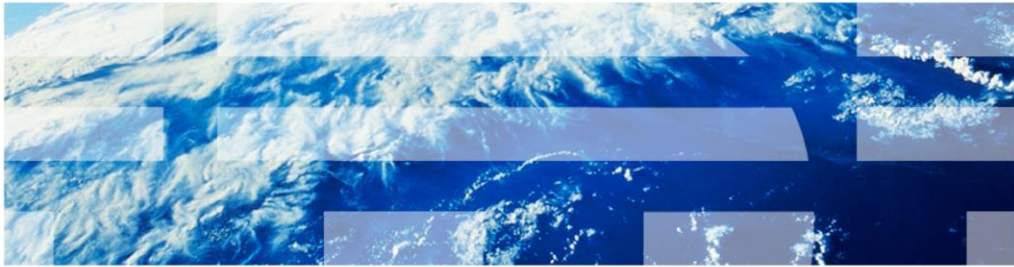


# Information Server DataStage

Changing the Information Server 8.5 and 8.7 metadata repository to use Oracle RAC with non-clustered WebSphere



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This presentation will discuss how to change the Information Server Metadata repository to use Oracle RAC. It will discuss versions 8.5 and 8.7 of Information Server running with non-clustered WebSphere®.

## Objectives

- Back up all files being changed
- Update Information Services Framework (ISF) configuration
- Update WebSphere Application Server configuration
- Non-clustered WebSphere only
  - See IBM Education Assistant module “Changing the Information Server 8.5 and 8.7 metadata repository to use Oracle RAC with a clustered WebSphere”

The objectives of this presentation are to identify and backup the files that are modified, update the Information Server Framework configuration, and update the WebSphere Application Server configuration.

This presentation applies to versions 8.5 and 8.7 of Information Server with non-clustered WebSphere only. If you are using a WebSphere cluster, see the IBM Education Assistant module “Changing the Information Server 8.5 and 8.7 Metadata repository to use Oracle RAC with a clustered WebSphere”.

## Backup

- Backup
  - Backup XMeta, Information Server, and WebSphere
  - Backup all files being changed
    - InformationServer/ASBServer/bin/sql/database.properties
    - InformationServer/ASBServer/apps/lib/obj-conf.jar
  - Do not leave file copy of obj-conf.jar in Information Server or WebSphere folder hierarchy

Before you make any changes to XMeta, Information Server, or WebSphere, it is good practice to take a complete backup of all three installations. It is safest to do a cold backup of the WebSphere Application Server by stopping WebSphere before you do the backup. It is also good practice to make a copy of all the files that are changed during this process to make it easier to revert back if necessary. The files that are key to make copies of are displayed on this slide. Ensure the backup of obj-conf.jar is not left in the IBM Information Server or WebSphere folder hierarchy.

## Updates to ISF and WebSphere configuration (1 of 3)

- Stop WebSphere Application Server
- Create temporary empty directory on Domain Server and make it current working directory
  - **Windows®:**  
mkdir c:\tmp\isftmp  
cd \tmp\isftmp
  - **Linux® or UNIX®:**  
mkdir /tmp/isftmp  
cd /tmp/isftmp
- Extract ojb-conf.jar into temp directory
  - **Linux or UNIX:**  
/opt/IBM/WebSphere/AppServer/java/bin/jar xf /opt/IBM/InformationServer/ASBServer/apps/lib/ojb-conf.jar
  - **Windows:**  
C:\IBM\WebSphere\AppServer\java\bin\jar xf c:\IBM\InformationServer\ASBServer\apps\lib\ojb-conf.jar

The next step is to update the Information Server Framework configuration. To do this, stop WebSphere first. After stopping WebSphere, create a temporary directory on your domain server and set it as your current working directory. While in your newly created temp directory, extract the ojb-conf.jar file using the jar utility of a JDK. For example, the JDK in WebSphere.

Example commands are displayed on this slide. This command will extract ojb-conf.jar and place the contents in your temp directory.

## Updates to ISF configuration (2 of 3)

- Edit repository\_database.xml
  - Linux or UNIX:**  
vi repository\_database.xml
  - Windows:**  
write repository\_database.xml
- File contains multiple dbalias entires
  - Update all dbalias attributes
- Edit dbalias attribute  
dbalias="oracle://host:port;ServiceName=SID;AlternateServers=(host:port,  
host:port,host:port, ...)"

Example:

```
dbalias="oracle://rac1:1521;serviceName=orcl;alternateServers=(rac1:1521,rac2:1521,rac3:1521)"
```

The next step is to edit the repository\_database.xml file that is in your temp directory. Use the vi command for Linux and UNIX or open the file in WordPad by using the write command if on Windows. Search for all of the dbalias attributes. Edit every dbalias attribute with the right host, port and dbname value. Save the file.

## Updates to ISF configuration (3 of 3)

- Rejar ojb-conf.jar
  - **Linux or UNIX**  
/opt/IBM/WebSphere/AppServer/java/bin/jar cf /opt/IBM/InformationServer/ASBServer/apps/lib/ojb-conf.jar .
  - **Windows**  
C:\IBM\WebSphere\AppServer\java\bin\jar cf C:\IBM\InformationServer\ASBServer\apps\lib\ojb-conf.jar .

After updating the dbalias attribute, re-jar ojb-conf.jar with the updated repository\_database.xml file using the jar utility of a JDK. For example, the JDK in WebSphere. Be sure you are still in your temp directory. This slide displays an example of the command to use. Be sure to put in the appropriate path for your WebSphere and Information Server installations.

You must remember to put the “space dot” at the end of the jar command.

After this step is completed, delete the temp directory.

## Copy changes to WebSphere

- Copy new ojb-conf.jar to WebSphere  
cp <IS\_HomeDir>/ASBServer/apps/lib/ojb-conf.jar  
<WAS\_Install\_Dir>/AppServer/profiles/InfoSphere/informationServer/apps/lib

Starting with Information Server 8.5, a copy of the ojb-conf.jar file is located under the WebSphere install directory. Copy the new ojb-conf.jar file that was created in the previous slides to your WebSphere installation. Use the command displayed on this slide for the location to copy this file to.

## Edit database.properties file

- Edit database.properties

**Linux or UNIX:**

```
vi /opt/IBM/InformationServer/ASBServer/bin/sql/database.properties
```

**Windows:**

```
notepad C:\IBM\InformationServer\ASBServer\bin\sql\database.properties
```

- Update URL parameter

```
url=jdbc:ibm:oracle://host:port;serviceName=service;alternateServer=(host:port, host:port, host:port, ...)
```

- Example:

```
url=jdbc:ibm:oracle://rac1:1521;serviceName=orcl;alternateServers=(rac1:1521,rac2:1521,rac3:1521)
```

- Restart WebSphere

Next, edit the database.properties file in the InformationServer/ASBServer/bin/sql directory. Update the URL parameter to reflect the repository server names and ports. After updating, save the file and restart WebSphere.



## Update WebSphere Application Server configuration (1 of 3)

- Login to WebSphere Application Server administrative console
- 8.7 - Change all four data sources highlighted in yellow
- 8.5 – ASB Staging Repository JDBC DS is **NOT** in 8.5

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Login to the WebSphere Application Server administrative console. Click the Resources tab on the left side and then click JDBC and then Data sources underneath. This will display four data sources in version 8.5 and five data sources in 8.7. In addition to the four in 8.5, 8.7 also includes the ASB Staging Repository JDBC data source. The changes described in the next few slides will need to be done on all of the data sources highlighted in yellow on this slide. To start, click the first data source, ASB JDBC DataSource. If you do not see the data sources displayed on this slide, go to the Scope section, click the drop down and select All scopes. All of the data sources should now appear in the box.

## Update WebSphere configuration (2 of 3)

- Modify connection properties
  - Remove properties
    - databaseName
    - SID
  - Add properties (names are case sensitive)
    - serviceName value <service name>
    - alternateServers value (host1:1521,host2:1521,host3:1521)

The screenshot shows the configuration page for an ASB JDBC DataSource. The 'Additional Properties' section is expanded to show 'Custom properties'. Below this, a table lists resources that can be administered:

Select	Name	Value	Description	Required
<input type="checkbox"/>	serverName	rac1		false
<input type="checkbox"/>	portNumber	1521		false
<input type="checkbox"/>	webSphereDefaultIsolationLevel	2		false
<input type="checkbox"/>	enable2Phase	false		false
<input type="checkbox"/>	serviceName	ordl		false
<input type="checkbox"/>	alternateServers	(rac1:1521, rac2:1521, rac3:1521)		false

Under additional properties, click Custom properties. Click the values that have changed and set the values appropriately. Remove the properties databaseName and SID.

Add both serviceName and alternateServers in the connection properties. Set the serviceName value to the service name for Oracle RAC and the alternativeServers value to the host:port. Add multiple servers using a comma.

## Update WebSphere configuration (3 of 3)

- Return to Data sources page
- Repeat procedure for remaining data sources
- Test connections
- Restart WebSphere

The screenshot displays the 'Data sources' configuration page in the WebSphere Administration Console. A message at the top indicates a successful test connection for the 'ASB JDBC DataSource'. Below the message, there is a table listing various data sources. The 'References' section contains a 'Test connection' button, which is circled in red. A red arrow points from the 'Data sources' link in the left-hand navigation pane to the table.

Select	Name	JDBC name	Scope	Provider	Description	Category
<input checked="" type="checkbox"/>	ASB JDBC DataSource	jdbc/ASBDataSource	Node=ipaix00033node01.Server=server1	ASB JDBC Provider	Data source template	
<input checked="" type="checkbox"/>	ASB JDBC Staging DataSource	jdbc/ASBDataSourceXA	Node=ipaix00033node01.Server=server1	ASB XA JDBC Provider	Data source template	
<input checked="" type="checkbox"/>	ASB Staging Repository JDBC DS	jdbc/StagingDataSource	Node=ipaix00033node01.Server=server1	ASB Staging Repository JDBC Provider	Data source template	
<input checked="" type="checkbox"/>	Default DataSource	DefaultDataSource	Node=ipaix00033node01.Server=server1	Derby JDBC Provider	DataSource for the WebSphere Default Application	
<input checked="" type="checkbox"/>	Report JDBC DataSource	jdbc/ReportDataSource	Node=ipaix00033node01.Server=server1	ASB JDBC Provider	Data source template	
Total: 5						

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Return to the Data sources page, click the data source that you modified, and click **Test Connection**. Once the test completes successfully, go back and modify the remaining data sources in the same manor. Repeat the procedure on slides nine through eleven for the remaining data sources.

If all the test connections succeed, restart WebSphere for the changes to take effect.

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