

CREATING SQL SERVER 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 SQL Server 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.

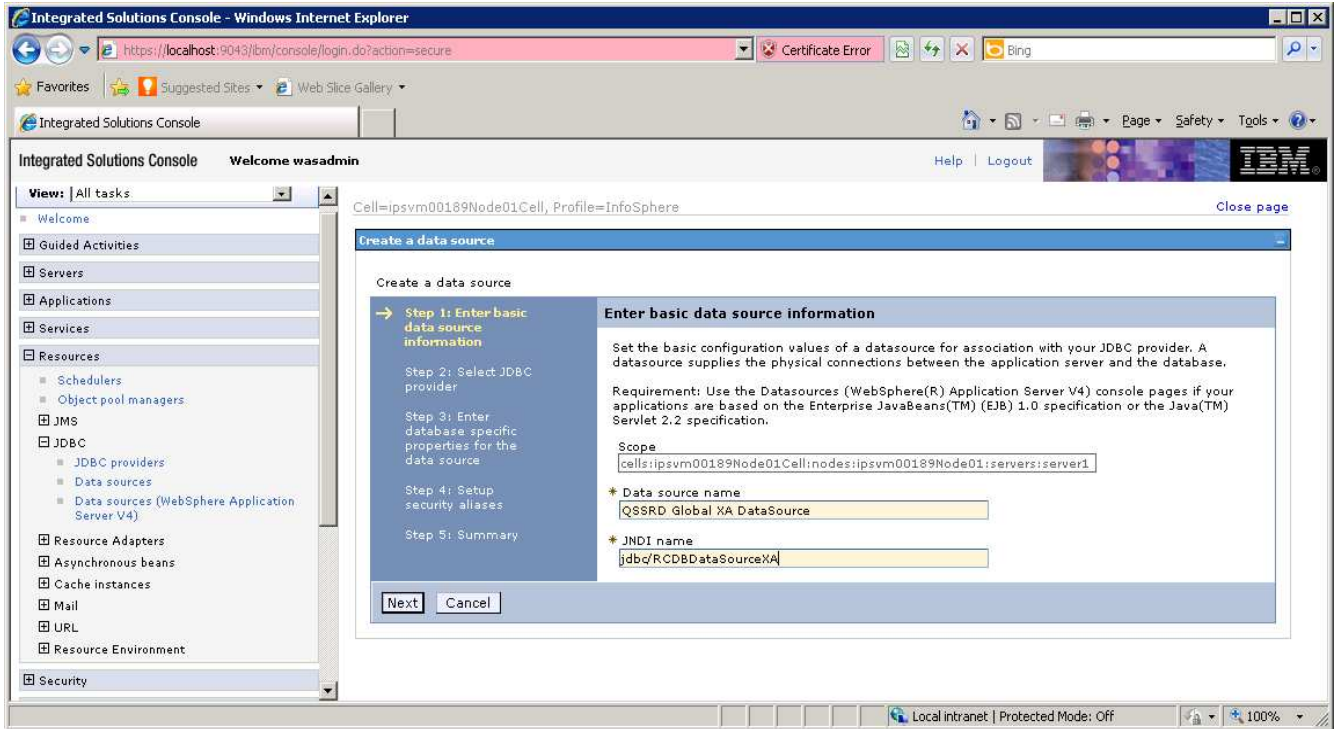
Create the distributed transaction data source:

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**.

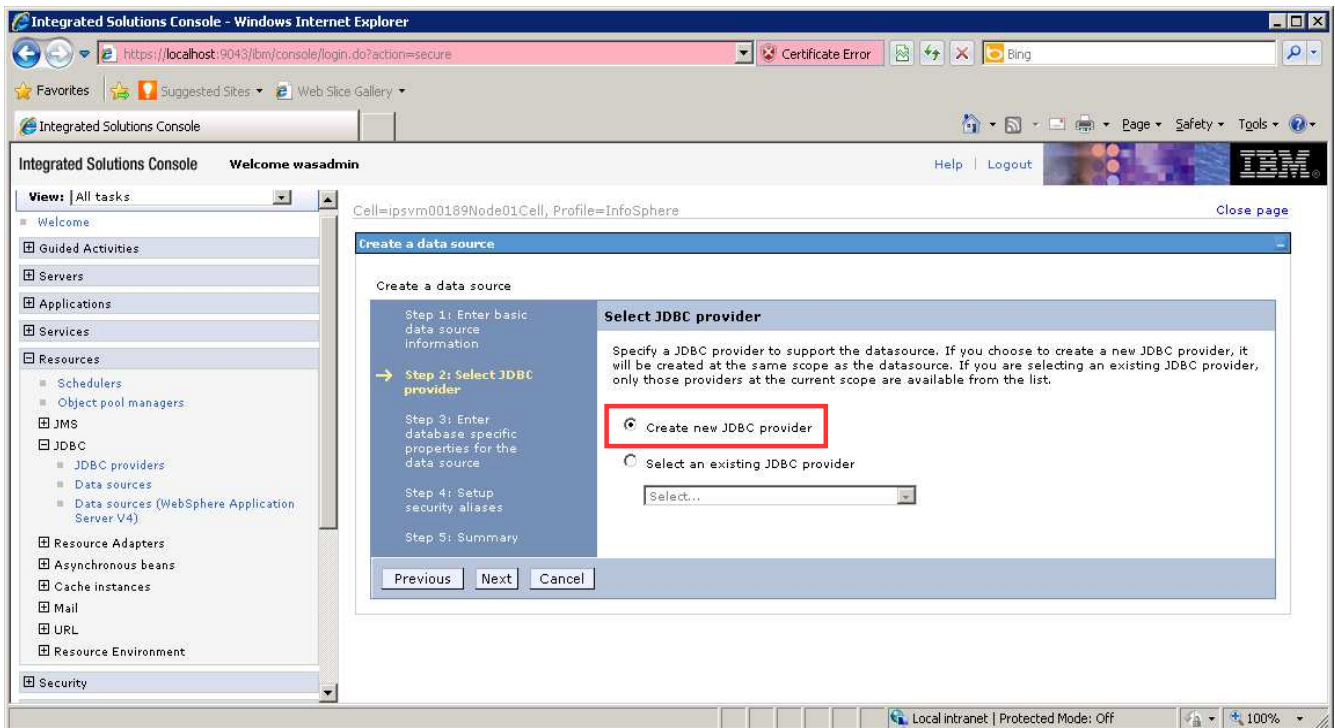
The screenshot shows the WebSphere Application Server Administrative Console interface. The left navigation pane is expanded to show the 'Resources' node, with 'JDBC' and 'Data sources' selected. The main content area displays the 'Data sources' configuration page. The 'Scope' dropdown is set to 'Node=ipsvm00189Node01, Server=server1'. The 'New' button is highlighted in red. Below the configuration options is a table listing existing data sources.

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	

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:

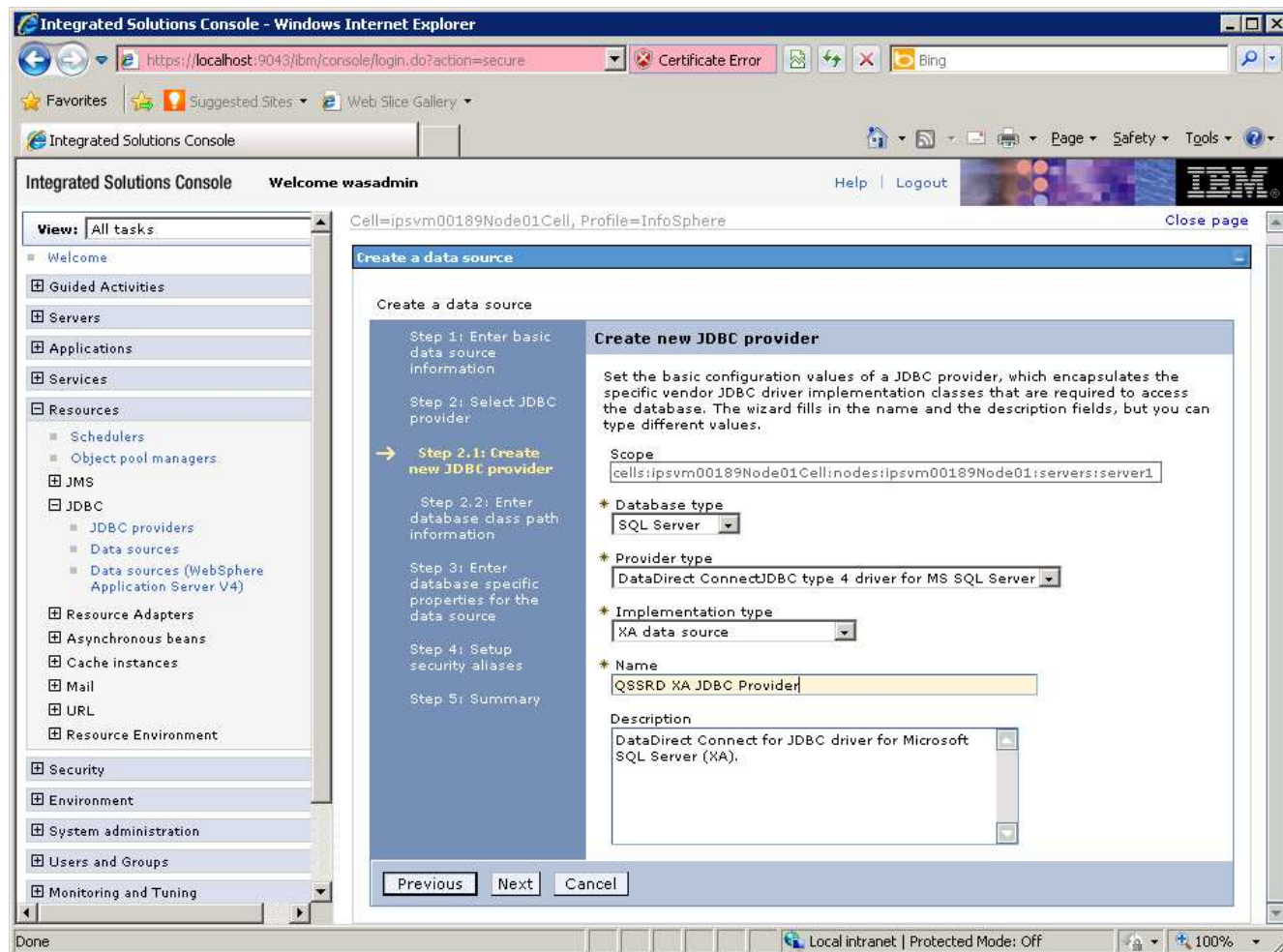
Database type: SQL Server

Provider type: DataDirect ConnectJDBC type 4 driver for MS SQL Server

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.)

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

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

Port number: *the port number on which the SQL Server server listens. The default value is 1433.*

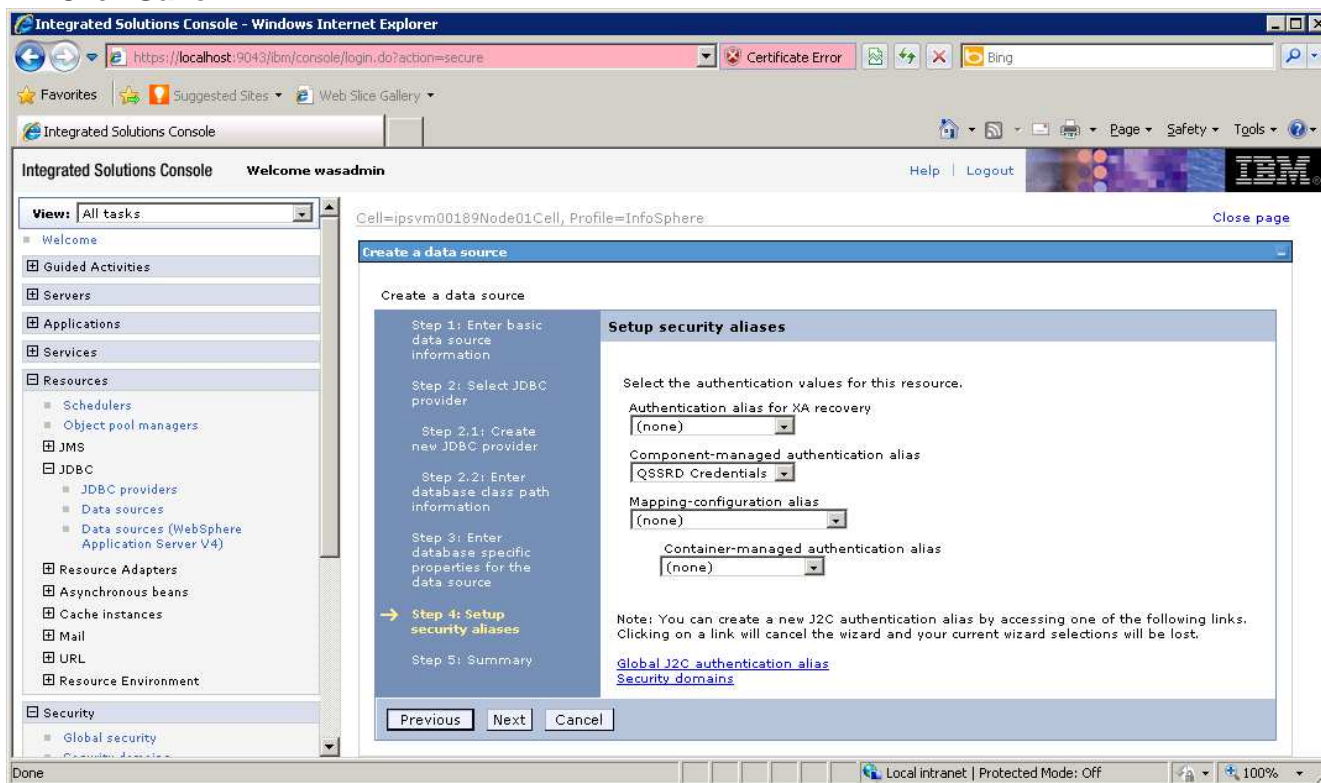
16. Uncheck **Use this data source in container managed persistence (CMP)**.

17. Click **Next**.

The screenshot shows the Integrated Solutions Console interface in a Windows Internet Explorer browser. 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 'Server name' is set to localhost, the 'Database name' is xmeta, and the 'Port number' is 1433. The 'Use this data source in container managed persistence (CMP)' checkbox is unchecked. The wizard has buttons for 'Previous', 'Next', and 'Cancel'. The left sidebar shows a navigation tree with 'Data sources (WebSphere Application Server V4)' selected. The top of the console shows 'Welcome wasadmin' and 'Cell=ipsvm00189Node01Cell, Profile=InfoSphere'.

Name	Value
* Server name	localhost
Database name	xmeta
Port number	1433

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



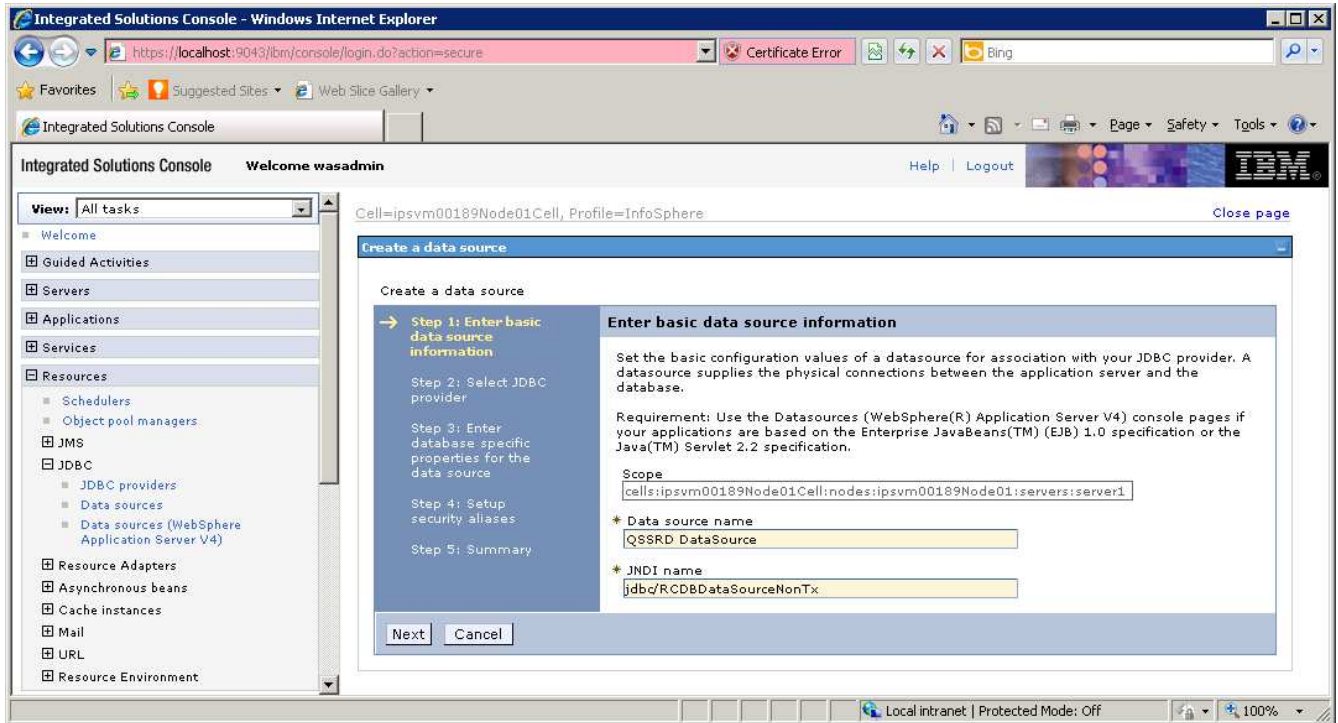
Create the non-transactional connection pool data source:

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**.

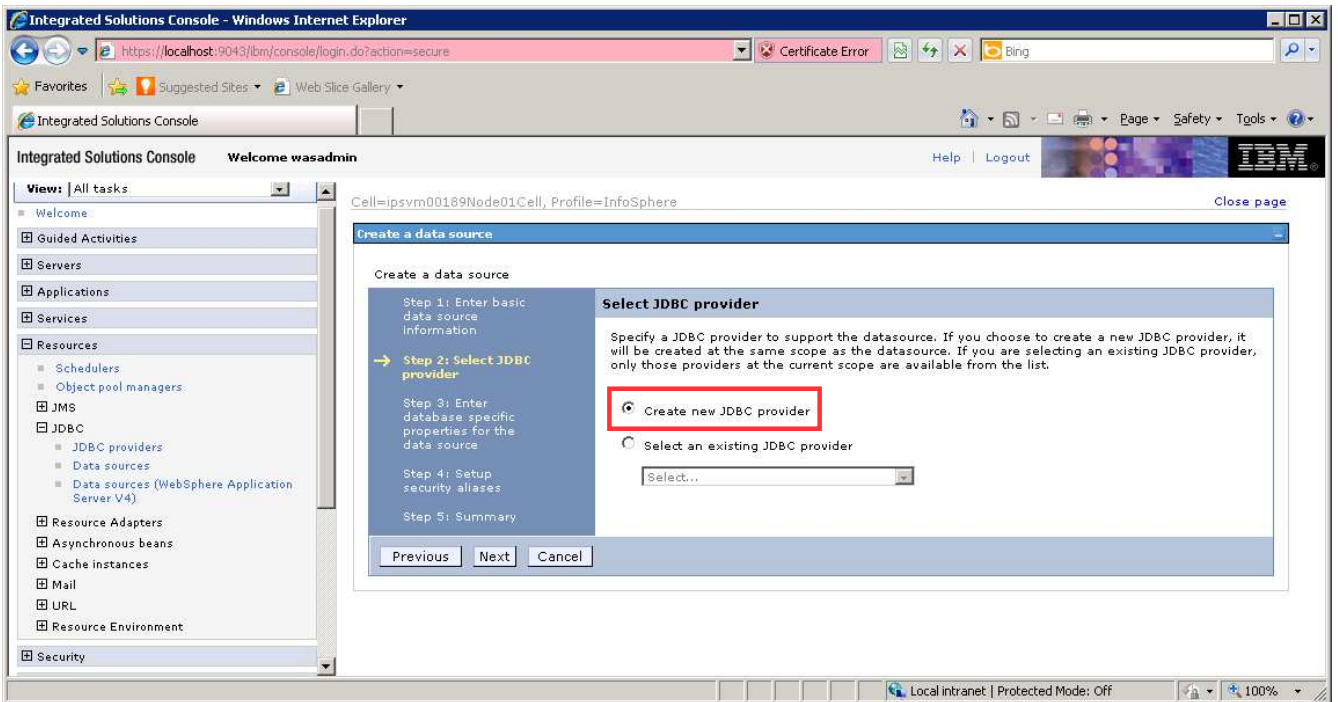
The screenshot shows the WebSphere Application Server Administrative Console interface. The left navigation pane is expanded to show the 'Resources' node, with 'JDBC' and 'Data sources' selected. The main content area displays the 'Data sources' configuration page. The 'Scope' dropdown menu is set to 'Node=ipsvm00189Node01, Server=server1'. The 'New' button is highlighted in red. Below the configuration options is a table listing existing data sources.

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	ASB JDBC DataSource	jdbc/ASBDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	ASB JDBC XA DataSource	jdbc/ASBDataSourceXA	Node=ipsvm00189Node01,Server=server1	ASB XA JDBC Provider	Data source template	
<input type="checkbox"/>	ASB Staging Repository JDBC DS	jdbc/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	jdbc/JReportDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	

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:

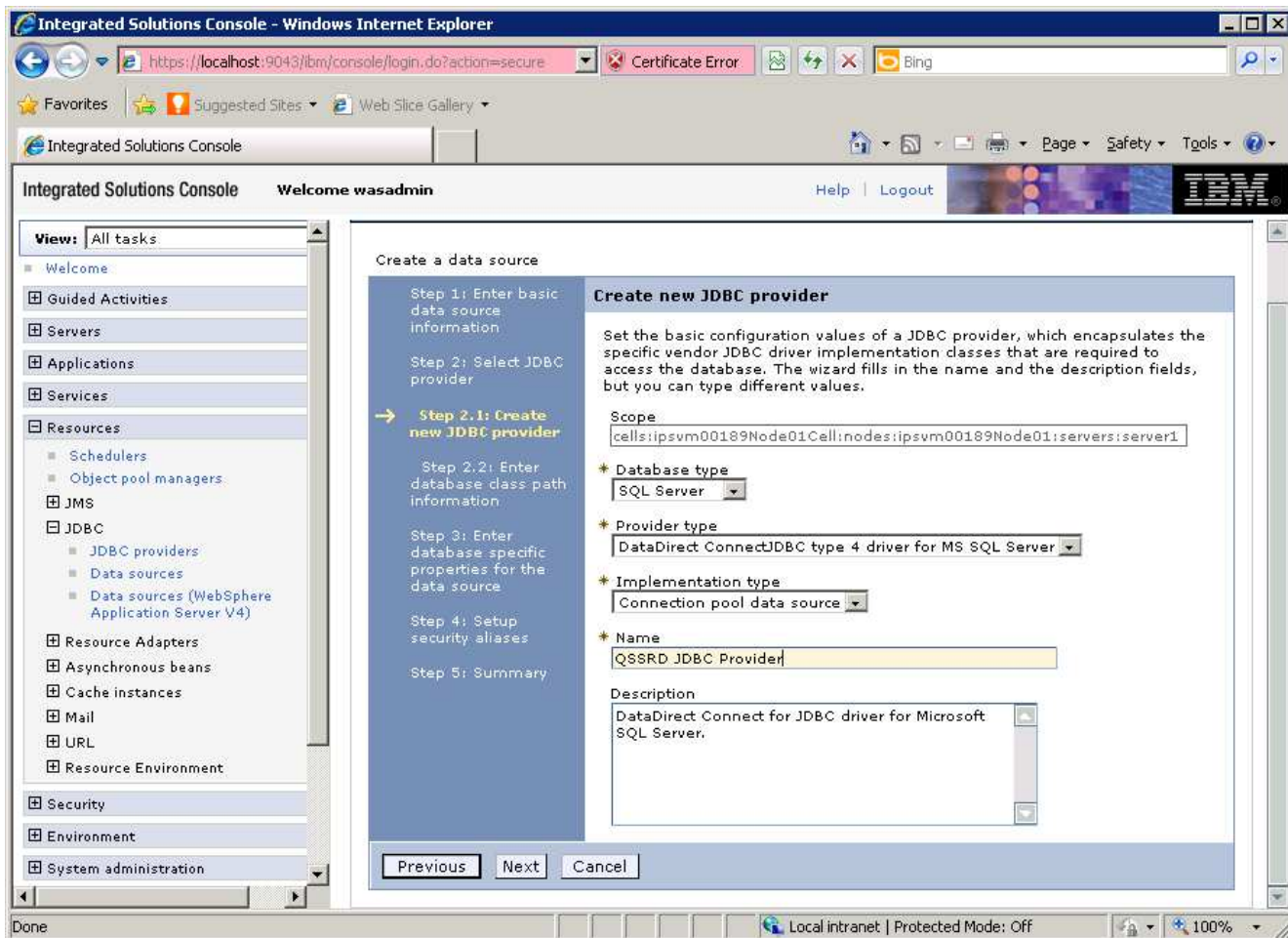
Database type: SQL Server

Provider type: DataDirect ConnectJDBC type 4 driver for MS SQL Server

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.)

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

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

Port number: *the port number on which the SQL Server server listens. The default value is 1433.*

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

17. Click **Next**.

The screenshot shows the Integrated Solutions Console interface in a Windows Internet Explorer browser. 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 form includes the following fields and options:

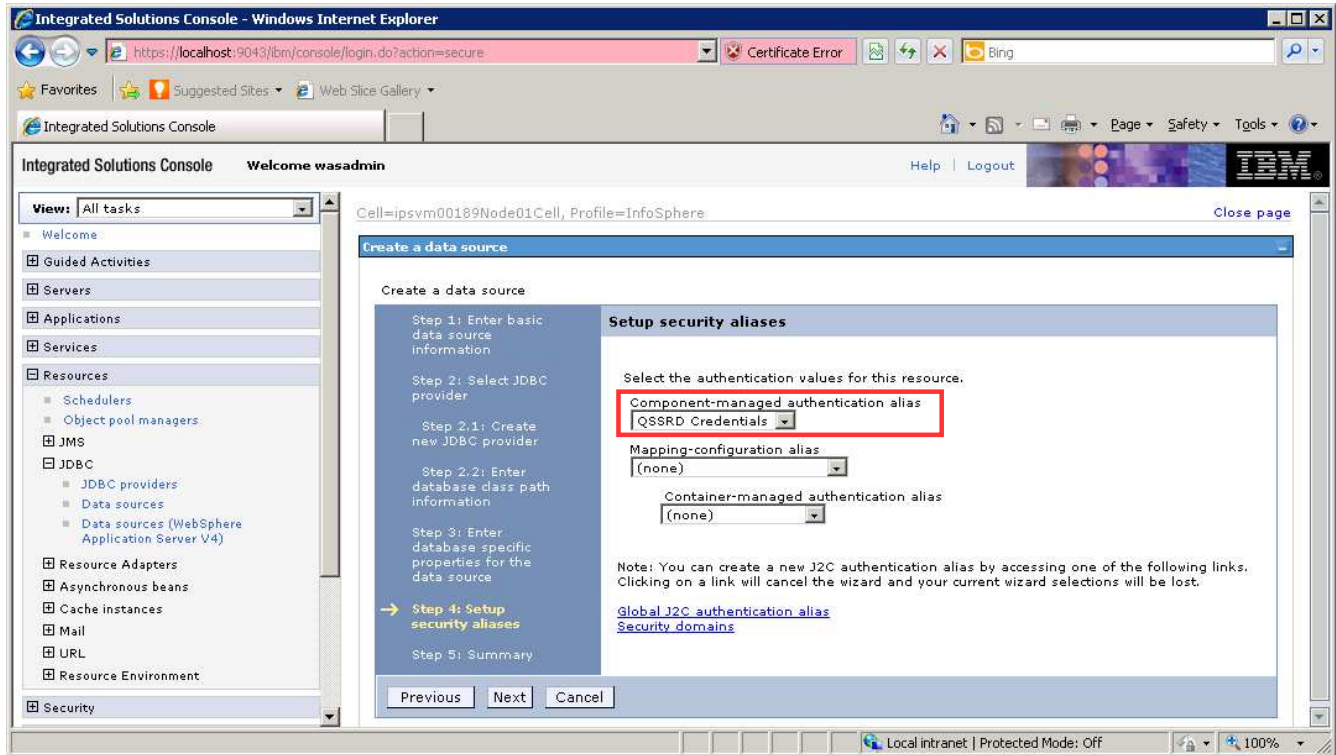
- Step 1: Enter basic data source information
- Step 2: Select JDBC provider
- Step 2.1: Create new JDBC provider
- Step 2.2: Enter database class path information
- Step 3: Enter database specific properties for the data source** (Current step)
- Step 4: Setup security aliases
- Step 5: Summary

The 'Enter database specific properties for the data source' section contains a table with the following data:

Name	Value
* Server name	localhost
Database name	xmeta
Port number	1433

Below the table, there is an unchecked checkbox labeled 'Use this data source in container managed persistence (CMP)'. At the bottom of the wizard, there are three buttons: 'Previous', 'Next', and 'Cancel'. The 'Next' button is highlighted.

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



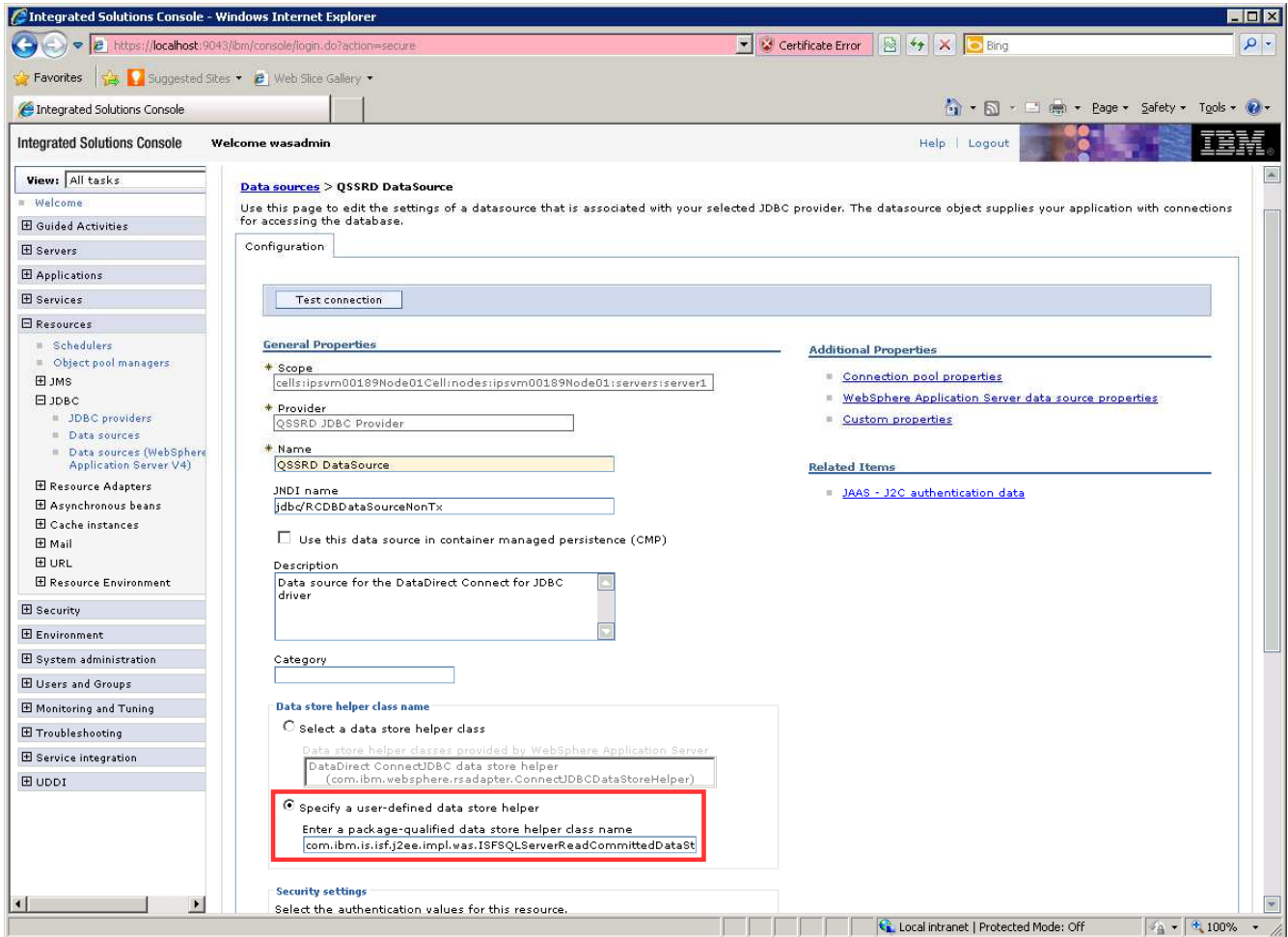
Modify the QSSRD Data Source to set the user-defined data store helper and the non-transactional data source properties:

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** in the right pane.

The screenshot shows the WebSphere Application Server Administrative Console in a Windows Internet Explorer browser. The left-hand navigation pane is expanded to show the 'Resources' node, with 'JDBC' and 'Data sources' highlighted. The main content area displays the configuration for the 'QSSRD DataSource'. The 'Scope' is set to 'Cell=ipsum00189Node01Cell, Profile=InfoSphere'. The 'Preferences' section includes buttons for 'New', 'Delete', 'Test connection', and 'Manage state...'. Below this is a table listing available data sources.

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	ASB JDBC DataSource	jdbc/ASBDataSource	Node=ipsum00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	ASB JDBC XA DataSource	jdbc/ASBDataSourceXA	Node=ipsum00189Node01,Server=server1	ASB XA JDBC Provider	Data source template	
<input type="checkbox"/>	ASB Staging Repository JDBC DS	jdbc/StagingDataSource	Node=ipsum00189Node01,Server=server1	ASB Staging Repository JDBC Provider	Data source template	
<input type="checkbox"/>	Default Datasource	DefaultDatasource	Node=ipsum00189Node01,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
<input type="checkbox"/>	JReport JDBC DataSource	jdbc/JReportDataSource	Node=ipsum00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	QSSRD DataSource	jdbc/RCDDataSourceNonTx	Node=ipsum00189Node01,Server=server1	QSSRD JDBC Provider	DB2 JCC data source using the IBM Data Server Driver for JDBC and SQLJ. IBM Data Server	

6. Select **Specify a user-defined data store helper**.
7. Enter `com.ibm.is.isf.j2ee.impl.was.ISFSQLServerReadCommittedDataStoreHelper`
8. Click **Apply** at the bottom of the screen. Do not click **Save** at this time.



9. Click WebSphere Application Server data source properties.

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

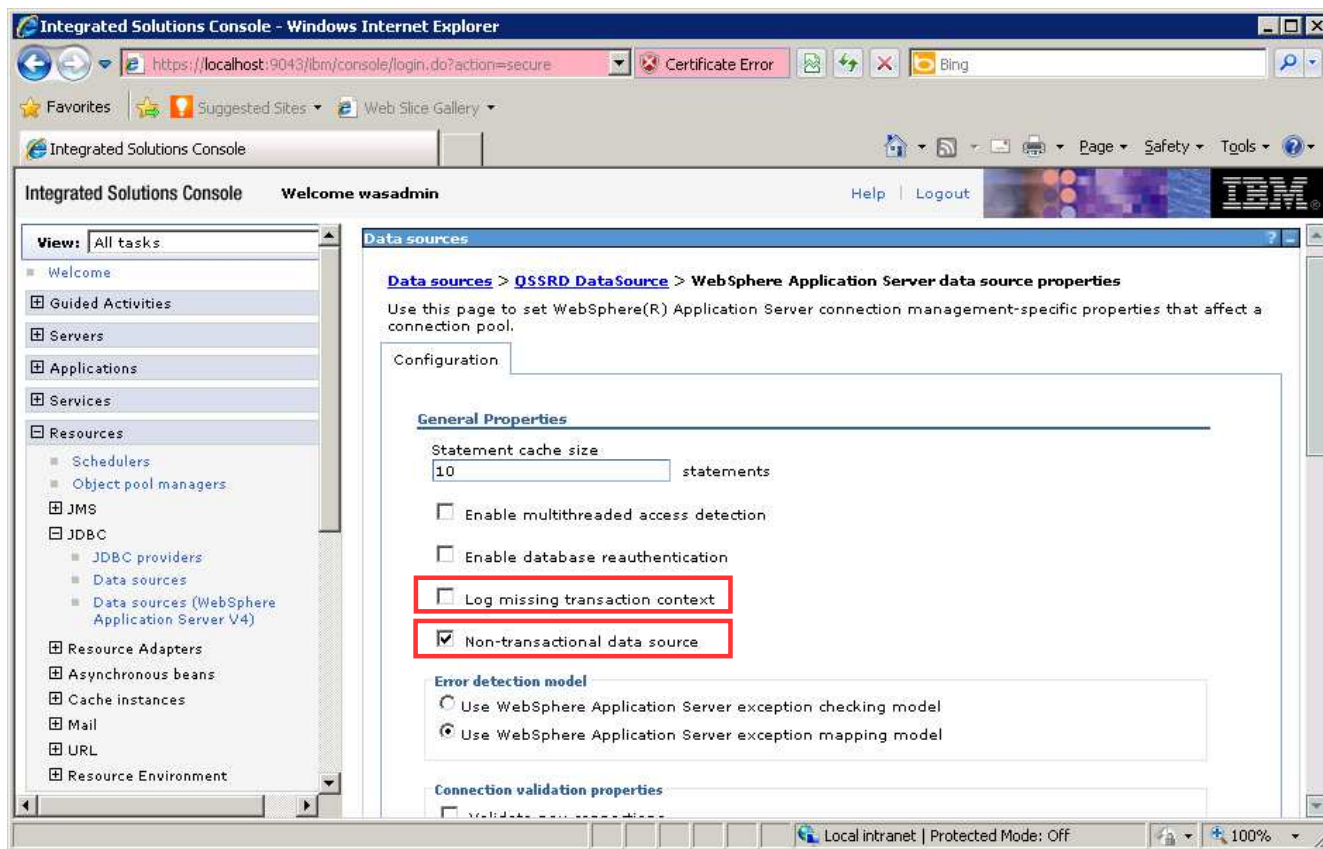
The left-hand navigation pane shows a tree view of the console's structure. Under "Resources", the "Data sources (WebSphere Application Server V4)" folder is expanded, and the "QSSRD DataSource" is selected.

The main content area displays the configuration page for the "QSSRD DataSource". At the top, there is a "Test connection" button. Below this, the configuration is organized into several sections:

- General Properties:** Includes fields for Scope (cells:ipsvm00189Node01.Cell:nodes:ipsvm00189Node01:servers:server1), Provider (QSSRD JDBC Provider), Name (QSSRD DataSource), and JNDI name (jdbc/RCDBDataSourceNonTx). There is also a checkbox for "Use this data source in container managed persistence (CMP)".
- Description:** A text area containing "Data source for the DataDirect Connect for JDBC driver".
- Category:** An empty text field.
- Data store helper class name:** Two radio buttons are present: "Select a data store helper class" and "Specify a user-defined data store helper". Under "Select a data store helper class", a dropdown menu shows "DataDirect ConnectJDBC data store helper (com.ibm.websphere.rsadapter.ConnectJDBCDataStoreHelper)". Under "Specify a user-defined data store helper", a text field contains "com.ibm.is.isf.j2ee.impl.was.ISFSQLServerReadCommittedDataSt".
- Security settings:** A section with the instruction "Select the authentication values for this resource."
- Additional Properties:** A section with three links: "Connection pool properties", "WebSphere Application Server data source properties" (highlighted with a red box), and "Custom properties".
- Related Items:** A section with one link: "JAAS - J2C authentication data".

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

10. Uncheck **Log missing transaction context**.
11. Check **Non-transactional data source**.
12. Click **OK** at the bottom of the page.
13. Click **Save**.



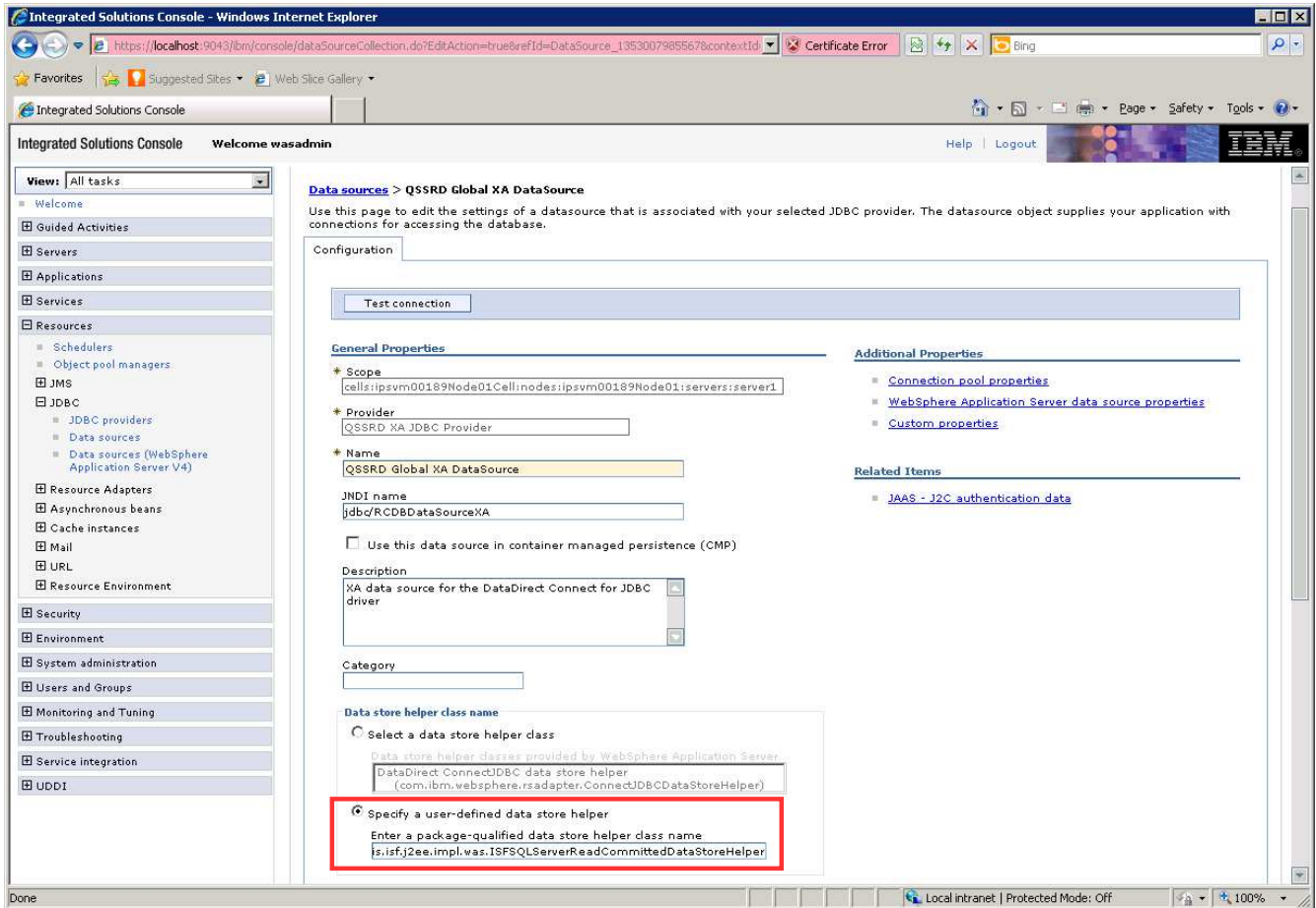
Modify the QSSRD Global XA DataSource to set the user-defined data store helper:

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 Global XA DataSource** in the right pane.

The screenshot shows the WebSphere Application Server Administrative Console in a browser window. The left-hand navigation pane is expanded to show the 'Resources' tree, with 'JDBC' and 'Data sources' highlighted. The main content area displays the configuration for the 'QSSRD Global XA DataSource'. The 'Scope' is set to 'Cell=ipsvm00189Node01Cell, Profile=InfoSphere'. Below this, there is a table of preferences for various data sources.

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	ASB JDBC DataSource	jdb/ASBDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	ASB JDBC XA DataSource	jdb/ASBDataSourceXA	Node=ipsvm00189Node01,Server=server1	ASB XA JDBC Provider	Data source template	
<input type="checkbox"/>	ASB Staging Repository JDBC DS	jdb/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	jdb/JReportDataSource	Node=ipsvm00189Node01,Server=server1	ASB JDBC Provider	Data source template	
<input type="checkbox"/>	QSSRD DataSource	jdb/RCDBDataSourceNonTx	Node=ipsvm00189Node01,Server=server1	QSSRD JDBC Provider	Data source for the DataDirect Connect for JDBC driver	
<input type="checkbox"/>	QSSRD Global XA DataSource	jdb/RCDBDataSourceXA	Node=ipsvm00189Node01,Server=server1	QSSRD XA JDBC Provider	XA data source for the DataDirect Connect for JDBC driver	

6. Select **Specify a user-defined data store helper**.
7. Enter `com.ibm.is.isf.j2ee.impl.was.ISFSQLServerReadCommittedDataStoreHelper`
8. Click **OK** at the bottom of the page.
9. Click **Save**.



Modify the QSSRD JDBC Provider to set the correct path for the JDBC driver and the implementation class name:

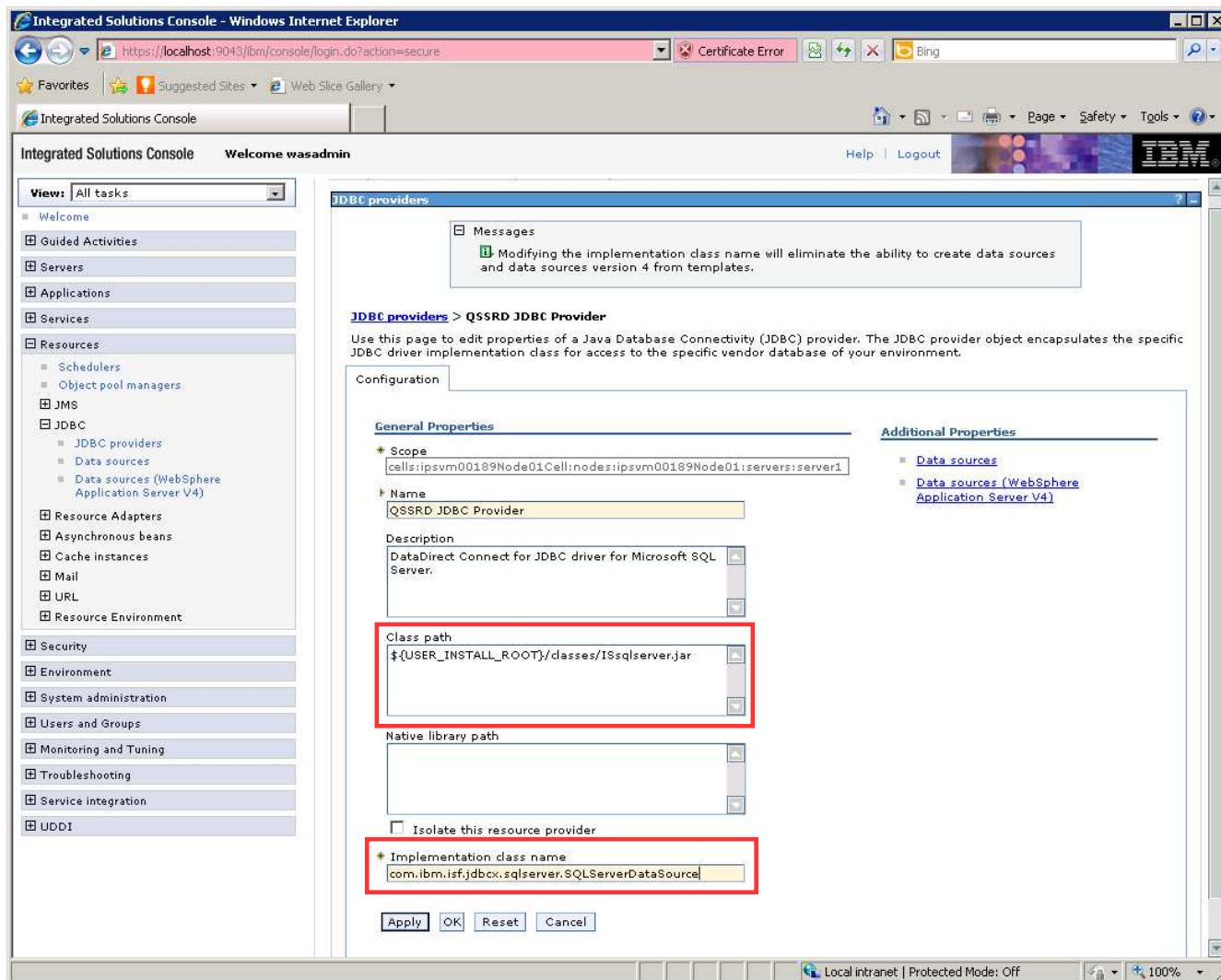
1. If you have not already done so, login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **JDBC providers**.
5. Click **QSSRD JDBC Provider** in the right pane.

The screenshot shows the WebSphere Application Server Administrative Console. The left navigation pane is expanded to show 'Resources' and 'JDBC', with '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 these is a table of JDBC providers.

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	DataDirect Connect for JDBC driver for Microsoft SQL Server.
<input type="checkbox"/>	QSSRD XA JDBC Provider	Node=ipsvm00189Node01,Server=server1	DataDirect Connect for JDBC driver for Microsoft SQL Server (XA).

Total 6

6. Replace **Class path** values with `${USER_INSTALL_ROOT}/classes/ISsqlserver.jar`
7. Enter `com.ibm.isf.jdbcx.sqlserver.SQLServerDataSource` in the **Implementation class name** field.
8. Click **OK**.
9. Click **Save**.



Modify the QSSRD XA JDBC Provider to set the correct path for the JDBC driver and the implementation class name:

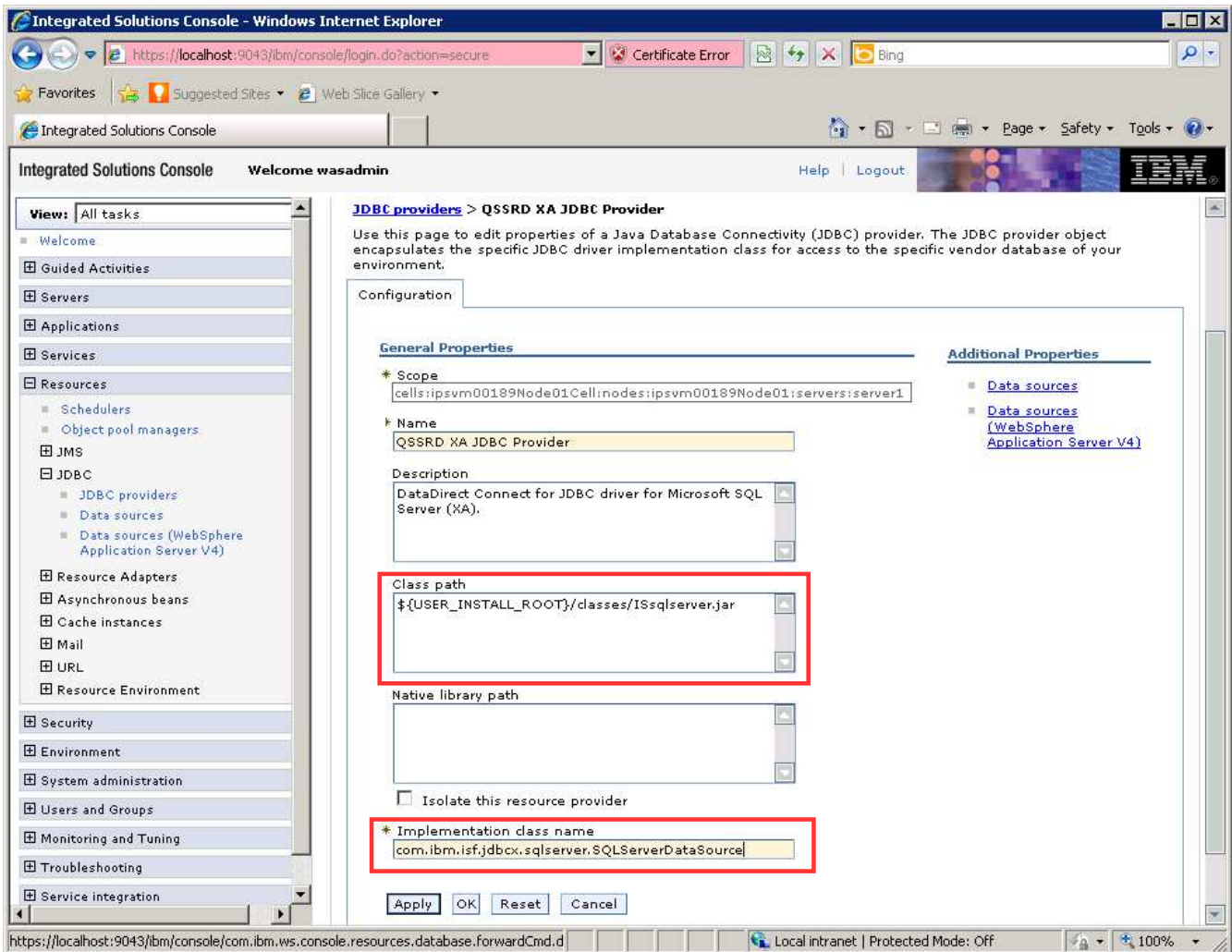
1. If you have not already done so, login to the WebSphere Application Server Administrative Console.
2. Expand the **Resources** node in the left pane.
3. Expand the **JDBC** node.
4. Click **JDBC providers**.
5. Click **QSSRD XA JDBC Provider** in the right pane.

The screenshot 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.

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	DataDirect Connect for JDBC driver for Microsoft SQL Server.
<input type="checkbox"/>	QSSRD XA JDBC Provider	Node=ipsvm00189Node01,Server=server1	DataDirect Connect for JDBC driver for Microsoft SQL Server (XA).

Total 6

6. Replace **Class path** values with `${USER_INSTALL_ROOT}/classes/ISsqlserver.jar`
7. Enter `com.ibm.isf.jdbcx.sqlserver.SQLServerDataSource` in the **Implementation class name** field.
8. Click **OK**.
9. Click **Save**.



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