

Autodesk MapGuide® LiteView

autodesk®

Servlet Administrator's Guide

April 2004

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Introducing Autodesk MapGuide LiteView

Autodesk MapGuide® LiteView is a platform-independent viewing solution for Autodesk MapGuide maps. Deployed as a Java™ servlet, Autodesk MapGuide LiteView serves interactive maps to most browsers—map users don't have to download or install a plug-in viewer. This chapter includes general information about this guide and its audience.

1

In this chapter

- About this document
- Overview
- Where to get more information

About This Document

This guide describes how to install, configure, and administer the Autodesk MapGuide LiteView servlet. Written for system administrators, who install Autodesk MapGuide LiteView and manage the servlet operations, this guide covers the following topics:

- The servlet environment
- Installing and configuring the required software
- Installing the servlet
- Testing the servlet
- Setting values in the *config.ini* servlet configuration file
- Error logging and conditions
- Configuring application servers
- Using WMS Administrator

For information about developing Autodesk MapGuide LiteView applications and using the sample applications that come with Autodesk MapGuide LiteView, refer to the *Autodesk MapGuide LiteView Developer's Guide*. To open that guide from the Windows desktop, choose Start ► Programs ► Autodesk MapGuide Release 6.5 ► LiteView 6.5 ► Developer's Guide.

To get the most benefit from this guide, you need expertise in Web-server administration and experience using a Web application server.

In this document, Autodesk MapGuide LiteView is assumed to be installed in the default folder, *C:\Program Files\Autodesk\MapGuideLiteView6.5*, sometimes abbreviated to *<InstallFolder>*.

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To copy text from a PDF file

- 1 Click the Text Select tool on the Acrobat Reader toolbar.
- 2 Drag to select the text that you want to copy.
- 3 Right-click the selected text, and then choose Copy from the shortcut menu.

The text is copied to the Clipboard.

Useful Terms and Acronyms

This document uses the following terms and acronyms:

Terms and Acronyms

Acronym	Full Name	Description
DTD	Document Type Definition	The definition of the legal building blocks of an XML document that defines the document structure with a list of valid elements.
JDK	Java Development Kit	A free software-development environment for producing Java programs.
JMC	JRun Management Console	A browser-based tool that lets you configure JRun.
JPEG	Joint Photographic Experts Group	A widely support lossy compression technique for color images. Although it can reduce files sizes to about 5% of their normal size, some detail is lost in the compression.
JRE	Java Runtime Environment	The smallest set of executables and files that make up the standard Java platform.
JVM	Java Virtual Machine	An operating environment, specific to the host computer, on which you run Java applications.

Terms and Acronyms (continued)

Acronym	Full Name	Description
	Java servlets	Direct extensions to a Web server that are written in Java. Java servlets are Java objects that are loaded dynamically by the Java Runtime Environment (JRE) when the Web server is started, or when the servlet is first called. Servlets are loaded only once and normally remain in memory for as long as their host server is running; this is a low overhead operation that promotes a high throughput.
MWF	Map Window File	The Autodesk MapGuide native file format.
OGC	Open GIS Consortium, Inc.	OGC (http://www.opengis.org) is an international industry consortium of companies, government agencies and universities participating in a consensus process to develop publicly available geoprocessing specifications. Open interfaces and protocols defined by OpenGIS Specifications support interoperable solutions that “geo-enable” the Web, wireless and location-based services, and mainstream IT, and let technology developers make spatial information and services accessible and useful with all kinds of applications.
PNG	Portable Network Graphics	A widely supported bit-mapped (lossless) graphics format similar to GIF. You can find a comparison of PNG and JPEG files at http://www.webopedia.com/DidYouKnow/Internet/2002/JPG_GIF_PNG.asp .

Terms and Acronyms (continued)

Acronym	Full Name	Description
SP	Service Pack	A patch for operating systems and software that is provided by the publisher and often listed by other software packages as a requirement for use with that software.
WMS	Web Map Service	The OpenGIS Web Map Service (WMS) 1.1.1 implementation specification is an open standard that describes how to produce and share georeferenced maps on the Web. This specification, available at http://www.opengis.org/techno/specs/01-068r3.pdf , defines three WMS request operations: <i>GetCapabilities</i> returns service-level metadata, which is a description of the service's information content and acceptable request parameters; <i>GetMap</i> returns a map image whose geospatial and dimensional parameters are well defined; <i>GetFeatureInfo</i> returns information about particular features shown on a map. The specification also defines a URL syntax to invoke each of these operations, and an XML encoding for service-level metadata.
XML	eXtensible Markup Language	A standard syntax developed by the World Wide Web Consortium (W3C) for describing and structuring data that is independent from the application logic.

Overview

Autodesk MapGuide LiteView extends the capabilities of Autodesk MapGuide to display maps quickly in a browser without the need for a special plug-in viewer. Autodesk MapGuide LiteView is a *servlet*—that is, a Java program that runs on a server—that provides lightweight (fast, efficient, and installation-free) viewing.

Autodesk MapGuide LiteView converts MWF files to PNG or JPEG files for display in Microsoft Internet Explorer, Netscape Navigator, or any browser that supports the PNG or JPEG format. A Web application that sends a request to the Autodesk MapGuide LiteView servlet to convert an MWF file to a PNG or JPEG file receives the converted image in the response.

Autodesk MapGuide LiteView understands all the enhancements to the Autodesk MapGuide MWF file format, and supports all coordinate systems in which an MWF file can be authored. Autodesk MapGuide LiteView supports GetCapabilities, GetMap, and GetFeatureInfo requests to comply with the OpenGIS Web Map Service (WMS) 1.1.1 implementation specification. You must register maps by using Autodesk MapGuide LiteView's WMS Administrator tool before making WMS 1.1.1 requests.

Where to Get More Information

You can find MapGuide developer resources at the Autodesk MapGuide Web site at www.autodesk.com/mapguide. This site provides many examples of demo and actual customer applications that were developed with MapGuide. You also will find links to other resources, such as Autodesk MapGuide Viewer API Help, API examples, general product documentation, and discussion groups.

Note The Autodesk MapGuide Viewer API is not used to develop Autodesk MapGuide LiteView applications.

Installing Autodesk MapGuide LiteView

This chapter lists Autodesk MapGuide® LiteView's system requirements, and describes how to install and test Autodesk MapGuide LiteView and related software.

2

In this chapter

- System requirements
- Network configuration
- Installation procedure
- Testing the Autodesk MapGuide LiteView installation

System Requirements

To install and run Autodesk MapGuide LiteView, you will need:

Server

- Intel® Pentium®-based PC
- Microsoft Windows NT 4.0 Server (Service Pack 6a), Microsoft Windows 2000 Server (Service Pack 4), or Microsoft Windows 2003 Server
- 128 MB RAM
- 25 MB free disk space
- 20 MB swap space
- 800x600 VGA display
- Mouse or other pointing device
- Autodesk MapGuide Release 6.5 Server (installed locally or on another machine)
- Apache Tomcat 3.3.1a (or other third-party application server)
- Sun Java Development Kit (JDK) 1.3.1 or 1.4.x

Note Apache Tomcat 3.3.1a and JDK 1.3.1 are included with the Autodesk MapGuide LiteView distribution. If selected during installation, the Autodesk MapGuide LiteView Setup program will install them (requiring an additional 55 MB of disk space).

Client Browser for WMS Administrator

- Netscape Navigator 4.x
- Microsoft Internet Explorer 5.x, 6x
- Other browsers that support JavaScript

Client Browser for Viewing Maps

- Netscape Navigator 4.x
- Microsoft Internet Explorer 5.x, 6x
- Other browsers that support PNG or JPEG image display and the XML 1.0 specification

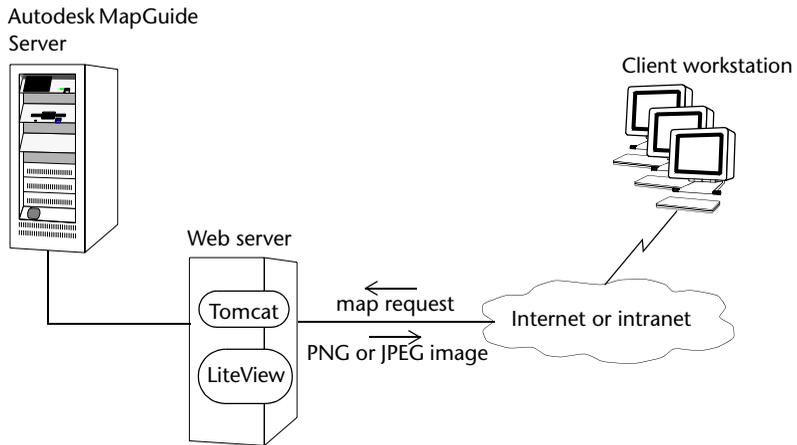
Before You Install

The following software is *not* included with the Autodesk MapGuide LiteView distribution, and must be installed before Autodesk MapGuide LiteView is installed:

- Autodesk MapGuide Release 6.5 Server
- Macromedia ColdFusion (to run the ColdFusion sample application)

Network Configuration

You can install the Web server and Autodesk MapGuide server on the same computer or on different computers on your network. You can install Apache Tomcat (or other application server) on the Web server computer or on another computer. You must install Autodesk MapGuide LiteView on the same computer as the application server. The following network diagram shows a typical configuration.



The software and files required by Autodesk MapGuide LiteView usually are used as described in the following table. This document emphasizes Web-server portion of the environment.

Computer	Required Software and Files
Map server	Autodesk MapGuide Server MWF files
Client workstation	Windows 98, Me, NT, 2000, or XP Mac OS X PNG- or JPEG-compatible browser
Web server	Autodesk MapGuide MapAgent IIS, Netscape, or iPlanet Web server Apache Tomcat or other application server JRE Autodesk MapGuide LiteView Web pages

Installation Procedure

Autodesk MapGuide LiteView is distributed on its own installation CD-ROM or is available via Web download.

To install Autodesk MapGuide LiteView

- 1 Log on with administrative privileges.
- 2 Close all open applications.
- 3 Run LiteViewSetup.exe
or
If you have downloaded the Autodesk MapGuide LiteView distribution file (*mgliteview65.exe*) from the Autodesk Web site, double-click the file.
- 4 On the Setup wizard Welcome page, click Next.
- 5 If the Software License Agreement page appears, review the license, select I Accept, and then click Next.
- 6 On the Configure Application Server page, select one of the following configuration options, and then click Next.
 - *Apache Tomcat 3.3.1a*. Setup installs and automatically configures a clean copy of the Apache Tomcat 3.3.1a application server (along with JDK 1.3.1).

- *Existing Apache Tomcat 3.3.1a.* Setup checks for an existing Autodesk MapGuide LiteView installation and, if found, determines whether it is using Tomcat and, if so, configures the new copy of Autodesk MapGuide LiteView to work with the existing Tomcat server.
 - *Manual Setup.* Setup neither installs Apache Tomcat (or JDK) nor automatically configures Autodesk MapGuide LiteView to work with an existing server. You must configure your server manually after installation; see Chapter 5, “Configuring Application Servers” on page 45.
- 7 On the Select Installation Directory page, accept the default installation directory (*C:\Program Files\Autodesk\MapGuideLiteView6.5*) or specify a different one. Click Next.
 - 8 On the Set Configuration Parameters page, specify the locations (pathnames) for Autodesk MapGuide LiteView to search for MWF files. Also, type a branding message (typically either blank or a copyright symbol, year, and organization name) to appear at the lower-left corner of all Autodesk MapGuide LiteView maps generated with a `REQUEST=map` request. Click Next.
 - 9 On the Ready to Install the Application page, click Next.
 - 10 When installation completes, click Finish to exit Setup.

Installation notes

- After Setup completes, Autodesk MapGuide LiteView tools, commands, and documentation are available via the menu Start ► Programs ► Autodesk MapGuide Release 6.5 ► LiteView 6.5.
- To test the installation, see “Testing the Autodesk MapGuide LiteView Installation” later in this chapter.
- To change Autodesk MapGuide LiteView’s configuration settings (such as the MWF search path) manually after installation, see Chapter 3.
- By default, Apache Tomcat 3.3.1a runs in a console window. To run Tomcat as a Windows service, see “Running Apache Tomcat as a Windows Service” on page 66.
- Setup does not migrate settings from a previous major release of Autodesk MapGuide LiteView.
- Setup won’t overwrite an existing configuration file (*config.ini*) if that file is newer than Setup’s own distribution copy.

To uninstall Autodesk MapGuide LiteView

- 1 Stop the application server and close all Autodesk MapGuide LiteView-related applications.

- 2 On the Windows desktop, choose Start ► Settings ► Control Panel.
- 3 Double-click Add/Remove Programs.
- 4 In the Currently Installed Programs list, select Autodesk MapGuide LiteView 6.5
- 5 Click Remove.
- 6 Follow the onscreen instructions.

Note To repair an Autodesk MapGuide LiteView installation, follow steps 1 through 4 above, and then click Change in step 5. Select Repair Files on Setup's Welcome page, click Next, and then follow the onscreen instructions.

Testing the Autodesk MapGuide LiteView Installation

The following procedure assumes that you are using the Apache Tomcat application server to test the Autodesk MapGuide LiteView installation.

To test the Autodesk MapGuide LiteView installation

- 1 If Apache Tomcat isn't running, start it.
To start Tomcat, choose Start ► Programs ► Autodesk MapGuide Release 6.5 ► LiteView 6.5 ► Start Apache Tomcat.

- 2 In a browser, open the Autodesk MapGuide LiteView Test page; its default location is:

C:\Program Files\Autodesk\MapGuideLiteView6.5\TestInstallation.html

- 3 The test-page settings are preset to use the Tomcat server and display the full extents of the *Sample_World.mwf* map that comes with Autodesk MapGuide LiteView. The Tomcat option uses the servlet host:

`http://localhost:8080/liteview6.5/servlet/MapGuideLiteView.`

Note The port number (8080) and URL used in this example may differ for your installation. To determine which port number to use, open the file

C:\Program Files\Autodesk\MapGuideLiteView6.5\jakarta-tomcat-3.3.1a\conf\server.xml and inspect the following entry for the port number:
`<Http10Connector port="8080" secure="false" maxThreads="100" maxSpareThreads="50" minSpareThreads="10" />`

- 4 Click the Click for Map button, and then click OK in the map-request message box that appears.

If the Sample_World map appears, Tomcat is configured correctly to work with Autodesk MapGuide LiteView. If the map doesn't appear, click the troubleshooting link next to the Click for Map button.

Testing Notes

- In step 3, if you select the Others server option, the field changes to a URL template for you to edit. If you're not using the Tomcat, see Chapter 5, "Configuring Application Servers" on page 45.
- To register your own maps for display, use WMS Administrator. See Chapter 6, "Working with the WMS Administrator Tool" on page 85.
- To test Autodesk MapGuide LiteView's WMS feature, use the WMS Viewer sample application. Start the application server and visit <http://localhost:8080/wmsviewer6.5> in a browser. If the Sample_World map self-loads a few seconds after WMS Viewer appears, the WMS feature is working properly. For information about WMS Viewer, see Chapter 4, "Configuring and Using the Sample Applications," in the *Autodesk MapGuide LiteView Developer's Guide*.
- By default, Apache Tomcat runs in a console window. To run Tomcat as a Windows service, see the HOWTO document "Working with the Jakarta NT Service" in `C:\Program Files\Autodesk\MapGuideLiteView6.5\jakarta-tomcat-3.3.1a\webapps\ROOT\doc\NT-Service-howto.html`.

Configuring Autodesk MapGuide LiteView

This chapter describes the Autodesk MapGuide® LiteView configuration parameters that you can specify in the file *config.ini* to control Autodesk MapGuide LiteView's behavior.

3

In this chapter

- Overview
- Setting parameters in the *config.ini* file
- Security
- Using Autodesk MapGuide LiteView with OnSite Enterprise

Overview

During initialization, Autodesk MapGuide LiteView reads the configuration file *config.ini* and uses its *parameter* settings to customize a particular session. Some of these parameters are required, whereas others are optional. The default *config.ini* file that is installed with Autodesk MapGuide LiteView contains typical parameter settings. After installation, you can change the default settings or add other parameters by editing *config.ini* in any text editor. If a parameter is missing from *config.ini*, Autodesk MapGuide LiteView uses the parameter's default value. See "Setting Other Parameters" on page 19.

The most important parameter, *MWFSearchPath*, points to directories that contain MWF files. If no *MWFSearchPath* is specified, the Autodesk MapGuide LiteView server won't start. In most cases, little or no configuration beyond modifying *MWFSearchPath* is needed to run Autodesk MapGuide LiteView. During installation, you may have specified path names for Autodesk MapGuide LiteView Setup add to *MWFSearchPath*, but you can add additional path names or edit existing ones at any time. See "Setting the *MWFSearchPath* Parameter" on page 17.

Note Autodesk MapGuide LiteView initialization occurs only once during startup. Restart the application server after you change *config.ini*.

Setting Parameters in the *config.ini* File

config.ini is a text file that uses the same format as a standard Windows initialization file. A pound symbol (#) starts a comment, which continues to the end of the line. A parameter setting takes the form *name=value*, in which *name* is a parameter name and *value* is its assigned value. A parameter name is case-insensitive, meaning that *MyParam* and *myparam* are considered to be the same name. The default location of *config.ini* is:

```
C:\Program Files\Autodesk\MapGuideLiteView6.5\liteview\WEB-INF\IniFile\config.ini
```

The following listing shows the default *config.ini* file:

```
#config.ini
# Set the maximum number of independent connections to
# map servers.
MaxPoolSize=2

#
# Set the interval, in minutes, to wait before closing an
```

```

# idle JavaEdition instance.
MaxIdleBeforeClose=30

#
# Specify the search path used to locate MWF files.
# Specify regular file pathnames or UNC's (not URLs).
MWFSearchPath=${MWFSEARCHPATH}

#
# Set the branding message that appears on maps generated
# with map (but not GetMap) requests.
BrandTextMessage=${BRANDTEXTMESSAGE}

#
# Set the maximum number of MWFs to process at any given time.
# Increasing this number can improve performance
# but may cause java.lang.OutOfMemory errors.
NoOfMwfsToProcess=1

#
# Set the coordinate-system mapping from ADSK:xxxx to EPSG.
ADSK\LL84=EPSG\4326

#
# Determine whether request-parameter values are case-sensitive
# (except for the LAYERS and STYLES parameter values).
# 0 - Ignore case (GetCapabilities is equivalent to GetCapabilities)
# 1 - Respect case (GetCapabilities is invalid)
EnforceCaseSensitivity=0

#
# Set the quality of LiteView-generated PNG and JPEG map images.
# 0 - Lower-quality image, smaller file size, no transparency.
# 1 - Higher-quality image, larger file size, supports transparency.
ApplyImageFilter=0

#
# Set the compression level of LiteView-generated PNG map images
# to an integer between 1 (minimal compression, higher-quality
# image, larger file size) and 9 (maximum compression,
# lower-quality image, smaller file size), inclusive.
ApplyPngCompression=9

#
# Set the quality level of LiteView-generated JPEG map images
# to a floating-point number greater than 0.0 (lower-quality image,
# smaller file size) and less than or equal to 1.0 (higher-quality
# image, larger file size).
JpegQuality=0.50

```

Setting the MWFSearchPath Parameter

For Autodesk MapGuide LiteView to be able to find MWF files that are referenced by map requests, the value of MWFSearchPath must contain the files'

Setting Other Parameters

Usually, MWFSearchPath is the only configuration parameter that you'll need to change to run Autodesk MapGuide LiteView properly, but you have several other parameters, described here, that you can add or edit to change Autodesk MapGuide LiteView's default behavior to suit your needs. If a parameter isn't specified in *config.ini*, its default value is used.

ADSK\:xxxx=EPSG\:xxxx

Optional. Defines the SRS coordinate-system mapping from a (MapGuide-specific) ADSK system to an (OpenGIS standard) EPSG system.

SRS values in the capabilities document and request parameters are advertised and specified using the ADSK name space. The EPSG name space also is supported, but only for MWF files authored in the Latitude/Longitude WGS84 coordinate system. WGS84 corresponds directly to the EPSG:4326 coordinate system. For WGS84 MWF files, the capabilities document will advertise EPSG:4326 coordinate system. By default, only EPSG:4326 is mapped to ADSK:LL84, although you can add more if necessary. If you overwrite the SRS value, this new value is advertised by the <SRS> tag in the capabilities XML document.

Default Value

ADSK\;LL84=EPSG\;4326

ApplyImageFilter

Optional. Sets the quality of Autodesk MapGuide LiteView-generated PNG and JPEG map images. Applying this filter increases the quality of images at the cost of increased file sizes. Higher-quality images support transparency; lower-quality images don't.

Note If you specify a lower-quality image, but set TRANSPARENT to TRUE (TRANSPARENT=TRUE) for a layer, the lower-quality image is automatically replaced with a higher-quality image for the particular request.

For information about how to adjust this parameter to improve Autodesk MapGuide LiteView performance, see "ApplyImageFilter, ApplyPngCompression, and JpegQuality" on page 84

Default Value

0 (lower-quality image)

Data Types/Ranges

The integer 0 (lower-quality image, smaller file size, no transparency) or 1 (higher-quality image, larger file size, supports transparency).

Example

```
ApplyImageFilter=0
```

ApplyPngCompression

Optional. Sets the compression level of Autodesk MapGuide LiteView-generated PNG map images. Compressing an image yields a smaller file size at the cost of decreased image quality.

Note For information about how to adjust this parameter to improve Autodesk MapGuide LiteView performance, see “ApplyImageFilter, ApplyPngCompression, and JpegQuality” on page 84.

Default Value

9 (maximum compression)

Data Types/Ranges

An integer between 1 (minimal compression, higher-quality image, larger file size) and 9 (maximum compression, lower-quality image, smaller file size), inclusive.

Example

```
ApplyPngCompression=9
```

BrandShowSolidBackground

Optional. Enables or disables the display of a solid-color rectangle behind the branding message. Use BrandTextBackground to set the color of this rectangle.

This parameter applies only to maps generated with a REQUEST=map request; it doesn't apply to REQUEST=GetMap maps.

Default Value

On (show background)

Data Types/Ranges

The case-insensitive string On (to show the background) or Off (to hide it).

Example

```
BrandShowSolidBackground=On
```

BrandTextBackground

Optional. Sets the color of the branding message's background. This color also is used for the solid background shown behind the branding-message text (if enabled with BrandShowSolidBackground).

This parameter applies only to maps generated with a REQUEST=map request; it doesn't apply to REQUEST=GetMap maps.

Default Value

#FFFFFF (white)

Data Types/Ranges

A seven-character string #rrggbb that represents an HTML RGB color code, where rr is the red value, gg is the green value, and bb is the blue value. Each color value is a hexadecimal number between 00 and FF, inclusive.

Example

```
BrandTextBackground=#FFFFFF
```

BrandTextFont

Optional. Sets the font name, style, and point size of the branding message's text.

This parameter applies only to maps generated with a REQUEST=map request; it doesn't apply to REQUEST=GetMap maps.

Default Value

SansSerif-PLAIN-12

Data Types/Ranges

A string that takes one of the following forms:

- *fontname-style-pointsize*
- *fontname-pointsize*

- *fontname-style*
- *fontname*

fontname is the (case-insensitive) name of the font family, whose legal values depends on your system configuration. Serif, SansSerif (the default), and Mono generally are available.

style is the (case-insensitive) name of the text style: PLAIN (the default), BOLD, BOLDITALIC, or ITALIC.

pointsize is the size of the font in points (the default is 12).

Example

```
BrandTextFont=SansSerif-PLAIN-12
```

BrandTextForeground

Optional. Sets the color of the branding message's text.

This parameter applies only to maps generated with a `REQUEST=map` request; it doesn't apply to `REQUEST=GetMap` maps.

Default Value

#000000 (black)

Data Types/Ranges

A seven-character string `#rrggbb` that represents an HTML RGB color code, where *rr* is the red value, *gg* is the green value, and *bb* is the blue value. Each color value is a hexadecimal number between 00 and FF, inclusive.

Example

```
BrandTextForeground=#000000
```

BrandTextMessage

Required. Sets the branding message that appears at the lower-left corner of all Autodesk MapGuide LiteView maps generated with a `REQUEST=map` request. This message typically is either blank or a copyright symbol, year, and organization name.

The branding message does not appear in maps generated with a `REQUEST=GetMap` request.

To include a Unicode character in the message, use the ASCII escape sequence `\uxxxx`, where *xxxx* is a hexadecimal number.

Default Value

Specified by the user during Autodesk MapGuide LiteView installation. For example: (c) 2003 MyOrganization. All Rights Reserved.

Data Types/Ranges

A string of unlimited length. Fewer than 100 characters are recommended.

Examples

```
BrandTextMessage=(c) 2003 Acme Inc. All rights reserved.
```

The following example sets BrandTextMessage to the Unicode equivalent of (c) Hello:

```
BrandTextMessage=(c) \u0048\u0065\u006C\u006C\u006F
```

EnforceCaseSensitivity

Optional. Determines whether request-parameter values are case-sensitive. (Request-parameter *names* always are case-insensitive).

Default Value

0 (case-insensitive)

Data Types/Ranges

0 (zero) makes the Autodesk MapGuide LiteView server ignore the case of request-parameter values.

1 (or any positive value) makes the Autodesk MapGuide LiteView server check that request-parameter values are case-sensitive. Use this setting to comply with the OpenGIS Web Map Service 1.1.1 implementation specification section 6.4, "Request Parameter Rules".

Note This setting does not apply to the LAYERS and STYLES request-parameters because Autodesk MapGuide considers differently cased layer or style names to be distinct.

Examples

```
EnforceCaseSensitivity=0
```

FeatureInfoDTD

Optional. Sets the name and location (URL or pathname) of the OpenGIS GML Feature DTD (document type definition). The XML processor uses this

DTD to validate XML from the servlet. The DOCTYPE tag of the GML response returned by the GetFeatureInfo or feature_info request uses this DTD. The ColdFusion sample application includes a copy of gmlfeature.dtd, which you can use if the Open GIS Consortium Web site is unavailable.

Default Value

The default DTD is:

```
http://<server_name>:<port#>/<context_path>/gmlfeature.dtd.
```

For example, The default DTD is:

```
http://localhost:8080/liteview6.5/gmlfeature.dtd.
```

Examples

The following example sets the DTD to a Web-based file:

```
FeatureInfoDTD=http://schemas.opengis.net/gml/1.0.0/gmlfeature.dtd
```

The following example sets the DTD to a local file (note that *config.ini* requires double backslashes):

```
FeatureInfoDTD=C:\\Program Files\\Autodesk\\  
MapGuideLiteView6.5\\SampleApp\\gmlfeature.dtd
```

FeatureInfoStyleSheet

Optional. Sets the name and location of the extensible stylesheet language (XSL) file that is used to format the HTML (text/html) output of GetFeatureInfo requests. By default, Autodesk MapGuide LiteView uses the XSL file *FeatureInfo.xsl*, located in the same directory as *config.ini*. To modify the HTML output, edit *FeatureInfo.xsl* or create your own XSL file and designate it with FeatureInfoStyleSheet. If you specify a file name without a path, Autodesk MapGuide LiteView assumes that the XSL file resides in the same directory as *config.ini*. If you place your XSL file in a subdirectory of the *config.ini* directory, include a relative path. (You can't specify an absolute path or URL.)

Default Value

FeatureInfo.xsl

Data Types/Ranges

A string of unlimited length.

Examples

```
FeatureInfoStyleSheet=FeatureInfo.xsl
```

GetCapabilitiesDTD

Optional. Sets the name and location of the document type definition (DTD) that is used for capabilities XML documents.

Default Value

The default value if Apache Tomcat is used with the *liteview6.5* servlet context path is:

```
http://<server_name>:<port#>/liteview6.5/capabilities_1_1_1.dtd
```

The default value changes dynamically if any other application server or context path is used. If JRun is used instead of Tomcat, for example, the default value is:

```
http://<server_name>:<port#>/capabilities_1_1_1.dtd
```

If you don't want this value to change dynamically, specify a constant value for the GetCapabilitiesDTD parameter in *config.ini*.

Data Types/Ranges

The URL (string) of the capabilities DTD.

In most cases, you won't need to change the default DTD, *capabilities_1_1_1.dtd*, that's installed by Autodesk MapGuide LiteView Setup. If you don't want to use the installed DTD, however, use GetCapabilitiesDTD to point to a DTD that resides at another location or Web server.

Example

```
GetCapabilitiesDTD=http://localhost:8080/liteview6.5/capabilities_1_1_1.dtd
```

HLS1, HLS2, HLS3, HLS4

Optional. Defines the highlighting style that is used for line segments. You can specify up to four predefined styles.

Default Value

3,8,SOLID,TRUE (a solid line, 8 units thick, dark gray (color 3), inverted)

Data Types/Ranges

A string that takes the following form:

line_color,line_thickness,line_style,invert_mode

line_color is an integer between 1 and 256, inclusive. Colors are defined in the Polyline Style dialog box in Autodesk MapGuide Author.

line_thickness is an integer greater than or equal to one (higher numbers yield thicker lines). Line-thickness definitions are available in the Polyline Style dialog box in Autodesk MapGuide Author.

line_style is a name (a case-insensitive string) of an Autodesk line style, such as SOLID, DOT, or DOT2. Line-style definitions are available in the Polyline Style dialog box in Autodesk MapGuide Author.

invert_mode is TRUE or FALSE (case-insensitive). TRUE causes drawing in an XOR fashion: white pixels are turned black, black pixels are turned white, and other colors are reversed. FALSE causes the line to be drawn in the specified color, regardless of the background color.

Examples

```
HLS1=3, 8, SOLID, TRUE
```

```
HLS2=51, 6, DOT, FALSE
```

IgnoreInvalidSelectId

Optional. Sets the flag to ignore invalid feature IDs in SELECT parameter of MAP/GETMAP request.

Note If this value is set to 0, the server might throw an exception in case of invalid feature IDs in a SELECT parameter.

Default Value

1

Data Types/Ranges

An integer, either 1 or 0. Anything other than 1 is treated as zero.

Example

```
IgnoreInvalidSelectId=0
```

JpegQuality

Optional. Sets the quality level of Autodesk MapGuide LiteView-generated JPEG map images. A lower quality level yields a smaller file size at the cost of decreased image detail.

Note For information about how to adjust this parameter to improve Autodesk MapGuide LiteView performance, see “ApplyImageFilter, ApplyPngCompression, and JpegQuality” on page 84.

Default Value

0.5 (medium quality)

Data Types/Ranges

A floating-point number greater than 0.0 (lower-quality image, smaller file size) and less than or equal to 1.0 (higher-quality image, larger file size). A value less than 0.25 usually causes a perceptible loss of detail. A value of 0.75 or greater yields high-quality images. An invalid or out-of-range value causes the default value to be used.

Example

```
JpegQuality=0.5
```

MaxIdleBeforeClose

Optional. Sets the interval, in minutes, to wait before closing an idle independent connection.

Default Value

30 (minutes)

Data Types/Ranges

An integer between 0 and 35791, inclusive. Specify zero to never close an idle connection automatically.

Example

```
MaxIdleBeforeClose=30
```

MaxImageSize

Optional. Sets the maximum value, in pixels, of the requested map's WIDTH and HEIGHT.

Default Value

2048 (pixels)

Data Types/Ranges

An integer greater than or equal to 16. A maximum value of 2048 pixels is recommended.

Note The maximum image size supported by a particular server installation depends on the amount of memory available on that server.

Example

```
MaxImageSize=2048
```

MaxPoolSize

Required. Sets the maximum number of independent connections to map servers.

Note For information about how to adjust this parameter to improve Autodesk MapGuide LiteView performance, see “MaxPoolSize” on page 82.

Default Value

2

Data Types/Ranges

An integer between 1 and 2147483647, inclusive. A maximum of 32 connections is recommended.

This value affects the number of requests processed in parallel. Large numbers of requests are added to a FIFO (first-in, first-out) queue.

Note In previous Autodesk MapGuide LiteView versions, the default value was -1 (permitting an unlimited number of connections). Now, if -1 is specified, it is converted silently to 2.

MWFSearchPath

Required. Specifies the locations (path names) where the servlet searches for MWF files. Separate multiple pathnames with semicolons (;). For detailed information, see “Setting the MWFSearchPath Parameter” on page 17.

Default Value

The sample-file subdirectory in the installation directory, appearing in *config.ini* file as *install_dir*\\SampleMWFs\\. By default:

```
C:\\Program Files\\Autodesk\\MapGuideLiteView6.5\\SampleMWFs\\
```

The initial value of MWFSearchPath may contain additional semicolon-separated pathnames that were specified during Autodesk MapGuide LiteView installation.

Note *config.ini* requires that double-backslashes separate pathname components.

Data Types/Ranges

A path containing one or more semicolon-separated ordinary file pathnames or UNC's (not HTTP links (URLs)).

Example

```
MWFSearchPath=C:\\Program Files\\Autodesk\\  
MapGuideLiteView6.5\\SampleMWFs\\
```

NoOfMWFsToProcess

Optional. Specifies the maximum number of MWF files to process at any given time. You can raise this value to improve performance, given adequate memory and processor speed on the WMS server. If a specified value is greater than the server can handle, you may get a Java out-of-memory error.

Note For information about how to adjust this parameter to improve Autodesk MapGuide LiteView performance, see “NoOfMwfsToProcess” on page 83.

Default Value

The default value of NoOfMWFsToProcess is half of MaxPoolSize, rounded down to the nearest integer (with a minimum value of one). The default value for MaxPoolSize is two, so the default value of NoOfMWFsToProcess is one. If MaxPoolSize is specified as five, for example, NoOfMWFsToProcess defaults to two.

Data Types/Range

An integer between 1 and MaxPoolSize, inclusive.

Example

```
NoOfMWFsToProcess=1
```

PPIY

Optional. Sets the client browser's vertical resolution, in pixels per inch, of the returned PNG or JPEG map image. You can specify a PPIY value in an individual map request, in the *config.ini* file, or in both places. If Autodesk MapGuide LiteView encounters PPIY in both places, the map request's PPIY value prevails. If a map request's PPIY value is invalid, Autodesk MapGuide LiteView logs an error and uses *config.ini*'s PPIY value instead (or uses the default PPIY value if PPIY is missing from *config.ini*).

To print a map in large scale, increase PPIY to prevent degradation of the printed image when scaled to a larger size.

PPIY is an Autodesk-specific parameter that does not comply with the OpenGIS WMS 1.1.1 implementation specification.

For more information about how the application specifies PPIY, see Chapter 2, "Understanding Requests," in the *Autodesk MapGuide LiteView Developer's Guide*.

Default Value

72 (the standard resolution for on-screen Web images)

Data Types/Ranges

An integer between 1 and 2147483647, inclusive.

Example

```
PPIY=72
```

ServiceExceptionDTD

Optional. Sets the name and location of the document type definition (DTD) that is used for service-exception XML documents.

Default Value

The default value if Apache Tomcat is used with the *liteview 6.5* servlet context path is:

```
http://<server_name>:<port#>/liteview6.5/exception1_1_1.dtd
```

The default value changes dynamically if any other application server or context path is used. If JRun is used instead of Tomcat, for example, the default value is:

```
http://<server_name>:<port#>/exception1_1_1.dtd
```

If you don't want this value to change dynamically, specify a constant value for the `ServiceExceptionDTD` parameter in *config.ini*.

Data Types/Ranges

The URL (string) of the exception DTD.

In most cases, you won't need to change the default DTD, *exception1_1_1.dtd*, that's installed by Autodesk MapGuide LiteView Setup. If you don't want to use the installed DTD, use `ServiceExceptionDTD` to point to a DTD that resides at another location or Web server.

Example

```
ServiceExceptionDTD=http://localhost:8080/liteview6.5/  
exception1_1_1.dtd
```

SymbolLabelTextFont

Optional. Sets the font to use for symbol-label text.

Default Value

Arial

Data Types/Ranges

The name (string) of a font on your system. If the font name is not found, the system font is used.

Example

```
SymbolLabelTextFont=Arial
```

SymbolLabelTextColor

Optional. Sets the foreground color to use for symbol-label text.

Default Value

9 (blue)

Data Types/Ranges

An integer between 1 and 256, inclusive. Colors are defined in the Point Label Style dialog box in Autodesk MapGuide Author.

If the value is greater than 256, light gray (color 256) is used. If the value is less than 1, white (color 1) is used.

Example

```
SymbolLabelTextColor=9
```

SymbolLabelBackgroundMode

Optional. Sets the background mode to use for symbol-label text.

Default Value

2 (ghosted)

Data Types/Ranges

An integer 0 (transparent), 1 (opaque), or 2 (ghosted).

If the value is less than zero, Autodesk MapGuide LiteView logs the error "Can't draw symbols on the map". If the value is greater than two, ghosted mode is used.

Example

```
SymbolLabelBackgroundMode=2
```

SymbolLabelBackgroundColor

Optional. Sets the background color to use for symbol-label text.

Default Value

1 (white)

Data Types/Ranges

An integer between 1 and 256, inclusive. Colors are defined in the Point Label Style dialog box in Autodesk MapGuide Author.

If the value is greater than 256, light gray (color 256) is used. If the value is less than 1, white (color 1) is used.

Example

```
SymbolLabelBackgroundColor=1
```

SymbolLabelSize

Optional. Sets the font size, in meters, to use for symbol-label text.

Default Value

0.0032 (about 0.126 inches)

Data Types/Ranges

A decimal number. If the value is less than zero, the label is drawn upside-down, at the specified size. If the value is large, the label is drawn at the specified size, without bounds checking. If the value is not a number, the default value is used.

Example

```
SymbolLabelSize=0.0032
```

Timeout

Optional. Sets the time interval, in seconds, to allow for a request completion.

Default Value

30 (seconds)

Data Types/Ranges

An integer between 1 and 2147483647, inclusive.

Example

```
Timeout=30
```

Security

To protect Autodesk MapGuide and Autodesk MapGuide LiteView data from unauthorized access, use your Web server's security tools. Configure your Web server to allow the use of Autodesk MapGuide only for data resources that are not password protected.

MapGuide provides two levels of layer-data security:

- Password protection of layers
- Locking data, so a layer is displayed without locked feature attributes

A map request fails if the MWF contains a password-protected layer.

Locked *layers* cause requests to fail, whereas locked *data* allows these requests to succeed. Locking data protects precise location data or other selected private attributes from being accessed through the map database. Autodesk MapGuide LiteView can display these layers and can satisfy GetFeatureInfo and feature_info requests for objects on these layers. The response to a GetFeatureInfo or feature_info request contains everything except the protected data.

For information about locking layers, open Autodesk MapGuide Author, choose Help ► Contents, click the Index tab, and look up *access keys*. For information about locking data, look up *add resource*.

Using Autodesk MapGuide LiteView with Autodesk OnSite Enterprise

A port-number conflict may occur if you are running Autodesk MapGuide LiteView *and* Autodesk OnSite Enterprise under two different instances of Apache Tomcat. To resolve a port conflict, change the Autodesk MapGuide LiteView Http10Connector, Ajp12Connector, and Ajp13Connector port numbers.

Note If you are running Autodesk MapGuide LiteView and Autodesk OnSite Enterprise under the same instance of Macromedia JRun, deploy them as separate servers with different port numbers.

To change Autodesk MapGuide LiteView's connector port numbers

- 1 Open the file *server.xml* in a text editor. Its default location is:

C:\Program Files\Autodesk\MapGuideLiteView6.5\jakarta-tomcat-3.3.1a\conf\server.xml

- 2 Find the entry:

```
<Http10Connector port="8080" secure="false" maxThreads="100"
maxSpareThreads="50" minSpareThreads="10" />
```

- 3 Change the default port number from 8080 to any available port number.

- 4 Find the entry:

```
<Ajp12Connector port="8007" />
```

- 5 Change the default port number from 8007 to any available port number

- 6 Find the entry:

```
<Ajp13Connector port="8009" />
```

- 7 Change the default port number from 8009 to any available port number.

- 8 Save and close *server.xml* and restart the Autodesk MapGuide LiteView application server.

Note If you are unsure about port usage, use the command `netstat -a` to display all connections and listening ports in use on a computer.

Logging Errors

4

This chapter explains Autodesk MapGuide® LiteView's error-logging capabilities and describes Autodesk MapGuide LiteView-related error messages.

In this chapter

- Overview
- Error logging
- OpenGIS WMS 1.1.1-compliant error messages
- Error messages

Overview

When Autodesk MapGuide LiteView is unable to respond to a request, it writes an error message to a log file. This message provides you with information about the source and nature of the error. LiteView may encounter errors while:

- Initializing the servlet (which generates an Internal Servlet Error Exception and prevents the servlet from running)
- Creating a raster image for a map request
- Finding or opening a MWF file
- Searching for an SDF file that's required to draw a layer (which causes request processing to fail and no image to be returned)
- Invoking the servlet with no parameters (which is handled as an invalid request)

Error Logging

To log errors, you can use the logging features of your application server or Web server host and host servlet engine. Log formats and locations are server-specific. The location of Apache Tomcat logs, for example, is *C:\Program Files\Autodesk\MapGuideLiteView6.5\jakarta-tomcat-3.3.1a\logs*. The log directory contains logs created and maintained by the application server, as well as separate, Autodesk MapGuide LiteView-specific logs. The Autodesk MapGuide LiteView servlet maintains logs for normal events and for error conditions. The following table describes Autodesk MapGuide LiteView-specific logs.

Log	Description
<i>liteview.65log</i>	Records application-server exceptions thrown while running the Autodesk MapGuide LiteView servlet.

Log	Description
<i>servlet_liteview65.log</i>	Records error messages logged by the Autodesk MapGuide LiteView servlet. (<i>liteview65.log</i> may contain some of the same messages that appear in this log, but <i>liteview65.log</i> messages also include a stack trace.)
<i>WmsAdmin65.log</i>	Records application-server exceptions thrown while running WMS Administrator.
<i>servlet_WmsAdmin65.log</i>	Records error messages logged by WMS Administrator.

The server logs record all requests and their respective response codes. When an error occurs, Autodesk MapGuide LiteView identifies the source of the error, formats a descriptive error message according to NCSA standards, and returns it to the originating HTTP client (usually a browser) along with a standard error code, such as 400.

OpenGIS WMS 1.1.1-Compliant Error Messages

All errors generated by GetCapabilities, GetMap, and GetFeatureInfo requests are returned in the following WMS ServiceException XML format, for example:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ServiceExceptionReport SYSTEM
  "http://localhost:8080/liteview6.5/exception_1_1_0.dtd">
<ServiceExceptionReport version="1.1.0">
  <ServiceException>
    Either request parameter supplied is invalid or it is
    not implemented yet. REQUEST=
  </ServiceException>
  <ServiceException>Invalid Request</ServiceException>
</ServiceExceptionReport>
```

Error Messages

An error message has these parts:

- IP address of the source of the error
- Timestamp
- The offending request
- A standard HTTP error code
- A description of the error

Autodesk MapGuide LiteView posted the following error message, for example, to the error log *Servlet_liteview.log* when it couldn't find the file *Sample_World1.mwf*:

```
127.0.0.1 - - [30/January/2004:03:57:40 -0700] "GET
/liteview6.5/servlet/MapGuideLiteView?REQUEST=MAP&WIDTH=480&HEIGHT
=480&FORMAT=PNG&LAYERS=Sample_World1.mwf&BBOX=-180.0,-
90.0,180.0,90.0 HTTP/1.1" 400 - Invalid Request No valid mwfs
```

Error codes 400 and 500 are standard HTTP error codes. 500 errors generally are server or servlet errors that require administrative action. A missing parameter in the servlet's *config.ini* configuration file can cause a 500 error, for example. Some 500 errors—such as, say, a missing MWF file—are related to data. In general, improperly formatted requests cause 400 errors, and all other errors are 500 errors.

Autodesk MapGuide LiteView generates the following standard error messages:

Error Messages

Message	Description	Code
<path>/config.ini does not exist	The Autodesk MapGuide LiteView servlet's <i>config.ini</i> file is missing. <path> indicates where the application server is configured to look for Autodesk MapGuide LiteView's initialization file.	500
Bounding box of map image outside of map <mwf_name>	The bounding box is not specified as described in Chapter 2, "Understanding Requests" in the <i>Autodesk MapGuide LiteView Developer's Guide</i> .	500
Branding logo not found	The Autodesk branding logo file is missing.	500
Can't draw symbols on the map	The value for SymbolLabelBackground-Mode in <i>config.ini</i> is less than zero.	500

Error Messages (continued)

Message	Description	Code
Duplicate map layer names are not supported: <layer name>	An MWF file with duplicate layer names cannot be used with LiteView. Use Autodesk MapGuide Author to change the duplicate layer name and create a new MWF.	400
Invalid definition for highlighting style <n>	The value of the HLS <i>n</i> parameter in <i>config.ini</i> is invalid.	400
Invalid format	The FORMAT parameter in the request is not recognized.	400
Invalid image size	The image's height and width must be between 16 and 2048 pixels, inclusive.	400
Invalid index <n> for highlighting style	The value <i>n</i> for one of the HLS <i>n</i> parameters in <i>config.ini</i> is not between 1 and 4, inclusive.	400
Invalid MWF Search Path	The value of the MWFSearchPath parameter in <i>config.ini</i> contains and inaccessible or invalid pathname.	500
Invalid Request HLS: undefined highlighting style requested. Must define HLS<n> in <i>config.ini</i>	The value <i>n</i> is properly between 1 and 4, inclusive, but the corresponding highlighting style HLS <i>n</i> parameter is not defined in <i>config.ini</i>	400
Invalid Request SELECT: <resource>	<i>resource</i> indicates an MWF file, a layer within an MWF file, or an object within a layer. <resource> is formatted as <mf_name>[:<layer_name>[:<object_name>]]. For more information, see "Invalid Request SELECT Error Message" on page 43.	400
Invalid Request SELECT=<value of SELECT parameter>	The syntax of the SELECT parameter is incorrect.	400
Invalid Request SRS=ADSK:<invalid_SRS>	A value other than ADSK:LL84 is used for the spatial reference system.	400
Invalid X pixel offset	The X coordinate in a GetFeatureInfo or feature_info request is out of range.	400

Error Messages (continued)

Message	Description	Code
Invalid Y pixel offset	The Y coordinate in a GetFeatureInfo or feature_info request is out of range.	400
No valid MWFs	No match found for an MWF file in the MWF search path (specified by MWF-SearchPath in <i>config.ini</i>).	400
SymbolLabelBackgroundColor not an integer	The value of the SymbolLabelBackground-color parameter in <i>config.ini</i> is not an integer.	500
SymbolLabelBackGroundMode is not a number	The value of the SymbolLabelBack-groundMode parameter in <i>config.ini</i> is not a number.	500
SymbolLabelTextColor not an integer	The value of the SymbolLabelText-color parameter in <i>config.ini</i> is not an integer.	500
The height should not be larger than <x>	The bounding-box height specified by the request is too large.	400
The height should not be less than <x>	The bounding-box height specified by the request is too small.	400
The width should not be larger than <x>	The bounding-box width specified by the request is too large.	400
The width should not be less than <x>	The bounding-box width specified by the request is too small.	400
Too many layers	The request has more than one LAYERS parameter.	400
Unable to access specified layer: <mwf_name/mwf_layer_name>	The specified layer does not exist or is inaccessible.	500
Unable to locate map: <mwf_name>	The specified file is not found.	400

Error Messages (continued)

Message	Description	Code
Unable to process request: Internal Server Error	The URL may be incorrect. Check Autodesk MapGuide LiteView's installation and configuration settings. See Chapter 2, "Installing Autodesk MapGuide LiteView" and Chapter 3, "Configuring Autodesk MapGuide LiteView".	500
Unable to process request: This server does not work with MapGuide Servers prior to release <release_number>	An incompatible version of Autodesk MapGuide Server is detected.	500
Unrecognized request type: <request_type>	The indicated request type is not GetMap, GetCapabilities, GetFeatureInfo, map, or feature_info.	400
Unsupported map image request format type: <format>	The request is not formatted as described in Chapter 2, "Understanding Requests," in the <i>Autodesk MapGuide LiteView Developer's Guide</i> .	400

Invalid Request SELECT Error Message

The following table shows examples of error messages that occur when the "Invalid Request SELECT" error message refers to a resource:

Condition	Example
The MWF does not match the MWF specified by the map request's LAYERS parameter.	400 Invalid Request SELECT: <my_mwf.mwf> not available
The layer is not in the MWF.	400 Invalid Request SELECT: <my_mwf.mwf:my_layer> not available
The object is not in the layer at the current map scale.	400 Invalid Request SELECT: <my_mwf.mwf:my_layer:my_object> not available

Configuring Application Servers

This chapter describes how to configure different application servers manually to work with Autodesk MapGuide® LiteView's three servlets (MapGuideLiteView, WmsAdmin, and WmsViewer); how to run Apache Tomcat as a Windows service; how to connect Apache Tomcat to IIS; and how to change various settings and options to improve Autodesk MapGuide LiteView's performance.

5

In this chapter

- Overview
- Assumptions
- Configuring Apache Tomcat 3.3.1a
- Configuring Apache Tomcat 4.1.24
- Configuring Macromedia JRun 3.0.1
- Configuring Macromedia JRun 4.0
- Running Apache Tomcat as a Windows service
- Configuring Apache Tomcat with IIS Web server
- Additional Apache Tomcat references
- Performance tuning

Overview

Autodesk MapGuide LiteView comes with three components—*servlets*—that must be deployed in a servlet container such as Apache Tomcat or Macro-media JRun:

- **MapGuideLiteView**—The main Autodesk MapGuide LiteView servlet that supports map and feature_info requests, in compliance with the OpenGIS Web Map Service (WMS) draft specification, and GetCapabilities, GetMap, and GetFeatureInfo requests, in compliance with the OpenGIS WMS 1.1.1 specification. For information about creating HTTP requests, see Chapter 2, “Understanding Requests,” and Chapter 3, “Making GetCapabilities, GetMap, and GetFeatureInfo Requests,” in the *Autodesk MapGuide LiteView Developer’s Guide*. The servlet class of this component is **MapGuideLiteView**.
- **WmsAdmin**—A browser-based WMS Administrator tool that is used to administer the Autodesk MapGuide LiteView component. Use this tool to select MWFs and modify service and capabilities metadata (see Chapter 6, “Working with the WMS Administrator Tool,” on page 85). The servlet class of this component is **com.autodesk.wmsadmin.Admin**.
- **WmsViewer**—The WMS Viewer sample application provided as a starting point for you to develop your own WMS-compliant clients for MapGuideLiteView. For information about WMS Viewer, see Chapter 4, “Configuring and Using the Sample Applications,” in the *Autodesk MapGuide LiteView Developer’s Guide*. The servlet class of this component is **com.autodesk.wmsviewer.WmsViewer**.

The Autodesk MapGuide LiteView distribution comes with the Apache Tomcat 3.3.1a server and Java Development Kit (JDK) 1.3.1. As described in “Installation Procedure” on page 10, Autodesk MapGuide LiteView Setup will, at your option, install and configure a clean copy of Tomcat, or detect and configure an existing copy that an earlier Autodesk MapGuide LiteView installation already is using. To migrate to or use a different application server, however, you must configure that server manually after you install Autodesk MapGuide LiteView. To do so, choose the Manual Setup option during Autodesk MapGuide LiteView installation (thus suppressing Tomcat and JDK installation) and configure your server to work with each Autodesk MapGuide LiteView component by following the instructions given in this chapter.

Note You can deploy WmsAdmin on the same server as MapGuideLiteView but we recommend that you deploy it under a different server for security reasons. The WmsAdmin server should be available to only intranet users.

Assumptions

The Tomcat- and JRun-configuration instructions in this chapter assume that you have chosen the “Manual Setup” option during Autodesk MapGuide LiteView installation and that you’re using the following folder locations and HTTP ports:

- Autodesk MapGuide LiteView
C:\Program Files\Autodesk\MapGuideLiteView6.5 (referred to as *<Install-Folder>* in some instructions)
- Apache Tomcat 3.3.1a
C:\Jakarta-tomcat3.3.1a (port 8080)
- Apache Tomcat 4.1.24
C:\jakarta-tomcat-4.1.24 (port 8080)
- Macromedia JRun 4
C:\JRun4 (port 8000, 8111, 8112, 8113))
- JDK 1.3
C:\JDK1.3
- JDK 1.4
C:\j2sdk1.4.1_02

Configuring Apache Tomcat 3.3.1a

This section describes how to configure Apache Tomcat 3.3.1a and JDK 1.3 with Autodesk MapGuide LiteView’s MapGuideLiteView, WmsAdmin, and WmsViewer servlets, under Tomcat’s *webapps* folder or under an existing folder.

MapGuideLiteView Configuration

To configure Apache Tomcat 3.3.1a with MapGuideLiteView under the *webapps* folder

- 1 Copy the *liteview* folder and its contents from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\liteview

to:

C:\Jakarta-tomcat3.3.1a\webapps

The resulting folder structure will appear as follows:

C:\Jakarta-tomcat-3.3.1a\webapps\liteview

WEB-INF
WEB-INF\IniFile
WEB-INF\lib
WEB-INF\web.xml
WEB-INF\IniFile\AdskBrand.class
WEB-INF\IniFile\CDT.xml
WEB-INF\IniFile\config.ini
WEB-INF\IniFile\FeatureInfo.xsl
WEB-INF\IniFile\layers.xml
WEB-INF\IniFile\NullWorld.mwf
WEB-INF\IniFile\users.ini
WEB-INF\lib\LiteViewServlet.jar

- 2 In the copied *IniFile* folder, modify the *config.ini* file's parameters as follows:

```
MaxPoolSize=2
MaxIdleBeforeClose=30
MWFSearchPath=C:\\Program Files\\Autodesk\\
  MapGuideLiteView6.5\\SampleMWFs\\
BrandTextMessage=
NoOfMwfsToProcess=1
ADSK\\LL84=EPSG\\4326
EnforceCaseSensitivity=0
ApplyImageFilter=0
PngCompression=9
```

Note For information about modifying the *config.ini* file, see Chapter 3, “Configuring Autodesk MapGuide LiteView,” on page 15.

- 3 Open a command (MS-DOS) prompt and start Tomcat by typing the following commands:

```
■ C:\>cd C:\Jakarta-tomcat3.3.1a
■ C:\Jakarta-tomcat3.3.1a>SET JAVA_HOME=C:\JDK1.3
■ C:\Jakarta-tomcat3.3.1a>cd bin
■ C:\Jakarta-tomcat3.3.1a\bin>tomcat start
```

- 4 In a browser, visit the following URL to start MapGuideLiteView:
<http://localhost:8080/liteview6.5/servlet/MapGuideLiteView?REQUEST=GetCapabilities>

A capabilities XML document appears in the browser.

Note This URL is case-sensitive in some cases.

To configure Apache Tomcat 3.3.1a with MapGuideLiteView under an existing folder

- 1 Create an XML file named *apps-wmsliteview65.xml* with the following contents:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<webapps>
  <Context path="/liteview6.5"
    docBase="C:\Program Files\Autodesk\
MapGuideLiteView6.5\liteview"
    debug="0" reloadable="true">
  </Context>
</webapps>
```

Note Change the value of *docBase* to your Autodesk MapGuide LiteView installation folder, if necessary.

- 2 Save this file in *C:\Jakarta-tomcat3.3.1a\conf*.
- 3 Perform steps 2 through 4 of the preceding procedure.

WmsAdmin Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The Autodesk MapGuide LiteView server URL is <http://localhost:8080/liteview6.5/servlet/MapGuideLiteView>.

To configure Apache Tomcat 3.3.1a with WmsAdmin under the *webapps* folder

- 1 Copy the *WmsAdmin* folder and its contents from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\WmsAdmin

to:

C:\Jakarta-tomcat3.3.1a\webapps

The resulting folder structure will appear as follows:

C:\Jakarta-tomcat-3.3.1a\webapps\WmsAdmin

Admin.cfg

Admin.lang

en.ui
Index.jsp
WEB-INF
WEB-INF\images
WEB-INF\jsp
WEB-INF\lib
WEB-INF\jsp\jsp

- 2 Modify the configuration file *Admin.cfg* as described in “Modifying *Admin.cfg*” on page 52.
- 3 Open a command (MS-DOS) prompt and start Tomcat by typing the following commands:
 - `C:\>cd C:\Jakarta-tomcat3.3.1a`
 - `C:\Jakarta-tomcat3.3.1a>SET JAVA_HOME=C:\JDK1.3`
 - `C:\Jakarta-tomcat3.3.1a>cd bin`
 - `C:\Jakarta-tomcat3.3.1a\bin>tomcat start`
- 4 In a browser, visit the following URL to start WmsAdmin:
`http://localhost:8080/WmsAdmin6.5`
WMS Administrator appears in the browser.
Note This URL is case-sensitive in some cases.

To configure Apache Tomcat 3.3.1a with WmsAdmin under an existing folder

- 1 Create an XML file named *apps-wmsadmin65.xml* with the following contents:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<webapps>
  <Context path="/wmsadmin6.5"
    docBase="C:\Program Files\Autodesk\
    MapGuideLiteView6.5\WmsAdmin"
    debug="0" reloadable="true">
  </Context>
</webapps>
```

Note Change the value of *docBase* to your Autodesk MapGuide LiteView installation folder, if necessary.
- 2 Save this file in `C:\jakarta-tomcat3.3.1a\conf\`.
- 3 Perform steps 2 and 3 of the preceding procedure.
- 4 In a browser, visit the following URL to start WmsAdmin:

<http://localhost:8080/wmsadmin6.5>

WMS Administrator appears in the browser.

Note This URL is case-sensitive in some cases.

WmsViewer Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The Autodesk MapGuide LiteView server URL is

<http://localhost:8080/liteview6.5/servlet/MapGuideLiteView>.

To configure Apache Tomcat 3.3.1a with WmsViewer under the *webapps* folder

- 1 Copy the *WmsViewer* folder and its contents from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\WmsViewer

to:

C:\Jakarta-tomcat3.3.1a\webapps

The resulting folder structure will appear as follows:

C:\Jakarta-tomcat-3.3.1a\webapps\WmsViewer

help

html

images

jsp

src

Web-inf

- 2 Open a command (MS-DOS) prompt and start Tomcat by typing the following commands:

- `C:\>cd C:\Jakarta-tomcat3.3.1a`

- `C:\Jakarta-tomcat3.3.1a>SET JAVA_HOME=C:\JDK1.3`

- `C:\Jakarta-tomcat3.3.1a>cd bin`

- `C:\Jakarta-tomcat3.3.1a\bin>tomcat start`

- 3 In a browser, visit the following URL to start WmsViewer:

<http://localhost:8080/WmsViewer6.5>

WMS Viewer appears in the browser.

Note This URL is case-sensitive in some cases.

To configure Apache Tomcat 3.3.1a with WmsViewer under an existing folder

- 1 Create an XML file named *apps-wmsviewer65.xml* with the following contents:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<webapps>
  <Context path="/wmsviewer6.5"
    docBase="C:\Program Files\Autodesk\
    MapGuideLiteView6.5\WmsViewer"
    debug="0" reloadable="true">
  </Context>
</webapps>
```

Note Change the value of *docBase* to your Autodesk MapGuide LiteView installation folder, if necessary.

- 2 Save this file in *C:\jakarta-tomcat3.3.1a\conf*.
- 3 Perform step 2 of the preceding procedure.
- 4 In a browser, visit the following URL to start WmsViewer:
<http://localhost:8080/wmsviewer6.5>
WMS Viewer appears in the browser.

Note This URL is case-sensitive in some cases.

Modifying *Admin.cfg*

This section, referenced elsewhere in this chapter, describes WmsAdmin's *Admin.cfg* configuration file and explains how to modify it.

The contents of the file *<InstallFolder>\WmsAdmin\Admin.cfg* are:

```
<configuration>
  <WmsHost>
    localhost
  </WmsHost>
  <Port>
    8080
  </Port>
  <WmsServlet>
    /liteview6.5/servlet/MapGuideLiteView
  </WmsServlet>
  <language>
    en
  </language>
</configuration>
```

The functions of the XML elements are:

- *WmsHost* specifies the location of the Autodesk MapGuide LiteView server (the default is the same machine on which WmsAdmin is located).
- *Port* specifies the Autodesk MapGuide LiteView access port (8080 is the default).
- *WmsServlet* specifies the Autodesk MapGuide LiteView servlet URI mapping, with context path (the default is /liteview6.5/servlet/MapGuideLiteView).
- *language* specifies the language used in the WmsAdmin user interface (the default language is English).

To change the user-interface language to French, for example, copy the file *en.ui* (located in <InstallFolder>\WmsAdmin\) to a new file named, say, *fr.ui* and translate the values of the <data name=value> elements. To change the word “password”, for example, to French in the user interface, make this change in *fr.ui*:

```
<data name="password">
  Mot de passe:
</data>
```

And then change the <language> value in *Admin.cfg*:

```
<language>
  fr
</language>
```

If Autodesk MapGuide LiteView is deployed on, say, <http://www.myliteviewserver.com>, you can access it over the Internet by changing the <WmsHost> value in *Admin.cfg* to:

```
<WmsHost>
  http://www.myliteviewserver.com
</WmsHost>
```

That same Autodesk MapGuide LiteView server can be access over an intranet from a machine named, say, *MGLiteView*:

```
<WmsHost>
  MGLiteView
</WmsHost>
```

Configuring Apache Tomcat 4.1.24

This section describes how to configure Apache Tomcat 4.1.24 and JDK 1.4 with Autodesk MapGuide LiteView’s MapGuideLiteView, WmsAdmin, and

WmsViewer servlets, under Tomcat's *webapps* folder or under an existing folder.

MapGuideLiteView Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The name of the *WEB-INF* folder under the *liteview* folder is in uppercase letters
- The following servlet-mapping XML elements in the file *C:\jakarta-tomcat-4.1.24\Conf\web.xml* have been uncommented to enable the invoker servlet to invoke the MapGuideLiteView classes:

```
<!--          Delete this line
  <servlet-mapping>
    <servlet-name>invoker</servlet-name>
    <url-pattern>/servlet/*</url-pattern>
  </servlet-mapping>
-->          Delete this line
```

To configure Apache Tomcat 4.1.24 with MapGuideLiteView under the *webapps* folder

- 1 Copy the *liteview* folder and its contents from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\liteview6.5

to:

C:\jakarta-tomcat-4.1.24\webapps and rename the folder by appending **liteview6.5** to *webapps*

The resulting folder structure will appear as follows:

```
C:\jakarta-tomcat-4.1.24\webapps\liteview6.5\
  WEB-INF
  WEB-INF\IniFile
  WEB-INF\lib
  WEB-INF\web.xml
  WEB-INF\IniFile\AdskBrand.class
  WEB-INF\IniFile\CDT.xml
  WEB-INF\IniFile\config.ini
  WEB-INF\IniFile\FeatureInfo.xsl
  WEB-INF\IniFile\layers.xml
  WEB-INF\IniFile\NullWorld.mwf
```

WEB-INF\IniFile\users.ini

WEB-INF\lib\LiteViewServlet.jar

- 2 In the copied *IniFile* folder, modify the *config.ini* file's parameters as follows:

```
MaxPoolSize=2
MaxIdleBeforeClose=30
MWFSearchPath=C:\\Program Files\\Autodesk\\
  MapGuideLiteView6.5\\SampleMWFs\\
BrandTextMessage=
NoOfMwfsToProcess=1
ADSK\\:LL84=EPSG\\:4326
EnforceCaseSensitivity=0
ApplyImageFilter=0
PngCompression=9
```

Note For information about modifying the *config.ini* file, see Chapter 3, “Configuring Autodesk MapGuide LiteView,” on page 15.

- 3 Open a command (MS-DOS) prompt and start Tomcat by typing the following commands:

```
■ C:\>cd C:\jakarta-tomcat-4.1.24
■ C:\jakarta-tomcat-4.1.24>SET JAVA_HOME=
  C:\j2sdk1.4.1_02
■ C:\jakarta-tomcat-4.1.24>cd bin
■ C:\jakarta-tomcat-4.1.24\bin>catalina start
```

- 4 In a browser, visit the following URL to start MapGuideLiteView:

```
http://localhost:8080/liteview6.5/servlet/
  MapGuideLiteView?REQUEST=GetCapabilities
```

A capabilities XML document appears in the browser.

Note This URL is case-sensitive in some cases.

To configure Apache Tomcat 4.1.24 with MapGuideLiteView under an existing folder

- 1 Create an XML file named *apps-wmsliteview65.xml* with the following contents:

```
<Context path="/liteview6.5"
  docBase="C:\Program Files\Autodesk\
  MapGuideLiteView6.5\liteview"
```

```
    debug="0" privileged="true">
</Context>
```

Note Change the value of *docBase* to your Autodesk MapGuide LiteView installation folder, if necessary.

- 2 Save this file in *C:\jakarta-tomcat-4.1.24\webapps*.
- 3 Perform steps 2 through 4 of the preceding procedure.

WmsAdmin Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The name of the *WEB-INF* folder under the *WmsAdmin* folder is in uppercase letters
- The Autodesk MapGuide LiteView server URL is `http://localhost:8080/liteview6.5/servlet/MapGuideLiteView`.
- The following servlet-mapping XML elements in the file *C:\jakarta-tomcat-4.1.24\Conf\web.xml* have been uncommented to enable the invoker servlet to invoke the *WmsAdmin* classes:

```
<!--      Delete this line
    <servlet-mapping>
        <servlet-name>invoker</servlet-name>
        <url-pattern>/servlet/*</url-pattern>
    </servlet-mapping>
-->      Delete this line
```

To configure Apache Tomcat 4.1.24 with WmsAdmin under the *webapps* folder

- 1 Copy the *WmsAdmin* folder and its contents from:
C:\Program Files\Autodesk\MapGuideLiteView6.5\WmsAdmin
to:
C:\jakarta-tomcat-4.1.24\webapps and rename the folder by appending **WmsAdmin6.5** to *webapps*.
The resulting folder structure will appear as follows:
C:\jakarta-tomcat-4.1.24\webapps6.5\WmsAdmin
Admin.cfg
Admin.lang
en.ui
Index.jsp

WEB-INF
WEB-INF\images
WEB-INF\jsp
WEB-INF\lib
WEB-INF\jsp\jsp

- 2 Modify the configuration file *Admin.cfg* as described in “Modifying *Admin.cfg*” on page 52.
- 3 Open a command (MS-DOS) prompt and start Tomcat by typing the following commands:

- `C:\>cd C:\jakarta-tomcat-4.1.24`
- `C:\jakarta-tomcat-4.1.24>SET JAVA_HOME=C:\j2sdk1.4.1_02`
- `C:\jakarta-tomcat-4.1.24>cd bin`
- `C:\jakarta-tomcat-4.1.24\bin>catalina start`

- 4 In a browser, visit the following URL to start WmsAdmin:
<http://localhost:8080/WmsAdmin6.5>

WMS Administrator appears in the browser.

Note This URL is case-sensitive in some cases.

To configure Apache Tomcat 4.1.24 with WmsAdmin under an existing folder

- 1 Create an XML file named *apps-wmsadmin65.xml* with the following contents:

```
<Context path="/wmsadmin6.5"
  docBase="C:\Program Files\Autodesk\
  MapGuideLiteView6.5\WmsAdmin"
  debug="0" privileged="true">
</Context>
```

Note Change the value of *docBase* to your Autodesk MapGuide LiteView installation folder, if necessary.

- 2 Save this file in *C:\jakarta-tomcat-4.1.24\webapps*.
- 3 Perform steps 2 and 3 of the preceding procedure.
- 4 In a browser, visit the following URL to start WmsAdmin:

<http://localhost:8080/wmsadmin6.5>

WMS Administrator appears in the browser.

Note This URL is case-sensitive in some cases.

WmsViewer Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The name of the *WEB-INF* folder under the *WmsViewer* folder is in upper-case letters
- The Autodesk MapGuide LiteView server URL is `http://localhost:8080/liteview6.5/servlet/MapGuideLiteView`.
- The following servlet-mapping XML elements in the file `C:\jakarta-tomcat-4.1.24\Conf\web.xml` have been uncommented to enable the invoker servlet to invoke the *WmsViewer* classes:

```
<!--           Delete this line
  <servlet-mapping>
    <servlet-name>invoker</servlet-name>
    <url-pattern>/servlet/*</url-pattern>
  </servlet-mapping>
-->           Delete this line
```

To configure Apache Tomcat 4.1.24 with *WmsViewer* under the *webapps* folder

- 1 Copy the *WmsViewer* folder and its contents from:

`C:\Program Files\Autodesk\MapGuideLiteView6.5\WmsViewer`

to:

`C:\jakarta-tomcat-4.1.24\webapps` and rename the folder by appending **WmsViewer6.5** to *webapps*.

The resulting folder structure will appear as follows:

```
C:\jakarta-tomcat-4.1.24\webapps\WmsViewer6.5\
    help
    html
    images
    jsp
    src
    WEB-INF
```

- 2 Open a command (MS-DOS) prompt and start Tomcat by typing the following commands:

- `C:\>cd C:\jakarta-tomcat-4.1.24`

- C:\jakarta-tomcat-4.1.24>SET JAVA_HOME=C:\j2sdk1.4.1_02
 - C:\jakarta-tomcat-4.1.24>cd bin
 - C:\jakarta-tomcat-4.1.24\bin>catalina start
- 3 In a browser, visit the following URL to start WmsViewer:
<http://localhost:8080/WmsViewer6.5>
 WMS Viewer appears in the browser.

Note This URL is case-sensitive in some cases.

To configure Apache Tomcat 4.1.24 with WmsViewer under an existing folder

- 1 Create an XML file named *apps-wmsadmin65.xml* with the following contents:

```
<Context path="/wmsviewer6.5"
  docBase="C:\Program Files\Autodesk\
  MapGuideLiteView6.5\WmsViewer"
  debug="0" privileged="true">
</Context>
```

Note Change the value of *docBase* to your Autodesk MapGuide LiteView installation folder, if necessary.

- 2 Save this file in *C:\jakarta-tomcat-4.1.24\webapps*.
- 3 Perform step 2 of the preceding procedure.
- 4 In a browser, visit the following URL to start WmsViewer:
<http://localhost:8080/wmsviewer6.5>
 WMS Viewer appears in the browser.

Note This URL is case-sensitive in some cases.

Configuring Macromedia JRun 3.0.1

This section describes how to configure Macromedia JRun 3.0.1 with Autodesk MapGuide LiteView's MapGuideLiteView servlet.

MapGuideLiteView Configuration

To configure Macromedia JRun 3.0.1 with MapGuideLiteView

- 1 In Windows Explorer, make two copies of the existing folder *default* located in *JRun\servers*.
Both copies must be located in the folder *servers*, along with the original *default* folder.
- 2 Rename the first copy to *default_backup*.
This copy serves only as an emergency backup; it's not part of the Autodesk MapGuide LiteView configuration.
- 3 Rename the second copy to *liteview*.
- 4 Open the file *JRun\lib\jvms.properties* in a text editor, add the following line, and then save and close the file.
liteview=C:/Program Files/Allaire/JRun/servers/liteview
- 5 Open the file *JRun\servers\liteview\local.properties* in a text editor, make the following changes, and then save and close the file.
 - Change:
jrun.server.displayname=JRun Default Server
to:
jrun.server.displayname=Autodesk MapGuide LiteView Server
 - Change:
default-app.rootdir=C:\\Program Files\\Allaire\\JRun\\servers\\default\\default-app
to:
default-app.rootdir=C:\\Program Files\\Allaire\\JRun\\servers\\liteview\\default-app
 - Search for the following port names and change their default values to the indicated new values:

Port Name	Default Value	New Value*
control.endpoint.main.port	53000	53030
jcp.endpoint.main.port	51000	51030
web.endpoint.main.port	8100	8130

Port Name	Default Value	New Value*
ejipt.classServer.port	2323	5323
ejipt.homePort	2333	5333

* or available port

6 Copy all files and subfolders from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\liteview.**

to the folder:

C:\Program Files\Allaire\JRun\servers\liteview\default-app

Note In Windows Explorer, click “Yes to All” in the message box that asks you if you want to replace existing files.

7 Restart the *liteview* server.

To test the Macromedia JRun 3.0.1 configuration with MapGuideLiteView

1 After starting the JRun server, in a browser, open the test-installation page

C:\Program Files\Autodesk\MapGuideLiteView6.5\TestInstallation.html.

2 On the test-installation page, type the following URL in the Servlet Host field:

<http://localhost:8130/servlet/MapGuideLiteView>

3 Click the Click for Map button.

If the Sample_World map appears, you have configured JRun successfully to work with Autodesk MapGuide LiteView.

Note Autodesk MapGuide LiteView usually finds the configuration file *lite-view\WEB-INF\iniFile\config.ini* successfully. In some circumstance, however, it may not be able to find *config.ini* automatically. In this situation, modify the `<init-param>` entries (shown in italics) in the file *web.xml* as follows:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//
  DTD Web Application 2.2//EN"
  "http://java.sun.com/j2ee/dtds/web-app_2_2.dtd">
<web-app>
  <servlet>
    <servlet-name>LiteViewBroker</servlet-name>
    <servlet-class>MapGuideLiteView</servlet-class>
    <init-param>
      <param-name>IniFile</param-name>
```

```

        <param-value>
            C:\Program Files\Allaire\JRun\servers\MapGuideLiteView\
            default-app\WEB-INF\IniFile\config.ini
        </param-value>
    </init-param>
</servlet>
<servlet-mapping>
    <servlet-name>LiteViewBroker</servlet-name>
    <url-pattern>/servlet/MapGuideLiteView</url-pattern>
</servlet-mapping>
</web-app>

```

Configuring Macromedia JRun 4.0

This section describes how to configure Macromedia JRun 4.0 with Autodesk MapGuide LiteView's MapGuideLiteView, WmsAdmin, and WmsViewer servlets.

MapGuideLiteView Configuration

To configure Macromedia JRun 4.0 with MapGuideLiteView

- 1 Start JRun Management Console (JMC) by visiting <http://localhost:8000> in a browser.
- 2 Log on to JMC by using the username and password that you specified during JRun installation.
- 3 In JMC, click Create New Server.
- 4 In the JRun Server Name text box, type *liteview*.
- 5 Leave the JRun Server Directory text box blank to accept the default server location *C:\JRun4\servers\liteview*.
- 6 Click Create Server.

Note These instructions use the port number 8111.

- 7 In the New Server(s) Created dialog box, click Finish.

The *liteview* server is created.

Note For instructions on how to create a new server, see the JRun 4 servlet tutorial in *C:\JRun4\docs\htm\Getting_Started_with_JRun\servlettutorial3.html*.

- 8 Copy the contents of the *liteview* folder (but not the *liteview* folder itself) from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\liteview

to:

C:\JRun4\servers\liteview\default-ear\default-war

The resulting folder structure will appear as follows:

C:\JRun4\servers\liteview\default-ear\default-war

WEB-INF

WEB-INF\IniFile

WEB-INF\lib

WEB-INF\web.xml

WEB-INF\IniFile\AdskBrand.class

WEB-INF\IniFile\CDT.xml

WEB-INF\IniFile\config.ini

WEB-INF\IniFile\FeatureInfo.xsl

WEB-INF\IniFile\layers.xml

WEB-INF\IniFile\NullWorld.mwf

WEB-INF\IniFile\users.ini

WEB-INF\lib\LiteViewServlet.jar

- 9 Under Available Servers in JMC, click the green arrow to the left of the server name *liteview* to start (or restart) the new server.
- 10 In a browser, visit the following URL to start MapGuideLiteView:
`http://localhost:8111/servlet/MapGuideLiteView?REQUEST=GetCapabilities`
A capabilities XML document appears in the browser.

WmsAdmin Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The Autodesk MapGuide LiteView server URL is `http://localhost:8111/servlet/MapGuideLiteView`.
- Autodesk MapGuide LiteView is deployed under JRun 4.0 on port 8111.

To configure Macromedia JRun 4.0 with WmsAdmin

- 1 Start JRun Management Console (JMC) by visiting `http://localhost:8000` in a browser.
- 2 Log on to JMC by using the username and password that you specified during JRun installation.
- 3 In JMC, click Create New Server.

- 4 In the JRun Server Name text box, type *WmsAdmin*.
- 5 Leave the JRun Server Directory text box blank to accept the default server location *C:\JRun4\servers\WmsAdmin*.
- 6 Click Create Server.

Note These instructions use the port number 8112.

- 7 In the New Server(s) Created dialog box, click Finish.
The *WmsAdmin* server is created.

Note For instructions on how to create a new server, see the JRun 4 servlet tutorial in *C:\JRun4\docs\html\Getting_Started_with_JRun\servlettutorial3.html*.

- 8 Copy the contents of the *WmsAdmin* folder (but not the *WmsAdmin* folder itself) from:

C:\Program Files\Autodesk\MapGuideLiteView6.5\WmsAdmin

to:

C:\JRun4\servers\WmsAdmin\default-ear\default-war

The resulting folder structure will appear as follows:

C:\JRun4\servers\WmsAdmin\default-ear\default-war

Admin.cfg

Admin.lang

en.ui

Index.jsp

WEB-INF

WEB-INF\images

WEB-INF\jsp

WEB-INF\lib

WEB-INF\jsp\jsp

- 9 Modify the configuration file *Admin.cfg* as described in “Modifying *Admin.cfg*” on page 52.
- 10 Under Available Servers in JMC, click the green arrow to the left of the server name *WmsAdmin* to start (or restart) the new server.
- 11 In a browser, visit the following URL to start *WmsAdmin*:
<http://localhost:8112/index.jsp>
WMS Administrator appears in the browser.

WmsViewer Configuration

In addition to the assumptions given on page 47, the following instructions also assume that:

- The Autodesk MapGuide LiteView server URL is `http://localhost:8111/servlet/MapGuideLiteView`.
- Autodesk MapGuide LiteView is deployed under JRun 4.0 on port 8111.

To configure Macromedia JRun 4.0 with WmsViewer

- 1 Start JRun Management Console (JMC) by visiting `http://localhost:8000` in a browser.
- 2 Log on to JMC by using the username and password that you specified during JRun installation.
- 3 In JMC, click Create New Server.
- 4 In the JRun Server Name text box, type *WmsViewer*.
- 5 Leave the JRun Server Directory text box blank to accept the default server location `C:\JRun4\servers\WmsViewer`.
- 6 Click Create Server.

Note These instructions use the port number 8113.

- 7 In the New Server(s) Created dialog box, click Finish.
The *WmsViewer* server is created.

Note For instructions on how to create a new server, see the JRun 4 servlet tutorial in `C:\JRun4\docs\html\Getting_Started_with_JRun\servlettutorial3.html`.

- 8 Copy the contents of the *WmsViewer* folder (but not the *WmsViewer* folder itself) from:

`C:\Program Files\Autodesk\MapGuideLiteView6.5\WmsViewer`

to:

`C:\JRun4\servers\WmsViewer\default-ear\default-war`

The resulting folder structure will appear as follows:

`C:\JRun4\servers\WmsViewer\default-ear\default-war\`

help

html

images

jsp

src

WEB-INF

- 9 Under Available Servers in JMC, click the green arrow to the left of the server name *WmsViewer* to start (or restart) the new server.
- 10 In a browser, visit the following URL to start WmsViewer:
`http://localhost:8113/index.jsp`
WMS Viewer appears in the browser.

Running Apache Tomcat as a Windows Service

If you choose to have Autodesk MapGuide LiteView Setup install or update Apache Tomcat 3.3.1a during Autodesk MapGuide LiteView installation, Setup configures Tomcat to run in a console window. If you prefer to run Tomcat as a Windows service, follow the instructions in this section. Separate procedures are provided for Tomcat 3.3.1a or earlier and for Tomcat 4.0 or 4.1.2.4.

Note Tomcat is a Java-based application and therefore depends on the JVM (Java Virtual Machine). A user can log off the server machine without stopping the Tomcat server if JDK 1.3.1 is running. Earlier releases of the JDK will terminate on log-off, stopping the Tomcat server.

Running Apache Tomcat 3.3.1a or earlier as a Windows service

The following instructions assume that:

- Autodesk MapGuide LiteView is installed in the default folder
`C:\Program Files\Autodesk\MapGuideLiteView6.5\` (referred to as *<InstallFolder>* in some instructions)
- `JAVA_HOME=<InstallFolder>\JDK1.3`
- `TOMCAT_HOME=<InstallFolder>\jakarta-tomcat-3.3.1a`
- The Apache Tomcat port for HTTP requests is 8080

Note Documentation for the Tomcat 3.x NT service executable, *jk_nt_service.exe*, is available in the HOWTO document “Working with the Jakarta NT Service” at <http://jakarta.apache.org/tomcat/tomcat-3.3-doc/NT-Service-howto.html>. If you chose the *Apache Tomcat 3.3.1a* option when you installed Autodesk MapGuide LiteView, then Setup installed this HOWTO locally in `<InstallFolder>\jakarta-tomcat-3.3.1a\webapps\ROOT\doc\`.

To configure Apache Tomcat 3.3.1a or earlier to run as a Windows service

- 1 Open the file `<InstallFolder>\Tools\tomcatAsService\wrapper.properties` in a text editor. The three parameters of interest are:

The location of TOMCAT_HOME:

```
wrapper.tomcat_home=C:\\Progra~1\\Autodesk\\  
MapGuideLiteView6.5\\jakarta-tomcat-3.3.1a
```

The location of JAVA_HOME:

```
wrapper.java_home=C:\\Progra~1\\Autodesk\\  
MapGuideLiteView6.5\\jdk1.3
```

The JVM options:

```
wrapper.jvm.options=-Xrs
```

Note For information about specifying JVM options, see “Setting JVM options” on page 80.

- 2 If you chose the *Apache Tomcat 3.3.1a* option when you installed Autodesk MapGuide LiteView, then Autodesk MapGuide LiteView Setup created the file `<InstallFolder>\run.bat`. Copy the value of the TOMCAT_OPTS environment variable from `run.bat` to the value of the `wrapper.jvm.options` parameter in `wrapper.properties`. After copying this value, the JVM-options parameter in `wrapper.properties` will look similar to this line:

```
wrapper.jvm.options=-server -Xrs -Xms511m -Xmx511m  
-XX:+DisableExplicitGC -XX:NewRatio=3 -XX:NewSize=127m  
-XX:MaxNewSize=127m
```

- 3 In `wrapper.properties`, change the `wrapper.tomcat_home` and `wrapper.java_home` pathnames, if necessary. Keep the following rules in mind when setting parameter values:
 - The `wrapper.tomcat_home` pathname can contain no spaces
 - The `wrapper.java_home` pathname can contain no spaces
 - The `wrapper.jvm.options` value must contain the `-Xrs` option (which, for JDK 1.3.1, tells the JVM not to terminate on log off)

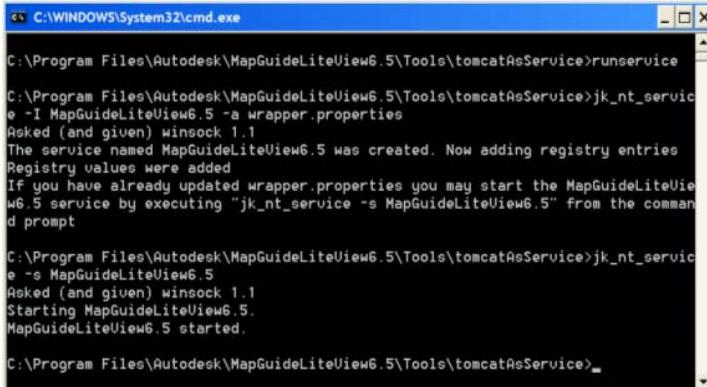
Note A bug in `jk_nt_service.exe` prohibits spaces in pathnames. Note that the folder *Program Files* has been changed to its DOS-equivalent *Progra~1* in pathnames.

- 4 Open a command (MS-DOS) prompt and type the following commands:

- `C:\>cd <InstallFolder>\Tools\tomcatAsService`
- `C:\<InstallFolder>\Tools\tomcatAsService>runService`

Note The `runService` command invokes a batch file that contains the commands `jk_nt_service -l MapGuideLiteView6.5 -a wrapper.properties` (which

installs the MapGuideLiteView6.5 service) and `jk_nt_service -s MapGuideLiteView6.5` (which starts this service).



```
C:\WINDOWS\System32\cmd.exe
C:\Program Files\Autodesk\MapGuideLiteView6.5\Tools\tomcatAsService>runservice
C:\Program Files\Autodesk\MapGuideLiteView6.5\Tools\tomcatAsService>jk_nt_service
-I MapGuideLiteView6.5 -a wrapper.properties
Asked (and given) winsock 1.1
The service named MapGuideLiteView6.5 was created. Now adding registry entries
Registry values were added
If you have already updated wrapper.properties you may start the MapGuideLiteView
6.5 service by executing "jk_nt_service -s MapGuideLiteView6.5" from the command
prompt
C:\Program Files\Autodesk\MapGuideLiteView6.5\Tools\tomcatAsService>jk_nt_service
-s MapGuideLiteView6.5
Asked (and given) winsock 1.1
Starting MapGuideLiteView6.5.
MapGuideLiteView6.5 started.
C:\Program Files\Autodesk\MapGuideLiteView6.5\Tools\tomcatAsService>
```

- 5 In a browser, visit <http://localhost:8080/wmsviewer6.5>. If the WMS Viewer sample application appears, then Tomcat is running as a service. You can log off the current machine and visit http://<machine_name>:8080/wmsviewer6.5 in another browser to confirm that the service is working.

- 6 *Optional.* When Tomcat is running as a service, output messages that normally are sent to a console window are written to log files instead. The following `wrapper.properties` parameters define the output's destinations:

```
wrapper.stdout=$(wrapper.tomcat_home)\logs\jvm.stdout
```

```
wrapper.stderr=$(wrapper.tomcat_home)\logs\jvm.stderr
```

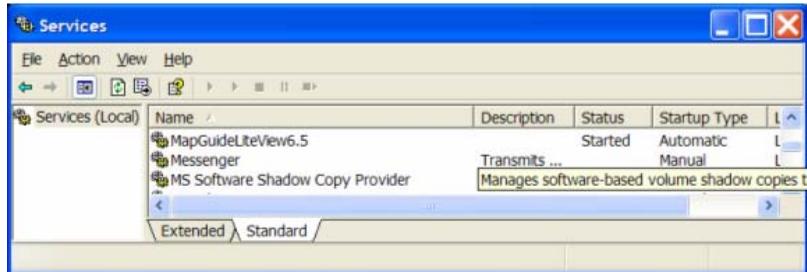
The default settings direct standard output to the file `jvm.stdout` and errors to the file `jvm.stderr`, both located in the `<TOMCAT_HOME>\logs\` folder.

You can change these pathnames if you want to.

To control the MapGuideLiteView6.5 service

- 1 Choose Start ► Settings ► Control Panel ► Administrative Tools ► Services

- 2 Right-click the MapGuideLiteView6.5 service and use the shortcut menu to start, stop, pause, resume, or restart the service, or choose Properties to set the service's Startup type.



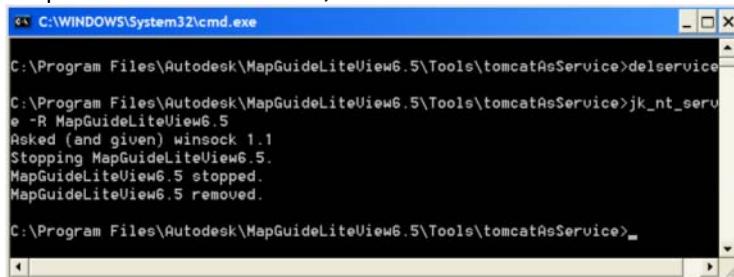
To remove the MapGuideLiteView6.5 service

- Open a command (MS-DOS) prompt and type the following commands:

- `C:\>cd <InstallFolder>\Tools\tomcatAsService`

- `C:\<InstallFolder>\Tools\tomcatAsService>delService`

Note The `delService` command invokes a batch file that contains the command `jk_nt_service -R MapGuideLiteView6.5` (which stops and removes the MapGuideLiteView6.5 service).



Running Apache Tomcat 4.0 or 4.1.2.4 as a Windows service

The following instructions assume that:

- Apache Tomcat is installed in `C:\jakarta-tomcat-4.1.24`
- JDK 1.4 is installed in `C:\jdk1.4.1_02`
- The Autodesk MapGuide LiteView servlets (MapGuideLiteView, WmsAdmin, and WmsViewer) are configured to run with this Apache Tomcat installation (by using any of the methods described earlier in this chapter)

- The Apache Tomcat port for HTTP requests is 8080

To configure Apache Tomcat 4.0 or 4.1.2.4 to run as a Windows service

- 1 In a text editor, create a new file named *tomcat4AsService.bat* in *C:\jakarta-tomcat-4.1.2.4* that contains the following lines.

Note The Autodesk MapGuide LiteView Setup program installs *<Install-Folder>/Tools/tomcatAsService/runTomcat4AsService.bat*, which contains the following lines.

```
REM Location of JDK 1.4 (root folder)
SET JAVA_HOME=C:\jdk1.4.1_02

REM Location of Tomcat 4 (root folder)
SET CATALINA_HOME=C:\jakarta-tomcat-4.1.2.4

REM JVM options
REM See the "Performance Tuning" section of the Autodesk
REM MapGuide LiteView Servlet Administrator's Guide.
REM You can redefine these options based on your
REM machine configuration and needs.
SET CATALINA_OPTS=-server -Xms256m -Xmx256m
```

```
%CATALINA_HOME%\bin\tomcat.exe
-install MapGuideLiteView6.5
%JAVA_HOME%\jre\bin\server\jvm.dll
-Djava.class.path=%CATALINA_HOME%\bin\bootstrap.jar;
%JAVA_HOME%\lib\tools.jar
-Dcatalina.home=%CATALINA_HOME%
%CATALINA_OPTS%
-Xrs
-start org.apache.catalina.startup.BootstrapService
-params start
-stop org.apache.catalina.startup.BootstrapService
-params stop
-out %CATALINA_HOME%\logs\stdout.log
-err %CATALINA_HOME%\logs\stderr.log
```

Note Be sure that the final command—*%CATALINA_HOME%\bin\tomcat.exe* (the Tomcat 4.x NT service executable)—and all its options are on a single line with no breaks. For a description of the options used, see the table following this procedure.

- 2 Open a command (MS-DOS) prompt and type the following commands:
 - C:\>cd C:\jakarta-tomcat-4.1.24
 - C:\jakarta-tomcat-4.1.24>tomcat4AsService.bat
- 3 Choose Start ► Settings ► Control Panel ► Administrative Tools ► Services.
Note that the service MapGuideLiteView6.5 has been installed but not started.
- 4 Right-click MapGuideLiteView6.5 and choose Start from the shortcut menu. Close the Services window after the service's status changes to Started.
- 5 In a browser, visit <http://localhost:8080/wmsviewer6.5>. If the WMS Viewer sample application appears, then Tomcat is running as a service. You can log off the current machine and visit http://<machine_name>:8080/wmsviewer6.5 in another browser to confirm that the service is working.

The following table describes the `tomcat.exe` options used in step 1. Help for `tomcat.exe` also is available at a command (MS-DOS) prompt: Change to the directory `C:\jakarta-tomcat-4.1.24\bin\`, type `tomcat -help`, and then press Enter. (`tomcat.exe` replaces Tomcat 3.x's `jk_nt_service.exe` command.).

tomcat.exe options

Option	Description
<code>%CATALINA_HOME%\bin\tomcat.exe</code>	Invokes the executable.
<code>-install MapGuideLiteView6.5</code>	The service to install.
<code>%JAVA_HOME%\jre\bin\server\jvm.dll</code>	JVM.dll to use to run tomcat.exe.
<code>-Djava.class.path</code>	Semicolon-separated list of jar files or classes required to run Tomcat. In this case, <code>bootstrap.jar</code> and <code>tools.jar</code> are used.
<code>-Dcatalina.home</code>	Location of Tomcat.
<code>%CATALINA_OPTS%</code>	JVM options such as <code>-Xms256</code> and <code>-Xmx256</code> .

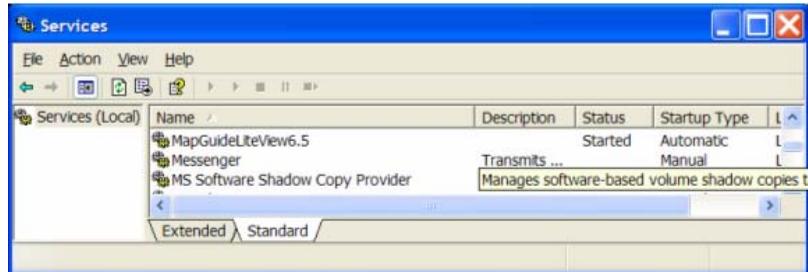
tomcat.exe options

Option	Description
-Xrs	This JVM option can be specified in %CATALINA_OPTS%, but is specified separately here for emphasis and safety. If this option is missing, Tomcat will halt at logoff.
-start org.apache.catalina.startup.BootstrapService	Tomcat class to invoke when the service is started.
-params start	The parameter value to pass to the -start class when the service is started.
-stop org.apache.catalina.startup.BootstrapService	Tomcat class to invoke when the service is stopped.
-params stop	The parameter value to pass to the -stop class when the service is stopped.
-out %CATALINA_HOME%\logs\stdout.log	Name and location of file for standard-output redirection.
-err %CATALINA_HOME%\logs\stderr.log	Name and location of file for standard-error redirection.

To control the MapGuideLiteView6.5 service

- 1 Choose Start ► Settings ► Control Panel ► Administrative Tools ► Services

- 2 Right-click the MapGuideLiteView6.5 service and use the shortcut menu to start, stop, pause, resume, or restart the service, or choose Properties to set the service's Startup type.



To remove the MapGuideLiteView6.5 service

- 1 In a text editor, create a new file named *delService.bat* in *C:\jakarta-tomcat-4.1.24* that contains the following lines.

Note The Autodesk MapGuide LiteView Setup program installs *<Install-Folder>/Tools/tomcatAsService/delTomcat4Service.bat*, which contains the following lines.

```
SET JAVA_HOME=C:\j2sdk1.4.1_02
SET CATALINA_HOME=C:\jakarta-tomcat-4.1.24
%CATALINA_HOME%\bin\tomcat.exe -uninstall
MapGuideLiteView6.5
```

Note Be certain that the final command—*%CATALINA_HOME%\bin\tomcat.exe*—and its option are on a single line with no breaks.

- 2 Choose Start ► Settings ► Control Panel ► Administrative Tools ► Services
- 3 Right-click MapGuideLiteView6.5 and choose Stop from the shortcut menu.
- 4 Open a command (MS-DOS) prompt and type the following commands:
 - *C:\>cd C:\jakarta-tomcat-4.1.24*
 - *C:\jakarta-tomcat-4.1.24>delTomcat4Service.bat*

Note After the service is uninstalled, you can refresh Services window (choose Action ► Refresh) and note that the MapGuideLiteView6.5 entry disappears. *tomcat.exe* won't stop a running service when the service is uninstalled, so if you don't stop it manually before uninstalling it, the service will continue to run (and become unavailable after it is next stopped).

Troubleshooting

This section offers suggestions and guidelines for solving common service-configuration problems.

- The TOMCAT_HOME and JAVA_HOME pathnames can contain no spaces.
- The JVM options must contain the -Xrs option (which, for JDK 1.3.1, tells the JVM not to terminate on log off).
- If more than one instance of Tomcat is running on your machine, check each instance's *server.xml* file for port conflicts. Change ports if necessary and restart the affected Tomcat instance.
- Make sure that `<JAVA_HOME>\jre\bin\server\jvm.dll` exists (or don't use -server option in the JVM options).
- Check the log files in `<TOMCAT_HOME>\logs` or `<CATALINA_HOME>\logs` for errors.
- If you are specifying heap values, Tomcat won't start unless you have enough available RAM.

Configuring Apache Tomcat with IIS Web Server

This section describes how to configure Apache Tomcat to communicate with Microsoft's Internet Information Server (IIS) Web server. The following instructions assume that:

- Autodesk MapGuide LiteView is installed in the default folder `C:\Program Files\Autodesk\MapGuideLiteView6.5\` (referred to as *<Install-Folder>*)
- IIS resides on the same machine as Autodesk MapGuide LiteView
- The AJP13 protocol is being used for IIS–Tomcat communications via port 8009

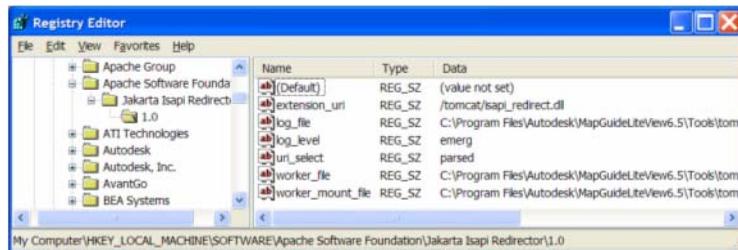
If Autodesk MapGuide LiteView is installed in a folder other than the default installation folder, you first must change the Autodesk MapGuide LiteView installation pathname in the registration file. If Autodesk MapGuide LiteView is installed in the default folder, skip to "To configure Apache Tomcat with IIS Web server".

To change the Autodesk MapGuide LiteView installation pathname in the registration file

- 1 Open the file `<InstallFolder>\Tools\tomcat-iis\iis_redirect.reg` in a text editor.
- 2 Search for the pathname `C:\Program Files\Autodesk\MapGuideLiteView6.5` and replace it with the pathname of your Autodesk MapGuide LiteView installation directory.
Note Use double-backslashes (`\\`), not single backslashes (`\`), to separate pathname components.
- 3 Save and close `iis_redirect.reg`.

To configure Apache Tomcat with IIS Web server

- 1 Double-click the file `<InstallFolder>\Tools\tomcat-iis\iis_redirect.reg`.
- 2 Click Yes when prompted to update the registry.
- 3 Click OK to close the next dialog box that appears.
- 4 Choose Start ► Run, type `regedit`, and then click OK. Registry Editor opens.



- 5 Verify that the keys in `HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Jakarta Isapi Redirector\1.0` contain the correct Autodesk MapGuide LiteView installation directory.
- 6 Close Registry Editor.
- 7 Choose Start ► Settings ► Control Panel ► Administrative Tools ► Internet Information Services.
The Internet Information Services window appears.
- 8 Expand the tree view on left side, right-click Default Web Site, and then select Properties on the shortcut menu.
The Default Web Site Properties dialog box appears.
- 9 Click the ISAPI Filters tab.
- 10 Click Add.

The Filter Properties dialog box appears.

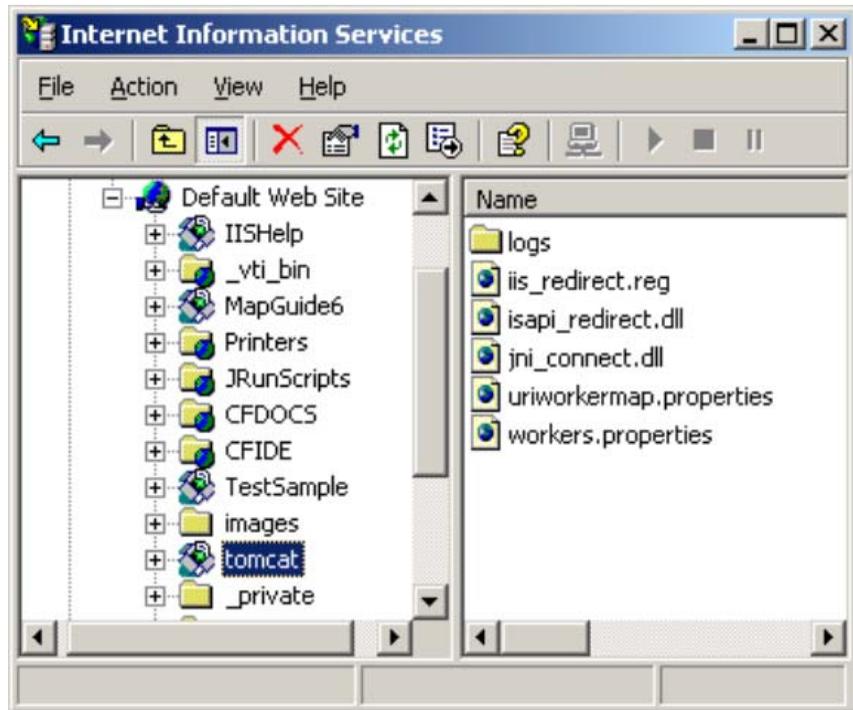
- 11 Type the following items in the Filter Name and Executable text boxes:
 - Filter Name: *tomcat*
 - Executable: *<InstallFolder>\Tools\tomcat-iis\isapi_redirect.dll*
- 12 Click OK in the open dialog boxes.
- 13 In the Internet Information Services window, right-click Default Web Site in the tree view, and then choose New ► Virtual Directory on the shortcut menu.

The Virtual Directory Creation wizard appears.

- 14 Click Next in the wizard's first screen.
- 15 Type *tomcat* in the Alias text box. Click Next.

Note If you type an alias name other than *tomcat*, you must change the value of the *HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Jakarta Isapi Redirector\1.0* registry key *extension_uri* to */<alias_name>/isapi_redirect.dll*.
- 16 In Directory text box, type the location of *isapi_redirect.dll*. The default location is *<InstallFolder>\Tools\tomcat-iis*. Click Next.
- 17 In the Access Permission page, check the Read, Run Script, and Execute check boxes. Click Finish.

The Internet Information Services window should appear as follows:



To test the Autodesk MapGuide LiteView–IIS connection

- 1 Start Tomcat where Autodesk MapGuide LiteView is deployed.

In the default Autodesk MapGuide LiteView installation, you can choose Start ► Programs ► Autodesk MapGuide Release 6.5 ► LiteView 6.5 ► Start Apache Tomcat. (Or run `<InstallFolder>\run.bat` at a command prompt.)

- 2 In a browser, visit <http://localhost/wmsviewer6.5>.

or

Visit <http://localhost/liteview6.5/servlet/MapGuideLiteView?REQUEST=capabilities>.

- 3 If the WMS Viewer sample application or a capabilities XML document appears, then the Tomcat–IIS connection is working.

Setting Up IIS in a DMZ

It's also possible to set up IIS in a DMZ (demilitarized zone) and set up Autodesk MapGuide LiteView and MapGuide servers in a secure environment. The following instructions assume that:

- Machine A is available in the intranet environment where Autodesk MapGuide LiteView is deployed.
- Machine B is available in the DMZ zone where IIS is deployed.
- Machine A's 8080, 8007, and 8009 ports are open to Machine B.
- Machine A's Tomcat server is using port 8080 for the HttpConnector, port 8007 for the AJP12 connector, and port 8009 for the AJP13 connector.

Note You can verify (or change) which ports are open by inspecting Tomcat's *server.xml* file.

To set up IIS in a DMZ

- 1 On Machine B, create the folder
C:\Program Files\Autodesk\MapGuideLiteView6.5\Tools.
- 2 Copy the *tomcat-iis* folder and its contents from Machine A to Machine B folder that you created in the preceding step.

The new Machine-B folder will be

C:\Program Files\Autodesk\MapGuideLiteView6.5\Tools\tomcat-iis.

- 3 On Machine B, open the file *workers.properties* and modify the following settings as shown:

```
worker.list=ajp13
worker.ajp13.port=8009
worker.ajp13.host=x.x.x.x (where x.x.x.x is Machine A's IP address)
worker.ajp13.type=ajp13
```

- 4 If the context paths for your Autodesk MapGuide LiteView installation are not same as the default context paths (that is, */wmsviewer6.5*, */wmsadmin6.5*, and */liteview6.5*, all lowercase), modify the appropriate settings in the file *uriworkermap.properties*. The default settings are:

```
default.worker=ajp13
/admin=$(default.worker)
/admin/*=$(default.worker)
/examples=$(default.worker)
/examples/*=$(default.worker)
/liteview6.5=$(default.worker)
```

```
/liteview6.5/*=$ (default.worker)
/wmsadmin6.5=$ (default.worker)
/wmsadmin6.5/*=$ (default.worker)
/wmsviewer6.5=$ (default.worker)
/wmsviewer6.5/*=$ (default.worker)
```

Note The easiest way to test a context path is to try using it to access Autodesk MapGuide LiteView from Machine B. In a Machine B browser, for example, visit http://<Machine_A_name>:8080/wmsviewer6.5. The WMS Viewer sample application will appear if the context path is correct.

- 5 Perform the steps given in “To configure Apache Tomcat with IIS Web server” on page 75.

Additional Apache Tomcat References

An Apache Tomcat installation’s *doc* folder contains HOWTO documents that describe how to troubleshoot and configure Tomcat. Some useful HOWTOs that come with Apache Tomcat 3.3.1a, for example, (in *jakarta-tomcat-3.3.1a\doc*) are:

- *tomcat-iis-howto.html*
- *Tomcat-Workers-HowTo.html*
- *in-process-howto.html*
- *tomcat-apache-howto.html*
- *mod_jk-howto.html*
- *Tomcat-on-NetWare-HowTo.html*

A good third-party explanation of configuring Tomcat with IIS is available at <http://www.onjava.com/pub/a/onjava/2002/12/18/tomcat.html>.

Performance Tuning

The section describes ways improve Autodesk MapGuide LiteView’s performance by setting various parameters and options.

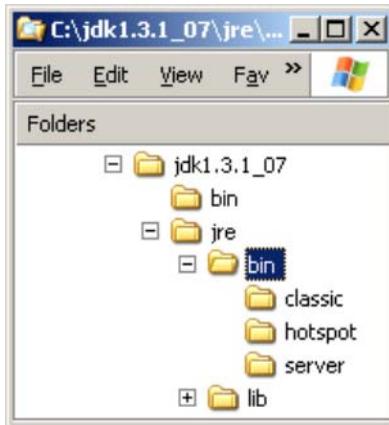
Setting JVM options

The Autodesk MapGuide LiteView servlet is a Java application, so its performance depends mainly on the type of JVM (Java Virtual Machine) being used and the JVM's option settings.

JVM types

Since JDK 1.3.1, three types of JVMs have been available: classic, hotspot, and server. The *classic* JVM is designed for desktop applications; the *server* JVM is designed for server applications; and the *hotspot* JVM is an intermediate type that was introduced in earlier releases where a server JVM was not available.

To identify which JVM type(s) are installed on your machine, inspect the *jre/bin* folder of your JDK installation (*C:\jdk1.3.1_07\jre\bin*, for example). *bin* will contain a subfolder for each installed JDK type. The following screen shows a JDK in which all three JVM types are installed.



To specify which JVM to use for an application, use that folder's name as a command-line option when you invoke Java to execute a class. The following command uses the classic VM, for example:

```
C:\>java -classic my_desktop_application.class
```

If omitted, the VM type defaults to `-hotspot`.

Note The `-classic` VM option was discontinued with JDK 1.4.0, in favor of the `-client` option or the `-server` option.

Because Autodesk MapGuide LiteView doesn't include a desktop application, the `-server` option is recommended for all Autodesk MapGuide LiteView

applications. Most application servers recognize environment variables that let you specify Java parameters. To run the server VM with Apache Tomcat 3.3.1a and earlier, use the TOMCAT_OPTS environment variable (which you can verify as an option to the *java.exe* call in the file *tomcat.bat*). Setting the following environment variables, for example, will make Tomcat use the server VM in *C:\JDK1.3.1_07*:

```
SET JAVA_HOME=C:\JDK1.3.1_07
SET TOMCAT_OPTS=-server
```

For Apache Tomcat 4.1.24, the Java-options environment variable is named CATALINA_OPTS (or JAVA_OPTS).

For JRun 4.0, modify the settings in the file *C:\JRUN4\bin\jvm.config* as follows:

```
java.home=C:/jdk1.3.1_07
java.args=-server
```

Note Restart the application server after making any of the preceding changes.

Using the *-server* VM probably will improve performance, but setting other JVM options can improve efficiency.

Garbage collection

A major JVM task (besides running applications) is to reclaim temporary memory allocated to running applications. This memory is collected periodically and automatically by the JVM's *garbage collector*, or *GC*.

The GC in JDK 1.3.1 and earlier releases is single threaded, meaning that when the GC is running, applications pause until the GC finishes, degrading performance. JVM options allow you to control the GC's timing and memory requirements. These options are explained at <http://java.sun.com/docs/hotspot/gc/index.html>.

The new multi-threaded garbage collector in JDK 1.4.1 and later runs in parallel with applications on multiprocessor machines, so applications don't pause during garbage collection. For GC-tuning details, visit <http://java.sun.com/docs/hotspot/gc1.4.2/index.html>.

If you let Autodesk MapGuide LiteView Setup install Apache Tomcat 3.3.1a, Setup created the file:

C:\Program Files\Autodesk\MapGuideLiteView6.5\run.bat (which starts Apache Tomcat) with following Java options:

```
set TOMCAT_OPTS=  
-server  
-Xms511m  
-Xmx511m  
-XX:+DisableExplicitGC  
-XX:NewRatio=3  
-XX:NewSize=127m  
-XX:MaxNewSize=127m
```

The parameter values are determined according to the available RAM on your machine, as follows:

Xms = two-thirds of available RAM

Xmx = two-thirds of available RAM

NewSize = one-sixth of available RAM

MaxNewSize = one-sixth of available RAM

-XX:+DisableExplicitGC. If an Autodesk MapGuide LiteView application contains explicit GC calls, you can leave this option enabled to suppress the calls or disable this option (that is, delete it from the *set* line) to allow the calls. On high-end systems with ample RAM, you can leave this option enabled. On lower-end systems with limited RAM, you can disable this option to make the GC reclaim memory more frequently, at the cost of pausing applications more frequently.

Setting Autodesk MapGuide LiteView options

The *config.ini* parameters which most affect Autodesk MapGuide LiteView performance are:

- MaxPoolSize (page 28)
- NoOfMwfsToProcess (page 29)
- ApplyImageFilter (page 19), ApplyPngCompression (page 20), and JpegQuality (page 27)

MaxPoolSize

MaxPoolSize sets the maximum number of independent connections to MapGuide servers.

Consider an application (MapGuide Author, for example) in which you can open an MWF file and then zoom, pan, select, and perform other navigation operations. Each pool specifies a window or space into which an MWF file is loaded. After the map is loaded, you can navigate without forcing the map to reload.

In a multiple-user server environment, it's common for one user to request the map MWF1 while another user requests MWF2 while yet another user requests MWF3 (and so on). Consider the case where:

- MaxPoolSize=1 (that is, only one window is available for loading maps)
- Request#1 asks for MWF1
- Request#2 asks for MWF2
- Request#1 is received a millisecond before Request#2

Request#1 is processed first, and Request#2 must wait until Request#1 completes. If MWF1 already is loaded into the available window, Request#1 is processed quickly because MWF1 needn't be reloaded. Request#2 will take longer than Request#1 because the server must load MWF2 into the window, replacing MWF1. The duration of Request#2 is the wait time (until Request#1 finishes) plus the load time (for loading MWF2).

Now consider the same case except that two windows are available (that is, MaxPoolSize=2). Request#2, which now is served in parallel to Request#1, would have a zero wait time plus the same load time.

You may be able to improve performance by increasing the value of MaxPoolSize because:

- The server needn't reload requested maps that already are loaded.
- Multiple requests can be processed concurrently. (If the number of active requests exceeds the value of MaxPoolSize, excess requests are processed sequentially.)

Higher values of MaxPoolSize require more RAM, however, to keep MWFs loaded in memory, so you will need to experiment with different MaxPoolSize values to determine which setting is best for your environment. The appropriate value depends mainly on the number of clients using the Autodesk MapGuide LiteView server, the frequency of requests, the number of processors on the server, and available RAM.

NoOfMwfsToProcess

NoOfMwfsToProcess specifies the maximum number of MWF files to process at any given time. This parameter is required for OpenGIS WMS 1.1.1-compliant requests (that is, GetCapabilities, GetMap, and GetFeatureInfo requests).

By using a GetMap or GetFeatureInfo request, a user can request multiple layers or multiple MWFs, which can be processed sequentially (one after another) or concurrently (as if they were multiple requests from different users for each MWF or layer). The NoOfMwfsToProcess parameter determines

how to process multiple layers or MWFs. The default value, one, causes Autodesk MapGuide LiteView to process each layer sequentially.

You may be able to improve performance by increasing the value of `NoOfMwfsToProcess` for the reasons given in “`MaxPoolSize`” above. `NoOfMwfsToProcess` must be less than or equal to `MaxPoolSize`; the recommended value is half of `MaxPoolSize`.

ApplyImageFilter, ApplyPngCompression, and JpegQuality

These three parameters set the image quality and compression level of Autodesk MapGuide LiteView-generated PNG and JPEG maps. Higher-quality or minimally-compressed images yield more map detail, larger file sizes, and increased network traffic. If your users can manage with less-detailed maps, you can reduce network traffic substantially by choosing to generate lower-quality images.

Working with the WMS Administrator Tool

This chapter shows you how to use Autodesk MapGuide® LiteView's WMS Administrator tool to register Autodesk MapGuide (MWF) files with a Web Map Service (WMS) server, and how to edit MWF metadata.

6

In this chapter

- Overview
- Using WMS Administrator
- Administering metadata

Overview

In Autodesk MapGuide LiteView, you use the WMS server and *WMS Administrator* to respond to WMS requests. (For information about requests, see the *Autodesk MapGuide LiteView Developer's Guide*.) The WMS server is a Java servlet that serves WMS requests. WMS Administrator lets you specify data for the WMS server to use. The general workflow for setting up and using WMS with Autodesk MapGuide LiteView is as follows:

- 1 The administrator posts MWF-format map files on a secure local file server, letting the file system control file access.
- 2 The administrator uses WMS Administrator to register new MWF files with the WMS server by specifying the location of the MWF files with a file-based URL.
- 3 *Optional.* The administrator edits the MWF files' metadata and saves the changes to the service. *Metadata*, or "data about data", describe the content, quality, condition, and other characteristics of a map.
- 4 Now configured, the WMS server can respond to users' URL requests for registered MWF files.

Using WMS Administrator

To start and log in to WMS Administrator

- 1 If the application server isn't running, start it.
If you let Autodesk MapGuide LiteView Setup install Apache Tomcat, choose Start ► Programs ► Autodesk MapGuide Release 6.5 ► LiteView 6.5 ► Start Apache Tomcat.
- 2 In a browser, go to <http://localhost:8080/wmsadmin6.5> (case-sensitive).
or
On the Windows desktop, choose Start ► Programs ► Autodesk MapGuide Release 6.5 ► LiteView 6.5 ► WMS Server Administrator.
- 3 When the log-in page for WMS Administrator appears, type the (case-sensitive) default user name *Admin* and password *ChangeMe*.
Note To change the user name and password, click the link Change Login Information on the log-in page.

After log-in, you can use WMS Administrator to register (publish) maps and change MWF metadata. The MWF-registration page lists the MWF files that Autodesk MapGuide LiteView has found in the locations (path names) speci-

fied by the MWFSearchPath parameter in the file *config.ini*. By default, MWFSearchPath contains the location of Autodesk MapGuide LiteView's sample maps, and any other locations specified during Autodesk MapGuide LiteView installation. To add more locations, see "Setting the MWFSearchPath Parameter" on page 17.

To use WMS Administrator

- 1 On the MWF-registration page, use the Check All and Uncheck All buttons, or the individual check boxes, to select or deselect the MWF files to register.

Note The MWF-registration page appears when you log in; you also can display it by clicking the Capability Metadata link at the top of any page.

- 2 Click Generate to register the selected MWF files, and unregister any deselected MWFs that were registered previously.

After a few seconds, an Edit link appears to the right of each MWF file that was registered successfully. (Existing Edit links disappear for newly unregistered MWFs.)

Note If WMS Administrator is unable to register an MWF file, the file is flagged with a stop-sign icon. If an MWF file is missing latitude-longitude definition, the file is flagged with an exclamation-point icon. Click the file name to display a pop-up description of, and possible fixes for, the problem.

- 3 Click an Edit link to view or edit a particular map's capabilities metadata.
- 4 To preview a map before you publish it, click Get Map.

To preview an individual layer, select the layer in the Name drop-down list, select the Request Layer check box, and then click Get Map.

- 5 At the bottom of the page, click Save to save your changes (or click Cancel to discard your changes) and return to the MWF-registration page.
 - 6 Click the Service Metadata link (at the top of the page) to view or edit service metadata.
 - 7 At the bottom of the page, click Save to save your changes, or click Reset to restore the fields to their default values (most of which are blank or "None").
 - 8 To see all changes, click the Get Capabilities link at the top of any page. The browser displays a WMT_MS_Capabilities XML document with the updated data. (In Netscape Navigator or any browser that lacks a built-in XML parser, the XML document will be formatted improperly and accompanied by a one-time pop-up error message.)
- Note** In the default Autodesk MapGuide LiteView installation, another way to view the WMT_MS_Capabilities document is to go to:

http://localhost:8080/liteview6.5/servlet/MapGuideLiteView?
request=GetCapabilities&service=WMS&exceptions=text/xml

Troubleshooting WMS Administrator

This section contains tips and solutions to common problems.

Logging in

- The user name and password are case-sensitive. The default user name is *Admin* and the default password is *ChangeMe*.
- In some cases, the URL for WMS Administrator is case-sensitive.
- Try clearing your browser's cache. In Internet Explorer, for example, choose Tools ► Internet Options; on the General tab, click Clear History, Delete Cookies, and Delete Files.

Recovering forgotten passwords

Make a backup copy of the file *users.ini*, located by default in *C:\Program Files\Autodesk\MapGuideLiteView6.5\liteview\WEB-INF\IniFile*. If you forget your password, replace the original *users.ini* with your backup copy. If you have no backup copy, install Autodesk MapGuide LiteView on another machine and use its clean *users.ini* as your backup (resetting the user name and password to their default values).

“A fatal error occurred in the application”

You may receive the following error message when you try to open WMS Administrator:

A fatal error occurred in the application.

Cause: Could not get login information from the Wms servlet.

Suggestion: Wms servlet might be down (and then check for the log file), or check the *users.ini* file on the Wms servlet machine.

This error occurs when your Autodesk MapGuide LiteView server is stopped or the *Admin.cfg* file is directed to wrong Autodesk MapGuide LiteView server. *Admin.cfg* is located by default in *<InstallFolder>\WmsAdmin*; for more information, see “Modifying Admin.cfg” on page 52. To ensure that WmsAdmin servlet refers to the correct Autodesk MapGuide LiteView server, use the values (of the indicated XML elements) in *Admin.cfg* to form the URL:

http://<WmsHost>:<Port>/<WmsServlet>?REQUEST=GetCapabilities

Visit this URL in a browser—a valid response means that the Autodesk MapGuide LiteView server is started.

Restart the Autodesk MapGuide LiteView server where WmsAdmin is deployed and visit <http://localhost:8080/wmsadmin6.5> in a browser. If problem persists, contact Autodesk technical support.

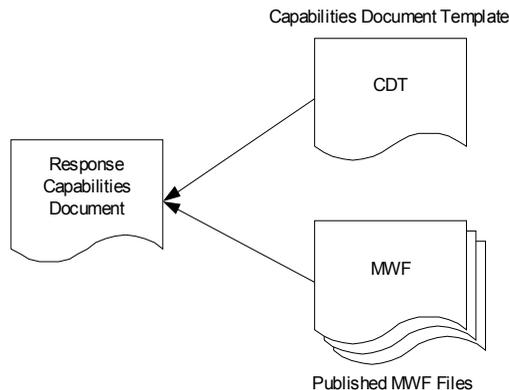
If Autodesk MapGuide LiteView doesn't respond to a GetCapabilities request, check the Autodesk MapGuide LiteView log files (see Chapter 4, "Logging Errors").

Another cause of this error is that the file *users.ini* is missing from `<InstallFolder>\liteview\WEB-INF\IniFile\`.

Administering Metadata

The WMS server needs to know the location of the MapGuide map files to process requests. Therefore, MapGuide map files, which must be in MWF format, must be registered with the WMS server.

WMS Administrator configures service metadata and capabilities metadata. As shown in the following diagram, when a request is made for a particular map, the WMS server assembles the capabilities metadata dynamically from a two sources: a Capabilities Document Template (CDT) XML file, and the requested MWF file. The resulting file is called the Response Capabilities Document (RCD).



Relationship of CDT, MWF files, and RCD

Configuring Service Metadata

The following table lists the Service metadata parameters that Autodesk MapGuide LiteView supports. Parameters are either required or optional. Some are editable, whereas others have fixed values. You can use WMS Administrator to edit parameters and commit the changes to the default Capabilities Document Template file (*CDT.xml*).

Field name	Required/Optional	Editable	Default value/comments
General Properties			
Name	R	No	OGC:WMS
Title	R	Yes	
Abstract	O	Yes	
Keyword	O	Yes	
OnLine Resource	R	Yes	
Contact Information			
Individual			
Person	O	Yes	Must be entered if Organization is not blank.
Organization	O	Yes	Must be entered if Person is not blank.
Position	O	Yes	
Contact Address			
Type	O	No	postal
Address	O	Yes	
City	O	Yes	

State	<input type="radio"/>	Yes	
Zip	<input type="radio"/>	Yes	
Country	<input type="radio"/>	Yes	
Note: You must enter all fields (except Type) for Contact Address or leave all fields blank.			
Other Contact Info			
Telephone	<input type="radio"/>	Yes	
Fax	<input type="radio"/>	Yes	
Email	<input type="radio"/>	Yes	
Access Info			
Fees	<input type="radio"/>	Yes	none
Access Constraints	<input type="radio"/>	Yes	none

Configuring Capabilities Metadata

The following table lists Capabilities metadata parameters that Autodesk MapGuide LiteView supports. Parameters are either required or optional. Some are editable, whereas others have fixed values. You can use WMS Administrator to edit metadata for the selected MWF files.

Field name	Required/ Optional	Editable	Default value/comments
Metadata for MWF file			
Name	R	No	MWF file name
Title	R	Yes	Map name
Abstract	O	Yes	

Keyword	O	Yes	
SRS	R	Yes	The layer's SRS or an SRS mapping from the <i>config.ini</i> file; see "ADSK\:\xxxx=EPSG\:\xxxx" on page 19.
LatLonBoundingBox	R	Yes	Latitude/longitude bounding box calculated from the map's latitude/longitude center point and width/height, expressed in meters, specified in the MWF file. For arbitrary x-y coordinate systems, this value can't be calculated and will be blank initially, but should be entered by the administrator by using WMS Administrator. Files that are registered and have no defined latitude/longitude bounding box will appear in dark red in WMS Administrator to make them easy to identify.
BoundingBox	O	No	Bounding box calculated from the map's center point and width/height specified in the MWF file.
Metadata URL	O	Yes	Must be entered if Format is not blank.
Type	O	Yes	
Format	O	Yes	Must be entered if Metadata URL is not blank.
Layers in MWF File			
Name	O	No	Layer name. If the layer can't be accessed for any reason, this field will be blank.
Title	O	No	LegendLabel from the layer attributes in the MWF file.
Abstract	O	No	If the layer can't be accessed for any reason, this field will contain an error message describing the problem.
Scale Hint	O	No	Minimum-maximum values for all scale ranges.

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