



# Using the SAP Java Connector in Productions

Version 2019.4  
2020-01-28

*Using the SAP Java Connector in Productions*

InterSystems IRIS Data Platform Version 2019.4 2020-01-28

Copyright © 2020 InterSystems Corporation

All rights reserved.

InterSystems, InterSystems IRIS, InterSystems Caché, InterSystems Ensemble, and InterSystems HealthShare are registered trademarks of InterSystems Corporation.

All other brand or product names used herein are trademarks or registered trademarks of their respective companies or organizations.

This document contains trade secret and confidential information which is the property of InterSystems Corporation, One Memorial Drive, Cambridge, MA 02142, or its affiliates, and is furnished for the sole purpose of the operation and maintenance of the products of InterSystems Corporation. No part of this publication is to be used for any other purpose, and this publication is not to be reproduced, copied, disclosed, transmitted, stored in a retrieval system or translated into any human or computer language, in any form, by any means, in whole or in part, without the express prior written consent of InterSystems Corporation.

The copying, use and disposition of this document and the software programs described herein is prohibited except to the limited extent set forth in the standard software license agreement(s) of InterSystems Corporation covering such programs and related documentation. InterSystems Corporation makes no representations and warranties concerning such software programs other than those set forth in such standard software license agreement(s). In addition, the liability of InterSystems Corporation for any losses or damages relating to or arising out of the use of such software programs is limited in the manner set forth in such standard software license agreement(s).

THE FOREGOING IS A GENERAL SUMMARY OF THE RESTRICTIONS AND LIMITATIONS IMPOSED BY INTERSYSTEMS CORPORATION ON THE USE OF, AND LIABILITY ARISING FROM, ITS COMPUTER SOFTWARE. FOR COMPLETE INFORMATION REFERENCE SHOULD BE MADE TO THE STANDARD SOFTWARE LICENSE AGREEMENT(S) OF INTERSYSTEMS CORPORATION, COPIES OF WHICH WILL BE MADE AVAILABLE UPON REQUEST.

InterSystems Corporation disclaims responsibility for errors which may appear in this document, and it reserves the right, in its sole discretion and without notice, to make substitutions and modifications in the products and practices described in this document.

For Support questions about any InterSystems products, contact:

**InterSystems Worldwide Response Center (WRC)**

Tel: +1-617-621-0700

Tel: +44 (0) 844 854 2917

Email: [support@InterSystems.com](mailto:support@InterSystems.com)

# Table of Contents

<b>About This Book</b> .....	<b>1</b>
<b>1 Overview</b> .....	<b>3</b>
<b>2 Setup Tasks</b> .....	<b>5</b>
2.1 Setting Up the Java Gateway .....	5
2.2 Installing the SAP JCo Jar File .....	5
2.3 Generating Proxy Classes for SAP JCo .....	6
2.4 Testing the SAP Connection .....	6
<b>3 Using the SAP Java Connector</b> .....	<b>9</b>
3.1 Basics .....	9
3.2 Settings for EnsLib.SAP.Operation .....	9



# About This Book

This book describes how to configure and use the SAP Java Connector with InterSystems IRIS®. It contains the following sections:

- [Overview](#)
- [Setup Tasks](#)
- [Using the SAP Java Connector](#)

For a detailed outline, see the [table of contents](#).

For more information, try the following sources:

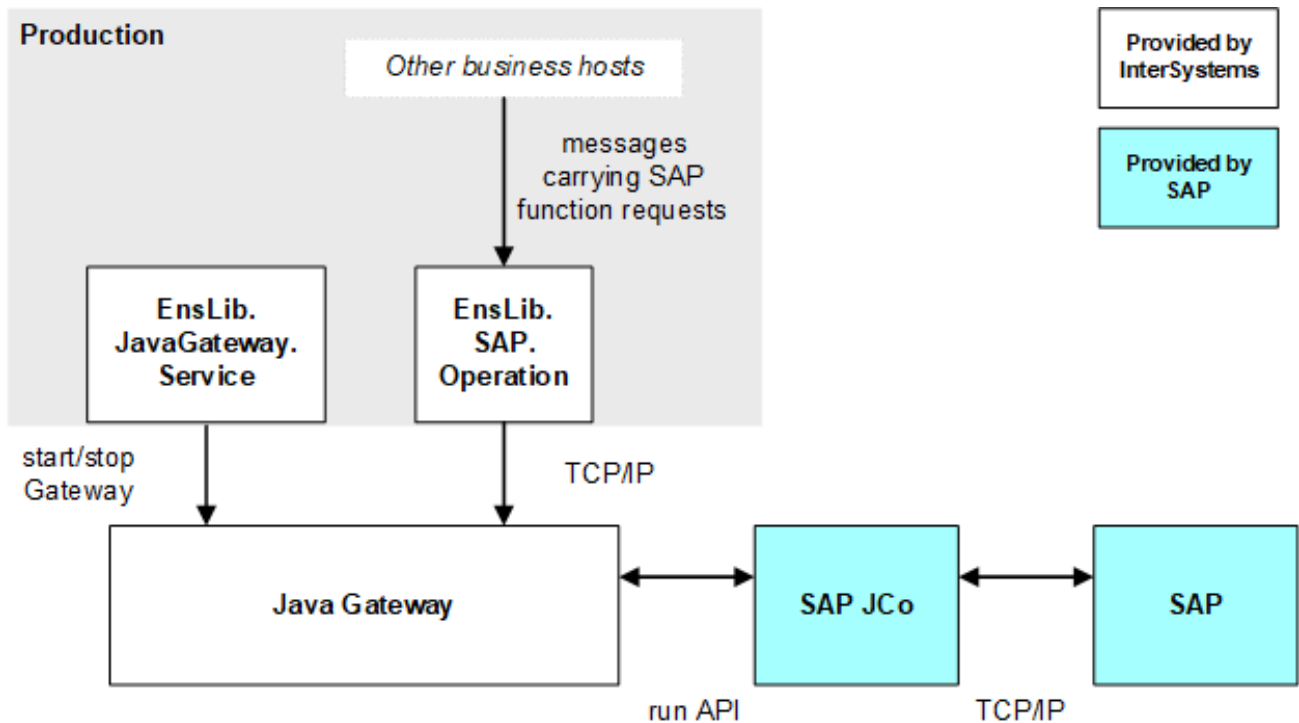
- *[Best Practices for Creating Productions](#)* describes best practices for organizing and developing productions.
- *[Developing Productions](#)* explains how to perform the development tasks related to creating a production.
- *[Configuring Productions](#)* describes how to configure the settings for productions, business hosts, and adapters. It provides details on settings not discussed in this book.



# 1

## Overview

SAP Java Connector (SAP JCo) is a Java-based component that supports communication with an SAP Server in both directions. InterSystems provides components that you can add to a production to enable the production to communicate with SAP JCo, and thus with an SAP Server. The following picture shows the architecture:



The architecture includes the Java Gateway, which must be running.

To communicate with SAP JCo, the production must include the following items:

- EnsLib.SAP.Operation, which communicates via TCP/IP with the Java Gateway.
- EnsLib.JavaGateway.Service, which starts and stops the Java Gateway.

This business host performs an additional function: its settings indicate the location of the Java Gateway. When correctly configured, the EnsLib.SAP.Operation business host retrieves those settings and uses them. Thus it is not necessary to set any environment variables.

Unlike most business hosts in a production, EnsLib.JavaGateway.Service does not handle any production messages.

It is not necessary to manually create message classes to carry the SAP requests within the production. InterSystems provides a CSP page that you can use to generate the message classes.



# 2

## Setup Tasks

Before you can use the SAP components in a production, you must perform several setup activities. This chapter discusses them:

- [Setting up the Java Gateway](#)
- [Installing the SAP JCo Files](#)
- [Generating proxy classes for SAP JCo](#)
- [Testing the SAP connection](#)

To access SAP, it is necessary to provide a username and password. This means that you must also create production credentials that contain an SAP username and password. For information on creating credentials, see [Configuring Productions](#).

### 2.1 Setting Up the Java Gateway

For information on setting up the Java Gateway, see “[Prerequisites](#)” in *Using the Java Gateway in Productions*.

### 2.2 Installing the SAP JCo Jar File

Obtain, from SAP, the SAP Java Connector 3.x, as appropriate for your operating system. Generally, this is provided as a compressed file. Uncompress it and place the contents in a convenient location. The directory should contain the following items:

- examples subdirectory
- javadoc subdirectory
- Readme.txt file
- sapjco3.dll file
- sapjco3.jar file
- sapjcomanifest.mf file

## 2.3 Generating Proxy Classes for SAP JCo

To communicate with SAP JCo, your interoperability-enabled namespace must contain proxy classes that represent SAP JCo. To generate these classes, do the following:

1. Start the Java Gateway.

The easiest way to do this is as follows:

- a. Create a simple production that contains only one business host: `EnsLib.JavaGateway.Service`.

Configure the settings for this business host so that it can find the Java Gateway. For information, see “[Using the Java Gateway in a Production](#)” in *Using the Java Gateway in Productions*.

- b. Start the production, which starts the Java Gateway.

For other ways to start the Java Gateway, see *Using the Java Gateway in Productions*.

2. In the Terminal, change to your interoperability-enabled namespace and use the `ImportSAP()` method of `EnsLib.SAP.Bootstrap`, as follows:

```
do ##class(EnsLib.SAP.Bootstrap).ImportSAP(pFullPathToSAPJarFile,pPort,pAddress)
```

Where:

- `pFullPathToSAPJarFile` is the full path to the SAP Jar file.
- `pPort` is the port used by the Java Gateway.
- `pAddress` is the IP address used by the Java Gateway.

## 2.4 Testing the SAP Connection

To test the SAP connection, do the following in the Terminal (or in code):

1. Create an instance of `EnsLib.SAP.Util`.
2. Set the following properties of that instance. These are string properties unless otherwise noted.
  - `SAPClient` — SAP Client e.g 000.
  - `SAPUser` — Username that has access to the SAP server.
  - `SAPPassword` — Password for the user.
  - `SAPLanguage`
  - `SAPHost` — Host name or IP address of the SAP server.
  - `SAPSystemNumber` — SAP SystemNumber e.g 00.
  - `JavaGatewayAddress` — IP address or name of the machine where the JVM to be used by the Java Gateway server is located.
  - `JavaGatewayPort` — Port used by the Java Gateway.
  - `SAPTransactionAutoCommit` — Specifies whether to execute the BAPI "BAPI\_TRANSACTION\_COMMIT" after a successful BAPI/RFC-call. This property is %Boolean.

3. Call the PingSAP() method of your instance. This method connects to SAP and performs a dynamic invocation of the STFC\_CONNECTION function. It returns a %Status.



# 3

## Using the SAP Java Connector

This chapter describes how to add the required components to your production so that it can send requests to SAP. It discusses the following topics:

- [Basic configuration tasks](#)
- [Settings for EnsLib.SAP.Operation](#)

Also see “[Using the Java Gateway in a Production](#)” in *Using the Java Gateway in Productions*.

### 3.1 Basics

Add the following business hosts to your production.

- The business service EnsLib.JavaGateway.Service.

Configure this business host as described in “[Using the Java Gateway in a Production](#)” in *Using the Java Gateway in Productions*.

- The business operation EnsLib.SAP.Operation.

Configure this business host as described in the [later in this chapter](#).

- One or more business hosts that send SAP request messages to EnsLib.SAP.Operation, as needed.

Use the message classes that you generated. Your business hosts should create instances of these classes, set properties as applicable, and send the messages to the instance of EnsLib.SAP.Operation.

### 3.2 Settings for EnsLib.SAP.Operation

EnsLib.SAP.Operation sends requests to SAP JCo, via the Java Gateway. For this business host, specify the following settings:

#### **SAPClient**

SAP Client e.g 000.

#### **SAPCredentials**

This is the name of the set of production credentials to use when accessing the SAP server.

**SAPLanguage**

**SAPHost**

Host name or IP address of the SAP server.

**SAPSystemNumber**

SAP SystemNumber e.g 00.

**SAPTransactionAutoCommit**

Specifies whether to execute the BAPI "BAPI\_TRANSACTION\_COMMIT" after a successful BAPI/RFC-call.

**SAPResponseHandler**

Configuration item in this production that should receive the SAP response.

**JavaGatewayConfigItemName**

Name of the (required) configuration item that hosts the Java Gateway.

For settings not listed in this book, see “[Settings in All Productions](#)” in *Managing Productions Productions*.