

Oracle® SOA Suite

Installation Guide for SQL Server 2005 as BPEL Dehydration
Store

10g Release 3 (10.1.3.3) for UNIX and Microsoft Windows

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Oracle SOA Suite Installation Guide for SQL Server 2005 as BPEL Dehydration Store, 10g Release 3 (10.1.3.3)
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Preface

This guide is the primary source of installation information for Oracle SOA Suite.

This preface contains these topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documentation](#)
- [Conventions](#)

Audience

Oracle SOA Suite Installation Guide for SQL Server 2005 as BPEL Dehydration Store is intended for customers who want to install Oracle SOA Suite.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at

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Related Documentation

For more information, see these Oracle resources:

- *Oracle Application Server Installation Guide* for your platform
- *Oracle Database Administrator's Guide*

In North America, printed documentation is available for sale in the Oracle Store at

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To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

<http://www.oracle.com/technology/membership>

If you already have a username and password for OTN, then you can go directly to the documentation section of the OTN Web site at

<http://www.oracle.com/technology/documentation>

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Installing Oracle SOA Suite with SQL Server 2005 as BPEL Dehydration Store

This chapter provides the requirements and procedures for installing Oracle SOA Suite with SQL Server 2005 as BPEL dehydration store.

This chapter contains the following topics:

- [Overview of Oracle SOA Suite on SQL Server 2005](#)
- [System and Database Requirements](#)
- [Installation and Configuration](#)
- [Postinstallation Verification Tasks](#)
- [Limitations and Troubleshooting Tips](#)

Overview of Oracle SOA Suite on SQL Server 2005

You can install and use Oracle SOA Suite with the SQL Server 2005 as BPEL dehydration store.

Oracle SOA Suite provides a complete set of service infrastructure components for designing, deploying, and managing composite applications. Oracle SOA Suite enables services to be created, managed, and orchestrated into composite applications and business processes. Composites enable you to easily assemble multiple technology components into one SOA composite application. Oracle SOA Suite plugs into heterogeneous IT infrastructures and enables enterprises to incrementally adopt SOA.

Oracle Business Rules (Business Rules) and Oracle Adapters plug into the Service Infrastructure, a normalized transport infrastructure, make up the Enterprise Service Bus (ESB). With the addition of the Oracle BPEL Process Manager (BPEL) and Human Task service components, the suite forms a complete Business Process Management (BPM) platform.

The following components comprise Oracle SOA Suite:

- Oracle Enterprise Service Bus (ESB)
- Oracle BPEL Process Manager (BPEL)
- Human Task
- Oracle Web Services Manager (OWSM)
- Oracle Business Rules

Note: In the Oracle SOA Suite components, only BPEL and Human Task will use SQL Server 2005 as the database.

Oracle SOA Console is the monitoring environment for Oracle SOA Suite. You can run, manage, and test your deployed SOA process using the Oracle SOA Console. Oracle SOA Console provides a Web-based interface for management, administration, and debugging of processes deployed to Oracle SOA Server.

System and Database Requirements

Table 1-1 describes the system requirements for using Oracle SOA Suite with SQL Server 2005 as BPEL dehydration store.

Table 1-1 Oracle SOA Suite System Requirements

Element	Requirement
Oracle SOA Suite for OC4J	Apply SOA Suite patchset 10.1.3.3 on Oracle SOA Suite 10.1.3.1 Note: Refer to Step 1: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J for installing Oracle SOA Suite for OC4J.
Web browsers	Internet Explorer 6.0 or Mozilla Firefox 2.0
Operating systems	Microsoft Windows 2003 Server (for Oracle SOA Suite and Microsoft SQL Server DB), Red Hat Enterprise Linux release 3, and Red Hat Enterprise Linux release 4 (for Oracle SOA Suite)
BPEL dehydration store database	Microsoft SQL Server 2005 SP2

Installation and Configuration

This section describes the steps involved in installing and configuring the Oracle Database, creating a schema in the database, and installing and configuring Microsoft SQL Server.

This section contains the following topics:

- [Step A: Install Oracle Express Edition \(XE\) Database \(For Linux Operating System\)](#)
- [Step B: Create the Oracle SOA Suite Schema in the Oracle XE Database \(For Linux Operating System\)](#)
- [Step 1: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J](#)
- [Step 2: Apply SOA Suite Patchset 10.1.3.3](#)
- [Step 3: Apply Opatch on Oracle SOA Suite 10.1.3.3](#)
- [Step 4: Install SQL Server 2005 Database](#)
- [Step 5: Apply Service Pack 2 on SQL Server 2005 Database](#)
- [Step 6: Configure Oracle SOA Suite and Create SQL Server Database IRCA schema](#)

Note: Installation of Oracle SOA Suite Basic 10.1.3.1.0 for OC4J on Linux requires an Oracle Database with Oracle SOA Suite Schema as a prerequisite. This installation cannot be performed connecting directly to the SQL Server 2005 database. Hence, if you are installing on Linux, you need to follow the additional [Step A: Install Oracle Express Edition \(XE\) Database \(For Linux Operating System\)](#) and [Step B: Create the Oracle SOA Suite Schema in the Oracle XE Database \(For Linux Operating System\)](#) prior to proceeding with [Step 1: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J](#).

If you are installing on Windows, then you can directly start with [Step 1: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J](#).

Step A: Install Oracle Express Edition (XE) Database (For Linux Operating System)

Perform the following steps:

1. Download the Oracle Database 10g Express Edition for Linux from the Oracle Database 10g Express Edition Downloads Web site at
<http://www.oracle.com/technology/software/products/database/xe/index.html>
2. Install the Oracle XE Database on Linux following the instructions provided in the Oracle Database Express Edition Installation Guide available at
http://www.oracle.com/technology/software/products/database/xe/files/install.102/b25144/t_oc.html

Step B: Create the Oracle SOA Suite Schema in the Oracle XE Database (For Linux Operating System)

Perform the following steps:

1. Navigate to the `Disk1\install\soa_schemas\irca` folder in the Oracle SOA Suite installation setup files directory.
2. Set `ORACLE_HOME` to point to the Oracle XE Database installation location. For example, set `ORACLE_HOME=/usr/lib/oracle/xe/app/oracle/product/10.2.0/server`.
3. Enter `./irca.sh`.

This runs the `irca` script to create the schemas required for BPEL, ESB, and OWSM.

4. Enter the host, port, and SID values when prompted. The default SID created on XE database is "XE".
5. Enter the sys password when prompted.

The `orabpel`, `oraesb`, and `orawsrm` schemas are loaded into the Oracle XE Database.

Step 1: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J

The install instructions to install basic Oracle SOA Suite 10.1.3.1 for OC4J are available from the Oracle SOA Suite 10g Software Downloads Web site at

<http://www.oracle.com/technology/software/tech/soa/index.html>

Note: In this step, you are required to install only the basic installation of Oracle SOA Suite 10.1.3.1, and not the advanced.

Step 2: Apply SOA Suite Patchset 10.1.3.3

You must download the Oracle SOA Suite patchset 10.1.3.3 from OracleMetaLink and then apply the patchset on Oracle SOA Suite 10.1.3.1. Perform the following steps:

1. Log in to OracleMetaLink at <http://metalink.oracle.com>. The OracleMetaLink home page is displayed.
2. Click **Patches & Updates**. The Patches & Updates page is displayed.
3. Click **Simple Search**.
4. In the **Search By** field, enter 6148874. The details of the patchset 6148874 are displayed.
5. Follow the instructions in the patchset to install the patchset on the Oracle SOA Suite 10.1.3.1.
6. Shut down the Oracle SOA Suite Post patch upgrade as follows:

For...	Run...
Windows XP	SOA_HOME\opmn\bin> opmnctl stopall
Linux	SOA_HOME\opmn\bin> ./opmnctl stopall

Step 3: Apply Opatch on Oracle SOA Suite 10.1.3.3

You must download the 6729033 patchset from OracleMetaLink and then apply the patchset on Oracle SOA Suite 10.1.3.3.

1. Log in to OracleMetaLink at <http://metalink.oracle.com/>. The OracleMetaLink home page is displayed.
2. Click **Patches & Updates**. The Patches & Updates page is displayed.
3. Click **Simple Search**.
4. In the **Search By** field, enter **6729033**. The details of the patch 6729033 are displayed.
5. Download the `p6729033_101330_Generic.zip` file for bug 6729033.
6. Follow the instructions given in the `Readme.txt` file of patch 6729033 and apply the patch on Oracle SOA Suite 10.1.3.3.

Step 4: Install SQL Server 2005 Database

To install SQL Server 2005, follow the instructions given in the Microsoft SQL Server Web site at

<http://www.microsoft.com/sql/default.mspx>

Step 5: Apply Service Pack 2 on SQL Server 2005 Database

To apply Service Pack 2 on SQL Server 2005, follow the instructions given in the Microsoft SQL Server 2005 Service Pack 2 Web site at

<http://www.microsoft.com/downloads/details.aspx?FamilyId=d07219b2-1e23-49c8-8f0c-63fa18f26d3a&DisplayLang=en>

Step 6: Configure Oracle SOA Suite and Create SQL Server Database IRCA schema

1. Extract the `Config_BPELPM_SQLServer2005.zip` file to the `Config_BPELPM_SQLServer2005` folder.
2. Download Microsoft SQL Server 2005 JDBC Driver 1.2 from the Microsoft SQL Server 2005 JDBC Driver 1.2 Web site at
<http://www.microsoft.com/downloads/details.aspx?FamilyID=C47053EB-3B64-4794-950D-81E1EC91C1BA&displaylang=en>
3. Copy the `sqljdbc.jar` file from the downloaded driver pack found in the `sqljdbc_1.2\enu\sqljdbc.jar` directory into the `Config_BPELPM_SQLServer2005\lib` directory.
4. Create SQL Server database IRCA schema.
 - a. Edit the `Config_BPELPM_SQLServer2005\irca_sqlserver.properties` file and supply the following SQL Server database parameters:

Parameter	Description
<code>Db_url</code>	Database URL for the SQL Server database
<code>DB_SA_USER</code>	System Admin UserId having grants to create new database
<code>DB_SA_PASSWORD</code>	Password for System Admin UserId
<code>DB_ORABPEL_PASSWORD</code>	Password for orabpel Dbuser used for BPEL dehydration

- b. For Windows, run the `Config_BPELPM_SQLServer2005\irca_sqlserver.bat` script, and for Linux, run `Config_BPELPM_SQLServer2005/irca_sqlserver.sh`.
 - c. Verify the output log file at `Config_BPELPM_SQLServer2005\logs\irca_sqlserver.out` and check for any failures.

The above script creates an ORCL database, ORABPEL schema, ORABPEL user and creates all the database objects required for BPEL dehydration store in the SQL Server database.

5. Configure Oracle SOA Suite Server for SQL Server dehydration.
 - a. Edit the `Config_BPELPM_SQLServer2005\config.properties` file and supply the following SQL Server database parameters:

Parameter	Description
<code>SOA_HOME</code>	ORACLE_HOME of the Oracle SOA Suite installation
<code>DB_URL</code>	Database URL for the SQL Server database that you created in Step a
<code>DB_ORABPEL_PASSWORD</code>	Password for orabpel Dbuser used for BPEL dehydration

- b. For Windows, run the `Config_BPELPM_SQLServer2005\config.bat` script, and for Linux, run `Config_BPELPM_SQLServer2005/config.sh`.

- c. Verify the output log file at `Config_BPELPM_SQLServer2005\logs\config.out` and check for any failures.

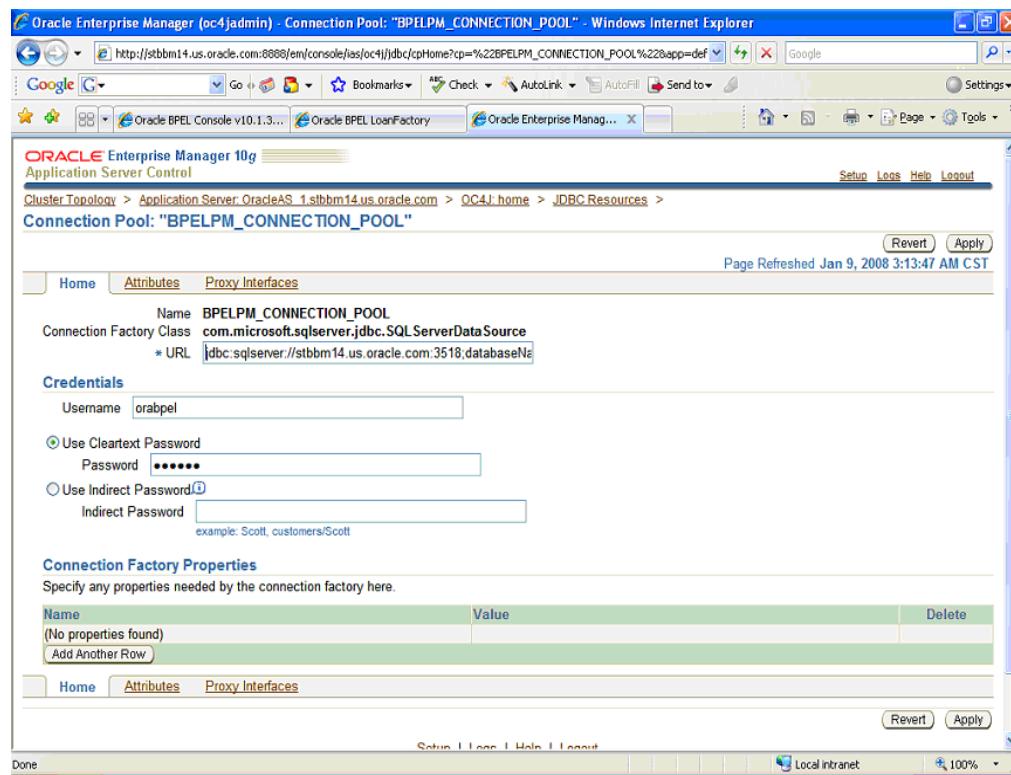
The above script configures the data sources, necessary drivers, and system properties in Oracle SOA Suite to connect to SQL Server database for BPEL dehydration.

Postinstallation Verification Tasks

This section describes the postinstallation verification tasks to be performed:

1. Start SOA Suite from Start -> Programs -> Oracle-SOASuite -> Start SOA Suite.
2. Access Enterprise Manager console from `http://<hostname>:<port>/em`.
3. Navigate to `OC4J_HOME` -> Administration -> JDBC Resources.
4. Verify that the `BPELPM_CONNECTION_POOL` connection pool points to the SQL Server database, as shown in [Figure 1-1](#).

Figure 1-1 Oracle Enterprise Manager Console Window



Limitations and Troubleshooting Tips

This section describes the limitations for Oracle SOA Suite 10.1.3.1 on SQL Server 2005:

- Only the BPEL dehydration store is configured to use SQL Server as the database. If the basic version of Oracle SOA Suite has been installed on Windows, then ESB and OWSM will continue to run with OLite as the database.
- Due to syntax differences between Oracle and SQL Server database, particularly for `OUTER JOIN` statements, the dehydration database instance on SQL Server will be set to a database compatibility level of 80. Future versions of SQL Server database may not continue to support this compatibility.

Troubleshooting Tips

If the TaskManager and TaskActionHandler BPEL processes are not deployed in the default domain, then stop Oracle SOA Suite, copy the following bpel jars from SOA_HOME\bpel\install\extensions to SOA_HOME\bpel\domains\default\deploy, and start Oracle SOA Suite again.

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