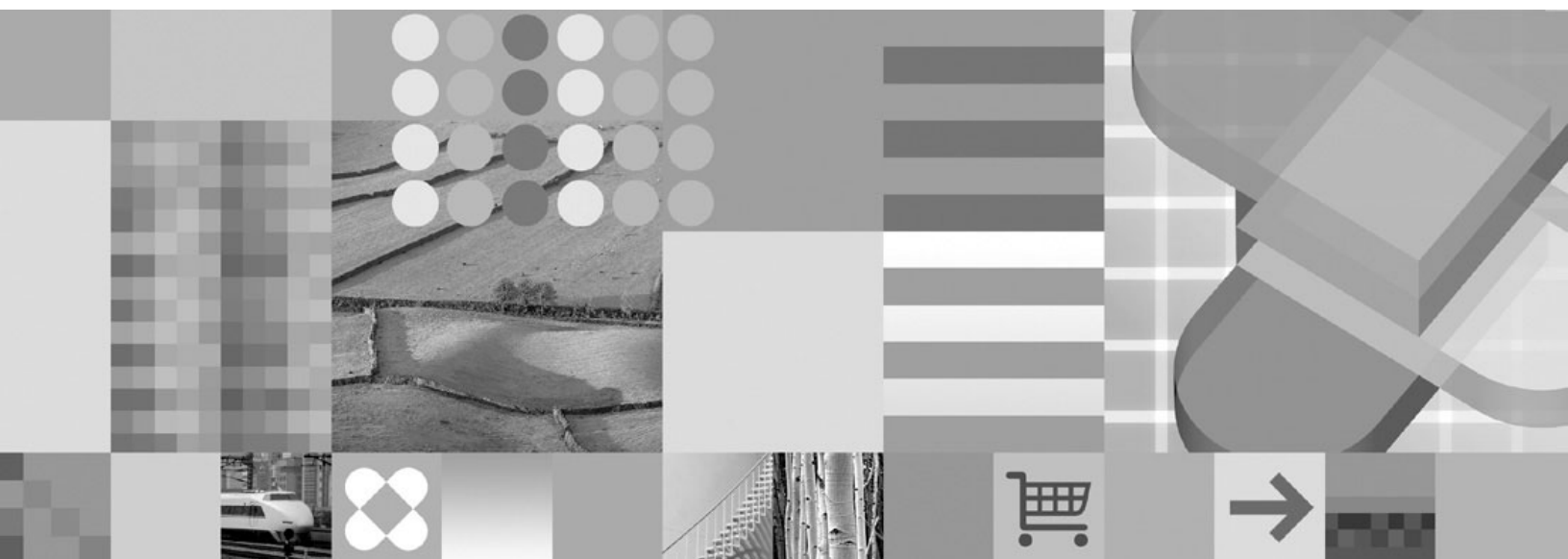




## **Deployment Guide**





## **Deployment Guide**

**Note**

Before using this information, be sure to read the general information under notices.

This manual was produced using IBMIDDoc SGML, the Epic editor, and processed for print and online using the ID Workbench.

**First Edition (November 2004)**

This edition applies to Version 4 Release 1 Revision 1 of IBM DB2 Records Manager (product number 5724-I58) and at all subsequent releases and modifications until otherwise indicated in new editions.

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## Chapter 1. About the Deployment Guide

This document provides you with important deployment information for IBM® DB2® Records Manager.

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### Who should use this guide

Use this guide if you are responsible for configuring applications for use with IBM DB2 Records Manager.

---

### How to use this guide

Ensure you examine the IBM DB2 Records Manager readme.txt file for additional information. See `Install - directory/readme.txt` where `install -directory` is the directory in which you installed the DB2 Records Manager (for example, `C:\Program files\IBM\DB2 Records Manager`, which is the default installation directory).

---

### How to use this guide

This guide uses the following conventions:

<b>bold</b>	Identifies commands, flags, keywords, files, directories, and other items whose names are predefined by the system.
<i>italics</i>	Identifies parameters with actual names or values that you must supply.
monospace	Identifies examples of specific data values, examples, of text similar to what you might see displayed, examples of portions of program code similar to what you might write, messages from the system, or information you should actually type.

Ensure that you examine the IBM DB2 Records Manager readme file for additional information. You can find this readme file in the location `install-directory/readme.txt`, where `install-directory` is the directory where you installed IBM DB2 Records Manager.

---

## Product Publications

You can view the following documentation from the IBM DB2 Records Manager Web site at <http://www-3.ibm.com/software/data/cm/cmgr/rm/>:

Document	Part Number
<i>IBM DB2 Records Manager Concepts Guide</i>	SC18-9182-00
<i>IBM DB2 Records Manager Installation Guide</i>	SC18-9185-00
<i>IBM DB2 Records Manager Technical Reference</i>	SC18-9181-00
<i>IBM DB2 Records Administrator's Guide</i>	SC18-9180-00
<i>IBM DB2 Records Manager Import Export Guide</i>	SC18-9183-00
<i>IBM DB2 Records Manager New Features Overview</i>	GC18-9184-00

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## Related Publications

The DB2 Universal Database™ publication Web site contains information related to IBM DB2 Records Manager. The DB2 Web site is located at:

*<http://www.ibm.com/software/data/db2/library/>*

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## Sending your comments

Your feedback helps IBM to provide quality information. Send any comments that you have about this book, or about other Records Manager documentation. You can use either of the following methods to provide comments:

- Send you comments from the Web. Visit the online Readers' Comment Form (RCF) for IBM Data Management page at:

*<http://www.ibm.com/software/data/rcf>*

- Send your comments by e-mail to **comments@vnet.ibm.com**. Ensure that you include the name and part number of the book, if applicable. If you are commenting on specific text, include the location of the text within the documentation set (for example, a chapter and section title, a table number, a page number, or a help topic title).

---

## Contacting IBM software support

The IBM software support Internet site provides you with self-help resources and electronic problem submission. The IBM software support home page can be found at *[www.ibm.com/software/support](http://www.ibm.com/software/support)*. The IBM DB2 Records Manager support site can be found at *<http://www.ibm.com/software/data/cm/cmgr/rm>*.

Voice support is available to all current contract holders via a telephone number in your country (where available). For specific country phone numbers, see to the IBM Software Support Handbook, Appendix B: Contact Information, found at *<http://techsupport.services.ibm.com/guides/webhndbk.pdf>*.



---

## Chapter 2. Configuring WebSphere Application Server for the IRM Engine

Before you install IBM DB2 Records Manager, you installed an EJB server (WebSphere Application Server - WAS) to support the execution of server applications that use enterprise beans. An EJB server provides a Java Naming and Directory Interface (JNDI) naming service, manages and coordinates resources to client applications, and provides a transaction service. The Media CD included with your IBM DB2 Records Manager software includes WebSphere 5.1 Base Edition. The Base Edition contains all of the necessary functionality for use with IBM DB2 Records Manager.

**Note:** If you currently have WebSphere 5.1 Network Deployment Edition and want to use its features (such as load balancing, dynamic caching, and remote administration capabilities), you can use the Network Deployment Edition; however **the Base Edition is the supported configuration for this release.**

When performing an installation of IBM DB2 Records Manager you must ensure that fixpack1 for WebSphere Application Server (WAS) has been installed.

---

### Verifying the Fix Pack for WebSphere

If you are not certain if Fix Pack 1 was installed for each installation of WebSphere Application Server, you can easily verify the Fix Pack 1 installation.

**To verify the installation of Fix Pack 1 for WebSphere:**

1. Navigate to the location where you installed WebSphere (for example, *c:\Program Files\WebSphere*).
2. Open the file called *SystemOut.log*.
3. Search the log to verify that Fix Pack 1 was installed by checking the version number currently installed. If Fix Pack 1 is installed, the version will be 5.1.1.

**Note:** If Fix Pack 1 is not installed, see the instructions in “Installing the Fix Pack for WebSphere.”

---

### Installing the Fix Pack for WebSphere

For the IBM DB2 Records Manager Engine to properly function, WebSphere Application Server Standard Edition requires Fix Pack 1.

**Note:** You can download Fix Pack 1 from <http://www.ibm.com/support>, and then select the **Downloads and Drivers** option from the **Support Topics** area.

**To install Fix Pack 1 for WebSphere:**

1. Stop the **WAS server** if it is current running .
2. Stop the IBM HTTP Server.
3. Stop the IBM HTP Admin server.
4. Ensure that the **JAVA\_HOME** environment variable refers to the location of the IBM JVM (for example, *C:\WebSphere\Appserver\bin*).
5. Unzip *was50\_fp1\_win.zip*.
6. For Windows, run *updateWizard.bat*, or for AIX, run *updateWizard.sh*.

7. Use all default settings.
8. Ensure that the **Embedding Messaging** option is selected.
9. Reboot your server.
10. Use the IBM DB2 Connection Wizard to help you create local connections for the databases on the BLL server.

---

## Configuring WebSphere for use with the IRM Engine

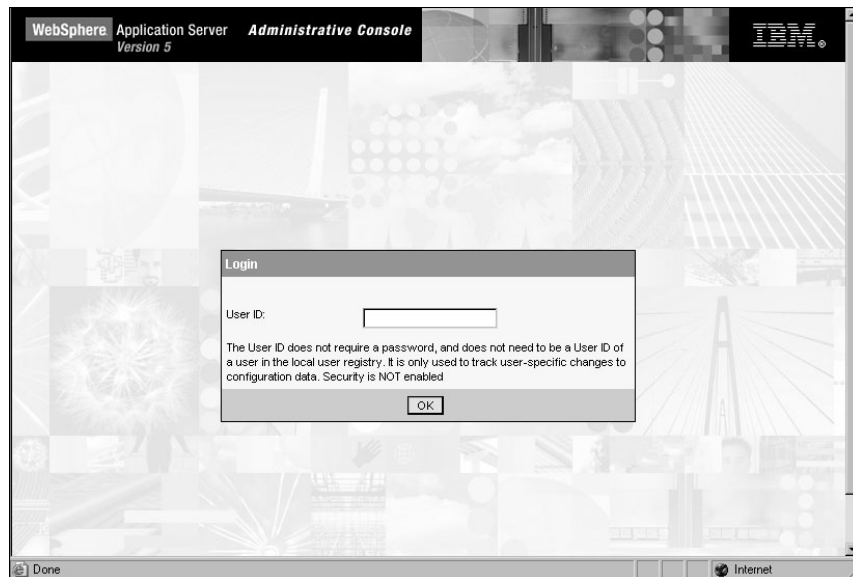
After you install WAS and verify that Fix Pack 1 is installed, you will need to configure WAS for use with the IRM Engine.

### To configure WebSphere Application Server:

1. Start the WebSphere server by doing the following:
  - For AIX, type **startserver <ServerName>** and press **Enter**
  - For Windows, Launch **FirstSteps** from **Start > Programs > IBM WebSphere > Application Server v5.1 > First Steps.**, and then click **Start Server** to start the server.
2. Open the **WebSphere Administrative Console** window by doing the following:

**Note:** If the IBM WebSphere service is not started, you cannot start the **WebSphere Administrative Console** application.

- For AIX, you can start the WebSphere Administrative Console by running *http://myHostName:9090/admin* from your Web browser, where *myHostName* is the name of the Host where you installed WebSphere.
- For Windows, you can start the WebSphere Administrative Console by clicking **Start > Programs > IBM WebSphere > Application Server > Administrative Console**.



3. Specify your login information.
4. To configure WAS for use with the IRM Engine, you will need to do the following:
  - "Configuring the JMS Provider for Queues" on page 5
  - "Creating WebSphere Queue Destinations" on page 5
  - "Configuring the JMS Provider for Topics" on page 7

- “Creating WebSphere Topic Destinations” on page 8
- “Create listener ports for Message Driven Beans” on page 8
- “Add Message Queues to Application Server” on page 9
- “Creating a mail session” on page 9
- “Configuring environment variables” on page 10

---

## Configuring the JMS Provider for Queues

You will need to configure a JMS provider to create connections for queues. A JMS provider permits asynchronous messaging based on the Java Messaging Service (JMS). It provides connection factories for JMS queue destinations.

**To configure the JMS provider queue:**

1. From the Navigation menu, click **Resources > WebSphere JMS Providers**.
2. In the **Configuration** area, select the **Server** option, and click **Apply**.
3. In the **Additional Properties** area, click **WebSphere Queue Connection Factories**.
4. Click **New**.
5. In the **Name** box, type **IRMQueueConnectionFactory**.
6. In the **JNDI Name** box, type **recordmanager/jms/factory**, and then click **Apply**.
7. Click **OK**.

---

## Creating WebSphere Queue Destinations

You need to use WebSphere Queue Destinations administrative objects to manage point-to-point messaging by the internal WebSphere JMS provider. You must create the following WebSphere Queue destinations:

- IRMTaskQueue
- IRMResultQueue
- IRMCancelQueue
- IRMNotificationQueue

**To create WebSphere queue destinations:**

1. From the Navigation menu, click **Resources > WebSphere JMS Provider**.
2. In the **Configuration** area, select the **Server** option, and click **Apply**.
3. In the **Additional Properties** area, click **WebSphere Queue Destinations**.
4. Click **New**.
5. In the **Name** box in the **General Properties** area, type **IRMTaskQueue**. This name refers to the name of the queue used for administrative purposes within WAS.
6. In the **JNDI Name** box, type **recordmanager/jms/TaskQueue**. This name refers to the JNDI named used to bind the queue into the application server’s namespace.
7. In the **Persistence** box, select **PERSISTENT** from the list. This means that all messages sent to the destination are persistent.
8. In the **Priority** box, select **APPLICATION DEFINED**. This means that the priority of the messages on this destination is defined by the application that put them onto the destination.

9. In the **Expiry** box, select **UNLIMITED** from the list. This means that the messages on this queue have no expiry timeout, so these messages never expire.
10. Click **Apply**, and then click **OK**.  
Next, you will create the queue destination for **IRMResultQueue**.
11. Click **New**.
12. In the **Name** box in the **General Properties** area, type **IRMResultQueue**. This name refers to the name of the queue used for administrative purposes within WAS.
13. In the **JNDI Name** box, type **recordmanager/jms/ResultQueue**. This name refers to the JNDI named used to bind the queue into the application server's namespace.
14. In the **Persistence** box, select **PERSISTENT** from the list. This means that all messages sent to the destination are persistent.
15. In the **Priority** box, select **APPLICATION DEFINED**. This means that the priority of the messages on this destination is defined by the application that put them onto the destination.
16. In the **Expiry** box, select **UNLIMITED** from the list. This means that the messages on this queue have no expiry timeout, so these messages never expire.
17. Click **Apply**, and then click **OK**.  
Next, you will create the queue destination for **IRMCancelQueue**.
18. Click **New**.
19. In the **Name** box in the **General Properties** area, type **IRMCancelQueue**. This name refers to the name of the queue used for administrative purposes within WAS.
20. In the **JNDI Name** box, type **recordmanager/jms/CancelQueue**. This name refers to the JNDI named used to bind the queue into the application server's namespace.
21. In the **Persistence** box, select **PERSISTENT** from the list. This means that all messages sent to the destination are persistent.
22. In the **Priority** box, select **APPLICATION DEFINED**. This means that the priority of the messages on this destination is defined by the application that put them onto the destination.
23. In the **Expiry** box, select **UNLIMITED** from the list. This means that the messages on this queue have no expiry timeout, so these messages never expire.
24. Click **Apply**, and then click **OK**.  
Next, you will create the queue destination for **IRMNotificationsQueue**.
25. Click **New**.
26. In the **Name** box in the **General Properties** area, type **IRMNotificationsQueue**. This name refers to the name of the queue used for administrative purposes within WAS.
27. In the **JNDI Name** box, type **recordmanager/jms/NotificationsQueue**. This name refers to the JNDI named used to bind the queue into the application server's namespace.
28. In the **Persistence** box, select **NON PERSISTENT** from the list. This means that all messages sent to the destination are not persistent.

29. In the **Priority** box, select **APPLICATION DEFINED**. This means that the priority of the messages on this destination is defined by the application that put them onto the destination.
30. In the **Expiry** box, select **SPECIFIED** from the list. This means that the expiry timeout for messages on this queue is defined by the Specified expiry property.

**Note:** If you select this option, you must define a timeout for the Specified expiry property.

31. In the **Specified Expiry** box, type 600000. This field refers to the number of milliseconds after which messages on this queue expire.
32. Click **Apply**, and then click **OK**.

---

## Configuring the JMS Provider for Topics

You use a topic connection factory (created by the associated JMS provider) to create JMS connections to topic destinations. A topic connection factory for the embedded WebSphere JMS provider has various connection properties associated with it to control how connections are created to the associated JMS topic destination.

**To configure the WebSphere JMS provider for topics:**

1. From the Navigation menu, click **Resources > WebSphere JMS Provider**.
2. In the **Configuration** area, select the **Server** option, and click **Apply**.
3. In the **Additional Properties** area, click **WebSphere Topic Connection Factories**.
4. Click **New**.
5. In the **Name** box in the **General Properties** area, type **IRMTopicConnectionFactory**. This name refers to the name of the connection factory used for administrative purposes within WAS. The name must be unique within the JMS connection factories across the WebSphere administrative domain.
6. In the **JNDI Name** box, type **recordmanager/jms/topicfactory**. This name refers to the JNDI named used to bind the topic connection factory into the application server's namespace.
7. In the **Port** box, select **QUEUED** from the list. Queued refers to the listener port used for full-function JMS-compliant, publish/subscribe support.
8. In the **Component-managed Authentication Alias** box, ensure that **(none)** is selected.
9. In the **Container-managed Authentication Alias** box, ensure that **(none)** is selected.
10. In the **Clone Support** box, ensure that this option is not selected.
11. In the **Client ID** box, ensure that this option is not selected.
12. In the **XA Enabled** box, ensure that you select this option. Setting this option specifies that the connection factory is for XA coordination of messages.
13. Click **Apply**, and then click **OK**.

---

## Creating WebSphere Topic Destinations

You create WebSphere topic destinations to configure the properties of a JMS topic for the associated JMS provider.

### To create WebSphere topic destinations:

1. From the Navigation menu, click **Resources > WebSphere JMS Provider**.
2. In the **Configuration** area, select the **Server** option, and click **Apply**.
3. In the **Additional Properties** area, click **WebSphere Topic Destinations**.
4. Click **New**.
5. In the **Name** box in the **General Properties** area, type **IRMCaheTopic**. This name refers to the name of the queue used for administrative purposes within WAS.
6. In the **JNDI Name** box, type **recordmanager/jms/CacheTopic**. This name refers to the JNDI named used to bind the topic into the application server's namespace.
7. In the **Category** box, ensure that it is empty.
8. In the **Topic** box, type **IRMCaheTopic**.
9. In the **Persistence** box, select **PERSISTENT** from the list. This means that messages on the destination will be persistent.
10. In the **Priority** box, select **APPLICATION DEFINED** from the list. This means that the priority of messages on this destination is defined by the application that put them onto the destination.
11. In the **Specified Priority** box, ensure that it is empty.
12. In the **Expiry** box, select **UNLIMITED** from the list. Unlimited means that messages on this queue have no expiry timeout, so those messages never expire.
13. In the **Specified Expiry** box, ensure that it is empty.
14. Click **Apply**, and then click **OK**.

---

## Create listener ports for Message Driven Beans

You will need to create message listener ports to provide the Message Driven Bean (MDB) listening process. MDBs are deployed against listener ports that define the JMS destination to listen upon.

### To create listener ports:

1. Start the WebSphere Application Console.
2. From the Navigation menu, select **Servers > Application Servers**.
3. In the **Name** column, select your server (for example, **server1**).
4. In the **Additional Properties** area, select **Message Listener Service**.
5. In the **Additional Properties** area, select **Listener Ports**.  
Next, you will be creating one listener port.
6. Click **New**.
7. In the **Name** box, type **IRMTaskListenerPort**. This is the name used for the listener port (used for administrative purposes).
8. In the **Initial State** box, select **Started**. This means that when the application server is next started, the listener port is started automatically.
9. In the **Connection factory JNDI name** box, type **recordmanager/jms/factory**. The JNDI name for the JMS connection factory used by the listener port

10. In the **Destination JNDI name** box, type **recordmanager/jms/TaskQueue**. The JNDI name for the destination used by the listener port.
11. Click **Apply**, and then click **OK**.

---

## Add Message Queues to Application Server

To add message queues to WebSphere Application Server:

1. Start the WebSphere Application Console.
2. From the Navigation menu, select **Servers > Application Servers**.
3. In the **Name** column, select your server (for example, **server1**).
4. In the **Additional Properties** area, select **Server Components**.
5. In the **Additional Properties** area, select **JMS Servers**.
6. In the **Queue names** box in the General Properties area, ensure that the following values appear in the list (manually type them if they do not appear in the list):
  - IRMTaskQueue
  - IRMResultQueue
  - IRMCancelQueue
  - IRMNotificationQueue

Each queue name must be added on a separate line. Each queue listed in this field must have a separate queue administrative object with the same administrative name. To make a queue available to applications, define a WebSphere queue and add its name to this field on the JMS Server panel for the host on which you want the queue to be hosted. For more information about configuring queues, see “Configuring the JMS Provider for Queues” on page 5 and “Creating WebSphere Queue Destinations” on page 5.
7. Click **Apply**, and then click **OK**.
8. Stop, and then restart the WebSphere application server. Ensure that it starts without errors.

---

## Creating a mail session

You will need to create the JavaMail session used to configure specific mail providers.

To create a mail session:

1. Start the **WebSphere Administrative Console**.
2. From the Navigation menu, click **Resources > Mail Providers**.
3. In the **Name** column, select **Built-in Mail Provider**.
4. In the **Additional Properties** area, select **Mail Sessions**.
5. Click **New**.
6. In the **Name** box, specify **IRMMailSession**. This name specifies the administrative name of the JavaMail session object.
7. In the **JNDI Name** box, specify the location **recordmanager/mail/mailsession1**. This name refers to the link between the platform binding information for resources defined in the client application deployment descriptor, and the actual resources bound into JNDI by the platform.
8. In the **Mail Transport Host** box, specify your mail transport host server name. This names refers to the server accessed when sending mail.



9. Click **Apply**, and then click **OK**.
10. Stop, and then restart the WAS for your changes take effect.

---

## Configuring environment variables

After you install WebSphere and the DB2 client, you must verify that WebSphere is aware of the location where you installed the IBM DB2 client. The **DB2UNIVERSAL\_JDBC\_DRIVER\_PATH** variable contains the location information. For Windows, the default location is *C:\Program Files\IBM\SQLLIB\java*. For AIX, the default location is */usr/opt/db2\_08\_01/java*.

**To verify the DB2UNIVERSAL\_JDBC\_DRIVER\_PATH variable:**

1. For Windows, start the **WebSphere Administrative Console** by clicking **Start > Programs > IBM WebSphere > Application Server > Administrative Console**. For AIX, start the **WebSphere Administrative Console** by running *http://myHostName:9090/admin* from your Web browser, where *myHostName* is the name of the Host where you installed WebSphere.

**Note:** If the IBM WebSphere service is not started, you cannot start the WebSphere Administrative Console application.

2. In the left frame, expand **Environment**.
3. Click **Manage WebSphere Variables**.
4. In the **Name** column, locate the link called **DB2UNIVERSAL\_JDBC\_DRIVER\_PATH** and select it to display its corresponding properties.
5. Verify that the value for the **DB2UNIVERSAL\_JDBC\_DRIVER\_PATH** variable is the same as the location of your IBM DB2 client.

**Note:** If you change the value of the **DB2UNIVERSAL\_JDBC\_DRIVER\_PATH** variable, you must stop, and then re-start the WebSphere server.

---

## Deploying and starting the IBM DB2 Records Manager Engine

**To deploy and start the IRM Engine:**

1. Start the WebSphere Administrative Console.
2. From the Navigation menu, click **Applications> Install New Application**.
3. Click **Browse**, and then navigate to the location where you installed IBM DB2 Records Manager and locate *IRMEngine.ear*.
4. Click **Next** until **Finish** appears. No further configuration is required.
5. Click **Save to Master Configuration**.  
Next, you will start the IBM DB2 Records Manager Engine.
6. From the Navigation menu, click **Application > Enterprise Applications**.
7. If the **IBM Records Manager** application is not currently started, select the option beside this application, and then click **Start**.



---

## Deploying and starting the IRM Engine Web Services application (Optional)

To deploy and start the IRM Web Services application:

1. Start the WebSphere Administrative Console.
2. From the Navigation menu, click **Applications > Install New Application**.
3. Click **Browse**, and then browse to the location of *IRMWebServices.ear*.
4. Click **Next** until the **Finish** button appears. No further configuration is required.
5. Click **Save to Master Configuration**.

Now, you are ready to start the IRM Engine WebServices application.

6. From the Navigation menu, click **Applications > Enterprise Applications**.
7. If the **IBM DB2 Records Manager WebServices** application is not started, select the check box beside this application name, and then click **Start**.



---

## Chapter 3. Configuring WebSphere Application Server for the IRM Client

After you install WAS and verify that Fix Pack 1 is installed (see “Verifying the Fix Pack for WebSphere” on page 3), you will need to configure WebSphere Application Server (WAS) for use with the IBM DB2 Records Manager client.

### To configure WAS for use with the IRM Administrator Client:

1. Start the WebSphere Administrative Console.
2. From the Navigation menu, click **Application > Install New Application**.
3. Click **Browse** and navigate to where you installed IBM DB2 Records Manager to locate the file called *IRMClientEAR.ear*.
4. Click **Next** until the **Finish** button appears. No further configuration is required.
5. Click **Finish**.
6. Click **Save to Master Configuration**.

Next, you will configure the name space binding.

**Note:** Configuration of the IRM Engine server is done through a name space binding.

7. From the Navigation menu, click **Environment > Naming**.
8. Select **Name Space Bindings**.
9. In the **Configuration** area, select the **Server** option, and click **Apply**.
10. Click **New** to create a new binding.
11. For the Binding Type, select **String**.
12. Click **Next**.
13. In the String Value box, specify the Engine server that you are connecting to.
14. Click **Next**.
15. Click **Finish**.
16. Click on the **Save** link, and then save the configuration.
17. Restart the server for this configuration to take effect.

**Note:** If the Name Space Binding is **not** set, then by default the *.EAR* file is configured to run against “**localhost**” as the IRM Engine server. You can change this default setting after the installation by altering the following files on the WebSphere Application Server, and then re-starting the application.

- `{WASInstallRoot}/AppServer/installedApps/{servername}/IRMClientEAR.ear/IRMClient.war/WEB-INF/web.xml`
- `{WASInstallRoot}/AppServer/config/cells/{servername}/applications/IRMClientEAR.ear/deployments/IRMClientEAR/IRMClient.war/WEB-INF/web.xml`

In both of these files, change `<env-entry>` to the appropriate server name for the IRM Engine server.

For `<description>`, change the values to point to your JNDI server.

For example:

`iiop://wasdev4.ottawa.ibm.com:9809`, `iiop://testdev1:9809`

Or

```
iiop://wsadtestui:2809 </description> <env-entry-  
name>irm_jndiserver</env-entry-name> <env-entry-  
value>iiop://SERVERNAME:2809</env-entry-value> <env-entry-  
type>java.lang.String</env-entry-type> </env-entry>.
```

Next, you will start the IBM DB2 Records Manager Administrator Client application.

18. From the Navigation menu, click **Application > Enterprise Applications**.
19. If the **IRMClientEAR** application is not currently started, select the option beside this application, and then click **Start**.

---

## Chapter 4. Performing a Custom Installation and Upgrade of an IRM Database (Oracle and SQL Server)

This chapter describes how to perform a custom upgrade and custom installation of an Oracle and SQL Server database. For instructions on performing a custom install and upgrade of your DB2 database, see the *IBM DB2 Records Manager Installation Guide*.

This chapter is organized as follows:

- “Upgrading of your IRM database (custom)”
- “Installing an IRM database (custom)” on page 16

---

### Upgrading of your IRM database (custom)

During the installation process for the creation of a database for IBM DB2 Records Manager, if you selected a **Custom** installation, you are required to manually run scripts to create a database, and to upgrade your database schema.

#### Prerequisites for performing a custom upgrade

Before you can run the scripts necessary for upgrading your database schema, you must ensure that the following prerequisites are met:

- If you use Oracle or SQL Server, the server must have the appropriate Fix Pack installed. For additional information, see the *IBM DB2 Records Manager Installation Guide*.
- You must create a backed up copy of the 3.1.x version of the IBM DB2 Records Manager database that you want to upgrade.

**Note:** If an error occurs, there is no rollback process.

- For Oracle, you must have the Oracle Client installed on the computer you are using to perform the upgrade.
- For SQL Server, you must specify a new SQL Server registration for your server.
- For Oracle, you must update the file called *tnsnames.ora* with a valid name for your server.
- The names of the entities (such as tables, indexes, constraints, sequences, and views) should not be modified; otherwise, application errors might occur.

#### Performing a manual upgrade

During the database installation process, if you selected a **Custom** installation, the IBM DB2 Records Manager installation generates scripts with the information you provided during the installation. Scripts were also created specifically for a database upgrade. The scripts are located in the default installation location */IBM/DB2RecordsManager411/dbupgrade*.

**To prepare your IRM database (Oracle or SQL) for migration:**

1. For AIX, run the file called */database/prepupg.sh*, and for Windows, run the file */database/prepupg.cmd*. Running this file calls the scripts used to clone the existing tables and to create a new schema.
2. Customize the following database scripts, as required:

- For Oracle, customize the following:

File name	Description
createAllViews.sql	Creates all views
createFKs.sql	Creates the foreign keys for the tables. <b>Note:</b> Names should not be changed.
crtfbvws.sql	Creates the views which use user-defined functions
crtfncts.cmd	Creates the user-defined functions
crtseqs.sql	Creates sequences
crttypes.sql	Creates Oracle types
crttbls.sql	Creates all of the tables
crttrgs.cmd	Creates the triggers
crtviews.sql	Creates Oracle views
dropfunc.sql	Drops the 3.1.x functions
dropprocs.sql	Drops the 3.1.x procedures
droptables.sql	Drops the 3.1.x tables
droptriggers.sql	Drops the 3.1.x triggers
dropviews.sql	Drops the 3.1.x views
genclones.sql	Creates clones for the 3.1.x tables

- For SQL Server, customize the following:

File name	Description
createAllViews.sql	Creates all views
createFKs.sql	Creates the foreign keys for the tables. <b>Note:</b> Names should not be changed.
crtfbvws.sql	Creates the views which use user-defined functions
crtfncts.cmd	Creates the user-defined functions
crtprocs.cmd	Creates the external procedures
crttrgs.cmd	Creates the triggers
dropfunc.sql	Drops the 3.1.x functions
dropprocs.sql	Drops the 3.1.x procedures
droptables.sql	Drops the 3.1.x tables
droptriggers.sql	Drops the 3.1.x triggers
dropviews.sql	Drops the 3.1.x views
genclones.sql	Creates clones for the 3.1.x tables

---

## Installing an IRM database (custom)

During the installation process for the creation of a database for IBM DB2 Records Manager, if you selected a **Custom** installation, you are required to manually run scripts to create your database. Running these scripts after the installation lets you modify script and configuration files to customize the installation for your organizational needs.

Before you can run the scripts necessary for creating your database schema, you must ensure that the prerequisites described in the topic called “Prerequisites for performing a custom upgrade” on page 15 are met.

## Performing a custom installation

During the database installation process, if you selected a **Custom** installation, the IBM DB2 Records Manager installation generates scripts with the information you provided during the installation. Scripts were also created specifically for a database upgrade (see “Performing a manual upgrade” on page 15). The scripts are located in */IBM/DB2RecordsManager411/dbupgrade*.

To create an IRM database, you will need to run the appropriate creation scripts. Performing a custom creation of an IRM database involves the following steps:

- “Step 1: Creating an IRM database”
- “Step 2: Creating and initializing the IRM schema”

### Step 1: Creating an IRM database

**To create a database:**

1. Customize the following database scripts, as required:
  - For Oracle:

File name	Description
crtddb.sql	Contains commands to create the Oracle database.
crttbls.sql	Creates the Oracle tables

- For SQL Server:

File name	Description
createFKs.sql	Creates foreign keys
createtables.sql	Creates the SQL tables

2. For AIX, run *createdb.sh*, and for Windows, run *createdb.cmd*.  
Running this file calls the scripts described in the previous table.

### Step 2: Creating and initializing the IRM schema

**To create and initialize a database schema:**

1. Customize the following database scripts, as required:
  - For Oracle, customize the following:

File name	Description
createFKs.sql	Creates the foreign keys for the tables. <b>Note:</b> Names should not be changed.
crtfbvws.sql	Creates the views which use user-defined functions
crtfncts.cmd	Creates the user-defined functions
crtseqs.sql	Creates sequences
crttbls.sql	Creates all of the tables
crttrgs.cmd	Creates the triggers
crtviews.sql	Creates Oracle views

File name	Description
inidata.sql	For data initialization
ldcaptbl.sql	Initializes local captions
lderrtbl.sql	Loads the error table

- For SQL Server, customize the following:

File name	Description
addlogin.sql	The login that must be created
createFKs.sql	Creates the foreign keys for the tables. <b>Note:</b> Names should not be changed.
crtfbvws.sql	Creates the views which use user-defined functions
crtfncts.cmd	Creates the user-defined functions
crtprocs.cmd	Creates the external procedures
crttrgs.cmd	Creates the triggers
inidata.sql	For data initialization
ldcaptbl.sql	Initializes local captions
lderrtbl.sql	Loads the error table
screate.cmd	Creates the IRM schema

2. For AIX, run the script called **screate.sh**, and for Windows, run the script called **screate.cmd** to create the IRM schema.



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## Glossary

### A

**API.** Application Programming Interface

**application programming interface.** A software interface that enables applications to communicate with each other. An API is the set of programming language constructs or statements that can be coded in an application program to obtain the specific functions and services provided by the underlying licensed program.

**archive.** Persistent storage used for long-term information retention, typically very inexpensive for each stored unit and slow to access, and often in a different geographic location to protect against equipment failures and natural disasters.

**attribute.** A unit of data that describes a certain characteristic or property (for example, name, address, age, and so forth) of an item, and which can be used to locate that item. An attribute has a type, which indicates the range of information stored by that attribute, and a value, which is within that range. For example, information about a file in a multimedia file system, such as title, running time, or encoding type (MPEG1, H.263, and so forth).

**attribute group.** Convenience grouping of one or more attributes.

### B

**base attributes.** A set of indexes that is assigned to each object.

**binary large object.** A sequence of bytes with a size ranging from 0 bytes to 2 gigabytes. This string does not have an associated code page and character set. Image, audio, and video objects are stored in BLOBs.

**BLOB.** See binary large object

### C

**Class.** In object-oriented design or programming, a model or template that can be instantiated to create objects with a common definition and therefore, common properties, operations, and behavior. An object is an instance of a class.

**client application.** An application written with the Content Manager APIs to customize a user interface.

### D

**DAO.** Data access objects. They are object created with Visual Basic.

### J

**JDBC.** Java database connectivity

**Java Virtual Machine.** interprets compiled Java binary code for a computer's processor so that it can perform a Java program's instructions.

### O

**ORB.** Object Request Broker acts as a "broker" between the client request for a service from a component and the completion of the request.

### S

**SQL.** Structure Query Language, SQL is an American National Standards Institute. standard computer language for accessing and manipulating database systems. SQL statements are used to retrieve and update data in a database.

### W

**WSDL.** Web Services Description Language. It is an XML based language. You use it to describe the services you offer and you provide the means to access the services electronically. WSDL is derived from SOAP and from IBM's Network Accessible Service Specification Language.



---

## List of Abbreviations

<b>API</b>	Application Programming Interface
<b>CORBA</b>	Common Object Request Broker Architecture
<b>DBMS</b>	Database Management System
<b>DoD 5015.2</b>	Department of Defense 5015.2
<b>ECD</b>	Engineering Change Document
<b>EJB</b>	Enterprise Java™ Bean
<b>IIOP</b>	Internet Inter-Orb Protocol
<b>IRM</b>	IBM DB2 Records Manager
<b>J2EE</b>	Java 2 Enterprise Edition
<b>JMS</b>	Java Messaging Service
<b>JSP</b>	Java Server Pages
<b>JVM</b>	Java virtual machine
<b>ORB</b>	Object Request Broker
<b>RMI</b>	Remote Method Invocation
<b>SOAP</b>	Simple Object Access Protocol
<b>SQL</b>	Structured Query Language





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## Summary of Changes



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