Installation Guide

Geo Web Solutions 2.1

Installation

Geo Web Solutions (GWS) is supported on Windows 2000 Server and Windows 2003 Server platforms. The actions you need to perform are basically the same for both operating systems. For Windows 2003 Server some additional actions need to be performed. This will be explicitly mentioned in this Installation Guide.

The installation of other software that might be used in a GWS environment (like Bentley Geo Web Publisher (GWP) and Oracle) will NOT be discussed in this document. This document will confine itself to the installation of GWS. It is not necessary that the map server (GWP) and GWS are installed on the same computer.

There are different installation types for GWS, namely:
- Server: installs only server software;
- Admin: installs only administration software;
- Full: installs all available software.

The installation will be described in eight steps. For each step the differences between the server and admin installations are mentioned as well. After explaining the steps a summary will be given of the changes that have taken place on the server.

It is assumed that the GWS setup takes place without an installed (previous) version of GWS. If the latter is the case, you're recommended to remove it before installing the new version. (Make sure that a backup is made of the configuration, license file/key, and other settings!) You can easily uninstall Geo Web Solutions in the "Add or Remove Programs" section of the Control Panel. Note that all directories and registry-entries created by the installation will be deleted by versions prior to GWS 2.0!

Note: In Geo Web Solutions versions older than 2.0 the setup automatically created subdirectories in the directories pointed to in the setup. This behaviour is not compliant with behaviour of other setups. As of version 2.0, the setup will install the software in the directory pointed to by the user.

Step 1 Create the Scripts-directory (Windows 2003 only)

In Windows 2003 the scripts-directory is not present in IIS by default. You need to manually create this directory. The ISAPI DLL, named *FlexiMap.dll*, will be installed in this directory. By default the web server will point to the directory C:\Inetpub.
- Create directory C:\Inetpub\Scripts;
- In the IIS Management Console a virtual directory named "scripts" should be created directly beneath the default website;
- This virtual directory should have the following rights (properties pane). Execute Permissions: "Scripts and Executables". The checkboxes "read", "write", and "directory browsing" should be turned off!

Step 2 Run the setup program

Start the setup program for GWS (Setup_GeoWebSolutions21.exe)
- Click "I Agree" in the license window;
- Select the installation type (server, admin, full or custom), select the items that you which to install and press "Next". Note that if you have selected the server installation type, you cannot change any of the options of the admin setup, and vice versa. Select the directories you wish to install to:
  - The first path is the directory where GWS will be installed. In this directory (default: C:\Program Files\GeoWebSolutions). In this directory the necessary structure will be created as well;
  - The second path points to the scripts-directory of IIS (default: C:\Inetpub\Scripts). This option is not available in the admin setup;
  - The third path points to the web-directory (default: C:\Inetpub\wwwroot\GeoWebSolutions). *Note:* If GWS is not installed in the wwwroot, a virtual directory with the name "GeoWebSolutions" **MUST** be created in IIS. A (virtual) directory with the name "GeoWebSolutions" will need to be present directly beneath the root of the website for GWS to function properly.

- If the option "Demo" is selected you can enter the following directory:
  - o The location for the dataset for the demo (default: C:\GWSDemo.
  The configuration of the demo will be discussed in chapter "Configuration demo".
- Click the "Install" button to start the installation.
- During the GWSAdministrator installation the setup will check if the .Net Framework 2.0 is installed. If this is not the case, you can find it in the installation package. In some cases (especially on Windows 2000) it might be necessary to install a new Windows Installer (version 3.1) first. This installer is included in the installation package as well.

Step 3 Obtain a GWS license

Obtain a valid license in case you have installed the server software (ISAPI DLL). GWS 2.1 supports Bentley Select Server, so a Select Server license is required. The licensefile is called 'FlexiMap'. This is the old name of Geo Web Solutions. A Select Server license can be obtained by requesting the Service Desk of the Bentley Technical Support Group. Telephone: 008008 2368539 (008008 Bentley). E-mail: select.support.benelux@bentley.com.

In case of an old FlexiMap installation, the old license keys from pre-2.0 versions will continue to work, and in such case no Select Server license needs to be requested.

If Select Server is used, you will need to edit the FlexiMap.lic file in the Program Files\GeoWebSolutions\Bin directory. Replace the string '<SERVERNAME>' by the correct server name or IP address. This can be achieved with a text editor like NotePad.

Step 4 Authorize GWS in IIS (only Windows 2003)

The ISAPI DLL FlexiMap.dll needs to be authorized separately in Windows 2003. This needs to be done in the management console of IIS. Go to the Web Service Extensions (Fleximap.dll should be added here) and press the button "Allow".
In case GWS is not mentioned in the list, choose "Add a new Web service extension". Enter the following fields:

- Extension name: Geo Web Solutions;
- Required files: add C:\Inetpub\Scripts\FlexiMap.dll;
- Extension status: allowed (toggle checkbox on).

Step 5 Configure cache and log paths in GWS

By default the cache and log paths point to the subdirectories "Cache" and "Log" in the installation directory of GWS. The security / access settings of these directories (or the directories you choose as cache and log directory) need to be changed for the IUSR and IWAM users. **Please note that these (local) users need modify rights (read and write), to enable GWS to create cache files and to write to the log file.**
In the configuration XML file (located in the GWS-subdirectory "Config") the location of the cache directory and the log file can be edited. The default values point to C:\Program Files\GeoWebSolutions\Cache and C:\Program Files\GeoWebSolutions\Log\GeoWebSolutions.log.

Step 6 Reboot the computer

After modifying the rights on directories you need to reboot the computer to make sure the new rights are applied. During the installation the PATH-environment setting has also been altered (to add the directory with the dependencies of GWS). Experience learns that the best way to make sure the new settings are applied is by rebooting the computer. This is also the case when GWS has been installed before.

Step 7 Test the GWS application

Although at this point GWS is not yet fully configured, it is possible to check if GWS is functioning properly. By doing a test you can easily check if all the dependencies are present and if the log file is working properly.

Open the page *http://localhost/GeoWebSolutions/form.html* in a browser and select one of the options from the dropdownlist at the top of the page. GWS needs to return with a response (probably this response will be an XML error message) and the log file will have been created. (In the log file the last XML request can be found.) Note that the form is only available if you have installed the server tools.

Step 8 Configure GWS

Configure GWS to suit your needs. If you installed the documentation the file "GWS Administrator Guide.pdf" can be found in the GWS subdirectory "Documentation". In this document you can find instructions on how to work with the configuration file. Geo Web Solutions is delivered with an administrator program that can be used to create and maintain your configuration file. This GWSAdministrator is installed during the admin setup.

Implications of the installation

This section summarizes the changes made to the server after a Geo Web Solutions installation. These changes will be undone when you uninstall the application. If this is not the case, it will be noted during the uninstall process.

Files

The GeoWebSolutions directory in Program Files contains the following subdirectories:
- Bin: directory with dependencies for the ISAPI DLL;
- Cache: default cache-directory;
- Config: directory containing the configuration file GeoWebSolutions_demo.xml;
- Log: default log-directory;
- Meta: directory with XML-schema files used for validating the configuration file and the XML requests that GWS will handle;
- Documentation (optional): directory with documentation on GWS;
- Samples (optional): directory with sample requests, meant for third parties who want to integrate GWS into their websites;
- Tools (optional): directory containing some tools like the BGSLoader;
- Images (optional): directory meant for storing the images that will be used for drawing the redlined points in the GWS Flash client.

The Inetpub directory contains the following new files and directories:
- scripts: directory containing the ISAPI DLL, named FlexiMap.dll. This is the main engine for GWS;
- wwwroot: contains subdirectory "GeoWebSolutions" with some XML- and Flash-files (.swf) and an optional file named "form.html" that can be used to test the application. As a subdirectory you can also find the directory "Assets" containing some flash files. There is also a subdirectory "Images" which contains a single file.
- wwwroot\GeoWebSolutions\Flashtest (optional): contains a test web site of GWS.

The directory system32 <u>can</u> be expanded with the following files (already present files can be overwritten if they where older than the ones needed by GWS):
- msvcrt.dll;
- msvcp60.dll.

These files will NOT be removed or replaced during uninstall of GWS. The reason for this is that these files can be used by other application on the computer.

Registry

In the registry the following key is created: HKEY_LOCAL_MACHINE\Software\Bentley\FlexiMap. This key, including all content, will be removed when uninstalling the software, except if the old style license is used.

The installer also adds some information to the registry that is needed for correctly uninstalling the software. This information will also be removed when you uninstall the software.

Environment variables

The PATH variable has been expanded with the GWS-subdirectory "Bin". This directory will be removed from the PATH variable when uninstalling the software.

Usage of an Oracle client

If an Oracle client will be used by GWS, make sure that the IIS impersonation accounts have sufficient rights at the Oracle client libraries. If this is not the case, GWS will NOT be able to use any Oracle data source! An Oracle client will be used when the type of a database connection is "Oracle" or when the type is "ODBC" where the DSN points to an Oracle data source. The IIS impersonation accounts are IUSR_<machine> and IWAM_<machine>.

Configuration of the demo web site

The remainder of this document describes the configuration of the demo provided in the Geo Web Solutions installation package. The description assumes that the GWS files are installed in the default locations (see section "Installation").

Configuration of the demo

- Open GeoWebSolutions_demo.xml (see the Config subdirectory in the GWS installation directory) and apply the following alterations:
    - Adjust paths to connections (top of document): set to C:\GWSDemo\MDB (if you installed the demodata here);
    - Adjust paths to layers (bottom of document): set to C:\GWSDemo\BGS (if you installed the demodata here);
    - If the GWS configuration has been altered for other settings (like caching and/or logging), you need to alter these settings here also. *Note*: mind the security settings, if applicable;
- Open the registry and go to key \\HKLM\Software\Bentley\FlexiMap. Check whether the value for LocationXML points to GeoWebSolutions_demo.xml (including directory name). If this is not the case, change this;
- Check and edit security settings (read & write) for the MDB-directory for local users IUSR and IWAM.

Configuration of the map server

In the demo configuration file there are 2 services configured with both the same geographical area and dataset. The difference between demo and demo_layers are:

Service "*demo*" uses GWP to publish a DGN file "as is" (Geo Web Solutions uses GWPDGN as mapservertype for this service). There are no layers defined and it is not possible to turn on/off maplayers.
Service "*demo_layers*" uses GWP to publish a Mapdefinition file (Geo Web Solutions uses WMS as mapservertype for this service). In the mapdefnition there are 3 layers defined (one for each feature). These layers consist of iDpr data that has been created by converting the contents of demo.dgn. In this service the user can turn on/off each separate maplayer.

How to configure Bentley GWP is explained in the document for that application. Here is a brief summary of the steps that you need to peform to create the maps that will be used in GWS.

Live dgn publishing (service "**demo"**):
- Make sure that the Bentley Geo Web Publisher software is installed on your computer;

- In the GWP Administrator: add a logical path to the directory where demo.dgn is installed (c:\gwsdemo\dgn). Note that from GWP 08.05.02.xx onwards you define this logical path by adding a raster connection and pointing this to the dgn directory).
- Restart the Geo Web Publisher engine.

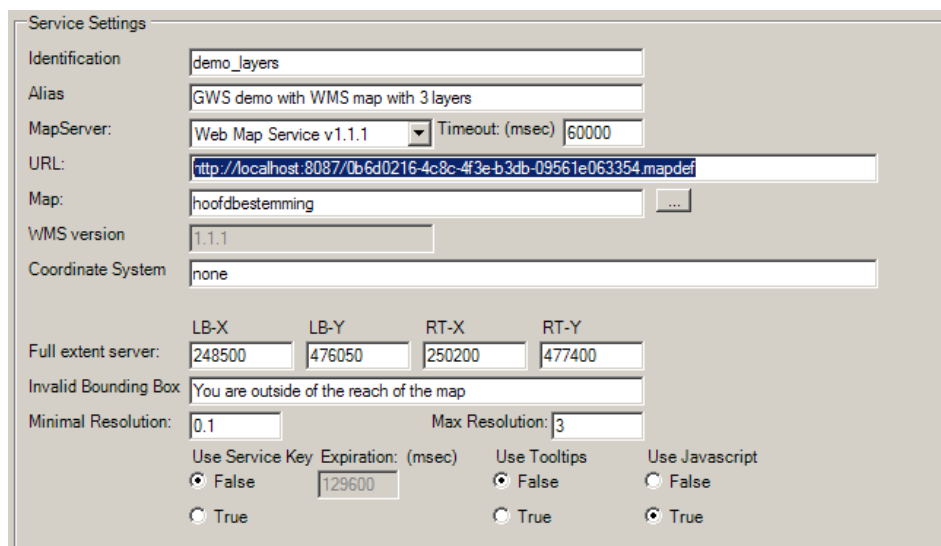You should now be able to query the dgn in your webbrowser:
http://localhost/GWSDemo/demo.dgn (GWP with pubextention listens at port 80)
http://localhost:8081/GWSDemo/demo.dgn (default portnumber 08.05.02.xx)
http://localhost:8087/GWSDemo/demo.dgn (default portnumber 08.09.02.xx)

Publishing a Mapdefinition using WMS (service "**demo_layers**"):
- Make sure that the Bentley Geo Web Publisher software is installed on your computer;
- In the GWP Administrator: add a iDPR connection to the directory with the idpr files (c:\gwsdemo\idpr). Add the 3 idpr files to the GWP configuration (create idpr graphical datasources) .
- Restart the GWP Engine.
- In the GWP MapAuthor: create a mapdefinition using the 3 idpr graphical datasources. Save this file.
- In the GWP Administrator you van now see what the unique ID (GUID) for this map is. Copy this id to use in the GWS config.
- Open the GWS Administrator and go to the general properties of the service demo_layers.
- Change the url for the mapserver to use the GUID from the map you just created (see image below).

You should now be able to query the mapdefinition in your webbrowser with a valid WMS request:
http://localhost/0b6d0216-4c8c-4f3e-b3db-
09561e063354.mapdef?LAYERS=hoofdbestemming&WIDTH=500&HEIGHT=334&BBOX=249251.40
0,476656.679,249526.800,476840.921&VERSION=1.1.1&REQUEST=GetMap&SERVICE=WMS&SR
S=none&FORMAT=image/png&STYLES=

Using the demo

You can check if the configuration works properly by opening the following page in your browser:
http://<servername>/GeoWebSolutions/form.html (<servername> stands for the IP-address of the GWS server). On this page you can execute all the available requests, like retrieving a map, attribute reports etc.
If this page returns no errors then you know that the configuration is valid. You can now start to use de flashtest/demo pages.

http://<servername>/GeoWebSolutions/flashtest/index.html: website to test the flash client and to test all the avaliable startparameters.

http://<servername>/GeoWebSolutions/flashtest/indexAPI.html: website to test the API for the flash client. This API can be used to interact between Flash and JavaScript.

The minimal requirement for the Flash player is: Macromedia Flash player 7.0.19.0. If the Flash player on the client has a lower version, the most recent version will be downloaded from the Macromedia/Adobe site, and subsequentially installed. The installation package also contains a setup for the Flash player (version 7), which can be used if it is not possible to download software from the internet.