

DbMAP 3D Servlet deploy – User's Guide

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		<u>Version 20050407</u>	

Servlet installation

The server side component, DbMAP 3D Server, is supplied in "Web Application aRchive" (WAR) format in the file DbMAP_3D_server.war. This requires a Java 2 SDK 1.4 or higher. The deployment procedure of a WAR varies depending on the container used; we recommend checking for the correct procedure in the documentation of your java container. In appendix you will find the instructions for some java containers.

DbMAP ASJ Server

Graphic data to apply (as texture) on the 3D model will be get from a DbMAP ASJ server. This must be reachable by the DbMAP 3D Server through an HTTP call.

File DLL JNI

The servlet requires the utilisation of some native Microsoft Windows DLL (JNI Java Native Interface) for loading ECW (ErMapper) or DWG (AutoCAD) files.

Those DLL therefore must be available for the servlet and, for this purpose, they must be copied in a PC directory set up in the PATH environment variable of Windows; the installation program copies the DLLs in a directory called JNI_DLL.

In any case where the servlet has to work on a NON Microsoft Windows operating system and has to access ECW or DWG files, it is possible to configure the servlet to use the native Microsoft Windows DLL through RMI (Remote Method Invocation), leaving the execution of the DLL on a different LAN network computer with Microsoft Windows operating system.

Test

Once you have made the deployment, it's possible to perform a simple loading test through a Browser (e.g.: Internet Explorer) specifying the address of the servlet. An example can be (port should be replaced with the port of your Tomcat HTTP server):

`http://localhost:port/DbMAP_3D_server/DbMAP3Dservlet`

If the servlet replies correctly, the shown page should be similar to:

DbMAP3D.DbMAP3Dservlet - (c) 2002-2005 ABACO s.r.l. - DbMAP asj 3D - v.20050407

Moreover it's always possible to verify the configuration of the servlet through the URL:

`http://localhost:port/DbMAP_3D_server/DbMAP3Dservlet?function=readconfig`

The visualised page contains the different configuration values used.

Configuration of the Servlets

DbMAP 3D supplies one servlet (contained and deployed by the WAR previously described) that must be configured. The servlet is called (by default) DbMAP3Dservlet.

The configuration of the servlets takes place through the modification of the file WEB.XML or, if available for the Java Container used, through the proper configuration program.

An Administration Console (provided with the WAR file as JSP application) can be used to create new servlet or modify the configuration of those existings.

DbMAP3Dservlet - Base parameters

JpgQuality

This parameter sets up the compression quality of the raster images returned by the servlet in the JPEG format. The set value must be greater than 0 and less than 1. Greater values correspond to greater quality and less compression. Excepting particular cases, the suggested value is "0.9".

ecwPath

This parameter must be set up with the base path of the ".ecw" files that form the coverage. The parameter can be valued with a partial path name, because when you are using an ECW coverage it is possible to specify the file name with a path. During the image loading by the servlet, the file name will be created adding "ecwPath" with the specified image name (e.g.: if "ecwPath" is "c:\ecw\", the image name could be "year2000\photo1.ecw" in order to load the file "c:\ecw\year2000\photo1.ecw"). If ECW files don't need to be used it is possible to omit this parameter or value it with any path.

tiffPath

The parameter must be set up with the base path of tiff files ".tif" that are eventually used. This parameter can be valued with the name of a partial path, because during the utilisation of a tiff file it is possible to specify the file name with a path. During the image loading by the servlet the file name will be created adding "tiffPath" with the specified image name (e.g.: if "tiffPath" is "c:\tiff\", the image name could be "maps\map1.tif" in order to load the file "c:\tiff\maps\map1.tif "). If tiff files don't need to be used, it is possible to omit this parameter or value it with any path.

dwgPath

The parameter must be set up with the base path of the AutoCAD ".dwg" files that are eventually used. This parameter can be valued with the name of a partial path, because during the utilisation of a dwg file, it is possible to specify the file name with a path. During the drawing loading by the servlet, the file name will be created adding "dwgPath" with the specified drawing name (e.g.: if "dwgPath" is "c:\dwg\", the drawing name could be "maps\map1.dwg" in order to load the file "c:\dwg\maps\map1.tif "). If dwg files don't need to be used, it's possible to omit this parameter or value it with any path.

DbMAP3Dservlet - Parameter for database connection

The connection to the database by the servlet can undertake two different ways:

1) by requesting a data source to the container

If the container manages a connection pool from the database, it is possible obtain the connection through the specification of the JNDI path in the parameter dataSource.

2) by direct connection through JDBC

The connection comes directly from the servlet using the specified JDBC driver, JDBC URL, username and password; defined as ConnectionDriver, ConnectionURL, ConnectionUsername, ConnectionPassword respectively.

Note: the connection is strictly required to retrieve data for the labels to use for quickly moving through the 3D Map and as floating labels. It is not required for the graphic part, that it is usually got from an “external” DbMAP ASJ Server.

dataSource

This parameter can be set up with a valid JNDI path to obtain a connection from the container. If this parameter is valued, the ConnectionDriver, ConnectionURL, ConnectionUsername and ConnectionPassword are ignored.

ConnectionDriver

For direct connections from the servlet to a database, this parameter must be set up with the name of the class of valid JDBC driver. When this parameter is not set it assumes the default value oracle.jdbc.OracleDriver (the ORACLE JDBC Driver usually located in the classes12.jar).

WARNING: Please note that the specified JDBC Driver must be available in the CLASSPATH of the servlet ("WEB-INF\lib" folder where (for example) DbMAP spatial engine.jar is placed by the deploy)

ConnectionURL

For direct connections from the servlet to a database, this parameter must be set up with the valid JDBC URL value. For ORACLE JDBC driver an example should be: "jdbc:oracle:thin:@127.0.0.1:1521:ORACLEDB"

ConnectionUsername

For direct connections from the servlet to a database, this parameter must be set up with the username value that has to be utilised for the connection.

ConnectionPassword

For direct connections by the servlet to a database, this parameter must be set with the password value that has to be utilised for the connection.

DbMAP3Dservlet - RMI parameters

Look at the RMI Server Setup Guide of DbMAP ASJ Server to know the details.

RmiDwgUrl

The parameter can be set up with a valid RMI URL in order to reach the class used for reading DWG files. It is useable on a non Microsoft Windows computer to transfer the JNI DLL native Microsoft Windows utilisation to another LAN network computer.

RmiTifUrl

The parameter can be set up with a valid RMI URL in order to reach the class used for reading Tiff files. It is useable on a non Microsoft Windows computer to transfer the JNI DLL native Microsoft Windows utilisation to another LAN network computer.

RmiEcwUrl

The parameter can be set up with a valid RMI URL in order to reach the class for reading ECW files. It is useable on a non Microsoft Windows computer to transfer the JNI DLL native Microsoft Windows utilisation to another LAN network computer.

DbMAP3DServlet - Disabling utilisation of ORACLE Spatial or Locator

By default the servlet uses ORACLE Spatial (SDO) features and datatypes (E.g.: MDSYS.SDO_GEOMETRY for geometry columns, ORACLE Spatial indexes, ...). In this case a connection to an ORACLE Spatial Database with ORACLE Spatial feature must be granted to the servlet. All the spatial tables must be ORACLE Spatial enabled tables.

When the database is an ORACLE database without the Spatial option (when only ORACLE Locator is available) then the parameter useOracleSpatial must be set to "LOCATOR". In this case only the ORACLE Locator functions and procedure are used by default.

When the database is not an ORACLE database or when it is an ORACLE database without the Spatial and Locator features then the parameter useOracleSpatial must be set to "N". In this case the spatial data are read from DbMAP spatial tables (e.g.: spatial tables populated by using DbMAP tools).

useOracleSpatial

This parameter is obsolete.

This flag must be set to N when ORACLE Spatial or Locator are not available to the Servlet. When ORACLE Spatial is not available but only ORACLE Locator is, then this parameter must be set to LOCATOR. Otherwise set it to Y (default - ORACLE Spatial Available).

spatialDatabaseType

It substitutes the useOracleSpatial parameter. Available values are:

- **SDA** for those database different from POSTGIS, ORACLE SPATIAL or LOCATOR;
- **POSTGIS** for POSTGIS native format usage;
- **ORACLE_LOCATOR** for ORACLE SDO_GEOMETRY native format usage applying restriction regarding ORACLE LOCATOR features;
- **ORACLE_SPATIAL** for ORACLE SDO_GEOMETRY native format usage applying NO restriction regarding ORACLE LOCATOR features, and using the complete set of features provided by the ORACLE SPATIAL;

useSdoVIS

When using ORACLE Spatial or Locator, the servlet uses SDOapi to access geometry columns. When SDOapi usage is to be replaced by SDOVis usage then the flag useSdoVIS can be set to Y.

DbMAP3DServlet - Enabling utilisation of ORACLE Spatial/Locator SRID

When using ORACLE Spatial/Locator databases, the servlet does not use SRID when applying spatial filters. This behaviour can be changed by setting the useOracleSpatialSRID parameter.

useOracleSpatialSRID

The servlet does not use ORACLE Spatial SRID to perform spatial queries when this parameter is not set. If the Spatial enabled tables use SRID this can cause errors. If all of the tables use the same SRID, useOracleSpatialSRID must be set to the value (number) of the used SRID. If multiple SRID are used, then useOracleSpatialSRID must be set with value *. Please note that the utilization of * is time lost when performing spatial queries: use * only when using multiple SRID.

DbMAP3Dservlet – 3D Parameters

Parameters seen in the previous part of this document are the same that can be set for a DbMAP ASJ Servlet.

Document base

Gifs used to render points or polygon fillings, must be placed in the directory specified by Document base parameter. **WARNING: This parameter is not shown in the web.xml file and could not be set by the user, but it is set automatically by the servlet.**

Usually it is the base context of the 3D server:
e.g. c:\TomcatDbMAP\webapps\DbMAP_3D_server

projectList

It is an XML document that can be reached through HTTP or through a filesystem path and it can be configured using the Servlet Administrator console. The contents of this XML is a list of DbMAP ASJ XML projects that will be rendered on the 3D model and a list of query that will be used for moving on the 3D Map and as floating labels.

debug

It specifies if the Servlet must be run in debug mode. It can be set to "Y" (messages about the servlet operations can be seen in the Container/Java Web Server console) or to "N" (debug mode disabled).

Appendix A

Example of deploy with Tomcat

- 1) Copy the file WAR (DbMAP_3D_server.war) in the "webapps" folder of the Tomcat installation while Tomcat is running.
- 2) Wait for the auto-deploy performed by Tomcat (the subfolder of "webapps" named with the same name of the WAR file (DbMAP_3D_server) should be created).
- 3) Once you have followed these steps, the servlet should be accessible (port should be replaced with the port of your Tomcat HTTP server):

`http://127.0.0.1:port/ DbMAP_3D_server/3d_servlet_po/DbMAP3Dservlet`

- 4) Now you can proceed to the configuration using the Servlet Administrator or by editing the web.xml file placed in "webapps\DbMAP_3D_server\WEB-INF" folder as described in the present document.

Appendix B

Example of deploy with OC4J

- 5) Copy the file WAR (DbMAP_3D_server.war) in the applications home folder (usually it's: oc4j\j2ee\home\applications).
- 6) Check the set up of global-application in the file server.xml (usually it's: oc4j\j2ee\home\config\server.xml), in particular the application.xml file name and the assigned name. Check also the name file XML used for the web-site configuration. Usually it should be:

```
<global-application name="default" path="application.xml" />
<web-site path="http-web-site.xml" />
```

- 7) Add the application configuration to the xml file (usually it's: application.xml) using the following line:

```
<web-module id="dbmap3d" path="../../home/applications/ DbMAP_3D_server.war" />
```

- 8) Add the web-site configuration to the xml file (usually it's: http-web-site.xml) using the following line:

```
<web-app application="default" name="dbmap3d" root="/dbmap3d" />
```

- 9) Once you have followed these steps, the servlet should be accessible:

```
http://127.0.0.1:port/dbmap3d/3d_sevlet_po/DbMAP3Dservlet
```

- 6) Now you can proceed to the configuration using the Servlet Administrator or by editing the web.xml file placed in "webapps\DbMAP_3D_server\WEB-INF" folder as described in the present document. Every time Web.XML is changed, OC4J requires an explicit restart.