



Geoportal Server 1.2.2 Installation Guide for WebLogic

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1. PREREQUISITES

The instructions in this document are meant to replace Sections 5-7 of the Geoportal Server Installation Guide. To install the geoportal on WebLogic 11g, first follow Sections 1-4 in the Geoportal Server Installation Guide. Then proceed with the installation instructions below.

2. UNZIP THE GEOPORTAL.WAR FILE

With WebLogic, if a WAR file is used for the application deployment, all of its files must be in their final stages. This means that any property files have to be configured before the WAR file is packaged. Making any changes to any of the files within the WAR requires a repackaging of the WAR file and redeployment.

Another option for deploying web applications on WebLogic is to point to a directory that contains the application. In comparison to the WAR file, this directory is simply a deployed version of the WAR file contents. If changes need to be made, they can be made directly and WebLogic will pick up the changes without redeployment.

Especially in customizing, staging, and testing of the Geoportal Server, the frequency of changes to the geoportal web application can be high. Therefore it is recommended to deploy the application in WebLogic from a directory, not from a WAR file. Steps to deploy in this way are below.

- Open a command window (Start->Run->cmd)
- Change directories to point to the <Geoportal Server Installation Dir>\Web Applications\Geoportal directory
- Issue an unzip command against the geoportal.war file, extracting its contents into the “geoportal” directory

```
unzip geoportal.war -d geoportal
```

- Navigate to the <Geoportal Dir>\Web Applications\Geoportal directory and verify that a “geoportal” directory exists and has 7 sub-folders (catalog, csw, META-INF, misc, webhelp, WEB-INF, widgets).

3. SETTING UP THE JNDI CONNECTION

The steps below outline the process to create a JNDI connection through the WebLogic Admin Console. To set up the JNDI connection, you will copy the database JDBC driver to the necessary WebLogic folder, and then set up the JNDI data source.

COPY THE DATABASE JDBC DRIVER

First, you must identify and obtain the jdbc .jar file that will be used for the database JDBC connection. Database .jar files are typically provided with your database software, but if you cannot find the .jar files that came with your database, you can obtain them from the manufacturer's website.

- Oracle: <http://www.oracle.com/technetwork/database/features/jdbc/index-091264.html>
- SQL Server: <http://msdn.microsoft.com/en-us/sqlserver/aa937724.aspx>
- PostgreSQL: <http://jdbc.postgresql.org/download.html>
- MySQL: <http://dev.mysql.com/downloads/connector/j/>

The database .jar file you use is determined by the database vendor and Java version you have running. Because Geoportal Server version 1.2.2 requires Java 1.6, make sure that your driver supports JDBC4. See the table below to identify recommended .jar files for your environment.

<i>Database</i>	Oracle (10g, 11g)	SQL Server (2005, 2008)	Postgres (8.4, 9.1)	MySQL 5.5
<i>.jar file</i>	ojdbc6.jar	sqljdbc4.jar	postgresql-9.1-901.jdbc4.jar	mysql-connector-java-5.1.18-bin.jar

After you've obtained the .jar file, you will need to copy it to your WebLogic deployment and add it to the WebLogic domain classpath, following the steps below:

- Copy the database .jar file to the <WebLogic install>\Middleware\user_projects\domains\base_domain\lib directory.
- For Windows, open the setDomainEnv.cmd file. For Linux, open the setDomainEnv.sh file.
- In that file, scroll down to find the following lines:

```
set  
POST_CLASSPATH=%POST_CLASSPATH%
```

- Update this POST_CLASSPATH line to point to your database driver location. It is possible to map to more than one; the example below shows a sample mapping to a SQL Server driver and a PostgreSQL driver:

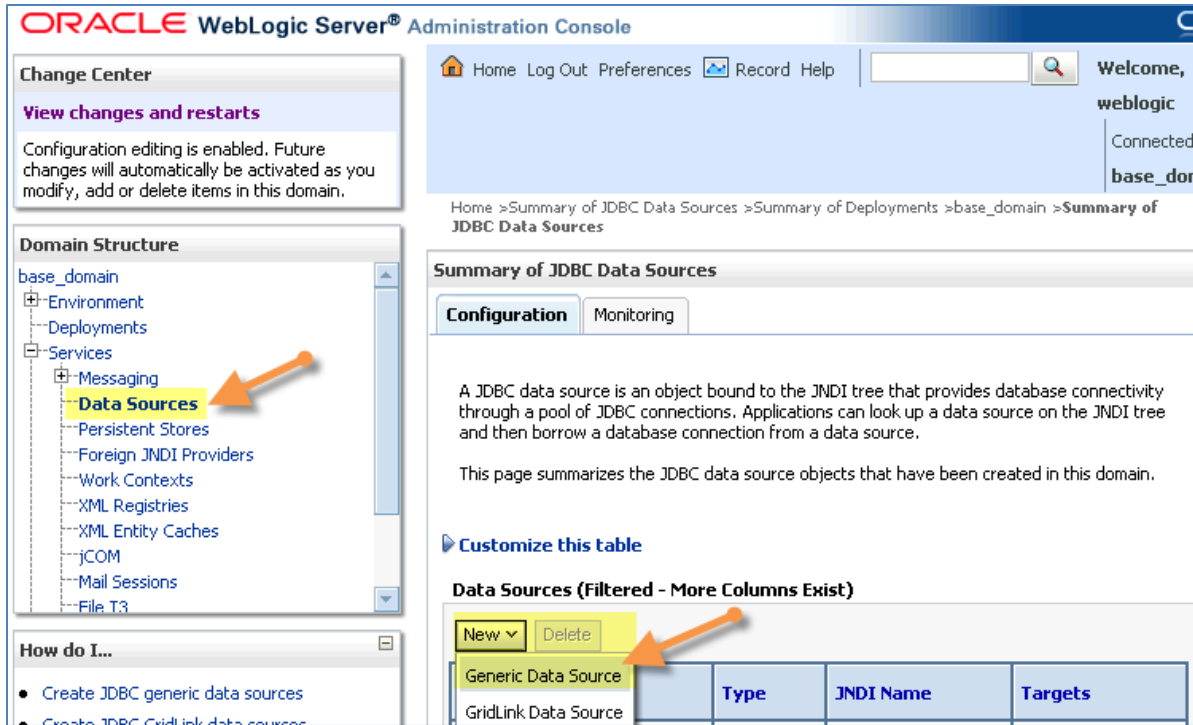
```
set
POST_CLASSPATH=%POST_CLASSPATH%;C:\Oracle\Middleware\user_projects\domains\base_domain\lib\sqljdbc4.jar;C:\Oracle\Middleware\user_projects\domains\base_domain\lib\postgresql-9.1-901.jdbc4.jar
```

- Save the file.
- Restart the WebLogic service.

SET UP THE JNDI DATA SOURCE

JNDI data sources have to be set up before the geoportal web application is deployed. To set up the JNDI data sources, follow the steps below.

- Log in to the WebLogic Administration Console.
- Locate the “Change Center” on the top left.
- In the “Domain Structure” panel, expand the Services node and click “Data Sources”.
- In the “Summary of JDBC Data Sources” panel on the right, click the “New” button, and select the “Generic Data Source” option.



- ❑ The “Create a New JDBC Data Source” panel opens. Here you will define a new data source. Enter the following properties on the form:
 - **Name:** This is a name for the JDBC source, and can be any string value. For example, “geoportal JDBC”.
 - **JNDI Name:** This is defined in the ‘jndiName’ attribute of the *databaseReference* element in the \\geoportal\WEB-INF\classes\gpt\config\gpt.xml file, and is by default ‘jdbc/gpt’. Unless you’ve changed this in your gpt.xml file, use the value jdbc/gpt.
 - **Database Type:** Choose the database vendor corresponding to the RDBMS hosting your geoportal database.
- ❑ Click Next. On the next page, select an appropriate driver for the database from the **Database Driver** dropdown. Click Next.
- ❑ On the Transaction Options page, accept the defaults of “Supports Global Transactions” and “One-Phase Commit”. Click Next.
- ❑ On the Connection Properties page, enter the following:
 - **Database Name:** Name of the geoportal database.
 - Oracle example: orcl

- PostgreSQL example: postgres
- SQL Server/MySQL example: typically 'geoportal' or similar
- **Host Name:** The name of the server hosting the database.
- **Port:** The database port number.
- **Database User Name:** Name of the geoportal database user.
- **Password** and **Confirm Password:** Password for the geoportal database user.

Click Next.

On the Test Database Connection page, the following should automatically populate.

Confirm the values:

- **Driver Class Name:** corresponds to database driver, as follows:
 - For Oracle, `oracle.jdbc.driver.OracleDriver`
 - For PostgreSQL, `org.postgresql.Driver`
 - For SQL Server,
`com.microsoft.sqlserver.jdbc.SQLServerDriver`
 - For MySQL, `com.mysql.jdbc.Driver`
- **URL:** JDBC URL for connecting to the database, as follows (replacing bracketed parameters with actual values, no brackets):
 - For Oracle,
`jdbc:oracle:thin:@[serverName]:[databasePort]:[oracleSID]`
 - For PostgreSQL,
`jdbc:postgresql://[serverName]:[databasePort]/[databaseName]`
 - For SQL Server,
`jdbc:sqlserver://[serverName]:[databasePort]`
 - For MySQL,
`jdbc:mysql://[serverName]:[databasePort]/[databaseName]`
- **Database User Name:** Name of the geoportal database user.
- **Password** and **Confirm Password:** Password for the geoportal database user.
- **Properties:** Accept default values
- **System Properties:** Accept default values
- **Test Table Name:** Accept default values

Click on the Test Configuration button.

- If a green message is returned saying “Connection test succeeded”, click Finish.
- If a red error message is returned, go back to the previous dialogs and recheck your settings.

- After configuring a successful connection, return to the ‘Summary of JDBC Data Sources’ page and click on the JDBC connection source you just defined.

- On its ‘Setting’ page, select the “Targets” tab.

- Put a checkmark by the “AdminServer” and click Save.

- In the ‘Change Center’ panel on the top left, click the ‘View changes and restarts’ link. In the list of resulting changes, click “Activate Changes” to apply the changes.

4. CONFIGURE THE GEOPORTAL APPLICATION

- The geoportal web application now needs to be configured. Open the \\geoportal\WEB-INF\classes\gpt\config\gpt.xml file and set the properties as per Section 5.2 of the Geoportal Server Installation Guide. When you are finished configuring the gpt.xml file, proceed to Section 5 below.

5. DEPLOY THE GEOPORTAL APPLICATION

Once you have configured the Geoportal application, you are ready to deploy it on WebLogic.

- In the WebLogic Server Administration Console, click on “Deployments” in the Domain Structure panel.

- Click the “Install” button in the “Summary of Deployments” on the right. The ‘Install Application Assistant’ opens. On the first page, you will browse through the hyperlinked directory structure in the ‘Locate the deployment to install and prepare for deployment’ pane, navigating to where you unzipped your Geoportal .WAR directory and configured your gpt.xml file. There, select the geoportal folder from the selection of radio buttons. Click Next.

- On the “Choose targeting style” screen, select “Install this deployment as an application” and click Next.

- On the 'Optional Settings' screen, you can change the name of the geoportal web application if desired. Otherwise, accept all defaults and choose Next.
- On the 'Review your choices and Click Finish' screen, review the summary settings, accept the default options and click Finish.
- In the 'Change Center' panel on the top left, click the 'View changes and restarts' link. In the list of resulting changes, click "Activate Changes" to apply the changes.
- In the 'Domain Structure' panel on the left, click 'Deployments' again. Select the "geoportal" application and click the Start button. Select "Servicing all requests" from the Start button drop-down menu.
- Back on the Deployments screen, verify that the state of the geoportal application is "Active".
- The application is now deployed and active. To verify the availability of the geoportal application, open a browser and navigate to the following URL:
<http://<machineName>:<webLogicPort>/geoportal>

Example: <http://localhost:7001/geoportal>

ADDITIONAL STEPS TO SUPPORT CONNECTIONS FROM EXTERNAL CLIENTS (OPTIONAL)

While deploying on Weblogic, the Esri test team noticed that WebLogic has its own authentication mechanism, and will ask users to authenticate against WebLogic when running requests that connect to the geoportal from an external client. This means that when a user connects to the geoportal from ArcMap, ArcCatalog, or another external client, the user will not be able to connect unless he or she knows the WebLogic administration console login. The steps outlined below allow the geoportal to handle authentication so that WebLogic authentication is bypassed. These steps might conflict with your configuration of Weblogic, so it is recommended that you also consult the Weblogic documentation on Weblogic authentication configuration best practices.

- Navigate to the \\ geoportal\WEB-INF folder and open the web.xml file in a text editor
- Find the <resource-ref> section in the file
- Just below the <resource-ref> section, paste the following XML elements:


```
<login-config>  
<auth-method>CLIENT-CERT</auth-method>  
</login-config>
```

- Save the web.xml file
- Update the geoportal web application Deployment in the weblogic administration console.

6. CONFIGURE THE SERVLET APPLICATION (OPTIONAL)

IMPORTANT: This step is necessary only if users will be connecting to your geoportal to publish metadata from ArcCatalog 9.3.x environments using the Geoportal Publish Client for ArcGIS 9.3.x. If your organization is using ArcGIS 10, or will not be using Publish Client to publish metadata from ArcCatalog, then you can skip this step. For more information on the geoportal Publish Client, see the webhelp at http://links.esri.com/geoportal_server_publish_client. If you choose not to deploy the servlet application, skip this section and Section 7, and proceed to Section 8 below.

If you deployed the geoportal application with its default name of “geoportal”, then the servlet application does not require any modifications and can be deployed within from the WAR file directly. However, if the geoportal web application name was changed, then the servlet.war needs to be expanded, modified, and then deployed from a directory instead of a .war.

- If you choose to deploy from a WAR file, skip this step and proceed to Section 7 to deploy the servlet application.
- If you changed the geoportal web application name, follow the steps below:
 - Open a command window (Start->Run->cmd)
 - Change directories to point to the <Geoportal Dir>\Web Applications\Servlet directory
 - Issue an unzip command against the servlet.war file, extracting its contents into the “servlet” directory

```
unzip servlet.war -d servlet
```
 - Navigate to the <Geoportal Dir>\Web Applications\Servlet directory and verify that a “servlet” directory exists and has 2 sub-folders (META-INF, WEB-INF).

- Open the \\servlet\WEB-INF\web.xml file. Modify the <param-value> setting for the redirectURL parameter to point to your modified geoportal web application name:

/geoportal_web_app_name/com.Esri.Esrimap.Esrimap

- Then, save the web.xml file and close it.

7. DEPLOY THE SERVLET APPLICATION (OPTIONAL)

If you've chosen to deploy the optional servlet application, then you have completed the previous steps for configuring the application and are ready to deploy. If you have not chosen to deploy the servlet application, you can skip to the next section.

Once you have configured the Servlet application, or if you are accepting the default configuration, you are ready to deploy it on WebLogic:

- In the WebLogic Server Administration Console, click on "Deployments" in the Domain Structure panel. Click the "Install" button in the "Summary of Deployments" on the right.
- Browse through the hyperlinked directory structure, until you get to <Geoportal Dir>\Web Applications\Servlet. From the selection of radio buttons, select either the servlet folder (if you expanded the war file into a directory) or select the servlet.war. Click Next.
- On the "Choose targeting style" screen, select "Install this deployment as an application" and click Next.
- On the Optional Settings screen, accept all defaults and choose Next. **IMPORTANT:** Do not change the name of the servlet application.
- On the 'Review your choices and Click Finish' screen, review the summary settings, accept the default options and click Finish.
- In the 'Change Center' panel on the top left, click the 'View changes and restarts' link. In the list of resulting changes, click "Activate Changes" to apply the changes.
- Navigate back to the Deployments screen, select the "servlet" application, and click the Start button. Select "Servicing all requests" from the Start button drop-down menu.

- Verify that the state of the servlet application is “active”. The application is now deployed and active. The servlet application doesn’t have an interface, so you cannot navigate to a URL to verify it.

8. SMOKETEST & DESKTOP TOOLS

After deploying the web applications, the Geoportal Server 1.2.2 Installation Guide proceeds with instructions for conducting a basic smoketest and for setting up the desktop tools. Since these activities are not specific WebLogic, please refer back to the Geoportal Server 1.2.2 Installation Guide starting at Section 8 to complete the geoportal installation.