

# Working with the webMethods Product Suite and the Java Service Wrapper

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This document applies to webMethods Product Suite Version 9.8 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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## Table of Contents

<b>About this Guide</b> .....	<b>5</b>
Document Conventions.....	5
Online Information.....	6
<b>The Java Service Wrapper</b> .....	<b>7</b>
The Java Service Wrapper and Software AG Products.....	8
Determine Whether Your Product Uses the Java Service Wrapper, and Which Version.....	9
Edit Java Service Wrapper Properties.....	9
Generate a Thread Dump.....	10



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## About this Guide

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This guide provides an introduction to the ways in which the webMethods product suite uses the Java Service Wrapper. It describes property settings you use to configure the Java Service Wrapper and provides procedures for using utility commands provided by the wrapper.

## Document Conventions

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Convention	Description
<b>Bold</b>	Identifies elements on a screen.
Narrowfont	Identifies storage locations for services on webMethods Integration Server, using the convention <i>folder.subfolder:service</i> .
UPPERCASE	Identifies keyboard keys. Keys you must press simultaneously are joined with a plus sign (+).
<i>Italic</i>	Identifies variables for which you must supply values specific to your own situation or environment. Identifies new terms the first time they occur in the text.
Monospace font	Identifies text you must type or messages displayed by the system.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the   symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

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## Online Information

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### Software AG Documentation Website

You can find documentation on the Software AG Documentation website at <http://documentation.softwareag.com>. The site requires Empower credentials. If you do not have Empower credentials, you must use the TECHcommunity website.

### Software AG Empower Product Support Website

You can find product information on the Software AG Empower Product Support website at <https://empower.softwareag.com>.

To submit feature/enhancement requests, get information about product availability, and download products, go to [Products](#).

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, go to the [Knowledge Center](#).

### Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECHcommunity website at <http://techcommunity.softwareag.com>. You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest.
- Access articles, code samples, demos, and tutorials.
- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.
- Link to external websites that discuss open standards and web technology.

# 1 The Java Service Wrapper

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■ The Java Service Wrapper and Software AG Products .....	8
■ Determine Whether Your Product Uses the Java Service Wrapper, and Which Version .....	9
■ Edit Java Service Wrapper Properties .....	9
■ Generate a Thread Dump .....	10

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## The Java Service Wrapper and Software AG Products

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The Java Service Wrapper is an application developed by Tanuki Software, Ltd. Some Software AG products use the Java Service Wrapper to:

- Start and stop the Java Virtual Machines (JVM) in which they run. You can configure Java startup parameters such as heap size, PermGen size, and classpath.
- Record the console output from the JVM in a log file. This log includes stack traces that the JVM produces when a process throws an exception and any thread dumps you generate from the JVM. The wrapper log is particularly useful when a webMethods product runs as a Windows service, because console output is not normally available to you in this mode. The log file is named wrapper.log.
- Monitor the JVM for various fault conditions and take a specified action when a fault occurs. You can do the following:
  - Detect a nonoperational (hung) JVM. After the Java Service Wrapper starts the JVM, it pings the JVM periodically to check whether it is operational. If the JVM does not respond to a ping within a specified interval, the Java Service Wrapper assumes that the JVM has stopped functioning and restarts it. Each Software AG product configures this feature differently; some disable it entirely.
  - Detect thread deadlocks in the JVM. A thread deadlock occurs when two or more threads try to lock resources in a manner that causes all threads to wait indefinitely. The Java Service Wrapper can monitor the JVM for a deadlock condition and take a specified action (for example, restarting the JVM) when the condition occurs. For most Software AG products, this feature is disabled by default.
  - Detect specified messages in the console output. The Java Service Wrapper can monitor the console output and take a specified action when a given string of text appears. This feature is often used to watch for out-of-memory messages.
- Enable you to generate a thread dump when the JVM is running as a service under Windows.

This guide discusses the Java Service Wrapper as it is used by Software AG runtime products that run on the Software AG Common Platform. The documentation for a product might contain additional instructions for using the Java Service Wrapper for that product.

**Note:** For information about Software AG products that use the Java Service Wrapper but do not run on the Software AG Common Platform, see the documentation for those products.



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## Determine Whether Your Product Uses the Java Service Wrapper, and Which Version

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On the machine that hosts your Software AG products, open a command window and go to the Software AG installation directory. If you see a directory named `profiles`, one or more of your products uses the Java Service Wrapper. The names of directories within the profile directory correspond to profile names for the products (that is, *Software AG\_directory/profiles/profile\_name*). For example, the *Software AG\_directory/profiles/CTP* directory is for the Software AG Runtime.

You will need to refer to the Tanuki Software, Ltd. website for detailed information about Java Service Wrapper properties listed in this guide. However, you will need to know which version of the Java Service Wrapper your product uses. To determine the version, go to the *Software AG\_directory/profiles/profile\_name/bin* directory and run the command `service -version`.

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## Edit Java Service Wrapper Properties

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Each Software AG runtime product that runs on the Software AG Common Platform has two configuration files for the Java Service Wrapper.

- The `wrapper.conf` contains the Java Service Wrapper property settings that are installed with the product. Never edit the contents of this file unless instructed to do so by Software AG.
- The `custom_wrapper.conf` contains properties that override and modify the settings in the `wrapper.conf` file. If you want to edit property settings for a product's Java Service Wrapper, this is the file in which to do so.

**Important:** Software AG products have different policies regarding the Java Service Wrapper properties you can configure. See the administrator's guide for your product before changing any Java Service Wrapper property settings.

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### To edit wrapper properties

1. Go to the *Software AG\_directory/profiles/profile\_name* directory for your product and open the `wrapper.conf` and `custom_wrapper.conf` files in a text editor.
2. Go to the Java Service Wrapper product documentation on the Tanuki Software, Ltd. website for detailed information about each property. Then go to the product documentation for any product-specific instructions.
3. If the property you want to edit already exists in the `custom_wrapper.conf` file, edit it in that file. If the property does not yet exist in the `custom_wrapper.conf` file, copy the property from the `wrapper.conf` file and then edit it in the `custom_wrapper.conf` file. If you are working with a sequenced attribute property, you must match the

sequence of properties in the `custom_wrapper.conf` file to the sequence of properties in the `wrapper.conf` file.

**Important:** Never edit the contents of the `wrapper.conf` file.

4. Save the `custom_wrapper.conf` file. Exit the `wrapper.conf` file without making any changes.
5. Restart the product.

## Generate a Thread Dump

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A thread dump can help you locate thread contention issues that can cause thread blocks or deadlocks. The Java Service Wrapper provides a utility that enables you to generate thread dumps of the JVMs for Software AG products that are running as Window services.

On the machine that hosts your Software AG products, open a command window, go to the `Software AG_directory/profiles/profile_name/bin` directory, and run the command `service -dump`. The Java Service Wrapper writes the thread dump to the `wrapper.log` file in the `Software AG_directory/profiles/profile_name/logs` directory.