webMethods

webMethods JDBC Adapter

Installation Guide

VERSION 6.0.3

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Contents

Overview

This guide provides system requirements for the webMethods JDBC Adapter 6.0.3 and explains how to install, upgrade to, and uninstall the webMethods JDBC Adapter 6.0.3.

Important! The information in this guide might have been updated since the guide was published. Go to the webMethods Advantage Web site at http://advantage.webmethods.com for the latest version of the guide.

If you are installing the webMethods JDBC Adapter with webMethods Integration Platform components such as the webMethods Integration Server (prerequisite), see the *webMethods Integration Platform Installation Guide* for instructions on installing those components.

Requirements

This section provides system requirements for the webMethods JDBC Adapter 6.0.3.

Software Requirements

The following table lists the databases the JDBC Adapter supports, and the operating systems on which you can run the JDBC Adapter (and its supporting Integration Server) for each supported database. The JDBC Adapter uses the JRE used by the Integration Server.

Note: The JDBC Adapter is only supported on the operating systems shown in this table; however, the adapter works with the supported databases running on any platform on which the specific databases are supported. For example, you can use the JDBC Adapter to connect to a DB2 for OS/390 V6 database with the adapter running on a Windows 2000 Professional operating system.

Additionally, the table shows the supported JDBC drivers for each combination of database and operating system. These drivers are provided by the database vendors, or are available from DataDirect Technologies, as indicated.

Note: The JDBC Adapter does not support the version of the DataDirect Connect for JDBC driver that is installed with the Integration Server.

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
■ IBM DB2 for AS/400 V4R5 ■ IBM DB2 for AS/400 V5R1 ■ IBM DB2 for AS/400 V5R2 ■ IBM DB2 for AS/400 V5R3	■ AS/400 V5R1, V5R2, V5R3 ■ HP-UX 11.0, 11i ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	JTOpen V4.1 and 4.7
IBM DB2 for OS/390 V6	■ AS/400 V5R1, V5R2 ■ HP-UX 11.0, 11i ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	■ DB2 net type 3 ■ DB2 Universal Driver type 4 Note: When using the net type 3 driver, DB2 Connect is a required component for the JDBC Adapter to communicate with IBM DB2 for OS/390 V6. The JDBC Adapter supports IBM's DB2 Connect version 7.2 . See your vendor documentation for more information about using DB2 Connect.

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
IBM DB2 for OS/390 V7	■ AS/400 V5R1, V5R2 ■ HP-UX 11.0, 11i ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	■ DB2 net type 3 ■ DB2 Universal Driver type 4 ■ NEON 5.2.316 Note: When using the net type 3 driver, DB2 Connect is a required component for the JDBC Adapter to communicate with IBM DB2 for OS/390 V7 databases. The JDBC Adapter supports IBM's DB2 Connect versions 7.2 and 8.1 See your vendor documentation for more information about using DB2 Connect.
IBM DB2 V8.1 on Z/OS	■ AS/400 V5R1, V5R2 ■ HP-UX 11.0, 11i ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	■ DB2 net type 3 ■ DB2 Universal Driver type 4 Note: When using the net type 3 driver, DB2 Connect is a required component for the JDBC Adapter to communicate with IBM DB2 V8 on Z/OS. The JDBC Adapter supports IBM's DB2 Connect versions 7.2, 8.1 and 8.2. See your vendor documentation for more information about using DB2 Connect.

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
■ IBM DB2 Universal Database (UDB) 8.1 and 8.2	■ AS/400 V5R1, V5R2, V5R3 ■ HP-UX 11.0, 11i, 11i for Itanium** ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	■ DataDirect Connect for JDBC, edition 3.2, 3.3, and 3.4 ■ DB2 app type 2 ■ DB2 net type 3 ■ DB2 Universal Driver type 4 Note: If you use a DB2 app type 2 driver, you must install the JDBC Adapter on the primary host (*Host 1*). For all other driver types, you can install the JDBC Adapter on any supported host. Note: The DB2 app type 2 driver is not supported on HP-UX 11i for Itanium. Note: When running the adapter on AS/400, you must use the DataDirect Connect for JDBC, edition 3.2 driver.

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
IBM DB2 Universal Database (UDB) 7.2 Note: See "Datasource Classes for IBM DB2 UDB 7.2" on page 17 for instructions for getting the datasource classes needed to connect to your DB2 database.	■ AS/400 V5R1, V5R2 ■ HP-UX 11.0, 11i ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	■ DataDirect Connect for JDBC, edition 3.2, 3.3, and 3.4 ■ DB2 app type 2 ■ DB2 net type 3 Note: If you use a DB2 app type 2 driver, you must install the JDBC Adapter on the primary host (*Host 1*). For all other driver types, you can install the JDBC Adapter on any supported host.
IBM Informix Dynamic Server 7.31 and 9.21 and higher	■ HP-UX 11.0, 11i, 11i for Itanium** ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	Informix JDBC 2.21 type 4 Note: To use the JDBC Adapter with IBM Informix on Integration Server 6.0.1 SP2, you must disable the WmTomcat package. Be aware that disabling the WmTomcat package will disable support for JSPs.

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
Oracle 8.x, 9.x, 10g	■ HP-UX 11.0, 11i, 11i for Itanium** ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Mac OS X ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	■ Oracle JDBC Thin Driver ■ Oracle JDBC/OCI Driver Note: When using the Oracle JDBC Thin Driver, BLOB/CLOB data type objects are limited to 4 MB due to a limitation with the driver. Note: On Mac OS X, the adapter only supports the Oracle JDBC Thin Driver v9.0.1. Note: With Oracle Database 10g, you cannot configure adapter services or notifications with BINARY_DOUBLE or BINARY_FLOAT databases using the Adapter Service Editor. In these cases, if you try to insert a row, the corresponding JDBC data type will not display in the Adapter Service Editor. As an alternative, use the CustomSQL adapter service when configuring services involving these data types. See the *webMethods JDBC Adapter User's Guide* for details.

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
Microsoft SQL Server 7.0	■ All Microsoft Windows operating systems supported by the Integration Server*	■ DataDirect Connect for JDBC, edition 3.2 and 3.3
Microsoft SQL Server 2000	■ HP-UX 11.0, 11i ■ IBM AIX 5.1, 5.2 ■ Red Hat Linux ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.8, 2.9	Microsoft SQL Server 2000 Driver for JDBC, version 2.2.0019
Microsoft SQL Server 2005	■ HP-UX 11.0, 11i ■ IBM AIX 5.1, 5.2 ■ Red Hat Linux ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.8, 2.9	Microsoft SQL Server 2005 Driver for JDBC, version 1.0.809.102
Sybase 11.x and 12.x	■ HP-UX 11.0, 11i, 11i for Itanium** ■ IBM AIX 4.3.3, 5.1, 5.2 ■ Red Hat Linux 7.2, ES 2.1 ■ All Microsoft Windows operating systems supported by the Integration Server* ■ Sun Solaris 2.7, 2.8, 2.9	jConnect for JDBC 5.5 and 6.0 type 4

Database and Version	Adapter (IS) Operating System	Supported JDBC Drivers
Teradata V2R5 running on the following platforms: ■ Microsoft Windows ■ NCR UNIX MP-RAS V3.2 and higher	■ Sun Solaris 2.7, 2.8, 2.9 ■ Windows 2000 Server ■ Windows 2000 Advanced Server	■ Teradata JDBC type 4 V03.00.00

* The supported Microsoft Windows operating systems for Integration Server 6.0.1 are: Microsoft Windows NT 4.0 SP6a, Microsoft Windows 2000 Professional, Microsoft Windows 2000 Server, Microsoft Windows Advanced Server, Microsoft Windows XP Professional, and Microsoft Windows 2003 Server.

If you are using the adapter with a version of the Integration Server other than version 6.0.1, see the *webMethods Integration Platform Installation Guide* for the complete list of supported Microsoft Windows operating systems.

** HP-UX 11i for Itanium support is only available for the latest version of the databases listed in this table, where indicated.

webMethods Components

The table below lists the webMethods components you must install before you install the JDBC Adapter. The table also lists the webMethods components you must install at some point for the JDBC Adapter to operate fully.

Required for Installation	Required for Operation
Integration Server 6.0.1 SP2 or higher	Developer 6.0.1 SP1 or higher

Hardware Requirements

The JDBC Adapter has no hardware requirements beyond those of the webMethods Integration Server.

Installing the webMethods JDBC Adapter 6.0.3

The information in this section provides instructions for installing the JDBC Adapter 6.0.3 using the webMethods Installer. These instructions are meant to be used along with the instructions provided in the *webMethods Integration Platform Installation Guide*. Note that the instructions provided in this section are specific to the webMethods Installer wizard, not other installation options such as from an installation script or from a command line.

You must install the JDBC Adapter 6.0.3 on the same machine as the Integration Server. The webMethods Installer will automatically install the JDBC Adapter in the IntegrationServer\packages directory.

Note: If you are installing the webMethods JDBC Adapter in a clustered environment, you must install the webMethods JDBC Adapter on each webMethods Integration Server in the cluster, and each installation must be identical. For more information about working with the webMethods JDBC Adapter in a clustered environment, see the *webMethods JDBC Adapter User's Guide*.

To install the JDBC Adapter 6.0.3

1. Download the webMethods Installer 6.0.1 from the webMethods Advantage Web site at http://advantage.webmethods.com.
2. If you are installing the adapter on an existing installation of the Integration Server, shut down the server if it is running.
3. Start the Installer and follow the instructions in the webMethods Installer wizard.

   Note: To install the adapter on AS/400, you must use the command line installation option. See the *webMethods Integration Platform Installation Guide* for specific instructions on using the command line installation option.
4. Specify the webMethods Integration Platform installation directory (by default, webMethods6).
5. In the component selection list, navigate to webMethods Integration Platform > Adapters > webMethods JDBC Adapter and select Documentation and Program Files 6.0.3.
6. Complete the steps in the webMethods Installer wizard.
7. Restart the Integration Server. After you complete the installation, see the *webMethods JDBC Adapter User's Guide* for instructions on installing a compatible JDBC driver.

Upgrading to the webMethods JDBC Adapter 6.0.3

The information in this section provides instructions for upgrading to the JDBC Adapter 6.0.3.

The adapter supports upgrading from the webMethods JDBC Adapter versions 6.0, 6.0.1, and 6.0.2, and it supports upgrading operations created using certain webMethods Enterprise adapters.

Upgrading from JDBC Adapter 6.0, 6.0.1, or 6.0.2

To upgrade to the JDBC Adapter 6.0.3 from the JDBC Adapter 6.0, 6.0.1, or 6.0.2, uninstall the currently installed JDBC Adapter and then install the JDBC Adapter 6.0.3 using the instructions provided in "Installing the webMethods JDBC Adapter 6.0.3" on page 10. All configuration files and files you created in your 6.0, 6.0.1, or 6.0.2 installation remain unchanged in the 6.0.3 installation.

Important! If you created any adapter notifications using the JDBC Adapter 6.0 that use adapter connections configured to use NO_TRANSACTION or XA_TRANSACTION transaction types, they will not work using the JDBC Adapter 6.0.1, 6.0.2, or 6.0.3. You must disable those adapter notifications before upgrading from the 6.0 version of the adapter, and then you can either:

- Recreate the adapter notifications using adapter connections that are configured to use the LOCAL_TRANSACTION transaction type.

- Change the existing adapter connections to use the LOCAL_TRANSACTION transaction type. (Note that if you choose to change the existing adapter connections, you could potentially break other flows using the adapter connection that require NO_TRANSACTION or XA_TRANSACTION transactions. Before you change the adapter connection, be sure to analyze your system to see whether or not this action will break any other flows.)

Upgrading from Enterprise JDBC and Enterprise Database Adapters

The JDBC Adapter supports upgrading integration components that were created using the following webMethods Enterprise adapters:

- webMethods Enterprise Adapter: JDBC Edition 4.6
- webMethods Enterprise Adapter: Microsoft SQL Server 4.0.4 and 4.1.1
- webMethods Enterprise Adapter: ODBC Edition 4.0.4 and 4.1.1
- webMethods Enterprise Adapter: Oracle Edition 4.0.4 and 4.1.1

For instructions on upgrading Enterprise database adapter operations and Enterprise JDBC Adapter adapter operations and notifications for use with webMethods 6, see the *webMethods Pre-6.0 Enterprise to webMethods 6 Upgrade Guide*.

Note: The JDBC Adapter does not support upgrading from WmDB.

When you upgrade integration components that were created using these Enterprise adapters, the integration components are converted into JDBC Adapter 6.0.3 adapter services and adapter notifications.

Important! For Enterprise adapter operations that were originally created using any of the version 4.0.4 or 4.1.1 Enterprise database adapters, you might not be able to use the webMethods Developer to edit the JDBC Adapter services after you upgrade them.

The adapter services will function just as they did in their Enterprise 4.x environment; however, if you want to modify a service that is not editable, you must recreate it.

Mappings Between Enterprise JDBC Adapter 4.6 Operations and JDBC Adapter 6.0.3 Adapter Services

The following table maps the webMethods Enterprise Adapter: JDBC Edition 4.6 operation templates to the JDBC Adapter 6.0.3 adapter services, plus it lists limitations and considerations you should plan for when upgrading your existing Enterprise operations.

Enterprise JDBC Adapter Configured Operations	webMethods JDBC Adapter Services	Limitations and Considerations
CustomSQL	CustomSQL	
CustomSQLSingle	CustomSQL	
Delete	DeleteSQL	

Enterprise JDBC Adapter Configured Operations	webMethods JDBC Adapter Services	Limitations and Considerations
DynamicSQL	DynamicSQL	
DynamicSQLSingle	DynamicSQL	
Insert	InsertSQL	
Select	SelectSQL	When upgrading an Enterprise JDBC Adapter's Select operation, the Upgrade Utility maps the Oracle LONG data type to the JDBC BIGINT data type, causing the service to generate run-time exceptions. To work around this issue, lock the converted adapter service and then reload the adapter values. *
SelectSingle	SelectSQL	When upgrading an Enterprise JDBC Adapter's Select operation, the Upgrade Utility maps the Oracle LONG data type to the JDBC BIGINT data type, causing the service to generate run-time exceptions. To work around this issue, lock the converted adapter service and then reload the adapter values. *
StoredProcedure	StoredProcedure	If the Enterprise operation included the use of an Oracle cursor, you must create the service manually.
StoredProcedureSingle	StoredProcedure	If the Enterprise operation included the use of an Oracle cursor, you must create the adapter service manually.
Update	UpdateSQL	

Enterprise JDBC Adapter Configured Operations	webMethods JDBC Adapter Services	Limitations and Considerations
BasicNotification	BasicNotification	The Basic Notification operation requires that `Wm_ROWID` be set as the Record ID column to enable the notification to correctly identify records in the notification's buffer table. The Upgrade Utility does not set this value automatically during the conversion process. If you encounter this problem, you must create the adapter notification manually. Converted adapter notifications cannot be locked for edit. If you need to modify a converted notification, or if the notification does not work as expected, you must create the adapter notification manually.
DeleteNotification	DeleteNotification	Converted adapter notifications cannot be locked for edit. If you need to modify a converted notification, or if the notification does not work as expected, you must create the adapter notification manually.
InsertNotification	InsertNotification	Converted adapter notifications cannot be locked for edit. If you need to modify a converted notification, or if the notification does not work as expected, you must create the adapter notification manually.

Enterprise JDBC Adapter Configured Operations	webMethods JDBC Adapter Services	Limitations and Considerations
StoredProcedure Notification	StoredProcedure Notification	If the Enterprise operation included the use of an Oracle cursor, you must create the adapter notification manually. Converted adapter notifications cannot be locked for edit. If you need to modify a converted notification, or if the notification does not work as expected, you must create the adapter notification manually.
UpdateNotification	UpdateNotification	Converted adapter notifications cannot be locked for edit. If you need to modify a converted notification, or if the notification does not work as expected, you must create the adapter notification manually.
* You can reload the adapter values by selecting the Automatic polling of adapter metadata option from Tools > Options > Integration Server > Adapter Service/Notification Editor in the Developer, or by clicking the Reload values from the adapter icon  on the Developer toolbar. See the *webMethods JDBC Adapter User's Guide* for more information about reloading adapter values.		

Datasource Classes for IBM DB2 UDB 7.2

Note: The following instructions apply to IBM DB2 Universal Database (UDB) 7.2 only.

To get the datasource classes required to connect to your DB2 database, you create a db2java.zip file that will contain these class files. Run the usejdbc2.bat file from the sqllib/java12 directory as follows:

Windows Operating Systems:

1 Open the Control Panel Services and stop the DB2 JDBC Applet Server Windows service.

2 Using a command window, change to the SQLLIB\java12 directory where you installed DB2 and execute the batch file `usejdbc2.bat`.

3 From the Control Panel Services, re-start the DB2 JDBC Applet Server Windows service.

UNIX Operating Systems:

1 To obtain the PID number of the `db2jd` process, run the following command:

```
ps -ef | grep db2jd
```

2 Using this PID number, kill the process using the command `kill` *PID number*.

3 Change to the directory `sqllib/java12` (where you installed DB2) and execute the script file `usejdbc2.`

4 Start the DB2 JDBC Applet Server process using the command `db2jstrt`.

Uninstalling the JDBC Adapter 6.0.3

The information in this section provides instructions for uninstalling the JDBC Adapter. These instructions are meant to be used along with the instructions provided in the *webMethods Integration Platform Installation Guide*.

Note: The uninstaller does not delete any user-defined JDBC Adapter components such as connections, adapter services, or adapter notifications. Because these components will no longer work, you should delete them manually before you uninstall the adapter.

Uninstalling the JDBC Adapter 6.0.3

1 Shut down the Integration Server.

Note: The instructions in the *webMethods Integration Platform Installation Guide* say to shut down all webMethods components and applications that are running on your machine. For the JDBC Adapter, you only need to shut down the Integration Server.

2 Start the webMethods Installer's uninstall process, selecting the webMethods installation directory for the webMethods Integration Platform on which the JDBC Adapter is installed.

3 In the component selection list, navigate to webMethods Integration Platform > Adapters and select webMethods JDBC Adapter 6.0.3.

4 Complete the steps in the webMethods Installer wizard.

The uninstaller removes all JDBC Adapter-related files that were installed into the *Integration Server_directory*\packages\WmJDBCAdapter directory; however, the uninstaller does not delete files created after you installed the JDBC Adapter (for example, user-created or configuration files), nor does it delete the directory structure that contains the files.

If you do not want to save the files the uninstaller did not delete, navigate to the *Integration Server_directory*\packages directory and delete the WmJDBCAdapter directory.