

Release

5.1

Luna Imaging Inc.

insight[®]

Installation and Configuration Guide

Second Edition

Luna Imaging Inc.
insight®

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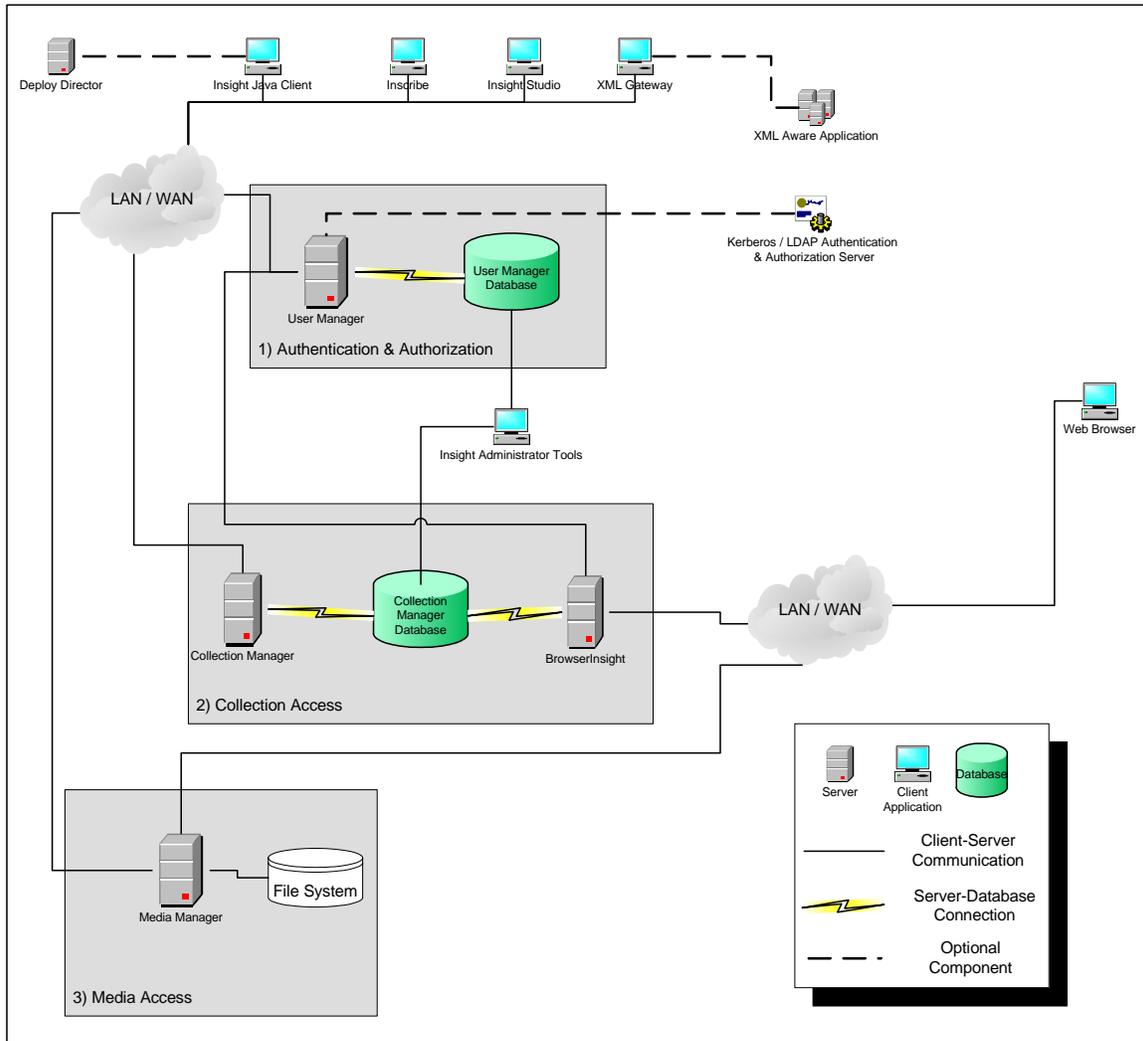
Welcome to Insight

This document is intended mainly for System Administrators and secondarily for Insight Administrators to provide context and information on how to Install & Configure Insight. Readers are expected to have a basic knowledge of the UNIX / Windows Operating Systems, Microsoft SQL Server / DB2 / Oracle Databases, and Apache Tomcat JSP Server.

Insight Architecture

Insight has a dynamic multi-tier architecture built on the client-server model, which allows it to adapt to an Institution's needs and requirements.

Figure 1: Insight Component Diagram



Insight's components are as follow:

User Manager: The Insight User Manager functions as a single point of entry for all Insight Collection and Personal Insight Managers. It consolidates the functions of Authentication and Authorization for all shared resources within Insight. The user manager can integrate within an existing security infrastructure if an institution already has a single sign-on solution in place. The user manager also provides access to resources such as shared folders and groups.

Collection Manager: The Insight Collection Manager provides a common interface between client requests and the underlying data repository. Each collection manager may contain multiple collections and virtual collections of consistent or heterogeneous structures. The Collection Manager also functions as a broker between the clients (the Insight Java Client, Inscribe data editor, and XML Gateway) and the underlying database, coordinating search requests, and data updates. With Insight's data import and management tools, the Collection Manager can leverage virtually any data source.

Personal Insight Manager: The Personal Insight Manager is a specialized version of the Collection Manager which supports the creation of Personal Collections with the Insight Java Client. Starting with version 5.1, Personal Insight has unlimited licensing. In prior versions, including upgraded implementations, it is licensed by seat (either floating or fixed). An additional license key may be requested from Luna to extend PIM licensing to unlimited in the case of an upgrade to version 5.1. Please contact <mailto:licensing@luna-img.com> or call (800) 452-LUNA.

Media Manager: The Insight Media Manager is built around a basic JSP Server, and manages access to Insight's media content. The Media Manager supports direct upload of processed content and also manages access to the JPEG2000 wavelet images that power Insight's Image Workspace. Finally, the Media Manager supports an optional ticket based authentication system to ensure authorized access for Insight Applications to images and multimedia.

Browser & Java Clients: The Browser and Java Clients represent the core of Insight. They provide the end-user interface for searching, viewing, and managing Images, Audio, Video, and other Multimedia. The clients provide unique tools to interact with visual content. The Insight Clients offer two environments for interacting with visual content: a "Group Workspace" and "Image/Media Workspace" facilitate simple, elegant interactions with an institution's media assets. The Group Workspace allows a user to interact with content in aggregate, to search, manage, and organize images and media, while the Image Workspace allows a user to view images at high resolution, compare multiple images side-by-side, and interact with visual media.

Inscribe Data Editor: The Inscribe Data Editor is an end-user cataloging tool which has been designed to support all of an Institution's cataloging needs. The Data Editor comes with built-in support for controlled vocabularies, date and numeric validation, and complex data relationships. Inscribe also supports an Institution's workflow requirements by facilitating the publishing and review processes.

Insight Studio: Insight Studio provides a collection administrator with the tools necessary to build and manage collections. Insight Studio is a wizard based tool supporting batch processing of media, batch import of metadata, user management, cataloging template creation and management, and other basic functions.

Administrator Tools: The Insight Administrative Tools allow a collection administrator to dynamically manage collections. Components include tools for batch media processing, user and resource management, data indexing, and configuring of the search and user interface.

JPEG2000 Wavelet Encoder: The Insight Administrative Tools and Insight Studio can optionally be paired with a JPEG2000 Wavelet Encoder (one is included with every Insight Sale; see license for details). Wavelet encoded images increase speed and performance when accessing large images.

XML Gateway: The XML Gateway provides a web-services based interface for searching and retrieves content stored within Insight collections. The XML Gateway is middleware which allows backend interaction between Insight and other XML aware applications.

Deploy Director: Deploy Director is a third-party add-on component which makes the Java Client “web aware” allowing the Java Client to open remote launch strings. One other benefit of Deploy Director is its management of the Java Client, managing the auto-update of the client as new releases become available.

What’s new in 5.1

Backend

- Support for MySQL 4.1. Insight 5.1 ships with full support for MySQL 4.1 as a database platform. Now you have the choice of MySQL, DB2, Oracle, or Microsoft SQL Server.
- Additional reporting tools. For those who want access to the source data stored within Insight, Insight 5.1 ships with additional reporting tools allowing access to thumbnail labels, image locations, and fielded data stored within the Insight database. (Note: these tools require support for stored procedures, presently supported on MSSQL, Oracle, or DB2).
- Improved support for UTF-8 across the entire product suite from data import, to indexing, to data display in BrowserInsight, the Insight Java Client, and Inscribe data editor.

Java Client

- Now users can create subfolders within Insight Shares. End users can use folders to store Image Groups and Presentations. Administrators can specify which users have the rights to add, delete, and/or use top-level folders within Insight Shares. All folders are available via BrowserInsight.
- Re-ordering of Image Groups based on a custom order. Image Groups can now be ordered to meet your own needs. Simply create an Image Group; add images; and drag and drop them into any order you choose then Save.
- New presentations maintain the Image Group’s sort order when the presentation is created.
- Annotations are now included in Image Export data.
- Annotations and Metadata are now included in the Presentation Export to HTML, PowerPoint on Windows, and Keynote.
- Users may now specify the number of items per page (50-100-250).

BrowserInsight

- BrowserInsight now supports Safari 1.2+ (Apple’s Web Browser).
- BrowserInsight now supports access to Image Groups stored in subfolders within Insight Shares.

- Users may now resize the Image Workspace's floating data window.

Inscribe

- A New Merge / De-Duping module has been added to allow users to manage duplicate records, authority files, and controlled vocabularies. De-Duping is useful for removing duplicate imported records and helps with data integrity issues.
- Media Manager This new tool allows you to find and delete media from the collection

Insight Studio

- Insight Studio now allows you to view/manage historical batches created within Insight. Batch processing allows you to import media or data in whichever order you choose and link at a later time.
- Data Import Tool can now ignore data fields, automatically map repeating fields, and import UTF-8 data.
- The New Field Standards Manager allows you to choose which standards are enabled for cross-collection searching.
- Deleting Media from the Media processing tool
- Delete Collections: A privileged Administrator now has the ability to delete a collection from Insight Studio

XML Gateway

- Now providing a sample search application (Java servlet). This is a simple search interface for a collection using XML Gateway technology.

Finding installers and tools on the CDs

Insight 5.1 is shipped on four separate CDs. Depending on which products your organization has purchased, you may receive between two and four CDs. There is one CD for the general installers, one for upgrade, one for the clients, and the last for Deploy Director. Below is a list of the tools / installers available on each CD:

Table 1: Distribution CD Contents

	CD1 – Insight	CD2 – Clients	CD3 – Upgrade	CD4 – Deploy Director
Insight Suite Installer including installers for: User Manager, Collection Manager, Personal Insight Manager, BrowserInsight, XML Gateway, Media Manager, Insight Studio, Tomcat 5.0	X			
Insight Upgrade Installer including upgrade installers for: User Manager, Collection Manager, BrowserInsight, XML Gateway, Media Manager, Tomcat 5.0			X	
Insight 5.1	X	X	X	
Inscribe 5.1	X	X	X	
Insight Studio 5.1	X	X	X	
Insight Administrator Tools 5.1	X	X	X	
Command Line Indexer	X		X	
Background template	X		X	
Browser background template	X		X	
XML Gateway test application (with source code)	X		X	
Log Analyzer	X		X	
Insight Launch Manager	X		X	
Deploy Director				X
Insight client bundles for Deploy Director				X
Simple Search Servlet for the Insight XML Gateway	X		X	
Collection Reporting Tools	X		X	
Check Hostname	X		X	

Locations of Commonly Used Components

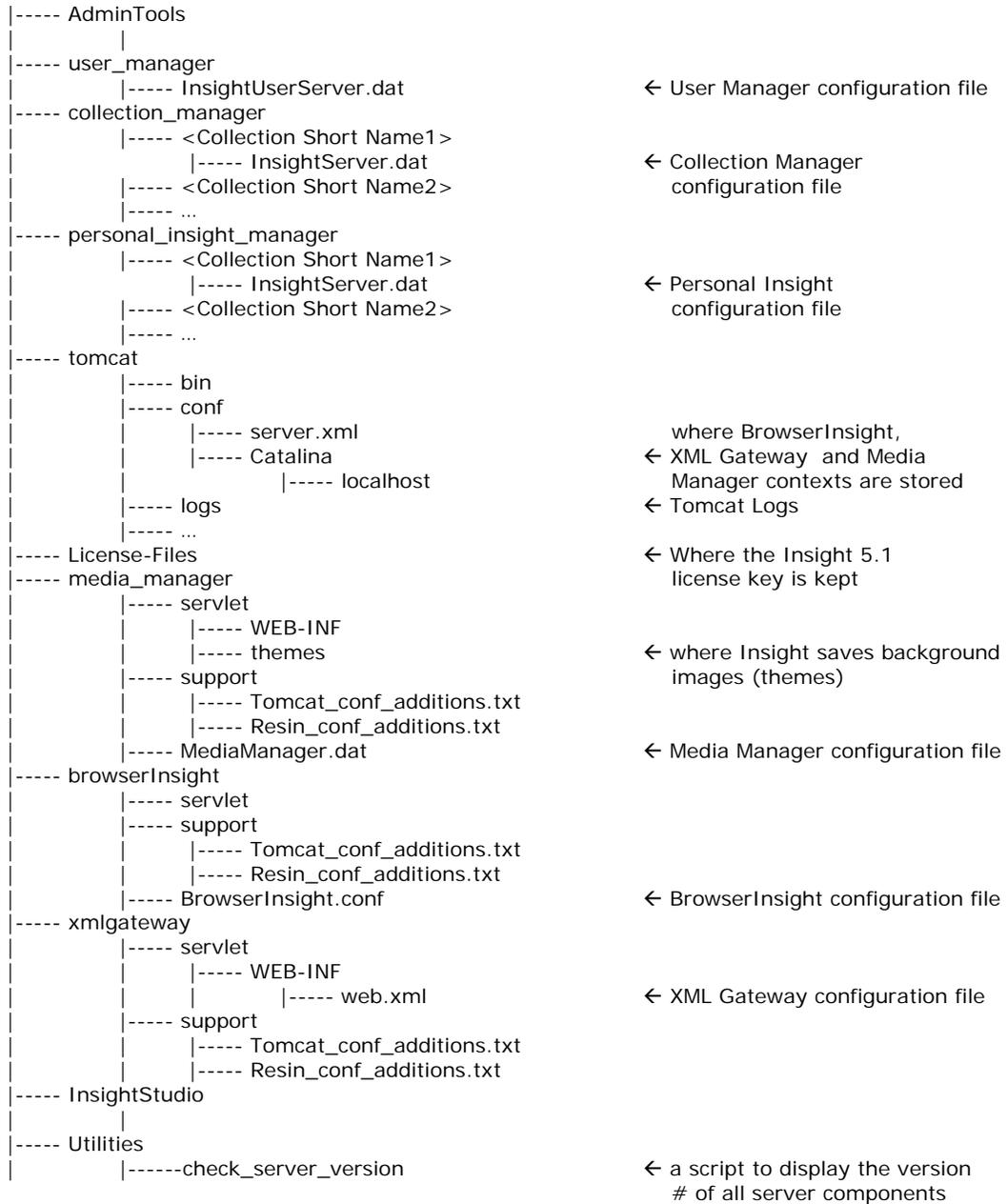
The Suite installer for Insight 5.1 manages where all of the components are installed.

Platform	Location
Windows	C:\program files\LunaImaging\5.x
Solaris / Linux	/home/<username> /LunaImaging/5.x

Basic structure for the Insight Server Components

This structure may be useful in understanding where to find common components.

Figure 2: Insight Installation Directory
 <installation directory>



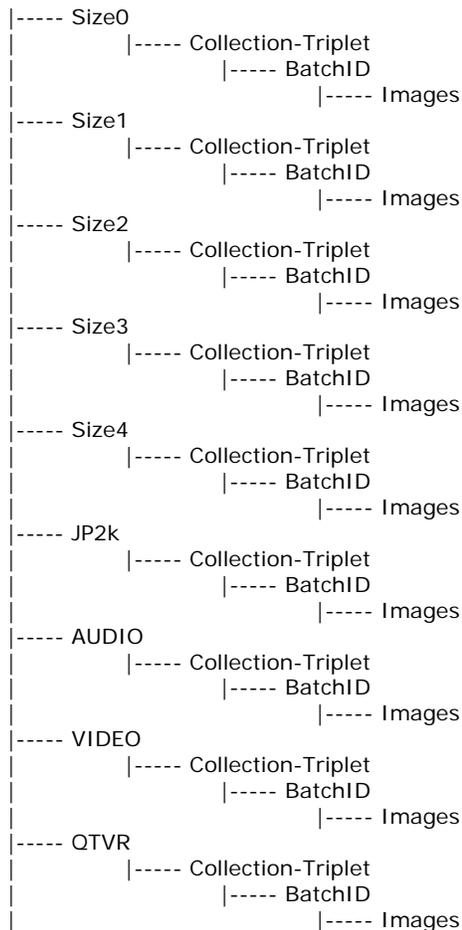
Deploy Director is a separately licensed and bundled application and is commonly installed into "Program Files" on Windows, or the user's home directory on Linux / Solaris.

Basic Structure of the Media Manager Source File Directory

The Media Manager organizes files by size / file-type, collection, and batch. The top level directory is the size / filetype (one size for each JPEG derivative, then SID, Audio, Video, and JP2K). Content is organized in this sub-directory structure to ensure that the Media Manager can manage content from multiple collections as well as multiple Collection or Personal Insight Managers.

Figure 3: Media Manager Directory Organization

<media source directory>



The second piece of the directory structure is the Collection-Triplet, which is the combination of the InstitutionID, CollectionID, and Virtual CollectionID, separated by hyphens. The final directory is the Media Batch, which helps with the organization of content based on processing logic – Media Batches are created by the end-user and may separate images digitized at one time, or simply imported at one time.

Installing Insight

This section will walk you through every step of installing and configuring the Insight Server Components from scratch. (For information about installing the client applications, see [Repackaging & Advanced Configuration of the Insight Client Applications](#).) By the end of this section, you should have a fully working version of Insight and be able to build collections.

NOTE: Please note that there is plenty of useful information throughout this document, so you will most likely want to use it as a reference in the future.

Installation Process

The installation process is broken down into five stages:

1. Create Databases
2. Install Insight
3. Configure & Test Installation
4. Configure components to run as services
5. Run Insight Studio

Prerequisites

Before installing Insight, you should make sure that you have reviewed this entire section and completed the pre-install checklist, prepared your database, and planned for the disk storage requirements for Insight.

Choosing the Features you Plan to Install

If you have not already, please decide which features you plan to install. By default the installer will install the following:

- Insight User Manager
- Insight Collection Manager
- Tomcat 5
- BrowserInsight
- Insight Media Manager
- Insight Administrator Tools

Optionally, the installer allows you to separately install:

- Insight Studio
- Personal Insight Manager
- Insight XML Gateway

Suggested Installation Methodology

As the Suite Installer will configure all of the Insight Server Components as it runs, it is suggested that for ease of configuration in the future you install ALL components, even if you do not plan to implement them right away.

NOTE: After Installation you will be required to activate the product by obtaining a license key and copying it into the main License-Files directory.

Space Requirements

There are three main disk storage requirements for the Insight Server components. Storage must be allocated for:

- The installed application
- The database
- The media (Images, Video and Audio).

Space for Installation

Depending on the specific features installed, the Insight Server Components will use between 200MB and 500MB.

Space for Images and Multimedia

Before you install Insight, ensure that you have enough storage set aside for images to support the growth of your collection. Insight uses a set of JPEGs for lower resolution images and a wavelet compressed image format to manage its high-quality images. Wavelet images are compressed with a ratio that varies from 15:1 to 30:1, based on the size and other qualities of the image. To estimate the space necessary for images in a collection, assume that a 20MB TIFF file (containing detail roughly equivalent to a 35mm slide) will take up 1-2MB of space, while a 70MB TIFF file (roughly equivalent to a 4x5 Color Transparency) will take up 5-7MB.

NOTE: Multimedia files (Audio, Video, & QTVR) will not be altered during processing and will remain the same size on your server.

Space for the Database

We suggest that you start by allocating 500MB per Insight Collection or Personal Insight database, and 50MB for the Insight User Manager database.

Pre-Installation Checklist

Below is a checklist for all of the information necessary to perform a complete installation of the server. It is **strongly** suggested that you complete the checklist before beginning your installation.

NOTE: Topics discussed in the checklist will be covered throughout this chapter. It may be helpful to print out the checklist and keep it for future reference and ease of completion.

Obtaining the Hostname

Insight comes with a simple utility that will allow you to obtain the hostname of your server. The utility is located in \utilities\check_hostname. Please execute checkHostname.cmd (for Windows) or checkHostname.sh (for UNIX/Linux) on the server where you will be installing the Insight server components.

Table 2: Pre-Installation Checklist

General Information:	
Installation Location:	
Insight Administrative Username:	
Insight Administrative Password:	
<i>NOTE: This username and password will be needed to administer the User Manager, Collection Manager, and Personal Insight Manager. It will also be used in Insight Studio and the Administrator Tools. You may want to Choose a name that reflects this privilege level.</i>	
Institution ID:	
User Manager:	
User Manager Address:	
<i>NOTE: This should be a fully qualified Hostname, not an IP</i>	
Database Type:	MSSQL Server 7+ __ DB2 8.1+ __ Oracle 8, Oracle 9+ __ MySQL 4.1 _____
Database Hostname / IP:	
Database Port:	
<i>Common Ports (MSSQL 1433, Oracle: 1521, DB2 50000, MySQL 3306)</i>	
Database Username:	
Database Password:	
Database Name / SID Name	
<i>(SID is for oracle)</i>	
Database Service Name (Windows only):	
Collection Manager:	
Database Type:	MSSQL Server 7+ __

	DB2 8.1+ ___ Oracle 8, Oracle 9+ ___ MySQL 4.1 _____
Database Hostname / IP:	
Database Port:	
<i>Common Ports (MSSQL 1433, Oracle: 1521, DB2 50000, MySQL 3306)</i>	
Database Username:	
Database Password:	
Database Name / SID Name:	
<i>(SID is for oracle)</i>	
Database Service Name (Windows only):	
Personal Insight Manager:	
Database Type:	MSSQL Server 7+ ___ DB2 8.1+ ___ Oracle 8, Oracle 9+ ___ MySQL 4.1 _____
Database Hostname / IP:	
Database Port:	
<i>Common Ports (MSSQL 1433, Oracle: 1521, DB2 50000, MySQL 3306)</i>	
Database Username:	
Database Password:	
Database Name / SID Name:	
<i>(SID is for oracle)</i>	
Database Service Name (Windows only):	
Tomcat:	
Tomcat Hostname:	
<i>NOTE: This is commonly the same as the User Manager Address</i>	
Tomcat Port	
Media Manager:	
Media Storage Location:	
<i>NOTE: the Hostname information for Collection Manager will be used for registering your license key.</i>	

Setting up your Database

Please ensure that your database server is installed and is running properly before you continue. During Insight's installation process, the Suite Installer will create the database tables, indexes, and keys necessary to run Insight. Therefore, you must create the databases and tablespaces for Insight's server components before running the installer. Please review the following section for information on creating the Insight Databases.

Microsoft SQL Server

For Microsoft SQL Server, you will need to create a database for each component of Insight you plan to install. To run the installer, the MSSQLSERVER and SQLSERVERAGENT services must be running. It is also highly recommended that you create a Login in Microsoft SQL Server for Insight and grant the Login the following roles in the Insight Database:

- public
- db_owner

Table 3: Microsoft SQL Server Database Creation Worksheet

Component	Database Name	Insight User
Insight User Manager		
Insight Collection Manager		
Personal Insight Manager		

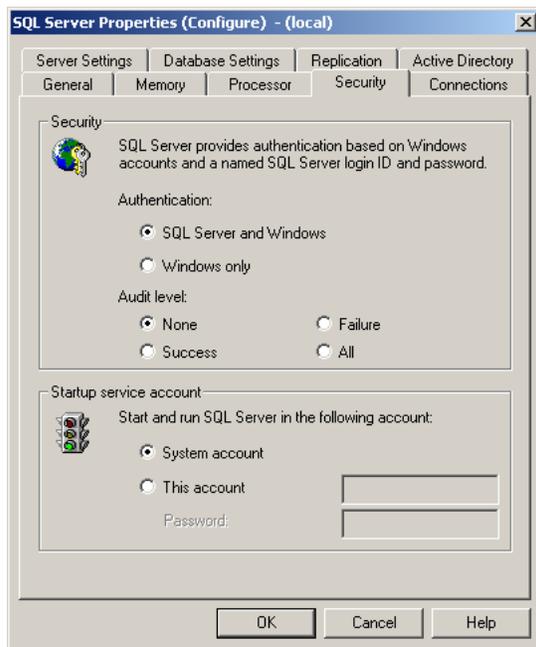
Enabling SQL Authentication

By default, Microsoft SQL Server ships with “OS based authentication”, i.e. authenticating using Windows-based authentication. Insight, however, **requires SQL Authentication** to be enabled. Prior to enabling SQL Authentication, check with your DBA to ensure that this will not affect other systems.

To enable SQL Authentication on Microsoft SQL Server:

- 1) Launch the Microsoft SQL Server Enterprise Console
- 2) Locate the entry for your Server (if you have more than one)
- 3) Right-click on your server in the tree and choose “Properties”
- 4) Select the security settings tab and change the default authentication method from “Windows Only” to “SQL Server and Windows” (supporting both windows and SQL authentication methods).
- 5) Restart SQL server.

Figure 4: Enabling SQL Server & Windows Authentication for Microsoft SQL Server



Oracle

For Oracle, you will need to create a **tablespace**, a **temporary tablespace** and a **user** for each of the Insight server component you wish to install. You can create the tablespaces in Oracle’s “Enterprise Manager Console”. If you do not have access or do not know about creating tablespaces, please contact your Oracle DBA.

For the User Manager, the tablespace should be 50MB in size with equal temporary space. For the Collection Manager and Personal Insight Manager, the tablespace and temp tablespace should be 500MB in size to start.

Once you have created the tablespaces, create a user for each tablespace, grant the user default access to the corresponding tablespace, and also grant the user the following role: **Connect**.

NOTE: If you need to access your database tables via Oracle’s Enterprise Manager, you will need to add the **Select Any Dictionary** system privilege to the user.

NOTE: Once you have Insight system up and running and have added some data to the system, it is recommended that you perform analysis to generate statistics on your database and do this periodically as your database grows. This will help to ensure your insight platform is operating in an optimal environment.

NOTE: Future upgrade scripts may require the Resource role as well. Optionally, you may choose to grant the user this role to simplify the process in the future.

Table 4: Oracle Database Creation Worksheet

Component	Oracle User	Oracle Tablespace	Tablespace Size	Temp Tablespace
Insight User Manager			50MB (suggested)	
Insight Collection Manager			1GB (suggested)	
Personal Insight Manager			1GB (suggested)	

NOTE: Be aware of the default character set and collation of your oracle instance. We suggest either ISO8859-1, LATIN-1, or Unicode by default as it will properly support special characters and other content in Insight.

UNICODE (UTF-8) Support

If you intend to catalog content in other languages than English, you will need to setup Oracle to use the UTF Character Set. Specifically, the Oracle Instance should be setup with the **NLS_CHARACTERSET** value of “**UTF8**”. This will ensure that the database is properly configured and setup.

NOTE: Unicode characters take up twice as much space as Non-Unicode characters, hence, you will need to allocate extra space.

DB2

For DB2, you will need to create a database for each Insight Server Component you wish to install. It is also strongly suggested that you create a user specifically for Insight to use to connect to the database. Insight requires a special tablespace and buffer pool to be created for use with DB2; as the default buffer pool and tablespace do not support some of Insight's columns and indexes. Specifically, you must create a tablespace with support for **32 bit pages** and a buffer pool with **32 bit pages**.

To do this:

- 1) Create a DB2 user specifically for Insight
- 2) Create a database for each Insight component you wish to install
- 3) Create a **BIG buffer pool** with **32 bit pages** for each database
- 4) Create a **tablespace** for each database that utilizes the buffer pool created above. Ensure that the tablespace also supports **32 bit pages**.

Table 5: DB2 Database Creation Worksheet

Component	DB2 User	DB2 Tablespace	Tablespace Size	Buffer Pool
Insight User Manager			50MB (suggested)	
Insight Collection Manager			1GB (suggested)	
Personal Insight Manager			1GB (suggested)	

UNICODE (UTF-8) Support

If you intend to catalog content in other languages than English, you will need to setup DB2 to use the UTF Character Set.

Specifically:

- 1) UTF-8 should be defined as the database Codepage.
- 2) An **additional 16kb page size buffer pool** should be created for each database to store Unicode Strings.
- 3) An **additional 16kb page size regular tablespace** should be created for each database to store Unicode Strings.

MySQL 4.1

For MySQL 4.1, you will need to create a schema for each Insight Server Component you wish to install. It is also strongly suggested that you create a user specifically for Insight to use to connect to the database.

Table 6: MySQL Database Creation Worksheet

Component	Schema Name	Insight User
Insight User Manager		
Insight Collection Manager		
Personal Insight Manager		

Backing Up Your Databases

It is good practice to back up your databases on a regular basis. We suggest using the following procedure:

- daily backup of the database is rotated on a 3 day cycle
- once a week, a backup is set aside and saved for a month
- the first backup of every month is saved for a year
- perform specific backups before major operations such as applying patches or major data import / update procedures.



WARNING: It is important to run regular backups and to test your backup system.

Installing on Windows

It is suggested that you run the installer while on console. If you are running the installer through PC Anywhere, VNC, or Terminal Services, the installer may not launch properly.

Installing on Solaris or Linux

It is suggested that you create a specific user in a Linux or Solaris environment for Insight and run the application as that user. As Insight contains a number of components, all of which interact with each other, this simplifies rights issues as well as provides organization to the installation.

NOTE: It is **STRONGLY** recommended that you install and configure Insight as the **SAME USER** that will be running Insight on the server.

Running the Insight Suite Installer

All Insight 5.1 Server components are installed from a single "Suite Installer." Individual components may be included or excluded from the installation process via checkboxes. If you need to install components later, then you can run the Suite Installer again, choose "Custom" installation and select the specific components you wish to install.

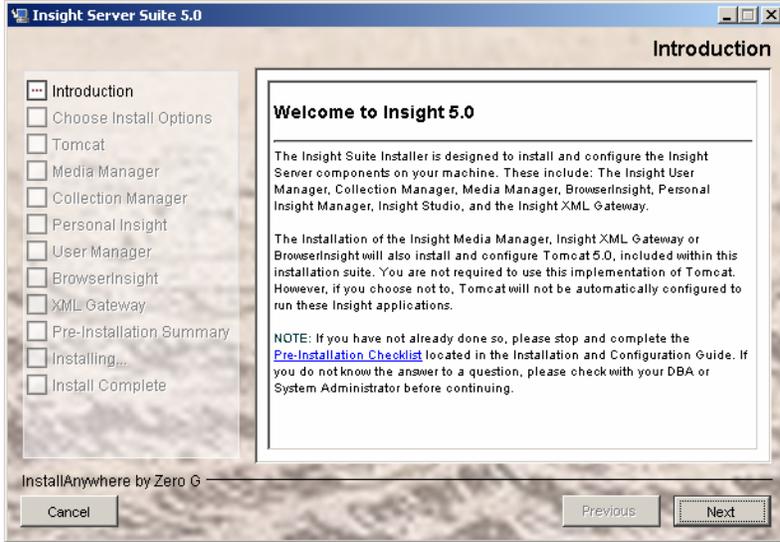
NOTE: Plan to spend approximately an hour running the Installer. Complete the checklist before running the installer.

Where to find the Installer

The Insight Suite Installer can be found in the suite_install directory of CD1. The installers are platform-specific and separated into directories specific to each platform.

Running the installer

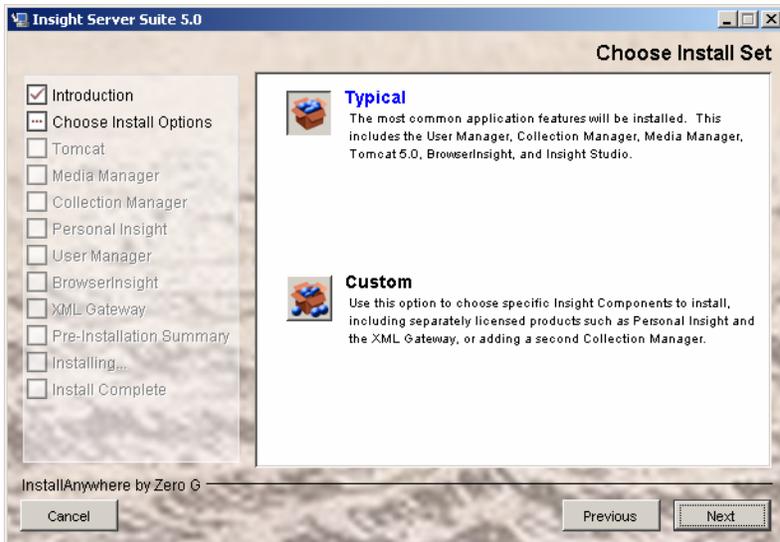
To run the installer, double-click on the installServerSuite executable appropriate to your platform. Please note, the installer is around 100MB, so it may take a few minutes to initially load.



NOTE: The Installer is GUI-based and will require an X-Windows environment on any UNIX based system.

Selecting an Installation Type

The Insight Suite Installer allows you to perform either a “Typical” or a “Custom” installation.

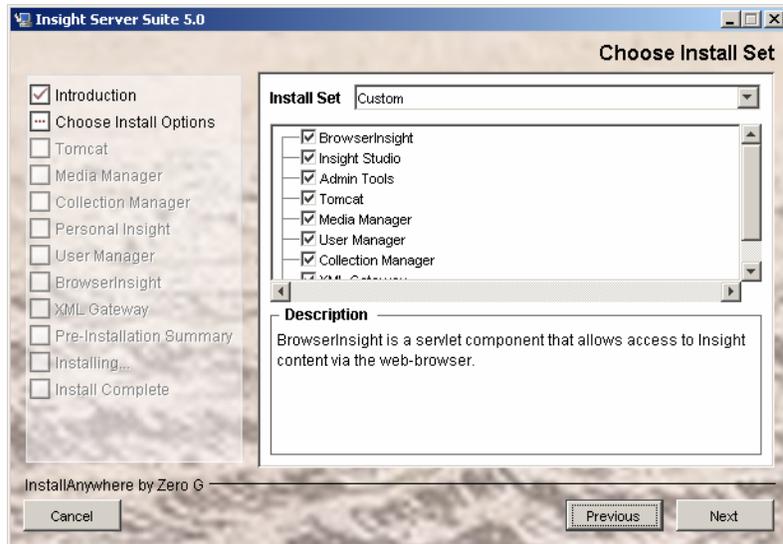


Performing a Typical Installation

“Typical” installation includes User Manager, Collection Manager, Media Manager, Insight Studio, an optimized version of Tomcat, and BrowserInsight.

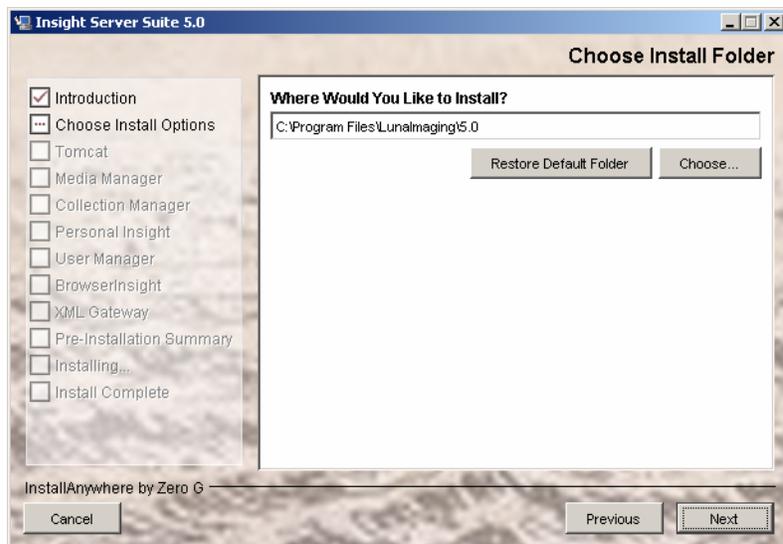
Performing a Custom Installation

“Custom” installation allows you to choose a subset of the above components, and allows selection of the XML Gateway and Personal Insight products.



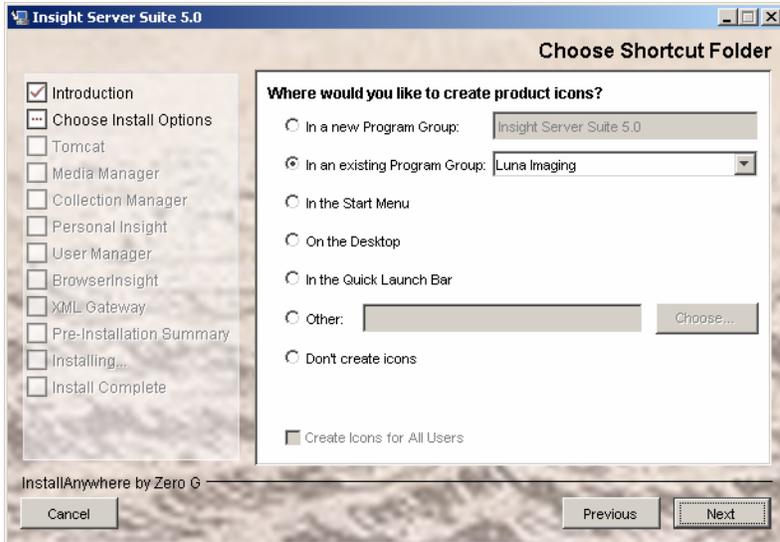
Choosing an installation Location

The Installation of the Insight server components can take up to 300MB, please plan accordingly when installing the server components.



Creating a Shortcut Folder

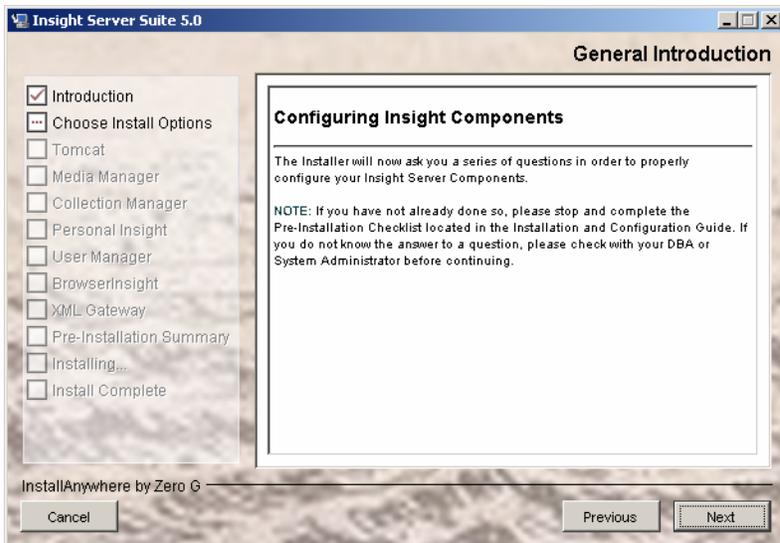
The installer can create a series of links to the server components and documentation on install. Please choose the location you would like to create these in. On Windows, the default is a “Luna Imaging” program group.



Configuring the Server Components

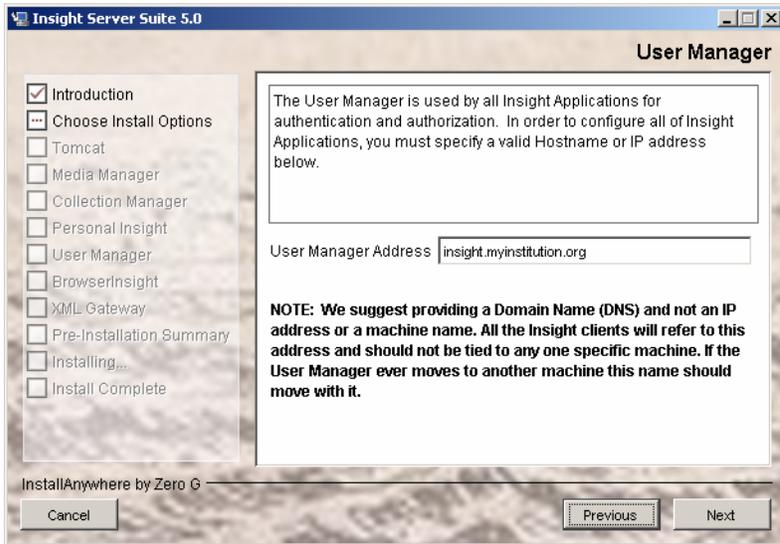
The installer will now walk you through configuring the insight server components. Before proceeding, you should have:

- Created the databases for the insight server components
- Completed the installation checklist



Selecting a User Manager Address

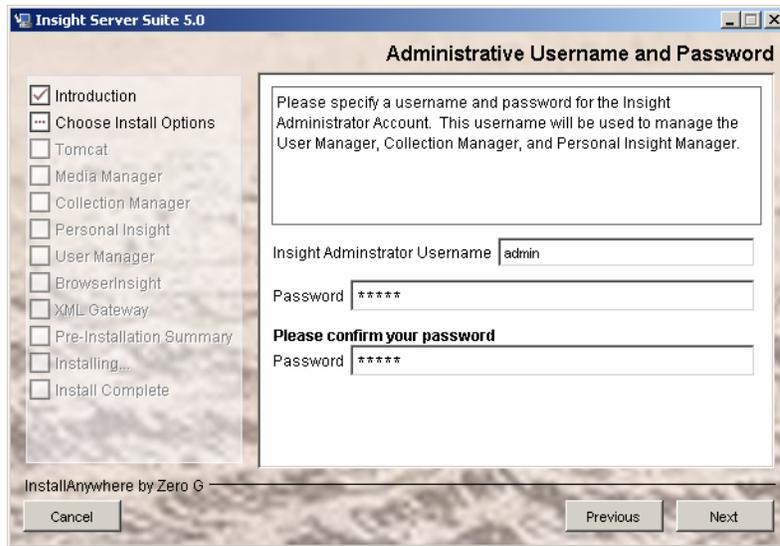
The Insight User Manager provides authentication and authorization services for all of the Insight Components. In order to run properly, many of these components, including BrowserInsight and the Java Clients need to communicate with the Insight User Manager. The User Manager Address, therefore, should be a **Fully-Qualified Domain Name** address that anyone can access from anywhere. The User Manager Address identified here will be used throughout the installer to configure the rest of your components.



NOTE: Luna suggests you choose a fully-qualified DNS resolvable Hostname as opposed to an IP Address to provide more flexibility in the installation and management.

Specifying an Administrative Username and Password for Insight

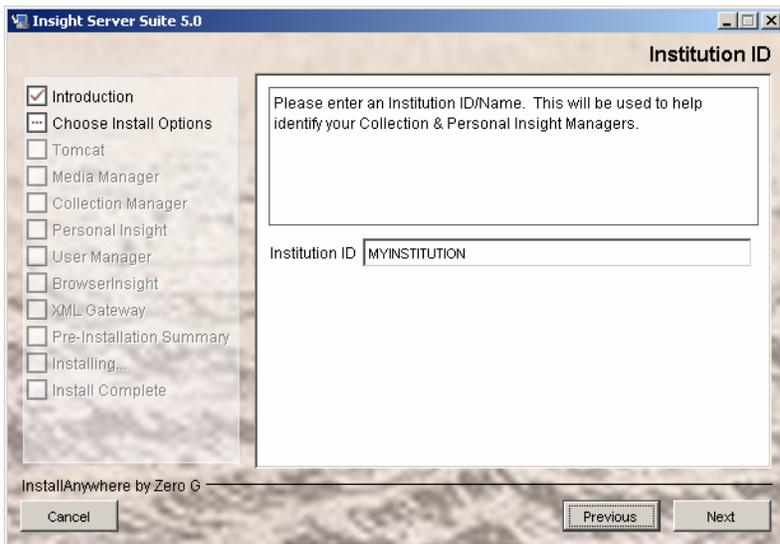
Insight requires you to specify an administrative username and password. This username and password will be used for authentication within the Insight Administrator Tools and Insight Studio. Users with this username and password have access to tools that can create / delete collections and make major modifications to Insight's configuration, so be careful who it is shared with.



NOTE: This password is not encrypted. Do not use your network or system administrator password.

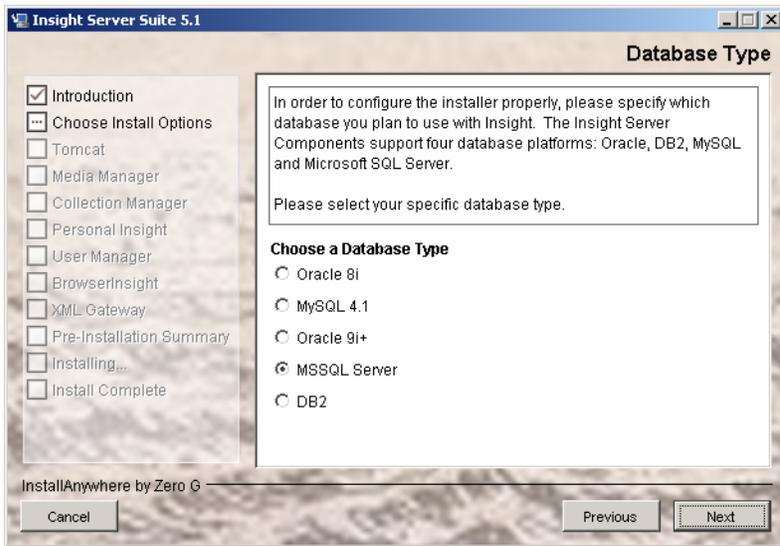
Specifying an Institution ID

The Institution ID is used in the User Manager to help differentiate shared collections. Specify a value that would be unique to your institution. This is commonly your Institution's name or an abbreviation (up to 8 characters).



Choosing a Database Type

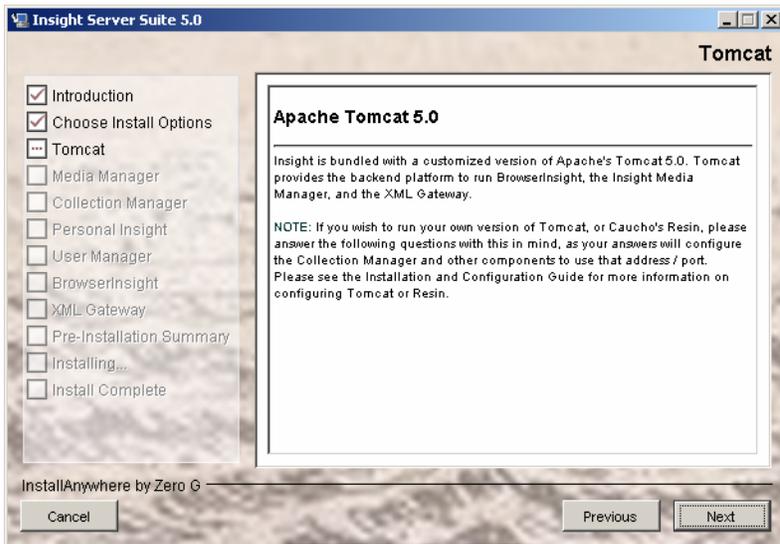
The installer is designed to connect to your database server, create database tables, fields and indexes for your Collection Manager, User Manager, and Personal Insight Manager. Please choose the database type you wish to use. The information you identify here will be used to configure Insight.



NOTE: If you have not yet created the databases for the Insight Server Components you plan to Install, please review “Setting up your Database on page 21” for more information.

Configuring Tomcat 5.0

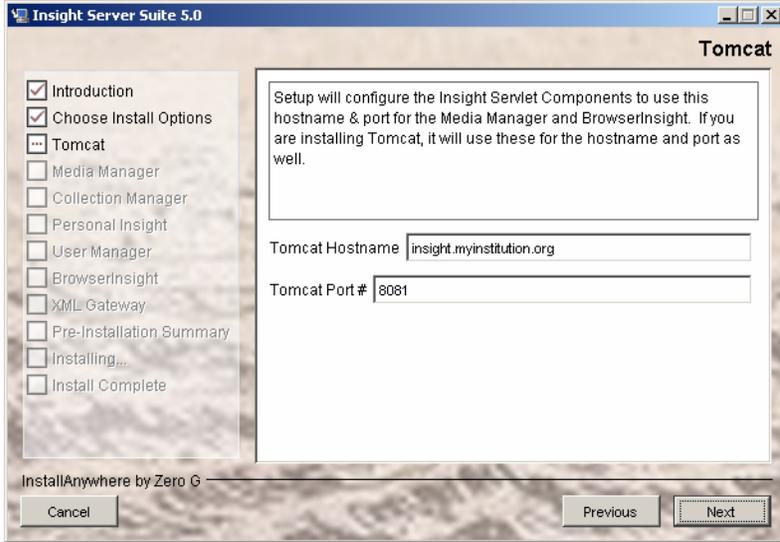
Insight is bundled with a customized version of Apache’s Tomcat 5. This version of Tomcat has been configured with most of the default servlets disabled and a customized set of configuration files.



If you would like to use your own version of Tomcat (or Caucho’s Resin), please enter the HOSTNAME and PORT for your version of Tomcat or Resin so that the installer can configure all Insight Components with this information. When you have completed your installation, please see the “Using a Standalone Application Server with the Insight Servlet Components” document for more information.

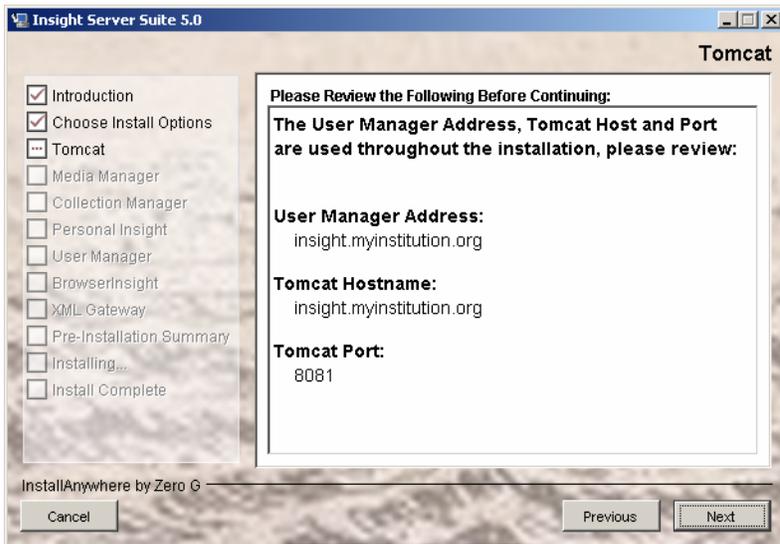
Choosing a Hostname and Port for Tomcat

To properly configure Tomcat, you must specify the port you wish Tomcat to run on. The default is port 8081 – but if you are currently running Tomcat or another application on port 8081 you will need to choose another port to avoid a conflict.



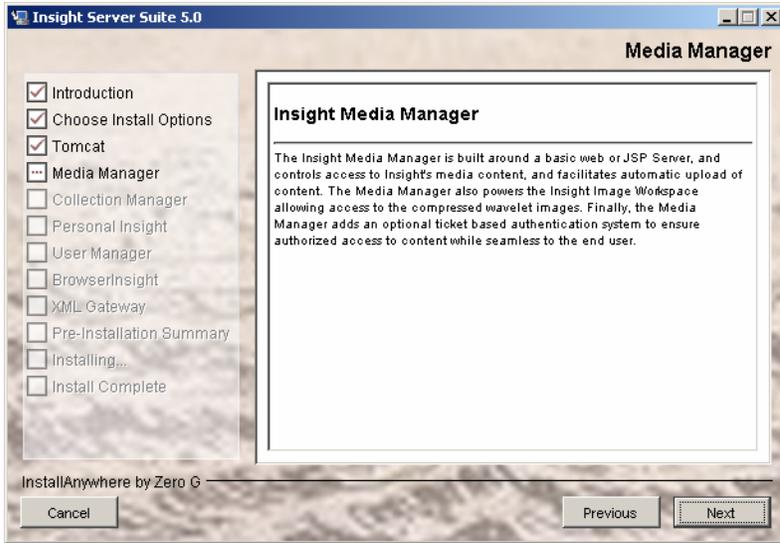
Review your Tomcat & User Manager Settings

Please review your Tomcat and User Manager hostnames and ports. This information is populated throughout all of Insight's configuration files.



Configuring the Media Manager

The Insight Media Manager provides access to all of Insight's media and runs as a servlet within Tomcat. To configure the Media Manager, you must specify the location where you wish to store all of your media.



Specifying a Media Directory

Specify a directory for media content. The Media Manager will place all processed media files from Personal Insight and Insight Studio in this directory.



Configuring the Collection or Personal Insight Manager

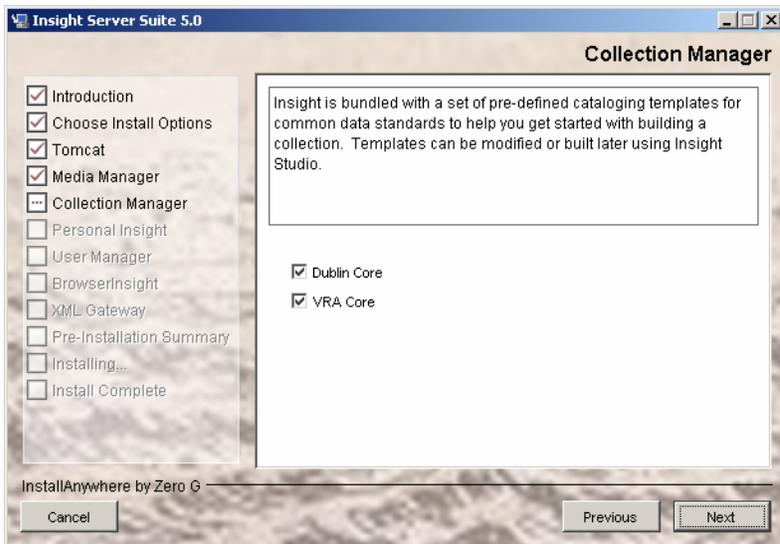
To configure the Collection Manager or Personal Insight Manager, you must first specify the appropriate information so that the installer can connect to the database. This information will be saved in the Insight Collection Manager and/or Personal Insight Manager's configuration file (InsightServer.dat).



NOTE: each Collection Manager or Personal Insight Manager has its own InsightServer.dat file.

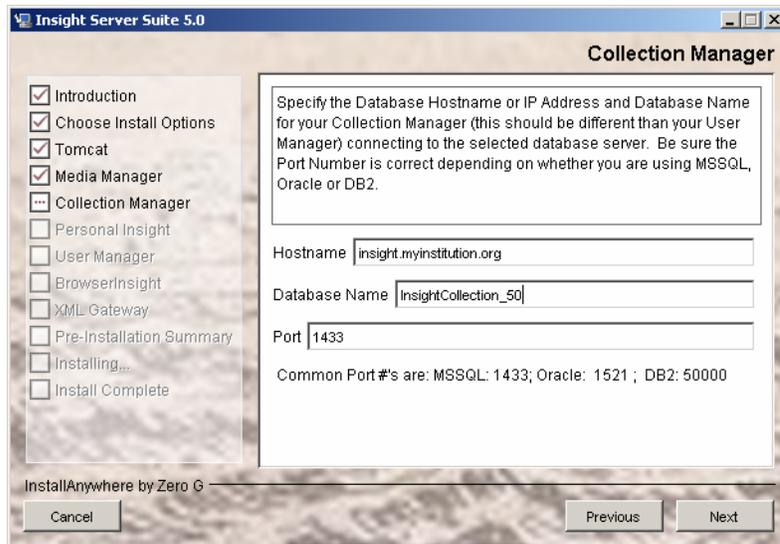
Choosing Cataloging Template(s)

The installer can optionally install a set of cataloging templates based on the VRA Core v3 and Dublin Core Data Models.



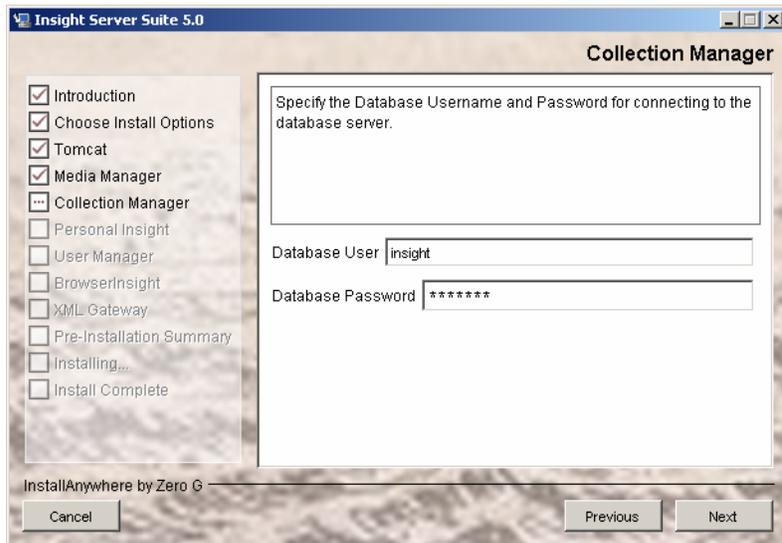
Database Information

Provide the information necessary to connect to your database, including the hostname, database name (SID Name if you're using Oracle), and database port. The installer will offer default values based on information provided earlier. Review the defaults (and change them as needed).



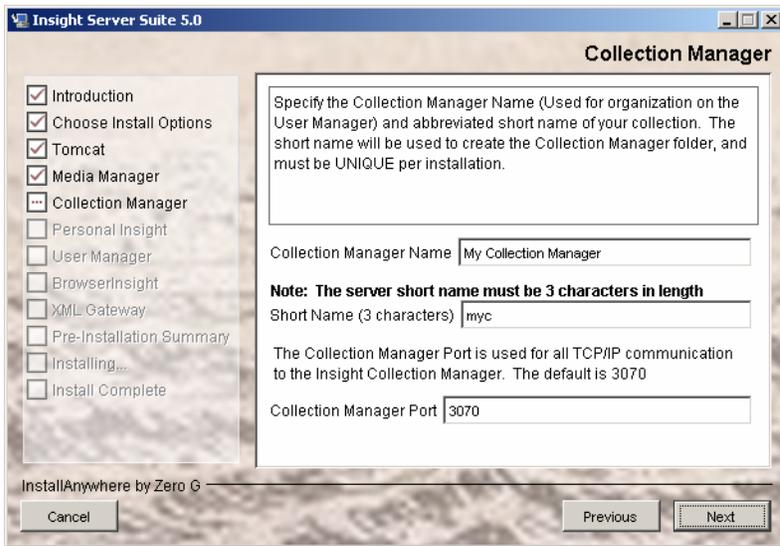
Database Username and Password

Please specify the username and password for your database. This is the username and password that Insight should use to connect to the database.



Name your Server and Choose a Port

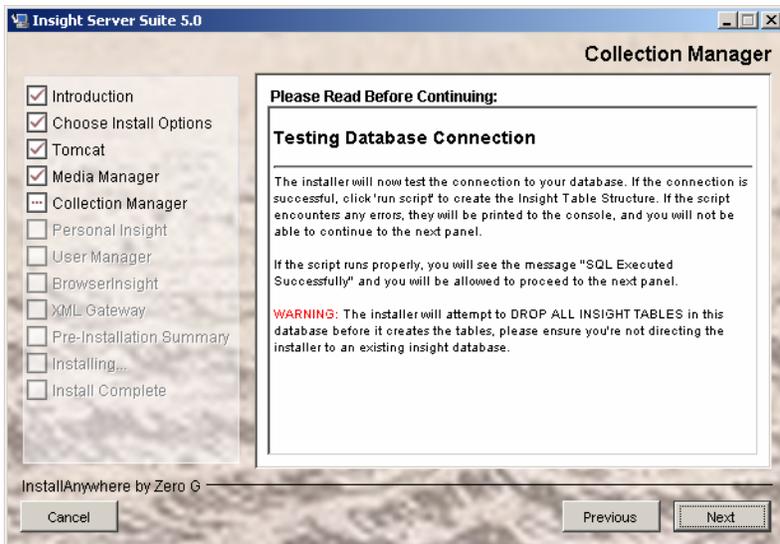
Please provide a name and short name for your Collection Manager. The name will be used to identify the Collection Manager in the User Manager and will be visible to end-users. The short name is used internally to identify directories related to this Collection Manager. Choose a port for your Collection or Personal Insight. The Default port is 3070 for a Collection Manager and 3080 for Personal Insight. However, if you have more than one Collection Manager, you should increment the port on the new Collection Manager so that it does not match any other.



NOTE: the server short name is used to create the folder for the Collection Manager.

Testing the Database Connection

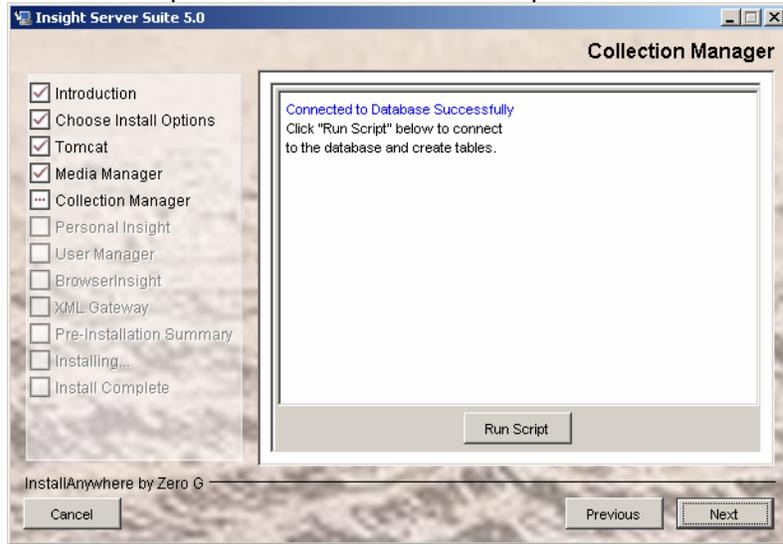
The installer will now test the database connection. If it can connect to the database, it will check for an existing installation of Insight.



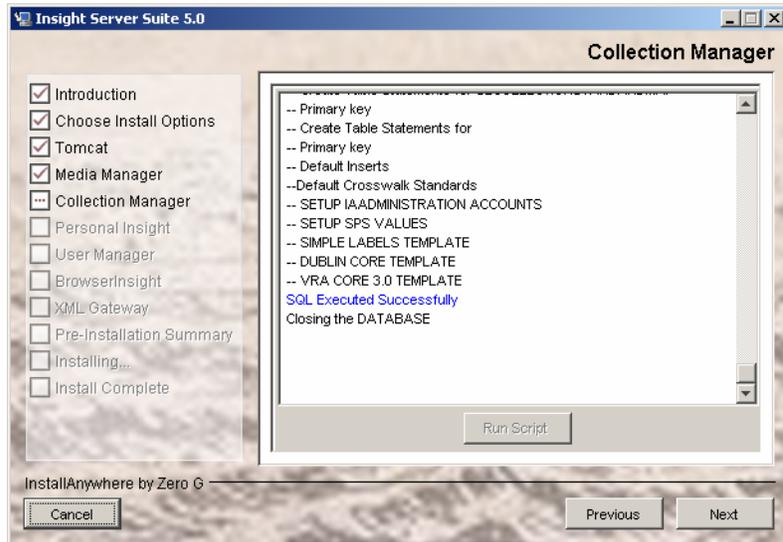
 **WARNING:** the installer will **DROP ALL INSIGHT TABLES** once it has connected, so be sure that you are not installing over an existing version of Insight. (The installer will warn you again before it actually drops any tables.)

Creating the Insight Collection Manager Database

Once the installer has tested the connection, it will present you with the database creation script window. Click "Run Script" to create the Insight tables and indexes.



NOTE: the installer will not let you continue until it has successfully created the database tables.



Once the installer has run, it will either print "SQL Executed Successfully" or print error messages in **RED**. Please review error messages before continuing. Common reasons for errors include:

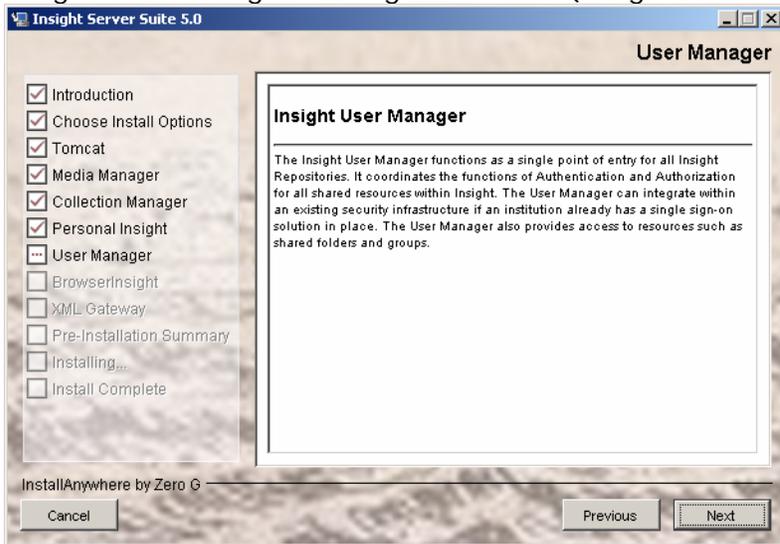
- there is not enough space in the database
- the tablespace or buffer pool is not the right size (DB2)
- the user does not have rights to create tables, indexes and keys
- there are not enough cursors available in the Database (Oracle)

- SQL Authentication is not enabled (MSSQL). You may also see “Not Associated with a Trusted SQL Server connection” (might simply mean you need to restart SQL server).

NOTE: If you would like to maintain a log of the installer’s database actions, or need to send an error to LUNA, you can copy the text from the installer log.

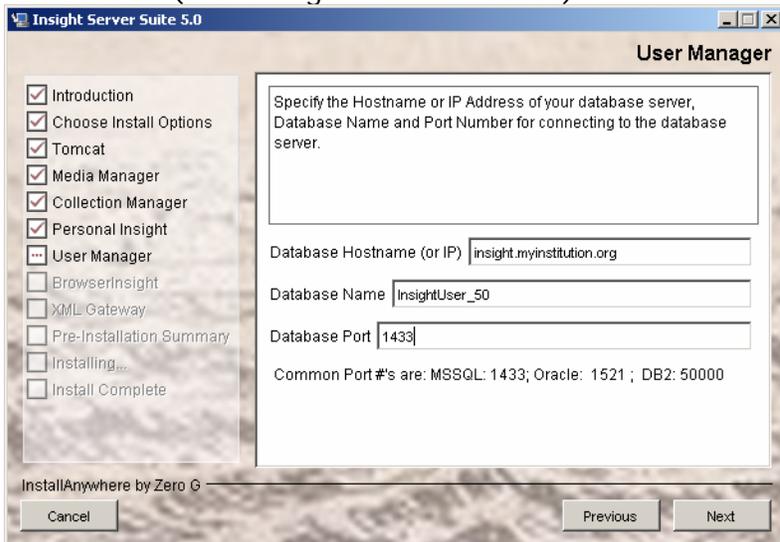
Configuring the User Manager

To configure the User Manager, you must first specify the appropriate information so that the installer can connect to the database. This information will be saved in the Insight User Manager’s configuration files (InsightUserServer.dat).



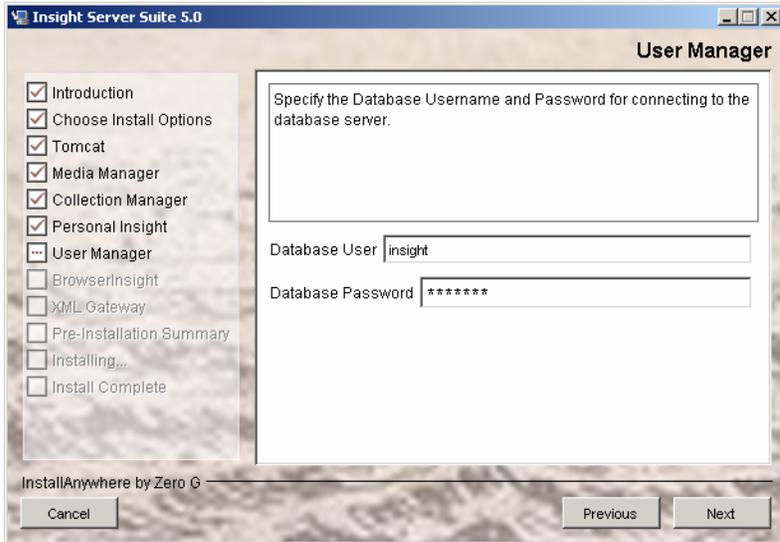
Database Information

Provide the information necessary to connect to your database, including the hostname, database name (SID Name if you’re using Oracle), and database port. The installer will offer default values based on information provided earlier. Review the defaults (and change them as needed).



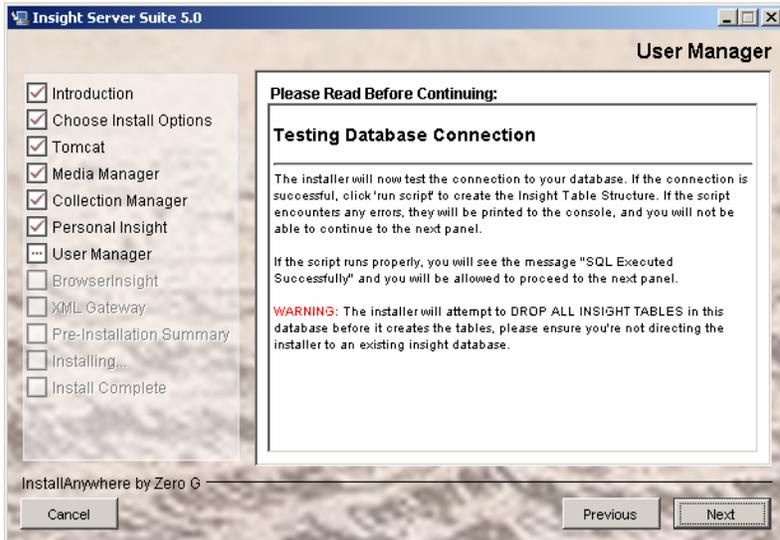
Database Username and Password

Please specify the username and password for your database. This is the username and password that Insight should use to connect to the database.



Testing the Database Connection

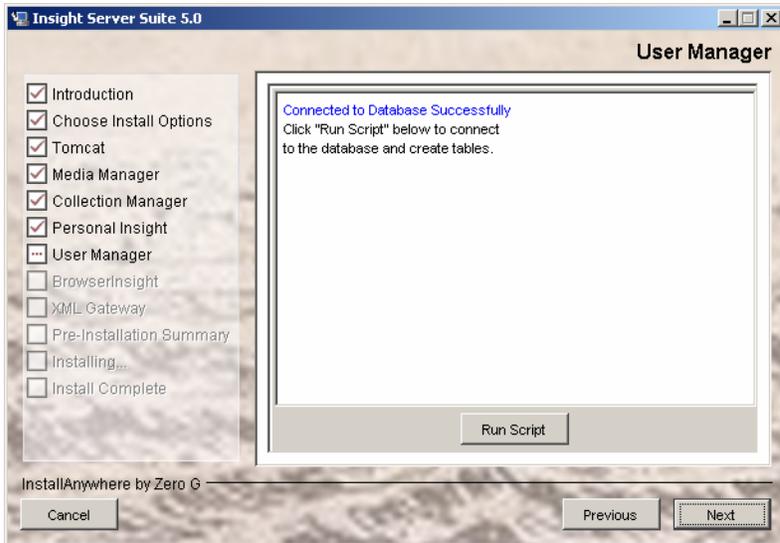
The installer will now test the database connection. If it can connect to the database, it will check for an existing installation of Insight.



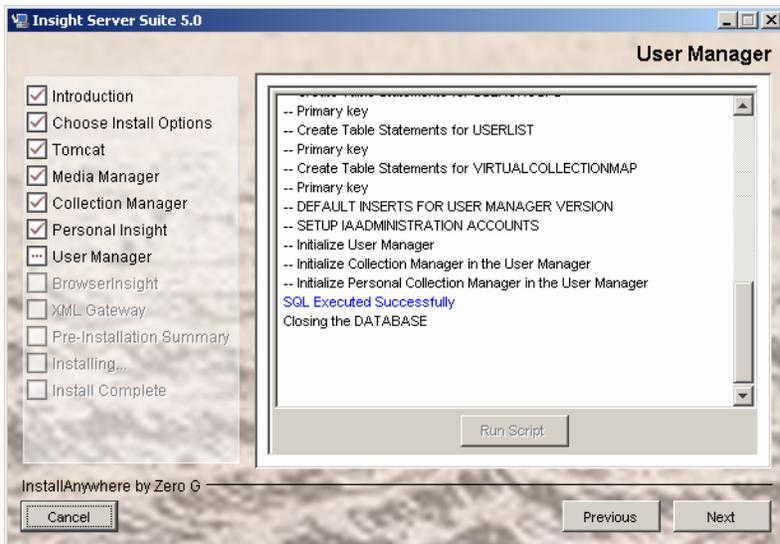
! **WARNING:** the installer will **DROP ALL INSIGHT TABLES** once it has connected, so be sure that you are not installing over an existing version of Insight. (The installer will warn you again before it actually drops any tables.)

Creating the Insight User Manager Database

Once the installer has tested the connection, it will present you with the database creation script window. Click "Run Script" to create the insight tables and indexes.



NOTE: the installer will not let you continue until it has successfully created the database tables.

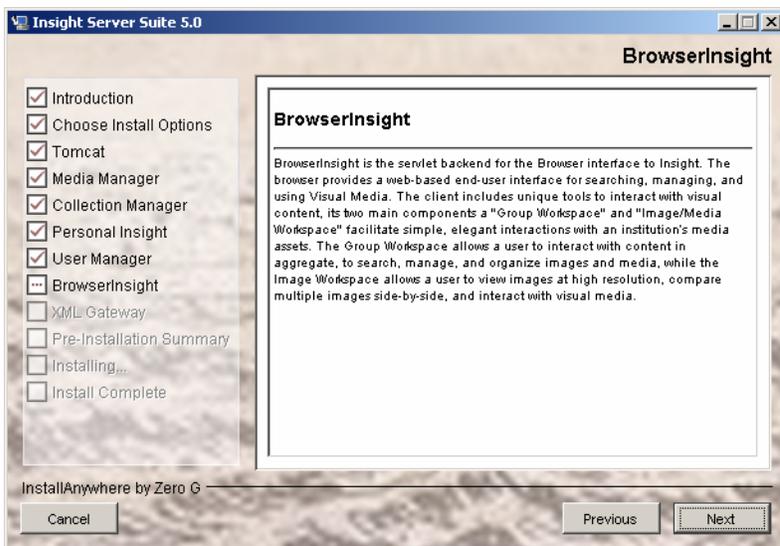


Once the installer has run, it will either print "SQL Executed Successfully" or print error messages in **RED**. Please review error messages before continuing. Common reasons for errors include:

- there is not enough space in the database
- the tablespace or buffer pool is not the right size (DB2)
- the user does not have rights to create tables, indexes and keys
- there are not enough cursors available in the Database (Oracle)
- SQL Authentication is not enabled (MSSQL). You may also see "Not Associated with a Trusted SQL Server connection"

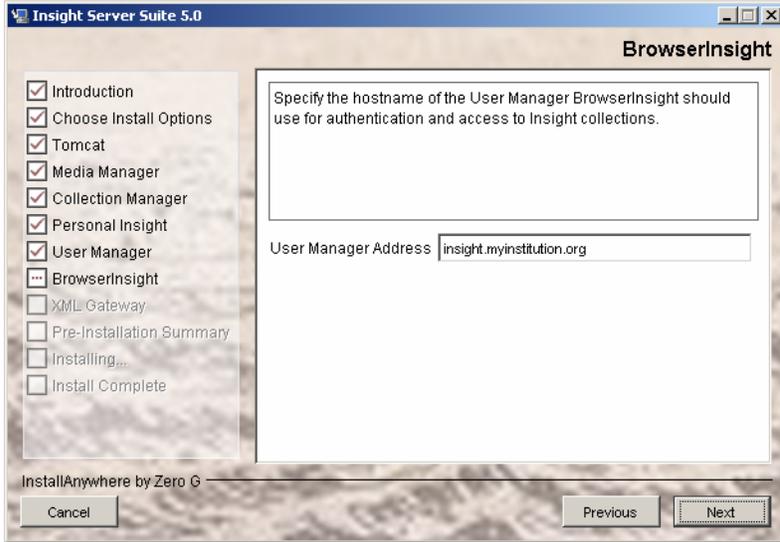
Configuring BrowserInsight

BrowserInsight is the web interface for Insight and runs as a servlet within Tomcat. To configure BrowserInsight, you must specify the User Manager it should use for authenticating users. By default, this will be set to the address specified when you installed earlier.



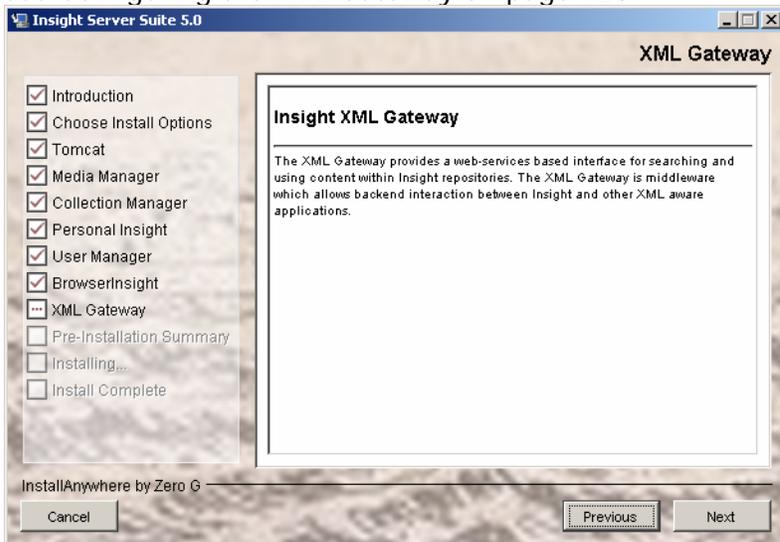
User Manager Address

Please enter your User Manager Address.



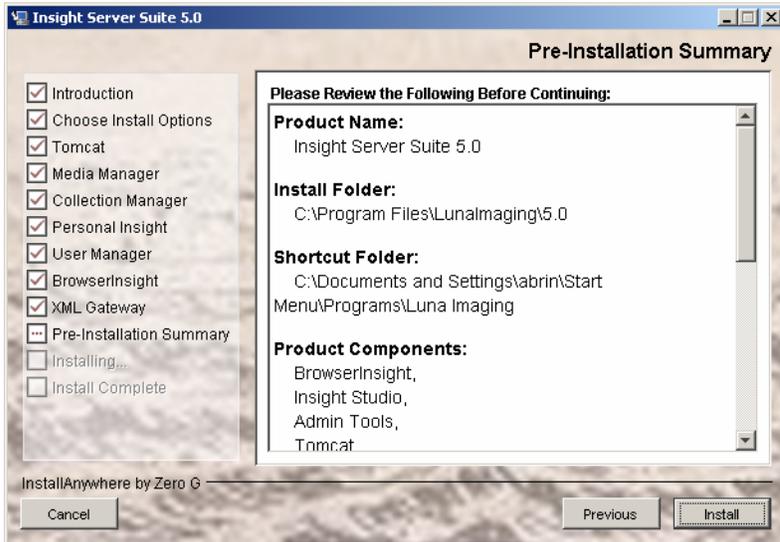
Configuring the XML Gateway

The XML Gateway provides a method for accessing Insight content from any XML-aware application and runs as a servlet within Tomcat. Once the XML Gateway has been installed, you will need to configure with information about how to connect to your User Manager. For more information on configuring the XML Gateway, please see [Configuring the XML Gateway](#) on page 120.



Final Review

Before continuing, please review the installation choices one last time.



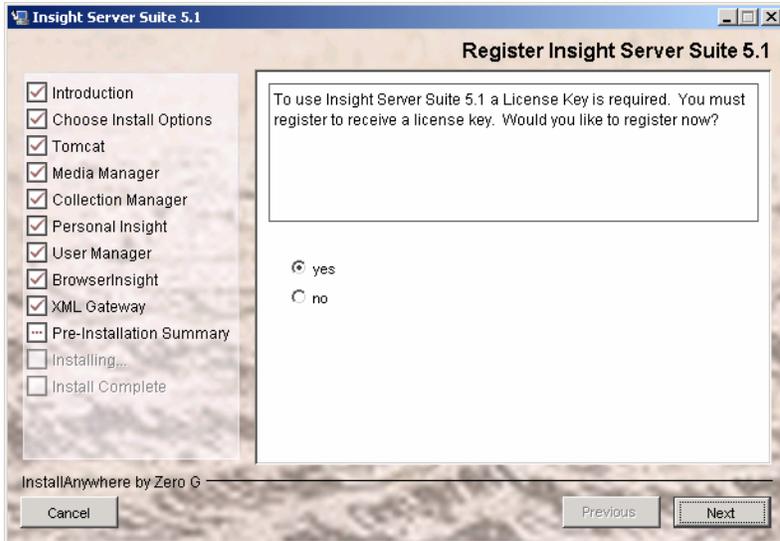
Installing Files

At this point, the Insight Database(s) have been created and configured, but no files have been installed. Press "Install" to install and configure the server components.

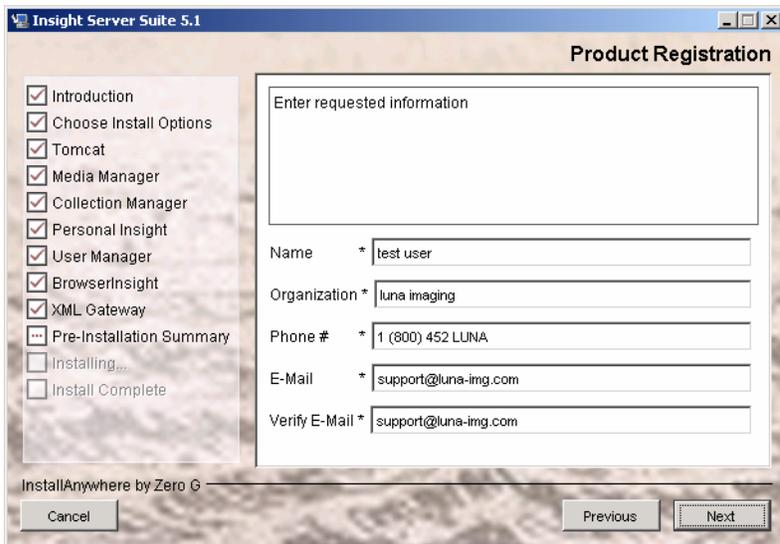


Registering Insight and Requesting Your License Key

Insight 5.1 integrates the licensing and registration of the server products into the Installer.

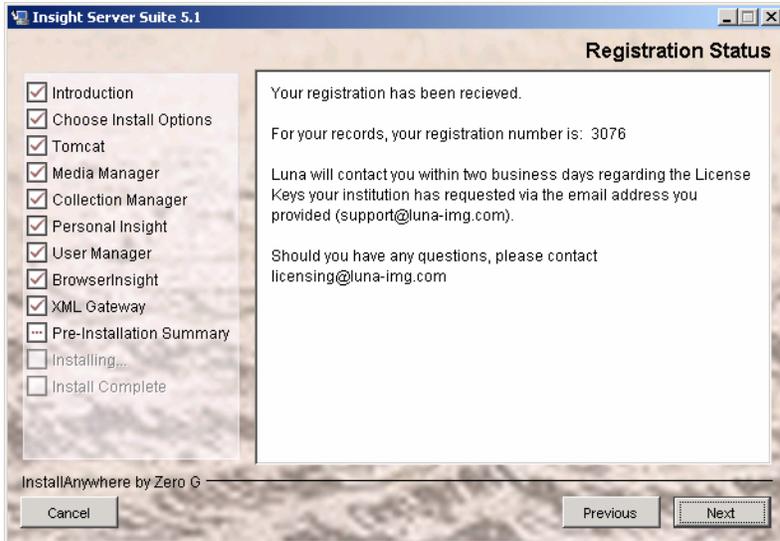


Complete the Registration Form



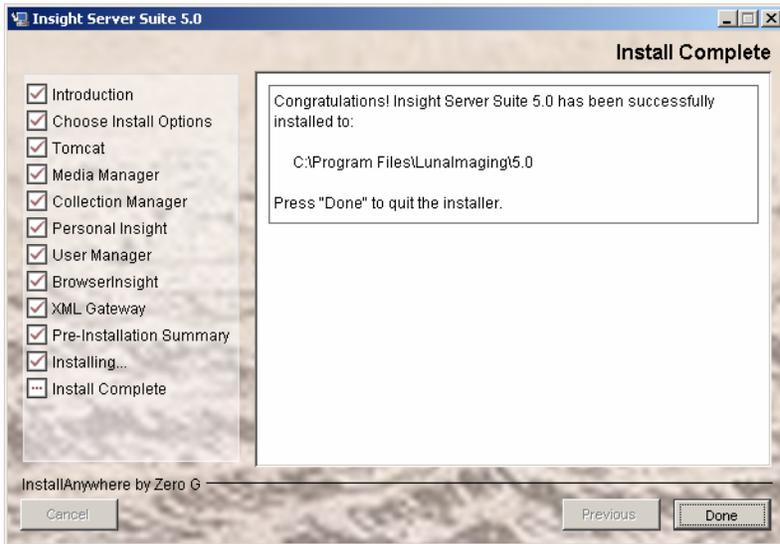
Registration Status

Once complete, the installer will present you with a registration ID. Luna will email you a license key for all of the products you installed within a short period of time.



Completing the Install

After the installer has finished, each of the installed server components should be started in console mode to ensure that they are working properly. Once you have logged-in successfully and tested the configuration, you will complete installation by configuring each component to run as a service.



Licensing

If you did not complete registration during the installation and would like to register online, you can access the form at the following URL.

<http://www.lunaimaging.com/support/register/51.html>

Once you have completed the form with your contact information. Luna will contact you with a license key for your product. If you have any questions, please contact <mailto:licensing@luna-img.com> or call (800) 452-LUNA.

Installation Errors

If your installer has an error during the install process you will receive the following panel indicating an error has occurred. Press the Done button, and then go to the installation directory to review the `Insight_Server_Suite_5.1_InstallLog.log`. This log will indicate where a failure may have occurred. If you are unsure about what the error reported, please forward the report to Luna Imaging's Support department: <mailto:support@luna-img.com>.

Next Steps for a New Installation

- 1) Testing the Server Components and connecting to the Collection and User Managers for the first time with Insight Studio (see page 90)
- 2) Configuring the server components to run as services under Windows and Linux (please see page 107)
- 3) Packaging and Distributing the Java Client (please see page 105)
- 4) Building your first collection (please see the Insight Administrative Guide)

Next Steps when adding a new Collection or Personal Insight Manager

- 1) Testing the Server Components and connecting to the Collection and User Managers for the first time with Insight Studio (please see page 90)
- 2) Adding a reference to a new Collection Manager or Personal Insight Manager in your User Manager (please see page 77)
- 3) Configuring the server components to run as services under Windows and Linux (please see page 107)
- 4) Packaging and Distributing the Java Client (please see page 105)
- 5) Building your first collection (please see the Insight Administrative Guide)

Upgrading from Insight 5.0

Insight 5.1 contains numerous new features including support for Hierarchical Folders, enhanced Presentation Export, and support for the Safari Web Browser (for a detailed list, see “What’s new in 5.1” on page 12).

General Upgrade Process:

- 1) Prepare your system.
 - a. Back up your database.
 - b. Back up your configuration files.
- 2) Run the Upgrade Installer.
- 3) Test.

Preparing your System for the Upgrade

Before you run the Upgrade Installer, there are a few tasks you should perform.

Backing up your Databases

Before making any changes, make sure you back up your database. This will ensure that you can safely restore any changes. It is also advisable to make a copy of the database to ensure that you do not affect production systems.



WARNING: BACK UP YOUR DATABASE BEFORE GOING ANY FURTHER

Backing up your Configuration Files

You should also back up your configuration files and system data files. Include the Collection Manager, User Manager, and BrowserInsight directories and all of their contents.

Shutting Down your Collection Manager(s)

Once you have accepted all of the pending changes in Inscribe, shut down your Collection Manager(s). Before you can run the database upgrade script, you will need to shut down your Collection Manager(s). This will ensure that no users login or make any changes during the upgrade process.

Running the Upgrade Installer

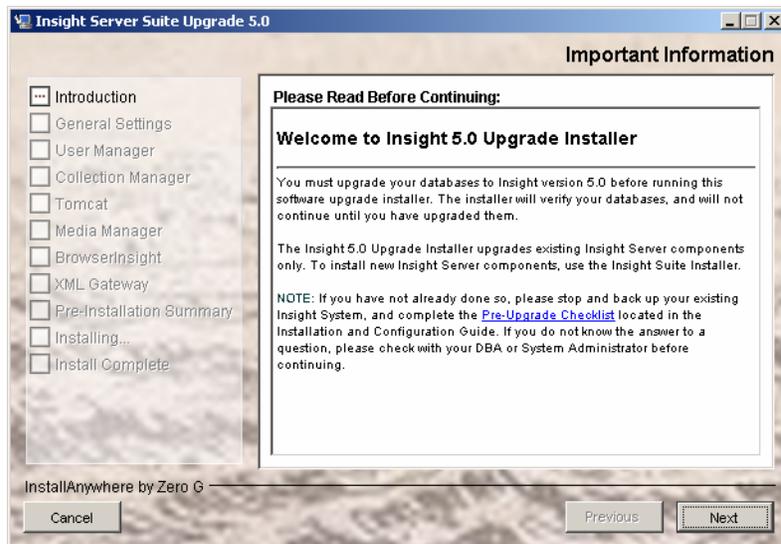
The Upgrade installer is designed to help you locate and upgrade your existing installations, port the current versions into the 5.1 structure, and upgrade your configuration files. The Upgrade Installer will also install and configure Tomcat 5 with options needed to run the Media Manager.

NOTE: There is no manual upgrade for 5.1; please use the Upgrade Installer

Running the GUI Installer

To run the installer, double-click on the upgradeInsight executable appropriate to your platform. Please note, the installer is around 100MB, so it may take a few minutes to initially load. The Installer is GUI-based and must be run in a graphical environment.

NOTE: The Installer is GUI-based and will require an X-Windows environment on any UNIX based system



Running the Command-line Installer

To run the command-line installer, call the upgradeInsight executable with the following arguments " -i console" on Windows, Solaris, or Linux. Please note, the installer is around 100MB, so it may take a few minutes to initially load.

```
./upgradeInsight -i console
```

Choosing Installation Location

The Installation of the Insight Server Components can take up to 300MB; please plan accordingly when installing the server components.

Verify Installation Choices

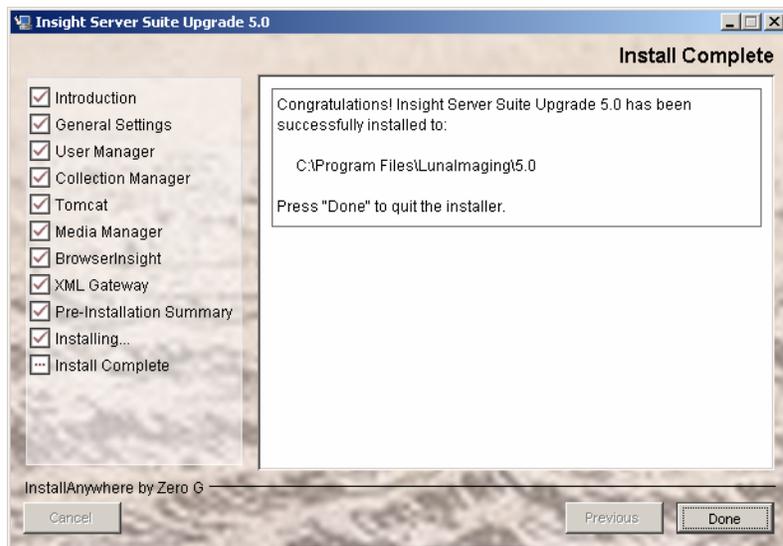
Once you have completed the configuration of the 5.1 Upgrade Installer; please review your choices before continuing.

NOTE: Unlike previous upgrade installers, the 5.1 upgrade installer will automatically upgrade all components within the 5.0 installation area.



Running Upgrade

The Upgrade installer will now install and configure the Insight 5.1 Server Components with all of your 5.0 configuration information.



Licensing

The 5.1 Licensing only requires a single key for all server applications. The existing 5.0 licenses will continue to work for 5.1 Insight systems. If you would like to add a new Personal Insight Server to your system, you will need to be issued a new License. To register online, you can access the form at the following URL.

<http://www.lunaimaging.com/support/register/51.html>

Once you have completed the form with your contact information. Luna will contact you with the license key for your product. If you have any questions, please contact <mailto:licensing@luna-img.com> or call (800) 452-LUNA.

Installation Errors

If your installer has an error during the install process, you will receive a message in the installer panel. Press the “Done” button to close the installer, then go to the installation directory to review the installation log (Insight_Server_Suite_Upgrade_5.1_InstallLog.log). This log will indicate where a failure may have occurred. If you are unsure about what the error reported, please forward the report to Luna Imaging’s Support department.

Installing new Components

To install new components such as Personal Insight or the XML Gateway, run the Insight Suite Installer, located on CD1 of the 5.1 CDs.

Other add-on components:

- the Insight XML Gateway Simple Search Servlet is located in the “Utilities” directory of the Installation/Upgrade CD. Please see the README.txt file located at; CD1/**utilities/simpleSearch** for more information.

Insight 5.1 Installation and Configuration Guide

- Tools for Collection Reporting. For more information on installing and using the Collection Reporting Tools, please see the Insight Administration Guide.

Upgrading from Insight 4.x

To upgrade to Insight 5.1 from Insight 4.x, you will need the Insight 5.0 CDs as well as the Insight 5.1 CDs.

General Upgrade Process:

- 1) Complete the upgrade from 4.x to Insight 5.0
 - a. Prepare your system.
 - a. Back up your database.
 - b. Back up your configuration files.
 - c. Accept all pending changes in Inscribe.
 - b. Run the Upgrade Scripts to upgrade the database.
 - a. Run the User Manager upgrade script.
 - b. Update necessary Group Names in both your User Manager and Collection Manager (if necessary).
 - c. Run the Collection Manager upgrade script.
 - c. Run the Upgrade Installer.
 - d. Run the Insight Indexer in the Insight Administrator Tools.
 - e. Complete the upgrade to the Media Manager.
 - f. Add Master Collection entries in the User Manager.
 - g. Grant access to the Collection Manager and/or User Manager for Insight Studio.
 - h. Test.
- 2) Complete the upgrade from 5.0 to 5.1 (please see Upgrading from Insight 5.0 on page 47).
- 3) Test

NOTE: This Section is provided for your convenience and duplicates the 5.0 upgrade.

Pre-installation Checklist:

The Following Checklist is not required by the upgrade but will help you keep record of your configuration. The Upgrade Process makes use of the existing database connection information contained in the InsightServer.dat, InsightUserManager.dat and BrowserInsight.conf files for the installation process.

Table 7: Pre-Installation Checklist

User Manager:	
User Manager Address:	
NOTE: This should be a fully qualified Hostname, not an IP	
Database Type:	MSSQL Server 7+ ___ DB2 8.1+ ___ Oracle 8, Oracle 9+ ___
Database Hostname / IP:	
Database Port:	
<i>Common Ports (MSSQL 1433, Oracle: 1521, DB2 50000)</i>	
Database Username:	
Database Password:	
Database Name / SID Name	
<i>(SID is for oracle)</i>	
Database Service Name (Windows only):	
User Manager Installation Directory	
Collection Manager:	
Collections to Upgrade:	
Database Type:	MSSQL Server 7+ ___ DB2 8.1+ ___ Oracle 8, Oracle 9+ ___
Database Hostname / IP:	
Database Port:	
<i>Common Ports (MSSQL 1433, Oracle: 1521, DB2 50000)</i>	
Database Username:	
Database Password:	
Database Name / SID Name:	
<i>(SID is for oracle)</i>	
Database Service Name (Windows only):	
Collection Manager installation Directory:	
Media Storage Location:	
MrSID Server URL:	
NOTE: you will need to repeat the information above for each Collection Manager	
Administrative Information:	
Insight Administrator Username:	
Insight Administrator Password:	
Tomcat or Resin Information:	
Hostname:	

<i>NOTE: This is commonly the same as the User Manager Address</i>	
Port	
4.x - BrowserInsight:	
Hostname:	
Port:	
Installation Location:	
4.1 - XML Gateway: (if installed)	
Hostname:	
Port:	
URL:	
Installation Location:	
<i>NOTE: the Hostname information for all components will be used for registering your license key.</i>	

Preparing your System for the Upgrade

Before you run the upgrade script and the Upgrade Installer, there are a few tasks you should perform.

Backing up your Databases

Before making any changes to your database or Insight configuration, make sure you back up your database. This will ensure that you can safely restore any changes. It is also advisable to make a copy of the database to ensure that you do not affect production systems.



WARNING: BACK UP YOUR DATABASE BEFORE GOING ANY FURTHER

The Upgrade script will make your database incompatible with previous versions of Insight and can not be undone.

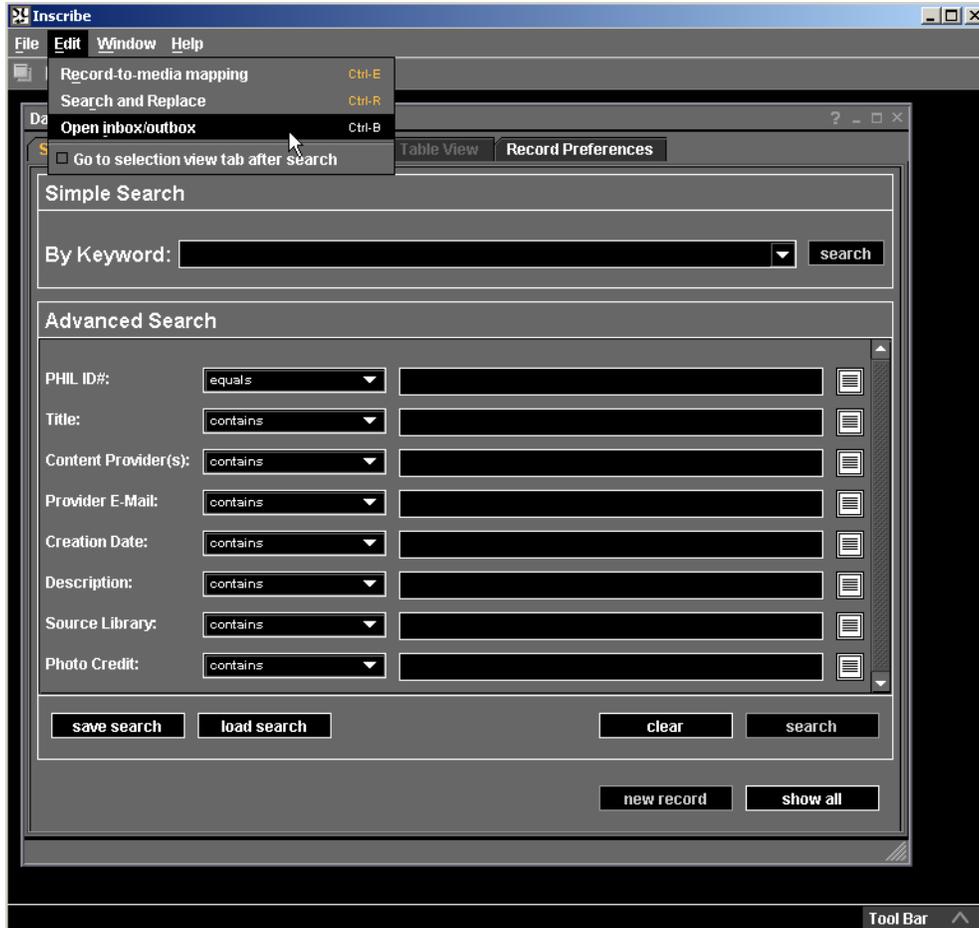
Backing up your Configuration Files

You should also back up your configuration files and system data files. Include the Collection Manager, User Manager, and BrowserInsight directories and all of their contents.

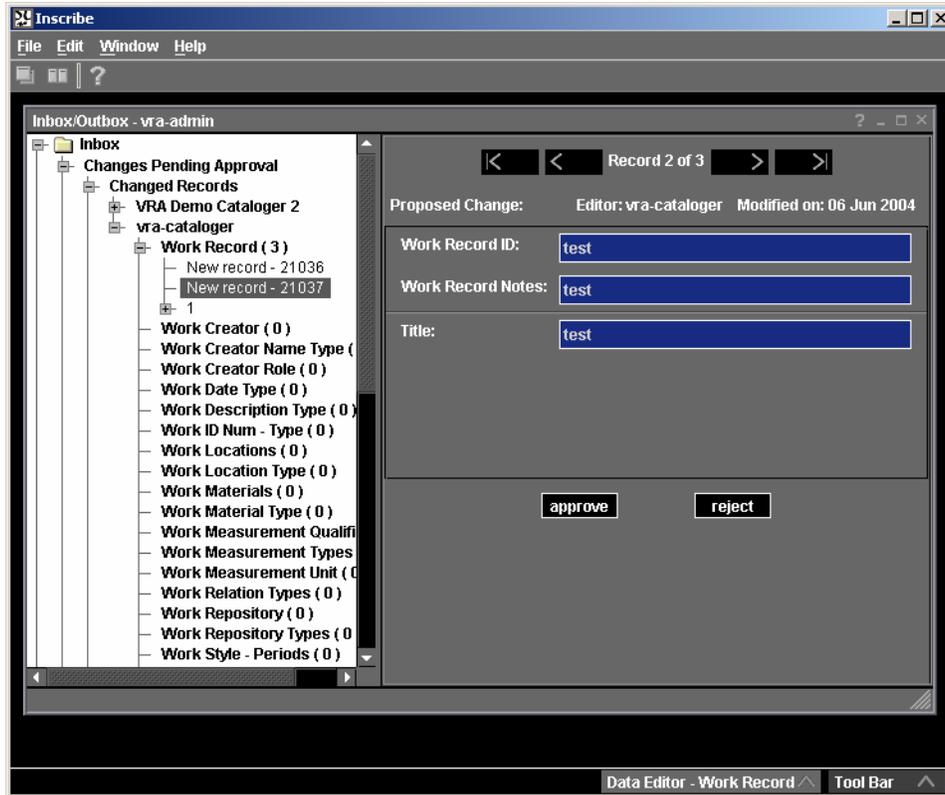
Accepting all Pending Changes in Inscribe

If you are using a database that supports Inscribe, the first step is to accept all pending changes. To accept any pending changes:

- 1) Log into Inscribe using as an administrative user.
- 2) Go to the "Edit" menu and choose "Open inbox/outbox".



- 3) Click on each entry in the "Changes Pending Approval" workflow tree ("Changed Records", "Record-to-Record Mapping", "Record-to-Media Mapping", and "Deleted Records") and either accept or reject the changes.



4) Once you have finished, exit Inscribe.

Shutting Down your Collection Manager

Once you have accepted all of the pending changes in Inscribe, shut down your Collection Manager. Before you can run the database upgrade script, you will need to shut down your 4.x Collection Manager. This will ensure that no users login or make any changes during the upgrade process.

Insight VRA v1 Model Upgrade Script

If you are using the Insight VRA Model (shipped with Insight Standard 3.5 – 4.1) we suggest you run the VRA Model Upgrade script.

The script solves a series of issues with the VRA Model including:

- Improved Browser Support for the Reproduction Record when Searching
- Support for Data Import using the Insight Studio Data Import Tool



WARNING: This upgrade script is designed specifically for the VRA v1 model. If you run the VRA Upgrade Script on a database that is not a VRA v1 Model you will experience issues.



WARNING: If you have customized the VRA v1 Model by adding / removing fields, please contact Luna before running this script.

NOTE: If you are unsure whether you are using the VRA v1 Model, please contact <mailto:support@luna-img.com> for help in determining which version you are running.

To run the VRA Upgrade Script

1) Open a database script editor and connect to your **Collection Manager** database.

Microsoft SQL

- SQL Query Analyzer or isql

Oracle

- SQLPlus or SQLPlus Worksheet

NOTE: To run the Upgrade script you must have the Oracle “Resource” permission. This permission will only be required during the upgrade process and can be removed after the script has been run. The script creates several sequences and triggers in order to autonumber some columns in several temporary tables. These are not required after the upgrade process.

2) Open the appropriate upgrade script for your database version.

Table 8: Locations for the Insight VRA 4.1 to 5.0 Upgrade Script

Database	Location
MSSQL	CD3_Upgrade\utilities\sql\MSSQL\41_to_50\41_to_50_VRA_Patch_MSSQL.sql
Oracle	CD3_Upgrade\utilities\sql\Oracle\41_to_50\41_to_50_VRA_Patch_Oracle.sql

3) Read the instructions at the top of the file.

4) Run the script.

5) Please report any errors to Luna Technical Support.

Testing the VRA Upgrade Script

You may test the VRA Upgrade Script by starting your Collection Manager and/or BrowserInsight and connect with Insight / Inscribe / BrowserInsight. If you can connect, add / delete records without any errors, then the script should have run successfully.

Running the Database Upgrade Script

You must upgrade both your User Manager and Collection Manager databases to be able upgrade to 5.0. There are two upgrade scripts, one for your User Manager

and one for your Collection Manager, which are located in the sql directory of the upgrade CD, in a subdirectory for each database type. (If you are upgrading from a pre-4.0 version of Insight, you will first need to upgrade to 4.0)



WARNING: BACK UP YOUR INSIGHT DATABASES! THIS SCRIPT IS NOT REVERSABLE.



WARNING: IF YOU HAVE MADE ANY CHANGES TO YOUR INSIGHT DATABASE'S SCHEMA OR HAVE APPLICATIONS DEPENDING ON INSIGHT'S TABLE STRUCTURE, THIS UPGRADE MAY FAIL OR BREAK THOSE APPLICATIONS. PLEASE CONTACT LUNA IF YOU HAVE ANY QUESTIONS ABOUT THE SCHEMA OR CHANGES TO IT IN 5.0.

LUNA IMAGING INC IS NOT RESPONSIBLE FOR ANY MODIFICATIONS MADE TO YOUR DATABASE OUTSIDE THE SCOPE OF THE INSIGHT INSTALLERS AND/OR THE INSIGHT UPGRADE SCRIPTS.

To run the User Manager upgrade Script

- 1) Open a database script editor and connect to your **User Manager** database.

Microsoft SQL

- SQL Query Analyzer or isql

Oracle

- SQLPlus or SQLPlus Worksheet

NOTE: To run the Upgrade script you must have the Oracle "Resource" permission. This permission will only be required during the upgrade process and can be removed after the script has been run. The script creates several sequences and triggers in order to autonumber some columns in several temporary tables. These are not required after the upgrade process.

- 2) Open the appropriate upgrade script for your database version.

Table 9: Locations for the User Manager 4.1 - 5.0 Upgrade Script

Database	Location
MSSQL	CD3_Upgrade\utilities\sql\MSSQL\41_to_50\41_to_50_User_MSSQL.sql
Oracle	CD3_Upgrade\utilities\sql\Oracle\41_to_50\41_to_50_User_Oracle.sql

- 3) Read the instructions at the top of the file.
- 4) Run the script.
- 5) Please report any errors to Luna Technical Support.

NOTE: Insight 5.0 requires all User Names and Group Names to be unique. When the script encounters a duplicate User Name it will alter the User Name to include "__UserName_Modified_" plus a unique number. When the script encounters a duplicate Group Name and unique Code Key it will alter the Group Name to include "__UserGroup_Modified_" plus a unique number. If the script encounters a duplicate Group Name and Code Key combination it will consolidate all groups into a single instance.

NOTE: Renaming User Group Names will require the renaming of the corresponding physical directories in the "Image-Group-Files" Directory of the User Manager as well. Otherwise, your user groups will not be visible via the Java Client.

Please follow the steps only when duplicate Group names are encountered

- All Login Groups that get renamed by the script are required to be updated in the Collection Manager. Please use InsightAdministrator Tools 4.1 to update the User Group names on the Collection Manager to match the names in the User Manager.
- All User Shares that get renamed by the script are required to be updated on the Collection Manager server. Please execute the bat/cmd file generated by the User Manager upgrade Script in the Image-Group-Files directory located in your user_manager directory.

To run the Collection Manager Upgrade Script

- 1) Open a database script editor and connect to your **Collection Manager** database.

Microsoft SQL

- SQL Query Analyzer or isql

Oracle

- SQLPlus or SQLPlus Worksheet

NOTE: To run the Upgrade script you must have the Oracle "Resource" permission. This permission will only be required during the upgrade process and can be removed after the script has been run. The script creates several sequences and triggers in order to autonumber some columns in several temporary tables. These are not required after the upgrade process.

- 2) Open the appropriate upgrade script for your database version.

Table 10: Locations for the Collection Manager 4.1 - 5.0 Upgrade Script

Database	Location
MSSQL	CD3_Upgrade\utilities\sql\MSSQL\41_to_50\

	41_to_50_Collection_MSSQL.sql
Oracle	CD3_Upgrate\utilities\sql\Oracle\41_to_50\ 41_to_50_Collection_Oracle.sql

3) Read the instructions at the top of the file.

4) Run the script.

NOTE: The upgrade script can take 3-15 minutes to execute, so be patient.

5) Please report any errors to Luna Technical Support.

NOTE: Depending on your database, the upgrade script may produce errors. PLEASE CONTACT LUNA regarding all errors for guidance on how to correct the database.

Running the Upgrade Installer

The Upgrade installer is designed to help you locate and upgrade your existing installations, port the current versions into the 5.0 structure, and upgrade your configuration files. The Upgrade Installer will also install and configure Tomcat 5 with options needed to run the Media Manager.

NOTE: There is no manual upgrade for 5.0, please use the Upgrade Installer

Running the installer

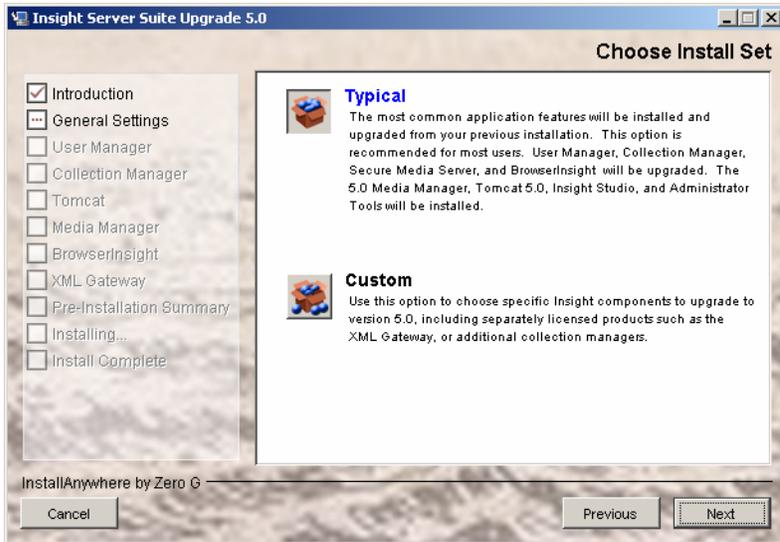
To run the installer, double-click on the upgradeServerSuite executable appropriate to your platform. Please note, the installer is around 100MB, so it may take a few minutes to initially load. The Installer is GUI-based and must be run in a graphical environment.

NOTE: The Installer is GUI-based and will require an X-Windows environment on any UNIX based system



Selecting the Components to Upgrade

The Insight Suite Upgrade Installer allows you to perform either a “Typical” or a “Custom” installation.

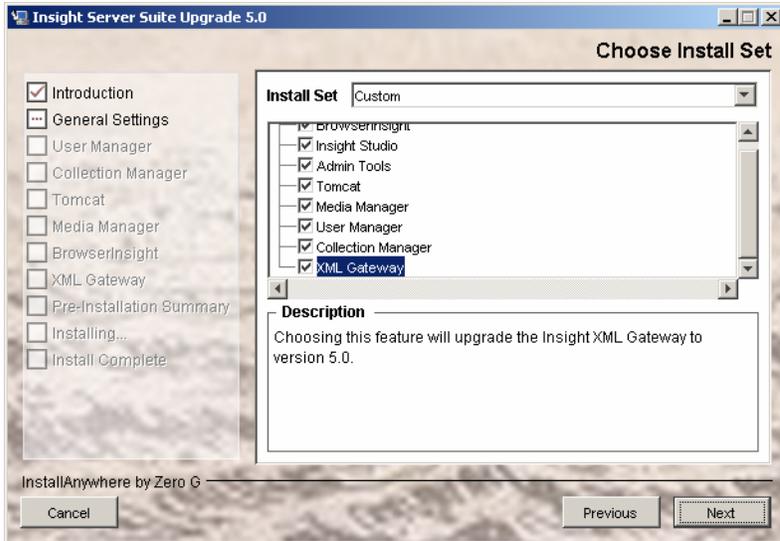


Performing a Typical Installation:

A “Typical” upgrade includes upgrading the User Manager, Collection Manager, Media Manager, an optimized version of Tomcat, and BrowserInsight.

Performing a Custom Installation:

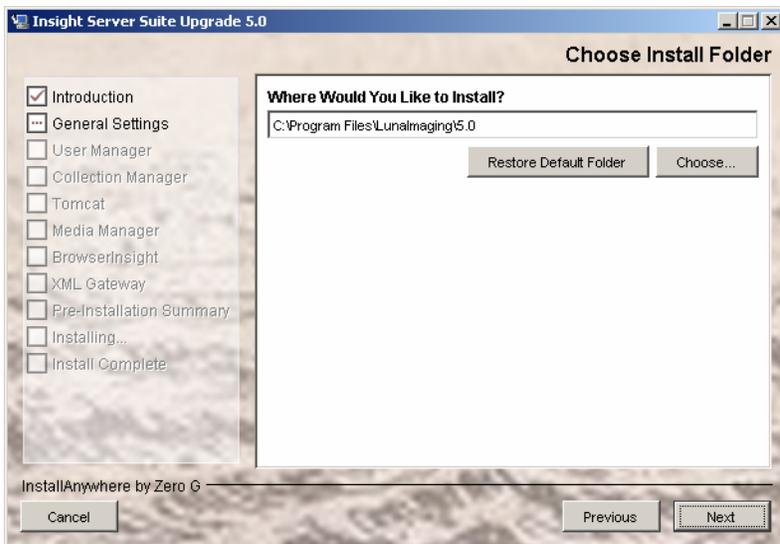
A “Custom” installation allows you to choose a subset of the above components to upgrade / install and allows the upgrade of the XML Gateway.



NOTE: if you would like to upgrade more than one Collection Manager, you will need to run the Upgrade Installer separately for each additional Collection Manager and perform a “Custom” installation.

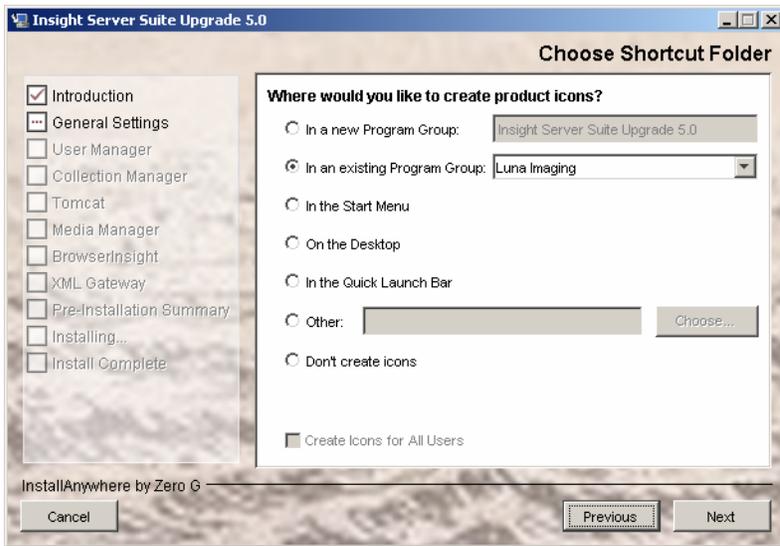
Choosing Installation Location

The Installation of the Insight Server Components can take up to 300MB, please plan accordingly when installing the server components.



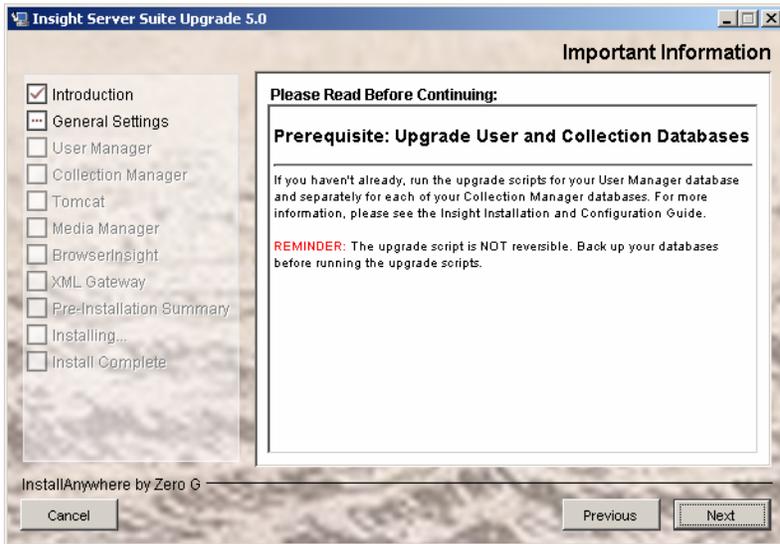
Creating a shortcut folder

The installer can create a series of links to the server components and documentation on install. On Windows, the default is a “Luna Imaging” program group.



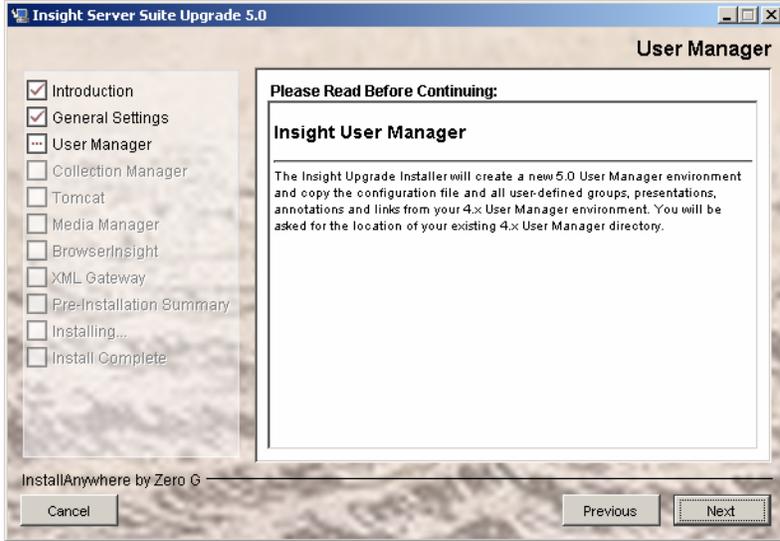
Prepare your Databases

Before you run the Installer, please run the Insight Database Upgrade Scripts. The installer will complete the database upgrades and will not run unless the database has been properly upgraded.



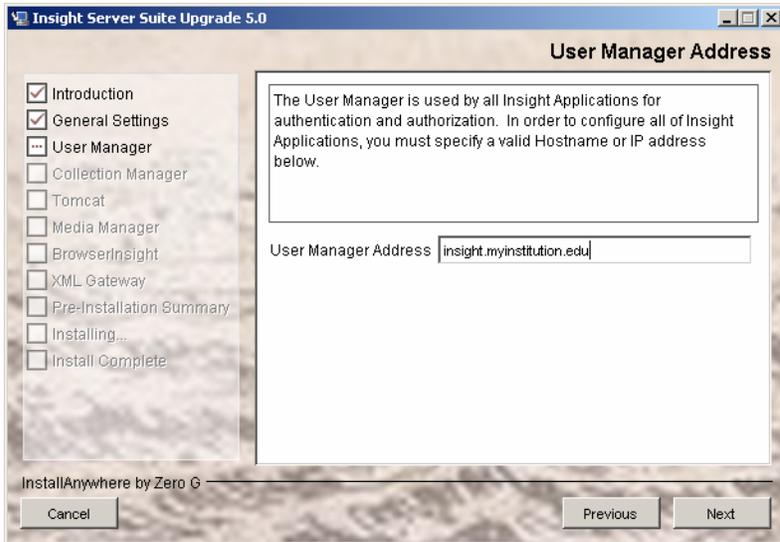
Upgrading the User Manager

The User Manager Upgrade will install the 5.0 version of the Insight User Manager, and utilize the existing configuration information from your 4.x User Manager.



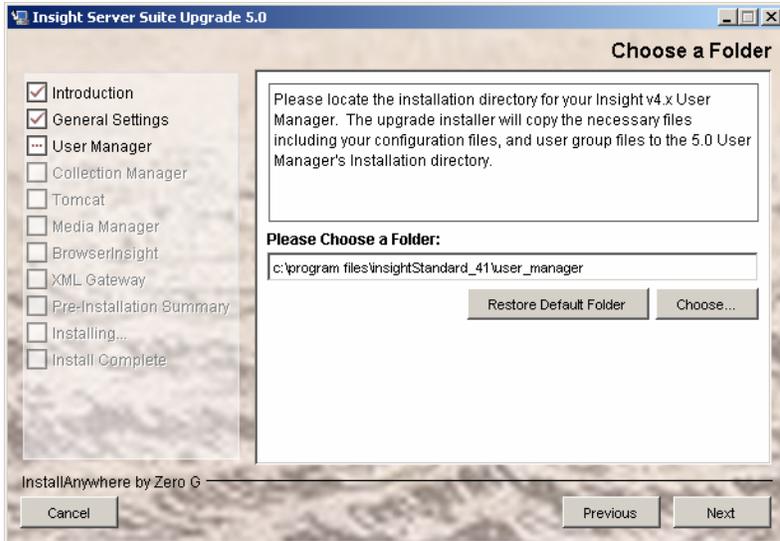
Specify your User Manager Address

During the installation process, the installer will use your User Manager address to configure components, please provide your User Manager address.



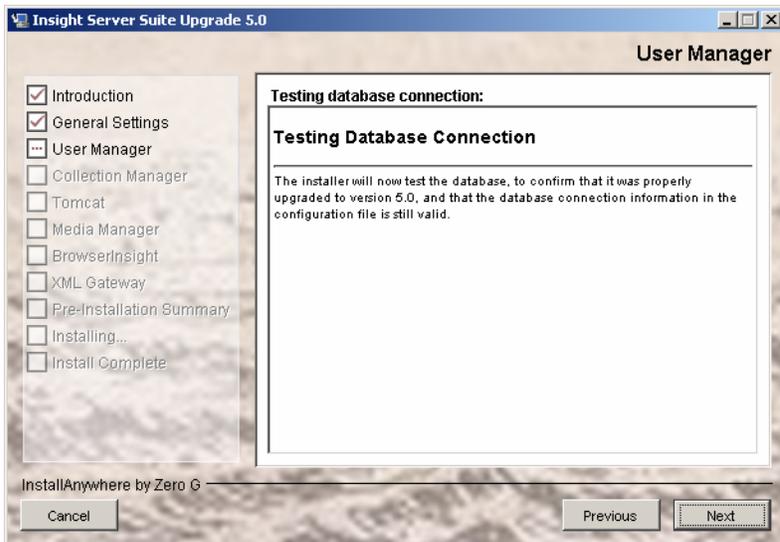
Specify your Insight 4.x User Manager Directory

Please specify for the installer where your 4.x User Manager Directory is located, it will read and copy your configuration files and “group-files” from the 4.x User Manager into your new 5.0 installation.



Verifying Successful Database Upgrade

The installer will now verify that your User Manager database has been upgraded to 5.0 based on the information contained in your version 4.x User Manager.



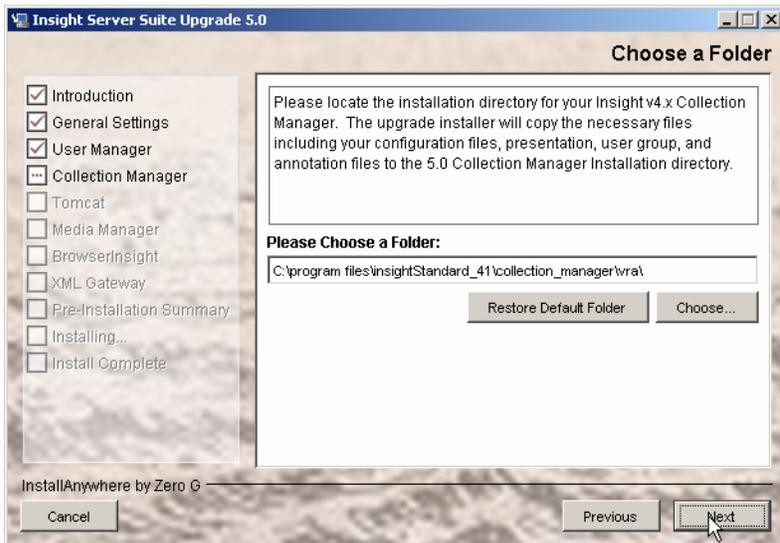
Upgrading the Collection Manager

The Collection Manager Upgrade will install the 5.0 version of the Insight Collection Manager, and utilize the existing configuration information from your 4.x Collection Manager.



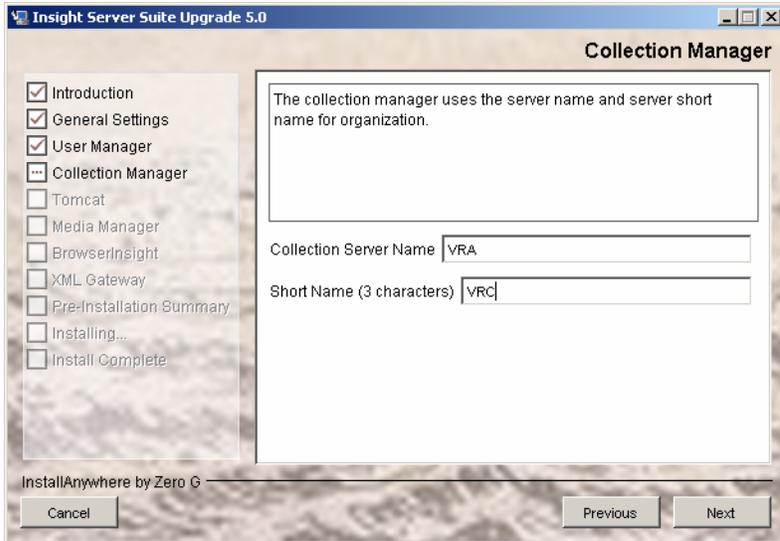
Specify your Insight 4.x Collection Manager Directory

Please specify for the installer where your 4.x Collection Manager Directory is located, it will copy your configuration files, “group files”, “presentation files”, “Link Files” from the 4.x Collection Manager into your new 5.0 installation.



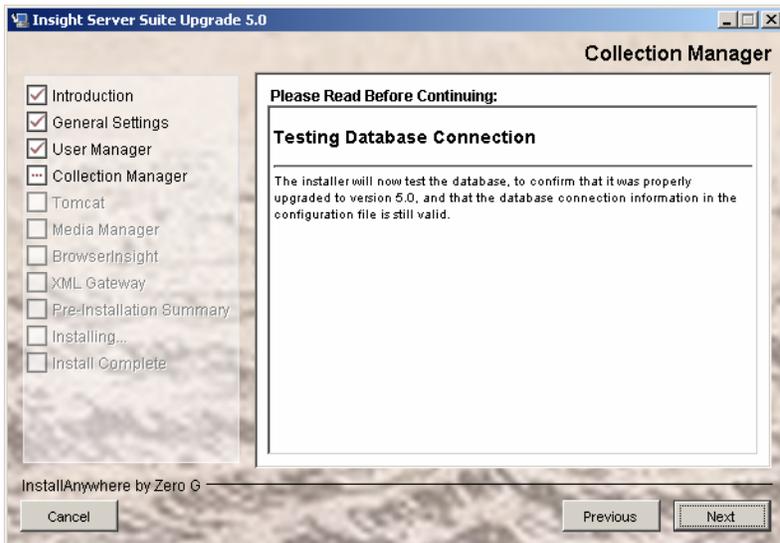
Specifying a Collection Short Name and Server Name if you haven't Already

Please confirm your collection name and short name. If you have specified it already in your configuration files, the values should be pre-populated. This information will be used to configure your 5.0 Collection Manager.



Verifying Successful Database Upgrade

The installer will now connect to your 5.0 Collection Manager database, test your configuration and finish up the upgrade.

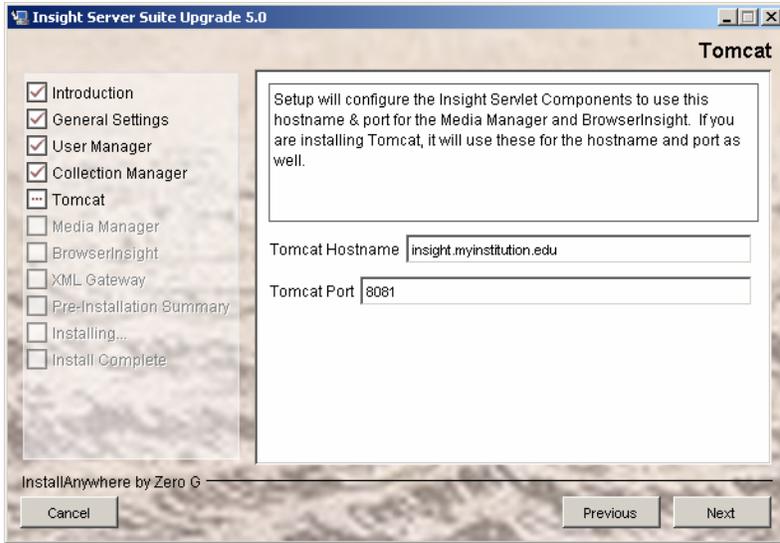


Upgrading Multiple Collection Managers

The Upgrade Installer needs to be run against your Collection Manager. If your installation contains more than one Collection Manager, the Upgrade Installer needs to be run once against each of them in order to bring them all up to version 5.0.

Installing the Bundled Version of Tomcat 5

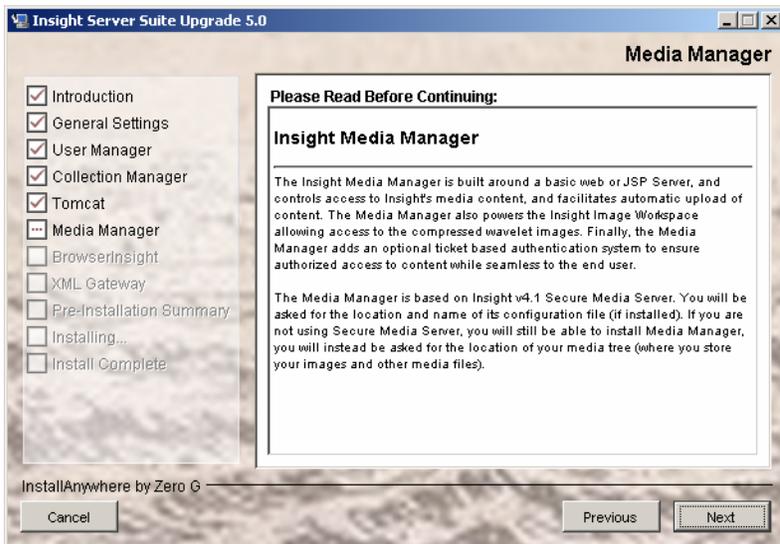
Insight is bundled with a customized version of Apache's Tomcat 5.0.19. This version of Tomcat has been configured with most of the default servlets disabled and a customized version of the configuration files.



NOTE: If you are planning to use your own version of Tomcat or Resin, enter the HOSTNAME and PORT for your version of Tomcat or Resin, the installer will configure all Insight Components with this information. The installer will use this information to configure the Collection Manager, BrowserInsight and other components.

Upgrading the Secure Media Server & Installing the Media Manager

The 4.x Secure Media Server has been fully integrated into the 5.0 Media Manager. If you installed the 4.x Secure Media Server, provide the installer with the mediaSecurity.dat configuration file and the Installer will upgrade the Secure Media Server for you.



Installing the Media Manager

If you are not using the 4.x Secure Media Server, the installer will allow you to install the 5.0 Media Manager. The Media Manager includes support for JPEG2000 files as well as integrated upload of media during media processing.



Specifying the Secure Media Server Configuration File

If you installed the 4.x Secure Media Server, please specify the location of your mediaSecurity.dat configuration file. The server will upgrade the Secure Media Server to a 5.0 Media Manager.



Specifying the Media Directory

Please specify the directory you will use for storing Media processed in Insight. Select your base directory where your images are stored. This directory will contain

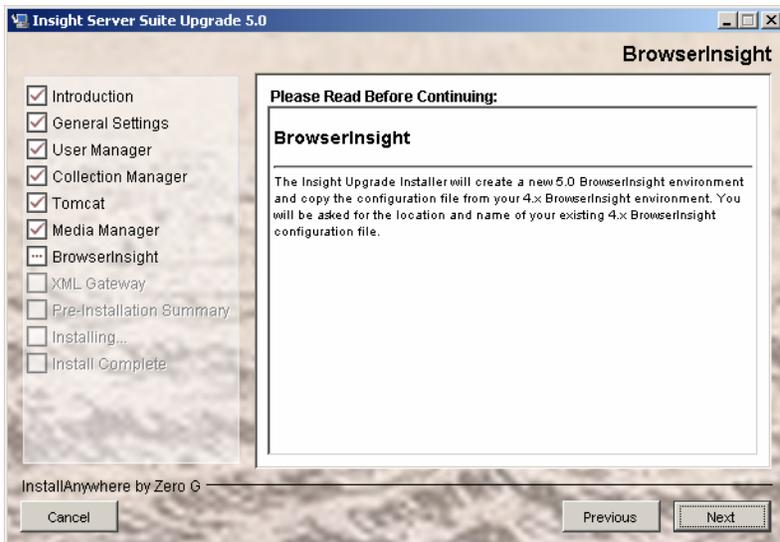
your Size0, Size1, Size2, Size3, Size4 and Sids directories and will be where the media manager stores JPEG2000 Files as well.

NOTE: If your Image storage location is more complex than this or you have multiple storage locations for various collections, please contact Luna Imaging's support department for advice on these advanced configurations.



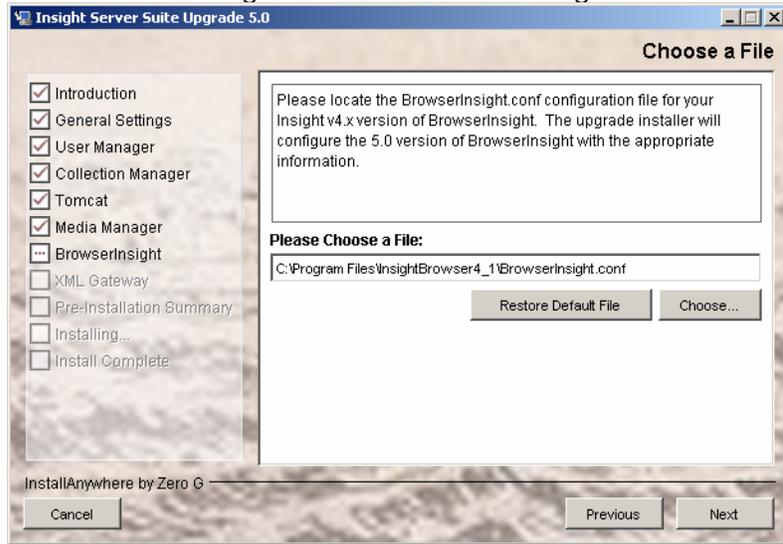
Upgrading BrowserInsight

The Upgrade Installer will copy your 4.x BrowserInsight configuration files and other information to the 5.0 installation.



Locate your BrowserInsight.conf

Specify the location of your 4.x BrowserInsight.conf configuration file. The Installer will use it to configure the 5.0 BrowserInsight installation.

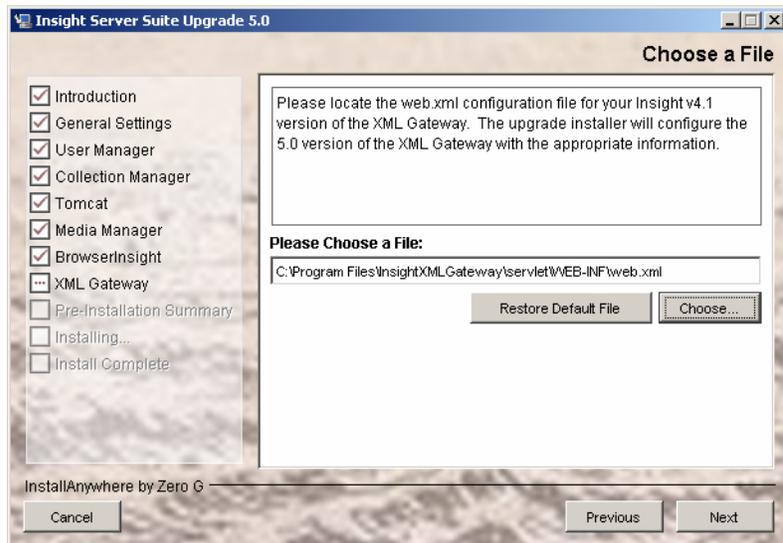


Upgrading the XML Gateway

If you installed the 4.x Insight XML Gateway, the Upgrade Installer will enable you to upgrade the XML Gateway to 5.0.

Specifying the Location for the 4.1 XML Gateway Configuration File

Please specify the location of the 4.1 XML Gateway Configuration File (web.xml). It should be located in the servlet/WEB-INF directory of your 4.1 installation directory.



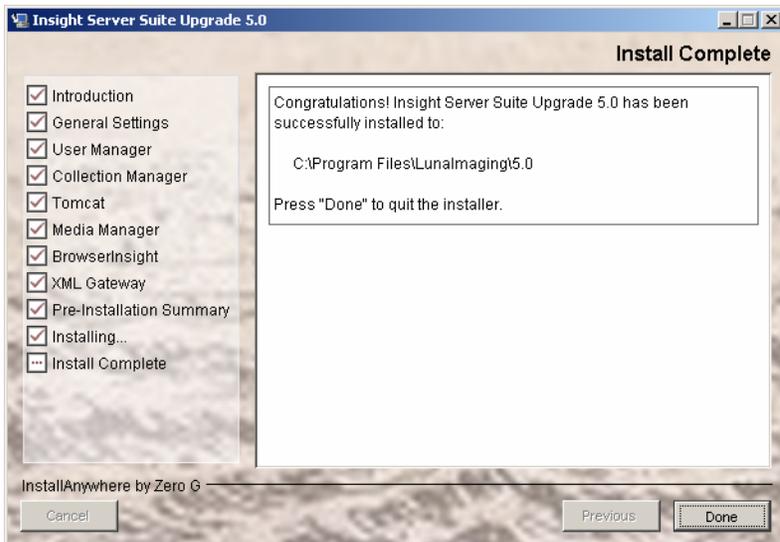
Verify Installation Choices

Once you have completed the configuration of the 5.0 Upgrade Installer, please review your choices before continuing.



Running Upgrade

The Upgrade installer will now install and configure the Insight 5.0 Server Components with all of your 4.x configuration information.



Licensing

If you are planning on continuing your upgrade all the way to the latest version of Insight (currently version 5.1), please ignore this section and review your licensing options from the previous (5.0 to 5.1) upgrade section. Otherwise, if you did not complete registration during the version 5.0 installation and would like to register online, you can access the form at the following URL.

<http://www.lunaimaging.com/support/register/50.html>

Once you have completed the form with your contact information. Luna will contact you with a license key for your product. If you have any questions, please contact <mailto:licensing@luna-img.com> or call (800) 452-LUNA.

Keyed Applications or Components:

- Insight User Manager
- Insight Collection Manager
- Personal Insight Manager
- BrowserInsight
- XML Gateway

Installation Errors

If your installer has an error during the install process, you will receive a message in the installer panel. Press the “Done” button to close the installer, then go to the installation directory to review the installation log (Insight_Server_Suite_Upgrade_5.0_InstallLog.log). This log will indicate where a failure may have occurred. If you are unsure about what the error reported, please forward the report to Luna Imaging’s Support department.

Installing new Components

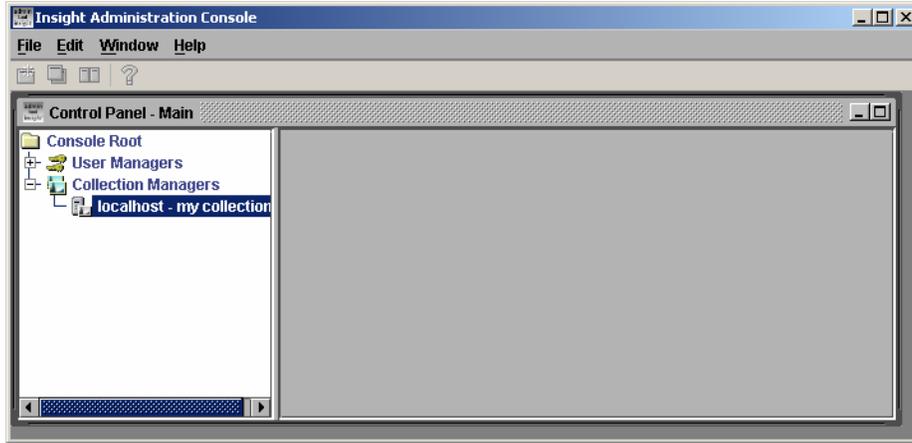
To install new components such as Personal Insight or the XML Gateway, run the Insight Suite Installer, located on CD1 of the 5.0 CDs.

Running the Insight Administrator Tools and the Indexer

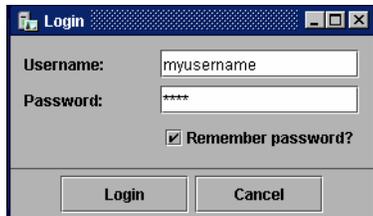
Once the Upgrade Installer has completed, you will need to run 5.0’s indexer (part of the Insight Administrator Tools) to complete the upgrade of your database. The 5.0 Insight Administrator Tools were automatically installed with a “Typical” installation.

To run the indexer:

- 1) Open the Insight Administrator Tools. The 5.0 Insight Administrator Tools are installed in the “AdminTools” directory of your 5.0 Installation Directory.
- 2) The installer should have created an entry for each of the insight server components you installed. For each collection, right-click on the collection node to connect.



- 3) Enter your administrative username and password.

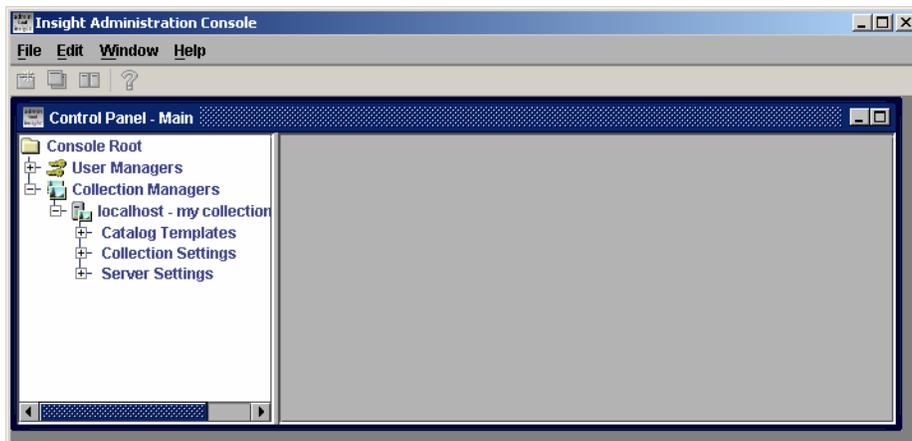


- 4) The 5.0 Administrator Tools has a changed layout. For each Collection Manager, functions have been separated into three categories:

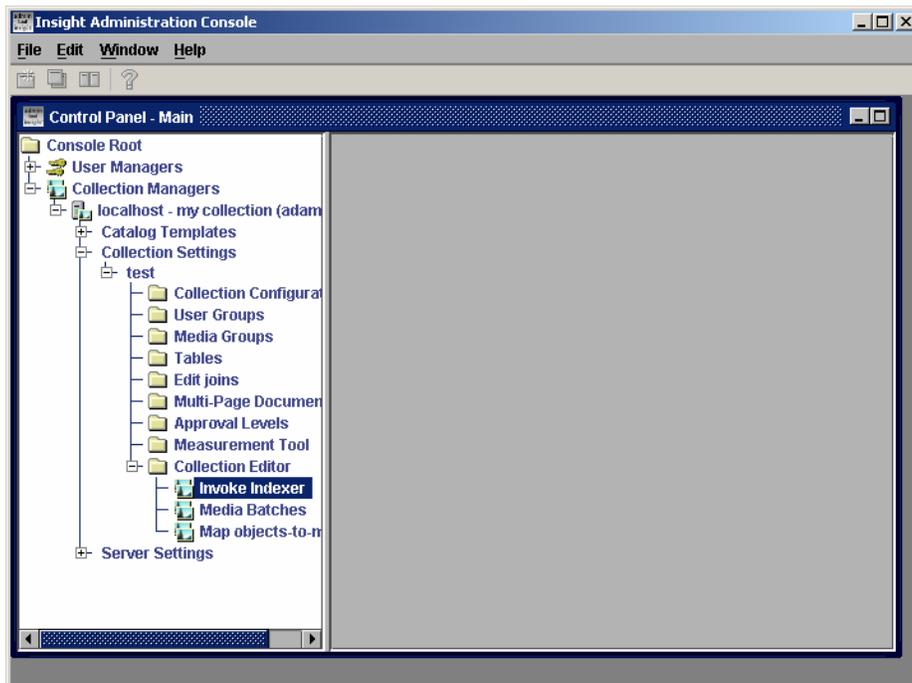
Cataloging Templates: which include Fields, Record Fields, and other data model specific information

Collection Settings: which includes information on configuring specific collections within the Collection Manager

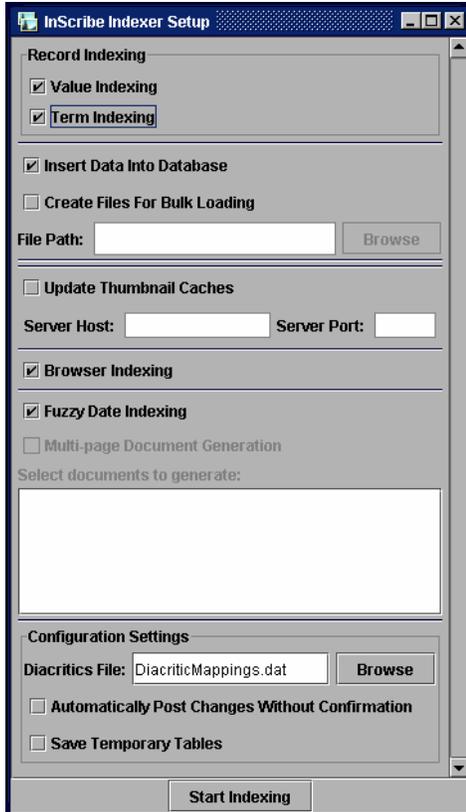
Server Settings: which includes configurations that affect the entire Collection Manager.



- 5) Open the “Collection Settings” node, and open the node for your collection.



- 6) The Indexer functions are located within the “Collection Editor” section of the collection area. To run the indexer, right-click on “Invoke Indexer” and choose “Run Indexer”.



- 7) Choose “Value indexing” and “Term Indexing”, and run the indexer. If you normally run the indexer using “Bulk Loading Files,” you may specify that as well.

NOTE: Using Bulk Loading Files can drastically increase the speed of indexing. If you are not currently using bulk loading files, we suggest that you index normally for the initial 5.0 index. Once your 5.0 Installation is complete, please investigate using bulk loading files in the future. For more information on using the Bulk Indexer, see the Indexing Section of the “Insight Administration Guide” for more information.

- 8) Click “Start Indexing” to run the indexer
- 9) If you are using Oracle or DB2 as your database, you should now regenerate statistics for all Insight Tables.

Testing your 5.0 Upgrade

When the Indexer has completed, test the 5.0 Upgrade before you upgrade to the new Media Manager. To test the upgrade, we'll start each of the server components in “console mode” and then login with the Java Client. Then, we'll start Tomcat and BrowserInsight and login with the Browser. For instructions on testing your server components, please see Starting the Insight Server Components for the First Time (in console mode) on page 90.

Configuring your Collections for Access using Insight Studio

Insight Studio is a powerful new tool to help you manage and build collections. It can help you perform data import, media processing, and other common tasks. However, before you can manage collections in Insight Studio you will need to configure your Collection Managers and User Manager to enable access.

To enable access you will need to:

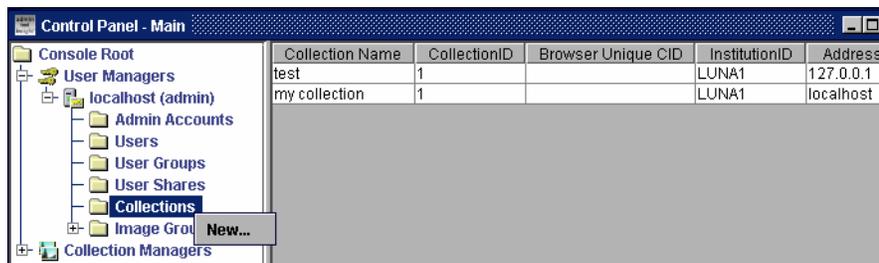
- a) Define a Master Collection Entry in your User Manager for each collection.
- b) Check that you have an administrative user in your collection that has the privileges to login to Studio.
- c) Ensure that your Collection's Administrative Username and Password map to a valid user on your User Manager.

Defining a Master Collection Entry

Insight 5.0 introduces two new Collection Type entries in the User Manager. Master Collections represent physical Collection Managers and are used by the Insight Java Client and Insight Studio to group Collection Managers. Master Collection entries are also used to tell Insight Studio which Collection Managers it can connect to. Personal Collection entries are used to identify Personal Collection Servers for the Insight Java Client.

To define a Master Collection Entry:

1. Open the Insight Administrator Tools.
2. Connect to your User Manager.
3. Click on the Collections node and identify the Collection(s) that you wish to grant Insight Studio Access to. You may want to "Edit" these so you can see the settings more easily when you create the "Master Collection Entry."
4. Right-Click on the Collections entry and choose "New."



5. To define a master node, you must identify the following:

- a. Specify a Collection Name (this is displayed in the Collection Selection Panel).
- b. Change the Collection Type to Master Collection.
- c. Specify the Institution ID (This should be the Institution ID for your current collection) .
- d. Specify the Server Address (The DNS Name or IP Address of your Collection Manager).

NOTE: DO NOT USE LOCALHOST

- e. Specify the Server Port (The Port for your Collection Manager, check your InsightServer.dat to confirm if you are unsure).

The screenshot shows the 'Edit Collection' dialog box. It has a title bar with a folder icon and the text 'Edit Collection'. Below the title bar are several input fields: 'Collection Name:', 'Collection ID:', 'Browser Unique CID:', 'Institution ID:', 'Address:', 'Port:' (with '2450' entered), 'Locale:' (a dropdown menu), and 'Type:' (a dropdown menu with 'Master Server' selected). Below these are two checkboxes: 'InScribe Enabled' (unchecked) and 'Virtual - Virtual Collection ID:' (with 'NA' entered). At the bottom, there are two panes: 'Available Virtual Collection Constituents:' (containing 'test') and 'Virtual Collection Constituents:' (empty). There are navigation arrows between the panes. At the bottom right, there are 'Save' and 'Cancel' buttons.

6. Save your Collection Entry.
7. Repeat for any other Collection Managers you want to manage.

Confirming you have the Administrative Rights to Manage a Collection with Insight Studio

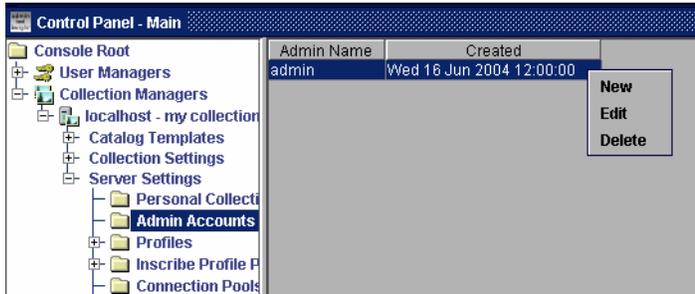
Because users can make administrative changes in Insight Studio, you must limit access to specific users in the Insight Administrator Tools.

To enable access to Insight Studio:

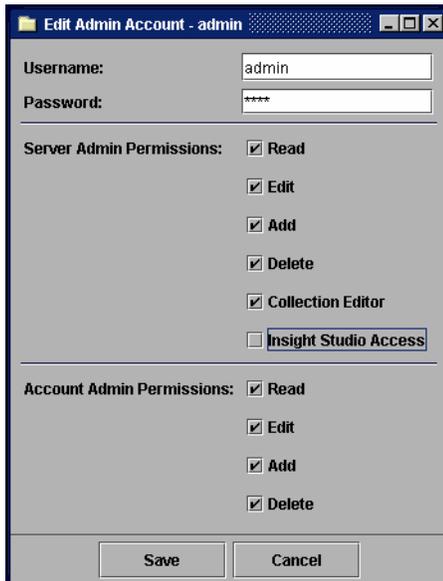
1. Open the Insight Administrator Tools.

Insight 5.1 Installation and Configuration Guide

2. Connect to the Collection Manager you want to manage.
3. Open up the Server Settings node, and click on the “Admin Accounts” node.
4. Right click on the entry for the administrative user you wish to manage and choose “Edit.”



5. To enable Insight Studio access, click the “Insight Studio Access” checkbox.



6. Luna also suggests changing your password (especially if it is still using the default).
7. Save.

Adding the User to the User Manager

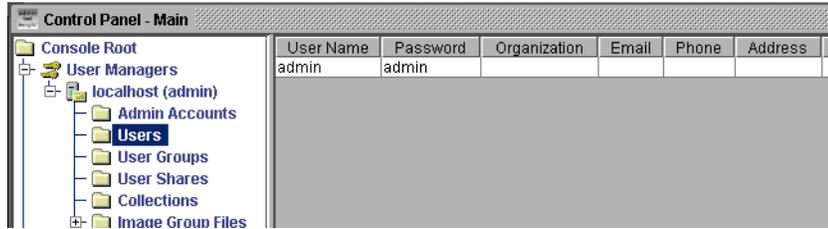
Once the user has the appropriate permissions in the Collection Manager, you must confirm that there is a matching user in the User Manager.

To confirm that the user is defined in the User Manager:

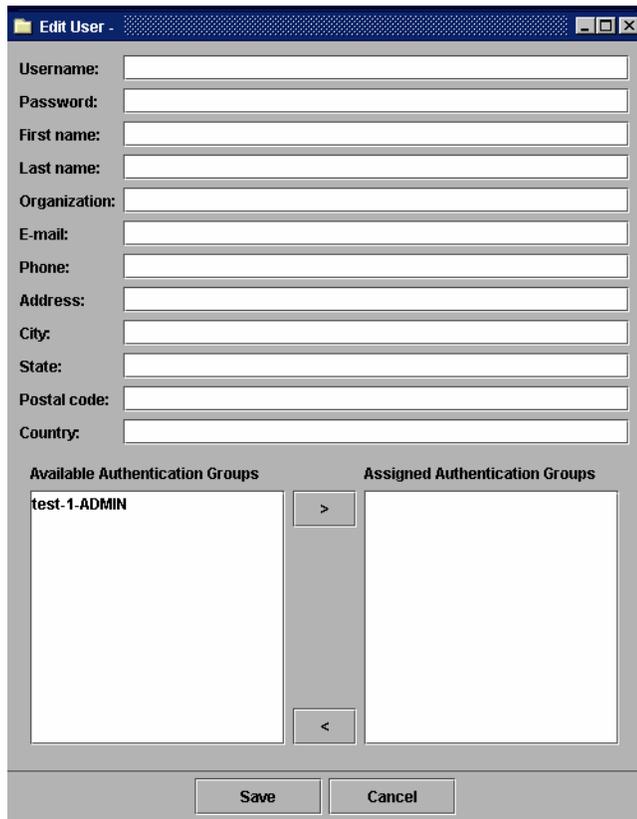
1. Open the Insight Administrator Tools.

Insight 5.1 Installation and Configuration Guide

2. Connect to your User Manager.
3. Open the "Users" node and look for a matching username.



4. If you do not find a matching Username, for your Administrative User, add one by right-clicking on the "Users" node and choosing "New."
5. Enter the Username and Password which match the Administrative User in the Collection Manager.



The 'Edit User' dialog box contains the following fields and sections:

- Username:
- Password:
- First name:
- Last name:
- Organization:
- E-mail:
- Phone:
- Address:
- City:
- State:
- Postal code:
- Country:

Below the fields are two sections for authentication groups:

- Available Authentication Groups:** A list box containing 'test-1-ADMIN'.
- Assigned Authentication Groups:** An empty list box.
- Between the two list boxes are '>' and '<' buttons for moving items.

At the bottom are 'Save' and 'Cancel' buttons.

Also, enter a First Name and Last Name.

6. Insight Studio only verifies a valid username and password on login, so you do not need to assign Authentication Groups.
7. Press Save.

Enabling a User to Manage Users with Insight Studio

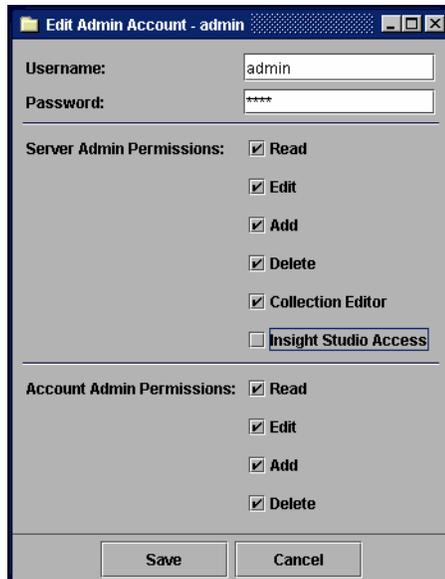
If you would like to enable a user to manage Users on the User Manager, you must confirm that there is a user in the User Manager's list of Administrative Users which matches a user in the user list.

To enable access to Insight Studio:

1. Open the Insight Administrator Tools.
2. Connect to the User Manager you want to manage.
3. Open up the "Admin Accounts" node.
4. Right-click on the entry for the administrative user you wish to manage and choose "Edit."



5. To enable Insight Studio access, click the "Insight Studio Access" checkbox.



6. Luna also suggests changing your password (especially if it is still using the default).
7. Save.

8. Confirm that there is a matching user in the User List (please see “Adding the User to the User Manager” on page 79 for more information).

Upgrading from IIS or Apache to the Insight Media Manager

The Media Manager is a powerful new addition to Insight. It can upload images from Insight Studio and Personal Insight. In order to take advantage of the ability to upload media in Insight Studio, Personal Insight, or Inscribe, it is necessary to use the Media Manager as it supports secure upload from the client.

To configure a collection to use the Media Manager, you will need to:

- a) Update your Insight Collection Profiles to use the Media Manager.
- b) Configure the Media Manager to access your existing media.
- c) Optionally configure the security settings for the media.

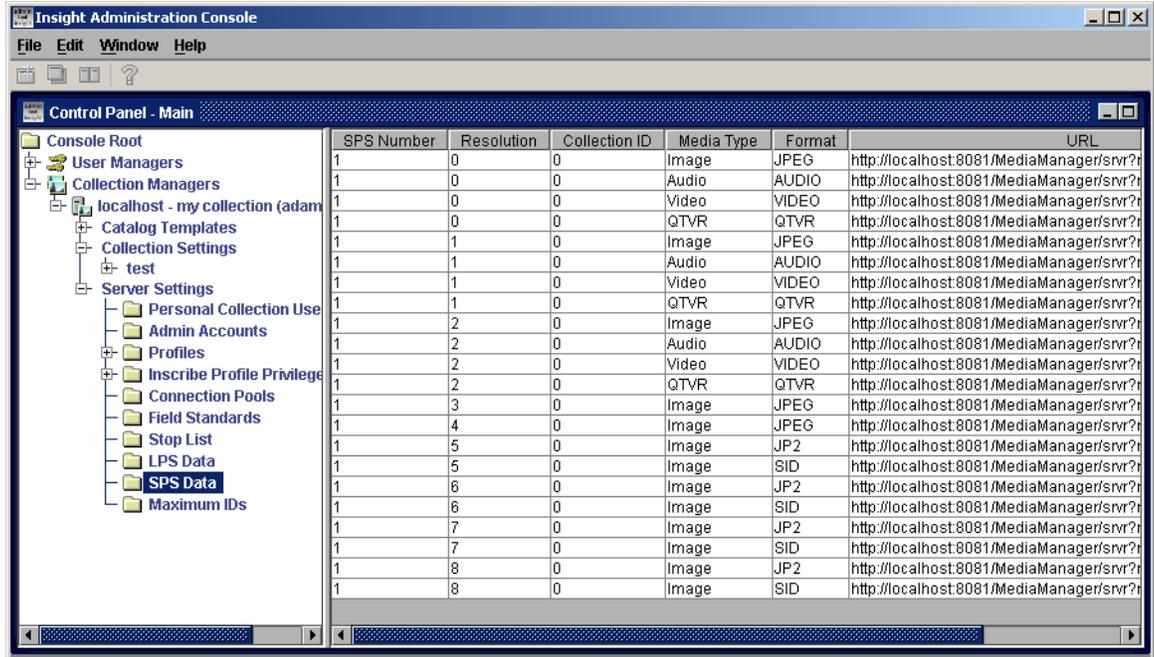
Updating your Insight Collection Profiles to use the Media Manager

The 5.0 Database Upgrade will have already installed and configured a new set of SPS Settings (base URLs for media) which point to the 5.0 Media Manager. All that's needed is to update your existing profiles to use the new SPS.

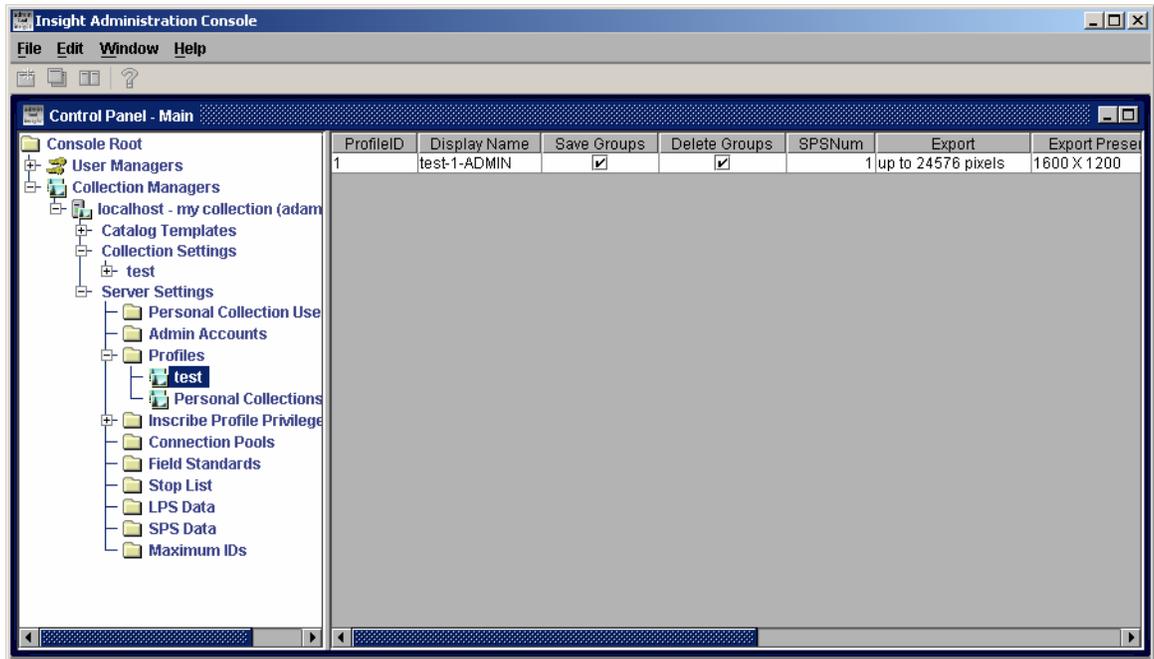
To confirm and configure the new set of SPS Values:

- 1) Open up the Insight Administrator Tools and connect to your Collection Manager.
- 2) Open up the “Server Settings” node, and select “SPS Data.”
- 3) Look for a new Set of SPS entries.

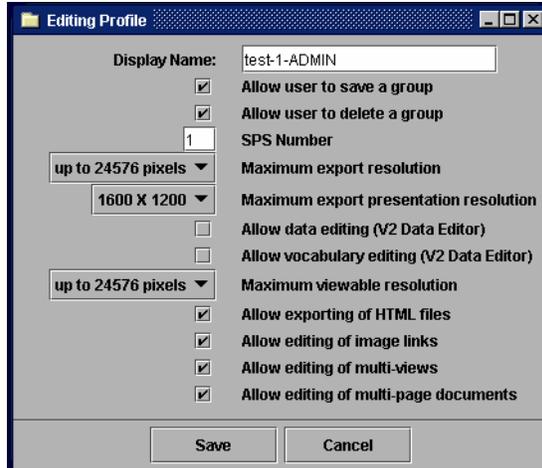
The Upgrade Installer will have added an extra set of SPS values that point to the Media Manager. They should start with the hostname and port that you specified for Tomcat when you ran the Upgrade Installer. Identify the “SPS Number” for the 5.0 Media Manager (you will need this in the next step).



- 4) Once you have identified the SPS Number for the Media Manager, go to the "Profiles" node of the "Server Settings" area.



- 5) For each profile you have defined:
 a. Right-click on the profile name and select edit.



- b. Change the “SPS Number” in the profile entry to match the “SPS Number” you identified above.
- c. Press save.
- d. Repeat for all of the other profiles for your collection.

Using the Media Manager with content from Multiple Legacy Collections

If you would like to configure the media manager to use content from multiple legacy collections you have two options:

- a) You can move the content and adjust the SPS values so that content is accessible using the same media root directory.

NOTE: Only consider this configuration if you are not currently using Insight’s media repository for other applications (such as providing images for websites).

- b) You can configure a separate instance of the Media Manager. Please contact Luna for more instructions on configuring a separate instance.

Configure an Insight Collection Manager to use the Insight Media Manager

During the Upgrade process, your InsightServer.dat and BrowserInsight.conf files have been modified to support the Insight Media Manager. Below are the changes that have been automatically applied. You will not need to do anything here. This information is provided for reference only

To enable Insight Media Manager support on your Insight Collection Manager:

- 1) Open the InsightServer.dat file located in Collection Manager installation directory.

- 2) Turn on Media Security:
 - a. Locate the following lines:

```
# MediaSecurityEnabled - Turns Media Manager Support on or off.  
  
# Note: Enabling the Media Manager will have no effect  
# unless the media SPS entries are directed to a correctly  
# configured Media Manager. (1= ON; 0=OFF)  
  
MediaSecurityEnabled = 0
```

Set `MediaSecurityEnabled` to 1. To disable the Insight Media Manager, set the property to 0.

NOTE: Enabling the Insight Media Manager will have no effect unless the media SPS entries are directed to a properly configured Manager. These configurations will be covered later in the document.

- 3) Define the Location of the Media Manager:
 - a. Locate the following lines:

```
# MediaSecurityServletUrl - The base URL for the  
# Media Manager.  
  
# i.e.  
MediaSecurityServletUrl=http://media.myserver.com:8081/Media_Manager  
/srvr  
  
MediaSecurityServletUrl =
```

- b. Set the `MediaSecurityServletUrl` property to the base URL for the Insight Media Manager. This servlet URL is used to establish the initial session ticket.

Configuring BrowserInsight to use the Insight Media Manager

Before configuring BrowserInsight to use the Insight Media Manager, ensure that your collection contains SPS references to the Insight Media Manager. For more information, please review the preceding section.

The BrowserInsight configuration file changed in 5.0 to support greater flexibility. Besides Collection entries, which represent database connections for specific collections, BrowserInsight.conf contains entries for Server entries (which represent a Collection Manager or Personal Insight Manager). Insight 5.0 also no longer requires a BrowserUniqueCID entry in the User Manager's collection table.

For existing collections, leave your collection and BrowserUniqueCID entries as they were in 4.1 (as any change will break all existing remote launch strings to that collection). For new collections, use the "Server" method without the BrowserUniqueCID.

Update your BrowserInsight Configuration File

To update a Server or Collection to use the Insight Media Manager, locate your BrowserInsight.conf and open it in your preferred text editor.

- 1) Locate the connection properties for the Collection you are enabling Insight Media Manager access. For example, if my collection is #1:

```
Collection.1.insightDBDriver = sprinta
Server.1.connectString =
www.lunaimaging.com:1433?database=Dalton&sql7=true&user=luna&password
=insight
# Collection.1.username      =
# Collection.1.password    =
```

NOTE: In this example, we have used Collection Entries in the BrowserInsight.conf (these are interchangeable with the 5.0 “server” Entries).

- 2) Set the **mediaSecurityEnabled** property to yes.

```
Collection.2.mediaSecurityEnabled = yes
```

- 3) Set the **mediaSecurityServletUrl** property to the URL for your Insight Media Manager.

```
Collection.2.mediaSecurityServletUrl =
http://localhost:8081/Media_Manager/srvr
```

- 4) Restart Tomcat.

Testing your new Media Manager

Once you have updated the media location, test the new Media Manager. To do this, log into the Java Client or Browser Client and try to view images.

Enabling Media Security

Optionally, you may choose to enable media security. This will wrap the Media Manager’s current functionality with a ticket-based authentication model (meaning that all applications that request images from Insight must get a ticket from the Media Manager before they can authenticate).

To get a ticket, they must have both a private key (defined in the Media Manager and Collection Manager / BrowserInsight) and be requesting the image from a valid IP Address (defined in the Media Manager). BrowserInsight, the Collection Manager, PersonalInsight Manager and the Media Manager must have media security Enabled and configured for media security to properly work.

NOTE: If you wish to enable Media Security, it is enabled per instance of the Media Manager – meaning that ALL collections with access to media from that Media Manager must have Media Security Enabled.

NOTE: If your Media Manager and Collection Manager have different settings, they will not be able to communicate and end users will not be able to see images.

To enable Media Security in the Media Manager

- 1) Locate the Media Manager Configuration file and open it in a text editor:
 - a. The Media Manager (mediaManager.dat) configuration file is located in the media_manager directory of your Installation Directory.
- 2) Enable ticketing in the Media Manager.
 - a. Locate the following Line:

```
##  
# MediaSecurityTicketless - If true, the media security servlet will  
# allow requests for media which do not include session tickets.  
# Ticket parameters will be ignored.  
# The default value is false (tickets required).  
MediaSecurityTicketless = 1
```

- b. Set the **MediaSecurityTicketless** property to **0** to enable Media Security.
- 3) Define a range of IP addresses that can create tickets (this range should be limited to IP addresses of the servers hosting Collection Managers, BrowserInsight, and XML Gateways that access this Media Manager).
 - a. Locate the following lines:

```
# MediaSecurityAdminIPs - The IP addresses for computers  
# that are allowed to register security tickets to the  
# servlet.  
MediaSecurityAdminIPs = 192.168.1.51
```

- 4) Define the **MediaSecurityAdminIPs** property, setting the range of IP addresses allowed to register security tickets to the servlet. The IP address of the Collection Managers that contact this servlet must be included in the range of IPs defined for this property.

NOTE: Do not define the client IP's here, only define the IP's of the Collection Managers to which the Media Manager's content belongs.

NOTE: A valid IP Address is required, DNS address will not work.

- 5) Define the Secret Key that the Collection Manager, BrowserInsight and XML Gateway must pass to request a ticket:
 - a. Locate the following lines:

```
# MediaSecuritySecretKey - The secret key to use  
# for encrypting and decrypting ticket numbers. This  
# password must be the same in both the collection  
# manager and servlet environments.
```

```
MediaSecuritySecretKey = insight
```

- b. Define the **MediaSecuritySecretKey** property, the secret key to use for encrypting and decrypting ticket numbers. This key **MUST** be the **SAME** in both the Collection Manager and servlet environments. Once you have defined the secret key, note the value; you will need it when specifying the Collection Manager properties for Media Manager support.
- 6) Define the duration of a Media Manager Ticket:
 - a. Locate the following lines:

```
# MediaTicketDuration - How long a media ticket lasts  
# (in minutes).  
  
MediaTicketDuration = 30
```

- b. Define the **MediaTicketDuration** property. The length of time (in minutes) each media ticket remains valid. After a media ticket has expired, Insight will generate a new media ticket. Media URLs accessed outside of Insight will return an expired ticket response once the specified duration has been exceeded.
- 7) Save and Restart:
 - a. Save the file and close it.
 - b. Restart the Media Manager.
- 8) Open the configuration file for BrowserInsight (BrowserInsight.conf) in a text editor:
 - a. Locate the Server or Collection entry you wish to enable Media Security.
 - b. Set the **mediaTicketDuration** property. We suggest 30 minutes.

```
Server.2.mediaTicketDuration = 30
```

- c. Set the **mediaSecuritySecretKey** property to the key you defined earlier (check your MediaManager.dat file on your Insight Media Manager if you are unsure of this property).

```
Server.2.mediaSecuritySecretKey = insight
```

- d. Save the file and close it.
 - e. Restart BrowserInsight.

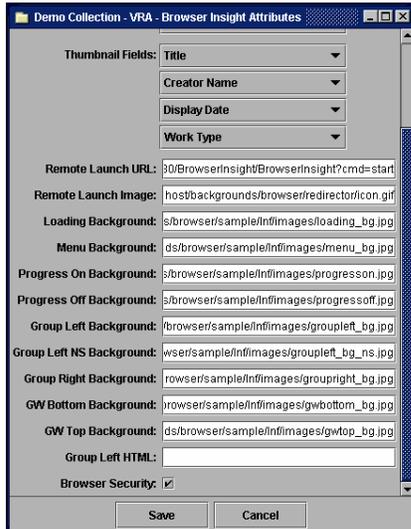
Enable the Browser Security Property

NOTE: the default for this property is currently set to on.

- 1) Open the Insight Administrator Tools.
- 2) Connect to the Collection Manager you wish to configure.
- 3) Locate the Collection Configuration Properties node of the Collection Manager.

- 4) Edit the Collection Configuration Properties.
- 5) Open the “Edit Browser Properties” Subsection.
- 6) Make sure **Browser Security** is checked (seen below).

Figure 5: BrowserInsight Attributes



- 7) Restart Tomcat/Resin.

Using your own version of Tomcat or using Resin

For more information on using your own version of Tomcat or Resin with the Insight Media Manager or BrowserInsight, please see Using your own version of Apache’s Tomcat or using Caucho’s Resin on page 144 for more information.

Next Steps

- 1) Testing the Server Components and connecting to the Collection and User Managers for the first time with Insight Studio (please see page 90).
- 2) Configuring the server components to run as services under Windows and Linux (please see page 107).
- 3) Packaging and Distributing the Java Client (please see page 105).
- 4) Building your first collection (please see the Insight Administrative Guide).

Starting the Insight Server Components for the First Time (in console mode)

Successful completion of the installation process is only possible when database, network, and local configuration settings have been correctly set. Components should continue to run properly after installation as long as the environment remains unchanged and all external elements that Insight relies on remain intact, unchanged, and running.

Testing the installation of the User Manager

Though you will likely implement the User Manager as a service, it is strongly recommended that you test User Manager in console mode first to make sure that it has been properly installed.

- 1) Locate the "InsightUserManager" executable in the User Manager installation directory.

If you installed with the default settings, you will find it in:

Table 11: Common Installation Locations for the Insight User Manager

Platform	Location
Windows	C:\program files\LunaImaging\5.x\user_manager\
Solaris / LINUX	/usr/home/insight/LunaImaging/5.x/user_manager/

- 2) Launch it.
- 3) A console window will open and begin a scroll of startup statistics. Toward the bottom of the scroll, look for the following line:

```
IUS: Accepting connection.
```

If you do not see this line, see the section labeled “Starting the User Manager in Console Mode” on page 153.

NOTE: Closing the console window will close the User Manager. Do not close the console window unless you want to close the User Manager.

Testing the Collection and Personal Insight Managers

Though the Collection Manager and Personal Insight Manager are distinct products, they may both be tested in the same way. They will both be referred to as “Managers” below.

To begin testing them;

- 1) Locate the “InsightCollectionManager” executable in the Manager installation directory. If you installed with the default settings, you will find it in:

Table 12: Common Installation Locations for the Insight Collection Manager

Platform	Location
Windows	C:\program files\LunaImaging\5.x\collection_manager\xyz*
Solaris / LINUX	/usr/home/insight/LunaImaging/collection_manager/xyz*
	* where “xyz” is the short-name you defined for your collection

Table 13: Common Installation Locations for the Personal Insight Manager

Platform	Location
Windows	C:\program files\LunaImaging\5.x\personal_insight_manager\xyz*
Solaris / LINUX	/usr/home/insight/LunaImaging/personal_insight_manager/xyz*
	* where “xyz” is the short-name you defined for Personal Insight

- 2) Launch your Collection manager or Personal Insight Manager.
- 3) A console window will open and begin a scroll of startup statistics. Toward the bottom of the scroll, look for the following line:

```
XYZ: Accepting connection.
```

(where “XYZ” is the short-name you defined for your collection)

If you do not see this line, see the section labeled “Starting the Collection Manager or Personal Insight Manager in Console Mode” on page 154.

NOTE: Closing the console window will close the Collection or Personal Insight Manager. Do not close the console window unless you want to close the Collection or Personal Insight Manager.

Starting Insight Studio

By starting Insight Studio on the Server, you can test that your User Manager, Collection Manager, Personal Insight Manager, and Tomcat are working properly. Insight Studio is used to build collections and to configure Personal Insight.

NOTE: Your Collection Manager, Personal Insight Manager, User Manager must be running for Insight Studio to run properly.

NOTE: To test the media upload feature, you must also have Apache Tomcat running.

Table 14: Common Installation Locations for the Insight Studio

Platform	Location
Windows	C:\program files\LunaImaging\5.x\InsightStudio\
Solaris / LINUX	/usr/home/insight/LunaImaging/InsightStudio/

Testing the User Manager using Insight Studio:

- 1) Locate the Insight Studio Application and double-click on "Insight Studio 5.1".
- 2) If Insight Studio launches normally, you will see a login screen with a username / password.
- 3) Use the Insight Admin Username /Password you specified in the installer.
- 4) Click "login" when you've entered your password.
- 5) If you can login, the User Manager is running properly. If not, please confirm your administrative username and password.

Testing the Collection Manager using Insight Studio:

- 1) You should be presented with the Collection Manager you just installed. If you installed a Personal Insight Manager it should be listed as well.
- 2) Double-click on the Collection Manager, and the folder should open with two options: "Create Cataloging Template" and "Create a Collection", choose the latter.
- 3) If you see the Insight Studio "Getting Started" panel (shown below), then you know that your Collection Manager is running properly.
- 4) Repeat the steps above for the Personal Insight Manager.

NOTE: "Create A Collection" is not a Personal Insight option in Insight Studio. Insight Studio can create templates for Personal Insight, but cannot create Personal Collections.

Testing Apache Tomcat 5.0.19

Apache's Tomcat Application Server provides a platform for JSP and Servlet Applications for Insight. Tomcat commonly runs on port 8080 or 8081, and optionally also supports SSL connections by default on 8443.

To Test Tomcat:

- 1) Locate Tomcat.

Locate the Tomcat installation directory. If you installed with the default settings, you will find it in: <see installation location>

Table 15: Common Installation Locations for Tomcat

Platform	Location
Windows	C:\program files\LunaImaging\5.x\tomcat\bin
Solaris / LINUX	/usr/home/insight/LunaImaging/tomcat/bin

2) Start Tomcat.

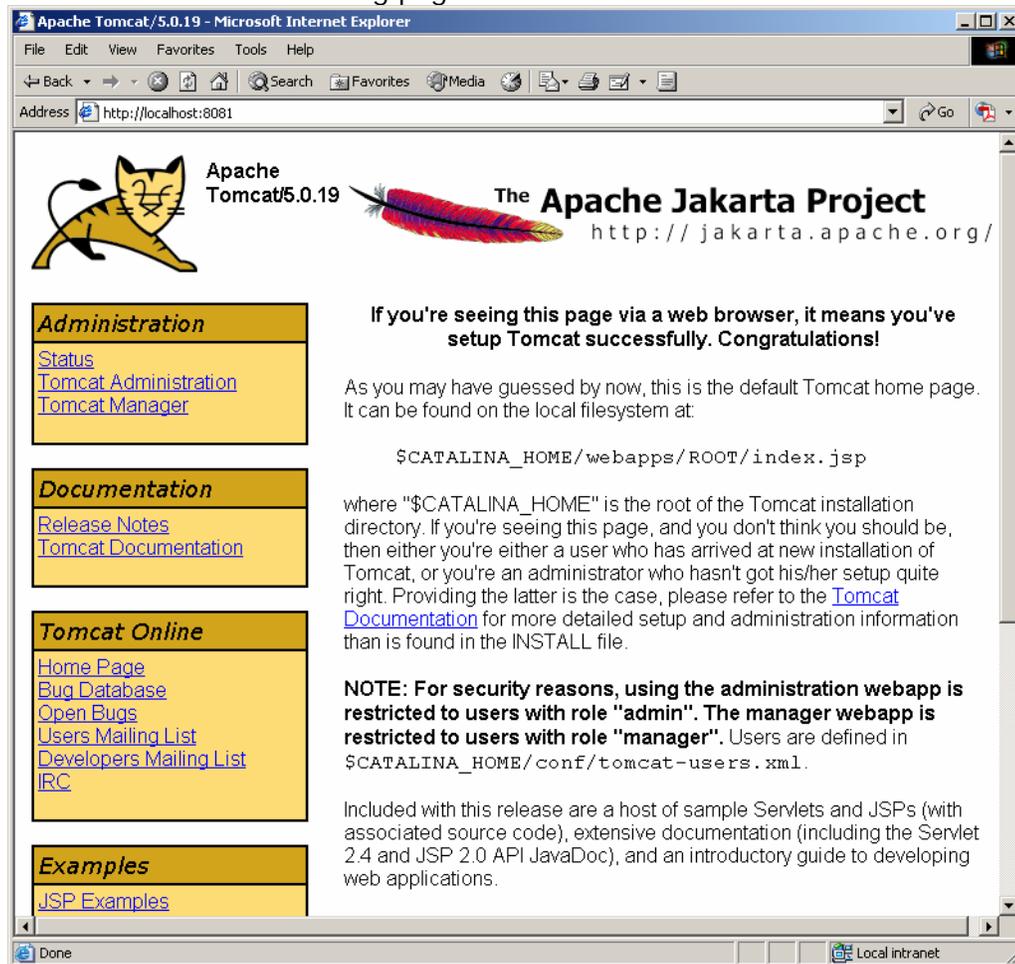
Run "start_tomcat.bat" (Windows) or "start_tomcat.sh" (Solaris/Linux) from the Command Line (make sure it is not already running as a service!).

3) Test that Tomcat is running.

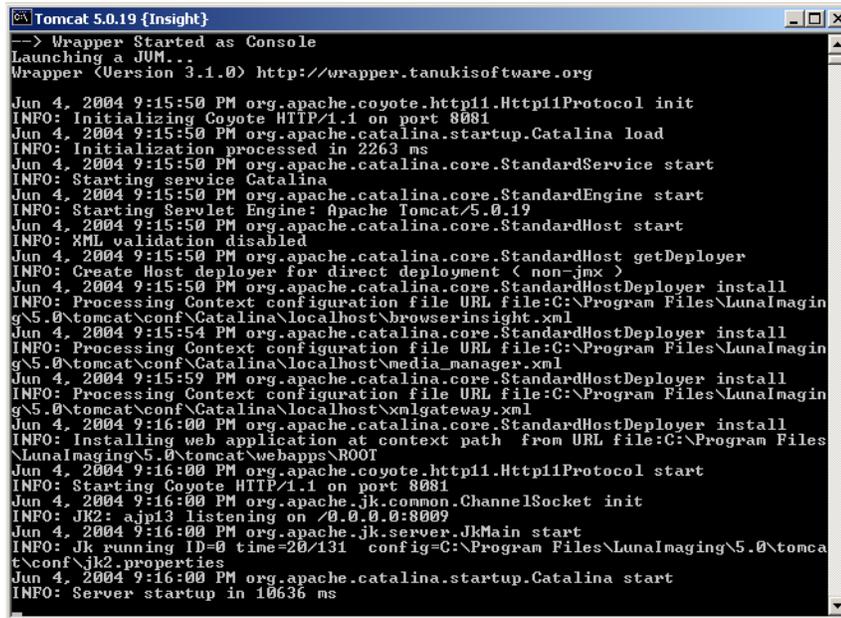
Open a web browser. Go to <http://localhost:8081/>

NOTE: If you specified a different port for tomcat in the installer, replace 8081 with the appropriate port.

You should see the following page:



If you see anything other than the page above, check the Tomcat console for errors. Below is an example of the console output of a valid Tomcat startup.



```

Tomcat 5.0.19 {Insight}
--> Wrapper Started as Console
Launching a JVM...
Wrapper (Version 3.1.0) http://wrapper.tanukisoftware.org

Jun 4, 2004 9:15:50 PM org.apache.coyote.http11.Http11Protocol init
INFO: Initializing Coyote HTTP/1.1 on port 8081
Jun 4, 2004 9:15:50 PM org.apache.catalina.startup.Catalina load
INFO: Initialization processed in 2263 ms
Jun 4, 2004 9:15:50 PM org.apache.catalina.core.StandardService start
INFO: Starting service Catalina
Jun 4, 2004 9:15:50 PM org.apache.catalina.core.StandardEngine start
INFO: Starting Servlet Engine: Apache Tomcat/5.0.19
Jun 4, 2004 9:15:50 PM org.apache.catalina.core.StandardHost start
INFO: XML validation disabled
Jun 4, 2004 9:15:50 PM org.apache.catalina.core.StandardHost getDeployer
INFO: Create host deployer for direct deployment ( non-jmx )
Jun 4, 2004 9:15:50 PM org.apache.catalina.core.StandardHostDeployer install
INFO: Processing Context configuration file URL file:C:\Program Files\LunaImagin
g\5.0\tomcat\conf\Catalina\localhost\browserinsight.xml
Jun 4, 2004 9:15:54 PM org.apache.catalina.core.StandardHostDeployer install
INFO: Processing Context configuration file URL file:C:\Program Files\LunaImagin
g\5.0\tomcat\conf\Catalina\localhost\media_manager.xml
Jun 4, 2004 9:15:59 PM org.apache.catalina.core.StandardHostDeployer install
INFO: Processing Context configuration file URL file:C:\Program Files\LunaImagin
g\5.0\tomcat\conf\Catalina\localhost\xmlgateway.xml
Jun 4, 2004 9:16:00 PM org.apache.catalina.core.StandardHostDeployer install
INFO: Installing web application at context path from URL file:C:\Program Files
\LunaImaging\5.0\tomcat\webapps\ROOT
Jun 4, 2004 9:16:00 PM org.apache.coyote.http11.Http11Protocol start
INFO: Starting Coyote HTTP/1.1 on port 8081
Jun 4, 2004 9:16:00 PM org.apache.jk.common.ChannelSocket init
INFO: JK2: ajp13 listening on /0.0.0.0:8009
Jun 4, 2004 9:16:00 PM org.apache.jk.server.JkMain start
INFO: Jk running ID=0 time=20/131 config=C:\Program Files\LunaImaging\5.0\tomca
t\conf\jk2.properties
Jun 4, 2004 9:16:00 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 10636 ms

```

Identifying Exceptions while watching the Tomcat Console

The most common error with Tomcat is that there is already a service running on Tomcat's port. On the console, you will see an error similar to this:

```
java.net.BindException: Address already in use: JVM_Bind:8081
```

If you already have something running on this port, you can change the port that Tomcat uses in Tomcat's server.xml configuration file.

NOTE: If you are running another version of Tomcat on the same machine, other ports supporting SSL, AJP, or J2K may also overlap and cause errors, please consult your server.xml for more information on changing these.

NOTE: The server install has configured many of Insight's components to use the port and hostname that you supplied in the installer, changing these after the fact will result in the manual re-configuration of the Collection Manager, Personal Insight Manager, Media Manager, BrowserInsight, and XML Gateway.

Testing the JPEG2000 Decoder & the Media Manager

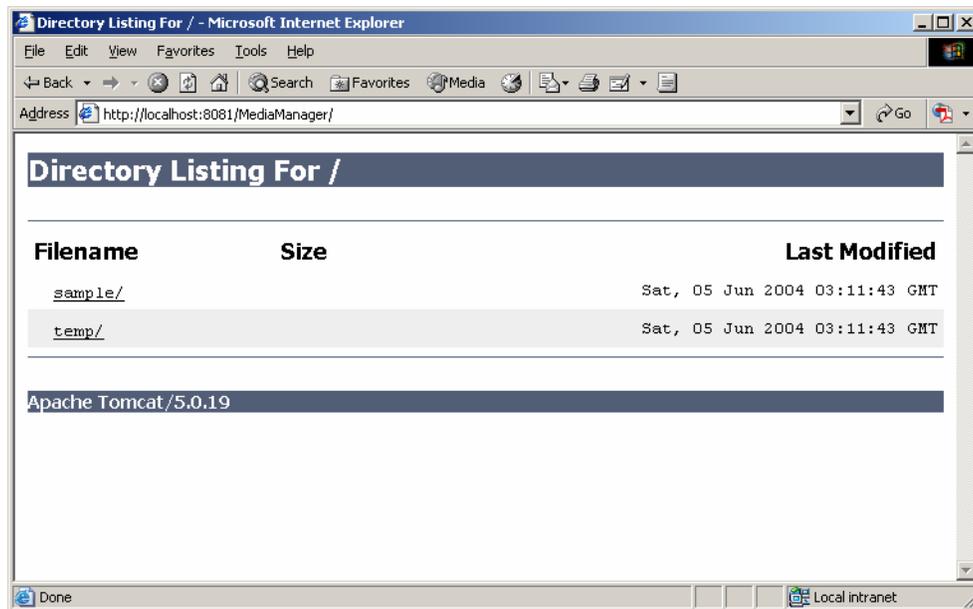
To test the Media Manager, start Tomcat and open a web browser on the same machine.

NOTE: This testing document assumes that tests are run from the computer where Media Manager was installed, and is running Luna's distribution of Tomcat. If you are using your own version of Tomcat or using Resin, or are testing from another machine, you will have to adjust the tests.

Testing that the Media Manager is installed.

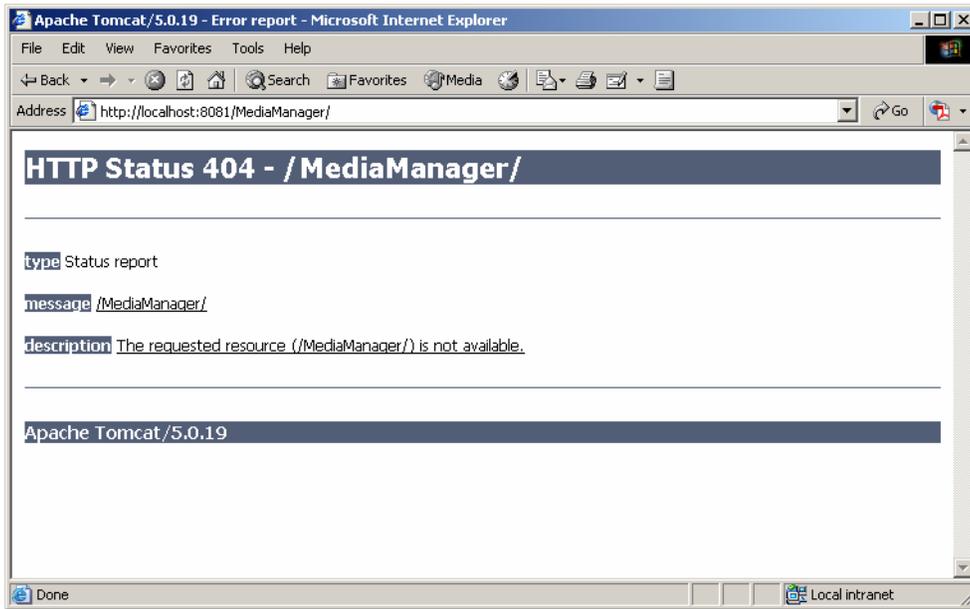
- 1) In your browser, go to <http://localhost:8081/MediaManager/>. You should see a screen similar to Figure 6: Finding Media Manager Context in Tomcat below.
 - a. If you do not see the page as displayed in Figure 6: Finding Media Manager Context in Tomcat below, the Media Manager servlet was not loaded.
 - i. Check that the Media Manager was installed. It should be located in the media_manager directory of your Installation Directory.
 - ii. Check that the Media Manager Servlet Context file was installed. The "media_manager.xml" should be in conf/Catalina/localhost directory under the Tomcat installation directory.
 - iii. Open the "media_manager.xml" and confirm that the **docBase** parameter points to the media_manager/servlet directory above.

Figure 6: Finding Media Manager Context in Tomcat



An example of a failure to load properly:

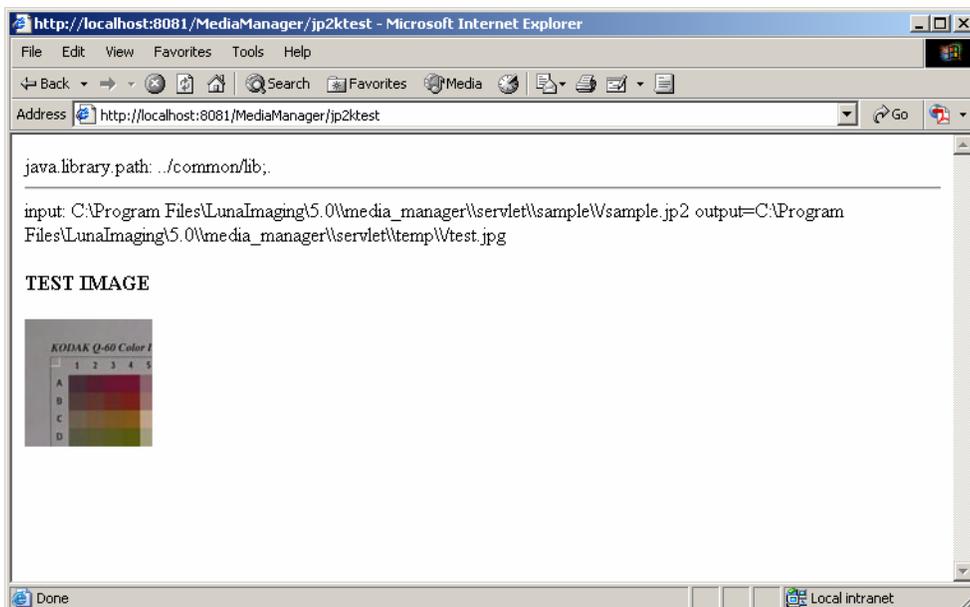
Figure 7: Failure to find Media Manager Context in Tomcat



Testing the JPEG2000 Decoder:

- 1) If the Media Manager page loaded successfully, go to <http://localhost:8081/MediaManager/jp2ktest>. You should see:

Figure 8: Successful Test of the JPEG2000 decoder



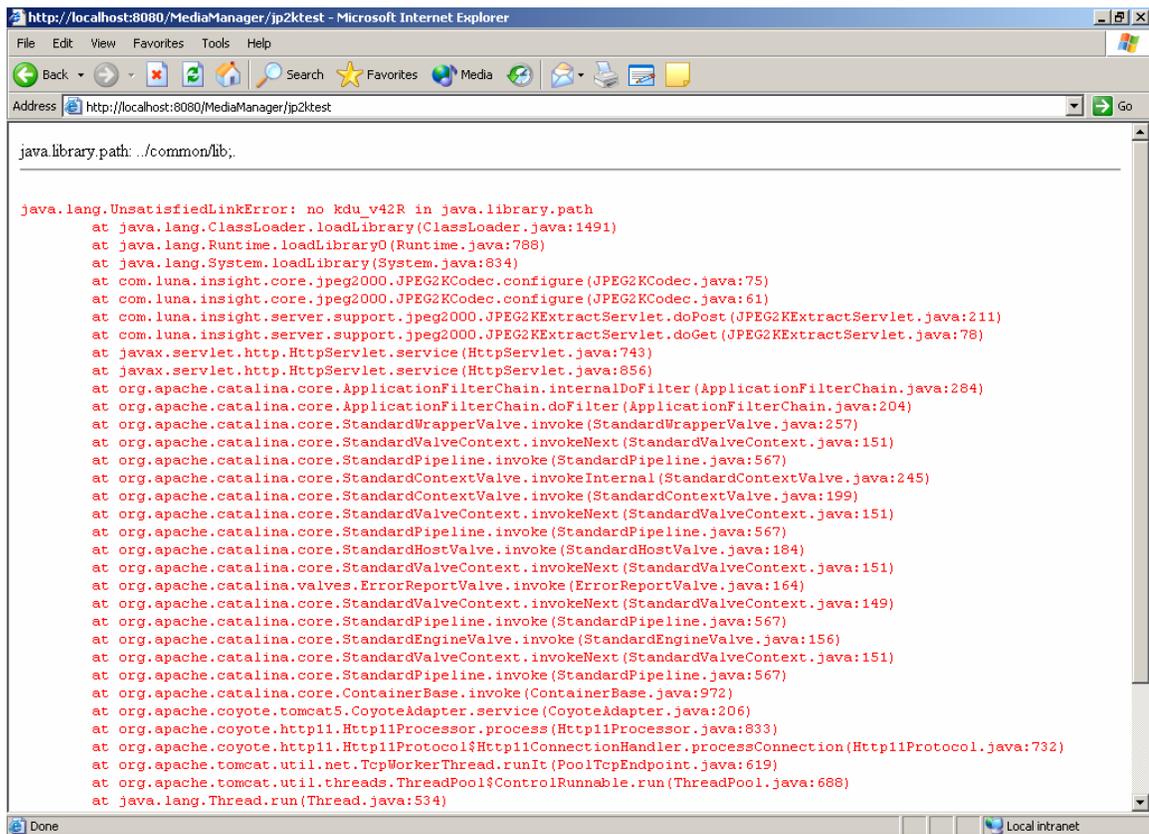
- 2) If you see the error shown in Figure 9: Missing JPEG2000 Library Error below:
 - a. Then it means that the JPEG2000 libraries are not accessible by Java. Check that the libraries are in the library path (specified above).
 - iv. Open the Insight installation directory.
 - v. Navigate to the following directory:

<installation_directory>/tomcat/common/lib

NOTE: this is the same location as ../common/lib in the example above

- b. Check if the following libraries are in the common/lib directory, then add them (there are versions of the libraries in the <installation_directory>/media_manager/support directory separated by OS). If the libraries are there, check the rights to ensure that Tomcat has the ability to see them.

Figure 9: Missing JPEG2000 Library Error



- 3) Go to <http://localhost:8081/MediaManager/srvr>. You should see:

If you see this message, then it means that the Media Manager is properly installed and is running.

Figure 10: Media Manager Message with Ticketed Security Disabled

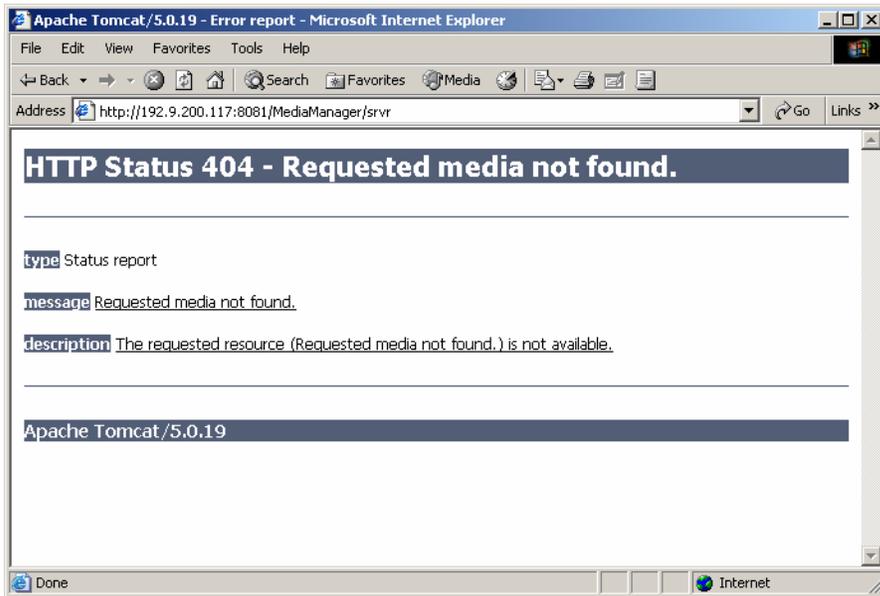
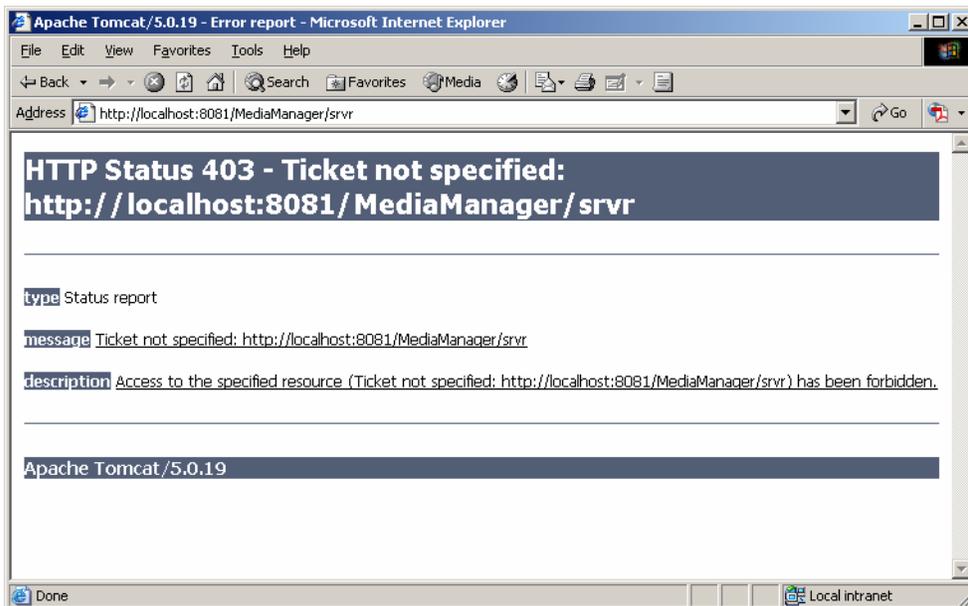


Figure 11: Media Manager Message with Ticketed Security Enabled



- 4) If media is not showing up in Insight, but the above tests show that the Media Manager is operational, the problem is likely in the Collection Manager's configuration. A few items to check:
 - a. In Insight Administrator Tools or Insight Studio, check that the SPS values point to the Media Manager URL. See Updating your Insight Collection Profiles to use the Media Manager on page 82 for more information.

- b. Do the private keys setup in the Media Manager and the Collection Manager match? See Enabling Media Security on page 86 for more information.

Troubleshooting an Unsatisfied Link Error on Solaris

On Solaris, the JPEG2000 decoder requires common shared libraries to be installed in order to function properly. If these libraries are not installed, they may result in a **java.lang.UnsatisfiedLinkError**. For example:

```
java.lang.UnsatisfiedLinkError:/home/insight/Insight5.x/tomcat/common  
/lib/libkdu_v42R.so: ld.so.1:  
/home/insight/Insight5.x/jre/jre/bin/java: fatal: libstdc++.so.5:  
open failed: No such file or directory
```

This error is a result of missing libraries in /usr/local/lib. The tomcat sh script assumes the **libgcc_s.so.1** and **libstdc++ .so.5** libraries exist in /usr/local/lib.

If you do not have copies of these libraries installed, you can find copies at:

```
<install_dir>/media_manager/support/Solaris-gcc/
```

To Install **libgcc_s.so.1** and **libstdc++ .so.5**:

- 1) Copy libgcc_s.so.1 and libstdc++ .so.5 to a common directory
- 2) Open the /tomcat/bin/tomcat_service.sh in a text editor
- 3) Locate the following Line:

```
LD_LIBRARY_PATH=/usr/local/lib
```

- 4) Append the full path to the libraries to the end of the LD_LIBRARY_PATH with a colon separating the current and new path.

```
LD_LIBRARY_PATH=/usr/local/lib;/new/path
```

- 5) Save the file and close it.
- 6) Restart the tomcat service and go to <http://localhost:8081/MediaManager/jp2ktest> to verify that the error does not persist.

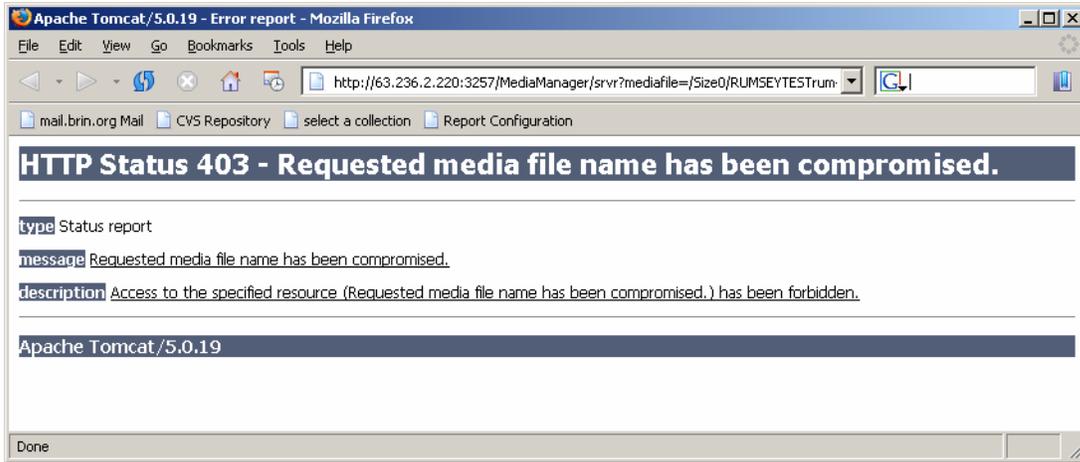
NOTE: Alternately, you can download the libgcc-3.3-sol8-sparc-local.gz package and install the libraries from <http://www.sunfreeware.com/>

Troubleshooting a Media File Compromised Error

One error with the Media Manager is that the base file path for media may be slightly different from the actual path. This most commonly occurs on Windows where file-

paths are not case sensitive (while the Media Manager's checks are). If you see an error similar to the following, then check the MediaFileRootDir parameter.

Figure 12: Media File Compromised Error



To change the MediaFileRootDir property:

- 1) Open your MediaManager.dat file (located in the media_manager directory) in a text editor
- 2) Find the MediaFileRootDir parameter
- 3) Check that the value matches the path to your media exactly (check the case of all pieces as well)
- 4) Save the file
- 5) Restart Tomcat

Testing your BrowserInsight Installation

Once you have modified the configuration files for Tomcat or Resin by adding the context for BrowserInsight, start Tomcat or Resin. By default, Tomcat and Resin are configured to run on Port 8081, to test that Resin or Tomcat is running properly:

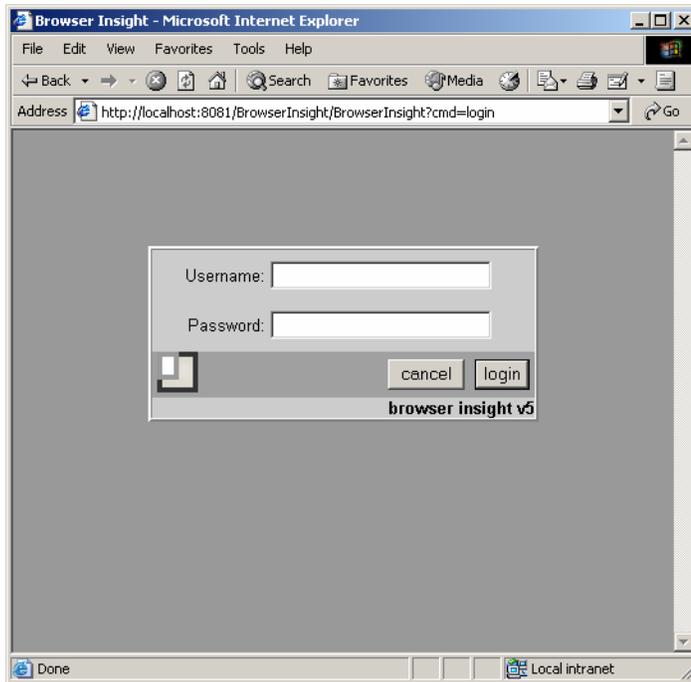
Open a web Browser on the Server running tomcat or resin and load the following page:

```
http://localhost:8081
```

- 1) Both Resin and Tomcat will display a default page stating that they are configured properly. If you do not see a page like this, check your configuration files for errors. There may be a missing "<" or ">". For other common configuration problems, review the Resin or Tomcat Manual.
- 2) If the default page loaded properly, load the following page:

`http://localhost:8081/BrowserInsight/BrowserInsight`

- 3) If Insight is configured properly, you should see a login page (below):



- 4) Enter your administrative username and password.

If you have already built collections, then you can press login and select one.

If you are expecting to see collections, but cannot, then the next step is to enable BrowserInsight's debugging information.

Troubleshooting Collections not displaying in BrowserInsight

BrowserInsight will attempt to dynamically add new 5.x collections once they're created. To this end, there is one requirement for any collection, specifically, that there is already a collection in that database. If there is an existing collection in that database, BrowserInsight will dynamically add the collection once it's created. If you just added a new Collection Manager or Personal Insight Manager to your version of BrowserInsight, try restarting BrowserInsight once the collection has been created.

If your collection still is not showing in the select list, try increasing the debug level and watching the console text. For more information on increasing the debug level for BrowserInsight, please see Enabling Debug information for BrowserInsight on page 159.

Testing the XML Gateway

Testing for proper installation and configuration of the Insight XML Gateway is a two-step process. Before testing the XML Gateway installation, please ensure that Tomcat or Resin is properly installed and is able to serve its standard web pages and servlets. The default URL for the XML Gateway is:

<http://<ipaddress>:<port>/insight/servlet/XMLGateway>

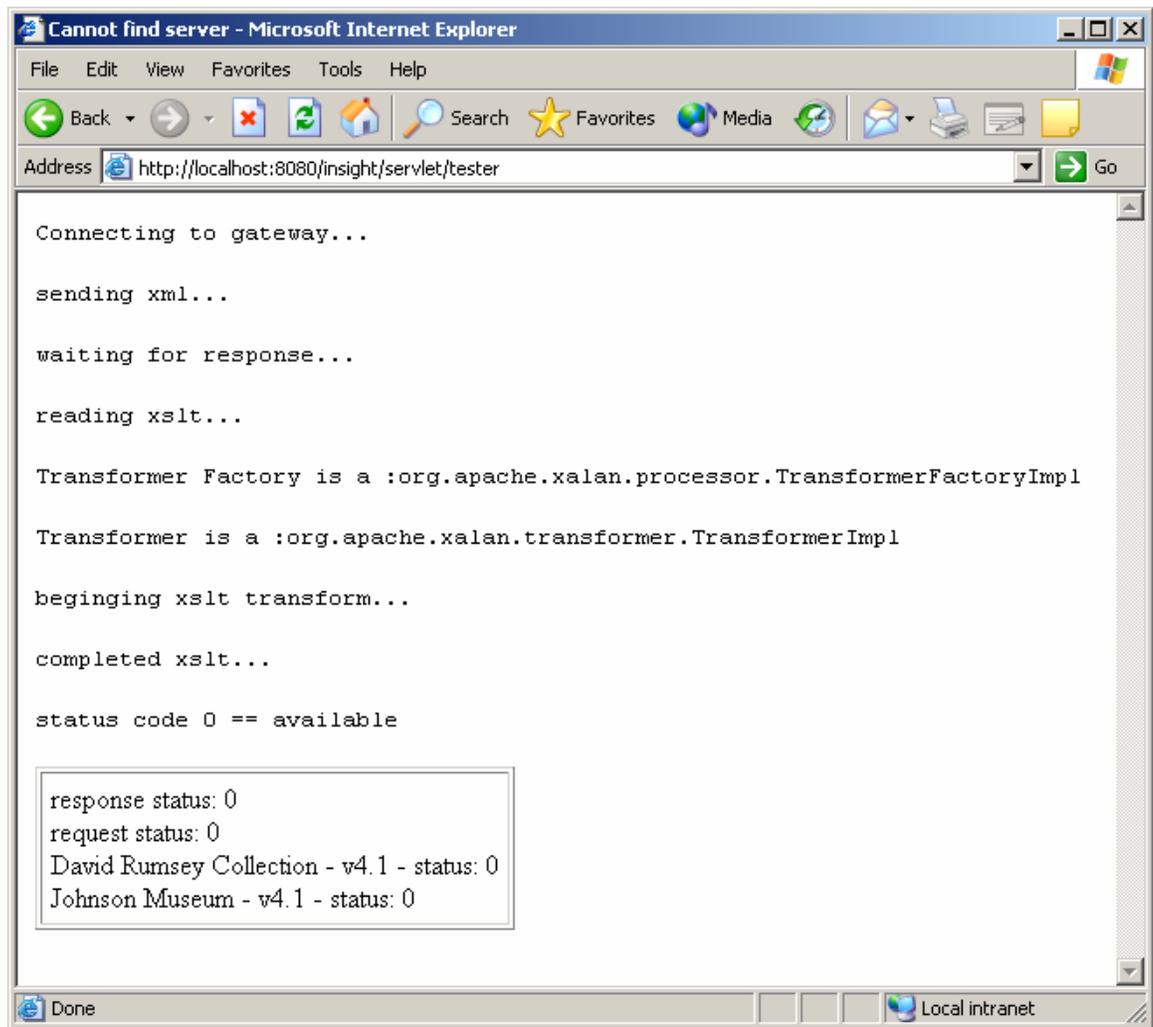
These instructions assume that a default installation of Tomcat/Resin is being used as the servlet container, though Tomcat is shown. The testing process using Resin is similar, but exact steps and screenshots will differ.

Out of the box, the 5.1 version of Insight was shipped with a “Gateway Tester” application which sends a “collection list” request to the XML Gateway and returns the result. (For more information on the different types of requests that Insight XML Gateway responds to, please see the XML Gateway Documentation)

- 1) Since the XML Gateway is middleware, it has no front-end. It can be tested by running a program that accesses it. A tester has been written for that purpose. Run the tester by going to the following location with your browser:

<http://<ipaddress>:<port>/insight/servlet/tester>

where <ipaddress> and <port> are those of the running Tomcat/Resin server. When Tomcat/Resin and the XML Gateway are properly configured, you should receive the following response:



Analyzing the messages above step by step:

- 1) Connecting to gateway ... (the tester is connecting to the XML Gateway).
- 2) sending xml ... (if you got this far, then the tester connected properly to the XML Gateway).
- 3) waiting for response ... (xml was sent to the gateway).
- 4) reading xslt... (received xml response, now processing).
- 5) Transformer factory ... (ignore).
- 6) Transformer is (ignore).
- 7) Beginning xslt transform... (ignore)
- 8) completed xslt ... (check for errors below this line).

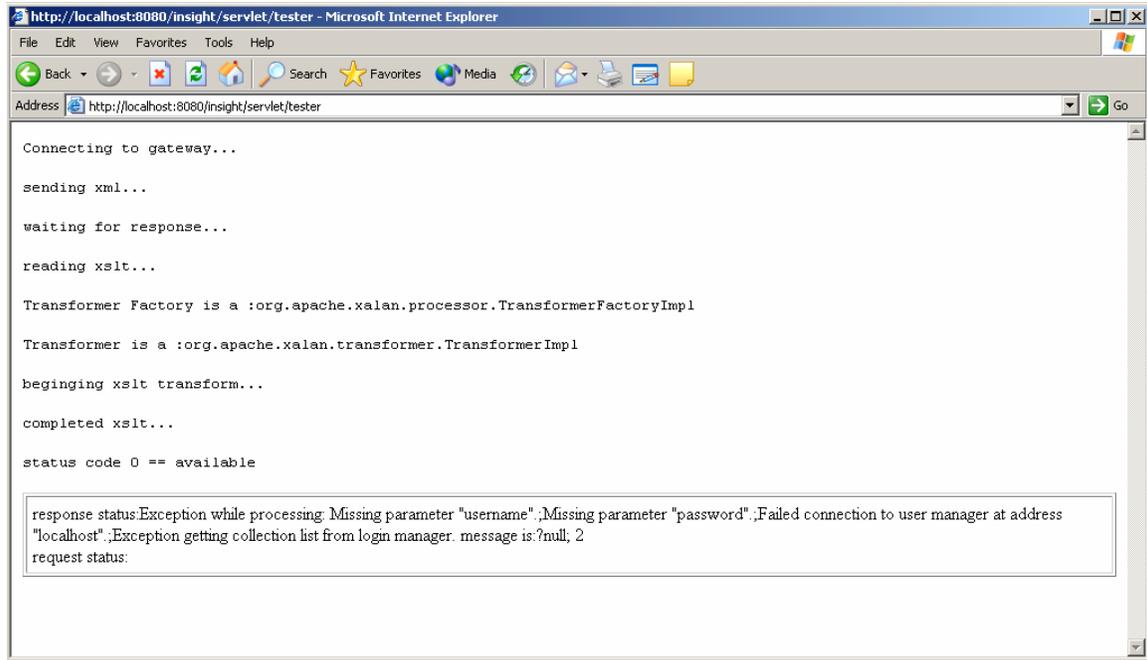
Insight 5.1 Installation and Configuration Guide

NOTE: The response status is 0 – meaning that the xml gateway is configured properly and was able to connect / communicate with the User Manager.

NOTE: Your list of collections will differ, based on collections made available to the XML Gateway.

NOTE: Each collection will also display a status message after it.

A successful test will return a response of 0 – similar to above.



Error codes will be accompanied by a message in the status box. It will display any configuration errors in the xml gateway's web.xml configuration file.

<http://<ipaddress>:<port>/insight/servlet/XMLGateway>

Packaging and Distributing the Java Client

Depending on whether you have purchased Deploy Director, you may have one or two options for distributing the Insight Java Client. If you do not have Deploy Director, you can repackage the Java Client with a custom configuration. If you have purchased Deploy Director, you can use Deploy Director to manage, install and upgrade the Java Client.

Repackaging the Java Client with your User Manager Address

To package and distribute the Insight Java Client with your own configuration, simply zip up the Java Client's installer with a custom Insight.dat file. The installer will use that configuration file instead of the one that is packaged with the client. For detailed instructions on packaging the client, as well as instructions on customizing all of Java Client's configuration options, please see Repackaging & Advanced Configuration of the Insight Client Applications on page 162 for more information.

Distributing the Java Client using Deploy Director

Deploy Director is a powerful tool for managing and distributing the Java Client. For more information on installing and configuring Deploy Director, please see Deploy Director on page 122 for more information.

Updating Deploy Director with the 5.1 Version of the Insight Java Client

For information on packaging and distributing the java client and updating an existing version of Deploy Director, please see [Upgrading the Insight Client Bundle to 5.](#) on page 135 for more information.

Configuring the Collection and User Managers to run as Services

Insight is fully integrated with the Java Services Wrapper, an LGPL product from Tanuki Software (<http://wrapper.tanukisoftware.org/doc/english/introduction.html>). The service wrapper software allows Insight to integrate with the services interface for Windows, Solaris, or Linux.

Installing the Insight Server Components as a Service on Windows

The User Manger, Collection Manger, Personal Insight Manager, and Tomcat are pre-configured to run with the services wrapper. In each case, a series of batch files are installed to enable you to easily add and remove the service.

Install_as_service.bat:

Registers the Insight application with the windows service registry.

Uninstall_as_service.bat:

Removes the insight application from the windows service registry.

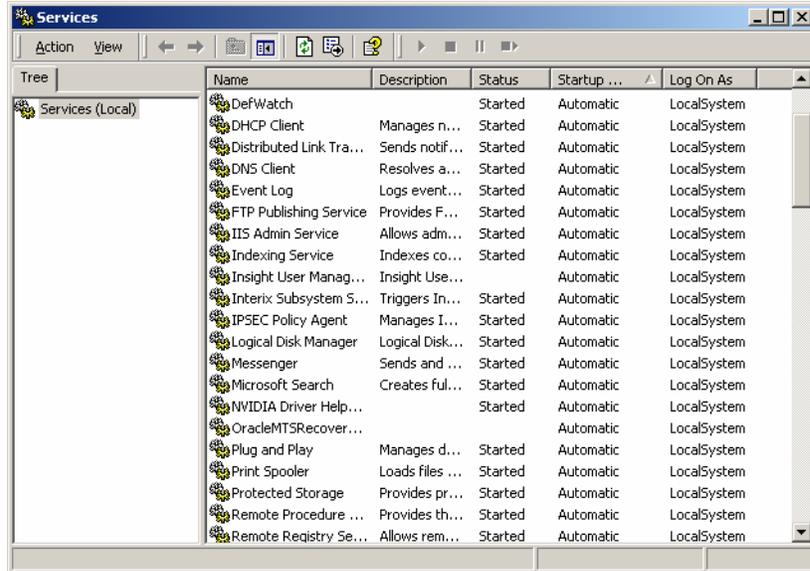
To Install an Insight Application Component as a Service

- 1) Test that the server component starts correctly in console mode.
- 2) Run install_as_service.bat.

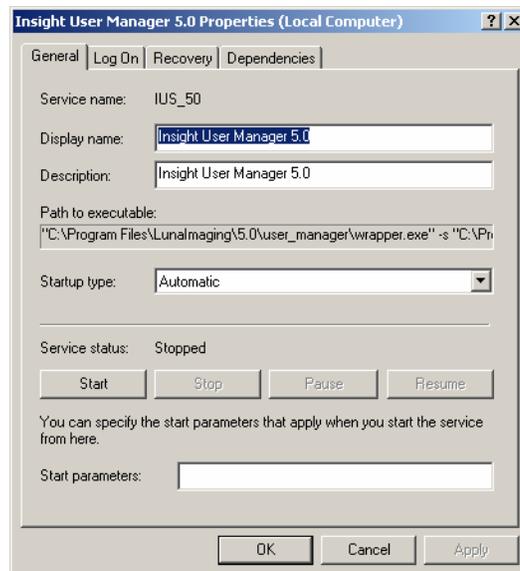
```
wrapper | Insight User Server 5.x installed.
```

Press any key to continue . . .

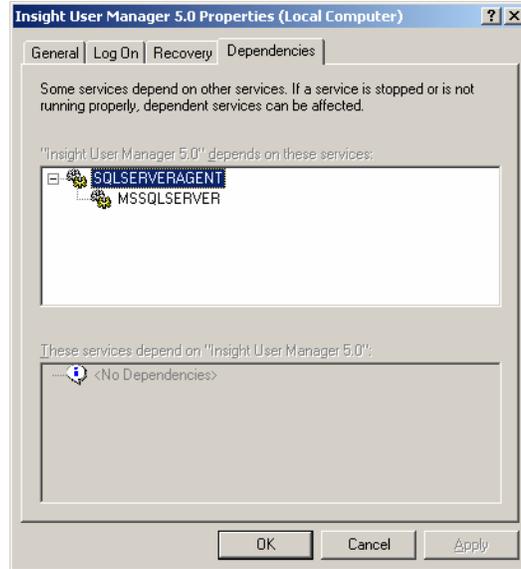
- 3) Confirm that the service was installed properly.
 - a. Open the Window service console (located in the Server Administrator Tools Folder of the Start Menu).



- b. Locate the Service you installed.
- c. If you are Installing the Collection Manager, User Manager, or Personal Insight Manager, then you should also check the database dependencies.
 - i. Right-click on the service and choose “properties.”



- ii. Choose the “Dependencies” tab.



- iii. If the service has been configured properly, you should see the name of the service for your database in the list of dependencies. If you don't see your database's service listed as a dependency, then delete the service by running `Uninstall_as_service.bat`, and follow the instructions below for configuring the service dependencies by hand.

NOTE: Dependencies can only work when the Database and Insight Server Components are on the same machine.

Configuring Insight's service dependencies by Hand

If the Collection, User, or Personal Insight Manager is running properly, then we need to identify dependencies for Insight to start before we can install it as a service. The User Manager, Collection Manager, and Personal Insight Managers are dependent on the database.

- 1) Locate the service name for the database. To do this, open the Windows Service Manager (located in the Server Administrative Tools Folder of the Start Menu).

Find the service for your database. Many databases have multiple services associated with them.

Database Name	Service Name
Microsoft SQL Server	SQLSERVERAGENT: SQL Server Agent is actually the listener for Microsoft SQL Server. If it's not running, applications will not be able to connect to the SQL Server Database.
Oracle	OracleService<SID NAME>: For Oracle, there is a service for each SID listener. The name of the service is the combination of OracleService and the SID Name, for example OracleServiceMySID (where MySID is the name of your SID).

DB2	DB2 - DB2-0
MySQL	MYSQL

- 2) Choose properties.
- 3) The first entry should be the actual name of the service (used for dependencies).
- 4) Once you have the name of the database service, we'll configure the Insight Server Component to depend on it.
 - a. Open the configuration file for the component, will be either of:
 - InsightServer.dat
 - InsightUserServer.dat

- b. Locate the following line:

```
wrapper.nts-service.dependency.1=
```

- c. Add the name of the database service immediately after the =
 - d. Now install the service by running the install_as_service.bat file. You should see this for the user server:

```
wrapper | Insight User Server 5.x installed.  
Press any key to continue . . .
```

- e. If you see something like this:

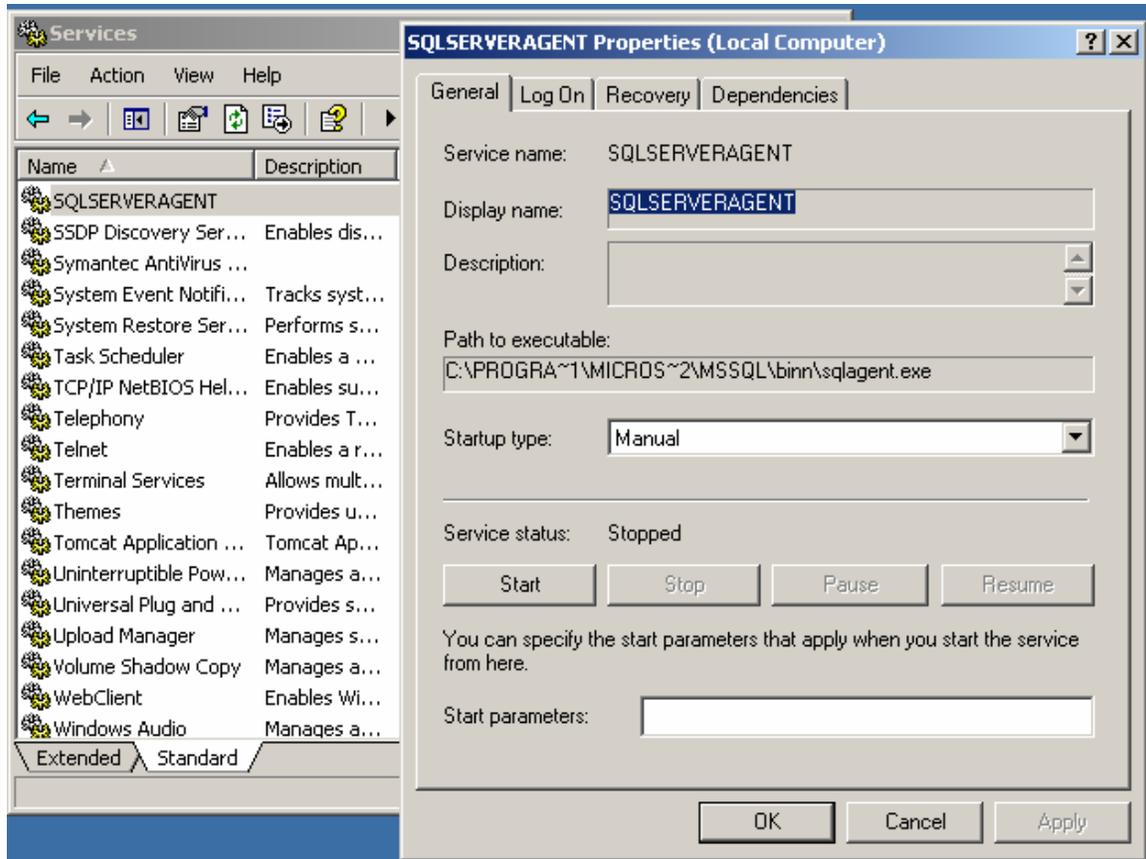
```
wrapper | CreateService failed - The specified service already  
exists. (0x431)  
Press any key to continue . . .
```

Then there's already a service installed with this name. Check that the service hasn't already been installed or, if it has, then change the name of the service by changing this entry in the config file:

```
wrapper.nts-service.name=
```

Try installing the service again.

Figure 13: Windows Service Manager



- 5) Open the Windows Services interface (or if it's already open, refresh it). You should now see each of the services you installed. If you look at the dependencies, you should also see a list of the dependent services.
- 6) Now start the service and try logging in.

Installing the Insight Server components as a Service on Linux or Solaris

NOTE: Each Linux / Solaris / UNIX System is different. Check with your Sysadmin before going any further.

Prerequisites:

Before you can set up Insight as a service, you must first:

- 1) Have root access to your machine.
- 2) Understand the basics of the rc.d and inet.d settings.
- 3) Know where your database and network are setup in the system boot sequence.

Installing Insight or Tomcat as a Service:

Insight and Tomcat have been set up to run as services. However, the services need to be registered with the Operating System before they can be used. Each

component will include one shell script which can control Insight as a service. **These shell scripts (named `insight_Collection_service.sh`, `insight_User_service.sh`, or `tomcat_service.sh`) should not be moved from their current locations.**

Service shell script installation locations:

```
/LunaImaging/Tomcat/bin/ -- tomcat
/LunaImaging/user manager/ -- User Manager
/LunaImaging/collection_manager/***/ -- collection mgr.
/LunaImaging/personal_insight /***/ -- personal insight
```

(where `***` is the installation directory)

Each shell script responds to the standard start / stop service commands for a Unix / Linux System. Based on where your database is placed in the RC / Inet Hierarchy, set the Insight Server components as follows:

ON STARTUP:

If your database is set as 20 in the startup script, you'll want to set the Insight server components as 21 (so that they startup after the database). To actually install the script, create a symlink to the shell script.

For more detailed instructions on how to configure the service on Solaris or Linux, please see:

Solaris:

<http://wrapper.tanukisoftware.org/doc/english/launch-nix-boot-solaris.html>

Linux:

<http://wrapper.tanukisoftware.org/doc/english/launch-nix-boot-debian.html>

Apache Tomcat 5.0

Bundling Insight with Tomcat 5 simplifies installation and configuration as well as management.

Tomcat Manager

The Tomcat Manager application is designed to simplify the management and deployment of servlet applications. Luna has configured the Tomcat Manager to restrict access to only requests from that machine. Furthermore, it has been pre-configured with your Insight Admin Username and Password.

The Tomcat Manager can be reached by going to:

```
http://localhost:8081/manager
```

For more information on the Tomcat Manager and how to use it, please see Tomcat's user document.

Tomcat Configuration Files

Tomcat 5.0 has three main locations for configuration information:

The Tomcat server.xml

The Tomcat 5.0 server.xml specifies the port and other general information about Tomcat. If you need to change the port Tomcat is running on after you've installed, you would adjust it here.

The Tomcat Context Area

The Tomcat Context area, located in the Catalina/localhost directory of Tomcat's conf directory contains a series of XML files, one for each of Tomcat's Servlet Contexts.

Each of these XML files contains basic configuration information for its servlet, including debug levels, IP Restrictions, the location of the servlet's files, and other general information.

web.xml Files

Each Java servlet has a web.xml configuration file in its WEB-INF directory to specify initialization parameters and other startup information.

Tomcat Help Files

All of Tomcat's documentation has been installed with Insight and can be located in the **webapps-disabled\tomcat-docs** directory of the Tomcat directory.

Managing Tomcat Administrative Users

Apache Tomcat manages administrative users using a tomcat-users.xml file located in the conf directory. You may edit this file to add administrative users, or change passwords.

Configuring BrowserInsight

BrowserInsight is one of the Insight Servlet Components, providing browser-based access to Insight Collections. It is installed and configured by default with each new Collection Manager or Personal Insight Manager you add or upgrade.

Common Administrative Tasks to Perform with BrowserInsight:

- Enabling Auto-login
- Changing the User Manager
- Adding a collection or Collection Server
- Enabling Media Security
- Changing the behavior of the "Collection Selection Panel" on login
- Changing the maximum number of speed-search values

Differences in BrowserInsight between 4.1 and 5.x

In 5.x, the BrowserInsight configuration file has changed a bit. Besides Collection entries, which represent database connections for specific collections, the BrowserInsight.conf contains entries for Server entries (which represent a Collection Manager or Personal Insight Manager). 5.x no longer requires a **BrowserUniqueCID** entry in the User Manager's collection table.

For existing collections, leave your collection and BrowserUniqueCID entries as they were in 4.1 (as any change will break all existing remote launch strings to that collection). For new collections, use the "Server" method without the BrowserUniqueCID.

Configuring BrowserInsight by Editing the BrowserInsight.conf Configuration File

After installation, the Insight Suite Installer will configure BrowserInsight with information about your User Manager, Collection and Personal Insight Managers. You should not have to configure anything for BrowserInsight.

NOTE: Though you will not need to add new collection entries to the Browser each time you create a collection, you will need to restart the BrowserInsight Servlet before it sees any new collections.

Locating the BrowserInsight.conf Configuration File

The BrowserInsight configuration maintains information on BrowserInsight's database connections, collections, and other basic information.

To Locate the BrowserInsight.conf:

- 1) locate your Insight Installation Directory
- 2) open the **browserInsight** directory
- 3) your **BrowserInsight.conf** file is located here.

Configuring BrowserInsight to Bypass the Login Page

BrowserInsight is initially configured to require users to enter a username and password to view collections. If you would like to allow users direct access to collections without being asked to enter a username and password, you can provide default values in the configuration file.

To configure "auto-login":

- 1) Locate the following lines in the BrowserInsight.conf configuration file:

```
#DefaultBrowserInsightUsername =  
#DefaultBrowserInsightPassword =
```

- 2) Remove the comment character (#) from the beginning of both lines.
- 3) Add the default username and password of your choice after each equals sign.

```
DefaultBrowserInsightUsername = myusername  
DefaultBrowserInsightPassword = mypassword
```

- 4) Save the BrowserInsight.conf configuration file and restart BrowserInsight.

Configuring BrowserInsight to close the Collection Selection Window after opening a Collection in the Group Workspace or Image Workspace

After a user enters their username and password, they are presented with a collection selection window. When users click on a remote launch string, if more than one collection is available to that user, BrowserInsight by default will also display that collection selection window in the background. As an administrator, you may choose what happens to that collection selection window if they click on a remote launch string, either to leave the window open, or it.

To configure the collection selection window to close when users click on a remote launch string:

- 1) locate the following lines in the BrowserInsight.conf configuration file:

```
# if set to 1, when a remote launch string is invoked the collection
# selection
# window will close after login, and BrowserInsight will launch the
# selected
# collection
# if set to 0, the default, BrowserInsight will keep the collection
# selection
# window open in the background
#
# CollectionSelectionWindowMode=0
```

- 2) Remove the comment character (#) from the beginning of the `CollectionSelectionWindowMode` line.
- 3) Set the `CollectionSelectionWindowMode` parameter to 1.

```
CollectionSelectionWindowMode=1
```

- 4) Save the BrowserInsight.conf configuration file and restart BrowserInsight.

Configure Collection Manager Server Database Settings

BrowserInsight can connect to multiple collection databases. For each database, you must specify a server entry with the following parameters: Database Driver, Connect String, Username, Password, Media Manager Address, and Media Manager status.

For collections that were created pre-5.0 environment, BrowserInsight still supports "Collection" entries which enable access to specific collections and tie remote launch strings to collection entries via the `BrowserUniqueCID`.

```
Collection.1.InsightDBDriver = sprinta

Collection.1.connectString =
www.dalton.org:1433?database=insightVRA&sql7=true&user=insight&passw
ord=admin

Collection.1.username =
```

```

Collection.1.password =

Collection.1.mediaSecurityEnabled      = yes

Collection.1.mediaSecurityServletUrl =
http://localhost:8081/Media_Manager/srvr

Server.2.InsightDBDriver = oracle

Server.2.connectString = @www.dalton.org:1521:insight

Server.2.username = a_user_name

Server.2.password = a user password

Server.2.mediaSecurityEnabled      = yes

Server.2.mediaSecurityServletUrl =
http://localhost:8081/Media_Manager/srvr
    
```

The example above shows two entries: one for a specific collection using the Sprinta Driver and VRA Database, the other a server entry for a 5.x Collection Manager which may have multiple collections in its Oracle Database.

Table 16: Required Entries for a Collection or Server Entry in BrowserInsight

Collection or Server Parameter	Description
InsightDBDriver	The Database Driver Insight should use to connect to the Collection Manager database. Valid entries include (sprinta, DB2, oracle, and JTurbo).
connectString	The Database Connection String Insight should use to connect to the Collection Manager database.
username	The Database Username Insight should use to connect to the Collection Manager database.
password	The Database Password Insight should use to connect to the Collection Manager database.
mediaSecurityEnabled	Specify whether BrowserInsight should use the Media Manager when requesting media. The default is “no”, should be set to “yes” in general.
mediaSecurityServletUrl	The URL for the Media Manager, this should be http://your.media.manager:8081/Media_Manager/srvr

Table 17: Optional Entries for a Collection or Server Entry

Collection or Server Parameter	Description
mediaTicketDuration	The length of time a media request ticket is valid. The default value is 30 minutes.
mediaSecuritySecretKey	The private key BrowserInsight should use to request a ticket for accessing media. This must match the value in the Media Manager’s configuration file.

mediaTicketless	Set this setting to yes if you would like to use the Media Manager, but don't require the media security settings.
-----------------	--

Configuring the XML Gateway

The Insight XML Gateway is an add-on component and is not installed by default. If you are not upgrading all the way to Insight 5.1 and have a license for the XML Gateway and would like to install it, re-run the Suite Installer and choose “Custom” under installation type. Once the XML Gateway has been installed, it needs to be configured.

Configuring the XML Gateway with a Username and a connection to a User Manager

The Insight XML Gateway acts like the Insight Java Client. It is configured with a User Manager Address, a Username, a Password, and License-File Directory. By default, these are the only required configuration properties.

- 1) Locate the XML Gateway configuration file (web.xml). The web.xml file is located in the WEB-INF directory of the XML Gateway installation directory.
- 2) Open the web.xml file in your preferred text editor.
- 3) Change the User Manager Address.
 - a. Locate the following lines in the web.xml file:

```
<param-name>UserServerAddress</param-name>  
<param-value>localhost</param-value>
```

- b. Change “localhost” to match the address of your Insight User Manager.
- 4) Change the Username and Password.
 - a. Locate the following lines in the web.xml file.

```
<init-param>
```

```
<param-name>username</param-name>
<param-value>test</param-value>
<description>Username for User Manager
authentication.</description>
</init-param>
<init-param>
  <param-name>password</param-name>
  <param-value>test</param-value>
  <description>Password for User Manager
authentication.</description>
</init-param>
```

- b. Set the username parameter to match a valid username on your User Manager.
 - c. Set the password parameter to match the valid password for the username used above.
- 5) Restart Tomcat or Resin.
 - 6) Run the XML Gateway Tester (for more information on the XML Gateway Tester, please see (Testing the XML Gateway on page 102).

Configuring the Simple Search Example Servlet

Insight ships with an example servlet on the Installation CD to help you get started with the XML Gateway. For more information on the simple search example servlet, please see the “**utilities**” directory on the Installation CD.

Deploy Director

Deploy Director has been added to the Insight Suite of software to address two needs; Web Initiation of the Insight Java Client and centralized management control of the Insight Java Client.

Web-Initiated Insight enables centralized, automated, and incremental deployment and updating of Insight. Remote launch strings created on the web can now be used to invoke the Insight Java Client to display specific collections, searches, groups, and images in either the Group Window or Image Workspace.

This document will show you how to Install Deploy Director on your server and customize the installation for your institution.

NOTE: Deploy Director is not required for Insight to function. This is an optional tool that can add functionality to the Insight software.

Mandatory Registration of Deploy Director

You will need to obtain a license for Deploy Director even if you are going to be implementing Insight version 5.1. Please fill out the Deploy Director Product Registration form at

<http://www.lunaimaging.com/support/register/deploydirector.html>

Luna will contact you via email with the license within 5 business days.

Once you receive your license, you can continue with the installation process.

Installation of Deploy Director

Deploy Director is a third party application with its own set of documentation (ddadminguide.pdf in the root directory of the Insight Deploy Director CD), including installation instructions. Deploy Director is a Java servlet application and is distributed with a standalone version of Apache Tomcat 4.1.



It is EXTREMELY important that you follow the instructions below to set up Deploy Director to work with Insight. Do NOT customize the Deploy Director Installation of insight unless directed to do so.

To start the installation, go to the Deploy Director CD, and find the installer for your platform in the root directory:

Windows: windows_dd_260.exe
Solaris: solaris_dd_260.bin
Linux: linux_dd_260.bin

- 1) Launch the Installer.
- 2) Click **Next** at the Introduction panel.
- 3) Agree to License.
- 4) Click **Next**.
- 5) Choose **ALL** from the **Choose Product Feature** panel.
- 6) Click **Next**.
- 7) Specify the Installation path.
- 8) Click **Next**.
- 9) Specify the installation properties.
- 10) Click **Next**.
- 11) Click **Install**.
- 12) Wait for the installation process to complete.

Immediately after the installation process, the Deploy Director Configuration Wizard will launch. If it does not, launch it manually from the following location.

`(DD_HOME)/standalone/bin/wizard.[bat|sh]`

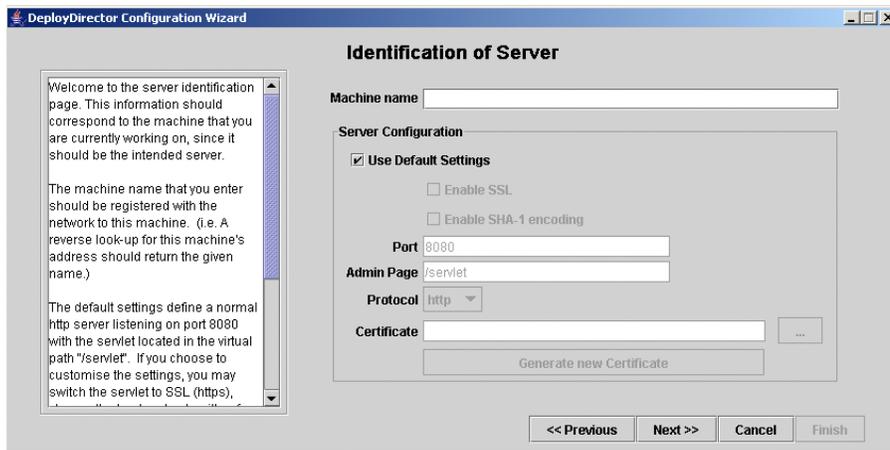
where:

- `(DD_HOME)`
is the installation directory (from Installation path)
- `/standalone/bin/`
is the path to the Configuration Wizard within the Deploy Director directory tree
- `wizard.[bat|sh]`
is the Configuration Wizard itself, use either of
 - `wizard.bat` for Windows
 - `wizard.sh` for Unix

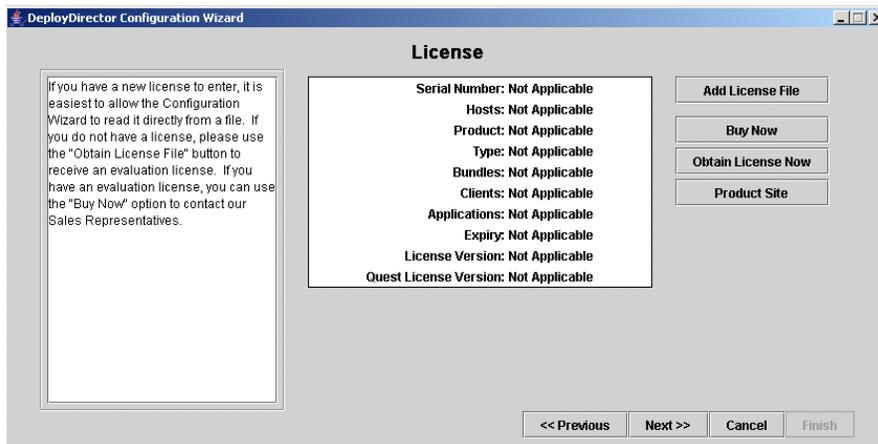
Once the Wizard starts, follow the instructions below:

- 1) Click **Next** at the Introduction panel.

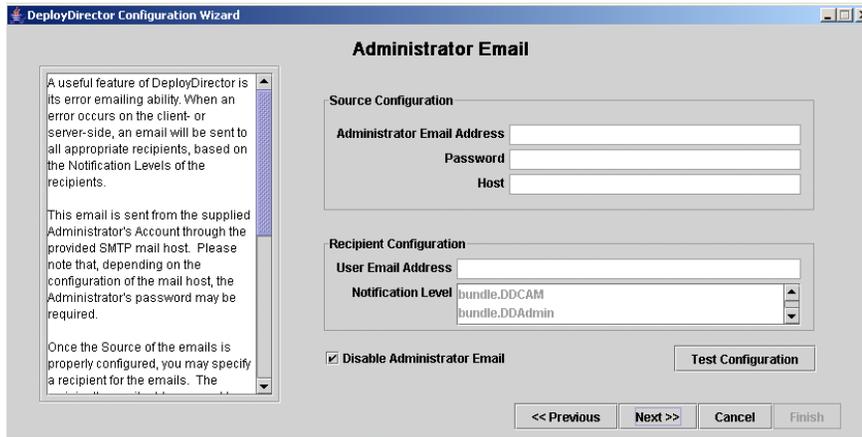
- 2) At the JDK Selection panel, click **Update** to locate your installed JDK. Click the most recently installed JDK, then click **Next**. You will notice a funny path to a JDK located in a sub-directory of (DD_HOME) - the DD installation directory. *This is not correct*. Navigate to and select the correct JDK in (DD_HOME)/jdk
- 3) At the **Identification of Server** panel (seen below), specify the **Machine Name** where Deploy Director is installed. The machine name should be registered with the network. The reverse lookup for the machine's address should return the given name. (i.e. **deploy.lunaimaging.com** is Luna Imaging's DeployDirector server. This domain name resolves to **63.236.2.206**, which is the primary IP of the machine.) Once you have specified the **Machine Name**, click **Next**.



- 4) At the **License** panel (seen below), click **Add License File** and navigate to the directory containing the license file you requested from Luna (see **Mandatory Registration of Deploy Director** on page 122). Select the license file. The contents of the license should appear in the dialog window. Once the license has been loaded, click **Next**.



- 5) At the **Administrator E-mail** panel (seen below), click **Next**. This function is not necessary for Insight deployment, but you are free to make changes.



- 6) Click **Next** at the **Configuration Summary**.
- 7) Click **Finish** to save your configurations.

Note: If you already have an application running on port 8080, you will need to modify Deploy Director’s default port setting. The port definition can be found in:

```
(DD_HOME) /standalone/conf/server.xml
```

Open the file in a text editor, then modify the **<Connector>** port parameter from **8080** to **8082**, or any other open port you may wish. Save the file. If you should need to modify the port, you will need to run through the Deploy Director Configuration Wizard and define the correct port at the **Identification of Server** panel.

Configuring Deploy Director for Insight

On the Deploy Director CD, find the `deploydirector_updates` directory. Copy & paste the three subdirectories into the root of the Deploy Director installation directory (`DD_HOME`). When asked if you would like to overwrite the existing files, click **Yes to All**. Once the file copy process has completed, launch Deploy Director.

Starting Deploy Director and the Deploy Director Administrative Client

On Windows

Launch Deploy Director from

Start -> DeployDirector -> Start DeployDirector.

Launch Deploy Director Admin

Start -> DeployDirector -> DeployDirector Admin.

On Solaris / Linux

Launch Deploy Director.

```
(DD_HOME)/standalone/bin/startup.sh
```

Note: you may need to set execute privileges for this file.

Launch Deploy Director Admin.

```
(DD_HOME)/DDAdmin/DeployDirectorAdmin
```

- 1) Once you Launch Deploy Director Admin, you will be presented with a Login screen.

Select Server

Username:
ddadmin

Password:

Cache Password

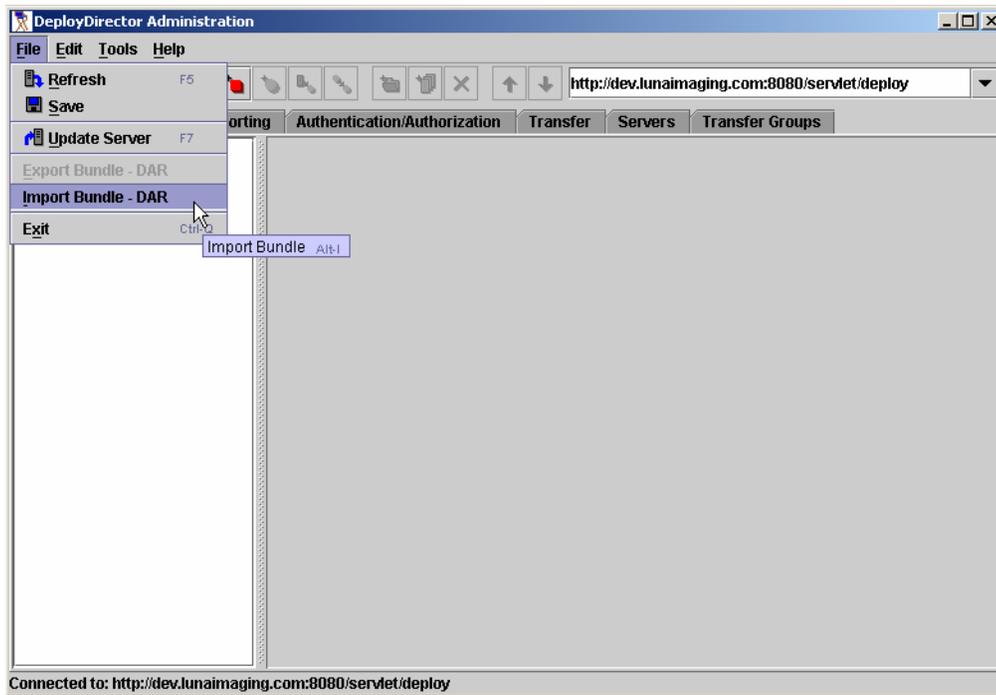
Select server:
http://127.0.0.1:8080/servlet/deploy

When entering a new server, enter the full server path including protocol, server name, port and context path.

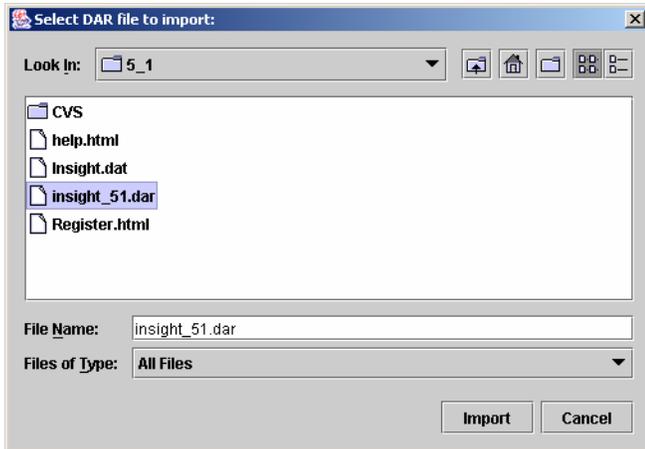
For example: http://dd.server.com:8080/servlet/deploy

Login Cancel

- 2) Enter username: **ddadmin** Password: **f3nd3r**. These are defaults, and should be changed later.
- 3) For **Selected server**, provide the server name entered in the **Identification of Server** panel of the Deploy Director Configuration Wizard. An example is given in the panel.
- 4) Click **Login**.
- 5) Under the **File** menu, select **Import DAR**. Find and select the following file on the Deploy Director CD:

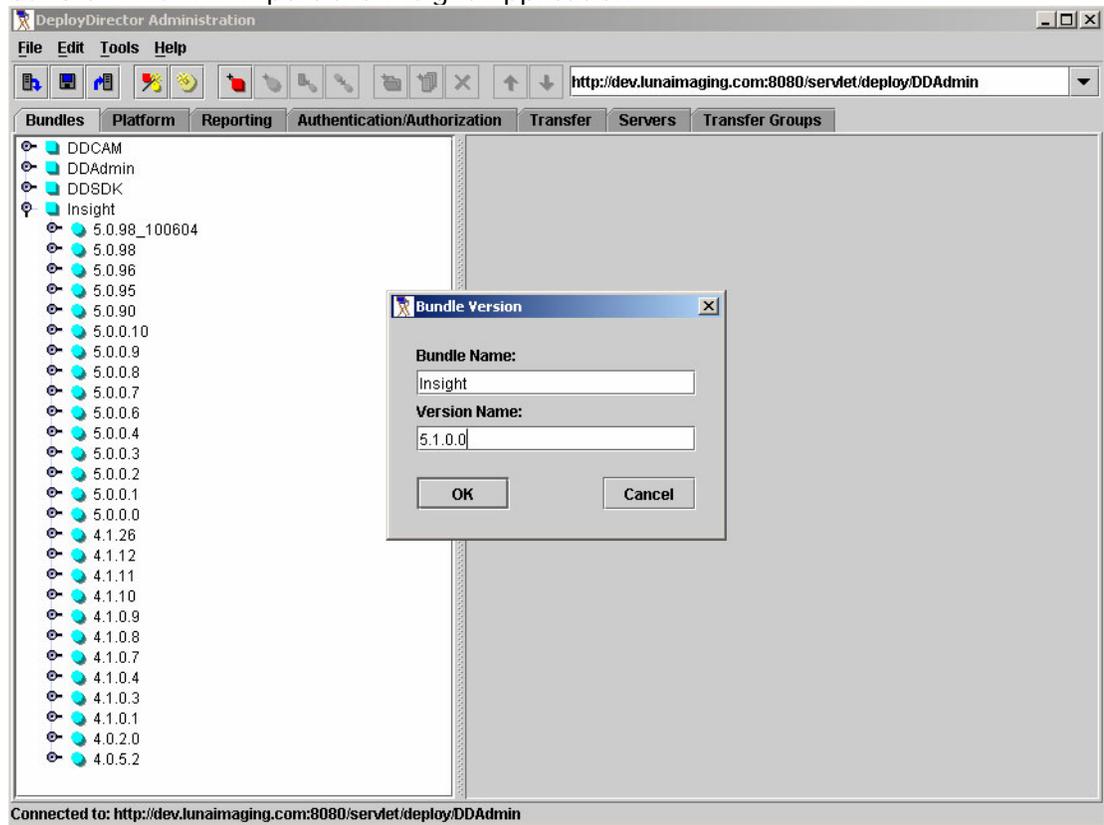


- 6) Locate the **insight_51.dar** file on the Insight Deploy Director CD (in **\bundles\insight\insight_51.dar**).



- 7) You will then be presented with the **Bundle Version** window. **Bundle Name** and **Version Name** should be pre-populated. Click **OK** to import Insight as a

bundle. This will import the Insight Application.

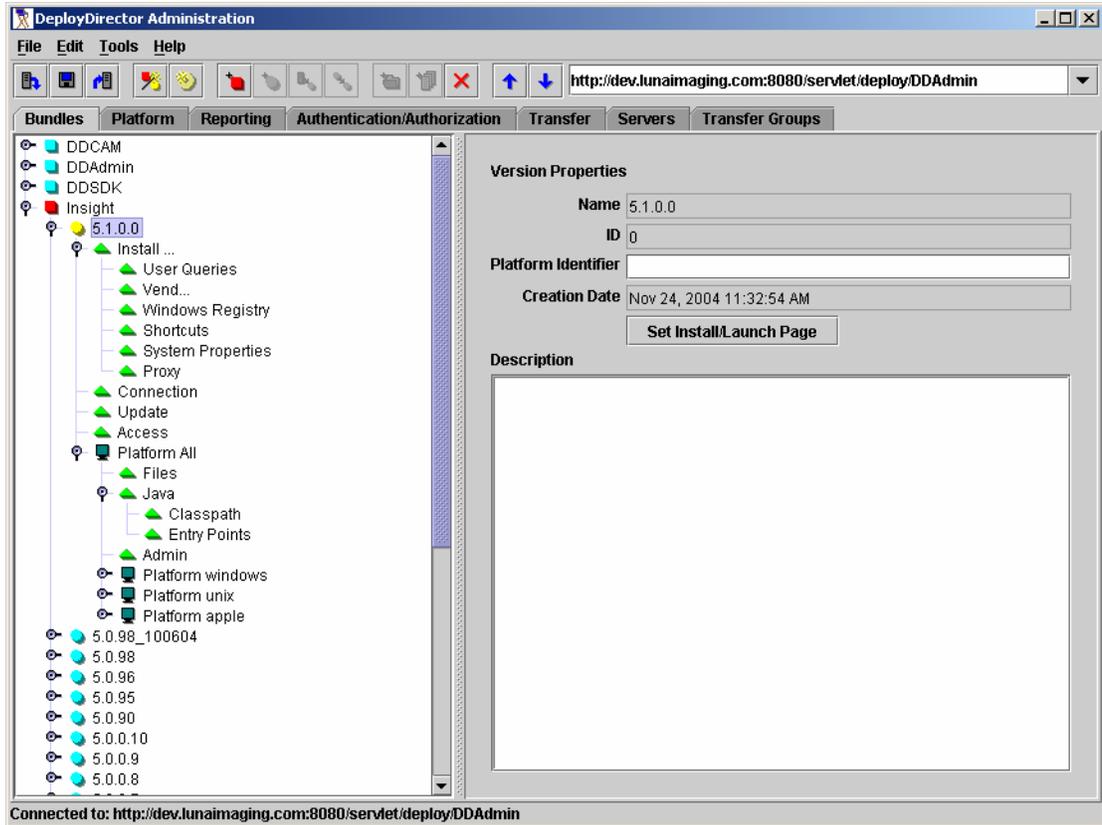


Customizing the insight.dat file for use within Deploy Director

Before you can use the bundled version of the Insight Java Client, you must first customize Insight's configuration file to point to your User Manager. For more information on customizing the Insight.dat configuration file, please refer to the "Advanced Configuration of the Insight Java Clients" document.

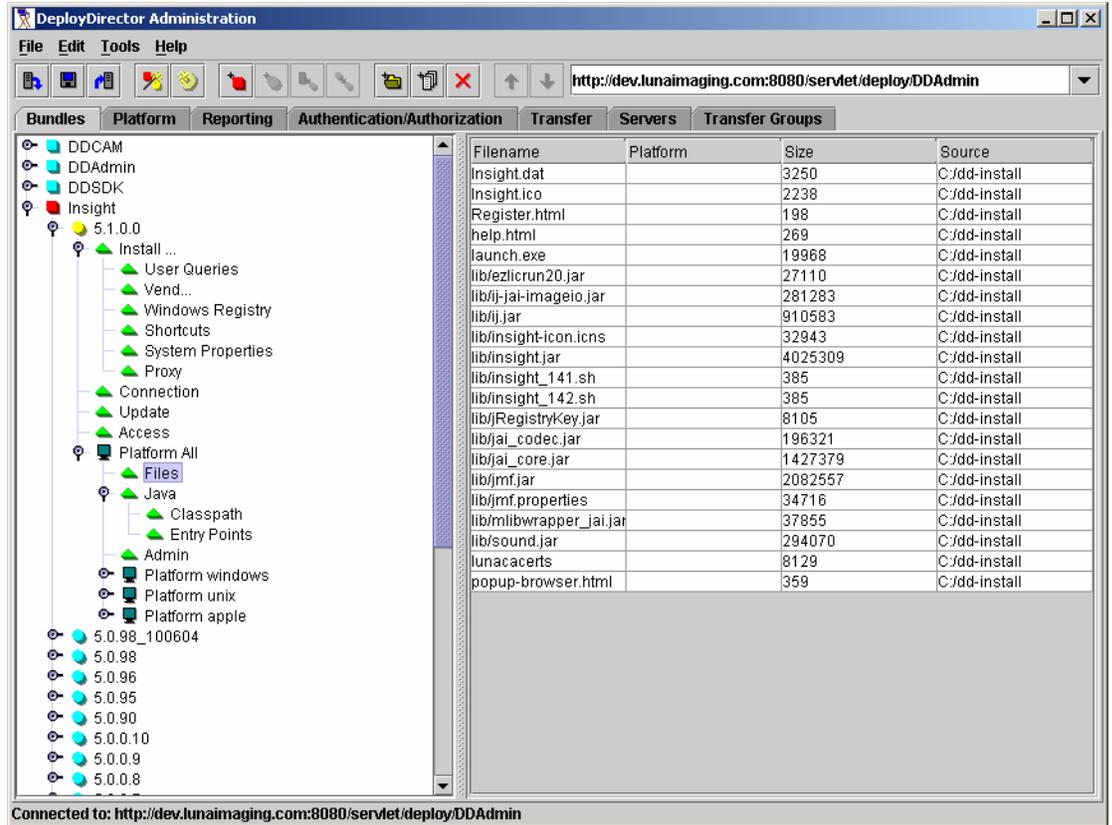
To replace the bundle's Insight.dat configuration file with your own:

- 1) Click the **Insight bundle** node under the **Bundles** tab in the Deploy Director Admin Tool.
- 2) Expand the node and select the **5.1.0.0** bundle.

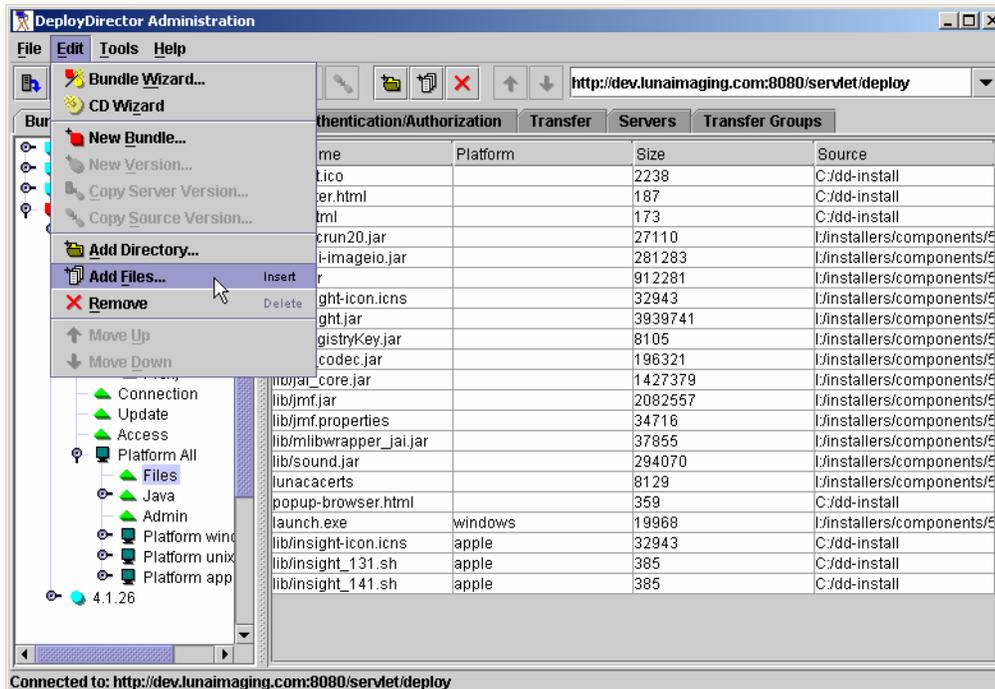


- 3) Drill down on the tree **5.1.0.0** -> **Platform All** -> **Files**.
- 4) In the right frame, delete **insight.dat** from the files list.
 - a. See [Changing the Default User Manager Address or adding additional User Managers](#)

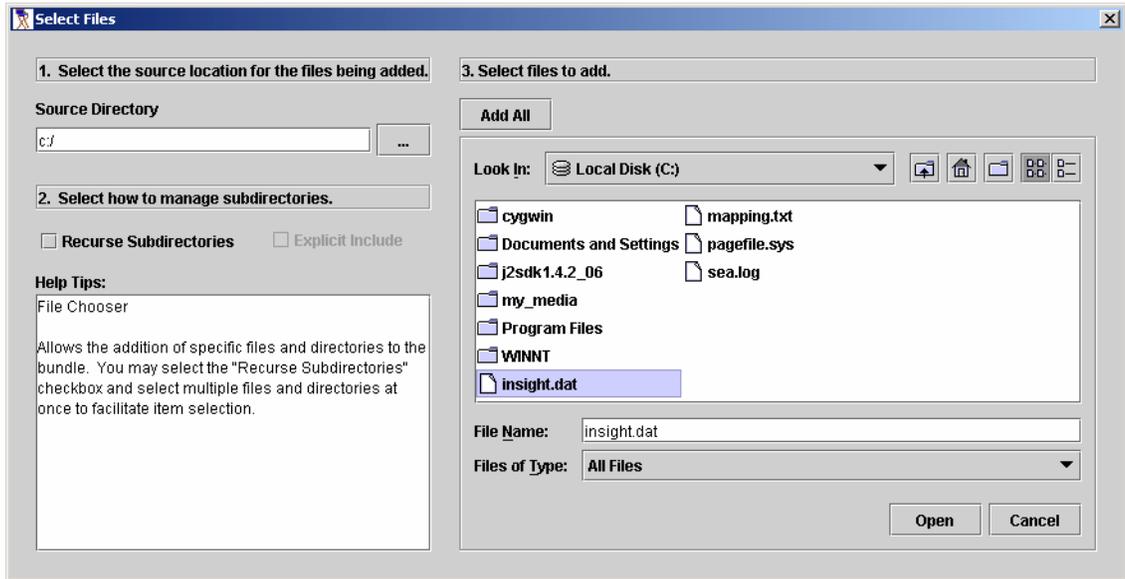
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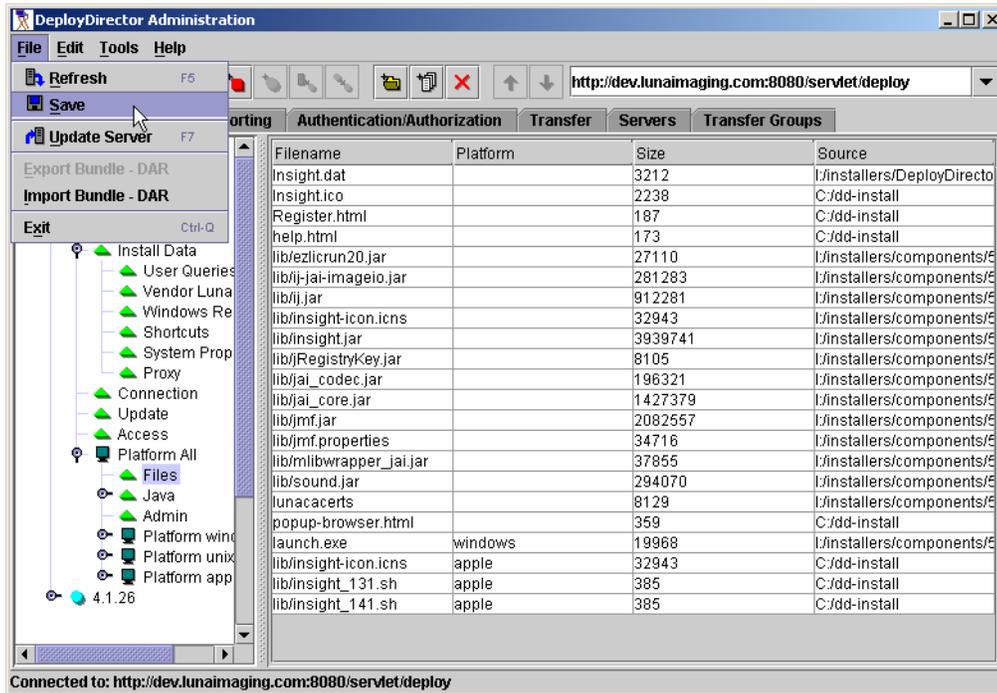
- Next, go to **Edit** -> **add files** and navigate to the location to which you saved your customized **insight.dat** file.



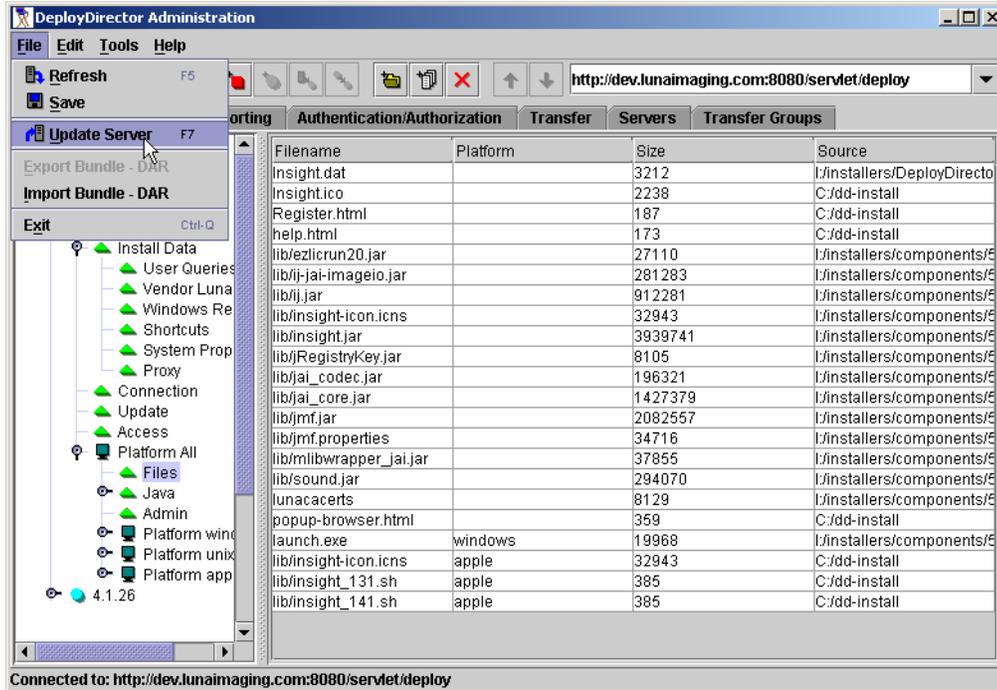
Double click on **insight.dat** to add it to the bundle.



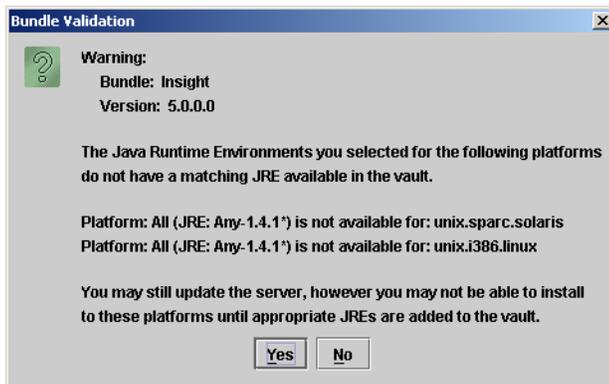
- 6) Once you have replaced the insight.dat configuration file go to **File -> save** to save the bundle.



- 7) Once the bundle has been saved, go to **File -> update server** to upload it.



- 8) This will publish the updated bundle and make it available to download. Finally, you must update the DDCAM.
- 9) **NOTE:** you may see a warning similar to the one below, choose “yes”



To Import the new version of the DDCAM:

- 1) The final step in installing Deploy Director is to update Deploy Director’s DDCAM (Client Application Manager) with one customized for Insight.
- 2) To update the **DDCAM:**
- 3) Select **File -> Import DAR** from the menu.
- 4) Navigate to the Deploy Director CD, locate and select:

\bundles\ddcam\ddcam.dar

- 5) This will import the updated version of the **DDCAM**.
- 6) Once the DAR has uploaded successfully,
- 7) go to **File -> update server**. This will publish the new bundles.

The Installation and configuration process for Deploy Director is now complete.

Verifying your Installation

To verify that the installation was successful, open your web browser and go to:

```
http://<installedhost>:8080/servlet/deploy/insight/launch
```

Upon initial log-in to the page, you will be presented with a Digital Certificate signed by Luna Imaging. After accepting the certificate, Deploy Director will install the necessary files and then launch Insight. When the Insight splash screen appears after the installation process, you know you are ready to deploy Insight.

Enabling Deploy Director's Remote Launch Functionality

To enable Deploy Director's Remote Launch Functionality, you must edit your Insight Collection Manager's InsightServer.dat to set the default Remote Launch URL, and second, update the Remote Launch URL for any existing collections.

To change the default Remote Launch URL in your Server Configuration File:

- 1) Locate your Collection Manager's Default Installation Directory.
- 2) Open the InsightServer.dat configuration file in a text editor.
- 3) Locate the JVARemoteLaunchURL parameter.
- 4) Change the value to match the URL for Deploy Director. This should be the `HOSTNAME + : + PORT + /servlet/deploy/insight/launch + ? + U= + USER_MANAGER_ADDRESS + &`

NOTE: replace **HOSTNAME** with the hostname for Deploy Director's instance of Tomcat

NOTE: replace **PORT** with the **PORT** for Deploy Director's instance of Tomcat

NOTE: replace **USER_MANAGER_ADDRESS** with your User Manager Address

```
http://deploy.lunaimaging.com:8080/servlet/deploy/insight/launch?U=insightuser.lunaimaging.com&
```

- 5) Save the InsightServer.dat configuration file.
- 6) Restart your Collection Manager.

To change the Remote Launch URL in an existing Collection:

- 1) Start the Insight Administrator Tools and connect to your Collection Manager.
- 2) For each collection in your Collection Manager you choose to update the Remote Launch URL for the Java Client in, complete the following steps:
 - a. Open the Collection Settings Node.
 - b. Open the Collection Configuration Node.
 - c. Right click on the collection information and select "edit".
 - d. Set the "Web Initiated Insight Java Client URL to the same value you placed in the InsightServer.dat file above.
 - e. Click Save.

Post Installation

Changing Administrator Password

Refer to the ***Deploy Director Installation and Configuration*** document for instructions on changing your Admin password (ddadminguide.pdf in the root of the Deploy Director CD).

Online Administration Page

http://<installedhost>:8080/servlet/admin/index.jsp

Upgrading the Insight Client Bundle to 5.1

To upgrade the Insight Client Bundle to 5.1 from a previous version, you must upload the new bundle, customize the dat file and publish it. You must also update the bundled JRE. Users who are currently running version 4.1 or prior will be prompted to update their clients the next time they start Insight.

To update the Deploy Director Bundle:

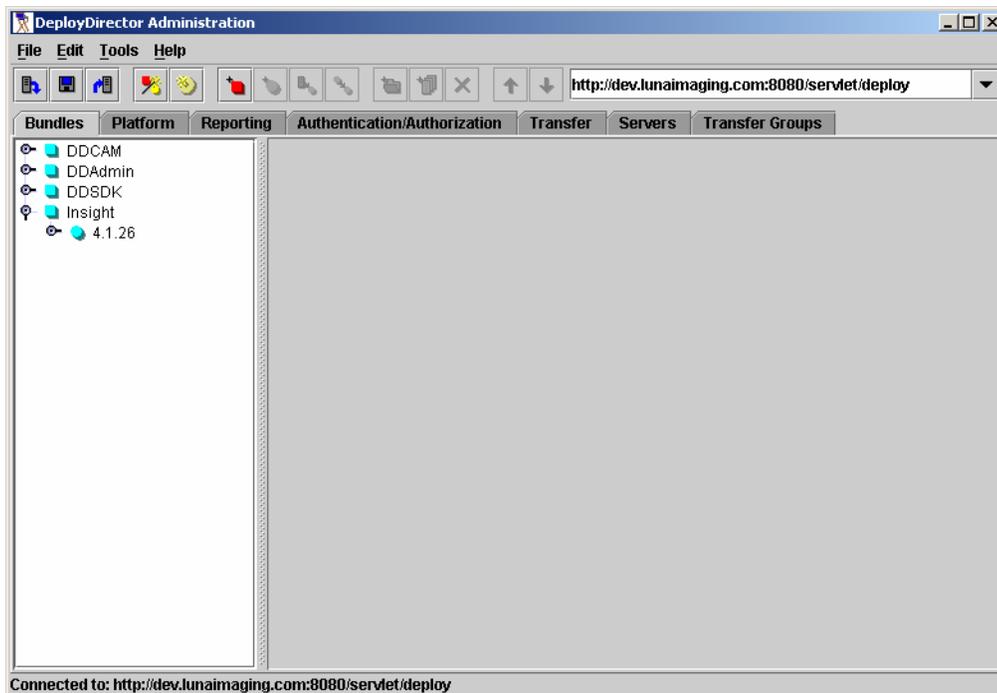
- 1) Launch Deploy Director Admin.

```
(DD_HOME)/DDAdmin/DeployDirectorAdmin.
```

- 2) You will be presented with a Login screen:



- 3) Enter Username: **ddadmin** Password: **f3nd3r** (or your password if you have already changed it). For **Select server**, enter the URL to the Deploy Director installation directory. See the example in the panel above.
- 4) Click **Login**.



- 5) Select **File | Import DAR** from the menu. Navigate to Deploy Director CD, find and select the following file:

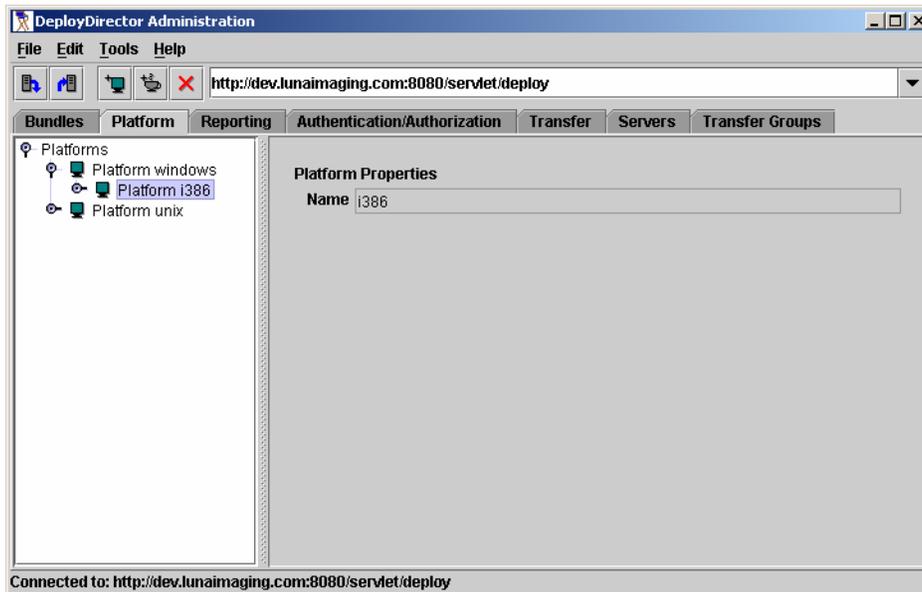
\bundles\insight\insight_51.dar

- 6) You will then be presented with the **Bundle Version** window. The **Bundle Name** and **Version Name** should be pre-populated.
- 7) Click **OK** to import Insight as a bundle.
- 8) Once the bundle has been imported, you must again customize the bundle with your User Manager information and other settings and update the bundled JRE. Please see Customizing the insight.dat file for use within Deploy Director on page 128 for more information.

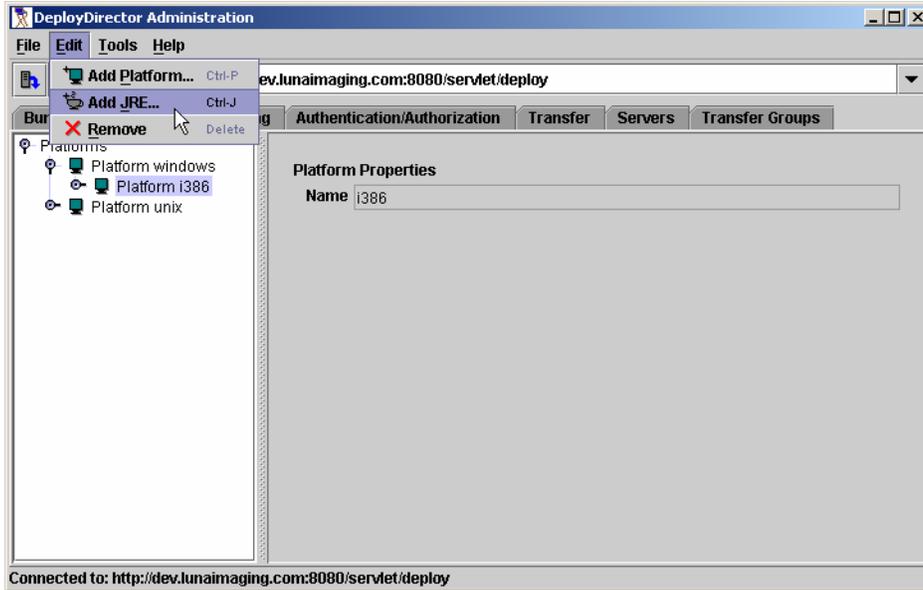
To Update the JRE Bundle

The final step in upgrading Insight to 5.x is to add the 1.4.1 JRE Bundle.

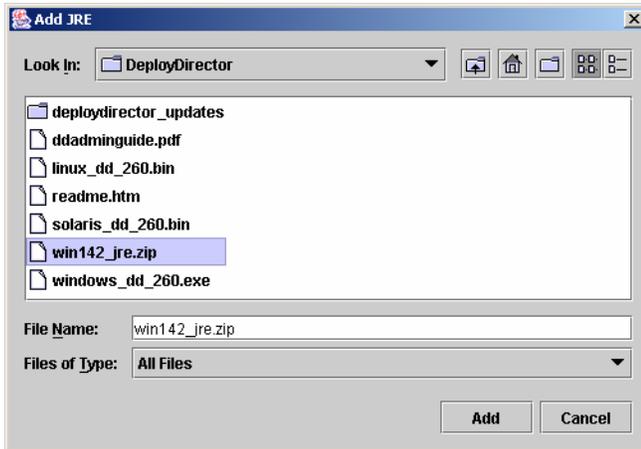
- 1) Once you have updated the Insight DAR file, click on the platform tab.



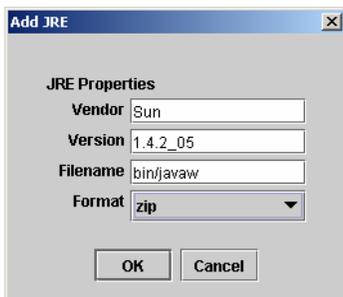
- 2) Go to **Edit -> add JRE**.



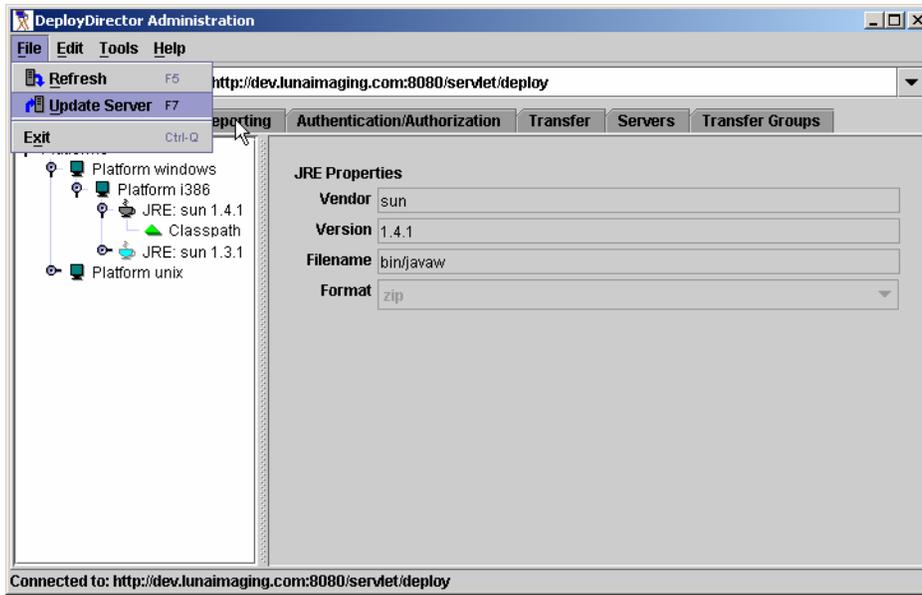
- 3) Browse to the **win142_jre.zip** file (located at the root of the Deploy Director CD).



- 4) Press add, and then fill in the following information.



- 5) Finally, choose **File -> Update Server** to update the JRE file on the server.



6) Close Deploy Director and press save.

Configuring BrowserInsight to use SSL

HTTP over SSL (or Secure Socket Layer) provides enhanced security around Insight's login functionality. When enabled, users who load the login page for BrowserInsight are redirected to a Secure HTTP Connection (over SSL), where they login, and are then passed back to the BrowserInsight Application. This situation is ideal for Single-Sign-On Situations where Usernames and Passwords provide greater access to Institutional Resources than Insight.

NOTE: The Insight 5.x Suite Installer will pre-configure many of these settings for you according to your installation choices. In many cases you may simply have to uncomment the existing values.

To enable SSL with the bundled version of Tomcat 5.0:

- 1) Open Tomcat's server.xml (located in the tomcat/conf directory).
- 2) Locate the section on the SSL Connector (as follows).

```
<!-- Connector port="8443"
      maxThreads="150" minSpareThreads="25"
maxSpareThreads="75"
      enableLookups="false" disableUploadTimeout="true"
      acceptCount="100" debug="0" scheme="https"
secure="true"
      keystoreFile="path/to/your/keystore"
      keystorePass="keystore_password"
      clientAuth="false" sslProtocol="TLS" / -->
```

- 3) Uncomment the connector for SSL so the line looks like this:

```
<Connector port="8443"
```

```
maxThreads="150" minSpareThreads="25"  
maxSpareThreads="75"  
enableLookups="false" disableUploadTimeout="true"  
acceptCount="100" debug="0" scheme="https"  
secure="true"  
keystoreFile="path/to/your/keystore"  
keystorePass="keystore password"  
clientAuth="false" sslProtocol="TLS" />
```

- 4) Follow the instructions on <http://jakarta.apache.org/tomcat/tomcat-5.0-doc/ssl-howto.html> for information on how to create a keystore.
- 5) Change the keystoreFile parameter to match the path to your keystore file.
- 6) Change the keystorePass parameter to match the password you created for your keystore.
- 7) Save the server.xml configuration file
- 8) Restart Tomcat.

To enable SSL during login:

- 1) Configure your servlet container (Resin or Tomcat) to use SSL. See your Resin or Tomcat documentation for directions on configuring and testing SSL. Note the port number on which SSL is configured.
- 2) Once the servlet container is properly listening for SSL connections on the specified port, open the BrowserInsight.conf, located in the root of the BrowserInsight installation directory
- 3) Locate the following lines:

```
#-----  
# SSL Security Settings  
#-----  
  
# to enable secure login uncomment and update the  
# following lines  
  
#LoginSSL = yes  
#SecureDomain = https://browserinsight.lunaimaging.com:8085  
#StandardDomain = http://browserinsight.lunaimaging.com:8080
```

- 4) Uncomment the **LoginSSL** property and set it to 'yes' in your BrowserInsight.conf.
- 5) Uncomment the **SecureDomain** property and set it to match the domain on which the Secure version of BrowserInsight is running. Commonly, the secure domain is composed of the protocol (https) + the host running BrowserInsight + the servlet container's SSL port number. For example, if your domain name is host.mydomain.com and your servlet container's SSL port is 8085, specify SecureDomain as: <https://host.mydomain.com:8085/>

Note: If you are using the standard HTTPS port, 443, you may omit the port definition for the SecureDomain property, as seen in the example above.

- 6) Uncomment the **StandardDomain** property and set it to match the domain on which the unsecured version of BrowserInsight is Running, commonly this is preset for you.
- 7) Save the BrowserInsight.conf file and continue with the steps below, specific to your servlet container.

Additional Installation Instructions for Resin

- 1) Open the resin.conf file located in the <resin_install>/conf directory.
- 2) Search for the line beginning with "<session-config" in the resin.conf file, it should look something like the following:

```
<session-config enable-cookies='true' enable-url-rewriting='false'  
session-timeout='30' />
```

- 3) If **LoginSSL** is set to "yes" in BrowserInsight.conf, then the above line must be changed to the following:

```
<session-config enable-cookies='true' enable-url-rewriting='true'  
session-timeout='30' cookie-domain='.mydomain.com' />
```

- 4) The dot (.) character preceding 'mydomain' is required. Be sure to change 'mydomain' to the domain under which BrowserInsight is running.

Note: setting 'enable-url-rewriting' to true, as shown above, has the effect that users who have disabled cookies in their web browser will still be able to use BrowserInsight.

- 5) Restart Resin after modifying resin.conf.

Additional Installation Instructions for Apache's Tomcat 4.x

- 1) Open the server.xml file located in the <tomcat_install>/conf directory.
- 2) Search for "BrowserInsight" in the server.xml file, it should look like the following:

```
<Context className="org.apache.catalina.core.StandardContext"  
crossContext="false" path="/BrowserInsight" debug="3"  
reloadable="true" docBase="<browser install dir>"  
defaultSessionTimeout="30">
```

- 3) When using Tomcat with SSL, cookies may not be used to track user sessions. Disable cookies by changing the above line to the following:

Insight 5.1 Installation and Configuration Guide

```
<Context className="org.apache.catalina.core.StandardContext"  
crossContext="false" path="/BrowserInsight" debug="3"  
reloadable="true" docBase="<browser install dir>"  
defaultSessionTimeout="30" cookies="false">
```

- 4) Restart Tomcat after modifying server.xml.

Using your own version of Apache's Tomcat or using Caucho's Resin

Insight 5.1 ships with a customized version of Apache's Tomcat 5.0 running on the Sun JDK 1.4.2. If you'd like to use your own version of Tomcat, or Caucho's Resin Application Server, manual configuration will be required.

Prerequisites

The Insight Servlet Components maintain a few prerequisites for running. These include a specific version of Sun's JDK (1.4.2) and specific versions of Tomcat or Resin.

Supported versions of Sun's JDK

Luna currently supports Sun's JDK version 1.4.2.



WARNING: The Insight Servlet Components will not run on versions of the JDK earlier than 1.4.2.

Supported versions of Tomcat

Luna currently supports Insight running on Tomcat versions 4.x and 5.0.x.

Supported versions of Resin

Luna currently supports Insight running on Resin 3.x.

Insight Servlet Components

Insight includes three separate Servlet Components that run inside basic servlet contexts:

BrowserInsight – a Browser Based thin client.

Media Manager – The Insight Media Manager provides integrated support for uploading serving Insight Media content (including JPEG2000 Files).

XML Gateway (optional) – a REST Based XML Gateway that facilitates searching of Insight Collections from XML aware applications.

Locating the servlet components Context Files

Each Insight Servlet context is installed into its own directory with the server installation. The components are located in the following Directories:

```
Media Manager Location - LunaImaging/5.x/media manager/Support/  
BrowserInsight Location - LunaImaging/5.x/browserInsight/Support/  
XML Gateway Location - LunaImaging/5.x/xmlgateway/Support/
```

In each directory is a support directory with the following two files:

```
/Support/Tomcat_conf_additions.txt  
/Support/Resin_conf_additions.txt
```

Each file represents the required additions to **Tomcat** or **Resin** to enable the Insight servlet components.

Configuring the Insight Servlet Components to run in a custom version of Tomcat

Adding the Insight Servlet Contexts to the Tomcat 4.x server.xml

The following instructions assume a new installation of Tomcat. If you have modified the default Tomcat configuration, the steps required to configure Tomcat to run the Insight Servlet Components may be different.

- 1) Locate your Tomcat Installation Directory.
- 2) Locate the server.xml file located in the conf/ directory inside the Tomcat Installation Directory.
- 3) Open the server.xml file in your preferred text editor locate the following:

```
'<Context path="" docBase="ROOT" debug="0"/>'.
```

- 4) Copy the contents of each of the "Tomcat_conf_addition.txt" files (located in the support directories of the servlet's (see above for more information)) and paste them under the above location. The result should look like this:

```
<Context path="" docBase="ROOT" debug="0"/>
<Context className="org.apache.catalina.core.StandardContext"
crossContext="false" path="/BrowserInsight" debug="0"
reloadable="true" defaultSessionTimeout="30"
docBase="C:\Program Files\LunaImaging\5.x\browserInsight\servlet">
<Logger className="org.apache.catalina.logger.FileLogger" debug="0"
verbosity="1" prefix="localhost BrowserInsight log." directory="logs"
timestamp="true" suffix=".txt"/>
</Context>
```

NOTE: If you are adding more than one of the Insight Servlet components, you'll have to repeat the above steps for each component.

5) Restart Tomcat.

Adding the required Libraries to Tomcat's Library Path

The Insight Media Server requires some external shared libraries that must be loaded by the JDK (Java SDK). These libraries need to be placed in the Java Library Path (specified by the `java.library.path` or `LD_LIBRARY_PATH` environment variable).

Configuring Java Imaging Properties for Solaris and Linux

Note you will need to add the following extra launch parameter to the instance of Java running tomcat (`-Djava.awt.headless=true`).

Adding the Insight Servlet Contexts to an instance of Tomcat 5

Rename each of the `tomcat_conf_additions.txt` to something a bit more identifiable and copy each one into `Catalina/localhost/`.

Adding the required Libraries to Tomcat's Library Path

The Insight Media Server requires some external shared libraries that must be loaded by the JDK (Java SDK). These libraries need to be placed in the Java Library Path (specified by the `java.library.path` or `LD_LIBRARY_PATH` environment variable).

On Windows:

Edit the `Catalina.bat` file used to startup Tomcat. Add the following line to the beginning:

```
SET JAVA_OPTS=-Djava.library.path="<insight-install-
dir>\media_manager\support\win32"
```

NOTE: if you have spaces in your filepath, you should keep the quotes.

On Linux:

Edit the `Catalina.sh` file used to startup tomcat, add the following line to the beginning:

```
JAVA_OPTS=-Djava.library.path=<insight-install-dir>\media_manager\support\Linux-gcc
```

On Solaris:

Edit the Catalina.sh file used to startup Tomcat. Add the following line to the beginning:

```
JAVA_OPTS=-Djava.library.path=<insight-install-dir>\media_manager\support\Solaris-gcc
```

Configuring Java Imaging Properties for Solaris and Linux

Note you will also need to add the following extra launch parameter to the JAVA_OPTS as well (-Djava.awt.headless=true).

Configuring the Insight Servlet Components to run Caucho's Resin Application Server

Adding the Insight Servlet Contexts to the resin.conf

The following instructions assume a new installation of Resin. If you have modified the default Resin configuration, the steps required to configure Resin to run the Insight Servlet Components may be different.

- 1) Locate your Resin Installation Directory.
- 2) Locate the resin.conf file located in the conf/ directory inside the Resin Installation Directory.
- 3) Open the resin.conf file in your preferred text editor locate the following:

```
<host id=''>
```

- 4) Copy the contents of the file "Resin_conf_addition.txt" (located in the support directories of the servlet's (see above for more information)) and paste them under the above location. The result should look like this:

```
<host id=''>  
<web-app id='/BrowserInsight' class-update-interval='2'  
app-dir='C:\Program Files\LunaImaging\5.x\browserInsight\servlet\' >  
</web-app>
```

NOTE: If you are adding more than one of the Insight Servlet components, you'll have to repeat the above steps for each component.

- 5) Restart Resin.

Adding the required Libraries to Resin's Library Path

The Insight Media Server requires some external shared libraries that must be loaded by the JDK (Java SDK). These libraries need to be placed in the Java Library Path.

On Windows:

Copy the JPEG2000 libraries from the media_manage/support/win32 directory into the bin directory of Resin.

On Solaris / Linux:

Copy the JPEG2000 libraries from the appropriate subdirectory of the media_manager/support directory either (linux-gcc or solaris-gcc) into the libexec folder in resin's application directory. (note: the libexec directory is added by resin to the LIBRARY_PATH).

Configuring Java Imaging Properties for Solaris and Linux

Note you will need to add the following extra launch parameter to the instance of Java running tomcat (-Djava.awt.headless=true).

Testing your Custom Configuration

After restarting, test all of your existing Web Applications to ensure they run properly. If they are working, please refer to the respective sections of the Install and configuration guide for the servlet components you installed.

Troubleshooting errors with the XML Gateway

If you are having problems running the Insight XML Gateway, check the Tomcat log files.

If you see this error in the log file:

```
InsightXMLGateway: Failed to get Class object for parser named
"org.apache.xerces.parsers.SAXParser"
```

Then you need to add the XML Parser to you classpath. To do this:

- a. Locate the lib directory inside the support directory of your XML Gateway installation.
- b. Copy the three jar files (xml-apis.jar, xalan.jar, xercesImpl.jar) into the lib directory, located in the servlet/WEB-INF directory

```
<installation dir>/support/lib/xercesImpl.jar
                               /xalan.jar
                               /xml-apis.jar
```

into:

```
<installation_dir>/servlet/lib/
```

- c. Restart tomcat/resin.

If any configurable value in web.xml is incorrect, the XML Gateway servlet will return an empty InsightResponse with a status message. The Tester may return a message similar to:

```
InsightXMLGateway: Failed connection to User Manager at address  
"localhost".
```

Check your web.xml and confirm that the username, password, and User Manager Address are correct.

Fix any error conditions identified, restart Tomcat/Resin, and navigate to the XML Gateway's Tester URL again.

Troubleshooting errors with Resin and the Media Manager

Resin does not always properly load the security library properly. To ensure it is loaded:

- 1) Locate the lib directory inside the installation directory of resin.
- 2) Copy the bcprov-jdk14-115.jar from the servlet\WEB-INF\lib directory inside the installation directory for the Insight Media Manager into the lib directory for resin.

```
<secure media server install dir>\servlet\WEB-INF\lib\bcprov-jdk14-  
115.jar
```

copy to

```
<resin_installation_directory>\lib\ bcprov-jdk14-115.jar
```

Debugging the Insight Server Components

If any of the Insight Server Components fail to start properly (either they're not allowing connections from Insight, Inscribe, or Insight Studio, or they aren't printing "Accepting Connections" in the console), it may be useful to increase Insight's debug level to help diagnose the problem.

NOTE: Regardless of the debug level, Insight will always print "Accepting Connections" on proper startup.

It is important to recall that when the installer completes, it has installed the components, it has not started them as running processes. They need to either be manually started (in console mode) or installed as services. We recommend testing the components as console mode processes until they have been verified as working properly, THEN running them as services.

Problems, when they occur, generally fall into one of four categories:

- Network Issues
 - Is the network running?
 - Is the device in question running?
 - Is the device accessible?
 - Is the port operational?
 - Are firewall restrictions getting in the way?
 - Have necessary network privileges been set up?
- Database Issues
 - Is the database service running?
 - Is the database service accessible?
 - Has a database username / password been established?
 - Does that username have the necessary permissions?

- Does the database exist?
 - Are we pointing at the right database?
 - Are there space issues?
- Configuration Issues
 - Are all parameters pointing where they should be?
 - Are all of the usernames, passwords, databases, hostnames, ports correct?
- File System Issues
 - Is there space on the target device?
 - Does the user have rights to write to the target device/directory?

Since most components are dependent on the User Manager, test it first. Then test the Collection Manager and Personal Insight Manager, then the Media Manager, BrowserInsight, and finally the XML Gateway.

Checking the Version of All Installed Components

Insight 5.1 ships with a new tool to display the versions of each of the Insight Components. This tool is designed to assist with patch updates and help ensure that patches are installed and configured properly. One of the most common support problems is that different Insight Server Components are running using different versions.

To check the versions of all installed components:

- 1) Locate the Insight Installation Directory
- 2) Open the "**utilities/check_server_version**" Directory
- 3) Run "**checkInsightVersion.cmd**" or "**checkInsightVersion.sh**" (depending on which platform you're on.
- 4) This tool will run a script and print out the version of each of the components installed.
- 5) In the script, it will print out the name and location of each of the critical JAR files, as well as the build number and date.
- 6) Please confirm that each of the dates and versions match.

```

C:\WINNT\system32\cmd.exe

[echo] checking the version of your Insight components.
[echo] *****
[echo] * THIS WILL CHECK THE VERSION OF ANY *
[echo] * INSIGHT SERVER COMPONENT THAT'S *
[echo] * INSTALLED IN A DEFAULT LOCATION. IF *
[echo] * YOU HAVE INSTALLED CERTAIN INSIGHT *
[echo] * SERVER COMPONENTS IN ANOTHER LOCATION, *
[echo] * YOU WILL NEED TO CHECK THOSE SEPARATELY. *
[echo] * *
[echo] * TO ENSURE INSIGHT RUNS PROPERLY: *
[echo] * PLEASE CONFIRM THAT ALL OF THE VERSION *
[echo] * NUMBERS AND BUILD DATES ON EACH JAR *
[echo] * FILE MATCH. *
[echo] * *
[echo] *****

[echo] C:\Program Files\LunaImaging\5.1\browserInsight\servlet\WEB-INF\lib\insightserver.jar
[echo] Insight Smart Server - Build of v5.10<02> 23November2004

[echo] C:\Program Files\LunaImaging\5.1\collection_manager\nci\lib\insights
erver.jar
[echo] Insight Smart Server - Build of v5.10<02> 23November2004

[echo] C:\Program Files\LunaImaging\5.1\media_manager\servlet\WEB-INF\lib\i
nsightserver.jar
[echo] Insight Smart Server - Build of v5.10<02> 23November2004

[echo] C:\Program Files\LunaImaging\5.1\personal_insight_manager\pmi\lib\in
sightserver.jar
[echo] Insight Smart Server - Build of v5.10<02> 23November2004

[echo] C:\Program Files\LunaImaging\5.1\user_manager\lib\insightserver.jar
[echo] Insight User Server - Build of v5.10<02> 23November2004

[echo] C:\Program Files\LunaImaging\5.1\xmlgateway\servlet\WEB-INF\lib\insi
ghtserver.jar
[echo] Insight User Server - Build of v5.10<02> 23November2004

BUILD SUCCESSFUL
Total time: 25 seconds
    
```

Enabling Debug Information

There are two distinct types of “Debug Mode” for the Insight Server Components:

Console Debug Mode:

Adjusting the Console Debug Mode will increase / decrease the amount of information printed to the application’s console. In the case of applications running as services, the debug content will not be logged.

To change the debug level

- 1) Open the appropriate configuration file for any Insight Server component in a text editor. (For more information see the tables starting on page 90)
- 2) Locate the “DebugLevel” parameter.
- 3) Change the “DebugLevel” parameter to either increase or decrease the debug messages:

Table 18: Debug Levels for the Insight Server Components

Off	0
Low	1
Medium	2

High	3
------	---

- 4) Close the configuration file.
- 5) Restart the Insight Server Component.

Database Debug Mode

Database Debug Mode determines whether database queries are logged to a file.

To enable or disable the database debug information:

- 1) Open the appropriate configuration file for any Insight Server component in a text editor. (For more information see the tables starting on page 90)
- 2) Locate the "DatabaseDebugMode" parameter.
- 3) Change the "DatabaseDebugMode" parameter to either on or off, to display or suppress debug messages:

Table 19: Database Debug Mode settings

Off	0
On	1

- 4) Close the configuration file.
- 5) Restart the Insight Server Component.
- 6) All database queries should be logged to the JDBCConnector.txt file in the `logs` directory of the server component.

NOTE: Changing the debug level can drastically decrease Insight's run speed. Be sure to reset all debug levels to 0 once you have fixed the problem.

Starting the User Manager in Console Mode

1. Locate the User Manager's installation directory:
2. Run the "InsightUserManager."

If you are on Windows: Run `InsightUserManager.cmd` (a new DOS Console should appear and display debug information as the User Manager starts).

NOTE: In GUI environments, do not close the console window unless you want to close the Collection or Personal Insight Manager.

If you are on Solaris or Linux: Run `InsightUserManager.sh` (a new Console

should appear and display debug information as the User Manager starts).

3. Look for successful startup. If the User Manager started up successfully, you should see the following message print on the console:

```
IUS: Accepting connection.
```

4. Troubleshooting unsuccessful startup.

If you do not see "Accepting connection," you may see one of the following:

```
IUS: IOException on listener open.  
IUS: Server port cannot be opened. Terminating.
```

This often means that an application is already running on port 2840 (User Manager's default port). This is most likely because the User Manager itself is already running.

Check to see if User Manager is running as a service. If it is, stop the service, and resume testing in console mode. At the conclusion of the test, after everything is repaired, remember to restart the User Manager service.

```
IUS: Database is not configured correctly
```

This means that the User Manager could not connect to the database. For more information, see "Debugging a database connection for the User, Collection, or Personal Insight Managers" on page 155.

Starting the Collection Manager or Personal Insight Manager in Console Mode

1. Locate the Collection or Personal Insight Manager's installation directory:
2. Run the "InsightCollectionManager" executable.

If you are on Windows: Run `InsightCollectionManager.cmd` (a new DOS Console should appear and display debug information as the Collection or Personal Insight Manager starts).

NOTE: In GUI environments, do not close the console window unless you want to close the Collection or Personal Insight Manager.

If you are on Solaris or Linux: Run `InsightCollectionManager.sh` (a new Console should appear and display debug information as the Collection or Personal Insight Manager starts).

3. Look for successful startup. If the Collection or Personal Insight Manager starts up successfully, you should see the following message print on the console:

```
XYZ: Accepting connection.
```

4. Troubleshooting unsuccessful startup.

If you do not see "Accepting connection," you may see one of the following:

```
XYZ: IOException on listener open.  
XYZ: Server port cannot be opened. Terminating.
```

This often means that an application is already running on port 3070 (Collection or Personal Insight Manager's default port). This is most likely because the Collection or Personal Insight Manager itself is already running.

Check to see if Collection or Personal Insight Manager is running as a service. If it is, stop the service, and resume testing in console mode. At the conclusion of the test, after everything is repaired, remember to restart the Collection or Personal Insight Manager service.

```
XYZ: Database is not configured correctly
```

This means that the Collection or Personal Insight Manager could not connect to the database. For more information, see "Debugging a database connection for the User, Collection, or Personal Insight Managers" on page 155.

Debugging a database connection for the User, Collection, or Personal Insight Managers

Insight relies on a backend database to store user and collection information. Without a connection to the database, the components will not run properly. All of the Insight Server Components (User, Collection and Personal Insight Manager) may be tested the same way.

When running one of the Insight Server Components in console mode, toward the bottom of the scroll, we want to see:

```
XYZ: Accepting connection.
```

(where "XYZ" is the short-name you defined for your collection, or "IUS" for the User Manager)

If you instead encounter:

IUS: Database is not configured correctly

there may be problems with the database itself or with the Insight connection to it. Starting with the database, check the following:

Common Things to Check when testing a Database Configuration Error:

- Is the database server running?
- Are other applications that are dependent on the database running properly?
- Can you connect to the database using the database's Administrator Tools:
 - For Microsoft SQL Server – Enterprise Manager
 - For Oracle – Enterprise Console
 - For DB2 – Control Center

If the database server is running:

If you can connect to the database using other applications, then the next step is to confirm the database configuration settings for the server components you are testing.

NOTE: It is best to test the Insight Server Components in console mode, as it's easier to see debug messages in the console.

- 1) Locate the configuration file for the Insight Server Component you are testing.

In the Insight Server Component installation directory, look for the appropriate configuration file. It will be one of the following:

- a) InsightUserServer.dat – for User Manager
- b) InsightServer.dat – for Collection Manager or Personal Insight Manager

- 2) Open the Configuration File in a text editor.
- 3) There are three common configuration settings that are most likely to produce errors: the Database Connection String, Database Username, and Password.
- 4) Check the Database Connection String:

- a) For the User Manager:

UserDatabaseConnect =

- b) For the Collection Manager or Personal Insight Manager:

DatabaseConnect =

Check the Database Hostname, Port, and database name to ensure they are correct.

MS SQL Manager Example:

Depending on the version of Insight you installed with, you may have a different driver for Microsoft SQL Server.

Which Driver am I using?

To determine the SQL Driver you are using:

- 1) find the line “**JDBC_DRIVER_NAME**” in the configuration file.
- 2) Match it with the column in the Table on page 190.

- 5) Check the Database Username and Password:

Common errors are to use the Insight Administrator Username / Password or an Insight End User Username / Password. The database Username / Password are needed here.

For MS SQL Server:

Database Username and Password are part of the DatabaseConnect string (see #4 above).

For Oracle, MySQL, and DB2:

Locate the following lines and check the values.

```
DefaultUsername = yourusername  
DefaultPassword = yourpassword
```

- 6) Turn on database debugging.

Find the following line:

```
DatabaseDebugMode =
```

If it is not already “on” (1), change the value:

```
DatabaseDebugMode = 1
```

- 7) Save your changes.

Save any changes you made to the “InsightUserServer.dat” or “InsightServer.dat”.

- 8) Restart the Insight Server Component to begin logging.

NOTE: the configuration files are only read by the Insight Server Components at startup. Changes in the dat file will not be reflected until the next time the Manager is started.

- 9) Open the "JDBCConnector.txt" log file located in the logs directory of the component's installation directory.
- 10) Look for successful startup.

Logs will vary, depending on the database engine in use, but will generally follow a pattern as follows:

```
HH:MM:SS driver: [message level] message text.
```

An example of a successful return may be:

```
JC 13:59:14 jdbc: [L] Statement created.  
JC 13:59:14 jdbc: [L] Results generated.  
JC 13:59:14 jdbc: [L] Returning from runQuery.
```

- 11) Troubleshooting unsuccessful startup.

Look for words like "Exception" / "Error" (etc.) in the log.

In the following MS SQL Server example, JoeUser is NOT a valid database username:

```
JC 16:36:39 jdbc: [H] SQL Exception while connecting:  
    java.sql.SQLException: []Login failed for user 'JoeUser'.  
JC 16:36:39 jdbc: [H] No valid connection available, aborting  
    query.  
JC 16:36:39 jdbc: [L] Returning from runQuery.
```

Testing the Network Connection

If you are having trouble connecting to any Insight Server Component, you may have a network problem.

Setting up a testing environment

It is best to run this test while the server component is running in console mode, as it is possible to see when a client application connects to the server component. Check that when the server component starts up, it prints "Accepting Connection" on the console. If it doesn't, the problem is likely not in the network (try the database).

Testing a local connection from the server

If you can see "Accepting Connection," then see if you can log in with Insight Studio. If you can not login, check for a working network connection (try a web browser). If the browser works, and you can browse the web, then you definitely have a network connection.

Insight commonly runs on a series of ports:

Table 20: Default Ports for Insight Server Components

Insight Server Component	Port
--------------------------	------

User Manager	2840
Collection Manager	3070 – 4040
Default Collection Manager Port	3070
Default Personal Insight Manager Port	3080

NOTE: 3070 is the default Collection Manager port, but with multiple Collection Managers or Personal Insight Managers, you will need to increment the "PortNumber" in InsightServer.dat (in the Manager installation directory) so each Manager uses a unique port on the server.

 If you run a firewall, be sure that ports assigned to Managers are open to bi-directional traffic. Failure to do so will interfere with communication to the Managers.

Testing the Network Connection

If you have a good network connection and the ports are available, then check the Hostname / IP address for the User Manager, and the collection list to ensure that the hostnames are valid. If you're still having problems and you can log in from the server, then contact your network administrator.

Enabling Debug information for BrowserInsight

To enable BrowserInsight's Debug Information:

- 1) Open up the browserInsight.conf configuration file.
- 2) Locate the Logging section, change the following line:
Log.Console.On=no to **Log.Console.On=yes**.
- 3) Also, confirm that the **Log.console.loglevel** is set to 10.
- 4) Save the BrowserInsight.conf configuration file.
- 5) To simplify debugging, restart Tomcat in console mode (if you are running Tomcat as a service, stop the service and run "start_tomcat.bat" or "start_tomcat.sh").

As Tomcat starts, it will process each of Insight's servlet component's configuration files. When it reaches BrowserInsight, it will connect to each of your Collection Managers and Personal Insight Managers and print out a list of collections that it can connect to. An example follows:

```
BI 12:34:04 Hlpr: getTrinityList: dbProfile:
```

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```
BrowserInsightDBProfile: Name = oracle, JDBCDriver =
oracle.jdbc.driver.OracleD
river, JDBCUrlPrefix = jdbc:oracle:thin:, useLowerCaseCommand = true,
useDistinct
tKeyword = false.
BI 12:34:06 infr: adding 11: 3::LUNA::NA
BI 12:34:06 infr: adding 12: 9::LUNA::NA
BI 12:34:06 infr: adding 13: 8::LUNA::NA
BI 12:34:06 infr: adding 14: 2::LUNA::NA
BI 12:34:06 infr: adding 15: 6::LUNA::NA
BI 12:34:06 infr: adding 16: 7::LUNA::NA
BI 12:34:06 infr: adding 17: 1::LUNA::NA
BI 12:34:06 infr: adding 18: 4::LUNA::NA
BI 12:34:06 infr: adding 19: 5::LUNA::NA
```

Once it has completed, log in to BrowserInsight. As you log in, BrowserInsight will connect to each collection and verify that the browser's settings are configured properly. If there is an error, a message will be sent to the console.

```
BI 12:38:59 Hlpr: constructTrinityProxy: dbProfile:
BrowserInsightDBProfile: Name = oracle, JDBCDriver =
oracle.jdbc.driver.OracleDriver, JDBCUrlPrefix = jdbc:oracle:thin:,
useLowerCaseCommand = true, useDistinctKeyword = false.
BI 12:38:59 Hlpr: no media security on collection 15
BI 12:38:59 hPLg: No left background is specified for the collection.
This is potentially a misconfiguration.
BI 12:38:59 hPLg: Trimming Admin Media Processing Collection
```

In the example above, the collection is missing a piece of the Background Image. Other common issues might be an undefined **BrowserInsightDBProfile**, or a mismatched collection name.

If you need to see the SQL queries, turn database debug on:

- 1) Open the BrowserInsight.conf Configuration File.
- 2) Locate the DatabaseDebugMode Parameter.
- 3) Change DatabaseDebugMode from 0 to 1.

```
DatabaseDebugMode=1
```

- 4) Save the BrowserInsight.conf configuration File.
- 5) Restart BrowserInsight.
- 6) Database queries will be logged to databaseconnector.txt in the logs directory of BrowserInsight's Installation Directory.

Performance Tuning for the Insight Server Components

The largest performance gain that can be made for Insight Server Components is to turn all debug settings to 0. Review “Enabling Debug for the Insight Server Components,” but instead of increasing logging values, turn them off.

NOTE: Disabling debug logs does not disable the search query, access, and export logs (used for reporting on system usage). These logs are configured with their own parameters.

Repackaging & Advanced Configuration of the Insight Client Applications

The Insight client applications (Insight Client, Inscribe, and Insight Studio) can be configured to enable support for special environments and settings. Configuration options include automatic login definition, support for lab or restricted environments, how multimedia is played, support for proxy servers, and changing the default User Manager.

Packaging and Distributing the Insight Client Applications

Luna provides a simple and easy way to repackage the Insight Client Applications, allowing system administrators to distribute Insight with the settings most appropriate to their environment. The Insight Client Applications (Insight, Inscribe, and Insight Studio) can be customized to work with your User Manager and your environment. Platform-specific installers for the clients can be found on the “Clients” CD as follows:

Table 21: Locations of the Client Installers

Directory (based on client product name)	Subdirectory (based on platform)	Installer (or component)
insight_client	Deploydirector*	insight_50.dar
	MacOSX	installInsight.zip
	Windows	installInsight.exe
Inscribe	MacOSX	installInscribe.zip
	Windows	installInscribe.exe

insightStudio	Linux	installStudio.bin
	MacOSX	installStudio.zip
	Solaris	installStudio.bin
	Windows	installStudio.exe
* For more on distributing with Deploy Director, please see the "Installing and Configuring Deploy Director" Document on the Deploy Director CD.		

Packaging the Insight Client Applications

For more information on customizing the Insight Application Clients configuration file, please see the other chapters within this document. Once you have the configuration you want to distribute, it's time to repackage the clients.

NOTE: The following example describes how to package the Insight Java Client, but will work with any of the other Insight application clients. Simply replace the name of the installer and configuration file with the name of the Insight Client Application and configuration file you would like to distribute.

For Windows systems

To distribute a preconfigured Insight Java client to your end users, you need to repackage *installInsight.exe* with your customized configuration file *insight.dat* (for information on customizing Insight, see **Insight Client Application Configuration Files** on page 165). The installation files for the Windows version of the Insight Java Client are located on the Insight 5.1 Clients CD under the directory: *insight_client\Windows*. To build an installation package for Windows end-users:

- 1) If you do not already have the WinZip archive utility and WinZip Self-Extractor, download and install them. (It is recommended that you order the software instead of merely downloading trial copies. Though trial copies generate the package correctly, they produce a message indicating that unlicensed copies were used when end users unzip and install the package.)
 - For the trial copy of WinZip Archive Utility:
<http://www.winzip.com/downau81.cgi?winzip81.exe>
 - For the trial copy of WinZip Self-Extractor:
<http://www.winzip.com/downauto.cgi?wzipse22.exe>
- 2) Start WinZip Self Extractor, select "**Self-extracting zip file for Software Installation,**" and press **Next**.
- 3) At the next panel, leave "**Span multiple removable disks**" unchecked, and press **Next**.
- 4) Next, press "**Run WinZip**".
- 5) After passing the first two panels of WinZip by pressing **Next**, select "**Create a new Zip file**".
- 6) Follow the instructions and create a Zip file (for example, *insight50_and_dat.zip*) containing **installInsight.exe** from the *insight_client\Windows* directory on the **Insight 5.1 Clients** CD, and

your customized **insight.dat** configuration file.

NOTE: Don't try and open the InstallInsight executable as a zip file and add the DAT file to it, this will corrupt the installer.

- 7) After the Zip file is created, close the WinZip panel.
- 8) Return to WinZip Self Extractor (or you can restart it, and select "**Self-extracting file for software installation**"), select the Zip file you just created (for example, *insight_and_dat.zip*), and press **Next**.
- 9) In the next panel, enter the message you would like your end user to see when the files are self-extracted, and press **Next**.
- 10) Leave "**Unzip automatically**" unchecked, select English as the preferred language, and press **Next**.

Important: Enter `.\installInsight.exe` under "**Command to issue when unzip operation completes.**" Leave "**Wait for**" blank, and press **Next**.

- 11) Enter your message (which will be displayed when the package is unzipped and installed), and press **Next**.
- 12) Enter the information to be displayed in the "**About**" box (if desired), and press **Next**.
- 13) In the next panel, select your own icon (if desired), and press **Next**.
- 14) In the last panel, review all of your selections and all messages you have prepared. After verifying them, press **Finish**, to create the self-extracting executable file.
- 15) Test the self-extracting package to verify that it works correctly.
- 16) Place the self-extracting package in a location accessible to your end-users.

End-users will download the self extracting package, launch it, and follow the instructions to install the Insight Java Client. For users who have previous releases of the Insight Java Client installed, installing the new release of the Insight Java Client in the same location will cause their old **Insight.dat** file to be overwritten by the new one packaged with *installInsight.exe*.

For MacOSX systems (10.2+)

NOTE: The procedure described below must be performed on a Mac OSX machine. Other Mac OS versions will produce corrupted installers.

To repackage the MacOSX Insight Client installer for with a customized configuration file:

1. Locate **installInsight.zip** in the `\insight_client\macOSX` directory on the **Insight 5.1 Clients** CD. Unzip it to a temporary working directory on the Mac OSX machine.

2. Copy the customized **insight.dat** configuration file to the same working directory.
3. Make a new zip file (or other compressed package that can be processed and accepted under Mac OSX) containing both InstallInsight installer and **insight.dat**

Insight Client Application Configuration Files

Each of the Insight Client Applications uses a unique configuration file to store basic information. This configuration file includes information on the User Manager the client should use for authentication, as well as other client based configurations.

Table 22: Client Configuration Files

Client Name	Configuration File
Insight	insight.dat
Inscribe	inscribe.dat
Insight Studio	insightStudio.dat

Each of these configuration files can be opened using a text editor of your choice.

NOTE: double-clicking on these files in some Macintosh systems will not open these files with TextEdit or another text editor, if you have problems opening this file, (1) open TextEdit and then (2) open the file using TextEdit's Open option from the file menu.

Table 23: Default Client Installation Locations

Client Name	Platform	Installation Location
Insight	Windows	C:\program files\LunaImaging\Insight 5.x
	OS X	/Applications/LunaImaging/Insight 5.x
Insight (with DeployDirector)	Windows	C:\program files\LunaImaging\Insight
	OS X	/Applications/.LunaImaging/Insight /Applications/LunaImaging/Insight *
Inscribe	Windows	C:\program files\LunaImaging\Inscribe 5.x
	OS X	/Applications/LunaImaging/Inscribe 5.x
Insight Studio	Windows	C:\program files\LunaImaging\5.x\Studio
	OS X	/Applications/LunaImaging/5.x/Studio
* Deploy Director will place configuration files such as the <i>Insight.dat</i> in a <i>.LunaImaging Folder</i> on OS X		

Use-based configurations

Below are a set of use cases and adjustments to the Insight Configuration Files.

Changing the Default User Manager Address or adding additional User Managers

As each Institution will want to configure the Insight Client Applications to use their own User Manager (and potentially a list of others as well), Luna has provided a method to configure the clients so the user can choose from one or a set of User Managers.

Each of the Insight Client Applications can be configured to provide the user with a list of one or a set of User Manager Addresses on login.

NOTE: When you run the installer for the Insight Server Components, a set of configuration files is automatically created and pre-configured with your connection information for your User Manager.

To customize your User Manager address in any of the Insight Client Application configuration files, follow these steps:

- 1) Locate a copy of the configuration file: copies of the Insight Client Application configuration files are located in the `client_config_files` directory located in the Installation directory of the Insight Server Components.
- 2) Open the configuration file you would like to customize in a text editor. A sample `Insight.dat` configuration file is displayed below:

```
# Insight.dat
# Insight configuration file
#
# Lines starting with # signs are comments.
#
# UserServerAddress1 - the address of the user server.

# This address provides access to all collections
UserServerAddress1 = InsightUser.lunaimaging.com

#DefaultUserName = user
#DefaultUserPassword = user
```

- 3) To change the User Manager Address, locate the following line:

```
UserServerAddress1 =
```

- 4) Set the value of `UserServerAddress1` to the hostname of your User Manager. If you would like to specify more than one User Manager, then increment the number after `UserServerAddress` by one for each User Manager you would like to add. For example:

```
UserServerAddress1 = http://www.myusermanager.mycollege.edu/
UserServerAddress2 = insightuser.lunaimaging.com
```

NOTE: Any line beginning with `#` is a comment, and is ignored by the system. Comments exist only to assist you in preparing the file. They provide

explanations and present alternatives. Be sure that the *UserServerAddress1* line is turned on (does not have a leading #).

- 5) Save the file
- 6) Test your changes:
 - a) Copy your new configuration file into the installation directory for a version of the client.
 - b) Launch the client application and try to log in.

Configuring the Insight Client to Automatically Login

The purpose of automatically logging on to Insight is to allow users access to an Insight collection without needing to know a username or password. Automatic log-on enables the user(s) to select a collection by bypassing the log-on screen.

NOTE: This means that anyone who has access to a system that has automatic log-on initiated is granted access to a collection, regardless if they know the appropriate username/password or not.

NOTE: Due to the security risks, this feature is only available to the Java Client, and is not available to Insight Studio or Inscribe.

You must install a functioning version of Insight Java Client in order to set the automatic log-on. To set automatic log-on for your Insight collection, follow these instructions:

1. Locate the file named *Insight.dat*. This file is located where you installed Insight.
2. Open the *Insight.dat* file using Notepad or any other text editor of your choice.
3. Before you make any changes, you may want to create a copy or backup of your *Insight.dat* file for future reference.
4. Locate the following lines:

```
#DefaultUserName =  
#DefaultPassword =
```

5. Remove the # signs from the front of the *DefaultUserName* and *DefaultUserPassword*. Be sure you do not remove any other # signs other than the ones instructed.
6. Once you have removed the # signs from the *DefaultUserName* and *DefaultUserPassword*, set the values to match the username and password you would like to use for automatically login.

```
DefaultUserName = my_username  
DefaultPassword = my_password
```

7. Save the changes you made to the *Insight.dat* file.

Now, you should be able to automatically log on to your Insight collection when it is launched. If you would like to disable automatic log-on, simply restore the # signs in front of *DefaultUserName* and *DefaultUserPassword*.

NOTE: if for some reason Insight cannot login using the default username and password, the login screen will be presented to the user.

Support for a Lab Environment (Locked-Down Machines)

Besides the client applications themselves, the clients use a set of files at runtime. These include temporary caches, user preferences, and re-useable information such as localization files.

Temporary Files

The Insight clients maintain a cache of the images requested by the clients to optimize requests for the same image more than once – quite similar to the image and field caches for web-browsers. These caches are encrypted and are maintained at run-time and then discarded when the application is shut down. Insight Studio and Inscribe also use temporary space for creating the derivatives and wavelet files before they are uploaded to the server.

By default, the Clients use the OS’s temporary directory for storing these files. Though these locations can be customized, common locations are as follows:

Table 24: Common Temporary Locations Per Platform

Platform	Location
Windows 2000 / XP	C:\documents and settings\username\Local Settings\Temp
OS X	/tmp/
<i>NOTE: These locations can be easily overridden. Please check with your System Administrator for the default location on your system.</i>	

Forcing Insight to use a Specific Location for Temporary Files

If you would like to force the Insight Client Applications to use a specific location for temporary files, you can set a property in any of the configuration files:

Property	Value
TmpDir	The location where temporary files should be placed on your machine

Once you have made this change, restart the client application to test the configuration. (for more detailed steps on editing the configuration file, follow the steps above for changing the UserManagerAddress)

User Preferences & Reusable Information

User Preferences and other Reusable Information such as locale “language” files and collection backgrounds are stored by default in the User’s home directory (within a LunaImaging Directory).

Table 25: Operation System User Preference Directory

Platform	Location
Windows 2000 / XP	C:\documents and settings\username
OS X	/Users/username
NOTE: These locations can be easily overridden, please check with your System Administrator for the default location on your system	

Forcing Insight to use a Specific Location for Reusable Files

If you would like to force the Insight Client Applications to use a specific location for reusable files, you can set a property in any of the configuration files:

Property	Value
HomeDir	The location where reusable files should be placed on your machine

Once you have made this change, restart the client to test the configuration. (for more detailed steps on editing the configuration file, follow the steps above for changing the UserManagerAddress)

Playing Multimedia within the Image Workspace instead of an External Player

If you would like to play Audio, Video, and QTVR media in the image workspace instead of in an external player, you can set a property within the Insight Java Client and Inscribe's configuration files.

NOTE: Playing multimedia within the Image Workspace REQUIRES Apple's QuickTime and QuickTime for Java to be installed.

NOTE: For more information on configuring QuickTime or QuickTime for Java, please see <http://www.lunaimaging.com/support/getquicktimeforjava.html>.

Property	Value
UseExternalMultiMediaViewer	0 – play media in the Image Workspace 1 – play media in an external QuickTime Player
NOTE: The default is to play media in the External Player.	

Support Firewalls and Advanced Networking Environments

The Insight Client Applications utilize a series of ports for communicating with the User, Collection, Personal Insight, and Media Managers. Depending on your networking environment, you may have to configure your firewall or proxy server to allow bi-directional connections for all of the ports that your Insight Server Components run on.

Insight Component	Port
User Manager	2840
Collection Manager or Personal Insight	3070-4080
Media Manager / BrowserInsight	80, 8080, 8081
NOTE: Depending on your configuration, not all of these ports may be in use. Please check with your Insight Administrator (or check the server component configuration files for a more specific list of ports).	

Using Insight with a Proxy Server

Because the Insight Applications use a series of ports for accessing the server components and media files, a proxy server configuration will most likely have two components: an HTTP based proxy for media and a SOCKS based proxy for the Insight Server Components.

HTTP based Proxy for Media Content

The Insight Client applications support the use of an HTTP based proxy to connect to the Media Manager or a web server serving Insight’s content.

To configure the Insight Client applications to use your HTTP Proxy Server, open the Insight Configuration file and add the following properties:

Property Name	Value
http.proxyHost	The hostname of the HTTP proxy Server
http.proxyPort	The port address of the HTTP proxy server (note both the port and hostname need to be set for this to work)
http.nonProxyHosts	A list of hosts separated by “ ” (vertical bar) that should not be used for HTTP proxy connections for example (myserver1.com myserver2.org)
NOTE: You only have to configure those clients outside the proxy server that access Insight Servers inside the proxy server .	

Once you have made this change, restart the client to test the configuration. (for more detailed steps on editing the configuration file, follow the steps above for changing the UserManagerAddress)

SOCKS based Proxy for Non-HTTP Based Ports (User & Collection Managers)

For non-HTTP based communications such as the client’s communication with the collection or User Managers, you will either need to open the ports on your firewall or set up a SOCKS based proxy server.

To configure the Insight Client applications to use your SOCKS Proxy Server, open the Insight Configuration file and add the following properties:

Property Name	Value
socksProxyHost	The hostname of the SOCKS proxy Server
socksProxyPort	The port address of the SOCKS proxy server (note both the port and hostname need to be set for this to work)
NOTE: You only have to configure those clients outside the proxy server that access Insight Servers inside the proxy server.	

Once you have made this change, restart the client to test the configuration. (for more detailed steps on editing the configuration file, follow the steps above for changing the UserManagerAddress)

NOTE: If you are configuring both a SOCKS Proxy and HTTP Proxy, it's important to understand the tunneling order. The clients are configured to use the SOCKS proxy server as the default connection method and connect to the HTTP proxy through the SOCKS proxy. i.e.:

CLIENT -> SOCKS PROXY -> HTTP PROXY -> Insight Media Manager

Wireless Compatibility Mode

Luna has documented specific issues where the Insight Client Applications' experience may degrade when run under explicit wireless conditions. This is currently known to occur using **Intel's CENTRINO** wireless chipset, though check with Luna for an up-to-date list of affected chips. For computers using this wireless chipset to use Insight, it may be necessary to configure the client to run in "**Wireless Compatibility Mode**". To do this, simply enable this parameter with a value of 1.

Property Name	Value
WirelessCompatabilityMode	0 – OFF 1 – ON

Specifying a Collection Data Directory

The Collection Data Directory is used by Insight and Personal Insight for processing derivative files, storing thumbnail images (for display in the linking tool), and other collection data.

NOTE: The collection data directory can grow quite large as you build more collections.

Property Name	Value
CollectionDataDirectory	The physical path to the directory where media processing should be performed and files should be stored.

Common Properties for the Insight Client Applications

Table 26: Consolidated Properties by Client Application

Property	Insight	Inscribe	Insight Studio
Filename	insight.dat	inscribe.dat	insightStudio.dat
UserManagerAddress1	YES	YES	YES
UserManagerAddress2			
...			
DefaultUserName	YES	NO	NO
DefaultPassword	YES	NO	NO
TmpDir	YES	YES	YES
HomeDir	YES	YES	YES
http.proxyHost	YES	YES	YES
http.proxyPort	YES	YES	YES
http.nonProxyHosts	YES	YES	YES
socksProxyHost	YES	YES	YES
socksProxyPort	YES	YES	YES
UseExternalMultiMediaViewer	YES	YES	NO
CollectionDataDirectory	YES	NO	YES
WirelessCompatabilityMode	YES	YES	YES

Configuring Insight's Advanced Authentication and Authorization Features

The Insight User Manager currently supports three Security Models. By default, Insight is configured with the standard security model, which simply uses the usernames and passwords in the User Manager. With Insight 4.1, Luna has modularized the methods that Insight uses to manage Authentication and Authorization. Luna has also released two new security modules for those institutions that are interested in configuring Insight to work with an existing security provider:

Pure LDAP

The first security module out-sources the process of Authentication to an LDAP Server. To use this module, you must first have an LDAP Directory Server that supports LDAP v3. The following are LDAP Servers that Luna has tested against:

- Windows 2000's Active Directory server
- OpenLDAP
- SunONE Directory Server v5.2

NOTE: Insight optionally supports SSL connections for LDAP Queries.

Kerberos & LDAP or (Windows® Active Directory)

The second security module out-sources Authentication to a Kerberos 5 Server and Authorization to an LDAP Server. To use this module, you must have a working Kerberos 5 implementation and an LDAP Server that supports GSS-API SASL. The following implementations have been tested:

- o Windows 2000's Active Directory server (provides both Kerberos & LDAP)
- o MIT Kerberos 5 KDC with one of the following:
 - OpenLDAP
 - SunONE Directory Server v5.2

NOTE: Insight optionally supports SSL connections for LDAP Queries.

Enabling Simple LDAP Authentication for the Insight User Manager

NOTE: Changing Insight's Security model can have major repercussions. Please consult with your Network and Security Administrators before implementing **any** changes regarding your local security environment.

NOTE: Please read and complete the Insight Security Worksheet at the end of this chapter before going any further.

NOTE: Finally, please test all configurations on a **test server** before implementing in a production environment.

1. In a text editor, open the InsightUserServer.dat file located in the "<insight_install>\user_manager" directory.
2. Change the Insight Authentication Handler to use LDAP:
 - a. Locate the following lines:

```
##  
# AuthenticationHandler - the full class name of the  
# authentication handler to use for authentication.  
  
AuthenticationHandler =  
com.luna.insight.client.security.DefaultAuthenticationHandler
```

- b. Change the AuthenticationHandler property to:
com.luna.insight.client.security.SimpleLDAPAuthenticationHandler. This will tell the User Manager to use LDAP when authenticating users.
3. Change the Authorization Handler to use LDAP:
 - a. Locate the following lines:

```
##  
# AuthorizationHandler - the full class name of the  
# authorization handler to use for authorization.  
AuthorizationHandler =  
com.luna.insight.client.security.DefaultAuthorizationHandler
```

- b. Change the AuthorizationHandler property to:
com.luna.insight.client.security.SimpleLDAPAuthorizationHandler. This will tell the User Manager to use LDAP when authorizing users.

4. Define the URL for the LDAP v3 Server:

- a. Locate the following lines:

```
##  
# LdapURL - The URL of the LDAP server.  
# (note: under Windows 2000/Active Directory, this is the  
# address # of the Active Directory machine pre-pended with  
# ldap:// )  
  
#LdapURL = ldap://ldap.lunaimaging.com
```

- b. Uncomment the LdapURL property and change it to match the URL for your LDAP Server. When done, it should look like this:

```
##  
# LdapURL - The URL of the LDAP server.  
# (note: under Windows 2000/Active Directory, this is the  
# address # of the Active Directory machine pre-pended with  
# ldap:// )  
  
LdapURL = ldap://your.ldap.server.edu
```

5. Define whether insight should use SSL to communicate with the LDAP Server:

- a. Locate the following lines:

```
# LoginSSL - A value of 1, yes, or true, will cause LDAP  
# communication to use SSL. The LDAP server must be  
# configured to use SSL. Any other value (with 0 being the  
# correct one), or not specified, and LDAP communication  
# will not be secured.  
  
# LoginSSL = 0
```

- b. Uncomment and change the LoginSSL property to 1. When done, it should look like this:

```
# LoginSSL - A value of 1, yes, or true, will cause LDAP  
# communication to use SSL. The LDAP server must be  
# configured to use SSL. Any other value (with 0 being the  
# correct one), or not specified, and LDAP communication  
# will not be secured.
```

```
LoginSSL = 1
```

6. Define the LDAP User Path – this is the directory path in the LDAP Server identifying where to find valid users.

- a. Locate the following lines:

```
##  
# LdapUserPath: Directory path in the LDAP server  
# identifying object containing authenticatable users.  
  
LdapUserPath = ou=people,dc=lunaimaging,dc=com
```

- b. Uncomment the LdapUserPath property and set it to the path in the LDAP database that Insight should use to find valid users. When complete, it should look like this:

```
##  
# LdapUserPath: Directory path in the LDAP server  
# identifying object containing authenticatable users.  
  
LdapUserPath = ou=people,dc=lunaimaging,dc=com
```

7. Define the LDAP User Attribute – this is the field that usernames are authenticated against.

- a. Locate the following Lines:

```
##  
# LdapUserAttribute - LDAP Attribute to match usernames  
# against.  
  
# Examples:  
# LdapUserAttribute = cn // Active Directory  
# LdapUserAttribute = uid // LDAP using EduPerson schema  
  
#LdapUserAttribute = uid
```

- b. Uncomment the LdapUserAttribute and set it to the field in your LDAP Database that contains usernames. When complete, it should look like this:

```
##  
# LdapUserAttribute - LDAP Attribute to match usernames  
# against.  
  
# Examples:  
# LdapUserAttribute = cn // Active Directory  
# LdapUserAttribute = uid // LDAP using EduPerson schema  
  
LdapUserAttribute = uid
```

Associating LDAP Users with Insight Users

Each User in the Insight User Manager will be matched with an LDAP user by comparing the username properties. Usernames must be unique for this authentication model to work properly. Please also ensure that passwords are blank in the Insight User Server (as the passwords will be provided via the LDAP Query).

Using LDAP SSL Certificates with Insight

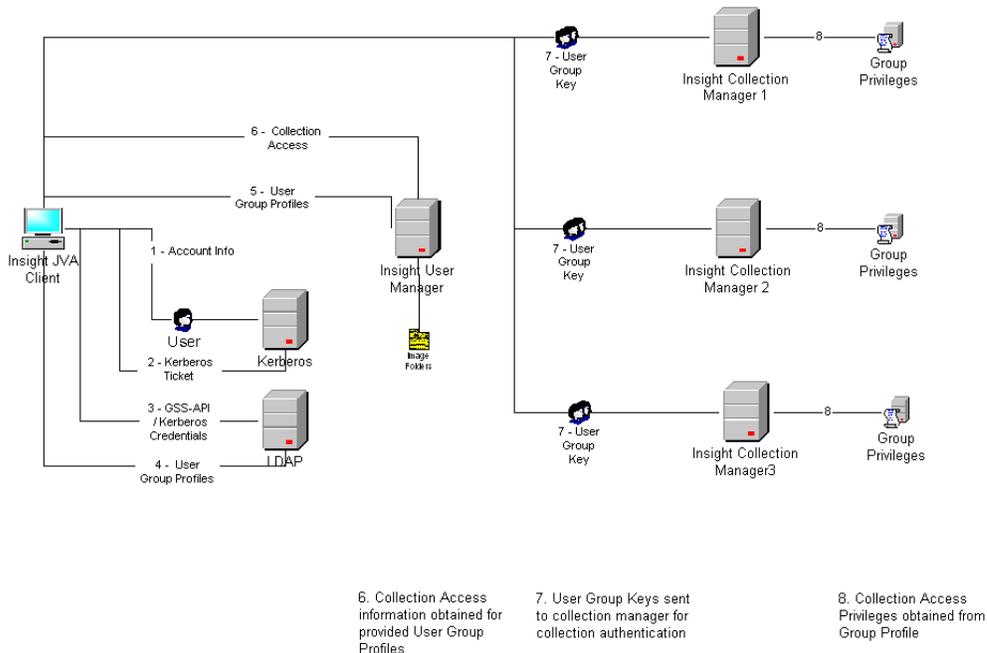
Secure Socket Layer (SSL) Communications require a certificate to encrypt data during transit, as well as to prove the identity of each party involved. For public use, trusted certificate authorities (i.e. Verisign, Thawte) provide trusted SSL certificates. Insight's LDAP Authentication method will automatically recognize and support Verisign & Thawte SSL Certificates. If you are using another certificate authority, or wish to generate a self-signed certificate, please contact Luna Support at support@luna-img.com and we will provide the necessary information.

Kerberos & LDAP Authentication and Authorization

NOTE: Changing Insight's Security model can have major repercussions. Please consult with your Network and Security Administrators before implementing **any** changes regarding your local security environment.

NOTE: Please read and complete the Insight Security Worksheet at the end of this chapter before going any further.

NOTE: Finally, please test all configurations on a **test server** before implementing in a production environment.



Kerberos Authentication - Overview

Kerberos Version 5 is used for both the authentication and secure communication aspects of the Luna client and server applications. In order to use the Kerberos authentication method, you will need access to a Kerberos installation. To configure the Insight User Manager, you will need the default realm and the default KDC of your Kerberos installation. Contact your network administrator responsible for the Kerberos server for these configurations.

As with all Kerberos installations, a Kerberos Key Distribution Center (KDC) is required. It needs to contain the user name and password you will use to be authenticated to Kerberos. Note: A KDC implementation is part of a Kerberos installation, not a part of the Insight installation.

The essential Kerberos configuration information is the default realm and the default KDC. Typically, the default realm and the KDC for that realm are indicated in the Kerberos `krb5.conf/krb5.ini` configuration file. On Windows, the `krb5.ini` file can be located in `c:\winnt\`. On Unix, the file is located in the `\etc\` directory. If this file does not exist or you are unsure of the configurations, contact your network administrator responsible for the Kerberos server for these settings.

To minimize client configuration requirements, Insight provides a version of the Kerberos configuration file to each Insight client when Kerberos authentication is used. This file is written to the application's installation directory and has no impact upon the `krb5.conf/krb5.conf` file that may or may not reside on your system. Insight uses this file for the default realm and default KDC information. These values are defined in the `InsightUserManager.dat` file located in the Insight User Manager sub-directory.

Specifying the Kerberos Settings

8. In a text editor, open the `InsightUserServer.dat` file located in the "`<insight_install>\user_manager`" directory.
9. Define the **KerberosRealm** property. This is the default Kerberos realm to which the user will be authenticated. This Kerberos Realm will be attached to the user ID's for authentication. The Kerberos Realm must be defined in ALL CAPS. (e.g. `KerberosRealm = LUNAIMAGING.COM`)
10. Define the **KerberosServer** property. This is the default Kerberos Key Distribution Center (e.g. `KerberosServer = kerberos1.lunaimaging.com`).

If you are unsure of these values, you may wish to submit the Implementation Worksheet to your system administrator responsible for Kerberos and Directory Services.

For example, say I was unsure of the default realm and default KDC used at my institution. After contacting my network administrator, he/she provides the following information:

```
Default Realm = LUNAIMAGING.COM
Default KDC = kerberos1.lunaimaging.com
```

With this information, I open the InsightUserServer.dat file located in the Insight User Manager installation directory. In this example, I define the KerberosRealm as LUNAIMAGING.COM. I also define the KerberosServer as kerberos1.lunaimaging.com. It is important to note that the Kerberos Realm is defined in ALL CAPS. Under Windows 2000/Active Directory, the Kerberos Realm is usually the same as the Active Directory domain name. On Solaris, the Kerberos Realm may or may not be the same as your domain, but conventions encourage using the domain name, in upper-case letters. In this example, members of lunaimaging.com are in the Kerberos realm LUNAIMAGING.COM.

```
KerberosRealm = LUNAIMAGING.COM
KerberosServer = kerberos1.lunaimaging.com
```

Based on the example above, the krb_config.conf file created on the client's application installation directory would contain the following information:

```
### insight krb_config.conf file ###

[realms]
LUNAIMAGING.COM = {
  kdc = kerberos1.lunaimaging.com
}

[domain realm]
.lunaimaging.com = LUNAIMAGING.COM

### end insight krb_config.conf file ###
```

Enabling Kerberos Authentication for the Insight User Manager

In order to enable the Kerberos Authentication Handler, in the InsightUserServer.dat file, modify the AuthenticationHandler property to reference the KerberosAuthenticationHandler instead of the standard Insight DefaultAuthenticationHandler. Save changes and restart the Insight User Manager.

For example, the AuthenticationHandler property should appear as below.

```
AuthenticationHandler =
com.luna.insight.client.security.KerberosAuthenticationHandler
```

If you wish to later re-enable the standard Insight User Database authentication method, simply replace the line above with "AuthenticationHandler = com.luna.insight.client.security.DefaultAuthenticationHandler". Save changes and restart the Insight User Manager.

LDAP Authorization - Overview

LDAP (Lightweight Directory Access Protocol) is a software protocol for enabling individuals and applications to locate information about organizations, individuals, and other resources. In the case of Insight, the LDAP Directory is used to store Insight authorization information. Insight uses the Kerberos credentials obtained during the Kerberos authentication process to gain access to the LDAP Directory Service. The use of Kerberos authentication by the LDAP server unites the LDAP

services with the Kerberos credentials and Kerberos based services. This also removes the need for Insight to ever store administrative passwords to the LDAP Directory service.

The use of Kerberos credentials for LDAP Directory access requires an LDAP server supporting the GSS-API SASL mechanism. The Generic Security Service API (GSS-API) provides a common interface for accessing different security services, such as Kerberos V5. Simple Authentication and Security Layer (SASL) is the mechanism used to authenticate against another service using existing Kerberos credentials. The GSS-API SASL mechanism is only supported by LDAP v3 servers. The LDAP servers that support the GSS-API SASL mechanism include Windows 2000's Active Directory server, OpenLDAP, and the SunONE Directory Server v5.2.

The use of an LDAP server for Insight Authorization requires the ability to assume the identity of the authenticated Kerberos principal. In other words, the Kerberos Principal Name provided during authentication must also be present in the LDAP Directory. For example, if your Kerberos principal name is `jsmith@foobar.com`, an attribute containing the value `"jsmith@foobar.com"` must exist in the directory.

Specifying the LDAP Settings

1. In a text editor, open the `InsightUserServer.dat` file located in the `"<insight_install>\user_manager"` directory.
2. Define the URL for the LDAP v3 Server:
 - a. Locate the following lines:

```
##  
# LdapURL - The URL of the LDAP server.  
# (note: under Windows 2000/Active Directory, this is the  
# address # of the Active Directory machine pre-pended with  
# ldap:// )  
  
#LdapURL = ldap://ldap.lunaimaging.com
```

- b. Uncomment the `LdapURL` property and change it to match the URL for your LDAP Server. When done, it should look like this:

```
##  
# LdapURL - The URL of the LDAP server.  
# (note: under Windows 2000/Active Directory, this is the  
# address # of the Active Directory machine pre-pended with  
# ldap:// )  
  
LdapURL = ldap://your.ldap.server.edu
```

3. Define the LDAP User Path, this is the directory path in the LDAP Server identifying where to find valid users.
 - a. Locate the following lines:

```
##
# LdapUserPath: Directory path in the LDAP server
# identifying object containing authenticatable users.

LdapUserPath = ou=people,dc=lunaimaging,dc=com
```

- b. Uncomment the `LdapUserPath` property and set it to the path in the LDAP database that Insight should use to find valid users. When complete, it should look like this:

```
##
# LdapUserPath: Directory path in the LDAP server
# identifying object containing authenticatable users.

LdapUserPath = ou=people,dc=lunaimaging,dc=com
```

4. Define the field in the LDAP database that contains the Insight User Profile:

- a. Locate the following lines:

```
##
#TargetAttributeName - The LDAP attribute name which stores
# the collection data/profile ID's needed by the
# application.

#(note: in the case of Active Directory, "info" is the "notes"
field under the "telephones" tab in a user's properties.)

#TargetAttributeName = info
```

- b. Uncomment and define the **TargetAttributeName** property. This is the LDAP attribute in which the Insight Access Profile may be found. This is the LDAP attribute name containing the Insight Access Profile needed for authorization. Insight requires the use of an LDAP attribute name, which stores the collection access information. For Windows 2000 Active Directory, by default, the "info" attribute is used. See the Windows® Active Directory & Insight User Account Information section of the documentation for additional details. For other LDAP servers, you will need to determine which attribute is currently unused, or create a new attribute to store the Insight Access Profile.

5. Define User metadata fields in the LDAP Directory.

- a. Locate the following lines:

```
##
#UserAttributeName - The LDAP directory attribute name under which
the user's unique login name can be found.

#UserAttributeName = userprincipalname

# User Info Attributes - Added 2003-07-24

#OrganizationAttributeName      = company

#EmailAttributeName             = mail
```

```
#PhoneAttributeName = homePhone
```

- b. Uncomment and define the **UserAttributeName**, **OrganizationAttributeName**, **EmailAttributeName**, and **PhoneAttributeName** properties. The User Attribute name is the LDAP attribute in which the full Kerberos name may be found. This attribute is used to uniquely identify the user when searching the LDAP directory. The values stored in this field MUST be of the form: <YOUR USERNAME>@<YOUR KERBEROS REALM>. For Windows 2000 Active Directory, this attribute will always be “userprincipalname”. For OpenLDAP using the kb5-kdc.schema, this attribute will be the “krb5PrincipalName”. (e.g. UserAttributeName = userprincipalname)

The **OrganizationAttributeName** property is the LDAP attribute in which the user's organizational membership information is stored. Obtained values are used for administrative purposes within Inscribe. For Windows 2000 Active Directory, the “company” attribute is used to store this information. For OpenLDAP using the EduPerson schema, the “organizationName” attribute will typically be used.

The **EmailAttributeName** property is the LDAP attribute in which the user's e-mail address information is stored. Obtained values are used for administrative purposes within Inscribe. For Windows 2000 Active Directory, the “mail” attribute is used to store this information. For OpenLDAP using the EduPerson schema, the “mail” attribute will typically be used.

The **PhoneAttributeName** property is the LDAP attribute in which the user's telephone contact information is stored. Obtained values are used for administrative purposes within Inscribe. For Windows 2000 Active Directory, the “homePhone” attribute is used to store this information. For OpenLDAP using the EduPerson schema, the “telephonePhone” attribute will typically be used.

Enabling LDAP Authorization for the Insight User Manager

In order to enable the LDAP Authorization Handler, in the InsightUserServer.dat file, modify the AuthorizationHandler property to reference the LDAPAuthorizationHandler instead of the standard Insight DefaultAuthorizationHandler. Save changes and restart the Insight User Manager.

For example, the AuthorizationHandler property should appear as below:

```
AuthorizationHandler =
com.luna.insight.client.security.LDAPAuthorizationHandler
```

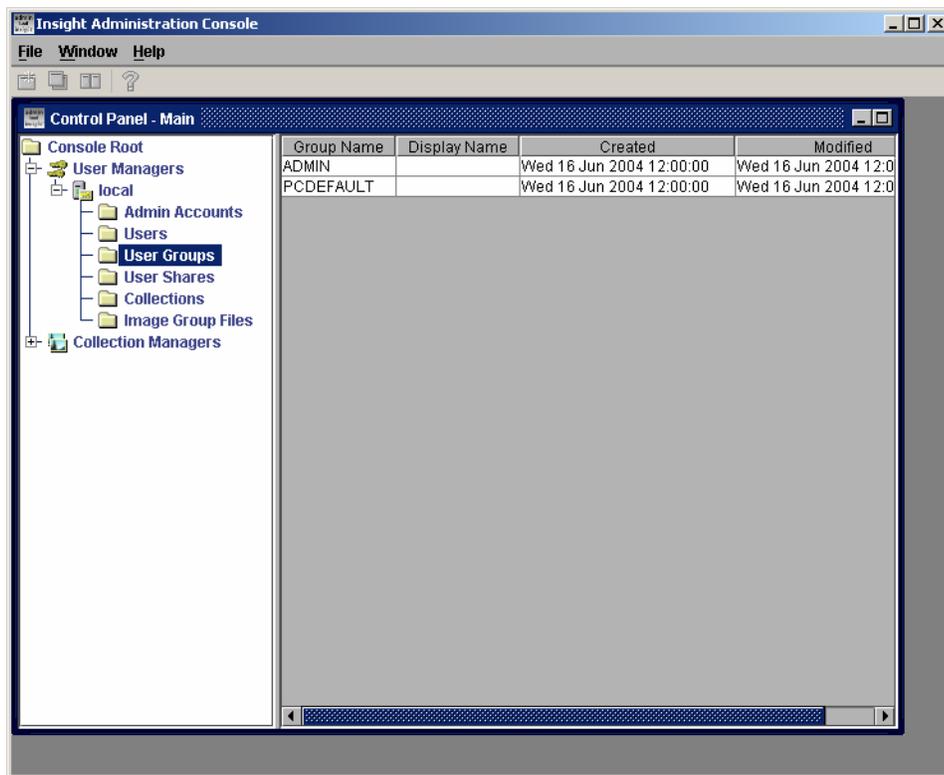
Interaction of Kerberos & LDAP Users and Users in the Insight User Table

NOTE: Before enabling Kerberos & LDAP, please ensure that you delete all users from the Users tab in the Insight Administrator Tools. Maintaining existing users in the Insight User Manager introduces a potential security hole as clients that are not

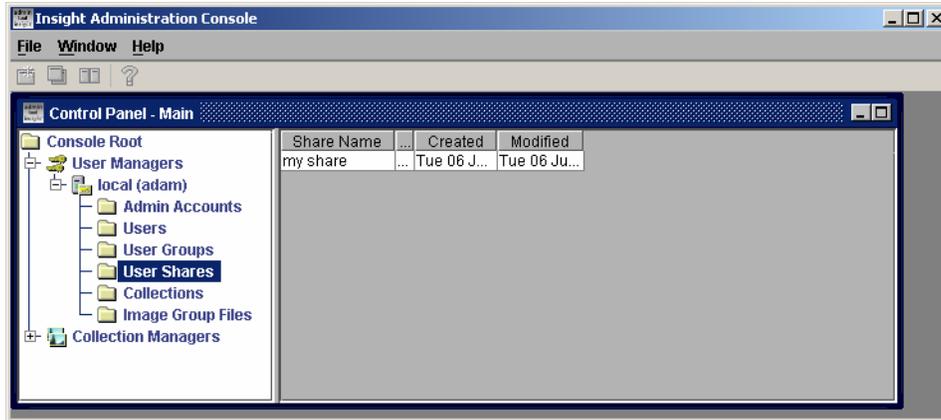
enabled for Kerberos & LDAP security will continue to try and authenticate using the Standard Authentication method.

Using the Insight Administrator Tool to identify Insight Access Profiles

1. Launch the Insight Administrator Tools.
2. Expand the User Manager node and connect to your default Insight User Manager.
3. Click on the User Groups node. User Groups determine how users access collections.



4. Identify the User Groups you want to be associated with an LDAP user account. For example, from the illustration above, ADMIN and PCDEFAULT will be used to associate with the user's LDAP directory entry. Multiple User Groups can be separated by commas.
5. Click on the User Shares node. User Shares are places where end-users can save groups, presentations, or annotations.



6. Identify the User Shares you want to be associated with the LDAP user account. In the example above “my share” will be used to associate with the user’s LDAP directory entry. Multiple Shares can be separated with commas.
7. Creating the LDAP string:
 - a) Combine each of the User Group names, separating them with commas.
 - b) For each user share, define whether the user should have read, write, delete privileges.
 - c) Combine each of the User Share Names with /w for read/write privileges. /wd for read / write / delete, or just the share name for read-only.
 - d) Combine the Shares and privileges together, separating them with commas.
 - e) Combine the list of all User Groups and all User Shares separating the groups with a colon. See example below:

```
UserGroup1,UserGroup2:UserShare1,UserShare2/wd
```

In the example above, the user has been given rights to access collections within UserGroup1, UserGroup2. The user also has read-only privileges to UserShare1, and read-write-delete for UserShare2.

8. Populate the LDAP Insight Profile Attribute with the Insight Access Profile. For Active Directory, follow the Windows Active Directory & Insight User Account Information section of this document. If you are using OpenLDAP, you will need to update the directory records through the OpenLDAP command-line interface. Consult your user documentation for details.

Windows® Active Directory & Insight User Account Information

The Windows® 2000 operating system implements the Kerberos network authentication protocol as its default authentication method. On a Windows 2000 Domain Controller, both Kerberos and LDAP account information are managed using the Active Directory management consoles. Each Windows 2000 Domain Controller also represents a Kerberos Key Distribution Center.

Users belonging to a Windows 2000 domain are managed through the Active

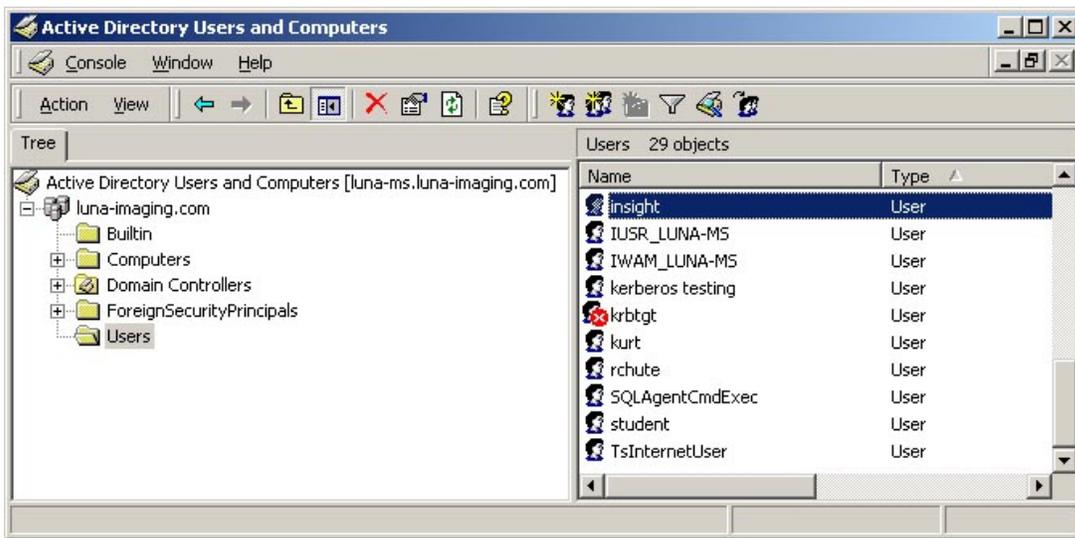
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Directory Users and Computers management console. To access the Active Directory Users and Computers console you will need administrative privileges on the domain controller you are using as your primary KDC for Insight. You may need to provide the following information to your Network Administrator responsible for Active Directory Administration.

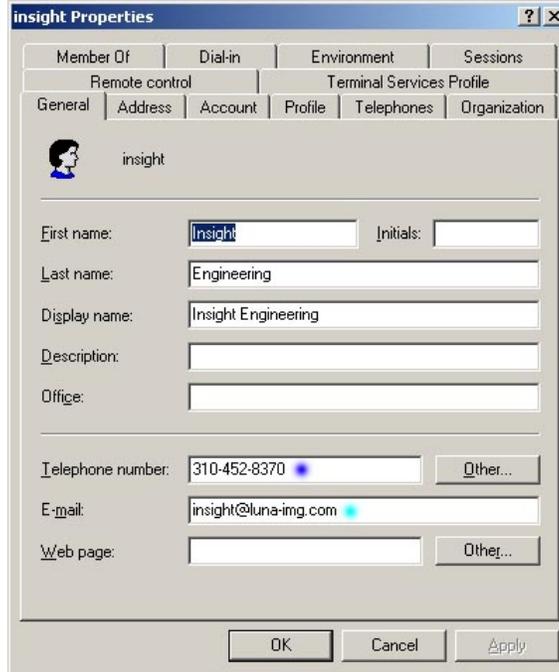
Prior to managing user accounts using Active Directory, ensure that you have defined the User Group Profiles within the Insight Administrator tool. Refer to the Insight Administrator Tool documentation for details.

To manage Insight user account information using Active Directory:

- 1) Log-on to the Windows 2000 Domain Controller with administrative privileges.
- 2) Click Start -> Program Files -> Administrative Tools -> Active Directory Users and Computers.
- 3) In the Active Directory Users and Computers, click the Users directory under the appropriate domain.

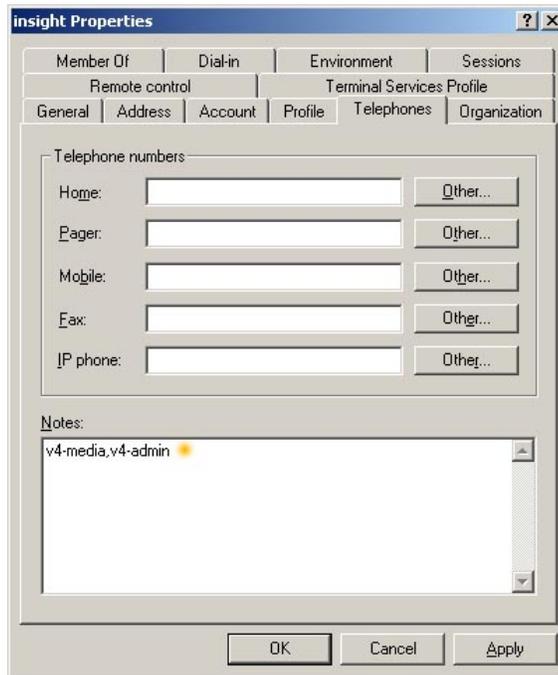


- 4) Double-click on a user account you wish to grant Insight Access to.
- 5) Once the Properties window appears, a series of tabs will appear along the top. The General Properties tab contains the basic information about the user.



The Telephone Number and E-mail address entries are used by Inscribe during authorization to update editorial contact information. No modifications are necessary in the General Properties tab.

- 6) Click the Telephones tab to the right of General Properties. Insight requires the use of an LDAP attribute name, which stores the collection access information (e.g. Notes).



In this example, the Notes text box is used to store the Insight Access Profile information, but any unused attribute name may be configured to store this property. User accounts may be associated with a single profile, or multiple profiles by separating each profile name with a comma. See the illustration above for an example.

- 7) Apply Changes to save the defined Insight Access Profile.

Restoring the Default Security Configuration for Insight

1. In a text editor, open the InsightUserServer.dat file located in the "`<insight_install>\user_manager`" directory.
2. Change the Insight Authentication Handler to the default Handler:
 - a. Locate the following lines:

```
##
# AuthenticationHandler - the full class name of the
# authentication handler to use for authentication.

AuthenticationHandler =
com.luna.insight.client.security.DefaultAuthenticationHandler
```

- b. Change the AuthenticationHandler property to:
`com.luna.insight.client.security.DefaultAuthenticationHandler`. This will tell the User Manager not to use Kerberos or LDAP when authenticating users.
3. Change the Authorization Handler to the Default Handler:
 - c. Locate the following lines:

```
##
# AuthorizationHandler - the full class name of the
# authorization handler to use for authorization.
AuthorizationHandler =
com.luna.insight.client.security.DefaultAuthorizationHandler
```

Change the AuthorizationHandler property to:
`com.luna.insight.client.security.DefaultAuthorizationHandler`. This will tell the User Manager not to use Kerberos or LDAP when authorizing users.

Resources

Windows 2000 Kerberos Interoperability, Microsoft Whitepaper

<<http://www.microsoft.com/WINDOWS2000/library/howitworks/security/kerbint.asp>>

Kerberos 5 (krb5 1.0) Interoperability, Technical Walkthrough, Microsoft whitepaper

<<http://www.microsoft.com/technet/win2000/kerbstep.asp>>

Kerberos interoperability issues - Paul B. Hill - MIT

<http://www.usenix.org/events/lisa-nt2000/hill/hill_html/>

Kerberos Infrastructure HOWTO

<<http://www.cryptnet.net/fdp/crypto/kerby-infra.html>>

GSS-API/Kerberos v5 Authentication

<<http://java.sun.com/products/jndi/tutorial/ldap/security/gssapi.html>>

Generic Security Service API Version 2 : Java Bindings

<<http://www.faqs.org/rfcs/rfc2853.html>>

A Recipe for Configuring and Operating LDAP Directories

<<http://www.georgetown.edu/giia/internet2/ldap-recipe/>>

Using LDIFDE to Import and Export Directory Objects to Active Directory

<<http://support.microsoft.com/default.aspx?scid=http://support.microsoft.com:80/support/kb/articles/Q237/6/77.ASP&NoWebContent=1>>

Insight Security Release – Implementation Worksheet

Kerberos Settings (Kerberos & LDAP Only)

The Kerberos implementation is (select one): MIT Kerberos V5 KDC (Unix)
Windows 2000 Domain Controller

Realm/Domain Name _____
KDC Instance _____
Kerberos Principal Name for testing _____

LDAP Settings (Pure LDAP / Kerberos & LDAP)

The LDAP implementation is (select one): OpenLDAP 2.1+
Windows 2000 Domain Controller
Sun ONE Directory Server 5.2

LDAP Server URL _____
BaseDN _____
Krb5PrincipleName Attribute Name _____
Insight Profile Attribute Name _____
Organization Attribute Name _____
E-mail Attribute Name _____
Phone Attribute Name _____

User Authorization - Account Information

Account Login Name _____
Insight Profile Value _____

JDBC Database Configuration Properties

Database	MySQL	Oracle 8i / 9i	MSSQL	MSSQL	DB2
Driver	MySQL	Oracle 8i / 9i	iSprinta	JTDS	DB2
Filename	mysql-connector.jar	classes12.jar and nls_charset12.jar	Sprinta2000.jar	jtds.jar	db2jcc.jar
Database Connect String	See below	See below	See below	See below	See below
Java Class	com.mysql.jdbc.Driver	oracle.jdbc.driver.OracleDriver	com.inet.tds.TdsDriver	net.sourceforge.jtds.jdbc.Driver	com.ibm.db2.jcc.DB2Driver
JDBC URL	jdbc:mysql://	jdbc:oracle:thin:	jdbc:inetdae7:	jdbc:jtds:sqlserver://	jdbc:db2://
Uses Username & Password Properties	NO, in connect string	Yes	NO, in connect string	NO, in connect string	Yes
Database Query Mode	1 (intermediate)	8i: 0 (Entry level) 9i: 1 (intermediate)	1 (intermediate)	1 (intermediate)	1 (intermediate)
Use Distinct Keyword	1 (yes)	1 (yes)	1 (yes)	1 (yes)	0 (no)
Left Escape Delimiter	\\ *		[[
Right Escape Delimiter]]	
Character Wildcard	_	_	_	_	_
String Wildcard	%	%	%	%	%
Global Escape Delimiter	\\ *				
Unicode Field Prefix			N	N	

* NOTE: the "\\ " is translated to "\" when the property file is read

Example with the Sprinta Driver:

```
DatabaseConnect = dalton.org:1433?database=DaltonColl&sql7=true&user=YourDBusername&password=YourDBpassword
```

Where:

Hostname	<i>dalton.org/</i>	<i>use your hostname</i>
Port	<i>:1433</i>	<i>default, only change if needed</i>
Database name	<i>database=DaltonColl</i>	<i>use your database name</i>
SQL version	<i>sql7=true</i>	<i>default, should not change</i>
DB Username	<i>user=YourDBuser</i>	<i>use your DB Username</i>
SQL version	<i>password=YourDBPassword</i>	<i>use your DB Password</i>

Example with the jTDS Driver:

```
DatabaseConnect = dalton.org:1433/DaltonColl;user=YourDBusername;password=YourDBpassword
```

Where:

Hostname	<i>dalton.org/</i>	<i>use your hostname</i>
Port	<i>:1433</i>	<i>default, only change if needed</i>
Database name	<i>DaltonColl</i>	<i>use your database name</i>
DB Username	<i>user=YourDBuser</i>	<i>use your DB Username</i>
DB Password	<i>password=YourDBPassword</i>	<i>use your DB Password</i>

Oracle Example:

```
DatabaseConnect = @dalton.org:1521:YourSID
```

Where:

Hostname	<i>@dalton.org/</i>	<i>use your hostname</i>
Port	<i>:1521</i>	<i>default, only change if needed</i>
SID	<i>YourSID</i>	<i>use your SID</i>

DB2 Example:

```
DatabaseConnect = db2.dalton.org:50000/YourDB
```

Where:

Hostname	<i>db2.dalton.org/</i>	<i>use your hostname</i>
Port	<i>:50000</i>	<i>default, only change if needed</i>
DatabaseName	<i>YourDB</i>	<i>use your database name</i>

MySQL Example:

```
DatabaseConnect = mysql.dalton.org:3306/YourDB?user=insight&password=insight&useUnicode=true&characterEncoding=utf8
```

Where:

Hostname	<i>mysql.dalton.org/</i>	<i>use your hostname</i>
Port	<i>:3306</i>	<i>default, only change if needed</i>
DatabaseName	<i>YourDB</i>	<i>use your database name</i>
DB Username	<i>user=YourDBuser</i>	<i>use your DB Username</i>

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DB Password	password=YourDBPassword	<i>use your DB Password</i>
-------------	-------------------------	-----------------------------

Introduction to the Insight Configuration Files

Each of the Insight Components (server and client) use configuration files which enable them to run properly. Below is a list of Insight configuration files and configuration options:

Collection Manager and Personal Insight Manager

The Collection Manager is controlled by InsightServer.dat, which is used to set up database connections and manage the server. diacriticismappings.dat is used in indexing and to help with handling special characters.

Configuration files for the Collection Manager and Personal Insight Manager can be found inside the "Collection Manager" or "Personal Insight" directory inside the installation directory.

Task	InsightServer.dat	DiacriticMappings.dat
Changing the server's database connection - username & password* - database name - hostname of the database server - database port	X	
Changing database SQL properties - escape characters & other information	X	
Changing the debug mode	X	
Changing the database debug mode	X	
Changing the Collection Manager's port	X	
Changing where server-managed files are created: - Presentation files - Group files - Annotations	X	
Changing the server timeouts	X	
Changing logging settings	X	
Specifying a media information table to store technical metadata	X	
Private keys & connection information between the Media Manager and Collection Manager	X	
Configuring alternate values for accented text (characters with diacritics) to enable better searching		X
Configuring Service Wrapper properties	X	
Default Base URL for Themes	X	
Default Base Path for Themes (filesystem)	X	
Default BrowserInsight RemoteLaunch Base URL	X	
Default Java Client RemoteLaunch Base URL	X	
License Folder Location (pre-5.1)	X	

User Manager

The User Manager is controlled by InsightUserServer.dat, which is used to set up database connections and manage the server.

Configuration files for the User Manager can be found inside the "User Manager" directory inside the installation directory.

Task	InsightUserServer.dat
Changing the server's database connection <ul style="list-style-type: none"> - username* - password* - database name - hostname of the database server - database port 	X
Changing database SQL properties <ul style="list-style-type: none"> - escape characters - etc. 	X
Changing the debug mode	X
Changing the database debug mode	
Changing the Collection Manager's port	X
Changing Cross-Collection searching defaults (bg. Color / image)	X
Changing the server timeouts	X
Changing logging settings	X
Configuring Kerberos / LDAP authentication methods	X
Configuring Service Wrapper properties	X
License Folder Location (pre-5.1)	X

Media Manager

The Media Manager provides access to all images and media in Insight and runs as a servlet within Tomcat. The main configuration file for the Media Manager is the MediaManager.dat, located in the “media_manager” directory of the installation directory. A few other configuration settings (including the location of the mediamanager.dat are also specified in the server.xml.additions.txt and the web.xml).

Task	MediaManager.dat	Server.xml additions	Web.xml
Where the servlet is located and servlet startup / reload properties		X	X
Servlet name and URL		X	X
Where the mediaManager.dat file is located	X		
Where media is stored	X		
The max resolution managed by the Media Manager	X		
Debug level	X		
where the SID Server is	X		
Private keys & connection information between the Media Manager and Collection Manager	X		
Logging information	X		
Ticketing properties for the Media Manager	X		
License Folder Location (pre-5.1)	X		

BrowserInsight

BrowserInsight is the server component that manages access for the browser components and runs as a servlet within Tomcat. The main configuration file for BrowserInsight is BrowserInsight.conf, located in the “browserInsight” directory of the installation directory. A few other configuration settings (including the location of the BrowserInsight.conf are also specified in the server.xml.additions.txt and the web.xml)

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Task	BrowserInsight.conf	Server.xml additions	Web.xml
Where the servlet is located and servlet startup / reload properties		X	X
Servlet name and URL		X	X
Where the BrowserInsight.conf file is located	X		
User Manager address	X		
Default username and password	X		
Debug level	X		
Access logging settings	X		
Private keys & connection information between the Media Manager and Collection Manager	X		
SSL settings	X		
Collection database configuration settings (per collection available in the browser)	X		
Max Values available in a speed search	X		
License Folder Location (pre-5.1)	X		

XML Gateway

The XML Gateway is a middleware component that provides access to Insight's content to XML-aware applications and runs as a servlet within Tomcat. The main configuration file for the XML Gateway is web.xml, located in the xmlgateway/servlet/WEB-INF/ directory of the installation directory. The XML Gateway is also controlled by the server.xml.additions.txt.

Table 27: XML Gateway Configuration Files

Task	Server.xml additions	Web.xml
Where the servlet is located and servlet startup / reload properties	X	X
Servlet name and URL	X	X
Debug level		X
User Manager Address		X
Username and Password for User Manager		X
Unknown character replacement character		X
License Folder Location (pre 5.1)	X	

Insight Client Applications

Please see Table 26: Consolidated Properties by Client Application on page 172.

Insight Administrator Tools

The Admin Tools maintains a configuration file (insightadminstore.dat) which should not be edited by hand.

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