 - test
 - target
 - pom.xml
 - Servers
 - sexta

uploads.properties

*db.properties

```
1 driver=org.postgresql.Driver
2 url=jdbc:postgresql://localhost:5432/projetoweb
3 user=postgres
4 password=postgres
```

Markers Properties Servers Data Source Explorer Snippets Problems Console

Tomcat v8.0 Server at localhost [Stopped, Synchronized]

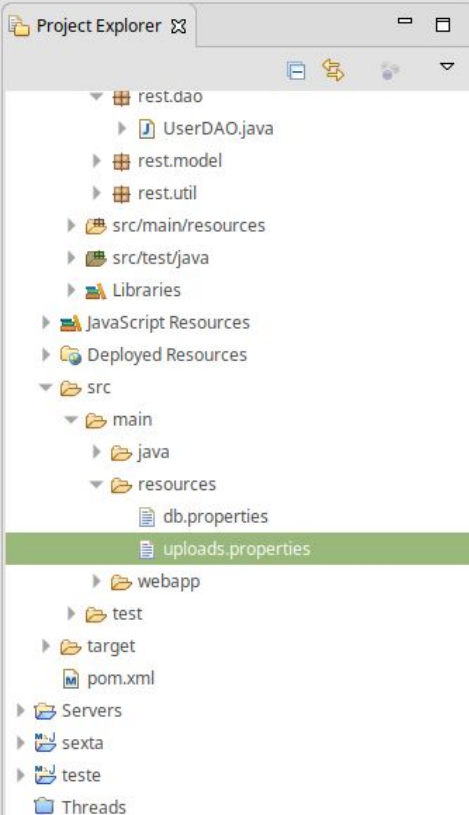
DAO - 3

- **Crie o arquivo de propriedades que contêm o caminho para upload de imagens:**
 - **uploads.properties**
folder=/var/www/vue/vue-router/uploads/

Coloque em qualquer pasta do sistema de arquivos



Quick Access



uploads.properties db.properties UserService.java UserDAO.java

1 folder=/var/www/vue/vue-router/uploads/

Markers Properties Servers Data Source Explorer Snippets Problems Console

Tomcat v8.0 Server at localhost [Stopped, Republish]

DAO - 4

- **Crie a classe de conexão**
 - <https://pastebin.com/8izdMpLs>

DAO - 5

- **Altere a classe DAO para os métodos do banco de dados**
 - <https://pastebin.com/dewTYU2T>

UserService (com imagem)

- **Altere a classe UserService para o suporte de upload de imagem**
 - <https://pastebin.com/w0AtHWa3>



Dúvidas??

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