TIBCO Foresight® Transaction Insight®

Web Services at Foresight

Software Release 5.1.0
December 2015
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Two-second advantage®

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Contents

Introduction

Overview

TIBCO Foresight provides web services for the following TIBCO Foresight® Transaction Insight® portal applications:

- TIBCO Foresight® Archive and Retrieval System
- TIBCO Foresight® Operational Monitor
- Transaction Insight®

About GlassFish

Web services are hosted by the application server GlassFish.

You can obtain GlassFish and detailed installation instructions from the following link:

https://glassfish.java.net/download.html

This document explains how to use GlassFish with TIBCO Foresight web services. It does not explain how to set up and use GlassFish itself.

For complete directions on using GlassFish, please see the GlassFish Server Open Source Edition Documentation Set at http://glassfish.java.net/docs.

GlassFish Requirements

For current GlassFish requirements, refer to **TIB_transactioninsight_5.1.0_installation.pdf**, Appendix F: GlassFish.

Archive Web Service

Overview

The Archive Web Service provides some of the TIBCO Foresight® Archive and Retrieval System functionality to the Transaction Insight Portal and other applications. In order to utilize the Archive Repository with Transaction Insight Portal, this web service is required. For further information on Archive and its functionality, please refer to **TIB_archive_*<version>*_adminguide.pdf**.

The Archive web services are Java-based. During installation, the WAR files are copied to Archive's webService folder and then are deployed to GlassFish by the Archive installer. You can also do this from the GlassFish console, if needed.

It is sometimes necessary to re-start GlassFish when an external property changes.

Preconditions

The Archive application must be installed either on the same machine or on another machine where the Archive Web Service can access the Archive Bin folder, the Archive Database and Archive Repository.

Archive Web Service Operations

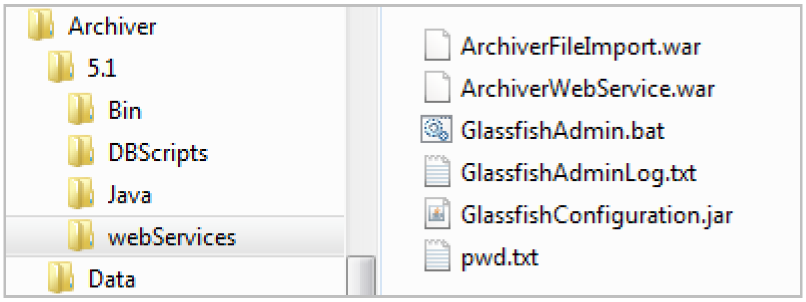
Archive offers the following web service operations to non-Transaction Insight applications:

- getFiltersByStandardVersionTransSet
- getAppDocFSUIDbyFilters
- dearchiveAppDocByFSUID.

Archive Web Services Directory

Archive's **webServices** directory contains the files used to deploy the web services to GlassFish and to configure it at installation.

The installation program places these files in Archive's webServices directory for use during installation and when you want to create your own web service client:

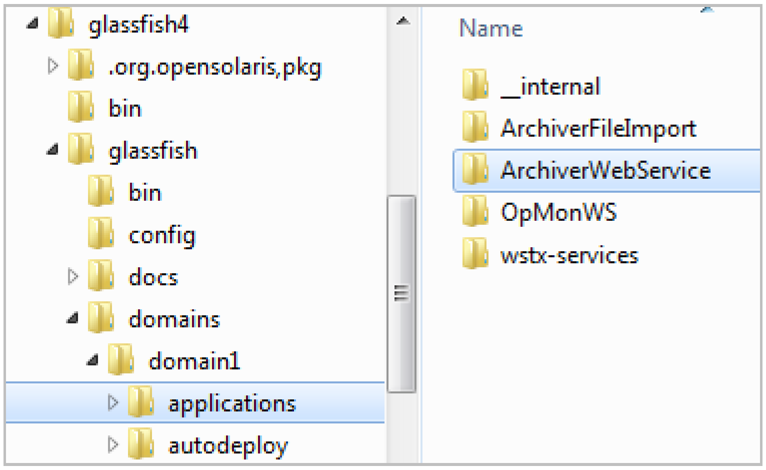


Archiver
5.1
Bin
DBScripts
Java
webServices
Data

ArchiverFileImport.war
ArchiverWebService.war
GlassfishAdmin.bat
GlassfishAdminLog.txt
GlassfishConfiguration.jar
pwd.txt

Name	Description
ArchiverFileImport.war	Contains the File import services. These are used by external clients to "import" files into Archive outside of the normal Automator workflow model. Deploy this to your application server like GlassFish. It will handle requests sent to it by your web service client.
ArchiverWebService.war	Contains the Archiver Web Service. This is used by the Archive portal to create views of transmissions and documents.
endorsed directory	(AIX only) This contains JAR files that you need to copy to the endorsed directory under Java during installation.
GlassfishAdmin.bat	No longer used.
GlassfishAdminLog.txt	Windows only Log file created by GlassFish.
GlassfishConfiguration.jar	No longer used.
pwd.txt	Used to configure GlassFish during installation.

When the web service is deployed, the WAR files are unzipped into folders beneath the GlassFish installation, where they can be used when requested by a client.



Web Services Installed with Archive

The following web services are created by the installation program.

ArchiverImporterService - used by external HTTP clients to import files to Archive. It is invoked via a URL with this format (the port may be different):

http://*serverName*:8080/ArchiverImporterService/ArchiverImporterService?wsdl

Its available operations:

importFile	Given a SOAP attachment and an XML document describing the relationship of the attachment to other files in the Repository, this will import the attachment into the Repository and associate it with a fileset.

ArchiverWebService - used internally by the Archive Portal, and invoked via the URL with this format (the port may be different):

`http://`*serverName*`:8080/ArchiverWebService/ArchiverWebService?wsdl`

Its available operations:

submitFileToWorkflow	Copy a local file to a given folder.
submitFilesToWorkflow	Copy a set of files from the repository to the inbound folder for a workflow.
submitFilesToArchiverImporterWorkflow	Copy a set of files from the repository to the inbound folder of the Archiver_UI_Importer workflow, where it can be displayed on the portal in a TI-type transmissions view and document view.

Installation requirements

System property com.foresightcorp.archiver.config needs to be assigned the full path to the Archiver Properties file, for example: C:\TIBCO\Archiver\5.1.0\Bin.

Refer to Setting up a System Property in GlassFish on page 39 for information.

Testing

The Available operation allows you to test not only the installation of the web service, but the web service's ability to access the resources it needs to operate. By submitting the value of "diagnostics:pingall" the web service will report on all available resources. Here is an example of the SOAP call to the web service and a sample response.

SOAP Call

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:arc="http://archiverws.foresightcorp.com/">
   <soapenv:Header/>
   <soapenv:Body>
      <arc:available>
         <!--Optional:-->
         <inString>diagnostics:pingall</inString>
      </arc:available>
   </soapenv:Body>
</soapenv:Envelope>
```

SOAP Response

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
   <S:Body>
      <ns2:availableResponse
xmlns:ns2="http://archiverws.foresightcorp.com/">
         <return><![CDATA[<?xml version="1.0" encoding="UTF-8"
standalone="yes"?><WebServicePing
xmlns="http://com.foresightcorp.archiver/schema/WebServicePing"><root><proce
ssingContext><property><name>Glassfish Version</name><value>GlassFish Server
Open Source Edition 3.0.1 (build 22)</value></property><property><name>Java
Endorsed
Directories</name><value>C:\glassfishv3\glassfish/modules/endorsed;C:\glassf
ishv3\glassfish/lib/endorsed</value></property><property><name>Java
Home</name><value>C:\Program
Files\Java\jdk1.7.0_21\jre</value></property><property><name>Java Temp
Folder</name><value>C:\Users\dwelch\AppData\Local\Temp\</value></property><p
roperty><name>Java
Version</name><value>1.7.0_21</value></property><property><name>OS
Name</name><value>Windows 7</value></property><property><name>OS
Version</name><value>6.1</value></property><property><name>Test
Name</name><value>Ping All</value></property><property><name>User
Name</name><value>dwelch</value></property><property><name>Web Service
Name</name><value>Archiver Web
Service</value></property><property><name>Archiver
Version:</name><value>5.1.0, Build Number:103, BuildDate:2014-04-30
11:26:03</value></property><property><name>Host Name</name><value>DWELCH-
W520.na.tibco.com</value></property><property><name>Report
Date</name><value>Mon Jun 09 13:36:01 EDT
2014</value></property></processingContext><diagnostics><test><name>properti
es</name><description>Checks that the Archiver properties file can be found
and contains the necessary properties for database
connections.</description><status>Pass</status><diagnosticMessage>Archiver
Properties file is
C:\TIBCO\Archiver\5.1.0\Bin\archiver.properties</diagnosticMessage></test><t
est><name>database</name><description>Checks that a connection can be made
to the
database.</description><status>Pass</status><diagnosticMessage>Connection
String is jdbc:oracle:thin:FPP420_ARS_QA/**********@//na-dub-
ora10:1521/or10;Database type is
ORACLE</diagnosticMessage></test><test><name>repository</name><description>C
hecks that the current repository root folder exists and that the web
service has read/write
permissions.</description><status>Fail</status><diagnosticMessage>The root
folder C:\FPPv420-BCI110\Archiver\Data\Repository does not
exist</diagnosticMessage></test><test><name>actions</name><description>Check
s that each action folder exists and that the web service has write
permissions for
them.</description><status>Fail</status><diagnosticMessage>Folder
C:\FPPv420-BCI110\Systems\ArchiverDemo\Archiver_UI_Importer\InNoSplit does
not exist.;Folder C:\FPPv420-
BCI110\Systems\ArchiverDemo\Archiver_UI_Importer\InSplit does not
exist.</diagnosticMessage></test></diagnostics></root></WebServicePing>]]></
return>
      </ns2:availableResponse>
   </S:Body>
</S:Envelope>
```

OpMon Web Service

Overview

The Opmon Web Service allows you create your own web service client to track events and put them in the TIBCO Foresight® Operational Monitor database for viewing through the portal.

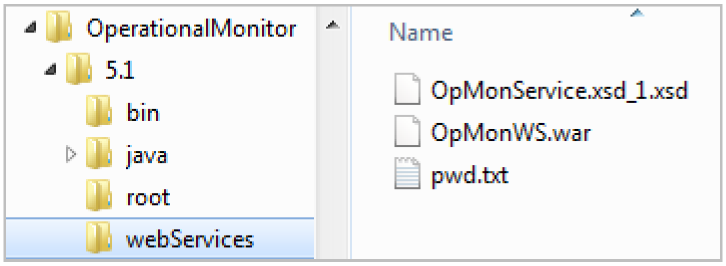
For further information on Opmon and its functionality, refer to **TIB_operationalmonitor_<*version*>_adminguide.pdf**.

The Opmon web service is Java-based. During installation, WAR files are copied to OpMon's webService folder and are then deployed to GlassFish by the OpMon installer. You can also do this from the GlassFish console, if needed.

It is sometimes necessary to re-start GlassFish when an external property changes.

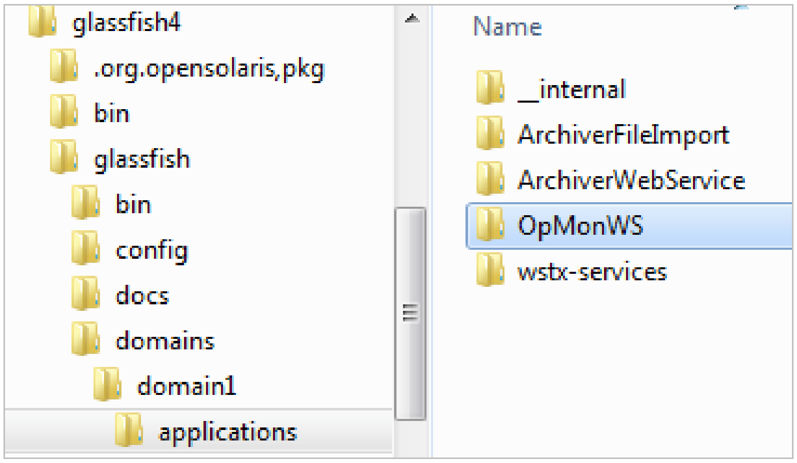
OpMon Web Service Directory

The installation program places these files in OpMon's webServices directory for use during installation and when you want to create your own web service client:



Name	Description
OpMonService.wsdl OpMonService.xsd_1.xsd	Definition of the web service, used to create your own OpMon client for non-Automator workflows such as those made with TIBCO Business Studio™.
OpMonWS.war	Contains the Operational Monitor web services that handle requests from the OpMon client. These are used by external clients to track files into the OpMon portal outside of the normal Automator workflow model. Deploy this to your application server like GlassFish. It will handle requests sent to it by your web service client.
pwd.txt	Used by the GlassFish installation program.

When the web service is deployed, the files are unzipped into folders beneath the GlassFish installation, where they can be used when requested by a client.



Web Services Installed with OpMon

The following web service is created by the installation:

OpMonService

- Used by external HTTP clients to record data operations in the OpMon database for viewing in the OpMon portal.

- Invoked via a URL with this format (the port may be different – GlassFish uses 8080):

http://*serverName*:8080/OpMonService/OpMonService?wsdl

Its available operations:

(Date fields containing 0 [default] to the system's timestamp in milliseconds.)

<table>
<tr><td>cpFileIn</td><td>Issue an event that will log a file entering a collection point. This will usually be a file that is to be acted upon at this point in the process or workflow.
Parameters:<table>
<tr><td>jobID</td><td>The JobID associated with this event.</td></tr>
<tr><td>collectionPointID</td><td>GUID associated with this collection point in RegisterCollectionPoint.</td></tr>
<tr><td>processID</td><td>GUID of the specific process or workflow issuing the event.</td></tr>
<tr><td>filename</td><td>Name of the file entering the collection point.</td></tr>
<tr><td>realTime</td><td>If True, this event is counted as a real time event; Otherwise False.</td></tr>
</table>Returns:<table>
<tr><td>True</td><td>The event was successfully logged.</td></tr>
<tr><td>False</td><td>The event was not successfully logged.</td></tr>
</table></td></tr>
<tr><td>cpFileOut</td><td>Issue an event that will log a file exiting a collection point. This can be a file that entered the collection point or one created within the collection point.
Parameters:<table>
<tr><td>jobID</td><td>The JobID associated with this event.</td></tr>
<tr><td>collectionPointID</td><td>GUID associated with this collection point in RegisterCollectionPoint.</td></tr>
<tr><td>processID</td><td>GUID of the specific process or workflow issuing the event.</td></tr>
<tr><td>filename</td><td>Name of the file exiting the collection point.</td></tr>
<tr><td>realTime</td><td>If True, this event is counted as a real time event.
If False, this is considered a normal event.</td></tr>
</table>Returns:<table>
<tr><td>True</td><td>The event was successfully logged.</td></tr>
<tr><td>False</td><td>The event was not successfully logged.</td></tr>
</table></td></tr>
<tr><td>cpStart</td><td>Creates and sends an event signifying that we are starting to log from a given collection point.
Parameters:<table>
<tr><td>jobID</td><td>The JobID associated with this event.</td></tr>
<tr><td>collectionPointID</td><td>GUID associated with this collection point in RegisterCollectionPoint.</td></tr>
<tr><td>processID</td><td>GUID of the specific process or workflow issuing the event.</td></tr>
<tr><td>realTime</td><td>If True, this event is treated as a real time event; Otherwise False.</td></tr>
</table>Returns:<table>
<tr><td>True</td><td>The event was successfully logged.</td></tr>
<tr><td>False</td><td>The event was not successfully logged</td></tr>
</table></td></tr>
</table>

cpStop	Creates and sends an event signifying that we are no longer logging from a given collection point. Parameters: jobID — The JobID associated with this event. collectionPointID — GUID associated with this collection point in RegisterCollectionPoint. processID — GUID of the specific process or workflow issuing the event. conditionCode — A value indicating a return code to be logged. realTime — If True, this event is treated as a real time event; Otherwise False. Returns: True — The event was successfully logged. False — The event was not successfully logged.
Register CollectionPoint	Registers a specified collection point, associating a part of a process or workflow with a name and GUID. Parameters: cpName — Name associated with the collection point. cpID — GUID associated with the collection point. Returns: True — The collection point was successfully registered. False — The collection point was not successfully registered.

<table>
<tr><td>registerFile</td><td>Log a file created in, or passed to, the process or workflow being logged. This is to assign a JobID and FileID pair to a file. This will indicate that the event logging should now start checking this file.
Parameters:
<table>
<tr><td>filename</td><td>Full file path of the file to be registered.</td></tr>
<tr><td>jobID</td><td>The JobID string (usually a GUID) assigned to the file.
This should remain constant throughout the entire process or workflow. Multiple files may have the same JobID value.</td></tr>
<tr><td>fileID</td><td>The FileID string (usually a GUID) assigned to the file.
This should remain constant throughout the entire process or workflow. Multiple files should have different FileID values.</td></tr>
<tr><td>fileSize</td><td>Size of the file in bytes.</td></tr>
<tr><td>initialFile</td><td>If True, this file was created in this part of the process or workflow.
If False, this file was created before this part of the process or workflow was called.</td></tr>
</table>
Returns:
<table>
<tr><td>True</td><td>The collection point was successfully registered.</td></tr>
<tr><td>False</td><td>The collection point was not successfully registered.</td></tr>
</table></td></tr>
<tr><td>writeAlert</td><td>Log an Alert message to the event log.
Parameters:
<table>
<tr><td>jobID</td><td>The JobID associated with this event.</td></tr>
<tr><td>subject</td><td>The subject of the alert message.</td></tr>
<tr><td>message</td><td>The message.</td></tr>
</table>
Returns:
<table>
<tr><td>True</td><td>The alert was successfully logged.</td></tr>
<tr><td>False</td><td>The alert was not successfully logged.</td></tr>
</table></td></tr>
</table>

writeEvent	Writes an event message. While there are constant values that can be used for event information, such as severity or status, you can use any integer values for your own types of events. Parameters: eventType – The type of event to register. eventDate – The time that this event occurred. Pass as a String in CCYYMMDDHHMMSSTTT format. jobID – The JobID associated with this event. collectionPointID – GUID of the collection point issuing the event. processID – GUID of the specific process or workflow issuing the event. message – Optional message attached to the event. severity – Severity associated with the event. status – Status associated with the event. realTime – If True, this is counted as a real time event. This implies that the event is time-critical. If False, this is considered a normal event. meta – A string array that contains metadata records. These can be any string values. If not using metadata entries, specify null. Returns: True – The event was successfully logged. False – The event was not successfully logged.

Using the OpMon Web Service

While the OpMon Web Service allows you to track events as they occur throughout your business process, it also requires you to keep track of unique identifiers so that your applications can reference the same identifier at each stage. This is accomplished within Automator by creating a track file (.trk file) that is passed with the file being monitored. The .trk file contains the job and file identifiers.

You can use any unique identifier (we strongly recommend Generally or Universally Unique Identifiers [GUIDs or UUIDs]) within any tracking mechanism as long as you are always referring to the same job and file identifier when calling a web service for a process related to a particular file.

You may also want to pass those identifiers into the Automator workflow. To do this, create a file with the same name as the file you are tracking, and add ".trk" at the end. For example, if you have a file named "abc123.edi", the track file should be named "abc123.edi.trk".

For information on the contents of the track file, please refer to the document **Trk_Files.pdf**.

TI Web Services

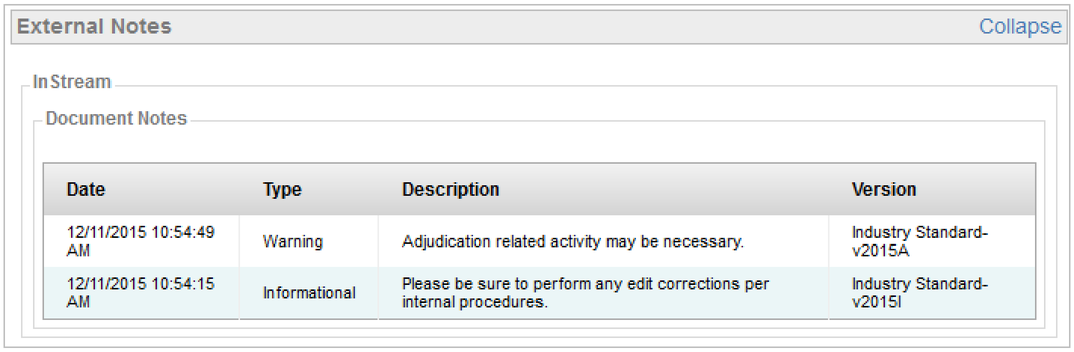
Document External Note

Overview

The Document External Note web service lets you attach one or more notes to a document that is already in the TIBCO Foresight® Transaction Insight® database, using the FSUID as a means of identifying the document to receive the note.

The note displays on Transaction Insight®'s Document Summary page.

In this example, we can see both a warning and an informational note on the Document Summary page.



Date	Type	Description	Version
12/11/2015 10:54:49 AM	Warning	Adjudication related activity may be necessary.	Industry Standard-v2015A
12/11/2015 10:54:15 AM	Informational	Please be sure to perform any edit corrections per internal procedures.	Industry Standard-v2015I

Note that links also work in the Description.

Preconditions

- TI Database
- TIBCO Foresight® Instream® - creating detail results files with FSUIDs in IDENT records. Please see **FSUID_and_AppDocs.pdf**.

Installation requirements

Installing Document External Note requires the following:

- System property `com.tibco.foresight.documentexternalnote.logfile` which needs to be assigned the full path to the log file, for example: `C:\TIBCO\TransactionInsight\5.1.0\WebServices\logs\DocumentExternalNote.txt.`
  NOTE: Refer to **Setting up a System Property in GlassFish** on page 39 for instructions.
- A Web Service Connection pool

Testing

1. Locate a test document FSUID that is in the TI database. These are stored in the DocumentGUID column of the Document table. Copy it. Note the value in its DocumentID column.
2. In GlassFish, go to **Applications | DocumentExternalNote | View Endpoint** and click the Tester link.
3. Click the top link:

   Application Name: DocumentExternalNote

   Links: [server] http://server1-T420:8080/DocumentExternalNote
   [server] https://server1-T420:8181/DocumentExternalNote

4. In the fields for **addDocumentExternalNoteDocumentFSUID**, add these parameters:

First field:	The FSUID that you copied
Second field:	`1`
Third field:	`warning`
Fourth field:	`Industry Standard-v2015A`
Fifth field:	`Adjudication related activity may be necessary.`

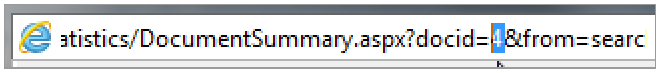
5. Click the addDocumentExternalNoteDocumenFSUID button.

   Under SOAP Response, see if the return code is 0 (success):

   ```
   <return>0</return>
   ```

6. In the TI portal, go to TI's **Search Documents** page and find any document. Go to its **Document Summary** page.

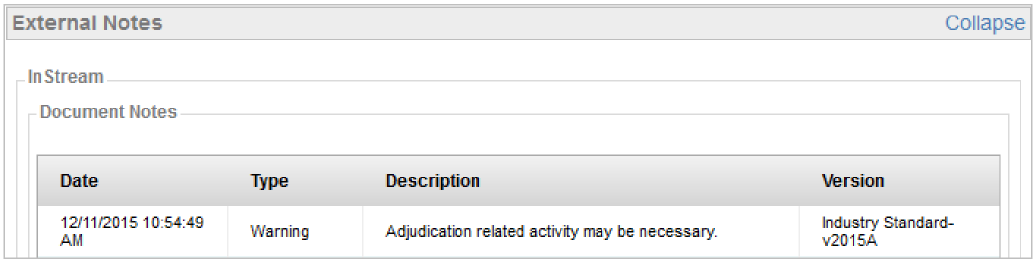
   In the URL, replace the document ID with the number from the DocumentID column in the database:



atistics/DocumentSummary.aspx?docid=4&from=searc

Refresh the page.

Look at the External Notes section to see the note:



External Notes   Collapse

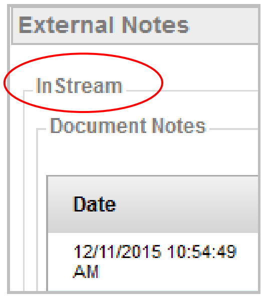
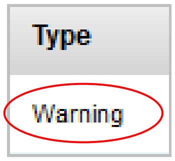
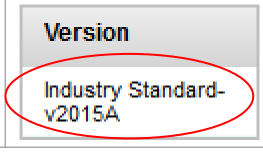
In Stream

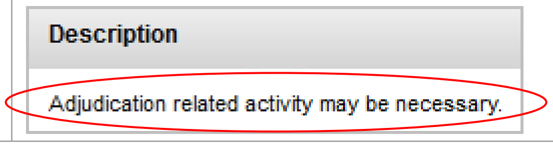
Document Notes

Date	Type	Description	Version
12/11/2015 10:54:49 AM	Warning	Adjudication related activity may be necessary.	Industry Standard-v2015A

Web Service Operations

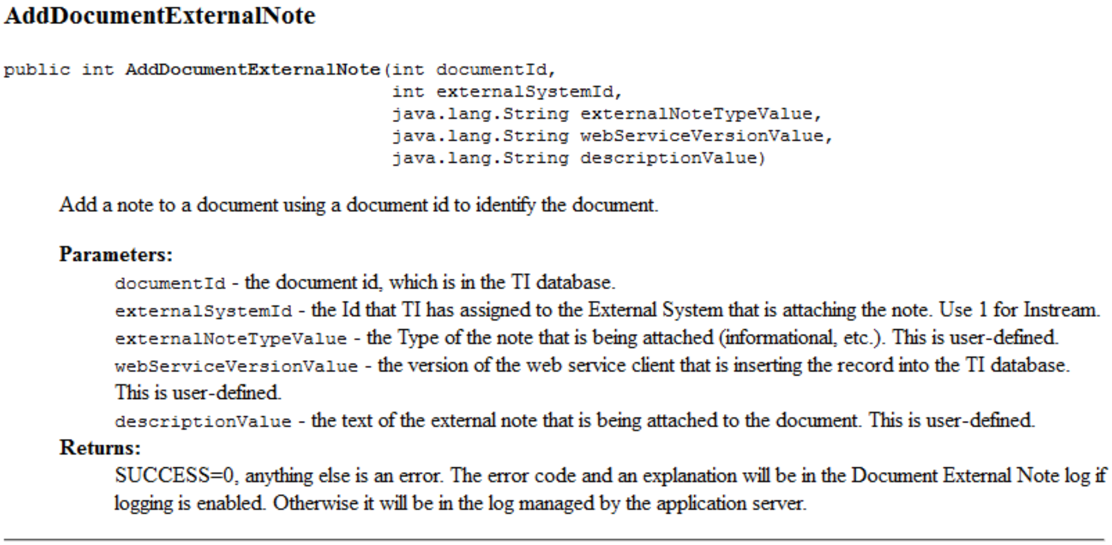
The AddDocumentExternalNote_documentFSUID method has these parameters:

documentFSUID	The document's FSUID, which is in the IDENT record from the validation detail results file.
externalSystemId	The ExternalSystemID from the TI database's **ExternalSystem** table. Normally, this is 1 for Instream®. It controls which heading is used for the note in the Document Summary page.  External Notes In Stream Document Notes Date 12/11/2015 10:54:49 AM
externalNoteTypeValue	For your own use. The value is text of your choice. It appears in the Type column on the Document Summary page.  Type Warning
webServiceVersionValue	For your own use. It populates the Version column on the Document Summary page.  Version Industry Standard-v2015A

descriptionValue	The text of the note that you are attaching to the document. If you include a URL, starting with http or www, it will be an actual link on the document summary page.  Description Adjudication related activity may be necessary.

Other Variations

Two other web service variations exist. To identify the document that will receive the note, these methods use the Document ID from the Document table in the TI database. The Document ID may be an integer or a long integer.



AddDocumentExternalNote

```
public int AddDocumentExternalNote(int documentId,
                                   int externalSystemId,
                                   java.lang.String externalNoteTypeValue,
                                   java.lang.String webServiceVersionValue,
                                   java.lang.String descriptionValue)
```

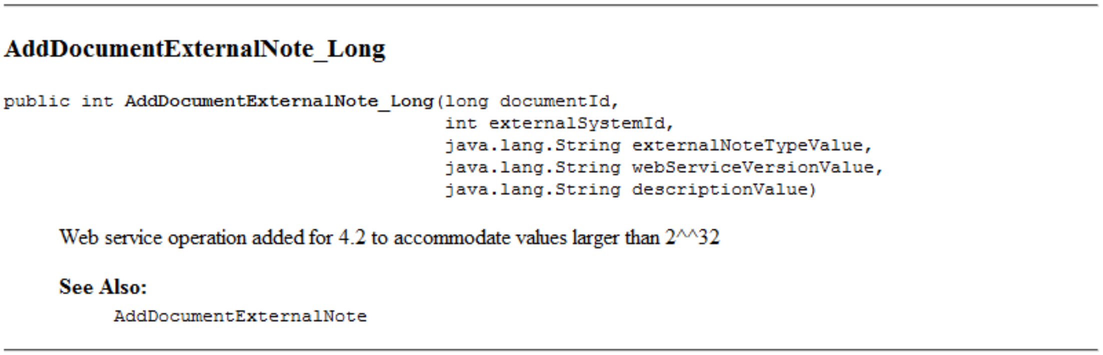
Add a note to a document using a document id to identify the document.

Parameters:

`documentId` - the document id, which is in the TI database.
`externalSystemId` - the Id that TI has assigned to the External System that is attaching the note. Use 1 for Instream.
`externalNoteTypeValue` - the Type of the note that is being attached (informational, etc.). This is user-defined.
`webServiceVersionValue` - the version of the web service client that is inserting the record into the TI database. This is user-defined.
`descriptionValue` - the text of the external note that is being attached to the document. This is user-defined.

Returns:

SUCCESS=0, anything else is an error. The error code and an explanation will be in the Document External Note log if logging is enabled. Otherwise it will be in the log managed by the application server.



AddDocumentExternalNote_Long

```
public int AddDocumentExternalNote_Long(long documentId,
                                        int externalSystemId,
                                        java.lang.String externalNoteTypeValue,
                                        java.lang.String webServiceVersionValue,
                                        java.lang.String descriptionValue)
```

Web service operation added for 4.2 to accommodate values larger than 2^^32

See Also:

`AddDocumentExternalNote`

Using GlassFish with Web Services

Overview

This section explains how to use GlassFish with TIBCO Foresight products. It does not explain how to set up and use GlassFish itself. For complete directions on using GlassFish, please see the GlassFish Server Open Source Edition Documentation Set at http://glassfish.java.net/docs.

Put GlassFish on any Windows or AIX server where it can access:

- The Archive repository
- Archive-related workflows that use TIBCO Foresight web services, such as Archiver_UI_Importer.
- OMProcessor if Operational Monitor web service is being used.

GlassFish Requirements

For current GlassFish requirements, refer to **TIB_transactioninsight_5.1.0_installation.pdf**, Appendix F: GlassFish.

Before you Begin

- Ensure the Java JDK version required for GlassFish has been installed. Refer to **TIB_transactioninsight_5.1.0_installation.pdf**, Appendix F: GlassFish.
- Note the directory containing the Java JDK installation, as it will be needed during the GlassFish install.

  Example: C:\Program Files\Java\jre1.8.0_31

For information about installing Java, see Appendix L: Additional System Requirements in **TIB_transactioninsight_5.1.0_installation.pdf**.

Installing GlassFish

Installing GlassFish on Windows

1. Go to https://glassfish.java.net/download.html

   Detailed installation instructions are provide at this link as well.

2. Download the required version of GlassFish Server Open Source Edition for your platform.

3. Unzip the package and place the newly created folder anywhere on your system.

   Example: C:\glassfish4

4. A default domain (domain1) is configured ready to run. To start the domain, cd to the bin directory

   cd C:\glassfish4\bin

5. Use the **asadmin** tool

   asadmin start-domain domain1

   To install GlassFish as a Windows service use:

   asadmin create-service --name domain1

   You can rename the service using the Service Control command, for

   Example: sc config domain1 DisplayName= "GlassFish domain1"

6. Continue through the installation, responding to the dialogs as follows:

Dialog Title	Response
Installation Directory	Accept *<glassfish>*
Administration Settings	Accept the defaults, but change the password. **Note:** Don't use port 8080 for GlassFish if you are using TIBCO ActiveMatrix® BusinessWorks™.
Update Configuration	Uncheck the boxes to disable this feature.
JDK Selection	Choose **Select a Java™ SDK** from the list. From the drop down list, select the high-level directory where you installed Java JDK. Example: C:\Program Files\Java\jre1.8.0_31
Ready To Install	Click **Install**.
Progress	Displayed as the installation proceeds.
Summary	Click **Exit**.

Checking GlassFish after running the Installation Program

1. Click **Start** | **All Programs** | *< GlassFish <version> or GlassFish Server Open Source Edition>* | **Start Application Server**.

2. Wait a minute or two to give the server a chance to start.

3. Open a browser and enter the URL `http://`*`server`*`:4848` (or whatever port GlassFish uses).

4. You should be able to logon to GlassFish with the administrative username and password that you chose during installation.

Installing GlassFish on AIX

Step	Description
Check Prerequisites	By default GlassFish listens on TCP/IP port 8080 so this port or the alternate port of your choice must be available. For other ports used by GlassFish, see the GlassFish documentation at http://glassfish.java.net/docs. Install the version of Java JDK required by your version of GlassFish. This web site explains how to download, install, and configure Java on AIX: http://www.ibm.com/developerworks/systems/library/es-JavaOnAix_install.html. $JAVA_HOME must be defined to point to the high-level Java JDK directory.
Download GlassFish	Go to http://glassfish.java.net and download the supported version of GlassFish. (Glassfish requirements are listed in TIB_transactioninsight_5.1.0_installation.pdf, Appendix F.)
Install GlassFish	Follow the instructions for your platform in the GlassFish Installation Guide available from http://glassfish.java.net

Start GlassFish	After GlassFish has been installed, make sure it is running. The "list-domains" command will list each domain and whether or not it is running. For example:
	`> cd <`*glassfish root*`>/bin`
	`> ./asadmin list-domains`
	`domain1 running`

Copy files to endorsed folder	Copy **jaxws-api.jar** and **jaxb-api.jar** to the java endorsed folder. This folder is: *java-home*/**lib/endorsed** *java-home* is the directory where the runtime software is installed: the **jre** directory in the JDK. These files should come with the IBM AIX Java installation.
Test Installation	Open a browser and point it to the URL `http://`*yourServer*`:4848/` The default logon account will be **admin/adminadmin** (or the password may be the empty string). **NOTE:** 4848 is the default port; you may have used a different port when you installed GlassFish.

Determining if GlassFish is Running

- If GlassFish is running, you should see the GlassFish console when you open a browser and go to **`http://`***server***`:4848/`** (use the correct port for the GlassFish console).

  Example `http://dragon:4848/`

- Go to GlassFish's bin directory and issue this command:

  AIX `./asadmin list-domains`
  Windows `asadmin list-domains`

- On Windows, use Task Manager, where GlassFish appears as a java.exe process running glassfish.jar.

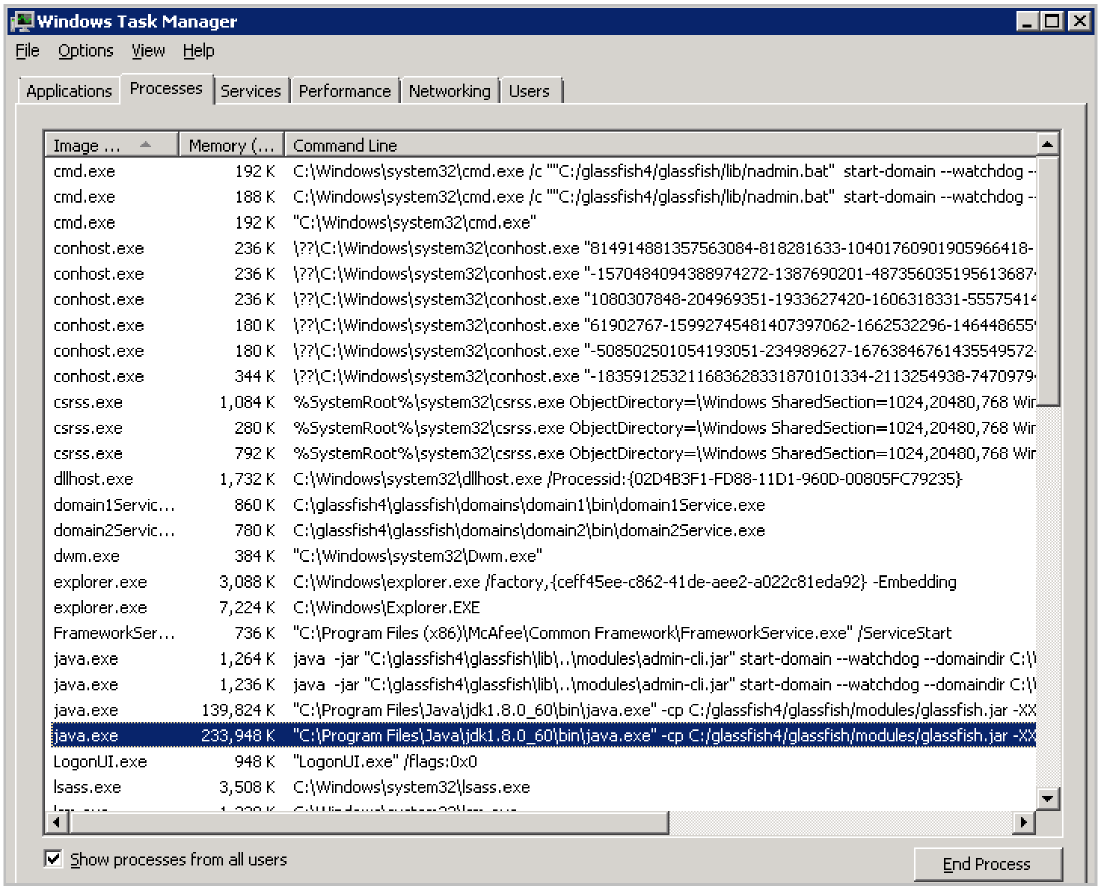
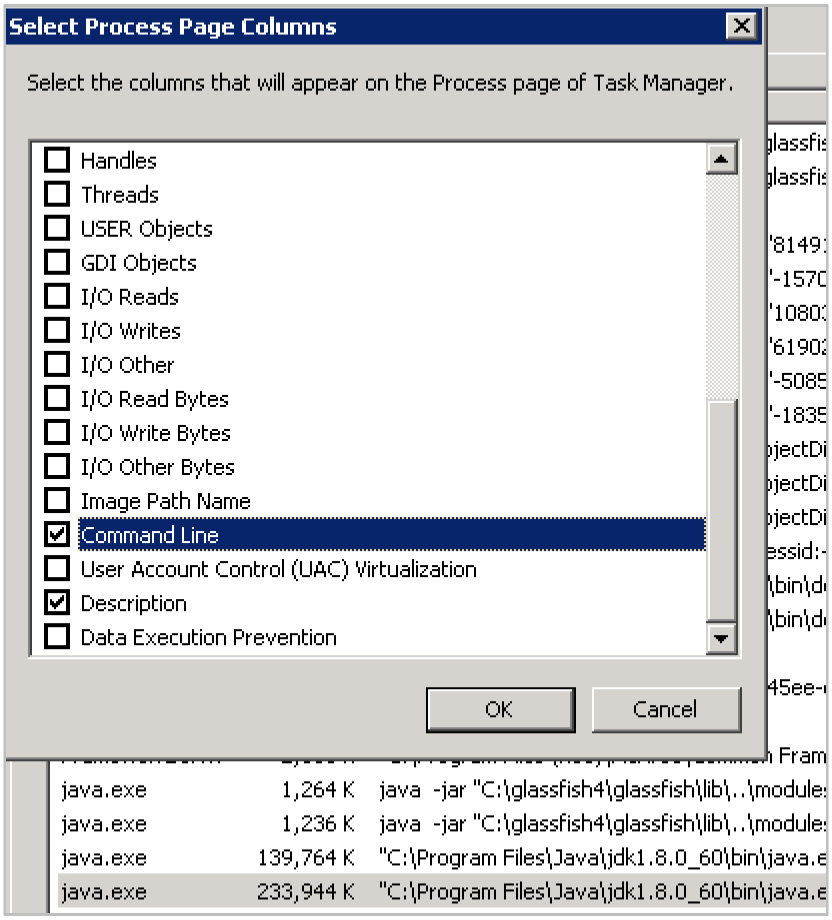


Image ...	Memory (...	Command Line
cmd.exe	192 K	C:\Windows\system32\cmd.exe /c ""C:/glassfish4/glassfish/lib/nadmin.bat" start-domain --watchdog --
cmd.exe	188 K	C:\Windows\system32\cmd.exe /c ""C:/glassfish4/glassfish/lib/nadmin.bat" start-domain --watchdog --
cmd.exe	192 K	"C:\Windows\system32\cmd.exe"
conhost.exe	236 K	\??\C:\Windows\system32\conhost.exe "814914881357563084-818281633-10401760901905966418-
conhost.exe	236 K	\??\C:\Windows\system32\conhost.exe "-1570484094388974272-1387690201-487356035195613687
conhost.exe	236 K	\??\C:\Windows\system32\conhost.exe "1080307848-204969351-1933627420-1606318331-5557541
conhost.exe	180 K	\??\C:\Windows\system32\conhost.exe "61902767-15992745481407397062-1662532296-146448655
conhost.exe	180 K	\??\C:\Windows\system32\conhost.exe "-508502501054193051-234989627-16763846761435549572-
conhost.exe	344 K	\??\C:\Windows\system32\conhost.exe "-183591253211683628331870101334-2113254938-7470979
csrss.exe	1,084 K	%SystemRoot%\system32\csrss.exe ObjectDirectory=\Windows SharedSection=1024,20480,768 Wir
csrss.exe	280 K	%SystemRoot%\system32\csrss.exe ObjectDirectory=\Windows SharedSection=1024,20480,768 Wir
csrss.exe	792 K	%SystemRoot%\system32\csrss.exe ObjectDirectory=\Windows SharedSection=1024,20480,768 Wir
dllhost.exe	1,732 K	C:\Windows\system32\dllhost.exe /Processid:{02D4B3F1-FD88-11D1-960D-00805FC79235}
domain1Servic...	860 K	C:\glassfish4\glassfish\domains\domain1\bin\domain1Service.exe
domain2Servic...	780 K	C:\glassfish4\glassfish\domains\domain2\bin\domain2Service.exe
dwm.exe	384 K	"C:\Windows\system32\Dwm.exe"
explorer.exe	3,088 K	C:\Windows\explorer.exe /factory,{ceff45ee-c862-41de-aee2-a022c81eda92} -Embedding
explorer.exe	7,224 K	C:\Windows\Explorer.EXE
FrameworkSer...	736 K	"C:\Program Files (x86)\McAfee\Common Framework\FrameworkService.exe" /ServiceStart
java.exe	1,264 K	java -jar "C:\glassfish4\glassfish\lib\..\modules\admin-cli.jar" start-domain --watchdog --domaindir C:\
java.exe	1,236 K	java -jar "C:\glassfish4\glassfish\lib\..\modules\admin-cli.jar" start-domain --watchdog --domaindir C:\
java.exe	139,824 K	"C:\Program Files\Java\jdk1.8.0_60\bin\java.exe" -cp C:/glassfish4/glassfish/modules/glassfish.jar -XX
java.exe	233,948 K	"C:\Program Files\Java\jdk1.8.0_60\bin\java.exe" -cp C:/glassfish4/glassfish/modules/glassfish.jar -XX
LogonUI.exe	948 K	"LogonUI.exe" /flags:0x0
lsass.exe	3,508 K	C:\Windows\system32\lsass.exe

If you do not see the "Command Line" column in Task Manager you can enable it by choosing "Select Columns" from the "View" menu and checking the "Command Line" option.



Select Process Page Columns

Select the columns that will appear on the Process page of Task Manager.

- ☐ Handles
- ☐ Threads
- ☐ USER Objects
- ☐ GDI Objects
- ☐ I/O Reads
- ☐ I/O Writes
- ☐ I/O Other
- ☐ I/O Read Bytes
- ☐ I/O Write Bytes
- ☐ I/O Other Bytes
- ☐ Image Path Name
- ☑ Command Line
- ☐ User Account Control (UAC) Virtualization
- ☑ Description
- ☐ Data Execution Prevention

```
java.exe          1,264 K   java  -jar "C:\glassfish4\glassfish\lib\..\module
java.exe          1,236 K   java  -jar "C:\glassfish4\glassfish\lib\..\module
java.exe        139,764 K   "C:\Program Files\Java\jdk1.8.0_60\bin\java.e
java.exe        233,944 K   "C:\Program Files\Java\jdk1.8.0_60\bin\java.e
```

Starting and Stopping GlassFish

The following sections provide examples of how to start and stop GlassFish. GlassFish is a third-party application, so it is managed outside of the TIBCO Foresight suite of applications. How it is started and stopped are up to the system administrators, so make sure to follow any established procedures.

Starting GlassFish on Windows

- Using the Start menu:

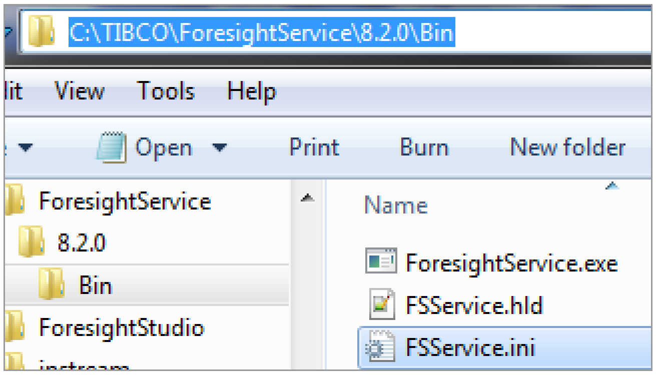
  Start | All Programs | GlassFish *xxx* **| Start Application Server**

  This will start GlassFish. However, it will stop running when the person who started it logs off.

- Using ForesightService:

  To get around the problem of GlassFish stopping when you logoff, run GlassFish as a process spawned by Foresight Service.

  Start ForesightService under Control Panel's Services. Be sure GlassFish is enabled in FSService.ini:



C:\TIBCO\ForesightService\8.2.0\Bin

See Setting up GlassFish to run as a Service on page 32 and Starting Archive in **TIB_transactioninsight_5.1.0_installation.pdf**.

Stopping GlassFish on Windows:

- Use the Start menu:

  Start | All Programs | GlassFish *xxx* **| Stop Application Server**

- Use **End Process** under Task Manager, where GlassFish appears as a large java.exe entry under the Processes tab.

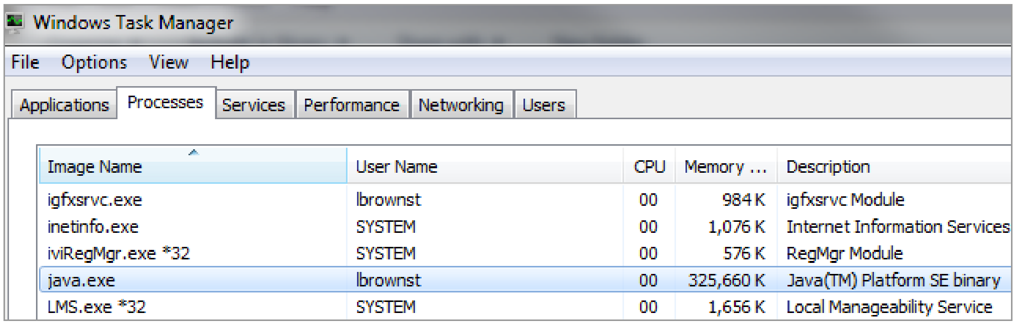


Image Name	User Name	CPU	Memory ...	Description
igfxsrvc.exe	lbrownst	00	984 K	igfxsrvc Module
inetinfo.exe	SYSTEM	00	1,076 K	Internet Information Services
iviRegMgr.exe *32	SYSTEM	00	576 K	RegMgr Module
java.exe	lbrownst	00	325,660 K	Java(TM) Platform SE binary
LMS.exe *32	SYSTEM	00	1,656 K	Local Manageability Service

Starting and Stopping GlassFish on AIX or Windows:

Go to GlassFish's **bin** folder and enter these commands

AIX:

```
./asadmin start-domain domain1
./asadmin stop-domain domain1
```

Windows:

```
asadmin.bat start-domain domain1
asadmin.bat stop-domain domain1
```

Opening the GlassFish Admin Console

Windows or AIX	In a browser's address line: `http://` *server*`:4848/` (or whatever port is used for the GlassFish console)
Windows	**Start** | **Programs** | *GlassFish <version> or GlassFish Server Open Source Edition* | **Administration Console**

GlassFish Configuration Problems

The Archive installation program adds some configuration to GlassFish.

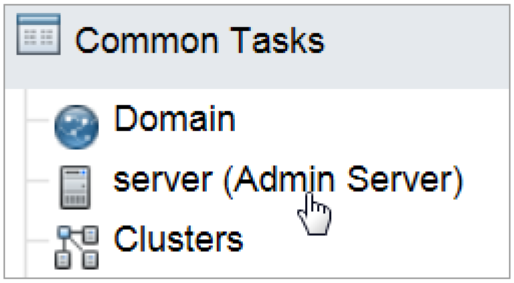
If there was a problem with the GlassFish configuration during Archive installation, perform the following tasks manually and then re-start GlassFish.

GlassFish Configuration Problems on Windows

Set the com.foresightcorp.archiver.config Property

With GlassFish running:

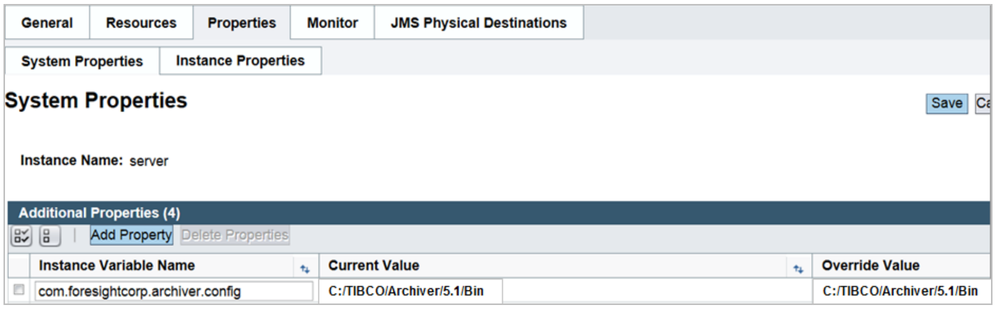
1. Open the GlassFish admin console and log on.
2. Choose **Server (Admin Server) | Properties | System Properties | Add Property**.



For **Property Name**, use **com.foresightcorp.archiver.config**

For **Instance Variable Name** and **Override Value**, use the path to Archive's Bin directory. (Example: C:/TIBCO/Archiver/5.1/Bin).

For version 3.1.x, use forward slashes in file paths.



Instance Name: server

Instance Variable Name	Current Value	Override Value
com.foresightcorp.archiver.config	C:/TIBCO/Archiver/5.1/Bin	C:/TIBCO/Archiver/5.1/Bin

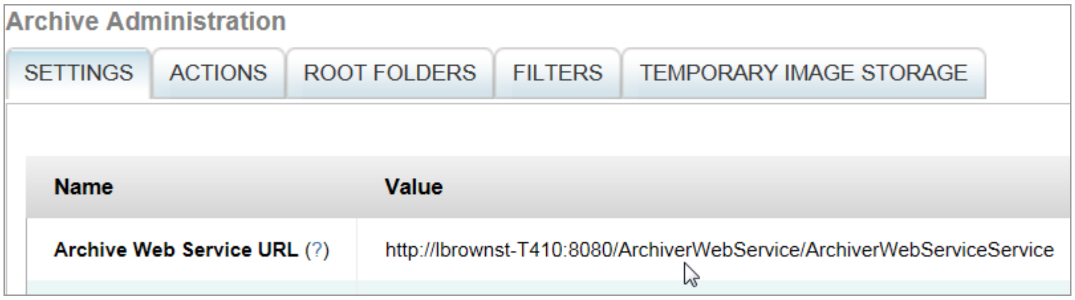
3. Save.

Deploy the web services:

1. On the right side of the GlassFish admin console, click **Applications** and then click deploy.
2. Click **Browse,** go to Archive's webServices directory, select ArchiverWebService.war, and click OK.
3. Repeat the deployment process for FileImport.war in the webServices folder.

Add the Archiver web service URL to the database

1. Logon to TI and go to the Archive Portal.
2. Choose **Archive | Admin** and check the Archive Web Service URL.



Name	Value
Archive Web Service URL (?)	http://lbrownst-T410:8080/ArchiverWebService/ArchiverWebServiceService

3. Test it with the PING button to the right of the URL as described in Testing GlassFish Setup on page 29.

GlassFish Configuration Problems on AIX

If you get an error while running **configure** (the script that sets up Archive), that means that a GlassFish property could not be set. You will need to do it manually:

1. With GlassFish running, log on to the GlassFish console at **http://<*yourServer*>:4848/** .

2. Click **server (Admin Server) | Properties | Add Property**.

   For Property Name, use **com.foresightcorp.archiver.config**.

   For Property Value, use *archiverRoot***Bin** (use your own value of *archiverRoot*). Use forward slashes in paths for version 3.1.x.

   For Description use **Folder for Archive configuration files**.

3. Click **Save**.

Testing GlassFish Setup

To test GlassFish configuration:

1. Start a browser and point it at this (use your own server's name):

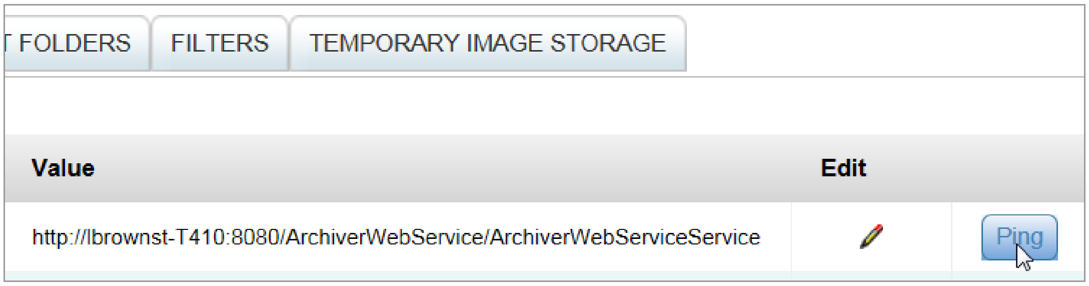
   ```
   http://yourServer:8080/ArchiverWebService/ArchiverWebServiceService
   ?Tester
   ```

2. In the parameter box for the **available** method, enter some string and click the button.

The response should show your input string and the contents of archiver.properties. Look for your database connection information.

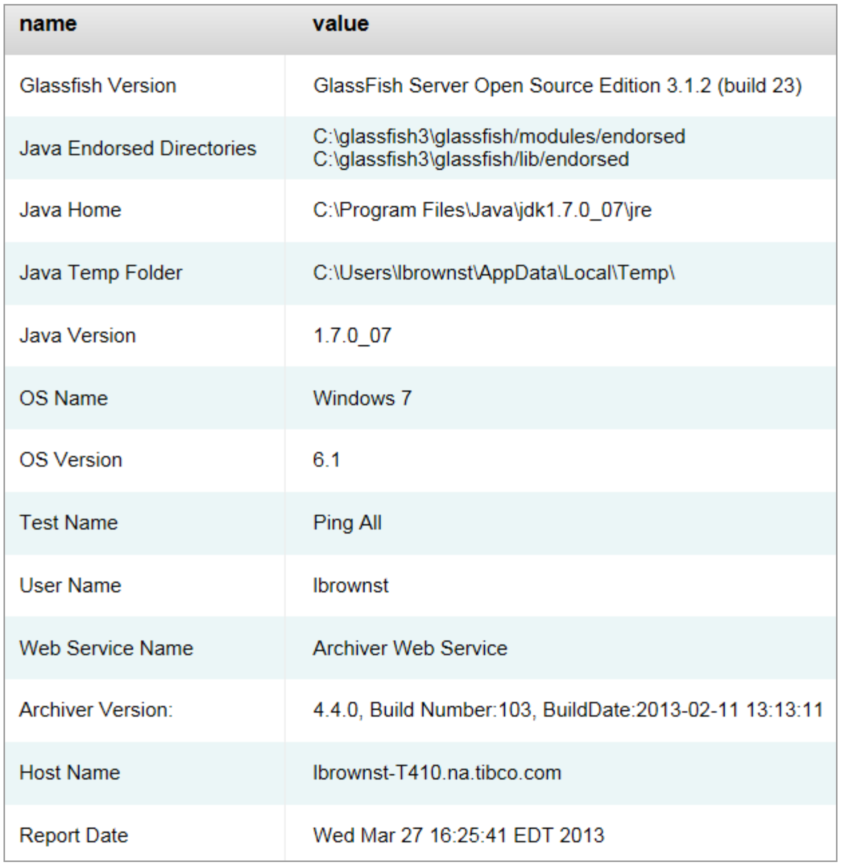
Using PING:

1. Log on to the Archive Portal.
2. Choose **Archive | Admin** and check the Archive Web Service URL.
3. Test it with the PING button to the right of the URL:



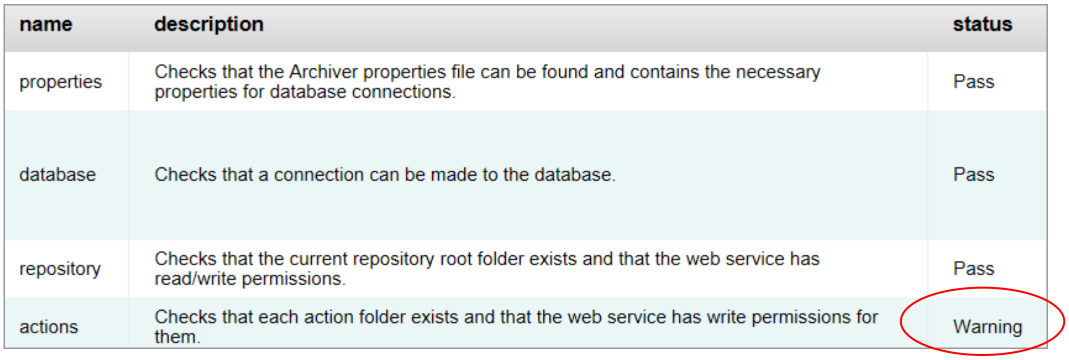
Value	Edit	
http://lbrownst-T410:8080/ArchiverWebService/ArchiverWebServiceService		

You should see a report like this:



name	value
Glassfish Version	GlassFish Server Open Source Edition 3.1.2 (build 23)
Java Endorsed Directories	C:\glassfish3\glassfish/modules/endorsed C:\glassfish3\glassfish/lib/endorsed
Java Home	C:\Program Files\Java\jdk1.7.0_07\jre
Java Temp Folder	C:\Users\lbrownst\AppData\Local\Temp\
Java Version	1.7.0_07
OS Name	Windows 7
OS Version	6.1
Test Name	Ping All
User Name	lbrownst
Web Service Name	Archiver Web Service
Archiver Version:	4.4.0, Build Number:103, BuildDate:2013-02-11 13:13:11
Host Name	lbrownst-T410.na.tibco.com
Report Date	Wed Mar 27 16:25:41 EDT 2013

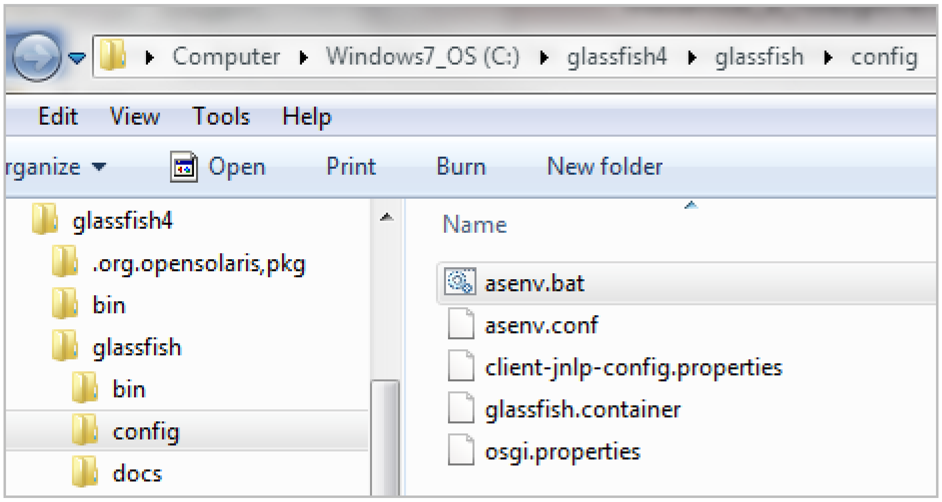
Be sure that everything passes. In this example, a directory is not accessible:



name	description	status
properties	Checks that the Archiver properties file can be found and contains the necessary properties for database connections.	Pass
database	Checks that a connection can be made to the database.	Pass
repository	Checks that the current repository root folder exists and that the web service has read/write permissions.	Pass
actions	Checks that each action folder exists and that the web service has write permissions for them.	Warning

Setting the Java Version for GlassFish

1. Check here:



2. Look for a line similar to this:

```
set AS_JAVA=C:\Program Files\Java\jdk1.7.0_07
```

3. Update it if necessary.

4. Re-start GlassFish.

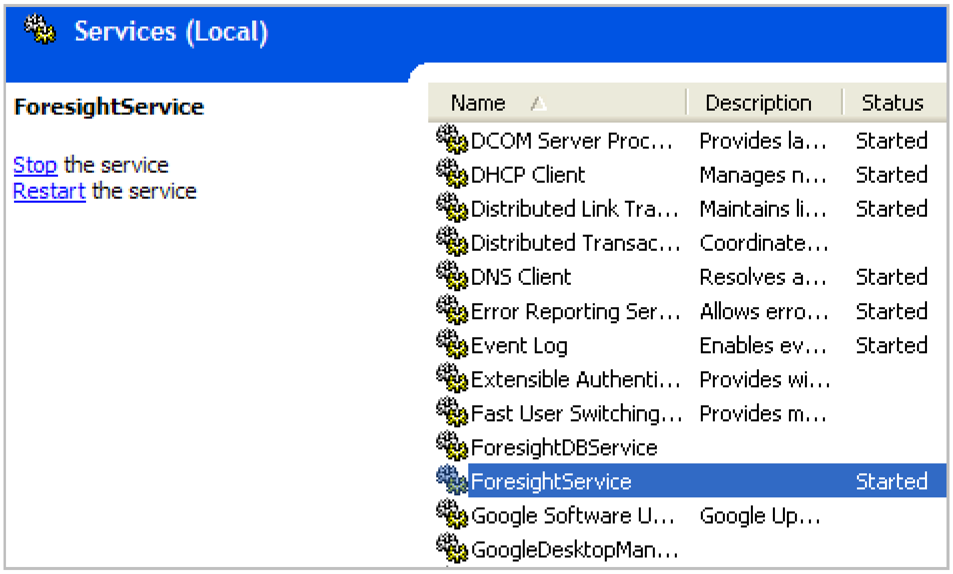
Setting up GlassFish to run as a Service

When GlassFish is installed on a Windows system, it runs as long as the user who installed it is logged on. When that user logs off, the GlassFish process stops.

To get around this, use **ForesightService**. This Windows service will spawn processes that have been defined in its configuration file, FSService.ini. One of these is GlassFish.

To see if ForesightService has been installed:

1. Go to Control Panel's Services and see if it is there:



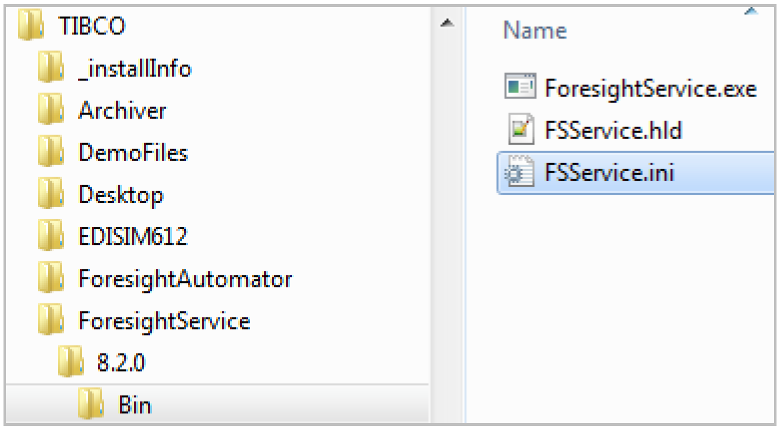
Services (Local)

ForesightService

Stop the service
Restart the service

Name	Description	Status
DCOM Server Proc…	Provides la…	Started
DHCP Client	Manages n…	Started
Distributed Link Tra…	Maintains li…	Started
Distributed Transac…	Coordinate…	
DNS Client	Resolves a…	Started
Error Reporting Ser…	Allows erro…	Started
Event Log	Enables ev…	Started
Extensible Authenti…	Provides wi…	
Fast User Switching…	Provides m…	
ForesightDBService		
ForesightService		Started
Google Software U…	Google Up…	
GoogleDesktopMan…		

2. If it is not on the Services list, find FSService.ini:



TIBCO
_installInfo
Archiver
DemoFiles
Desktop
EDISIM612
ForesightAutomator
ForesightService
8.2.0
Bin

Name
ForesightService.exe
FSService.hld
FSService.ini

Open a command window, go to the folder where **FSService.ini** resides, and enter the command:

```
ForesightService.exe -Service
```

Once the FSService.ini has been configured to start GlassFish, and Foresight Service starts, it will start GlassFish.

Setting up ForesightService to run GlassFish:

1. If ForesightService is running, stop it under Control Panel's Services.
2. If GlassFish is running, stop it as described on page 24.

   As an alternative, you can stop it with Task Manager. It will appear as a large Java.exe entry in Task Manager's Processes tab.

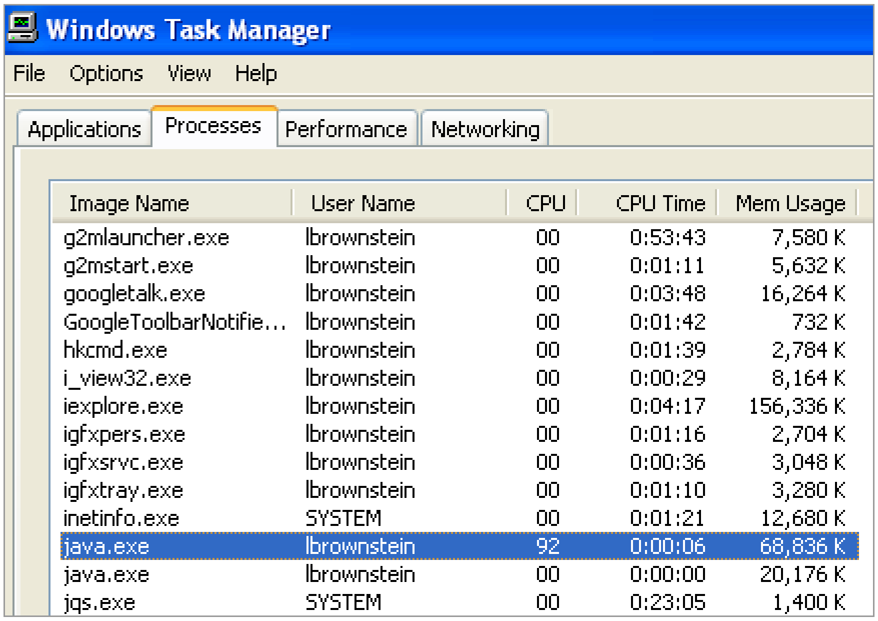
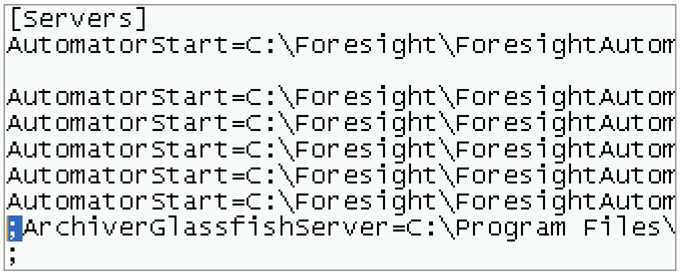


Image Name	User Name	CPU	CPU Time	Mem Usage
g2mlauncher.exe	lbrownstein	00	0:53:43	7,580 K
g2mstart.exe	lbrownstein	00	0:01:11	5,632 K
googletalk.exe	lbrownstein	00	0:03:48	16,264 K
GoogleToolbarNotifie...	lbrownstein	00	0:01:42	732 K
hkcmd.exe	lbrownstein	00	0:01:39	2,784 K
i_view32.exe	lbrownstein	00	0:00:29	8,164 K
iexplore.exe	lbrownstein	00	0:04:17	156,336 K
igfxpers.exe	lbrownstein	00	0:01:16	2,704 K
igfxsrvc.exe	lbrownstein	00	0:00:36	3,048 K
igfxtray.exe	lbrownstein	00	0:01:10	3,280 K
inetinfo.exe	SYSTEM	00	0:01:21	12,680 K
java.exe	lbrownstein	92	0:00:06	68,836 K
java.exe	lbrownstein	00	0:00:00	20,176 K
jqs.exe	SYSTEM	00	0:23:05	1,400 K

3. Open FSService.ini.
4. Remove the leading semi-colon from the line that defines **ArchiverGlassfishServer** (some details may vary depending on your installation).



```
[Servers]
AutomatorStart=C:\Foresight\ForesightAutom

AutomatorStart=C:\Foresight\ForesightAutom
AutomatorStart=C:\Foresight\ForesightAutom
AutomatorStart=C:\Foresight\ForesightAutom
AutomatorStart=C:\Foresight\ForesightAutom
AutomatorStart=C:\Foresight\ForesightAutom
;ArchiverGlassfishServer=C:\Program Files\
;
```

5. Save the file.
6. Open Control Panel's Services and re-start **ForesightService**.

Use Task Manager to verify that ForesightService, GlassFish (represented by a large Java process), and (possibly) one or more ForesightAutomator processes are running. Refer to Determining if GlassFish is Running on page 23.

Troubleshooting GlassFish

You will probably need the help of a system administrator for this.

1. Is GlassFish actually installed?

   Ask the system administrator to confirm this.

2. Is GlassFish running?

   Open a browser on the GlassFish host system and go to the GlassFish Administration Console at **http://*server*:4848/** (or whatever the port is for the GlassFish console.) If you can't connect, ask the system administrator to start GlassFish (see below for details).

3. Is the URL in Archive's database? (check the Metadata table where MetadataKey == ARCHIVER_WS_URL).

4. Is the URL valid?

   Try this in the browser:

   url`?wsdl`

   where *url* is the value from the Metadata table.

5. Are the ArchiverFileImport, ArchiverWebService, and OpMonWS Web services deployed?

   Windows
   In the GlassFish Administration Console, click on **Applications**.

   AIX
   In the GlassFish Administrative Console, click on **Applications | Web Applications**.

6. Is the System property **com.foresightcorp.archiver.config** defined in GlassFish and pointing to the directory where Archive properties files are stored?

   Windows
   In the GlassFish Administration Console, click on **Enterprise Server | System Properties**.

   AIX
   In the GlassFish Administration Console, click on **Configuration | System Properties**.

7. For Archive, is the **Archiver_UI_Importer** workflow running? This workflow, and GlassFish, should be running whenever the Archive portal is available.

Trying the Available Method

Windows

In the GlassFish Administration Console, click on **Applications | Archiver File Import | View Endpoint | Tester link**.

In the parameter box for the available method, enter some characters and click the available button. The response should include your input plus the fully expanded paths of the configuration files as well as some properties.

AIX

Open a browser and use this URL:

`http://`*`server`*`:8080/ArchiverFileImport/ArchiverFileImportService?Tester`

8080 is the default GlassFish port, although your site might have changed it. In the parameter box for the available method, enter some data and click the available button. The response should include your input plus the directory path to the property files.

AIX GlassFish Permissions

Each Archive task checks to see if the admin owns the root folder where the work will be done. The ideal scenario is that the admin has installed both Archive and GlassFish. That will ensure the necessary permissions have been set.

Task	Permission Needed
Set Archiver properties	Own Archiver
Set GlassFish properties	No permissions required
Deploy Archiver Web Service Deploy File Import Web Service	Own Archiver Own GlassFish
Stop GlassFish Start GlassFish	Own GlassFish

Questions to ask:

- Under which account was GlassFish started?
- What group does it belong to?
- Does it have the necessary permissions to read/write files to the Repository? This includes creating directories.
- Does it have the necessary permissions to write files to the various directories associated with Transmission/Document viewing in Archive portal and any other directories associated with user-defined actions in Archive Portal?
- Does it have permissions to read the property files from the configuration directory and to write to the log files for the web services

Deploying a Web Service to GlassFish

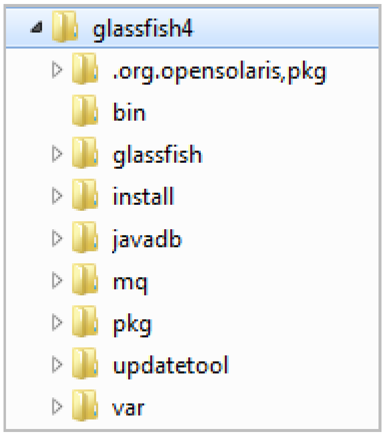
Overview

This section provides instructions for deploying a web service to GlassFish.

Setting up a new Web Service

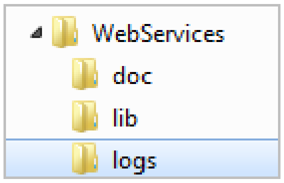
This information is for new installation of the web service. To upgrade, see Upgrading (or Hot Fixing) an Existing Web Service on page 39.

<GLASSFISH_ROOT> refers to the GlassFish folder that contains the \bin directory. In this example, <GLASSFISH_ROOT> is **c:\glassfish4**:



Steps:

1. If <TransactionInsight_ROOT>\<version>\WebServices does not already exist, create it and create the subfolders doc, lib and logs (refer to the following example):

2. Place the .war file for the web service you are deploying in the WebServices folder.

3. In the doc directory, check **pwd.txt** and update the GlassFish password in it. If that file does not exist, create a new file with that name and place the following into it:

   ```
   AS_ADMIN_PASSWORD=<GlassFishAdminPassword>
   ```

   (Where <GlassFishAdminPassword> is replaced with the actual password for the admin account in GlassFish.)

4. Open a command window and enter the following command, updating the paths and GlassFish user to match yours. Variable information is underlined:

   ```
    "<GLASSFISH_ROOT>\glassfish\bin\asadmin.bat" --user "admin"
   --passwordfile "<TransactionInsight_ROOT>\5.1.0\WebServices\doc\pwd.txt"
   -I false deploy --force=true "<TransactionInsight_ROOT>\5.1.0\WebServices\
   <WARfileNameWithExtension>"
   ```

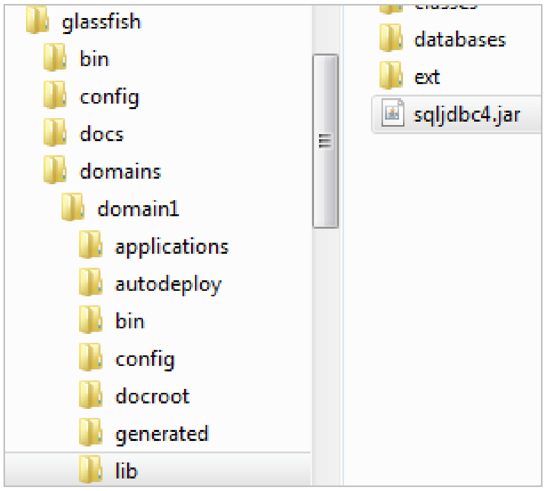
5. Enter one of these commands from the command window. Update the paths for the underlined sections:

   For Oracle TI database:

   ```
   copy "path to Oracle Install\ ojdbc7.jar"
   "<GLASSFISH_ROOT>\glassfish\ domains\domain1\lib"
   ```

   For SQL Server TI database:

   ```
   copy “sqljdbc4.jar" (available here: http://msdn.microsoft.com/en-us/sqlserver/aa937724.aspx)to
   "< GLASSFISH_ROOT >\glassfish\domains\domain1\lib"
   ```

Upgrading (or Hot Fixing) an Existing Web Service

Use the following steps to update a web service or apply a hotfix:

1. Read the instructions that accompany the update. Pay careful attention to the extraction location for the .war file and alter the next step appropriately.
2. Open a command window and enter the following command, updating the paths and GlassFish user to each file to match yours. Variable information is underlined:

```
"<GLASSFISH_ROOT>\glassfish\bin\asadmin.bat" --user "admin"
--passwordfile "<TransactionInsight_ROOT>\5.1.0\WebServices\doc\pwd.txt"
-I false deploy --force=true "<TransactionInsight_ROOT>\5.1.0\WebServices\
<WARfileNameWithExtension>"
```

Setting up a System Property in GlassFish

It may be necessary to set up system properties within GlassFish. The specific web service will detail which system properties need to be set up and what the value of that property should be. You can set up system properties from the command line with the following:

```
"<GLASSFISH_ROOT>\glassfish\bin\asadmin.bat" create-system-
properties <PropertyName>=<PropertyValue>
```

NOTE: If the PropertyValue is a path, you must add backslashes to the colon and folder separators within windows if you are using backslashes as the folder separator.

Example: To use the path to the Archiver Bin folder as the Property Value, enter this: `C\:\\TIBCO\\Archiver\\5.1.0\\Bin`

When GlassFish parses this value, it removes the extra backslashes. If you use forward slashes, the additional slash is unnecessary.

Setting up a Web Service Connection Pool

1. Create a connection pool.

   a. Refer to your Web.config's **DB:TransactionInsight** property to find the name of the database server, the database name, the port, the user name, and the password.

   b. From the GlassFish admin console, click **Resources | JDBC | JDBC Connection Pools | New**.

   c. Under **General Settings**, set these:

   Pool Name One of these:

   ```
   TransactionInsight_Oracle
   TransactionInsight_SqlServer
   ```

   Resource Type `javax.sql.DataSource`

   Database Vendor One of these:

   ```
   Oracle
   MicrosoftSqlServer
   ```

   d. Click **Next** | **Additional Properties** and set these properties:

   databaseName *Your TI database name*

   Description TI Database

   Password *The SQL Server or Oracle password*

   ServerName *The TI database server*

   User *The TI database user*

   e. Click **Add Property** and type URL for Name.

   f. Add the **Value**, using forward slashes in all cases:

   For SQL Server:

   `jdbc:sqlserver://`*serverName*:*por*`t;databaseName=`*dbName*`;` `user=`*user*`;password=`*pass*;

   Example:

   ```
   jdbc:sqlserver://localhost;databaseName=TIDemo;user
   =sa;password=ndune891;
   ```

   For Oracle:

   `jdbc:oracle:thin:`*user/pass*`@//`*serverName*`:`*port/sid*

g. Click **Save**.

h. Test by clicking **TransactionInsight_Oracle** or **TransactionInsight_SqlServer** in the Connection Pool column.

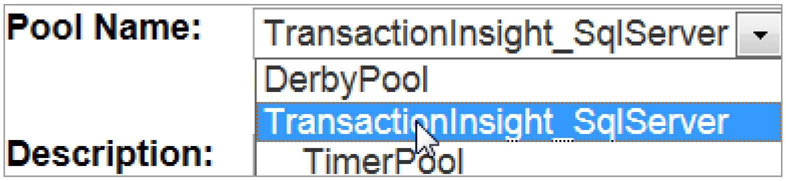
Click **Ping** and look at the top for the message “Ping Succeeded.”

2. Still in the GlassFish admin console, click **Resources | JDBC | JDBC Resources | New** and create this resource:

JNDI Name `jdbc/TransactionInsightDB`

Pool Name Select your newly created connection pool.

Example:

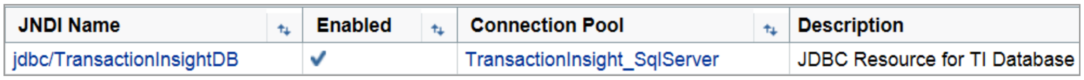


Pool Name: TransactionInsight_SqlServer

Description `JDBC Resource for TI Database`

Click **OK**.

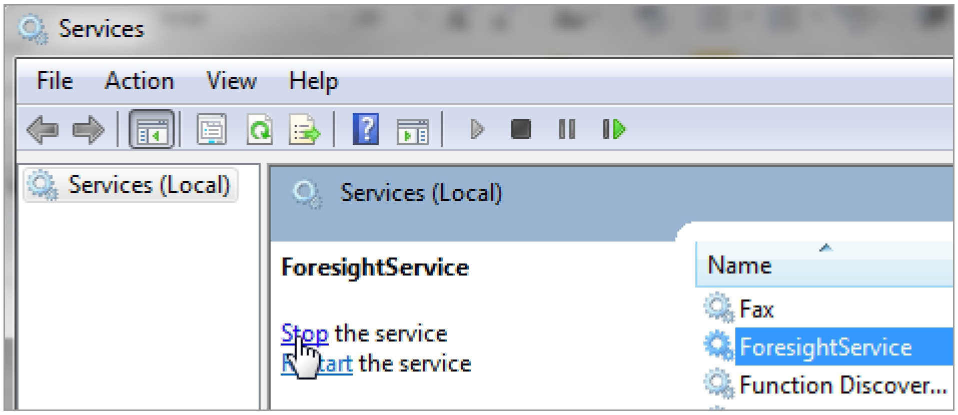
Example:



JNDI Name	Enabled	Connection Pool	Description
jdbc/TransactionInsightDB	✓	TransactionInsight_SqlServer	JDBC Resource for TI Database

Restarting GlassFish

1. Stop **Foresight Service** from Services:



2. Stop GlassFish from Task Manager. This will be a large Java process:

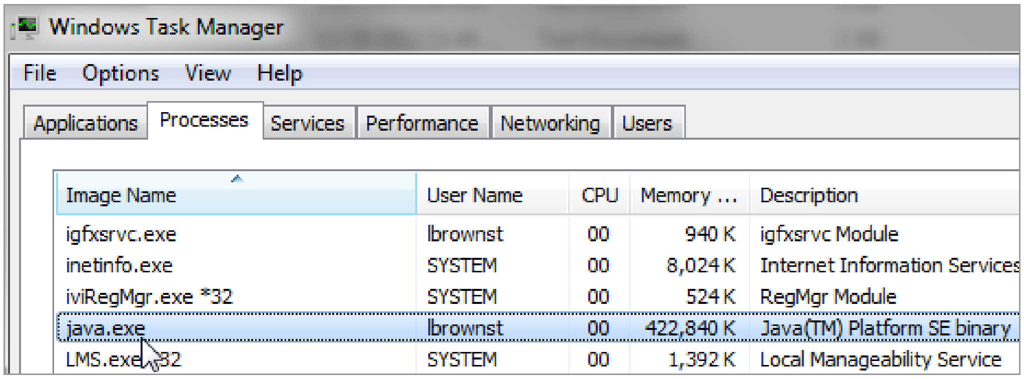


Image Name	User Name	CPU	Memory ...	Description
igfxsrvc.exe	lbrownst	00	940 K	igfxsrvc Module
inetinfo.exe	SYSTEM	00	8,024 K	Internet Information Services
iviRegMgr.exe *32	SYSTEM	00	524 K	RegMgr Module
java.exe	lbrownst	00	422,840 K	Java(TM) Platform SE binary
LMS.exe *32	SYSTEM	00	1,392 K	Local Manageability Service

3. Start Foresight Service from Services.

4. Select **Start -> All Programs -> GlassFish -> Start Application Server**