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Intergraph GeoMedia WebMap WMS Adapter Kit

The GeoMedia WMS Adapter Kit provides a web interface to facilitate the creation of OGC WMS servers using GeoMedia WebMap.

The WebMap WMS Adapter Kit is used to generate OGC WMS version 1.1.0. The WMS created by this Adapter Kit will support three operations: `GetCapabilities`, `GetMap` and `GetFeatureInfo`, the first two of which are required of every WMS. The Kit allows the user to specify display rules (symbology and display range), service information, operations information, layers information etc.

The WMS creates a picture (image) of the data/layers requested. GeoMedia WebMap based WMS sites can supply images in the form of JPG and PNG. PNG allows for transparency and therefore enables several different layers to be displayed in a single viewer. You can become familiar with the kit by creating a WMS using the default dataset provided in the kit. The kit also provides instructions on how to customize the adapter kit in order to create WMS sites with other datasets.

Step 1: Preliminary Requirements

Note: If you download the latest hot fix to the product (available from the "WebMap Users Support" line available on same page), you will get any updates to the WMS Adapter Kit as well[1]. See the following URL:

```
http://www.Intergrraph.com/gis/support/GepMeddiaWebMap.asp
```

Note: It is recommended to read the User Experience section (Example 3) in Chapter 2 from Harvard University that outlines useful guidelines for installing and using the GeoMedia WebMap WMS Adapter Kit.

1. Create a virtual directory for the WMS. For example, when using a Microsoft IIS http server, under: `.{Drive}:\inetpub\wwwroot`. And, make a directory called `wms`.

2. Extract the WMS Kit zip file into the directory created in Step 1. The extracted files are:

- `global.asa` – used to store the physical path to the Cache folder used by GeoMedia WebMap

- `\USSample`

- `setup.asp` – the interface for creating the WMS

- `createCMDF.asp` – used by `setup.asp` to create the `Wmscmdf.cmdf` file for the WMS in the `.\Warehouses` folder

- `createCap.asp` – used by `setup.asp` to create the capabilities document, `capabilities.xml` in the .\Capabilities folder.

- `createStyles.asp` – used by `setup.asp` to create a style (`DisplayRule`) for each Layer in SLD format in the `.\Styles` folder, and also create the legend image (20x15pixels) for each style in the `.\Legends` folder

- `request.asp` – the asp file used to handle the client's request/response

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[1] *GeoMedia WebMap Users Support website:*
http://www.Intergrraph.com/gis/support/GepMeddiaWebMap.asp.

- coordinate systems files – the coordinate systems files supported by the WMS are located at `.\CSF` folder

- sample Dataset (`USSample.mdb`) – the USSample dataset is located in the `.\Warehouses` folder.

- `Legend.mdb` – used for creating Exception messages in image format and also for creating legend images in step 7. Do not move or modify the `legend.mdb` file.

3. Setup the website using Microsoft Internet Information Server (IIS) as in the following steps:

    a. Run Start>Settings>Control Panel > Administrative Tools>Internet Service Manager

    b. Create a New Virtual Directory on your Default Web Site with the following properties

        i. Alias: `wms`

        ii. Directory: the directory created in step 1

        iii. Properties: Read, Run Scripts

    c. Right click the virtual directory you just created and select Properties

        i. In the Application Settings frame, select Configuration

        ii. In the App Options tab, "Enable parent paths"

        iii. In the App Debugging tab, select/enable both debug options (after setup is successful, deselect both debug options)

    d. Click OK twice.

    e. Close IIS.

4. Edit the following variables in the global.asa file

Variable	Data Assigned
Cache	The physical path to the directory used for the GeoMedia WebMap cache.

Note: The files mentioned in the next steps are located in the `wms\USSample` directory.

5. Put all the coordinate system files (`.csf`) that your WMS must support in the folder `./CSF`. The naming rule of the CSF file is: if the CS file is `EPSG:4326`, then name the CS file `EPSG4326.csf`.

Some sample CSF files are delivered in the folder; you can add or remove files according to your needs. However, the file `EPSG4326.csf` is required by the WMS Adapter Kit, so it should not be removed.

6. Set permissions to allow the `IUSER_<YourNodeName>` (Internet Guest Account) to have Modify and Write permissions for the `wms/USSample` folder.

    a. Use the Windows File Explorer to locate the `wms/USSample` folder.

    b. Right click the USSample folder and choose Properties.

    c. Click the Security tab on the Properties dialog box.

    d. Click Add.

    e. Select <Your Computer Name> to list the accounts for your system.

f. Select the Internet Guest Account for your machine and set Permissions to allow Modify and Write.

This is to allow the interface set up process (setup.asp in step 7) to have sufficient permissions to the `wms/USSample` directory. To close this security hole, Step 10 will instruct you to roll back the security setting of the created WMS directory to be Read and Execute only.

Step 2: Creating your WMS using the GeoMedia WebMap WMS Adapter Kit

7. Enter the following URL in the address box of a Web browser and follow the instructions step-by-step on the interface to create your WMS:

```
http://{YourNodeName}/wms/USSample/setup.asp
```

The first step will create the file `WmsCmdf.cmdf` (Figure 29) for you. (If you will be using your own dataset, you will need to customize the createCMDF.asp (Figure 30) script. See the section below, which gives you more information about setting up your own dataset.
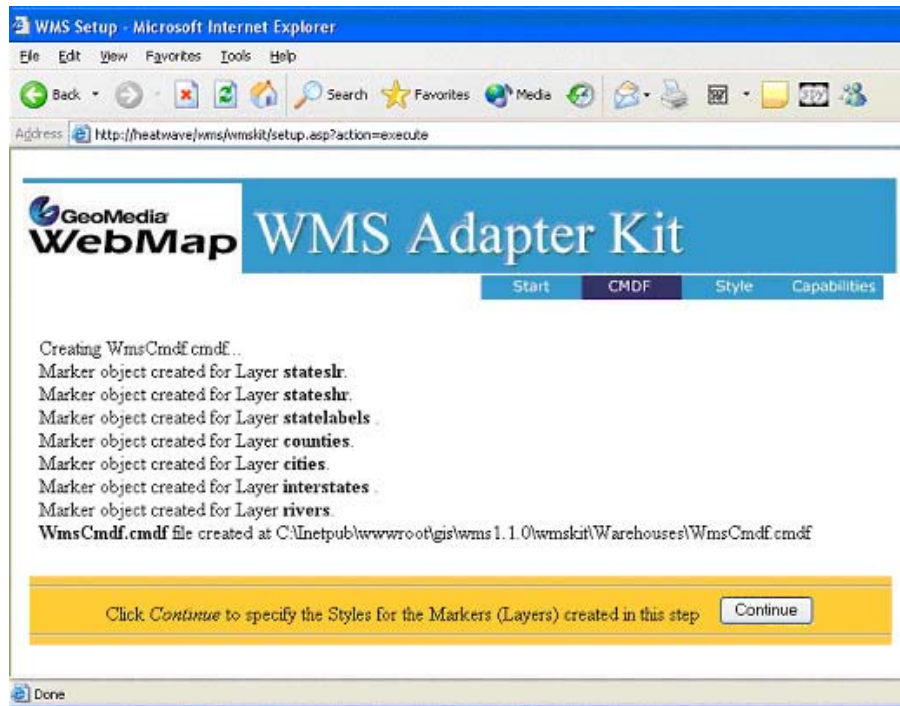

Figure 29:WmsCmdf.cmdf

Figure 30: CreateCMDF.asp Window

The second step (Figure 31 & 32) will create the file `WmsStyles.xml` in SLD (Styled Layer Descriptor) format for you. This file is used to store display Style (symbology) information (WebMap DisplayRules) for all the layers (WebMap Marker objects).
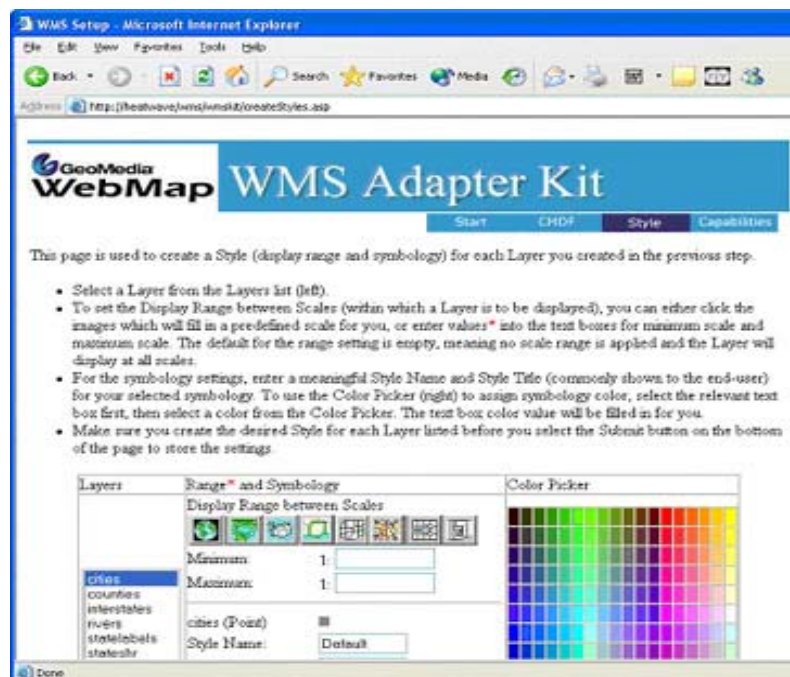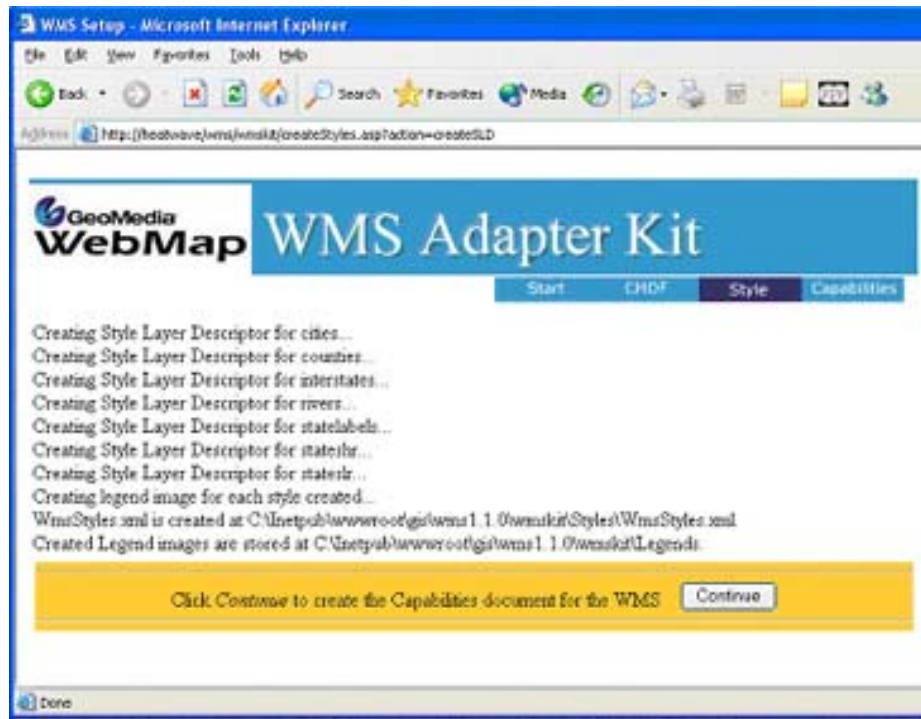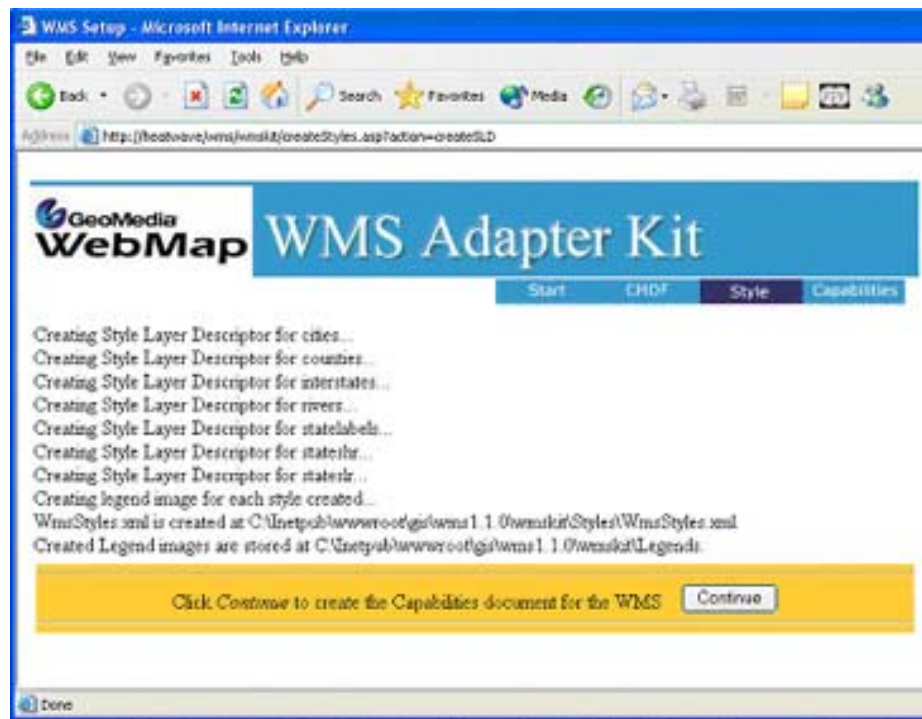

Figure 31: Style SLD

Figure 32: WmsStyles.xml Window

The third step will create the file `Capabilities.xml` for the WMS.
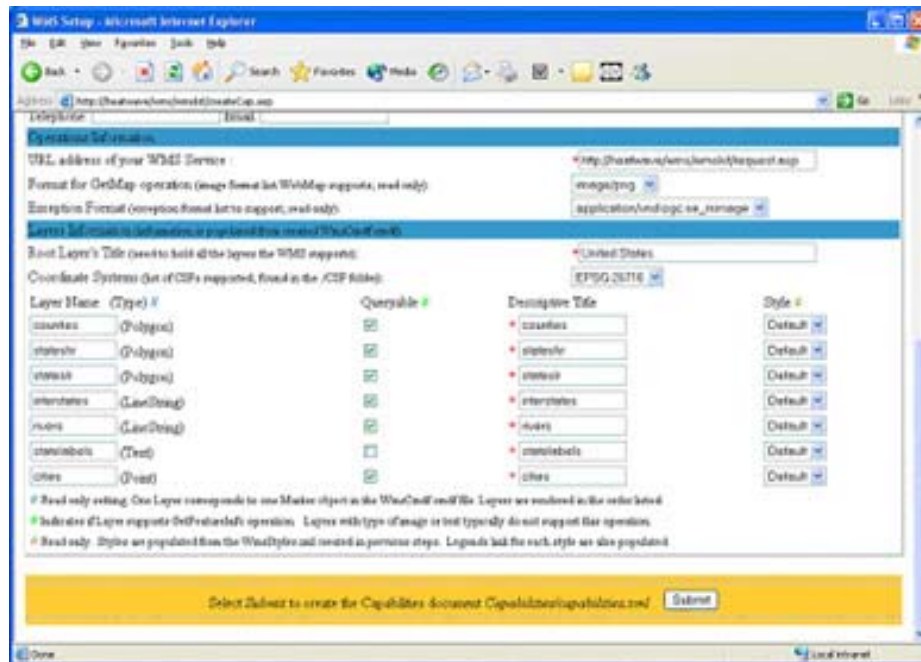

Figure 33: Capabilities.xml Window
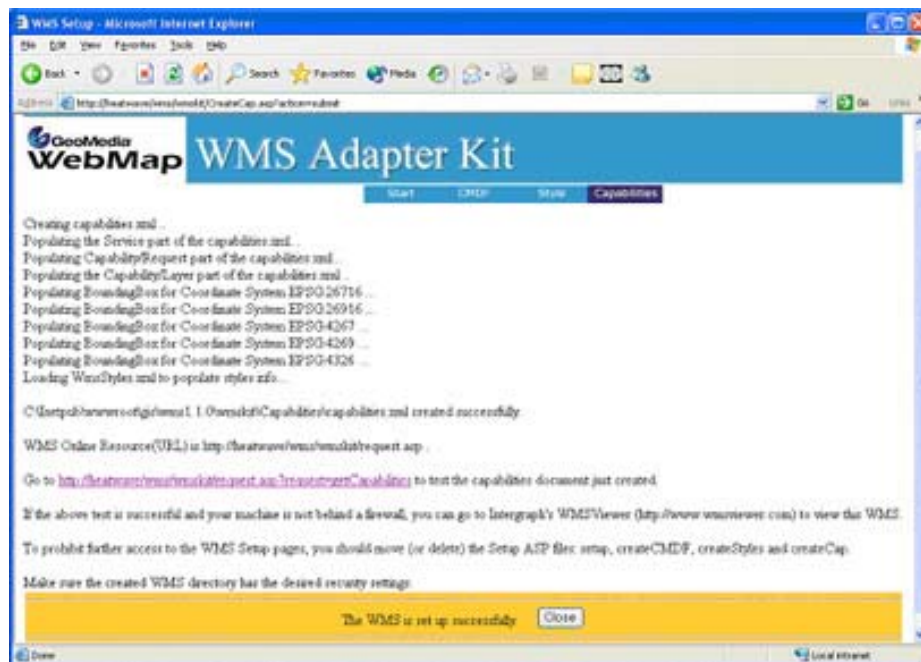
Figure 34: Capabilities.XML Window (Part 2)

Figure 35: Capabilities.XML Window (Part 3)

Step 3: Test your WMS Service

If your computer is available on the World Wide Web and is not behind a restrictive firewall, you can test your WMS setup by visiting the Intergraph WMS Viewer and adding your WMS URL as a Server:

1. Visit Intergraph's WMSViewer[2].

2. Select the Servers button on the left frame

3. Click Add New, enter your URL http://{YourDomain}/wms/USSample/Request.asp,

    and select OK.

Or, to test the default site (sample) locally, the following URLs can be entered in the a browser:

```
http://{YourNodeName}/wms/USSample/request.asp?REQUEST=capabiliti
es
```

or

```
http://{YourNodeName}/wms/USSample/request.asp?VERSION=1.1.0&
REQUEST=GetMap&BBOX=-125,20,-65,55&SRS=EPSG:4326&HEIGHT=467&
WIDTH=800&FORMAT=image/png&BGCOLOR=0xFFFFFF&LAYERS=stateslr,state
shr&
STYLES=White,White&TRANSPARENT=TRUE&
EXCEPTIONS=application/vnd.ogc.se_inimage
```

4. The files setup.asp, createCMDF.asp, createStyles.asp, and createCap.asp, which are only used in setup, may be moved to another location so they are not accessible from Web clients.

5. Roll back the security setting of the created WMS directory in Step 6 so Permissions are Read and Execute only.

6. Deselect the debug setting for the wms directory in the Internet Information Service Manager dialog box.

Setting Up Your Own Dataset

If you wish to create a new WMS with your own dataset, you only need to edit some parts of the createCMDF.asp file.

a) Follow these installation instructions through Step 6. Then, modify the createCMDF.asp to accommodate your own dataset. In general, you will need to connect to each dataset you want to support (no restriction on the physical location of the dataset), then, create a WebMap Marker (not Query) object for each layer you want to support for your WMS.

The sections of code you will need to modify or customize for your data are contained inside the commented areas marked as follows:

```
'@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
the code you need to modify appears here
'@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
```

b) Continue with the WMS Installation Instructions at step 7.

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[2] *Intergraph's WMSViewer at* http://www.wmsviewer.com