

# CREATING DB2 DATA SOURCES

This document describes how to create and configure WAS (WebSphere Application Server) JDBC (Java Database Connectivity) data sources for a Standardization Rules Designer installation that uses a DB2 repository.

Two data sources are required:

1. An XA (distributed transaction) data source.
2. A non-transactional connection pool data source.

Complete the steps listed below to create each data source.

## Create the distributed transaction data source:

1. Login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **Data sources**.
5. Select the **Scope** for the data source from the drop down list in the right pane.
6. Click **New**.

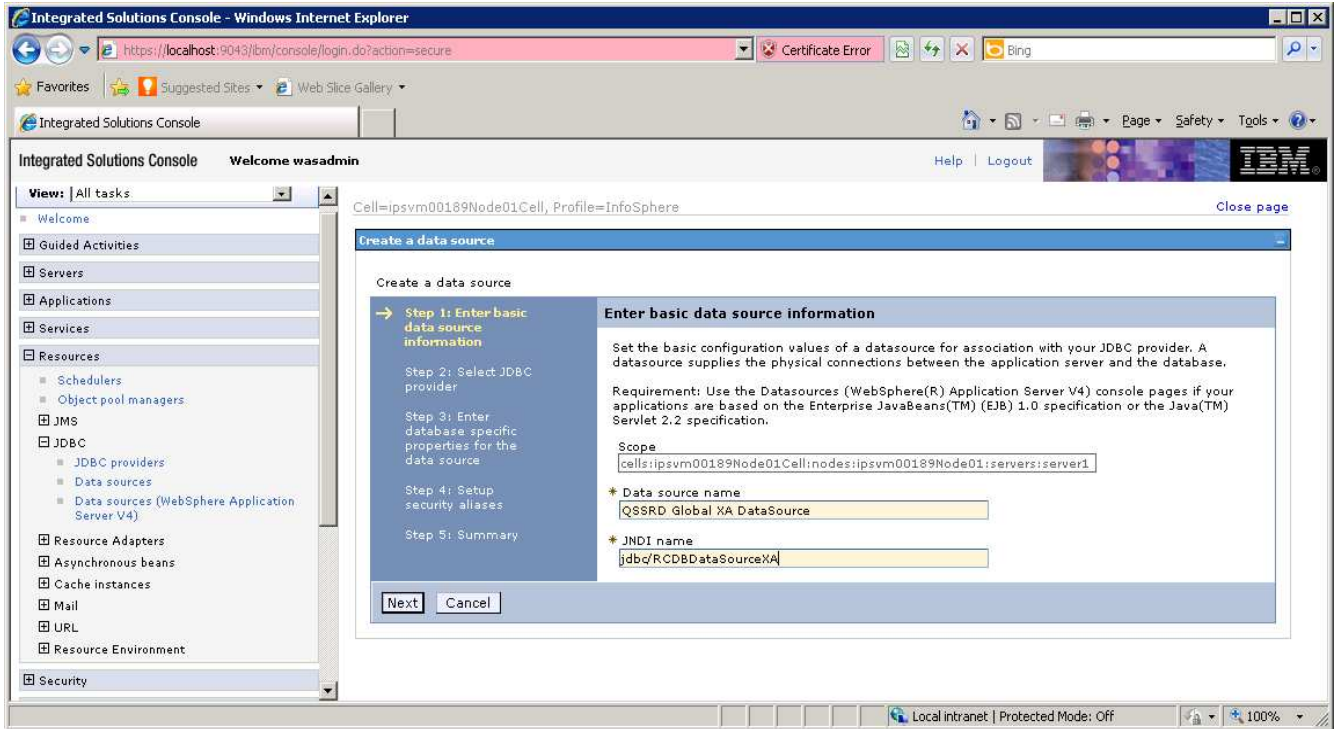
The screenshot shows the WebSphere Application Server Administrative Console interface. The left navigation pane is expanded to show the 'Resources' node, with 'JDBC' and 'Data sources' selected. The main content area displays the 'Data sources' configuration page. The page title is 'Data sources' and it includes a description: 'Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.'

The scope is set to 'Cell=ipsvm00189Node01Cell, Node=ipsvm00189Node01, Server=server1'. A dropdown menu for the scope is highlighted with a red box, showing 'Node=ipsvm00189Node01, Server=server1'. Below the scope settings, there are buttons for 'New', 'Delete', 'Test connection', and 'Manage state...'. The 'New' button is highlighted with a red box.

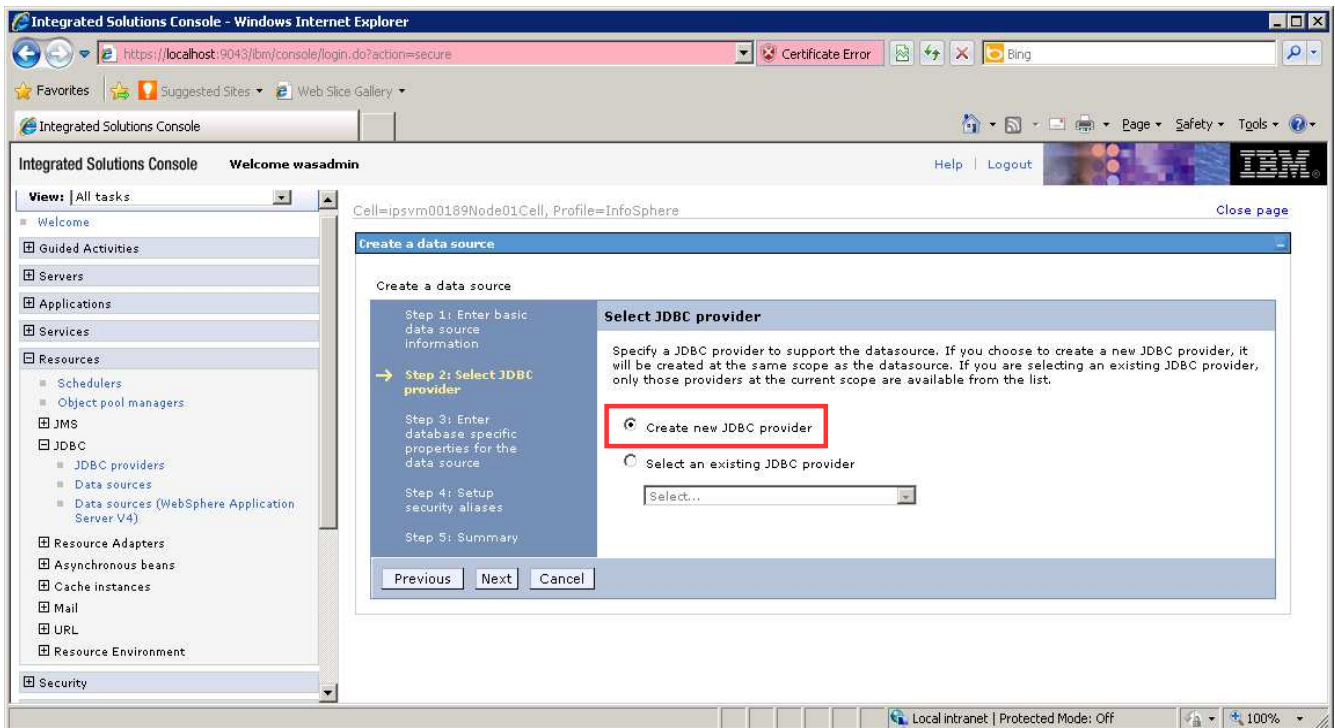
Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	ASB JDBC DataSource	jdbcf/ASBDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	ASB JDBC XA DataSource	jdbcf/ASBDataSourceXA	Node=ipsvm00189Node01,Server=server1	ASB XA JDBC Provider	Data source template	
<input type="checkbox"/>	ASB Staging Repository JDBC DS	jdbcf/StagingDataSource	Node=ipsvm00189Node01,Server=server1	ASB Staging Repository JDBC Provider	Data source template	
<input type="checkbox"/>	Default DataSource	DefaultDataSource	Node=ipsvm00189Node01,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
<input type="checkbox"/>	JReport JDBC DataSource	jdbcf/JReportDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	

Total 5

7. Enter *QSSRD Global XA DataSource* in the **Data source name** field.
8. Enter *jdbc/RCDBDataSourceXA* in the **JNDI name** field.
9. Click **Next**.



10. Select **Create new JDBC provider**.
11. Click **Next**.



12. Enter the information for the JDBC provider:

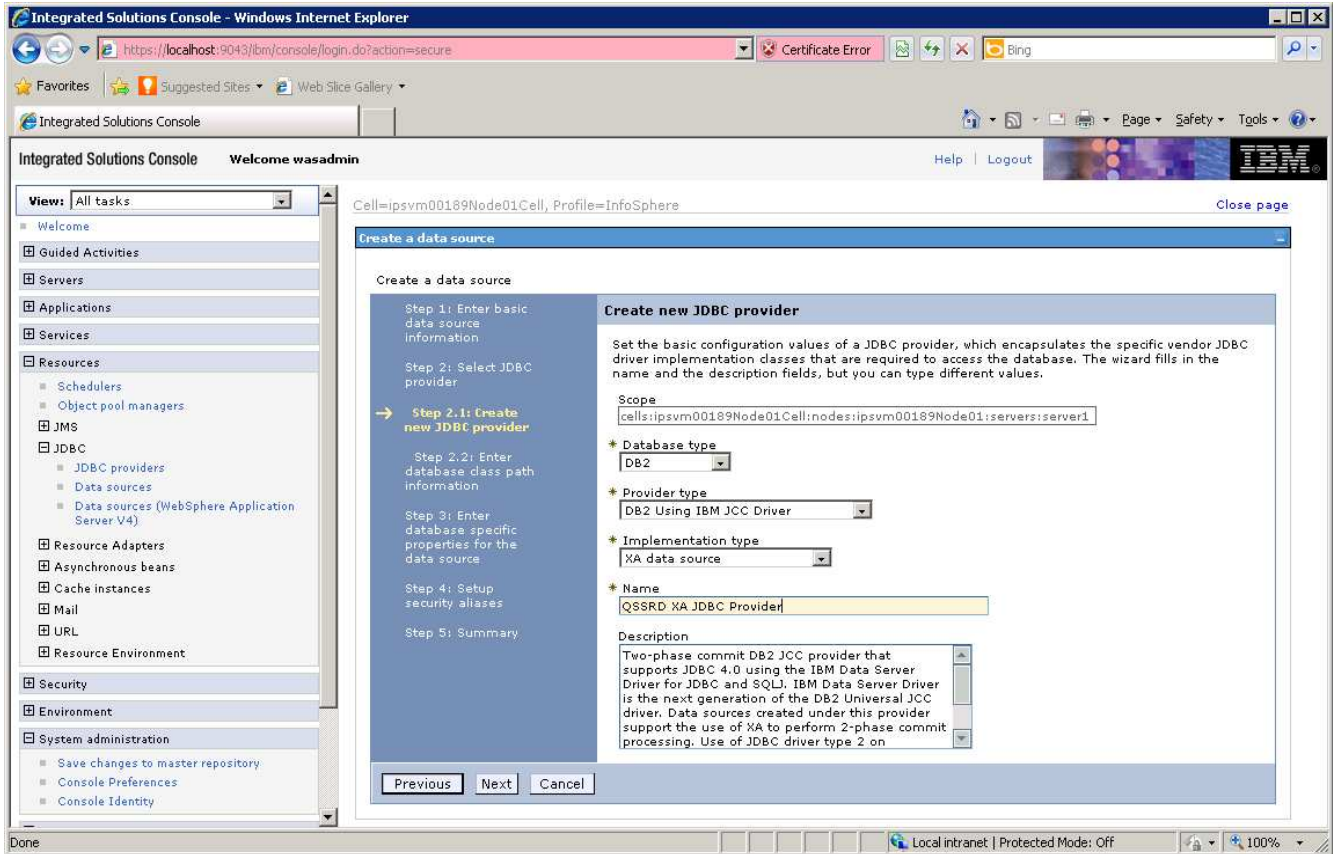
**Database type:** DB2

**Provider type:** DB2 using IBM JCC Driver

**Implementation type:** XA data source

**Name:** QSSRD XA JDBC Provider

13. Click **Next**.



14. Click **Next** on the screen that follows. Do not modify this screen.

15. Enter the database information for the data source:

(Note: Values entered should be the same as those specified in the `qssrd_repository.properties` file that was configured in the Standardization Rules Designer repository registration step. The sample values below illustrate a default configuration.)

**Driver type:** 4

**Database name:** *the name of the DB2 database where the Standardization Rules Designer repository was created*

**Server name:** *the name of the system that hosts the DB2 server*

**Port number:** *the port number on which the DB2 server listens. The default value is 50000.*

16. Uncheck **Use this data source in container managed persistence (CMP)**.

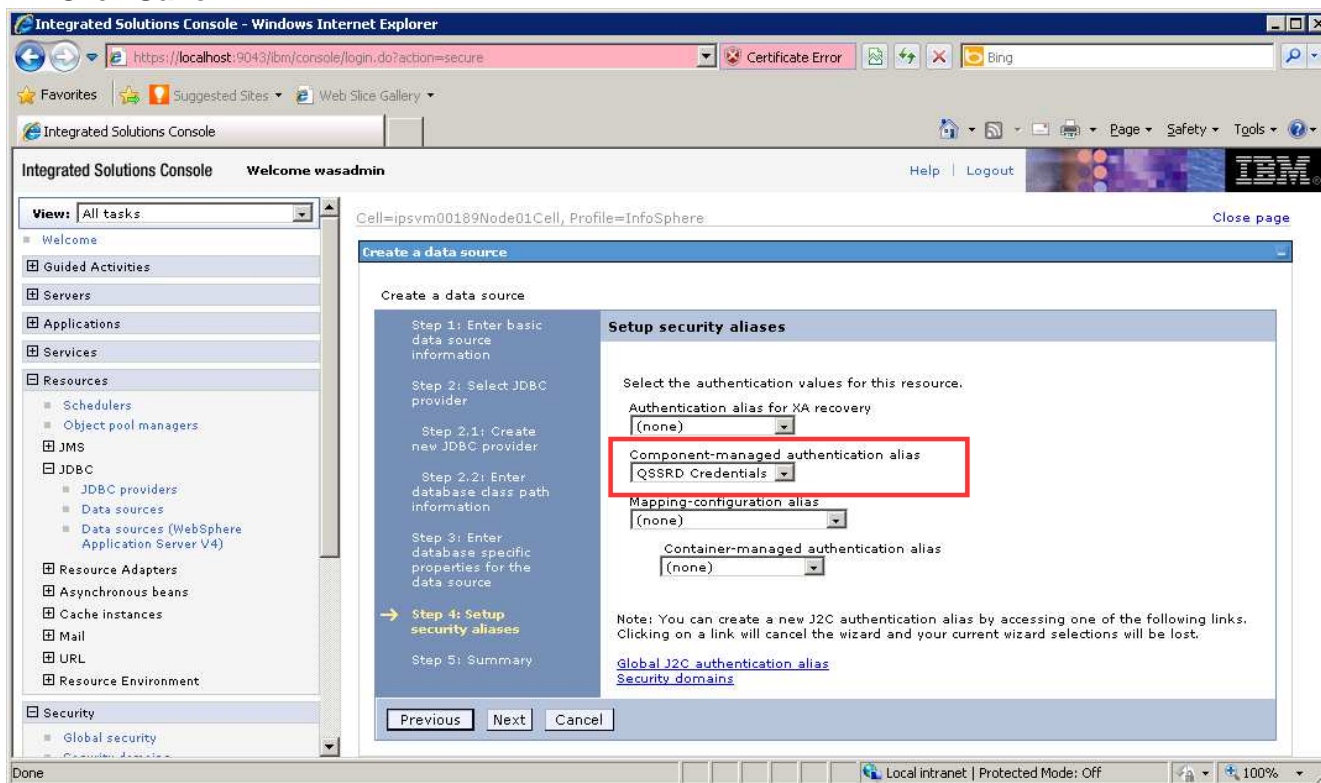
17. Click **Next**.

The screenshot shows the Integrated Solutions Console interface. The main content area displays the 'Create a data source' wizard. The wizard is currently at Step 3: Enter database specific properties for the data source. The properties table is as follows:

Name	Value
* Driver type	4
* Database name	xmeta
* Server name	localhost
* Port number	50000

Below the table, the checkbox 'Use this data source in container managed persistence (CMP)' is unchecked. The 'Next' button is highlighted, indicating the user should proceed to the next step.

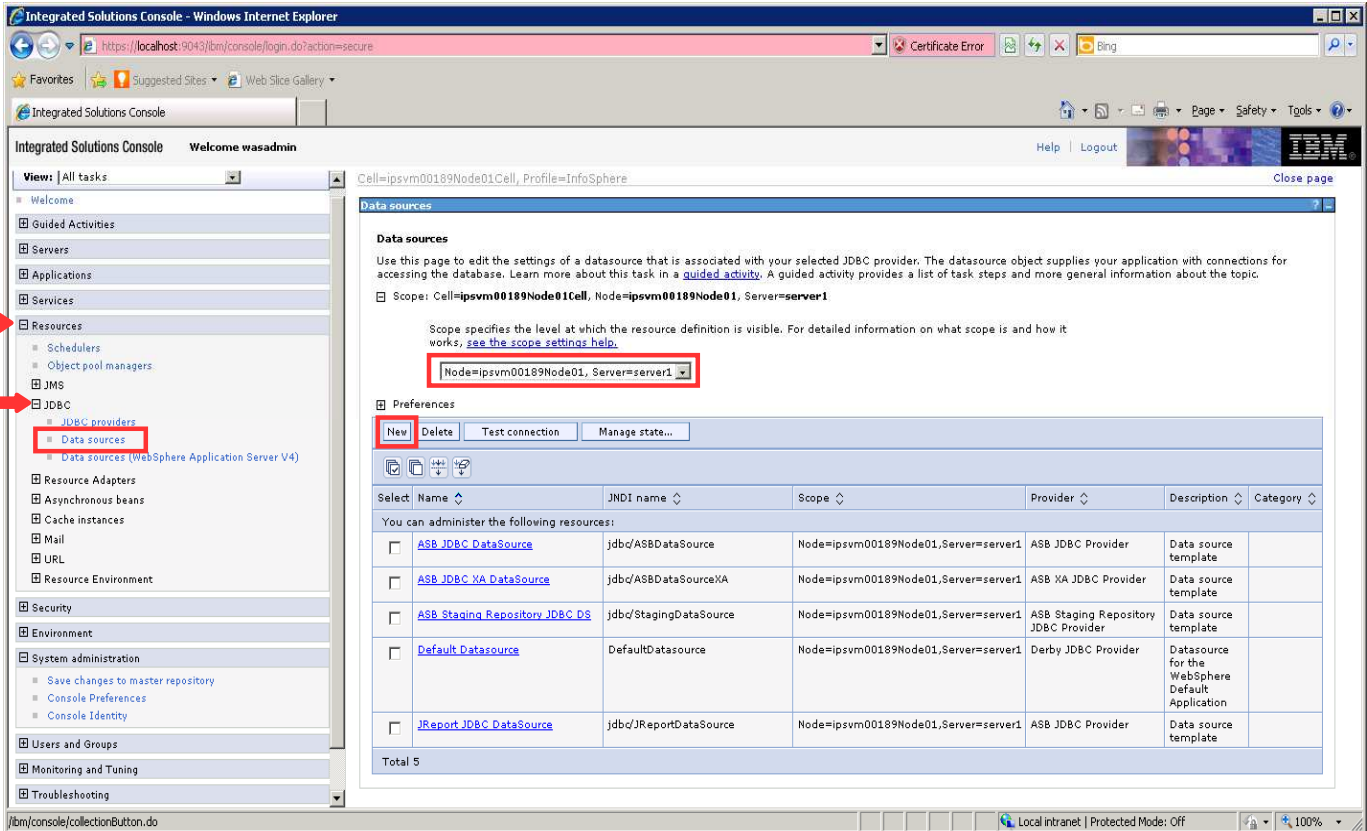
18. Select *QSSRD Credentials* from the **Component-managed authentication alias** drop down list.
19. Click **Next**.
20. Click **Finish**.
21. Click **Save**.





## Create the non-transactional connection pool data source:

1. If you have not already done so, login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **Data sources**.
5. Select the **Scope** for the data source from the drop down list in the right pane.
6. Click **New**.



The screenshot shows the WebSphere Application Server Administrative Console interface. The left pane displays the navigation tree with the following structure:

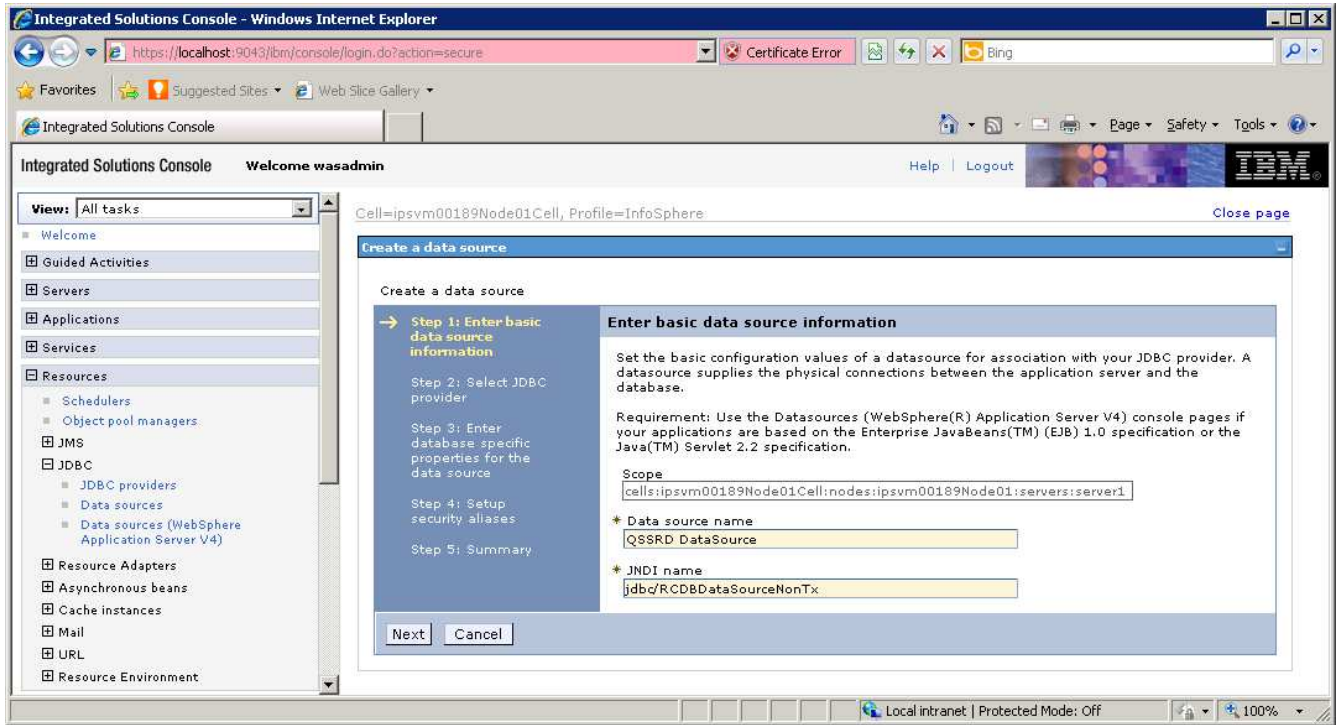
- Resources
  - Schedulers
  - Object pool managers
  - JMS
  - JDBC
    - Data sources**
    - Data sources (WebSphere Application Server V4)

The right pane displays the 'Data sources' configuration page. The 'Scope' dropdown menu is set to 'Node=ipsvm00189Node01, Server=server1'. The 'New' button is highlighted. Below the configuration options, there is a table listing the existing data sources:

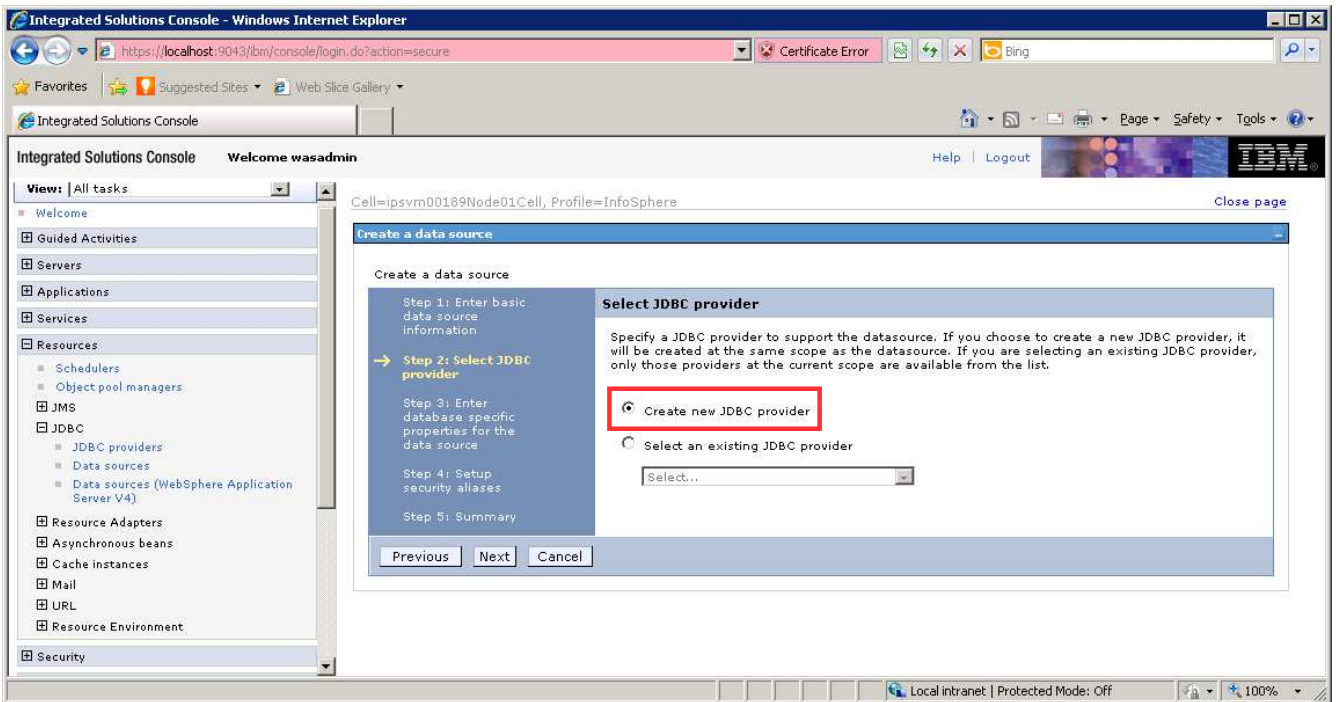
Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	<a href="#">ASB JDBC DataSource</a>	jdbc/ASBDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">ASB JDBC XA DataSource</a>	jdbc/ASBDataSourceXA	Node=ipsvm00189Node01,Server=server1	ASB XA JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">ASB Staging Repository JDBC DS</a>	jdbc/StagingDataSource	Node=ipsvm00189Node01,Server=server1	ASB Staging Repository JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">Default DataSource</a>	DefaultDataSource	Node=ipsvm00189Node01,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
<input type="checkbox"/>	<a href="#">JReport JDBC DataSource</a>	jdbc/JReportDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	

Total 5

7. Enter *QSSRD DataSource* in the **Data source name** field.
8. Enter *jdbc/RCDBDataSourceNonTx* in the **JNDI name** field.
9. Click **Next**.

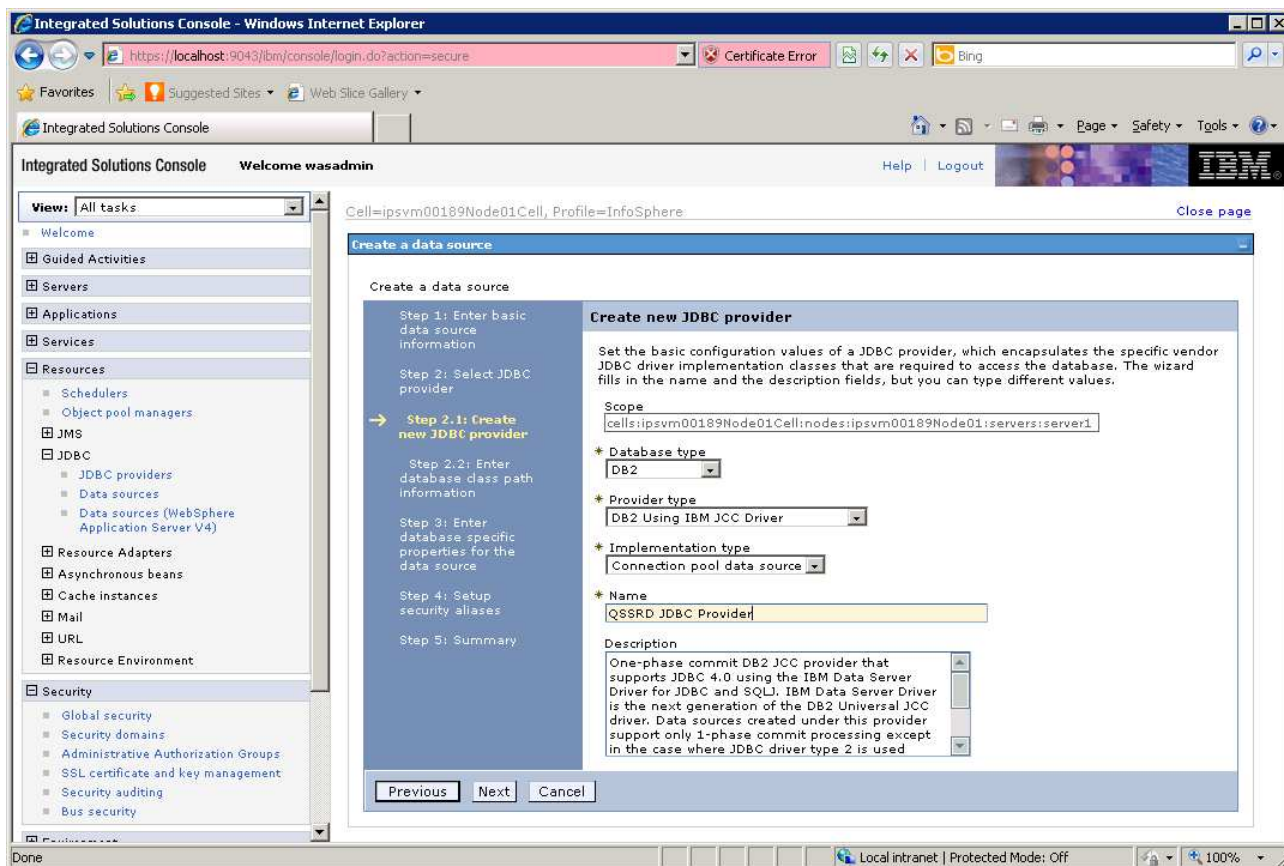


10. Select **Create new JDBC provider**.
11. Click **Next**.



12. Enter the information for the JDBC provider:  
**Database type:** DB2  
**Provider type:** DB2 using IBM JCC Driver  
**Implementation type:** Connection pool data source  
**Name:** QSSRD JDBC Provider

13. Click **Next**.



14. Click **Next** on the screen that follows. Do not modify this screen.



15. Enter the database information for the data source:

(Note: Values entered should be the same as those specified in the `qssrd_repository.properties` file that was configured in the Standardization Rules Designer repository registration step. The sample values below illustrate a default configuration.)

**Driver type:** 4

**Database name:** *the name of the DB2 database where the Standardization Rules Designer repository was created*

**Server name:** *the name of the system that hosts the DB2 server*

**Port number:** *the port number on which the DB2 server listens. The default value is 50000.*

16. Uncheck **Use this data source in container managed persistence (CMP)**.

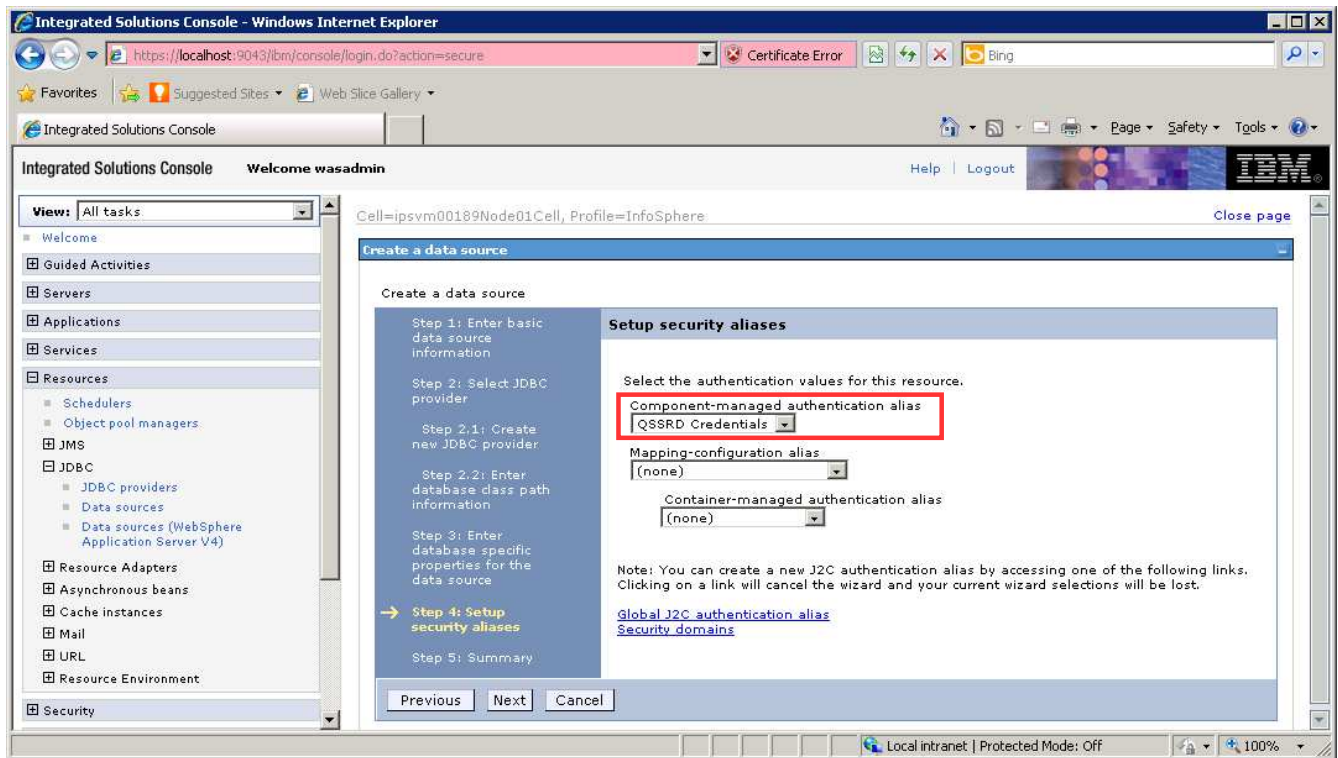
17. Click **Next**.

The screenshot shows the Integrated Solutions Console interface. The main content area displays the 'Create a data source' wizard. The wizard is currently at Step 3: Enter database specific properties for the data source. The properties table is as follows:

Name	Value
* Driver type	4
* Database name	xmeta
* Server name	localhost
* Port number	50000

Below the table, the checkbox 'Use this data source in container managed persistence (CMP)' is unchecked. The 'Next' button is highlighted, indicating the user should proceed to the next step.

18. Select *QSSRD Credentials* from the **Component-managed authentication alias** drop down list.
19. Click **Next**.
20. Click **Finish**.
21. Click **Save**.



## Modify the QSSRD DataSource to set the non-transactional data source properties:

1. If you have not already done so, login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **Data sources**.
5. Click **QSSRD DataSource**.

Integrated Solutions Console - Windows Internet Explorer

https://localhost:9043/ibm/console/login.do?action=secure

Integrated Solutions Console Welcome wasadmin

Cell=ipsvm00189Node01Cell, Profile=InfoSphere

**Data sources**

Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=ipsvm00189Node01Cell, Node=ipsvm00189Node01, Server=server1

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=ipsvm00189Node01, Server=server1

Preferences

New Delete Test connection Manage state...

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	<a href="#">ASB JDBC DataSource</a>	jdbc/ASBDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">ASB JDBC XA DataSource</a>	jdbc/ASBDataSourceXA	Node=ipsvm00189Node01,Server=server1	ASB XA JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">ASB Staging Repository JDBC DS</a>	jdbc/StagingDataSource	Node=ipsvm00189Node01,Server=server1	ASB Staging Repository JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=ipsvm00189Node01,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
<input type="checkbox"/>	<a href="#">JReport JDBC DataSource</a>	jdbc/JReportDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	<a href="#">QSSRD DataSource</a>	jdbc/RCDDataSourceNonTx	Node=ipsvm00189Node01,Server=server1	QSSRD JDBC Provider	DB2 JCC data source using the IBM Data Server Driver for JDBC and SQLJ. IBM Data Server	

Done Local intranet | Protected Mode: Off 100%

## 6. Click WebSphere Application Server data source properties.

The screenshot displays the WebSphere Integrated Solutions Console interface in a Windows Internet Explorer browser window. The browser address bar shows the URL `https://localhost:9043/ibm/console/login.do?action=secure`. The console page title is "Integrated Solutions Console" and the user is logged in as "wasadmin".

The left-hand navigation pane shows a tree view of the console's structure, including sections like "Resources", "Security", and "Environment". The "Data sources" link is selected in the "Resources" section.

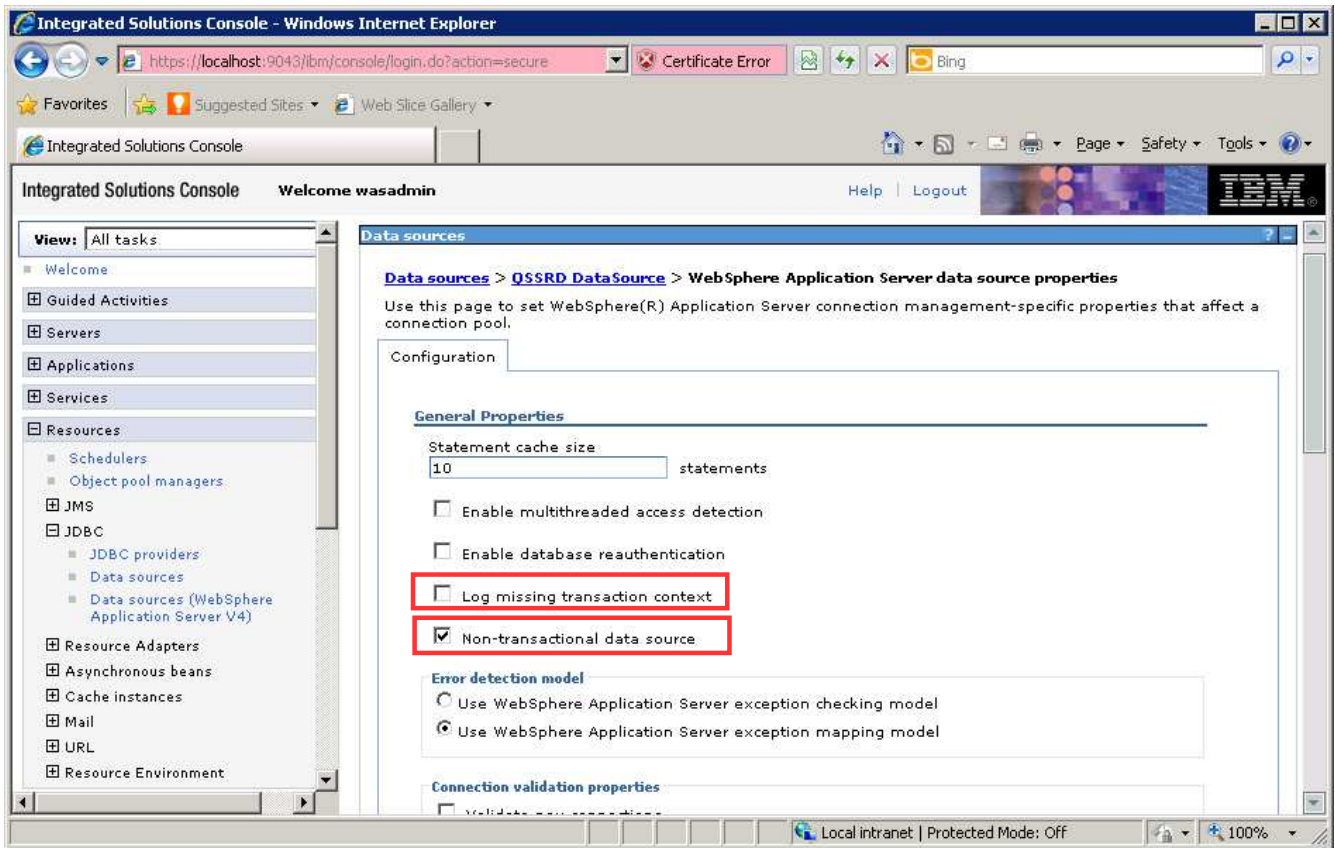
The main content area is titled "Data sources > QSSRD DataSource". It contains a "Configuration" section with a "Test connection" button. Below this, there are two columns of property sections:

- General Properties:** Includes fields for "Scope" (cells:ipsvm00189Node01:Cell:nodes:ipsvm00189Node01:servers:server1), "Provider" (QSSRD JDBC Provider), "Name" (QSSRD DataSource), "JNDI name" (jdbc/RCDBDataSourceNonTx), and a checkbox for "Use this data source in container managed persistence (CMP)".
- Additional Properties:** Contains three links: "Connection pool properties", "WebSphere Application Server data source properties" (highlighted with a red box), and "Custom properties".

Below the "Additional Properties" section, there is a "Data store helper class name" section with two radio button options: "Select a data store helper class" (selected) and "Specify a user-defined data store helper". The selected option shows a list of helper classes provided by WebSphere Application Server, including "DB2 Universal data store helper" and "DB2 for iSeries data store helper".

The bottom status bar of the browser window indicates "Local intranet | Protected Mode: Off" and a zoom level of "100%".

7. Uncheck **Log missing transaction context**.
8. Check **Non-transactional data source**.
9. Click **OK** at the bottom of the page.
10. Click **Save**.





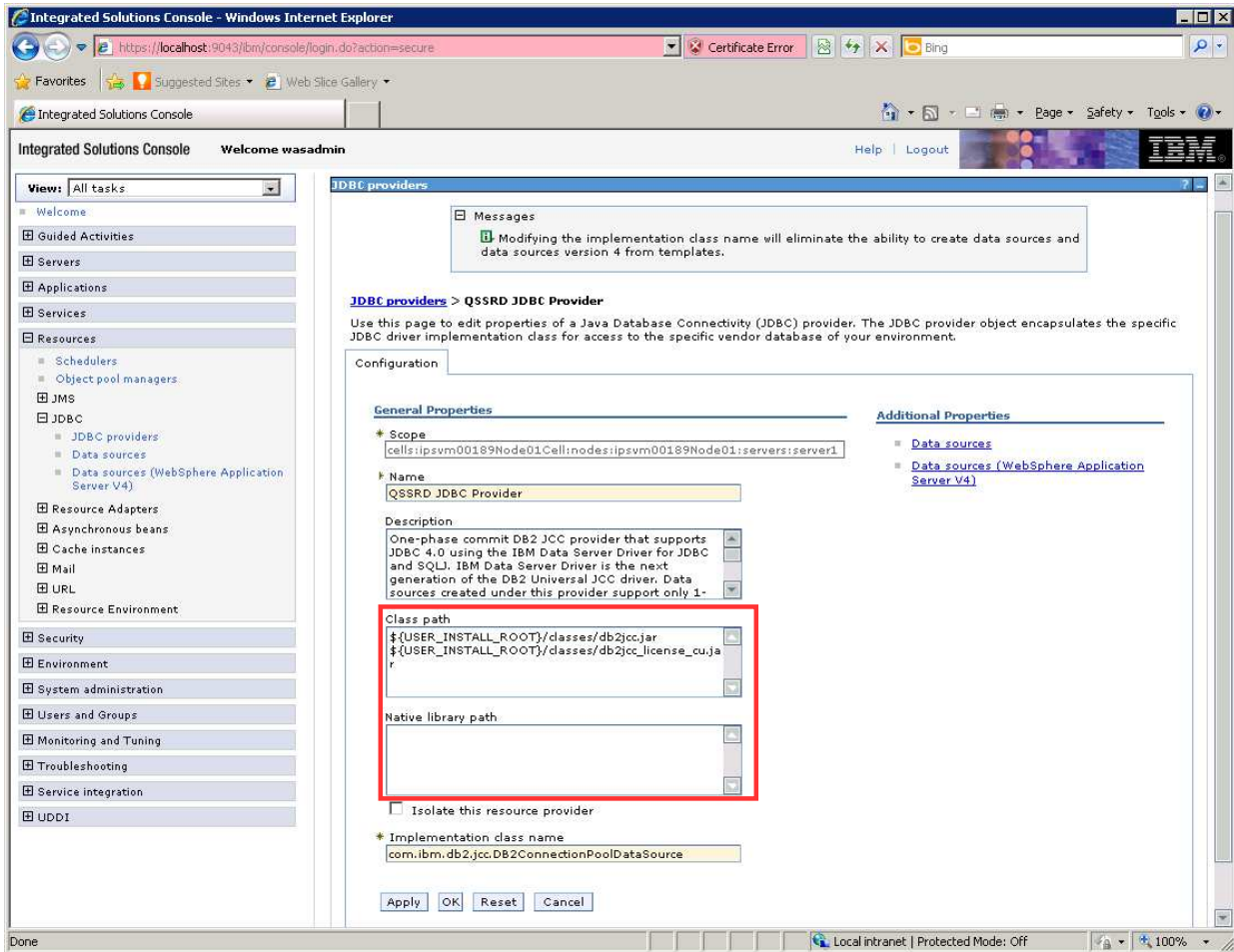
## Modify the QSSRD JDBC Provider to set the correct paths for the driver:

1. If you have not already done so, login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **JDBC providers**.
5. Click **QSSRD JDBC Provider** in the right pane.

The screenshot shows the WebSphere Application Server Administrative Console. The left navigation pane is expanded to show the 'Resources' node, with 'JDBC' and 'JDBC providers' selected. The main content area displays the 'JDBC providers' configuration page. The page includes a 'Scope' dropdown set to 'All scopes' and a 'Preferences' section with 'New' and 'Delete' buttons. Below this is a table of JDBC providers. The 'QSSRD JDBC Provider' is highlighted with a red box. The table has columns for 'Select', 'Name', 'Scope', and 'Description'.

Select	Name	Scope	Description
<input type="checkbox"/>	<a href="#">ASB JDBC Provider</a>	Node=ipsvm00189Node01,Server=server1	
<input type="checkbox"/>	<a href="#">ASB Staging Repository JDBC Provider</a>	Node=ipsvm00189Node01,Server=server1	
<input type="checkbox"/>	<a href="#">ASB XA JDBC Provider</a>	Node=ipsvm00189Node01,Server=server1	
<input type="checkbox"/>	<a href="#">Derby JDBC Provider</a>	Node=ipsvm00189Node01,Server=server1	Derby embedded non-XA JDBC Provider
<input type="checkbox"/>	<a href="#">QSSRD JDBC Provider</a>	Node=ipsvm00189Node01,Server=server1	One-phase commit DB2 JCC provider that supports JDBC 4.0 using the IBM Data Server Driver for JDBC and SQLJ. IBM Data Server Driver is the next generation of the DB2 Universal JCC driver. Data sources created under this provider support only 1-phase commit processing except in the case where JDBC driver type 2 is used under WebSphere Application Server for Z/OS. On WebSphere Application Server for Z/OS, JDBC driver type 2 uses RRS and supports 2-phase commit processing. This provider is configurable in version 7.0 and later nodes.
<input type="checkbox"/>	<a href="#">QSSRD XA JDBC Provider</a>	Node=ipsvm00189Node01,Server=server1	Two-phase commit DB2 JCC provider that supports JDBC 4.0 using the IBM Data Server Driver for JDBC and SQLJ. IBM Data Server Driver is the next generation of the DB2 Universal JCC driver. Data sources created under this provider support the use

6. Replace **Class path** values with:  
  `${USER_INSTALL_ROOT}/classes/db2jcc.jar`  
  `${USER_INSTALL_ROOT}/classes/db2jcc_license_cu.jar`
7. Remove values in **Native library path**.
8. Click **OK**.
9. Click **Save**.



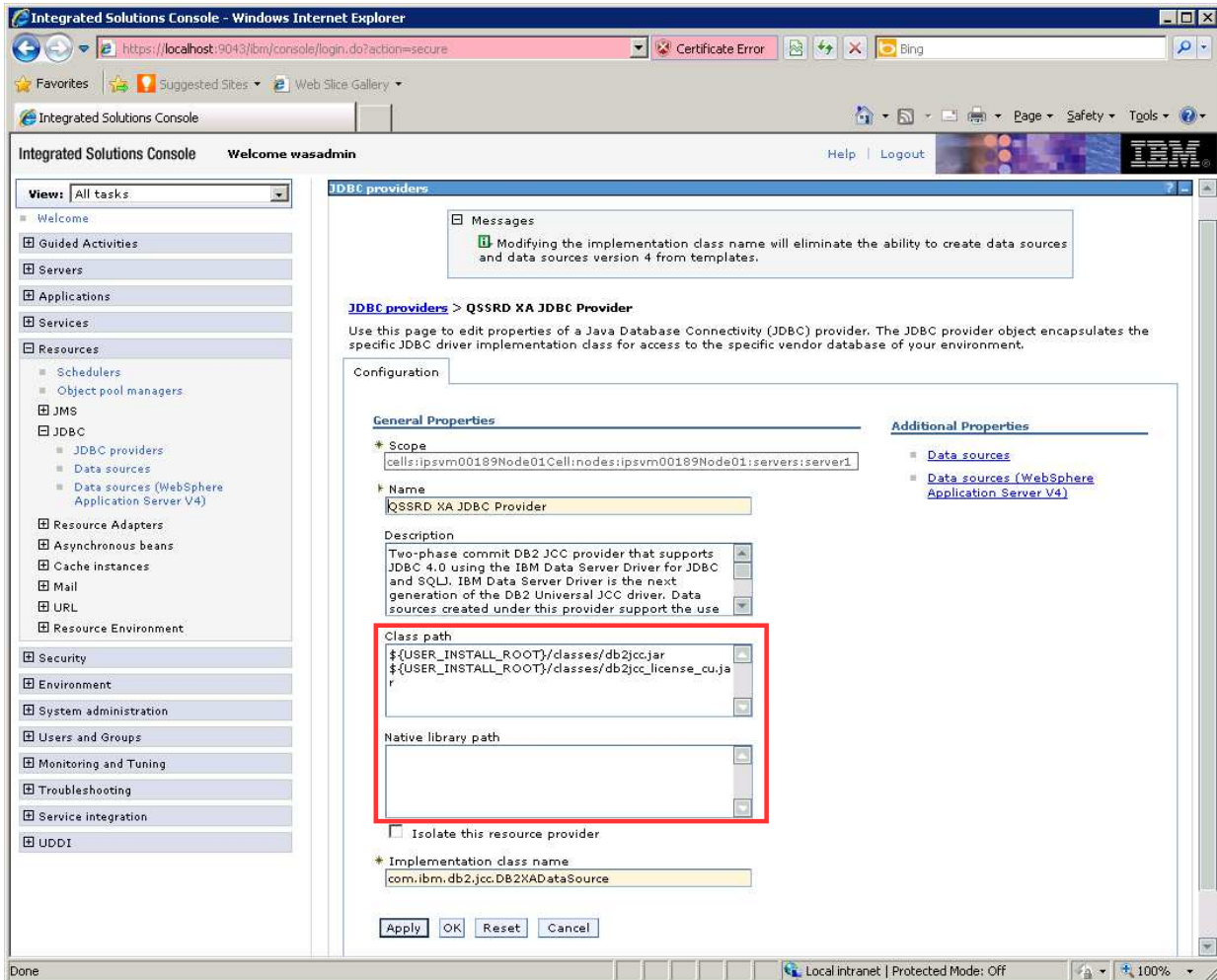
# Modify the QSSRD XA JDBC Provider to set the correct paths for the driver:

1. If you have not already done so, login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **JDBC providers**.
5. Click **QSSRD XA JDBC Provider** in the right pane.

The screenshot displays the WebSphere Application Server Administrative Console interface. The left-hand navigation pane is expanded to show the 'Resources' node, with 'JDBC' and 'JDBC providers' selected. The main content area is titled 'JDBC providers' and contains a table of existing providers. The 'QSSRD XA JDBC Provider' is highlighted with a red box. The table columns are 'Name', 'Scope', and 'Description'.

Select	Name	Scope	Description
<input type="checkbox"/>	ASB JDBC Provider	Node=ipsvm00189Node01,Server=server1	
<input type="checkbox"/>	ASB Staging Repository JDBC Provider	Node=ipsvm00189Node01,Server=server1	
<input type="checkbox"/>	ASB XA JDBC Provider	Node=ipsvm00189Node01,Server=server1	
<input type="checkbox"/>	Derby JDBC Provider	Node=ipsvm00189Node01,Server=server1	Derby embedded non-XA JDBC Provider
<input type="checkbox"/>	QSSRD JDBC Provider	Node=ipsvm00189Node01,Server=server1	One-phase commit DB2 JCC provider that supports JDBC 4.0 using the IBM Data Server Driver for JDBC and SQLJ. IBM Data Server Driver is the next generation of the DB2 Universal JCC driver. Data sources created under this provider support only 1-phase commit processing except in the case where JDBC driver type 2 is used under WebSphere Application Server for Z/OS. On WebSphere Application Server for Z/OS, JDBC driver type 2 uses RRS and supports 2-phase commit processing. This provider is configurable in version 7.0 and later nodes.
<input type="checkbox"/>	QSSRD XA JDBC Provider	Node=ipsvm00189Node01,Server=server1	Two-phase commit DB2 JCC provider that supports JDBC 4.0 using the IBM Data Server Driver for JDBC and SQLJ. IBM Data Server Driver is the next generation of the DB2 Universal JCC driver. Data sources created under this provider support the use

6. Replace **Class path** values with:  
  `${USER_INSTALL_ROOT}/classes/db2jcc.jar`  
  `${USER_INSTALL_ROOT}/classes/db2jcc_license_cu.jar`
7. Remove values in **Native library path**.
8. Click **OK**.
9. Click **Save**.



The Standardization Rules Designer data source creation step for DB2 is now complete.