# PostgreSQL FTS Relay Application

PostgreSQL FTS Relay web application is built on Spring MVC framework module. The application gets compiled on JDK 1.8 through Maven, and runs on any environment where the JDK is available. The only external dependency for the application – is external PostgreSQL database.

## Configuration

Application has only single configuration file – *application.properties,* where postgre credentials are supplied to the application. When running application on various environment it is suggested to initialize postgre settings not via properties, but through the environment variables.

When compiled, the application may run via command:

java -D**database.user**=tnkxkfefnfysiw -D***database.pwd***=eoyUq2ZLcYcPY7U0bvxtRhLAxx -D**database.url**=jdbc:postgresql://ec2-54-225-255-208.compute-1.amazonaws.com:5432/d85lilb3bg1tg0 $JAVA\_OPTS -jar target/dependency/jetty-runner.jar --port $PORT target/\*.war

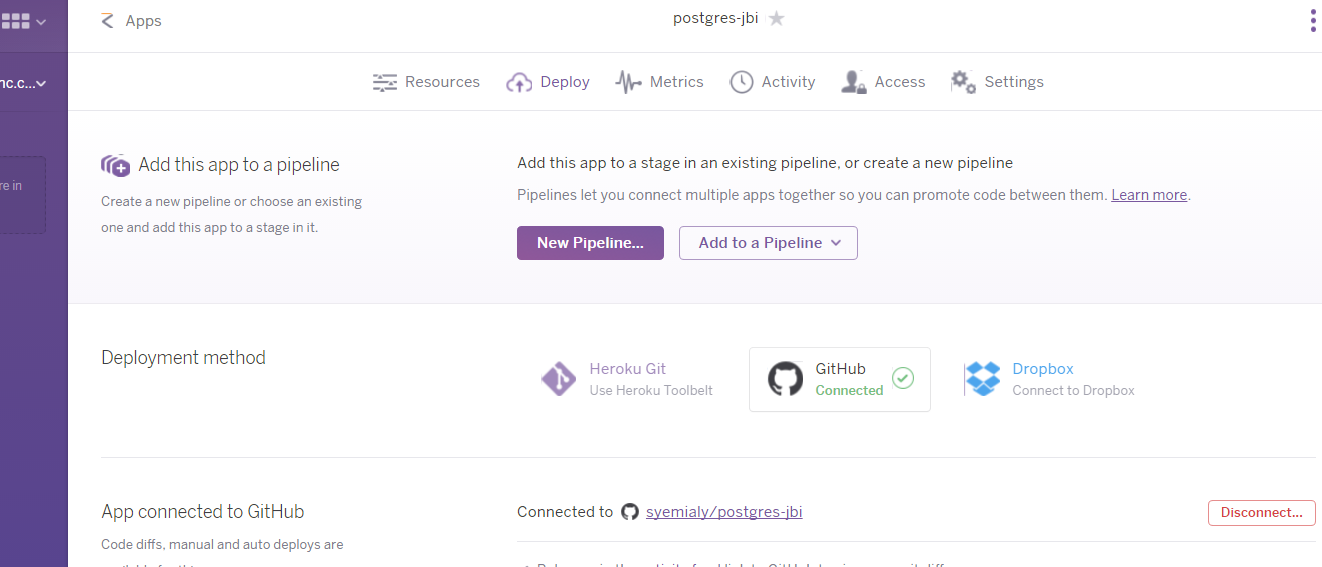
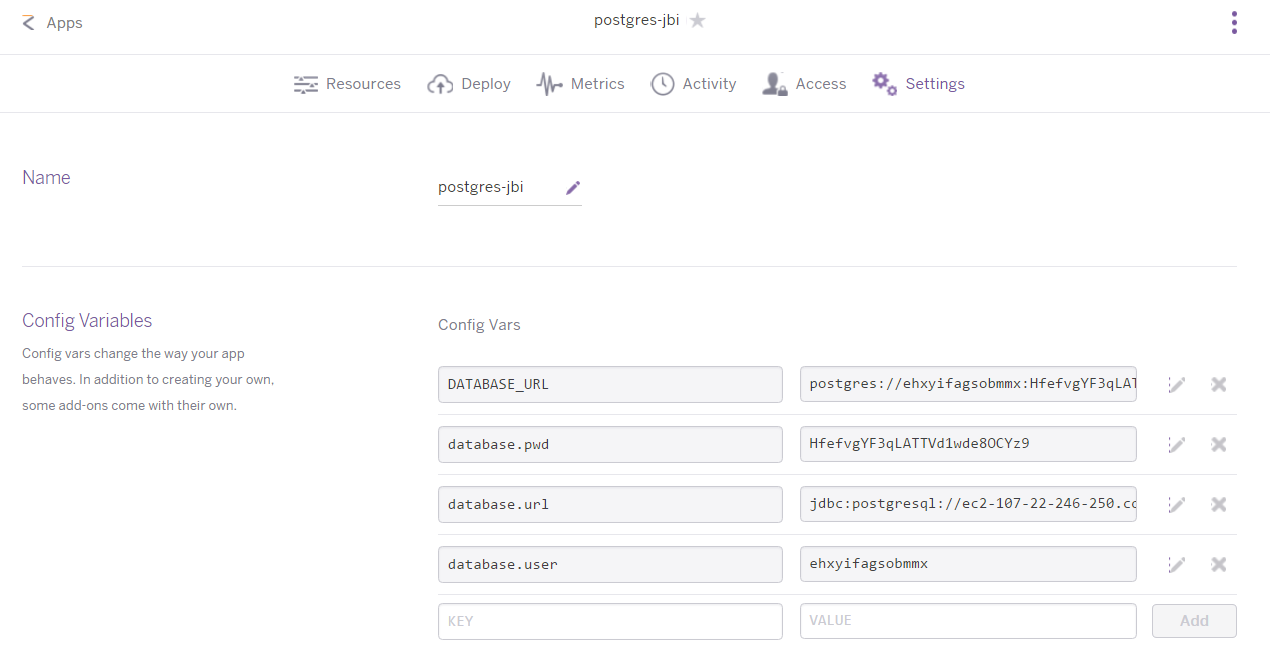
## Source Repository

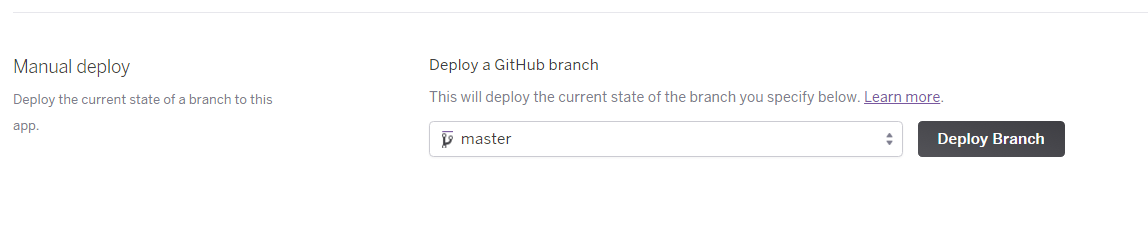
The sources for the application are in GitHub <https://github.com/syemialy/postgres-jbi> To work with the project you may fork the repository or request private access to it.

## Deployment Instructions

### Deployment to Heroku via GitHub

The deployment instructions assume you have forked the ripository **postgres-jbi**

* Create new Heroku application
* On the application settings page, navigate to Deploy section
  + Link your GitHub repository
* On the application Settings section, add all three environment variables .
  + 
* Go Back to Deploy section and execute manual deploy of your new application from your github ripository



Once your application is deployed, you may use curl to validate all the REST services. Samples of the curl usage may be found in docs/curl.samples.txt file.

## REST Service Endpoints

|  |  |  |  |
| --- | --- | --- | --- |
| Endpoint | Method | Format | Description |
| srv/search | POST | JSON | A text query passed in JSON body is used to create FTS search request against underlying PostgreSQL database |
| srv/index | POST | JSON | Create index on documents, created based on the selected columns. Columns are added to the ts\_vector with coalesce() function |
| srv/index | DELETE | JSON | Drops the index by name |

## Data Format for JSON messages

### Search Request

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field | | | **Type** | **Mandatory** | **Description** |
| *table* |  |  | Object | Yes |  |
|  | ***name*** |  | String | Yes | Name of the table against which the FTS search will be executed |
|  | ***columns*** |  | Object[] | Yes | Column name(s) to create a document (unit of searching) |
|  |  | ***name*** | String | Yes | Name of the column within the table |
|  |  | ***selectable*** | Boolean | Yes | Indicates if column will be in SELECT statement predicate |
|  |  | ***tsvectorinclude*** | Boolean | Yes | Indicates if column will be used to create ts\_vector |
| *query* |  |  | String | Yes | User-written text to be used in *plain\_tsquery* function to create search terms |
| *configuration* |  |  | String | No | Configuration name to be used to parse and normalize strings. By default it will be set to *english* |

{ “table”: {  
 “name”: “products”,  
 columns:[  
 {“name”:”product\_name”, “selectable”:true, “tsvectorinclude”:true},  
 {“name”:”description”, “selectable”:false, “tsvectorinclude”:true},  
 {“name”:”product\_id”, “selectable”:true, “tsvectorinclude”:false}],

“query”:”sold by pair”,  
 “configuration”:”english”  
 }

### Search Response

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field |  | Type | Mandatory | Description |
| result |  | Object | Yes |  |
| ***sqlstatement*** | String | Yes | Name of the table against which the FTS search will be executed |
| ***records*** | Object[] | Yes |  |
| ***javatimemls*** | Integer | Yes | Indicates time the java program ran FTS search, this is to collect statement statistics |
| error |  | Boolean | Yes | User-written text to be used in *plain\_tsquery* function to create search terms |
| error\_message |  | String | No | Configuration name to be used to parse and normalize strings. By default it will be set to *english* |

### Create Index Request

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field | | | **Type** | **Mandatory** | **Description** |
| *name* |  |  | String | Yes | Name of the index to be created |
| *type* |  |  | String | No | Type of the index to be created, GIN will be default type. |
| *table* |  |  | Object | Yes | Name of the table for which index will be created |
|  | ***name*** |  | String | Yes | Name of the table against which the FTS search will be executed |
|  | ***columns*** |  | Object[] | Yes | Column name(s) to create a document (unit of searching) |
|  |  | ***name*** | String | Yes |  |
| *configuration* |  |  | String | No | Configuration name to be used to parse and normalize strings. By default it will be set to *english* |

{"name":"idx\_prddescr",  
 "table":{"name":"products",  
 "columns":[  
 {"name":"description"},  
 {"name":"product\_name"}  
]}}

### Create Index Response

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field |  | Type | Mandatory | Description |
| result |  | String | Yes | Status of the request |
| *sqlstatement* |  | String | Yes | The SQL statement which was executed |
| error |  | Boolean | Yes | User-written text to be used in *plain\_tsquery* function to create search terms |
| error\_message |  | String | No | Configuration name to be used to parse and normalize strings. By default it will be set to *english* |

{"result":"created",  
 "error":false,  
 "sqlstatement":"CREATE INDEX idx\_prddescr ON products USING GIN (to\_tsvector(\u0027english\u0027,coalesce(description,\u0027\u0027) || \u0027 \u0027 || coalesce(product\_name,\u0027\u0027)))"  
}

### Drop Index Request

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field |  |  | **Type** | **Mandatory** | **Description** |
| *name* |  |  | String | Yes | Name of the index to be dropped |

{"name":"idx\_prddescr"}

### Drop Index Response

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field |  | Type | Mandatory | Description |
| result |  | String | Yes | Status of the request |
| *sqlstatement* |  | String | Yes | The SQL statement which was executed |
| error |  | Boolean | Yes | User-written text to be used in *plain\_tsquery* function to create search terms |
| error\_message |  | String | No | Configuration name to be used to parse and normalize strings. By default it will be set to *english* |

{"result":"dropped",  
 "error":false,  
 "sqlstatement":"DROP INDEX idx\_prddescr"}