/* the Business Intelligence Free Platform */

SpagoBI_eXoTomcat_Installation_Manual-1.4.1.doc

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2 Document goal

This document provides a step by step description for SpagoBI installation and configuration on a Tomcat Server 5.0.28 with eXo Portal 1.1.3 installed. To get a working copy of Tomcat Server 5.0.28 with eXo Portal 1.1.3 you can download, from eXo ObjectWeb site (http://forge.objectweb.org/projects/exoplatform), the file eXoPortal-tomcat-1.1.3.zip and simply unzip it into your file system.

3 References

Some of the concepts of this document refer to the following documentation:
- oSpagoBI business intelligence platform framework (available at http://spagobi.eng.it/)
- oExo Portal Platform (available at http://www.exoplatform.com)
- oSpago framework (available at http://spago.eng.it)
- oTomcat server (available at http://tomcat.apache.org/)

4 Install SpagoBI

We assume that you use the **java version 1.5.x** and that you have correctly installed the eXo Portal 1.1.3 on a Tomcat 5.0.28 server; in the following we will refer to the exo-tomcat base directory as **EXO-HOME**.

To test the eXo installation exec the command **EXO-HOME/bin/exo-run.bat** (in a windows environment) or **EXO-HOME/bin/exo-run.sh** (in a unix environment), wait until the command ends up with the message 'Server startup in xxxx ms' and then connect with a browser to the url http://<<localhost>>:8080/portal, the eXo home page should appear. Before proceed stop the server.

Connect to the SpagoBI page on the ObjectWeb community site (http://forge.objectweb.org/projects/spagobi), click on the 'File' tab, download the file called 'SpagoBIUtilityFiles-1.9.1.zip', and then unzip it.

The unzip operation produces a folder 'SpagoBIUtilityFiles' which contains 'tomcat-server', 'jboss-server' and other folders. The folder 'tomcat-server' respects the tree-folders structure of a clean eXo-Tomcat installation; in the following we will refer to this folder as **EXO-INST-FILES**. There's also another folder 'example-portal' which contains some files useful to install a new SpagoBI test portal (the installation of this example portal is not mandatory); in the following we will refer to this folder as **EXAMPLE_PORTAL**

4.1 Install additional libraries and configuration files

SpagoBI needs some additional libraries and configuration files in order to start correctly and manage metadata.

1. Copy the content of **EXO-INST-FILES**/common/lib inside your **EXO-HOME**/common/lib directory (*).

2. Delete the file **EXO-HOME**/common/lib/hsqldb-1.8.0.1.jar (the previous operation copy a more recent version of hsqldb and so the old one has to be deleted)

3. Copy the **EXO-INST-FILES**/sbidata folder into your **EXO-HOME.** The folder contains the hsqldb metadata database and the root folder of the cms repository.

(*) The following libraries will be copied into **EXO-HOME**/common/lib:
  o ehcache-1.1.jar (hiberante cache)
  o concurrent-1.3.4.jar (jackrabbit dependecy)
  o hsqldb1_8_0_2.jar (more recent version of the hsqldb)
  o jackrabbit-core-1.0.1.jar (for the cms repository)
  o jcr-1.0.jar (jackrabbit dependecy)
  o slf4j-log4j12.jar (jackrabbit dependecy)

4.2 Install the Metadata Database

SpagoBI metadata are stored in a database (for this release SpagoBI supports PostgresSQL, Oracle, MySQL and HSQLDB).

SpagoBI Utility files package contains an hsql database that can be used to test SpagoBI without installing a database server. After the execution of the activities listed in the previous paragraph the hsqldb script is stored into **EXO-HOME**/sbidata/database.

HSQL database is very useful for test purpose but is very weak in a production environment. Anyway, if you want to use HSQLDB, just exec the command **EXO-HOME**/sbidata/database/start.bat (on a windows platform) or **EXO-HOME**/sbidata/database/start.sh (on a unix platform). The command starts an HSQLDB server

with a 'spagobi' databases already populated with the necessary data. **Remember that every time you start the exo server to work with SpagoBI the database server must be running.**

If you don't want to use hsqldb you have the possibility to choose between PostgresSQL, Oracle and MySQL. If you don't have anyone of these database servers installed you need to install one of them. Once you have a functional database server you must create a new database for the metadata (spagobi is the database name suggested).
Once completed the operation above it's possible to proceed with the creation and initial population of the metadata database launching the right script for your database server. For each database server supported you need to download from the SpagoBI Repository a zip archive containing the sql script to create the schema, the comments of the table and finally to populate the schema with initial data. So, connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the file called <<*name of you database*>>-dbscript-1.9.1.zip. Into the zip file there are some sql script files, you must execute the creation and insertion script with a client for your database server. In every archive exists also a drop script but this one is useful only if you need to clean your database deleting all the spagobi metadata tables. *Example: if you have a postgresql database server you need to download the relative archive (postgres-dbscript-1.9.1.zip) and run in the following order the scripts PG_create.sql and PG_insert.sql.*

4.2.1 Install the database driver

Based on the database server you chose for the SpagoBI metadata you must install the right database driver. The drivers package can be obtained from database vendor sites and for the current SpagoBI release we test the following versions:

- oPostgresql : postgresql-8.0-311.jdbc2.jar
- oOracle: ojdbc14.jar
- oMySQL: mysql-connector-java-3.1.10-bin.jar
- oHSQLDB: hsqldb1_8_0_2.jar (contained into **EXO-INST-FILES**/common/lib)

The driver jar, corresponding to the database you use, have to be put under **EXO-HOME**/common/lib. If you decide to use the SpagoBI hsqldb database you have to do nothing because the hsqldb driver has been already copied into **EXO-HOME**/common/lib (install libraries and configuration files paragraph)

4.2.2 Configuring Datasource as JNDI Resource

SpagoBI needs a connection to the metadata database. This connection can be configured as a direct jdbc connection or as link to a server jndi datasource. The second option is surely better and it's covered into this manual. To configure the JNDI global datasource resource do the following steps:
- oEdit the file **EXO-INST-FILES**/conf/server.xml.
- oSearch for the string "<Resource name="jdbc/spagobi"" (not commented) ;
- oCopy entirely the <Resource> tag and the subsequent <ResourceParams> tag

o Edit the file **EXO-HOME**/conf/server.xml
o Inside tag named 'GlobalNamingResources' paste the piece of xml copied previously

The xml copied configures a new jndi datasource for the metadata database. The default values are for the SpagoBI hsql database and, if you are using another database server, you need to change them. Based on your database change the value of:
o DriverClassName
o url
o username
o password

4.3 Install Cms Repository

SpagoBI needs a connection to a content management system (cms) compliant to the jsr 170 specification in order to store and version the BI documents. The connection is represented by a jsr 170 'Repository' object which allows to open working session into the cms. SpagoBI can be configured to initialize directly the repository or to get it as a jndi resource. The second option is surely better and it's covered into this manual. To configure the JNDI global repository resource do the following steps:
o Edit the file **EXO-INST-FILES**/conf/server.xml.
o Search for the string "<Resource name="cms/spagobicms"" (not commented);
o Copy entirely the <Resource> tag and the subsequent <ResourceParams> tag
o Edit the file **EXO-HOME**/conf/server.xml
o Inside tag named 'GlobalNamingResources' paste the piece of xml previously copied

The xml copied contains two parameters which have to be configured
o ConfigFilePath (path of the jackrabbit configuration file)
o RepHomeDir (path to the folder which will be the root of the repository)

You have simply to replace the string '${SERVER_HOME}' with the path of your exo tomcat installation directory. Example: if your exo tomcat is installed into a directoy C:\Programs\exo-tomcat you have to replace '${SERVER_HOME}' with '/Programs/exo-tomcat'

4.4 Install SpagoBI platform

Connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the 'SpagoBI-bin-1.9.1.zip'. Extract from the zip archive the file **spagobi.war** and copy it into **EXO-HOME**/webapps folder.
Copy the file spagobi.xml from **EXO-INST-FILES**/conf/Catalina/localhost to **EXO-HOME**/conf/ Catalina/localhost.
Start the server (with exo-home/bin/exo-run.bat or .sh) and after stop it (this operation will explode the spagobi.war just copied). Don't worry about the exception in this first launch.

4.4.1 Configure Hibernate

SpagoBI uses Hibernate to manage metadata. Since SpagoBI can use different databases, hibernate must be configured in order to use the correct settings and sql dialect. Into the folder exo-home/webapps/spagobi/WEB-INF/classes there are four hibernate configuration files, one for each database supported:

o hibernate.cfg.postgres.xml (postgres database)
o hibernate.cfg.ora.xml (oracle database)
o hibernate.cfg.mysql.xml (mysql database)
o hibernate.cfg.hsql.xml (hsql database)

You must define which file must be used based on your database:

o edit the file exo-home/webapps/spagobi/WEB-INF/conf/spagobi/spagobi.xml
o search for the tag <HIBERNATE-CFGFILE>
o change its value putting the name of the correct hibernate configuration file (the default is for hsqldb)

4.5 Install Engines

4.5.1 Install SpagoBIJasperReportEngine

o Connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the file 'SpagoBIJasperReport-bin-1.9.1.zip'. Extract from the zip archive the file SpagoBIJasperReportEngine.war and copy it into the **EXO_HOME**/webapps folder;
o copy the file SpagoBIJasperReportEngine.xml from **EXO-INST-FILES**/conf/Catalina/localhost into **EXO-HOME**/conf/Catalina/localhost.
o Using the SpagoBI administration portlet define a new External Engine with:
  o document type: Report
  o engine type: External
  o driver class: it.eng.spagobi.drivers.jasperreport.JasperReportDriver
  o url: http://<server>:<port>/SpagoBIJasperReportEngine/JasperReportServlet.

4.5.2 Install SpagoBIJPivotEngine

o Connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the file 'SpagoBIJPivotEngine-bin-1.9.1.zip'. Extract from the zip archive the file SpagoBIJPivotEngine.war and copy it into the **EXO-HOME**/webapps folder.
o Copy the file SpagoBIJPivotEngine.xml from **EXO-INST-FILES**/conf/Catalina/localhost into **EXO-HOME**/conf/Catalina/localhost
o Using the SpagoBI administration portlet define a new External Engine with:
  o document type: On-line analytical processing
  o engine type: External
  o driver class: it.eng.spagobi.drivers.jpivot.JPivotDriver
  o url: http://<server>:<port>/SpagoBIJPivotEngine/jpivotOlap.jsp.

4.5.3 Install SpagoBIBirtReportEngine

o Connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the file 'SpagoBIBirtReportEngine-bin-1.9.1.zip'. Extract from the zip archive the file SpagoBIBirtReportEngine.war and copy it into the **EXO-HOME**/webapps folder.
o Copy the file SpagoBIBirtReportEngine.xml from **EXO-INST-FILES**/conf/Catalina/localhost into **EXO-HOME**/conf/Catalina/localhost
o Using the SpagoBI administration portlet define a new External Engine with:
> o document type: Report
> o engine type: External
> o driver class: it.eng.spagobi.drivers.birt.BirtReportDriver
> o url: http://<server>:<port>/SpagoBIBirtReportEngine/BirtReportServlet.

4.5.4 Install SpagoBIWekaEngine

o Connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the file 'SpagoBIWekaEngine-bin-1.9.1-Alpha.zip'. Extract from the zip archive the file SpagoBIWekaEngine.war and copy it into the **EXO-HOME**/webapps folder.
o Copy the file SpagoBIWekaEngine.xml from **EXO-INST-FILES**/conf/Catalina/localhost into **EXO-HOME**/conf/Catalina/localhost
o Using the SpagoBI administration portlet define a new External Engine with:
> o document type: Data mining model
> o engine type: External
> o driver class: it.eng.spagobi.drivers.weka.WekaDriver
> o url: http://<server>:<port>/SpagoBIWekaEngine/WekaServlet.

4.5.5 Install SpagoBIGeoEngine

o Connect to http://forge.objectweb.org/projects/spagobi, select the file tab and then download the file 'SpagoBIGeoEngine-bin-1.9.1-Alpha.zip'. Extract from the zip archive the file SpagoBIGeoEngine.war and copy it into the **EXO-HOME**/webapps folder.
o Copy the file SpagoBIGeoEngine.xml from **EXO-INST-FILES**/conf/Catalina/localhost into **EXO-HOME**/conf/Catalina/localhost
o Using the SpagoBI administration portlet define a new External Engine with:
> o document type: Map
> o engine type: External
> o driver class: it.eng.spagobi.drivers.geo.GeoDriver
> o url: http://<server>:<port>/SpagoBIGeoEngine/servlet/AdapterHTTP?ACTION_NAME=GEO_ACTION&NEW_SESSION=TRUE

4.6 Install Example Portal (Optional)

After the execution of the previous steps you should be able to connect to exo portal, imports SpagoBI portlets and define your own portal pages. (look at exo documentation for information and

instructions). However our distribution contains also a simple portal, which can be installed over exo platform, useful to test SpagoBI portlets. To install the test portal:

- copy the **EXAMPLE-PORTAL**/tomcat/sbiportal.war into **EXO-HOME**/webapps folder
- copy the **EXAMPLE-PORTAL**/tomcat/sbiportal.xml into **EXO-HOME**/conf/Catalina/localhost folder
- copy the file 'sbiportal.script' and 'sbiportal.properties' from **EXAMPLE-PORTAL**/tomcat/db to **EXO-HOME**/temp/data
- start the server

At the end you should be able to connect to the url http://localhost:8080/sbiportal. The example portal defines four users:

- biadmin (password=biadmin): his pages contains the SpagoBI administration portlet
- bidev (password=bidev): his pages contains the SpagoBI development portlet
- bitest (password=bitest): his page contains the SpagoBI execution portlet with the possibilty to view documents in test state
- biuser (password=biuser): his page contains the SpagoBI execution portlet