BPMN-Q installation manual

Content of the package

- SecBPMN-Q binaries
- SecBPMN-Q Interface.vsd: A Visio file that contains a set of macros. Through this file, users can: (i) create SecBPMN models, (ii) upload these models to repository, (iii) create SecBPMN-Q security policies.
- A SecBPMN-Q stencil set: This file is required for both creating the process models as well as queries
- SecBPMN-Q configuration file(included in the JAR file) : contains necessary information for Visio to work.
- Visio configuration file(secBBPMNQVisio.properties): contains information that enable the macros communicate with the relational repository as well as the folder in which the process model Visio files are stored.
- Database creation script: SQL script to create the required tables and stored procedure
- Stencil set: this is a Visio .vss file, containing shapes with which you can create both SecBPMN process models, and SecBPMN-Q queries.

Prerequisite

- Windows XP 32 bit
- JVM version 1.6 or higher
- Postgre SQL
- Microsoft Visio 2003 (From now on called Visio) (select "complete installation")
- ODBC data source:
  - download and install postgreSQL ANSI drivers
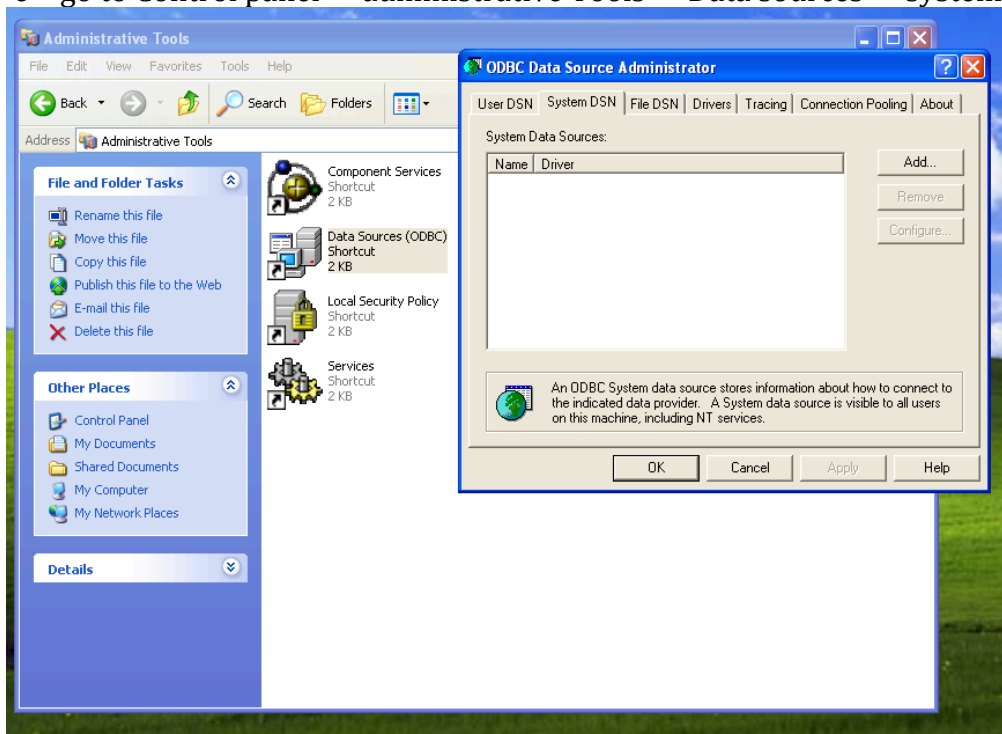 - go to Control panel -> administrative Tools -> Data sources -> system DSN

Figure 1: ODBC connection manager

  - create a new data source with the following information
    - ODBC : postgres SQL ANSI

- name : BPMN_GRAPH
- description: BPMN_GRAPH
- server: <your configuration> "localhost" if you have a local DBMS
- port: <default> usually 5432
- username: <your configuration of postgres> usually postgres
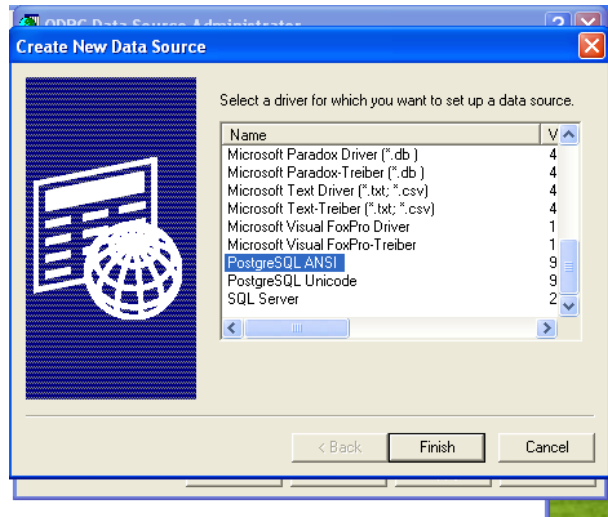- password: <your configuration of postgres> usually postgres
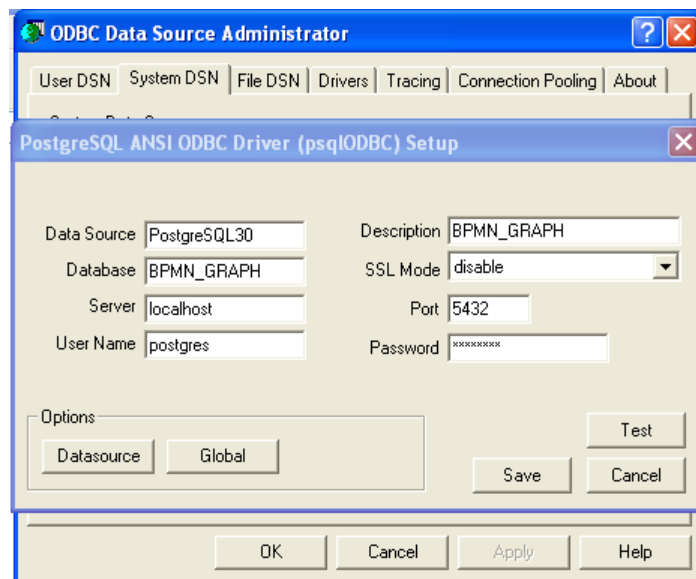- SSL Mode : disable

Figure 2: new ODBC "PostgreSQL ANSI" connection

Figure 3: new ODBC "PostgreSQL ANSI" connection

o Repeat the same steps for the tabs "User DSN"

Installation Steps

1. Place the jar file in any folder you like
2. Place the SecBPMNQ Interface.vsd in any folder you like (you can leave the folder where it is when you unzip the compressed folder)
3. place the secBPMNQVisio.properties in the same folder from step 2 (you can leave the folder where it is when you unzip the compressed folder)

4. run each .sql file in the folder /Database Scripts
    4.1. execute PGAdmin III
    4.2. connect to the database
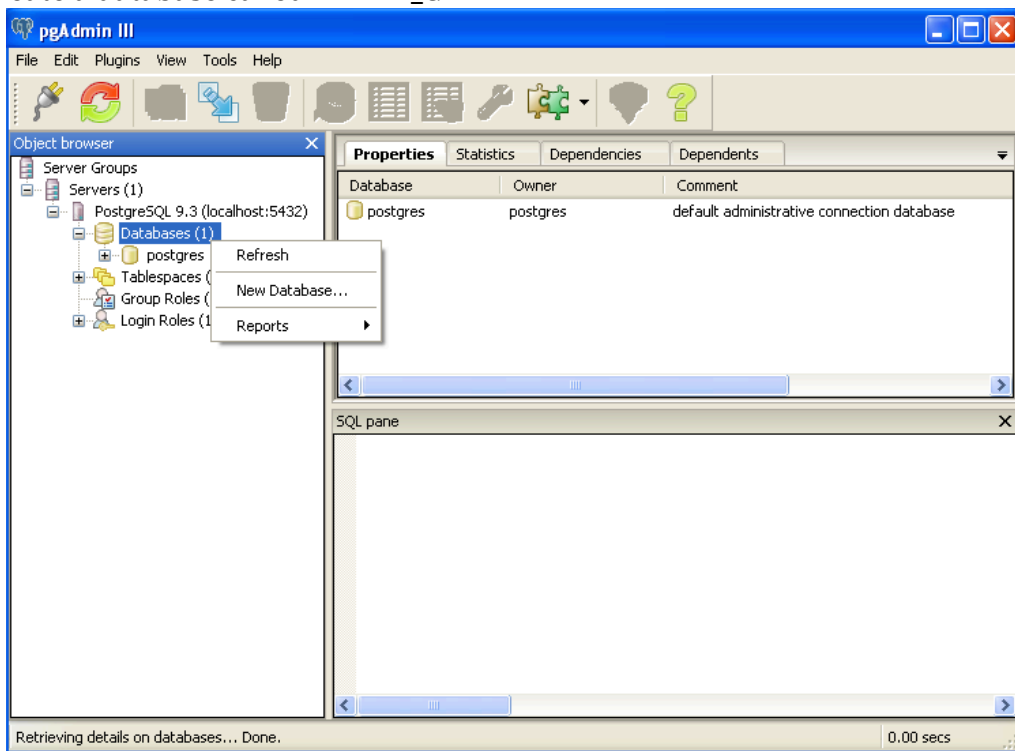   4.3. create a database called "BPMN_GRAPH"

Figure 4: new database

4.4. select the new database
4.5. go to Tools -> query Tools
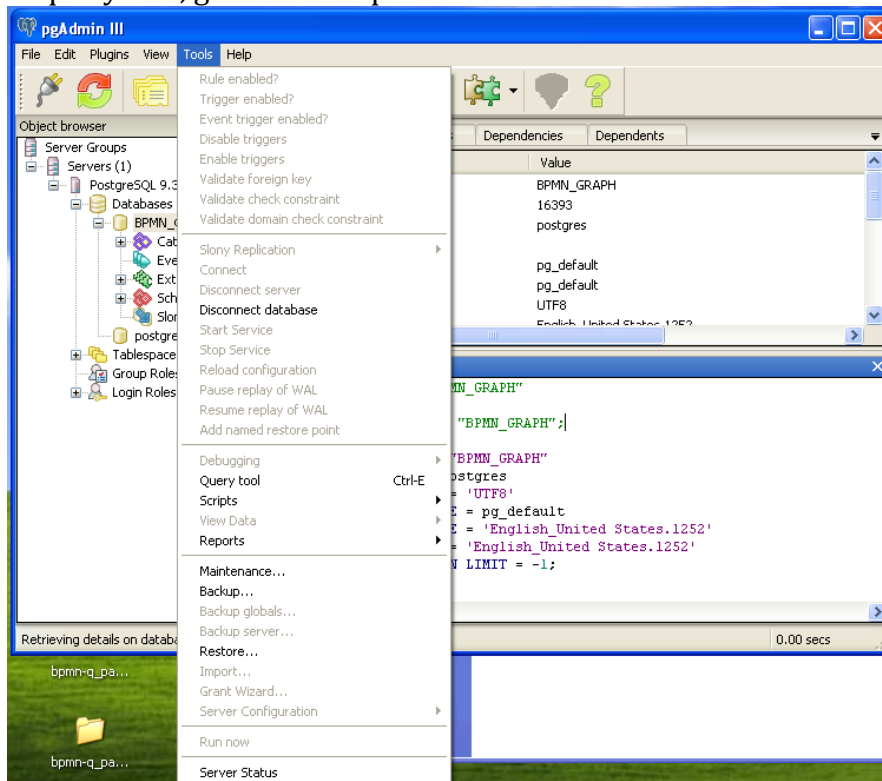4.6. from the query tool, go to file -> open

Figure 5: run SQL script

4.7. select the file in the folder "Database script" in the BPMN-Q package

4.8. query -> execute

5. be sure that the default values given in file secBPMNQVisio.properties are correct, or edit them to values suitable for your settings

    5.1. create the appropriate folders

    5.2. if you want to edit the configuration values of the file bpmnqVisio.properties, please follow next indications

    - set the process.model.folder to a path to some folder where to decide to store your process models--- folder separator is // not \ and it must end with the folder separator
    - set the bpmnq.engine to the folder where you place the jar file is --- it must end with the folder separator , here you can use \ folder separator
    - set the bpmnq.inputfile to query.xml, in the file sent, it is already set to this value, please DO NOT change it otherwise things will not work
    - set the bpmnqinputdir to C:\BPMNQ_RESULT\ for instance as shown in the example file attached.
    - set the bpmnq.outputfile to answer.txt, in the file sent, it is already set to this value.
    - set the bpmnq.outputdir to C:\BPMNQ_RESULT\ for instance as shown in the example file attached.
    - set the database.host to the address of the machine where you installed the postgres database, this value must be the same as in ODBC connection created above
    - set the database.username to the username you created the database with, usually postgres
    - set the database.password to the password you created the database with, usually postgres

6. copy the .vss file from folder /Stencil set to folder called my shapes under my documents

    6.1. if there is no such folder, open Visio and it will create the folder

SecBPMN-Q configuration file(included in the JAR file) : contains necessary information for Visio to work. The contents of the file are

- bpmnq.inputfile : the path and name of the file that is created by Visio editor
- bpmnq.outputdir : the path to a folder where BPMNQ will generate files containing matches of processes to the input query
- bpmnq.outputfile : the name of the file containing paths to result file
- bpmnq.tempdir : temproary folder used by BPMN-Q while processing
- bpmnq.database.hostname : used by the postgres jdbc classed, must be as configured in the ODBC connection above.
- bpmnq.database.databasename = BPMN_GRAPH: the name of the schema to connect to
- bpmnq.database.username = postgres
- bpmnq.database.password = postgres
- bpmnq.lola.full = <example = C:\\SecBPMNQExt\\MyLolaFull\\Debug\\mylola> , this information is needed in case you want to use compliance checking features of BPMN-Q Optional, you don't have to configure/change it
- bpmnq.lola.deadlock = <example = C:\\SecBPMNQExt\\MyLolaDeadlock\\Debug\\mylola> , this information is needed in case you want to use compliance checking features of BPMN-Q Optional, you don't have to configure/change it
- bpmnq.lola.bounded = <example = C:\\SecBPMNQExt\\MyLolaboundednet\\Debug\\mylola>, this information is needed

in case you want to use compliance checking features of BPMN-Q Optional, you don't have to configure/change it
- bpmnq.nusmv = <example = C:\\SecBPMNQExt\\NuSMV\\2.4.3\\bin\\nusmv>, this information is needed in case you want to use compliance checking features of BPMN-Q Optional, you don't have to configure/change it

Visio configuration file(SecBPMNQVisio.properties): contains information that enable the macros communicate with the relathional repository as well as the folder in which the process model visio files are stored.
- process.model.folder : Contains the path to the folder where VISIO will save the process models files
- bpmnq.engine : contains the path to SecBPMNQ binaries
- bpmnq.inputfile : the file SecBPMNQ engine is expecting to contain the xml describing the query, should be the same as that within BPMN-Q configuration file
- bpmnq.inputdir: Contains the path to which Visio will create the "query.xml" file that will be passed to SecBPMNQ engine for processing
- bpmnq.outputfile: same as with SecBPMN-Q configuration file
- bpmnq.outputdir: same as with SecBPMN-Q configuration file
- bpmnq.database.host : must be as configured in the ODBC connection above.
- bpmnq.database.username : postgres
- bpmnq.database.password : postgres

WARNING: all configuration variables corresponding to folders must end with the folder separator. Normally, folder separator is \, unless explicitly something else specified

SecBPMN-Q usage

You can use the BPMN model in /models folder as starting case.
First of all you have to activate macros in Visio
1. go to Tools -> options -> security -> macro security
2. Select "Low"
3. Restart Visio

To create models and upload it in the repository (data base)
1. Open a blank Visio file, or the example
2. If the stencil set is not load it, open it manually by following the menu File->Shapes->My Shapes-> SecBPMN-Query-Shapes v4
3. create your process models, in this case only sequence flow edges are allowed, and when connecting two nodes, <u>connect the edge always first to the source node then to the destination otherwise it will not work properly</u>
4. be sure that the file BPMNQ Inteface.vsd is open in Visio
5. while you are in the new file, call the macros menu and let Visio show you macros from file BPMNQ Interface
   5.1. go to Tools -> Macros Macros.
   5.2. in the "Macros in:" menu select "BPMNQ interface.vsd"
6. from those macros choose "loadConfiguration"
7. from those macros choose "UploadToRepository"

8. when upload is successful, the new Visio file is uploaded to the database and automatically saved to the repository folder i.e. the folder you set in process.model.folder

To run queries:
1. open the BPMNQ Interface.vsd from the place you saved it, it should load automatically the stencil set
2. If the stencil set is not load it, open it manually by following the menu File->Shapes->My Shapes-> BPMN-Query-Shapes v4
3. Compose queries you like, from macros menu (see point 5 of the creating model procedure) choose running either Execute Query or check Model
   3.1. Check model: checks if the query is satisfied in a specific model: you will be asked to enter the model ID you want to check
   3.2. Execute Query: checks the query among all the business processes uploaded in the data base
4. Whenever there is a match, matched models will be opened automatically with matching part to the query is highlighted

WARNING: If process models are created with other stencil set, the interpretation of the query(ies) results can not be visualized using the above Visio macros.
Setup the configuration files