

# **TIBCO iProcess® Web Services Server Plug-in**

## **Installation**

*Software Release 11.3.0  
October 2011*

TIBCO provides the two-second advantage™



## Important Information

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE "LICENSE" FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document contains confidential information that is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO, The Power of Now, TIBCO ActiveMatrix and TIBCO Business Studio are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only.

THIS SOFTWARE MAY BE AVAILABLE ON MULTIPLE OPERATING SYSTEMS. HOWEVER, NOT ALL OPERATING SYSTEM PLATFORMS FOR A SPECIFIC SOFTWARE VERSION ARE RELEASED AT THE SAME TIME. SEE THE README.TXT FILE FOR THE AVAILABILITY OF THIS SOFTWARE VERSION ON A SPECIFIC OPERATING SYSTEM PLATFORM.

THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

Copyright © 2003-2011 TIBCO Software Inc. ALL RIGHTS RESERVED.

TIBCO Software Inc. Confidential Information

# Contents

<b>Preface</b> .....	<b>iii</b>
How to Use This Guide .....	iv
Related Documentation .....	v
Release Notes .....	v
TIBCO iProcess Suite™ Documentation Library .....	v
How to Contact TIBCO Customer Support .....	vi
Documentation Conventions .....	vii
 <b>Chapter 1 Introduction</b> .....	 <b>1</b>
Component Overview .....	2
System Requirements .....	3
JMS Provider .....	3
TIBCO iProcess Engine .....	4
Java Runtime Environment and Java Virtual Machine .....	5
 <b>Chapter 2 Advanced Configuration and Deployment</b> .....	 <b>7</b>
Secure Web Service Operations .....	8
Migrating from Versions Prior to Version 10.6 .....	10
Multi-Platform Deployment .....	11
High Availability Deployment .....	12
High Availability Message Handling .....	13
Security in a High Availability Environment .....	13
URL Alias Management .....	14
 <b>Chapter 3 Installing or Upgrading the TIBCO iProcess Web Services Server Plug-in</b> .....	 <b>15</b>
Pre-Installation Tasks .....	16
Make the JDBC Drivers Available .....	16
Configure Your JMS Provider .....	17
Decide Whether to Create a High-Availability Configuration .....	18
Review your Web Services Security Requirements .....	18
Start the Database .....	19
About the Installer Account .....	19
Installing the TIBCO iProcess Web Services Server Plug-in .....	20
Post Installation Tasks .....	29

Post Installation Tasks (Jetty)..... 29

Post Installation Tasks on AIX ..... 31

**Chapter 4 Removing the TIBCO iProcess Web Services Server Plug-in ..... 33**

Removing the TIBCO iProcess Web Services Server Plug-in ..... 34

**Appendix A Troubleshooting ..... 37**

Database Connection Test Returns Fail ..... 38

Encryption Fails at Runtime ..... 39

JMS Connection Test Returns Fail ..... 40

Failures with iProcess Functions due to Exceptions in Stored Procedures When Using SQL Server ..... 41

Successful Return Values from Requests to iProcess Functions but the iProcess Function Fails ..... 42

Warning Messages When in the TIBCO EMS Console When Starting Cases ..... 43

iProcess Web Services Run-time Plug-in Fails to Register During Install ..... 44

**Appendix B Java Character Encoding Sets ..... 45**

Which Java Version/Encoding Set Combination Do I Need? ..... 46

Obtaining an Appropriate Java Version/Encoding Set Combination ..... 47

    Java Version/Encoding Set Combinations Supplied by the iProcess Engine..... 47

    Using a Java Version/Encoding Set Combination That is Already Installed ..... 48

    Installing the Required Java Version/Encoding Set Combination ..... 48

# Preface

This guide explains how to install and remove the TIBCO iProcess™ Web Services Server Plug-in (iProcess™ Web Services Server Plug-in).

## Topics

---

- [How to Use This Guide, page iv](#)
- [Related Documentation, page v](#)
- [How to Contact TIBCO Customer Support, page vi](#)
- [Documentation Conventions, page vii](#)

## How to Use This Guide

---

This guide contains the following chapters:

- [Chapter 1](#) describes an overview of the installation and the system requirements for the installation.
- [Chapter 2](#) describes different options for deployment of the iProcess Web Services Server Plug-in such as High Availability and Security.
- [Chapter 3](#) provides instructions on how to perform the installation.
- [Chapter 4](#) describes how to remove the iProcess Web Services Server Plug-in.
- [Appendix A](#) contains troubleshooting information for common problems encountered with the iProcess Web Services Server Plug-in.
- [Appendix B](#) lists compatible versions of the Java Runtime Environment (JRE) if you want to use TIBCO iProcess Web Services Server Plug-in with an earlier version of the iProcess Engine.

## Related Documentation

---

You can find more information about plug-ins from the following sources.

### Release Notes

Before you install the iProcess Web Services Server Plug-in you should read the **Release Notes** supplied with the software. The **Release Notes** contain the following version and platform-specific information:

- any restrictions or known issues that apply.
- any fixes that have been made.
- any other information that was not available when this guide was published.

If you are installing from physical media, you can find the **Release Notes** in the **docs** folder.

If you are installing from physical media on UNIX, you can find the Release Notes in the *mount\_point/docs/* directory, where *mount\_point* is the location at which your media is mounted

If you are installing from a network server, you should ask your network administrator where the **Release Notes** are stored.

### TIBCO iProcess Suite™ Documentation Library

TIBCO iProcess Suite user documentation is supplied as Adobe Acrobat files on the TIBCO iProcess Suite Documentation Library physical media.

See the following guides for more information about the iProcess Web Services Server Plug-in:

- *TIBCO iProcess Web Services Server Plug-in User's Guide*, which explains how to define and use a Web Service step.
- *TIBCO iProcess Modeler - Integration Techniques*, which explains how to use EAI steps in your procedures to control updates to external systems and iProcess case data under transaction control.

## How to Contact TIBCO Customer Support

---

For comments or problems with this manual or the software it addresses, please contact TIBCO Support as follows.

- For an overview of TIBCO Support, and information about getting started with TIBCO Product Support, visit this site:

<http://www.tibco.com/services/support>

- If you already have a valid maintenance or support contract, visit this site:

<http://support.tibco.com>

Entry to this site requires a username and password. If you do not have a username, you can request one.

# Documentation Conventions

Because this guide covers both Windows and UNIX versions of the iProcess Web Services Plug-in, this guide uses the Windows convention of a backslash (\). The equivalent pathname on a UNIX system is the same, but using the forward slash (/) as a separator character.



UNIX pathnames are occasionally shown explicitly, using forward slashes as separators, where a UNIX-specific example or syntax is required.

The following typographical conventions are used in this manual.




Table 1 General Typographical Conventions

Convention	Use
code font	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example:  Use MyCommand to start the foo process.
bold code font	Bold code font is used in the following ways: <ul style="list-style-type: none"><li>• In procedures, to indicate what a user types. For example: Type <b>admin</b>.</li><li>• In large code samples, to indicate the parts of the sample that are of particular interest.</li><li>• In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, MyCommand is enabled: MyCommand [<b>enable</b>   disable]</li></ul>
italic font	Italic font is used in the following ways: <ul style="list-style-type: none"><li>• To indicate a document title. For example: See <i>TIBCO BusinessWorks Concepts</i>.</li><li>• To introduce new terms For example: A portal page may contain several <i>portlets</i>. Portlets are mini-applications that run in a portal.</li><li>• To indicate a variable in a command or code syntax that you must replace. For example: MyCommand <i>pathname</i></li></ul>

Table 1 General Typographical Conventions (Cont'd)

Convention	Use
Key combinations	<p>Key name separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.</p>
<i>SWDIR</i>	<p>Indicates the iProcess system directory where the TIBCO iProcess Engine is installed.</p> <p>If <i>SWDIR</i> is set to <b>\swserver\staffw_nod1</b> then the full path to the <b>swutil</b> command would be:</p> <ul style="list-style-type: none"><li>• on Windows: <b>c:\swserver\staffw_nod1\bin\swutil</b>, or <i>SWDIR\bin\swutil</i></li><li>• on UNIX: <b>/swserver/staffw_nod1/bin/swutil</b>, or <b>\$SWDIR/bin/swutil</b></li></ul> <p>Note: On a UNIX/Linux system, the environment variable <b>\$SWDIR</b> should be set up to point to the iProcess Engine system directory for the root user and the user you have selected for the Administrator account.</p>
<i>path</i>	<p>The path you specify during installation in which the iProcess Engine Interface files are installed. The files are copied into a sub-directory called <b>tibco_webservices</b> which the installer creates at the path you specify.</p>
<i>jre_location</i>	<p>The directory where the Java Run-time Environment (JRE) is installed.</p>
<i>jdk_location</i>	<p>The directory where the Java Development Kit is installed.</p>
<i>webservices_server_location</i>	<p>The path you specify during installation in which the Web Services Server files are installed. For example:</p> <p>On Windows: <b>C:\Program Files\TIBCO\iPEWebServicesPlugin\</b></p> <p>On UNIX: <b>/opt/tibco/iPEWebServicesPlugin/</b></p>

Table 1 General Typographical Conventions (Cont'd)

Convention	Use
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.







## Chapter 1 **Introduction**

This chapter provides an overview of the components of the iProcess Web Services Server Plug-in and lists the system requirements.

### Topics

---

- [Component Overview, page 2](#)
- [System Requirements, page 3](#)

## Component Overview

---

The iProcess Web Services Server Plug-in consists of the following two components, the installation of which is described in this guide:

- Web Services Engine - this consists of an Inbound Engine (to handle calls from external Web Services to iProcess operations) and an Outbound Engine (to handle calls to external web services). Both of these engines are hosted by Jetty which is used as a JMX/servlet container.
- iProcess Engine Interface Component - This consists of an EAI Plug-in. It allows the iProcess background processes to communicate with the Web Services Engine

In addition to these two components, there is a client plug-in which is installed on your client machine:

- TIBCO iProcess Web Services Client Plug-in

This plug-in needs to be installed on your client machine that hosts your TIBCO iProcess™ Workspace (Windows) and TIBCO iProcess™ Modeler. This plug-in enables you to define Web Service steps in your iProcess procedures - refer to the *TIBCO iProcess Web Services Plug-in User's Guide* for more information.



If you only need to define iProcess Web Services steps in procedures (you do not run cases on your machine), you only need to install the iProcess Web Services Client plug-in, as described in the *TIBCO iProcess™ Engine Web Services Client Plug-in Installation Guide*. If you are running cases containing Web Services steps, you must also install the iProcess Web Services Server Plug-in as described in this guide.

# System Requirements

---

Make sure you meet the following system requirements before installing the iProcess Web Services Server Plug-in.



Where version numbers or vendors (e.g. Sun) are specified, earlier or later versions of the specified product, or equivalent products from other vendors may operate but are NOT supported by this release of the iProcess Web Services Server Plug-in.

**When you use any of these products with this version of the iProcess Web Services Server Plug-in, TIBCO recommend that you use the latest compatible version of each product.**

If you are currently using a version of one of these products that is:

- *earlier than any of those listed*, you must upgrade to a compatible version before using this version of the iProcess Web Services Server Plug-in.
- *later than any of those listed*, please refer to the Readme for that product/version to determine if it is compatible with this version of the iProcess Web Services Server Plug-in. If the Readme does not provide a definitive answer, please contact TIBCO Support for further assistance.



Some of the iProcess Web Services Server Plug-in utilities have a graphical user interface and no command line equivalent. For this reason you should have access to a system that is capable of displaying graphical user interfaces.

## JMS Provider

A JMS provider **MUST** be installed and configured when using the TIBCO iProcess Web Services Server Plug-in. TIBCO Enterprise Message Service (EMS) is recommended. You can however use any of the JMS providers listed in the following table. The TIBCO iProcess Web Services Server Plug-in uses JMS both internally and externally, and a different provider can be used for each.



Validated versions have been successfully tested by TIBCO for compatibility with this version of the iProcess Web Services Server Plug-in. Compatible versions have not been formally validated, but have no known incompatibilities with this version of the iProcess Web Services Server Plug-in based on basic operational testing:

JMS Provider	Validated Version(s)
TIBCO EMS	Version 6.0.1
JBoss	Version 5.1.0
Oracle WebLogic Application Server	Version 10.2
WebSphere	Version 6.1
	Version 7.0



Any JMS specification version 1.0.2b compliant JMS provider should be supported in this environment but cannot be guaranteed as certification will not have taken place.

TIBCO iProcess Engine

The following minimum versions of the TIBCO iProcess Engine software need to be installed on the machine hosting your iProcess Engine before you install the iProcess Web Services Server Plug-in:



TIBCO have not tested multi-platform combinations. This means that, although there are no technical reasons why you could not have, for example, your Jetty on a Windows server and your iProcess Engine on a Solaris server, TIBCO have not tested this combination.



Validated versions have been successfully tested by TIBCO for compatibility with this version of the iProcess Web Services Server Plug-in. Compatible versions have not been formally validated, but have no known incompatibilities with this version of the iProcess Web Services Server Plug-in.

Product	Validated Version(s)	Compatible Version(s)
TIBCO iProcess Engine	11.3	11.1

## Java Runtime Environment and Java Virtual Machine

The TIBCO iProcess Web Services Server Plug-in Installation require specific versions of the Java Runtime Environment (JRE) and Java Virtual Machine (JVM).

- To install the TIBCO iProcess Web Services Server Plug-in Installation, you must install a compatible 1.5.x JRE.
- To run the TIBCO iProcess Web Services Server Plug-in Installation you must install a compatible 1.6.x. JRE.

Note that:

- 64-bit JRE versions are not supported.
- In addition, because different JRE implementations can contain multiple JVM libraries, you must select the correct library when you run **Setup** to install the TIBCO iProcess Web Services Server Plug-in.



TIBCO strongly recommends that you contact TIBCO Support before doing so to determine if the JRE you want to use is fully compatible with your version of the iProcess Engine.

### Choosing the Correct JVM

This section provides information about choosing the correct Java Virtual Machine (JVM) when either setting the JAVA\_HOME variable - see [Start the Database on page 19](#), or when passing parameters to the setup program.

Different JRE implementations can contain multiple JVM libraries. You must select the correct JVM library required by the iProcess Web Services Server Plug-in, as shown in the following table.



*JRE\_HOME* is the directory containing the JRE that you intend to use. This JRE must be either the version that is installed on the iProcess Engine or a version that is compatible with it — see [Java Runtime Environment and Java Virtual Machine on page 5](#).

Platform	JVM	Required JVM Location
Windows	<b>jvm.dll</b>	<i>JRE_HOME\bin\server</i> or, if this JVM is not available: <i>JRE_HOME\bin\client</i>
AIX	<b>libjvm.a</b>	<i>JRE_HOME/bin/classic</i>
Sun SPARC Solaris	<b>libjvm.so</b>	<i>JRE_HOME/lib/sparc/server</i>

Platform	JVM	Required JVM Location
Sun x86 Solaris	libjvm.so	JRE_HOME/lib/i386/server
HP-UX PA-RISC	libjvm.sl	JRE_HOME/lib/PA_RISC2.0/server
HP-UX Itanium	libjvm.so	JRE_HOME/lib/IA64N/server
Linux	libjvm.so	JRE_HOME/lib/i386/server

For example, suppose you are installing the iProcess Web Services Server Plug-in on a Version 11.0 iProcess Engine on Windows, which is installed in **C:\swserver\staffw\_nod1**. If you want to use:

- the recommended 1.5.x JRE that is shipped with the iProcess Engine, you should specify the **Java Environment** directory as:  
C:\swserver\staffw\_nod1\java\bin\server  
or  
C:\swserver\staffw\_nod1\java\bin\client
- a 1.6.x JRE that is compatible with the iProcess Engine, you might specify the **Java Environment** directory as:  
C:\j2sdk1.6.0\jre\bin\server

Choosing the Correct Java Character Encoding Set

You must ensure that you use a version of Java that provides the necessary character encoding set support with the iProcess Web Services Server Plug-in. See [Appendix B on page 45](#) for more information about how to do this.



Appendix B is only relevant to installations on Windows, Solaris and Linux. Contact Hewlett-Packard for information about character encoding set support on HP-UX (on PA-RISC or Itanium). Contact IBM for information about character encoding set support on AIX.

## Chapter 2

# Advanced Configuration and Deployment

This chapter describes some of the options for deploying the iProcess Web Services Server Plug-in.

## Topics

---

- [Secure Web Service Operations, page 8](#)
- [Multi-Platform Deployment, page 11](#)
- [High Availability Deployment, page 12](#)
- [URL Alias Management, page 14](#)

## Secure Web Service Operations

---

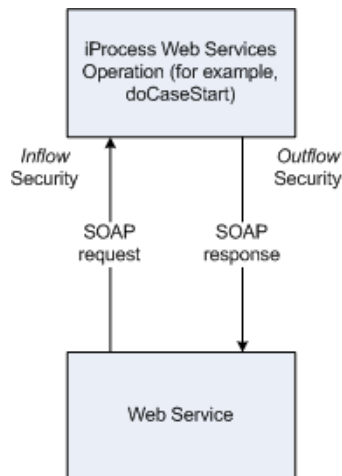
The TIBCO iProcess Web Services Server Plug-in supports inflow and outflow security with Secure Socket Layer (SSL) encryption and various SOAP security features.

### Security Profiles

You can create "security profiles" that contain settings for SOAP security so that the settings can be reused for different web services steps at design time. The security profile can also be associated with a URL alias so that at design time, when you select the URL alias, the associated security profile is displayed as well. For more information about the Security Profile Manager, see the *TIBCO iProcess Web Services Plug-in User's Guide*.

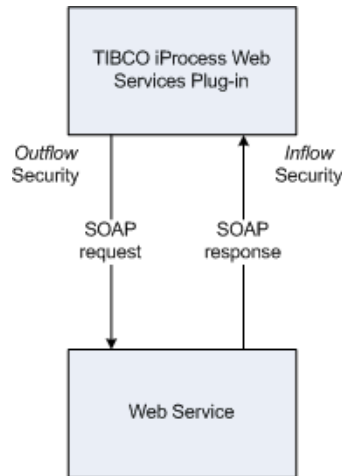
### Inbound Web Services

Inbound web services refer to web services provided by the iProcess Engine (for example, **doCaseStart**). When defining a security profile for inbound web services, the parameters are defined *from the perspective of the web service provider* (the iProcess Web Services Server Plug-in). Therefore, "inflow" security applies to the request from the external web service to the iProcess Engine, and "outflow" security applies to the response from the iProcess Web Services Server Plug-in.



## Outbound Web Services

Outbound web services are called by the iProcess Engine. When defining a security profile for outbound web services, the parameters are defined *from the perspective of the web service invoker* (the iProcess Web Services Server Plug-in). Therefore, "outflow" security applies to the request from the iProcess Engine to the external web service, and "inflow" security applies to the response from the external web service:



## Installation Options

If you are planning to use Secure Socket Layer (SSL) encryption or SOAP security features that utilize certificates (for example, digital signatures or encryption), you must create a keystore. You will be prompted for the location and password of the keystore during the installation. For more information see [Review your Web Services Security Requirements on page 18](#).

## Inbound Security and Deployment

Inbound web services (iProcess Web Services located on your server) are implemented by an Axis2 service. The service is deployed to Axis2 in the form of an **.aar** archive file.

If you modify the inbound security profile after the plug-in has been installed (using the Security Profile Manager), you need to restart Jetty for the changes to take effect.



In a High Availability Environment, you must restart Jetty on each node (see [Inbound Security on page 13](#)).

## Migrating from Versions Prior to Version 10.6

To create Web Services steps that utilize the new features introduced in Version 10.6, you must re-edit the steps after upgrading both the TIBCO iProcess Web Services Client and Server Plug-ins. For more information, see the *TIBCO iProcess Web Services Plug-in User's Guide*.



If you edit a step and convert it to use the new security features, there is no way to revert back to a version of the step without these features.

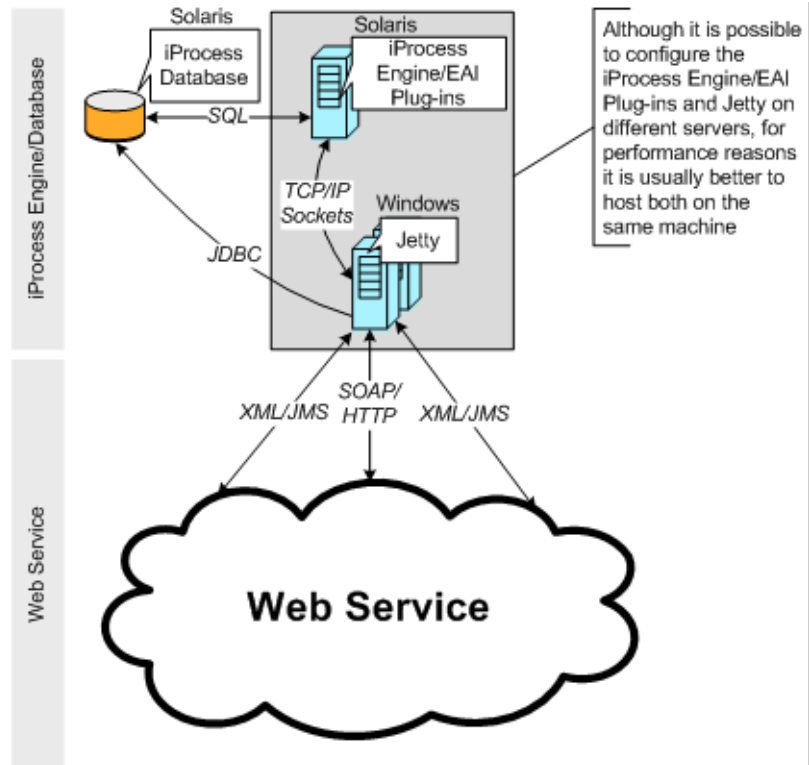
## Multi-Platform Deployment



Both Jetty and iProcess Engine are available on multiple platforms. This means that, although there are no technical reasons why you could not use the example configurations in this section, TIBCO have not tested each combination.

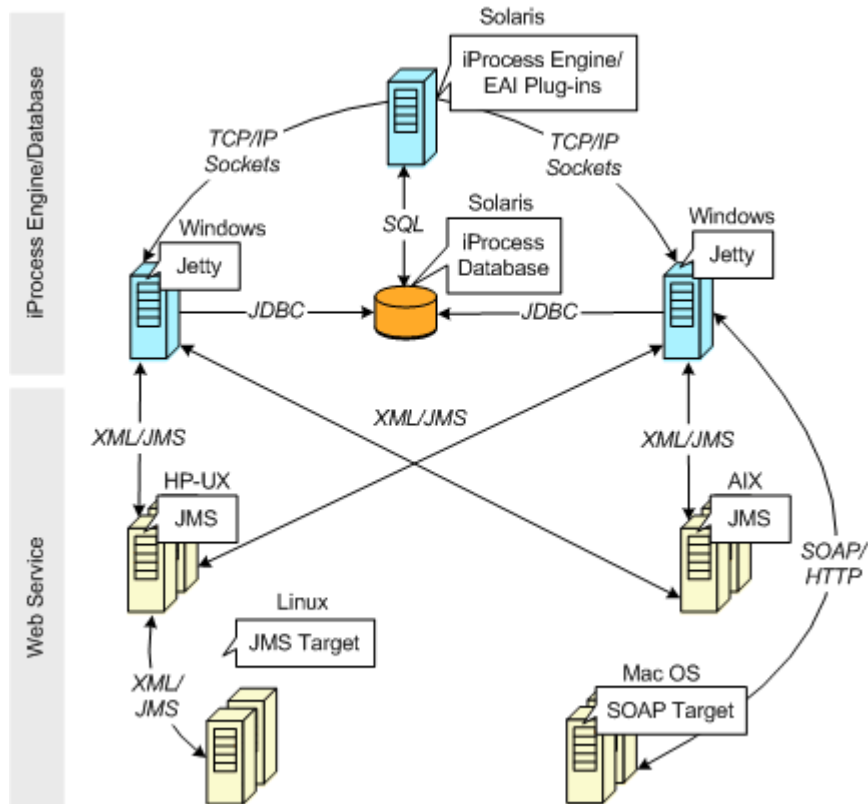
Because it uses XML/JMS and SOAP/HTTP for data transport, the components of the iProcess Web Services Server Plug-in can be deployed on a variety of platforms.

For example:



## High Availability Deployment

In a High Availability configuration, multiple Jetty Servers on separate machines are employed to provide redundancy so that when a failure occurs, processing of messages continues automatically. The following example shows how two Jetty servers have been configured on separate machines to create a high availability system:



During the installation, in the **Install Type** dialog, you can elect to install only the Jetty component. You should do this on each Jetty server that you want to configure. For more information, see [Decide Whether to Create a High-Availability Configuration](#) on page 18.



Because high availability iProcess Web Services Server Plug-in configuration makes extensive use of shared JMS queues, you must select a JMS provider that is capable of providing reliable, highly available JMS connections such as TIBCO EMS.

## High Availability Message Handling

Failed messages can be retried up to a maximum number, after which they are placed on the **SWPoison** queue. Consult your JMS Administrator about configuring the maximum number of retries.

## Security in a High Availability Environment

When you install the TIBCO iProcess Web Services Server Plug-in, in addition to installing Jetty on each server, you should specify the location of the keystore and also configure Secure Socket Layer (SSL) encryption on each server if desired (see [Configure the Server on page 24](#)). This may be necessary, for example, if your keystore generates a unique certificate for each host.

### Inbound Security

Inbound security (external applications calling the iProcess Web Services located on your server) is implemented by an Axis2 service. The service is deployed to Axis2 in the form of an **.aar** archive file as described in [Inbound Security and Deployment on page 9](#).

In a High Availability environment, there may be several Jetty installations across multiple hosts. If you modify the Inbound Web Service security profile, you must restart Jetty on each host. On startup, the Inbound Web Service is redeployed.

## URL Alias Management

---

The TIBCO iProcess Web Services Server Plug-in allows you to defer the location of the WSDL used to call the Web Service at runtime. This is achieved using URL Aliases. The aliases are stored as an entry in a database table which is used to locate the WSDL URL which will be used at runtime.

The aliases can be configured either with the command line utility or when you define your Web Services step. This allows you to change the location of the WSDL file or the WSDL endpoint without having to modify the Web Services step. For example, when a procedure is migrated from a test environment to a live environment, the URL alias can be updated to point to the new location of the WSDL file. For more information, see the *TIBCO iProcess Web Services Plug-in User's Guide*.

## Chapter 3

# Installing or Upgrading the TIBCO iProcess Web Services Server Plug-in

This chapter describes how to install the iProcess Web Services Server Plug-in on Windows and UNIX.

If you are upgrading an existing installation, uninstall your existing installation and follow the instructions for a new installation.

## Topics

---

- [Pre-Installation Tasks, page 16](#)
- [Installing the TIBCO iProcess Web Services Server Plug-in, page 20](#)
- [Post Installation Tasks, page 29.](#)

## Pre-Installation Tasks

---

Before installing the iProcess Web Services Server Plug-in, there are some tasks you may or may not need to carry out, depending on your requirements. The following section describes:

- [Make the JDBC Drivers Available on page 16](#)
- [Configure Your JMS Provider](#)
- [Configure Your JMS Provider on page 17](#)
- [Decide Whether to Create a High-Availability Configuration on page 18](#)
- [Review your Web Services Security Requirements on page 18](#)
- [Start the Database on page 19](#)
- [About the Installer Account on page 19](#)

### Make the JDBC Drivers Available

To connect with the database, iProcess Web Services Server Plug-in requires a JDBC driver for the database you are using. During installation, you are asked for the location of the JDBC Driver. Therefore, you need to have a local copy of the JDBC Driver for the database you are using before you start installing iProcess Web Services Server Plug-in.

If you are using:

- SQL Server:



This applies to all versions of SQL Server.

- a. Download **Microsoft SQL Server JDBC Driver 3.0** from <http://www.microsoft.com/downloads/en/details.aspx?FamilyID=a737000d-68d0-4531-b65d-da0f2a735707>.
  - b. specify **sqljdbc4.jar**.
- Oracle 11g Release 2, 32-bit and 64-bit, when installing iProcess Web Services Server Plug-in, specify both **ojdbc5.jar** and **ojdbc6.jar** from your Oracle installation.



If you are using an older version of Oracle, consult your Oracle documentation for the JDBC driver you need to use.

- DB2, specify **IBM DB2 JDBC Driver 2.0**.

## Configure Your JMS Provider

Before using the iProcess Web Services Server Plug-in, you must install and set up your JMS provider.



If you are upgrading, the queues created by the installation procedure will have already been created. Before continuing however, you should make sure that there are no outstanding items on the queues.

- *XML/JMS only* - You must create the destination from which you want to send and receive messages. This is the way that the clients identify the iProcess Web Services Server Plug-in API. Depending on your requirements you can create, either:
  - a queue name called **queue.IPE**
  - a topic name called **topic.IPE**.



These destinations are only used for inbound web services. If you know that you are going to need a queue for outbound web services, then TIBCO recommend that you create a queue or topic before installing iProcess Web Services Server Plug-in and use the iProcess Web Services Server Plug-in installer to configure the queue, see [Configure JMS Queue Aliases on page 26](#).

- There are some JMS queues that are used internally by Jetty for sending and receiving messages. You must define the following queues and JNDI (Java Naming and Directory Interface) names for your JMS provider:

JMS Queue	Used for...
queue.SWOutbound	outgoing messages
queue.SWInbound	incoming messages
queue.SWTimeout	messages whose timeout period has expired
queue.SWDelayedRelease	messages that use the delayed release invocation style
queue.SWException	exception messages
queue.SWPoison	corrupted messages

JMS Queue	Used for...
queue.SWFieldCache	caching of design-time data

- Confirm that the JMS queue connection factory **QueueConnectionFactory** exists, and if you are using topics, that **TopicConnectionFactory** exists.
- You can do this either before or after you install the iProcess Web Services Server Plug-in. Refer to [System Requirements on page 3](#) for more information about supported/validated JMS providers.
- Refer to the documentation supplied with your JMS provider for detailed information about installation and configuration.

### Decide Whether to Create a High-Availability Configuration

Decide whether you want to create a high availability configuration as described in [High Availability Deployment on page 12](#). To create this kind of configuration, do the following:

1. Perform a **Full** installation as described in this chapter on the machine that hosts your iProcess Engine Plug-ins. When prompted, select **Advanced Configuration Required**. This allows you to specify the details of the multiple Jetty servers that will form your high availability configuration.
2. Perform an installation of the **JMX Container (only)** on each of the Jetty servers in your configuration.
3. If you are using security features, during the installation of the JMX container, specify the keystore location and password as well as the security parameters for each node in the high availability configuration.

### Review your Web Services Security Requirements

Decide which aspects of Web Services security you want to implement. For a detailed discussion of the various types of security available, see the *TIBCO iProcess Web Services Plug-in User's Guide*. If you do not want to implement any security features, continue with [Start the Database on page 19](#).

If you are planning to use Secure Socket Layer (SSL) encryption or SOAP security features that utilize certificates (for example, digital signatures or encryption), you must create a keystore. You will be prompted for the location and password of the keystore during the installation. You can generate the certificate using your preferred tool. For example, the JDK provides a command line tool for this purpose called **keytool** located in the **JAVA\_HOME/bin** directory of the JDK. For more information, see, for Java 1.5

<http://java.sun.com/j2se/1.5.0/docs/tooldocs/index.html#security>

or, for Java 1.6

<http://java.sun.com/javase/6/docs/technotes/tools/index.html#security>

You can also choose from a number of key store tools that feature graphical interfaces. The IBM JRE on AIX also provides **keytool**.

If you are implementing Secure Socket Layer (SSL) encryption, you will be given the option of creating an https transport within Jetty.



The keystore for SSL encryption requires only one entry, and the alias must be **jetty**.

## Start the Database

During the installation, you will enter database configuration information. The installer tests the connection to ensure that the information you have entered is correct and also creates the necessary database tables. Therefore, you must start the database before performing the installation.

## About the Installer Account

### Windows

You must have administrator privileges for the machine on which iProcess Web Services Server Plug-in is installed.

If you intend to install the product on a network drive, you must ensure that the account used for installation has permission to access the network drive.

### UNIX/Linux

- **AIX** You must login as **root**. You will also need to carry out certain steps after installation: see [Post Installation Tasks on AIX on page 31](#) for details.
- **All other UNIX/Linux platforms** You must login as the name of the iProcess Engine background user (by default, **pro**).

# Installing the TIBCO iProcess Web Services Server Plug-in

This section describes how to install the iProcess Web Services Server Plug-in.



The example dialogs in this chapter show pathnames in Windows format. The UNIX dialogs have the same information on them but may look different dependent upon your platform and font support.

## Task A Start the Installation Procedure

To install the iProcess Web Services Server Plug-in:

- 1. Log in to the system on which you want to install iProcess Web Services Server Plug-in (for more information, see [About the Installer Account on page 19](#)).
- 2. Run the iProcess Web Services Server Plug-in **setup** program. Use the following table to see the command to run for your platform:

Platform	Setup Program	Run this command
Windows	<b>setupwin32.exe</b>	<code>setupwin32.exe -is:javahome jre_path</code>
Sun SPARC Solaris	<b>setupSolaris.bin</b>	<code>setupSolaris.bin -is:javahome jre_path</code> For example: <code>setupSolaris.bin -is:javahome /usr/java1.5/jre</code>
Sun x86 Solaris	<b>setupSolarisx86.bin</b>	<code>setupSolarisx86.bin -is:javahome jre_path</code> For example: <code>setupSolarisx86.bin -is:javahome /usr/java1.5/jre</code>
AIX	<b>setupaix</b>	<code>setupaix -is:javahome jre_path</code> For example: <code>setupaix -is:javahome /usr/java1.5/jre</code>

Platform	Setup Program	Run this command
HP Itanium	<b>setupphp64x.bin</b>	setupphp64x.bin -is:javahome <i>jre_path</i> For example: setupphp64x.bin -is:javahome /usr/java1.5/jre
Linux	<b>setupLinux.bin</b>	setupLinux.bin -is:javahome <i>jre_path</i> For example: setupLinux.bin -is:javahome /usr/java1.5/jre

These are referred to as the **setup** program in this procedure.

3. If you're installing from:
  - **physical media:** Run the **setup** program from the root directory.
  - **a network server:** Ask your network administrator for the location of the **setup** program and run it from there.



The **setup** program checks for a suitable JVM on your machine before installation can begin. If the installer does not find a suitable JVM, it allows you to browse for one. If you have not installed a JVM, an error message is displayed. Refer to [System Requirements on page 3](#) for details about the version of JVM you require.

### Task B Complete the Preliminary Details

1. Review the information in the **Welcome** dialog and click **Next**.
2. The **License Agreement** dialog is displayed.
  - Review the terms of the license agreement and, if you agree to them, click **I accept the terms of the license agreement** to continue with the installation and click **Next**.
  - If you do not agree to the terms of the license agreement, click **I do not accept the terms of the license agreement** and exit from the installation process.

### Task C Specify the Installation Details

1. The **Configure Destination** dialog is displayed. Specify the **Directory Name** where you want to install the iProcess Web Services Server Plug-in. Either enter the path directly or use the **Browse** button.

Click **Next** to continue.



When installing on UNIX you can sometimes experience a problem where you cannot select the installation directory in which you want to install the iProcess Web Services Server Plug-in. If this occurs, navigate to the directory you want to install to, enter a period (.) in the **Enter File Name** field and then click **Open**.

2. The **Configure Installation Type** dialog is displayed. Choose one of the following:
  - **Full**: This is recommended for most users as this installs all system features. If you choose **Full**, click **Next** and go to [Task D](#).
  - **JMX Container (only)**: This enables you to install the JMX Container only. This is useful if you want your JMX Container to be installed on a different machine from your iProcess Engine or you want to install multiple instances of the JMX Container to create a high availability configuration. If you choose **JMX Container**, click **Next** and go to [Task E](#).
  - **IPE Interface (only)**: This enables you to install the iProcess Engine Interface only. The iProcess Engine Interface must be installed on the same machine as your iProcess Engine. If you choose **IPE Interface**, click **Next** and go to [Task D](#).
  - **Custom**: This enables you to choose what product features to install. This is intended only for advanced users and should only be used if you have been instructed to do so by TIBCO Technical Support. If you choose **Custom**, click **Next** and go to step 3.
3. (Optional, if a **Custom** install was selected) The **Select Features** dialog is displayed. This dialog enables you to select which product features you want to install. You can select:
  - **JMX Container**. The server engine that holds the Web Services Java components.
    - Inbound**. This component enables inbound calls to the iProcess Web Services Plug-in from external applications, using SOAP or XML text.
    - Outbound**. This component enables the iProcess Web Services Plug-in to send outbound calls to external applications. This can be over HTTP or JMS.
  - **IPE Interface**. This component enables the iProcess Background process to communicate with the JMX Container.

Click **Next** to continue.

If you chose **JMX Container (only)**, go to [Task E](#).

If you chose **iPE Interface**, go to [Task D](#).

### Task D Specify TIBCO iProcess Engine/High Availability Details

1. The **Configure iPE Server Information** dialog is displayed. Specify the **iPE Server Location**. The drop-down list displays the iProcess Engine nodes detected on the system. Either select a node, or select **Alternate location** from the list and click **Browse** to set the location. You must select a directory where you have already installed the TIBCO iProcess Engine (*SWDIR*) and the installer displays an error message if the directory you specify does not contain an iProcess Engine installation.
2. By default the system is configured to connect to the localhost on port 10000. If you are using a Jetty server that is not on your local machine, or if you need to configure several Jetty servers for a High Availability environment, do the following:
  - If you want to use the High Availability feature of the iProcess Web Services Server Plug-in, select the **Configure iPE Component...** check box. Then enter a new **Host for Socket Proxy** and **Port for Socket Proxy** for a Jetty Server that you want to use in your High Availability configuration and click **Add Server**. Do this for each host that you want to configure. If necessary, click **Delete Server** to remove a server from the list.
  - If you are not using High Availability, but have a non-local Jetty server, click **Delete Server** to remove the entry for **localhost**. Then, enter a new **Host for Socket Proxy** and **Port for Socket Proxy** for the Jetty Server that you want to use.

When you have finished configuring the iProcess interface, click **Next**. If you are performing an **iPE Interface (only)** installation, click **Next** and continue with [Task I](#).

### Task E Specify the Database Connection Details

1. The **Configure Database Provider** dialog is displayed. Select the **Database Type** (either **SQL**, **Oracle**, or **DB2**).  
 Once you have selected the database type, the **JDBC Driver Class** field is automatically completed with the driver class for the JDBC driver you are using. To modify this, click **Override** and type in a new driver class. This should be modified only if you are told to do so by TIBCO Support.
2. Browse to the directory where the Jar files are located by clicking **Browse** from the **Specify JDBC Driver Directory** field. This directory must include both the Java 1.5 and Java 1.6 compliant libraries. Click **Next**.

3. The **Configure the Database Connection** dialog is displayed. Enter the Database Details:
  - In the **DB Host** box, enter the IP address or machine name of the system that is hosting the database you are connecting to. For example, **10.10.41.28**.
  - In the **DB Port** box, enter the port number for the database.
  - *Optional - (this is not necessary if you have the default database set up correctly)*  
In the **DB Name** box (DB2 & SQL), enter the database name you want to connect to. For Oracle, in the **Instance** box enter the name of the instance you want to connect to.
  - In the **Audit User ID** box, enter the user name that you want recorded in the log file for Web Services database actions (by default, this is **swadmin**).
  - In the **User ID** box, enter the iProcess database username. By default, this is **swpro**.
  - In the **Password** box, enter the password for the iProcess database username.
  - If the schema owner is different than the iProcess database username, select the **Override** check box, and enter the **Schema Owner** and **Password**.
  - The installation procedure constructs the **JDBC Connection URL** and displays it. To specify a different value, select the **Override** check box and modify the URL as necessary.

Click **Next** to test the database connection details that you entered. You can only do this if your database is currently running, and you cannot proceed past this point in the installation without entering valid database configuration details.

## Task F Configure the Server

1. The **Configure Server (1)** dialog is displayed. This dialog allows you to configure Java and web services security:
  - The installation procedure detects the location of the Java executable on your system. However, you can click **browse** to manually select a different location.



If you are not planning to use web services security, ensure that Java is configured correctly and click **Next**.

For more information about Java requirements, see [Java Runtime Environment and Java Virtual Machine on page 5](#).

- If you are using SOAP security, you must enter the keystore location and keystore password of keystores that you created as a pre-installation task. Browse to select the keystore location for SOAP security, and enter the password that will be used to access the keystore.
- If you are using SSL security, you must enter the keystore location and keystore password of the keystore that you will use for Jetty HTTPS connections. Browse to select the keystore location, and enter the password that will be used to access the keystore.



The keystores that you specify are standard Java keystores (with the file extension **.jks**)

The keystore for SSL encryption requires only one entry, and the alias must be **jetty**.

Click **Next**.

2. The **Configure Server (2)** dialog is displayed. The details on this dialog enable you to configure the following:
  - **JMX Console** - defines the port to use for the JMX Console.
  - **HTTP Admin** - defines the port to use for the Admin tool.
  - **RMI Connector** - defines the port to use for the management of URL Aliases and Security Profiles.
  - **Socket Proxy** - defines the port that the iProcess Web Services Server Plug-in uses to communicate with the iProcess Engine.
  - **HTTP Server** - defines the port to use for the Jetty web server if you are not using SSL encryption.
  - **HTTPS Server** - defines the port to use for the Jetty web server if you are using SSL encryption. If you select this option, also specify the **Alias Password** associated with the SSL certificate that you are planning to use for encryption.



Generate the certificate using your preferred tool. The Java Development Kit (JDK) provides a tool for this purpose called **keytool** located in the **JAVA\_HOME/bin** directory of the JDK. For more information, see, for Java 1.5

<http://java.sun.com/j2se/1.5.0/docs/tooldocs/index.html#security>

or, for Java 1.6

<http://java.sun.com/javase/6/docs/technotes/tools/index.html#security>

- If you use a Proxy server to connect to the Internet for HTTP requests, you need to specify the Proxy server details so that Internet connections can be made. To specify your Proxy server details, select the **Enable HTTP Proxy** box and enter the **Proxy Host** and **Proxy Port**.

You can manually configure the HTTP Proxy settings any time after running the installer as described in *TIBCO iProcess Web Services Plug-in User's Guide*.

- **JMS Queue Name for Proxy (out)** - Not applicable in this release. Reserved for future use.
- **Delayed Release Audit Message** - The message you want to display in the audit trail when a delayed release occurs. See the *TIBCO iProcess Workspace (Windows) User's Guide* for more information about case administration.

Click **Next**.

## Task G Configure JMS Queue Aliases

1. The **Configure JMS Aliases** dialog is displayed:



The settings that you specify in this dialog affect the subsequent **Configure JMS Providers** dialog (see [Task H](#)). In this dialog, you configure aliases for the JMS queues that you have set up on your system. For each alias, you specify an identifier for **JMS Provider**. This identifier is a way of grouping aliases that you will then configure in the **Configure JMS Providers** dialog. Several aliases have been configured for you with the **JMS Provider** (identifier) **internal**.

In the **Configure JMS Providers** dialog, the **Select provider to configure** drop-down list contains **internal**, and the identifiers for any other JMS providers that you entered in the **Configure JMS Queue Aliases** dialog. You can then select from the list a JMS provider (**internal**, or one that you created) and configure it against a **Provider Type** (for example, **EMS**, **WebSphere**, and so on).

Configure the JMS Queue Aliases that you are going to use as follows. The actual queues must already be set up on your system.



The JMS queues that are used internally by the TIBCO iProcess Web Services Server Plug-in are prepopulated and listed in the dialog. They all have the JMS provider identifier **internal** and cannot be deleted. You can modify internal queues by selecting the **Allow override of internal queues** check box.

2. Enter the **Queue Alias** that you want to create.
3. Enter the **JNDI Queue Name**.

4. Enter an identifier for the **JMS Provider**. In the next dialog, any identifiers you entered as a **JMS Provider** will be configured against a provider type (either **EMS**, **WebSphere 5**, **WebSphere 6**, **WebLogic**, or **JBOSS**).
5. You can designate an alias to use for inbound web services by selecting the **Use this alias for Inbound Web Services** check box. Selecting this check box also allows you to specify that the alias is for a **Topic** rather than a **Queue** as the **Topic** radio button is enabled.
6. Click **Add Alias** to add the alias you have configured, or if you are editing an existing alias, click **Modify Alias** to make any changes. You can also click **Delete Alias** to remove an alias (unless it is an alias that is used internally).

When you are done configuring Aliases, click **Next**.

### Task H Configure the JMS Provider

1. The **Configure JMS Providers** dialog is displayed. Select a JMS Provider to configure. These are listed in the **Select Provider to Configure** drop-down list, which is populated with the Providers you specified in the previous dialog.
2. Select the corresponding **Provider Type**.



The default values on this dialog change according to the **Provider Type** you select.

3. Specify JAR files that you want to add to the classpath using one of the following methods:



For EMS, specify both the `tibjms.jar` and the `tibjmsadmin.jar` files which can be located in the EMS installation. The `tibjmsadmin.jar` file is necessary to interrogate and configure EMS destinations as appropriate.

- Click **Browse**, locate a specific JAR file and click **Add Jar**.
- Specify a directory and click **Add all Jars in this directory**.

The **Current Provider Classpath** is displayed and you can delete this by clicking **Delete Classpath Entry**.

4. Configure the Provider details as follows:
  - Enter the JNDI username and password that is required for the JMS provider you have chosen.



If authentication is enabled, the username and password of the user you have specified must have permission to publish and subscribe to the JMS topic called **topic.IPE**.

- **Context URL** - The URL should be a JNDI URL such as **tcp://localhost:7222**.
  - **Context Factory** - Each JMS jar file contains a class name appropriate to the JMS Connection Factory that is provided by the third-party provider. Connection factories are objects that enable JMS clients to create JMS connections. Select the Factory Class for your JMS provider.
  - **Extra Environments** - If you selected **WebSphere 6** as a **Provider Type**, this field displays the additional configuration information necessary to obtain an initial context. For other provider types, you can use this field to specify any additional details required to establish an initial context. For more information, see the documentation for your JMS provider.
5. Ensure your JMS provider is running, and click **Next**. If you are using EMS, the required queues can be created automatically if they do not already exist. If you entered any queue information incorrectly, an error message will be displayed. The JMS configuration details you entered are used to test if your JMS connection works. The result is displayed in the dialog. If the test fails, a dialog is displayed listing the providers that have not been successfully tested, and prompting to confirm whether to proceed. Please refer to [JMS Connection Test Returns Fail on page 40](#) for help.

### Task I Complete the Installation

1. The **Install Summary** dialog is displayed. Review the information and if it is correct click **Install** to install the files. If you need to change something, use the **Back** button to go back.

Click **Install** to continue.

2. The **Installing Files** dialog is displayed as the files are copied to your computer.
3. The **Post-Install Summary** dialog is displayed.

Click **Finish** to complete the installation.

The iProcess Web Services Server Plug-in is now installed.

## Post Installation Tasks

---

This section describes the following post-installation tasks:

- [Post Installation Tasks \(Jetty\)](#). Required in all cases
- [Post Installation Tasks on AIX](#). Required if you installed on AIX using the **root** account, as described in [About the Installer Account on page 19](#)

### Post Installation Tasks (Jetty)

This section describes the Jetty-related tasks you must perform once you have installed the iProcess Web Services Server Plug-in.

#### Starting Jetty

Before using the iProcess Web Services Server Plug-in, you must start up Jetty. TIBCO have provided some scripts that you can invoke to start Jetty. There are many parameters that can be passed to Java to alter the runtime behavior. TIBCO have modified Heap sizes to improve performance.

- If you are using UNIX, you need to run the [webservices\\_server\\_location](#)/**jetty-6.1.25**/**jetty.sh**.
- If you are using Windows, you need to run the [webservices\\_server\\_location](#)\b**jetty-6.1.25**\b**jetty.cmd**.

#### Testing the Axis configuration

You can confirm that Axis2 and related components have been installed correctly by accessing the Axis2 Happiness Page. Enter the following URL in a Web Browser:

`http://machinename:portnumber/axis2/axis2-web/HappyAxis.jsp`

where *machinename* is the name of the computer where you installed Jetty and *portnumber* is the port number used to access the machine where you installed Jetty. If you are using SSL, specify **https** instead of **http** in the URL.

The Axis Happiness Page displays information about the Web Application mandatory and optional components that have been installed, as well as information about the Application Server and System Properties. For example:



## Axis2 Happiness Page

### Examining webapp configuration

#### Essential Components

```
Found Apache-Axis (org.apache.axis2.transport.http.AxisServlet)
  at C:\aiws1120_7\jetty-6.1.25\webapps\axis2\WEB-INF\lib\axis2-transport-http-1.5.2.jar
Found Jakarta-Commons Logging (org.apache.commons.logging.Log)
  at C:\C%3aleaiws1120_7\jetty-6.1.25\lib\ext\tibco\thirdparty\axis\commons-logging-1.1.1.jar
Found Streaming API for XML (javax.xml.stream.XMLStreamReader)
  at C:\C%3aleaiws1120_7\jetty-6.1.25\lib\ext\tibco\thirdparty\axis\geronimo-stax-api_1.0_spec-1.0.1.jar
Found Streaming API for XML implementation (org.codehaus.stax2.XMLStreamWriter2)
  at C:\aiws1120_7\jetty-6.1.25\webapps\axis2\WEB-INF\lib\wstx-asl-3.2.9.jar
```

The core axis2 libraries are present.

**Note:** Even if everything this page probes for is present, there is no guarantee your Axis Service will work, because there are many configuration options that we do not check for.

### Examining Version Service

Found Axis2 default Version service and Axis2 is working properly.

Now you can drop a service archive in axis2/WEB-INF/services. Following output was produced while invoking Axis2 version service

Hi - the Axis2 version is 1.5.2

### Examining Application Server

```
Servlet version 2.5
Platform      jetty/6.1.25
```

### Examining System Properties

## Add BouncyCastle to JRE Security Providers

If you plan to use Web Services Plug-in security features, add Bouncy Castle to the JRE Security providers for Rampart encryption/signing as follows:

1. Copy `JETTY_HOME/lib/ext/tibco/thirdparty/bouncycastle/bcprov-jdk15-145.jar` into the `JRE_HOME/lib/ext` directory.
2. Edit `JRE_HOME/lib/security/java.security` and add Bouncy Castle as a security provider. For example:

```
security.provider.7=org.bouncycastle.jce.provider.Bouncy
CastleProvider
```

## Post Installation Tasks on AIX

After you have completed installation on an AIX system, using the **root** account, you must:

- Change the owner of `$SWDIR/lib/EAIWEBSVCS_11_3_0.EAR` to **pro:staffwar**
- Change the owner of all the files in `webservices_server_location` to **pro:staffwar**

where **pro** is the background user, and **staffwar** is its group.



## Chapter 4 **Removing the TIBCO iProcess Web Services Server Plug-in**

This chapter describes how to remove the iProcess Web Services Server Plug-in using the uninstall program.

## Removing the TIBCO iProcess Web Services Server Plug-in

---

This section describes how to remove the iProcess Web Services Server Plug-in. It describes:

- Removing the iProcess Web Services Server Plug-in on Windows platforms if you only have one instance of the iProcess Web Services Server Plug-in installed. See [On Windows Platforms via the Control Panel on page 34](#).
- Removing the iProcess Web Services Server Plug-in on Windows platforms if you have multiple copies of the iProcess Web Services Server Plug-in installed. See [On Windows Platforms for Multiple Installations of the Web Services Server Plug-in on page 35](#).
- Removing the iProcess Web Services Server Plug-in on UNIX. See [On UNIX Platforms on page 35](#).



During installation when using DB2, note that:

- tablespace SECURITY\_PROFILE is created for table EAIWS\_SECURITY\_PROFILE
- bufferpool SEC\_PROFILE\_BP is created for tablespace SECURITY\_PROFILE.

After uninstalling iProcess Web Services Server Plug-in, if you want to drop the two tables EAIWS\_SECURITY\_PROFILE and EAIWS\_URL\_ALIAS, tablespace SECURITY\_PROFILE and bufferpool SEC\_PROFILE\_BP must be dropped at the same time. This is especially important if you want to install iProcess Web Services Server Plug-in again after uninstallation.

### On Windows Platforms via the Control Panel

To remove the TIBCO iProcess Web Services Server Plug-in from your computer on Windows platforms, make sure you are logged in as either an administrator or the iProcess background user and then complete the following steps:

1. Stop the TIBCO iProcess Engine and the database before removing the iProcess Web Services Server Plug-in.
2. From the **Control Panel**, double-click **Add or Remove Programs**.
3. In the **Add or Remove Programs** dialog, select **TIBCO iProcess Web Services Server Plug-in**
4. Click **Change/Remove**.
5. The **TIBCO iProcess Web Services Server Plug-in Uninstaller** is displayed. Click **Next**.

6. The **Uninstall Feature Dialog** is displayed. By default, all features are selected to be removed. De-select any that you want to keep and click **Next**.
7. Read the summary information, then click **Uninstall** to uninstall the software.



Once you have clicked **Uninstall**, you cannot cancel the uninstall.

8. Click **Finish** to complete the uninstall process.

## On Windows Platforms for Multiple Installations of the Web Services Server Plug-in

If you have more than one instance of the iProcess Web Services Server Plug-in installed, the Control Panel only lists the most recent instance that you installed. To safely remove the correct instance of the software, locate the folder from which you want to remove the iProcess Web Services Server Plug-in and then complete the following steps:



Make sure you are logged in as either an administrator or the iProcess background user.

1. Stop the TIBCO iProcess Engine and the database before removing the iProcess Web Services Server Plug-in.
2. Open the folder in which your iProcess Web Services Server Plug-in is installed and open the **uninst** folder.
3. Double-click the **uninstaller** program.
4. The **TIBCO iProcess Web Services Server Plug-in Uninstaller** is displayed. Click **Next**.
5. The **Uninstall Feature Dialog** is displayed. By default, all features are selected to be removed. De-select any that you want to keep and click **Next**.
6. Read the summary information, then click **Uninstall** to uninstall the software.



Once you have clicked **Uninstall**, you cannot cancel the uninstall.

7. Click **Finish** to complete the uninstall process.

## On UNIX Platforms

To remove the iProcess Web Services Server Plug-in from your UNIX platform:

1. Log in as the iProcess background user (typically **pro** on UNIX).

2. Run the following command:

`webservices_server_location/_uninst/uninstaller.bin`

On AIX, the **uninstaller.bin** file is called **uninstall**. Therefore, you need to run the following command instead:

`webservices_server_location/_uninst/uninstall`

3. The **TIBCO iProcess Web Services Server Plug-in Uninstaller** is displayed. Click **Next**.
4. The **Uninstall Feature Dialog** is displayed. By default, all features are selected to be removed. De-select any that you want to keep and click **Next**.
5. Read the summary information, then click **Uninstall** to uninstall the software.



Once you have clicked **Uninstall**, you cannot cancel the uninstall.

6. Click **Finish** to complete the uninstall process.

## Appendix A **Troubleshooting**

This appendix describes problems you might encounter during installation and recommended courses of action to resolve them.

## Database Connection Test Returns Fail

---

On the **Database Configuration** dialog, you can test the connection to the database. The following are some possible steps to take to establish why the database connection is failing:

1. Check that the database is running.
2. Check that you have a connection to the machine hosting the database. Try pinging the machine.
3. Check that all of the connection details such as the username and password are valid.
4. Check that you are using the correct JDBC drivers for the database you are using, see [Make the JDBC Drivers Available on page 16](#) for more information.



The status window in the **Database Configuration** dialog shows the results of the connection test. Use this information to troubleshoot the problem. You can also paste this information into another application to use in communication with TIBCO Support.

## Encryption Fails at Runtime

---

If at runtime, encryption fails with an error about an unsupported key algorithm, the possible cause is that you need to add Bouncy Castle to the JRE security providers (see [Add BouncyCastle to JRE Security Providers on page 30](#)).

## JMS Connection Test Returns Fail

---

On the JMS dialog, you can test the JMS connection is working. The following are some possible steps to take to establish why the JMS connection is failing:

1. Check that the JMS is running.
2. Check that the users are configured correctly.
3. Ensure that you are using the correct JARs.



The status window in the **Configure JMS Providers** dialog shows the results of the connection test. Use this information to troubleshoot the problem. You can also paste this information into another application to use in communication with TIBCO Support.

## Failures with iProcess Functions due to Exceptions in Stored Procedures When Using SQL Server

---

**Problem** The [webservices\\_server\\_location/jetty-6.1.25/tibco/log.txt](#) file contains an error similar to this:

```
java.sql.SQLException: [Microsoft][SQLServer 2000 Driver for  
JDBC][SQLServer]EXECUTE permission denied on object  
'sp_OACreate',database 'master',owner 'dbo'
```

**Description** The **swpro** user may not have been added to the System Administrators Server role.

**What to do** Add the **swpro** user to System Administrators. Alternatively, if for security reasons you do not want the **swpro** user to be added to System Administrators, you can give the **swpro** user execute permissions on the following Extended Stored Procedures in the master database:

- sp\_OACreate
- sp\_OADestroy
- sp\_OAGetErrorInfo
- sp\_OAGetProperty
- sp\_OAMethod
- sp\_OASetProperty
- sp\_OAStop

## Successful Return Values from Requests to iProcess Functions but the iProcess Function Fails

---

**Problem** The iProcess Engine works asynchronously. When requesting iProcess functions, the values that are returned indicate whether or not the function **requests** have been successful. They do not indicate that the functions have performed successfully. This means, for example, that you may receive a successful return value from a request to the iProcess function **doCaseStart** but the case does not start successfully. For example, you may have passed an invalid step name.

**What to do** In order to handle this, TIBCO recommend defining an iProcess Web Services Server Plug-in step in your procedure that signals back to your client application to confirm that the iProcess function has performed successfully.

## Warning Messages When in the TIBCO EMS Console When Starting Cases

---

**Problem** If you are running TIBCO EMS in a console, every time you start a case from TIBCO BusinessWorks the following warning is displayed in the EMS console.

**WARNING: unable to delete temporary destination.**

**Description** This is due to a restriction with TIBCO EMS. Refer to your TIBCO EMS documentation.

**What to do** You can safely ignore this warning.

## iProcess Web Services Run-time Plug-in Fails to Register During Install

---

**Problem** The iProcess Web Services Run-time Plug-in fails to register during the installation process.

**What to do** Use the following instructions to register the iProcess Web Services Server Plug-in with your TIBCO iProcess Engine.



An alternative method for registering the plug-in is to use the provided script. On Windows, use the **register.bat** script, on UNIX, use **register.sh**, both of which are located in *webservices\_server\_location\eaawebsvcs\scripts*.

1. Ensure you have the necessary permissions to run iProcess administration commands.
2. Make sure the iProcess database is running.
3. Log on as **swpro**.
4. On UNIX, set \$SWDIR to point to your iProcess installation directory.
5. Open a command prompt in the *SWDIR\util* directory.
6. Run the **sweaireg** command as follows:

```
sweaireg REG EAI_WEBSERVICES -m machine_name -l
SWDIR\lib\EAIWEBSVC_n_n_n.ear -i
webservices_server_location\eaawebsvcs
```

where:

- *machine\_name* is the name of the physical machine where the TIBCO iProcess Engine is installed.
- *\_n\_n\_n* is the specific version number of your iProcess Web Services Server Plug-in, for example if you are registering the version 10.6.0 plug-in, you would use **\_10\_6\_0**.
- *webservices\_server\_location* is the directory where you installed the TIBCO iProcess Web Services Server Plug-in.

Refer to “Managing EAI Step Server Plug-ins” in the *TIBCO iProcess Engine: Administrator’s Guide* for more information about managing EAI plug-ins.

## Appendix B    **Java Character Encoding Sets**

This appendix describes how to ensure that you use a version of Java that provides the necessary character encoding set support with the iProcess Web Services Server Plug-in.



This appendix is only relevant to installations on Windows, Solaris and Linux.

Contact Hewlett-Packard for information about character encoding set support on HP-UX Itanium.

Contact IBM for information about character encoding set support on AIX.

### Topics

---

- [Which Java Version/Encoding Set Combination Do I Need?, page 46](#)
- [Obtaining an Appropriate Java Version/Encoding Set Combination, page 47](#)

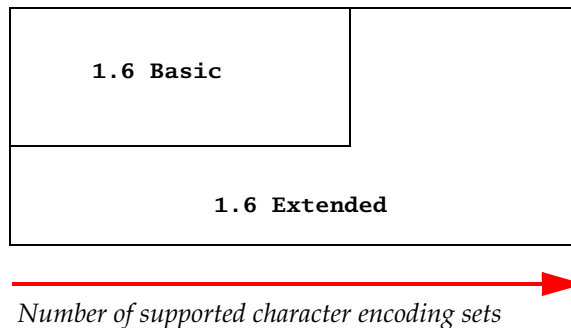
## Which Java Version/Encoding Set Combination Do I Need?

---

Java provides two groups of character encoding sets:

- **Basic** - supports European languages only
- **Extended** - extends Basic to add support for non-European languages

The following diagram shows the different Java version/encoding set combinations and their relationship to each other, in terms of the number of character encoding sets they support.



For a complete list of all character encoding sets supported in Java 1.6. *x*, see version, see

<http://java.sun.com/javase/6/docs/technotes/guides/intl/encoding.doc.html>

Use these references to determine the minimum Java version/encoding set combination you need.



You must ensure that you use a Java version/encoding set combination that supports all the character encoding sets you require.

## Obtaining an Appropriate Java Version/Encoding Set Combination

When you have determined what Java version/encoding set combination you need, you must ensure that this combination is available on your system before you install the iProcess Web Services Server Plug-in. You can either:

- use the Java version installed with the iProcess Engine, if it is appropriate - see [Java Version/Encoding Set Combinations Supplied by the iProcess Engine](#) below for more information.
- use a Java version that is already installed on the machine, if it is appropriate - see [Using a Java Version/Encoding Set Combination That is Already Installed on page 48](#).
- download and install an appropriate Java version - see [Installing the Required Java Version/Encoding Set Combination on page 48](#).

### Java Version/Encoding Set Combinations Supplied by the iProcess Engine

When installing the iProcess Web Services Server Plug-in, you may be able to use the Java version/encoding set combination that is distributed with the iProcess Engine. (You can also do this if you are installing the iProcess Web Services Server Plug-in on the same machine.)

The following table lists the combinations of Java1.6.x and encoding set (Basic or Extended) that are distributed (in *SWDIR\java*) with different versions of the iProcess Engine.

Platform	iProcess Engine Versions 11.0.2	iProcess Engine Version 11.1.x	iProcess Engine Version 11.3
Windows	1.6 Basic	1.6 Basic	1.6 Basic
Solaris, Linux	1.6 Extended	1.6 Extended	1.6 Extended

If this Java version/encoding set combination meets your requirements, you need take no further action before installing the iProcess Web Services Server Plug-in, if you are installing it on the same machine).

If you need a different Java version/encoding set combination, you must either use a Java version that is already installed on the machine (if appropriate), or download and install a suitable Java version. See the following sections for more information.

## Using a Java Version/Encoding Set Combination That is Already Installed

You may be able to use a Java version/encoding set combination that you have already installed on the machine where you wish to install the iProcess Web Services Server Plug-in.

The following table lists the Java version/encoding set combinations that are supported by the different Java versions.

Platform	Java 1.6
Windows	1.6 Basic ( <i>see below</i> )
Solaris, Linux	1.6 Extended



On Windows, the default Java installation only provides support for Basic character encoding sets *unless* it detects that the operating system uses non-European character sets, or if the installing user performed a Custom installation and explicitly requested support for non-European languages (in which case it provides Extended support as well).

## Installing the Required Java Version/Encoding Set Combination

If you need to install the required Java version/encoding set combination, perform the following steps:

1. Download the required version of Java from Oracle’s web site.
2. Install Java with the appropriate character encoding set support. If you are using:
  - *Solaris or Linux*, the default installation provides support for both Basic and Extended character encoding sets.
  - *Windows*, the default installation only provides support for Basic character encoding sets unless it detects that the operating system uses non-European character sets (in which case it provides Extended support as well).



If you require Extended character encoding set support, you should perform a **Custom** installation and request support for non-European languages. This ensures that a complete international version is installed, which supports the Extended encodings.