IBM Operational Decision Manager
Version 8 Release 6

Configuring Operational Decision Manager on Java SE

IBM

Note

Before using this information and the product it supports, read the information in "Notices" on page 5.

This edition applies to version 8, release 6, modification 0 of Operational Decision Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Configuring Operational Decision Manager on Java SE

Configuring Rule Execution Server on Java SE

On the Java™ SE platform, the execution unit (XU) is deployed as a simple Java Standard Edition JAR file. This deployment implements a lightweight J2C container, which uses the Operational Decision Manager pooling infrastructure. The resource is scoped to a client application.

Before you configure Rule Execution Server on Java SE

Some limitations affect the installation of Rule Execution Server on Java SE.

If you use Java SE embedded in your application server, you can use the standard Java Management Extensions (JMX) notification mechanism, provided that the Rule Execution Server console is deployed in the same Java virtual machine (JVM). If you use Rule Execution Server in a Java SE environment on a stand-alone JVM, you must enable the TCP/IP management mode to manage Java SE notification. See Configuring execution units (XU) to connect to a TCP/IP management server.

Typically, you install Rule Execution Server in the following steps:
1. "Setting the class path for Java SE."
2. "Changing the persistence mode" on page 2. If necessary, create your database and SQL table, and JDBC access, with JNDI lookup.

The following limitations apply to rule sessions:
- The execution unit (XU) is not shared. Therefore, it consumes more memory.
- Connection pools are configured only through the `ra.xml` deployment descriptor.
- Only Java SE rule sessions are available. This restriction has the following consequences:
  - Remote calls such as Java Message Services (JMS) or EJB are not possible.
  - No transaction support: you must implement your own transaction management logic as EJB does.

Setting the class path for Java SE

When you configure Rule Execution Server for Java SE, you must set its class path in the Ant script that you use to build your application.

About this task

The `executionserver.j2se.classpath` property defines all the JAR files that are necessary to execute Rule Execution Server on Java SE.

Procedure
1. Set the `executionserver.home` property:
   ```
   <property name="executionserver.home" value="<InstallDir>/executionserver"/>
   ```
2. Import the `classpath-executionserver.xml` file:
   ```
   <import file="${executionserver.home}/lib/classpath-executionserver.xml"/>
   ```
3. Set the path for the `executionserver.j2se.classpath` property.

What to do next

You use the Ant script to package the appropriate JAR files and build your application.

Packaging JAR files for Rule Execution Server on Java SE

If you use Rule Execution Server in a stand-alone Java SE environment, only some of the provided JAR files are necessary. A tool is available to help you select and package the appropriate JAR files.

Before you begin

Find and select the JAR files that you need by using Ant and by referencing the *executionserver.j2se.classpath* variable. For more information, see "Setting the class path for Java SE" on page 1.

About this task

A number of JAR files are provided with the product distribution for you to build your applications. These JAR files are installed in the *<ODM_InstallDir>*/ executionserver/lib folder. If you need to extract those files or if you do not use Ant to build your application, you can use the classpath-executionserver.xml file, which is provided in *<ODM_InstallDir>*/shared/tools/ant/bin/ant folder.

This Ant script provides three actions:
- **display**: to display the list of JAR files
- **copy**: to copy the necessary JAR files to a dedicated folder. Parameter: target.copy.dir
- **package**: to compress the JAR files into a single portable archive named jse-res-jars.zip for redistribution. Parameter: target.zip.dir

Example

For example, on a DOS command line from the *<ODM_InstallDir>*/ executionserver/lib directory, you can run the following commands:

```
..\..\shared\tools\ant\bin\ant -f classpath-executionserver.xml display
..\..\shared\tools\ant\bin\ant -f classpath-executionserver.xml copy -Dtarget.copy.dir=c:\myapplicat
..\..\shared\tools\ant\bin\ant -f classpath-executionserver.xml package -Dtarget.zip.dir=c:\myapplica
```

Changing the persistence mode

Change the persistence mode.

About this task

To change the persistence mode, modify the resource adapter descriptor file, then add it to your class path.

The deployment descriptor includes comments to help you configure the file to your needs. The properties to change to modify persistence are:
- persistenceType
- persistenceProperties

For information on creating archives configured with a persistence type, refer to the ressetup.xml Ant script.

Procedure

1. To change the execution stack from the default file persistence modify the resource adapter descriptor file `ra.xml` located in:

   `<InstallDir>/executionserver/bin`

2. After you have configured this file, add it to your class path. At run time, `ra.xml` overrides the `default_ra.xml` file provided in `jrules-res-execution.jar`.

Database driver issues

The JDBC Not Bound error message is issued when an error occurs during the creation of the data source.

Refer to the traces to locate the original cause. In the vast majority of cases one of the following is likely:

- A directory does not exist or cannot be read or written to (Derby).
- There is a missing schema or table.
- There are missing privileges to access the database resource.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM United Kingdom Laboratories,
Mail Point 151,
Hursley Park,
Winchester,
Hampshire,
England SO21 2JN

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those

websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM United Kingdom Laboratories,
Mail Point 151,
Hursley Park,
Winchester,
Hampshire,
England   SO21 2JN

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or

imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corp. _enter the year or years_.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Index

C

class path
    setting for Java SE   1
configuring Rule Execution Server
    Java SE   1
connection pools
    limitations on Java SE   1

D

databases
    driver issues
        JDBC not bound   3

E

execution unit (XU)
    limitations on Java SE   1

I

installing Rule Execution Server
    configuring the persistence mode
        Java SE   2
    JDBC not bound   3

J

Java Management Extensions (JMX)
    and Java SE environments   1
Java SE
    configuring Rule Execution Server   1
    configuring the Rule Execution Server
      persistence mode   2
    limitations   1
    packaging Rule Execution Server for
      Java SE   2
    setting the class path for Rule
      Execution Server   1
JDBC
    not bound, Rule Execution Server   3

L

limitations
    Java SE environments   1

P

packaging
    JAR files for Rule Execution Server on
      Java SE   2
persistence
    in Rule Execution Server
        configuring on Java SE   2

R

Rule Execution Server
    See also configuring Rule Execution
      Server
    packaging JAR files for Java SE   2
rule sessions
    limitations on Java SE   1

IBM ®

Printed in USA