

How to Integrate the xApp for Manufacturing Integration and Intelligence (xMII) with Visual Composer

Applies to:

SAP xMII 11.5 or 12

SAP NetWeaver 2004s

Summary

The purpose of this document is to walk you through the steps required to install, configure, use and troubleshoot the SAP xMII JDBC driver for Visual Composer (VC). This driver needs to be installed in the NetWeaver environment where Visual Composer exists and will show xMII Query Templates as Tables in the VC design environment. The JDBC driver is a standard interface to the xMII system and is not restricted to use with VC.

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Author Bio



Salvatore Castro of SAP Labs has a Bachelors Degree in Computer Engineering and is currently working on completing his Masters Degree in Computer Science both through the Rochester Institute of Technology. He is a member of the Partners and Field Enablement Services group of xMII under Mo Ghanem.

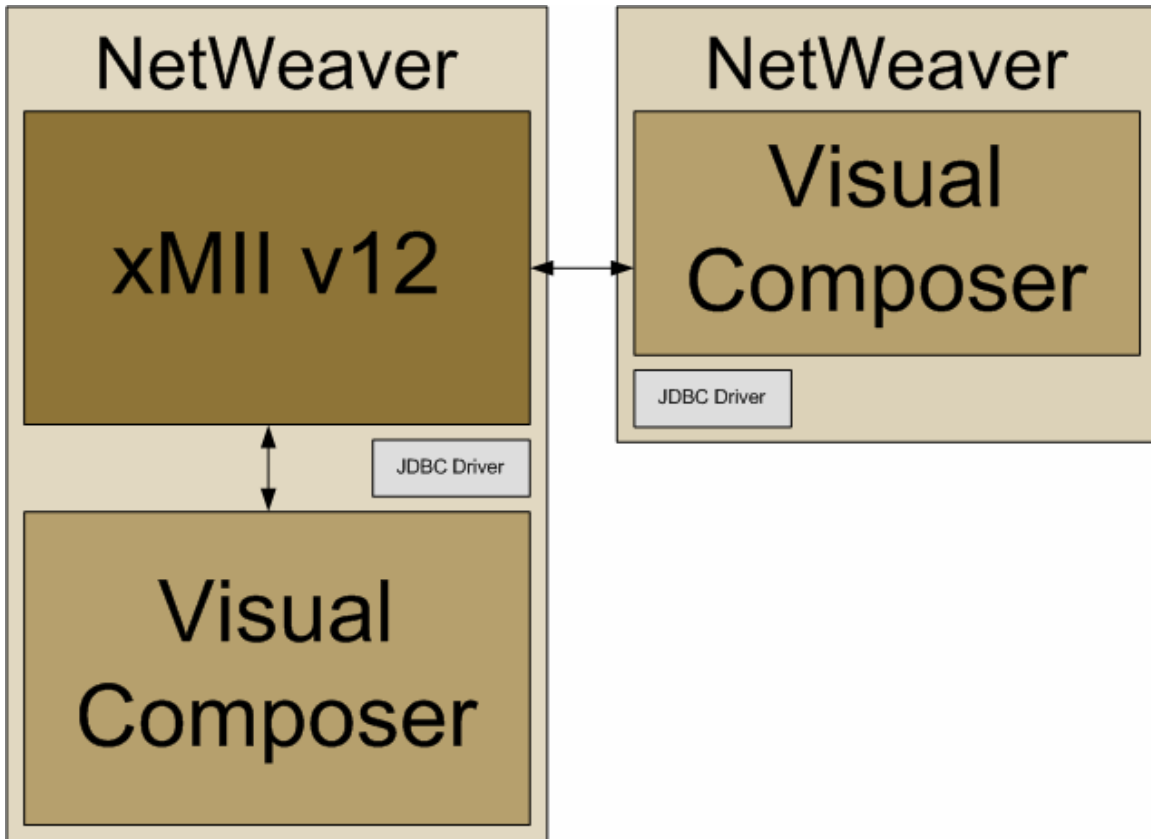
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Overview

The purpose of this document is to walk you through the steps required to install, configure, use and troubleshoot the SAP xMII JDBC driver for Visual Composer (VC) and xMII. This driver will enable the user to display real-time information from various different manufacturing systems in the VC environment using xMII to retrieve the data. Any "Query Template" created in the xMII environment can be accessed via this driver in the visual composer environment along with the ability to pass parameters into these templates. This document is written to configure the driver for xMII v12 but the driver **is** backwards compatible with xMII v11.5 and the guide for this configuration can be found here (<https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/311a90f0-0901-0010-fe9e-f88e9da0ffbe>).

The system and network architecture that is expected for this document can be either of the following two possibilities where xMII and VC are on the same or different NetWeaver machines, shown here:




The configuration for either of these scenarios is the same except the URL to connect to the xMII instance will be different. It is important to note that while both xMII v12 and the JDBC driver support the transfer of Unicode characters Visual Composer does not.

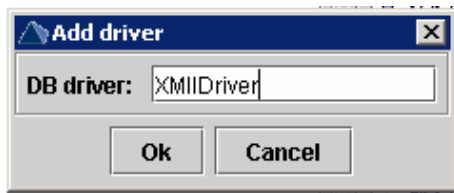
Loading the Driver into NetWeaver using Visual Administrator

The JDBC driver must be loaded onto the NetWeaver environment where Visual Composer resides and this can be done via the Visual Administrator via the following steps.

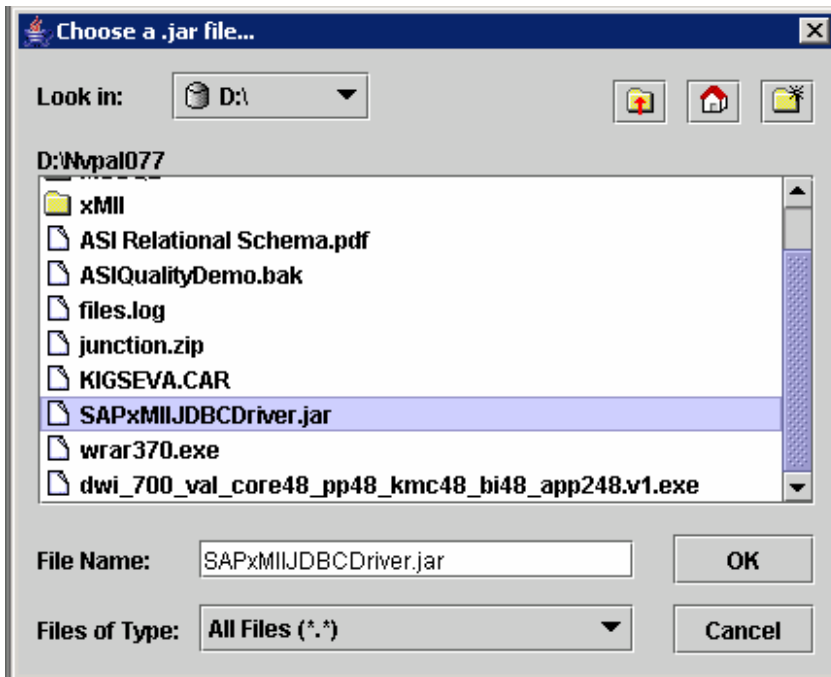
In the Visual Administration application navigate to Server0 -> Services -> JDBC Connector.

Under DataSources and JDBC Drivers select Drivers and click on the **Create New Driver or Datasource** button .

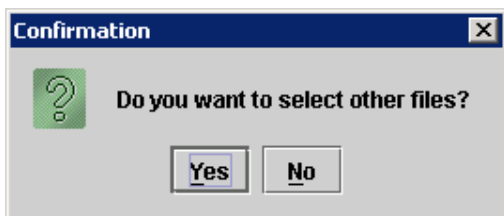
The following window should appear, and type **XMII**Driver as shown here and press Ok:



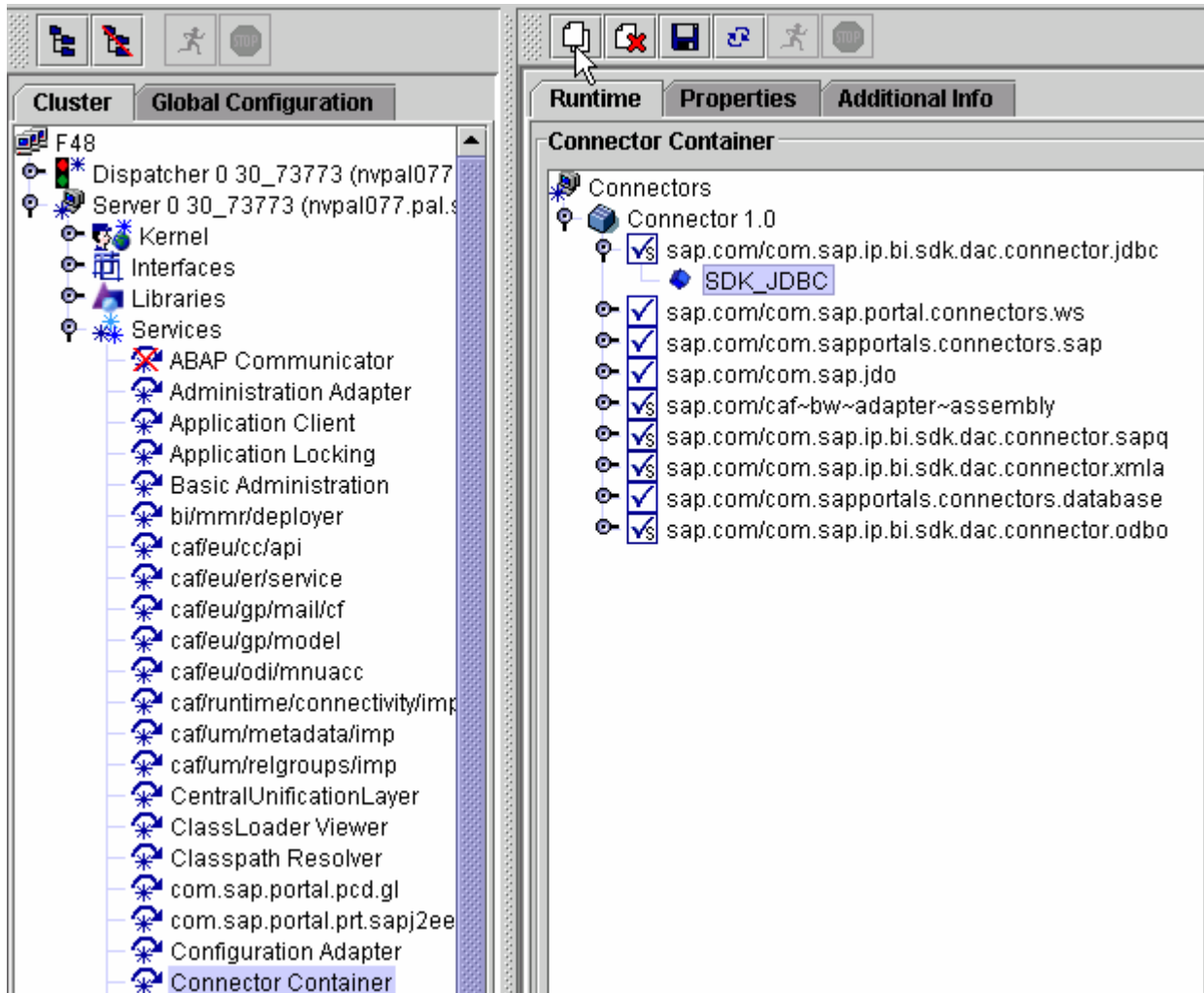
Next navigate to the **SAPxMIJDBCdriver.jar** ([Download the .jar file here](#)) file and press Ok:



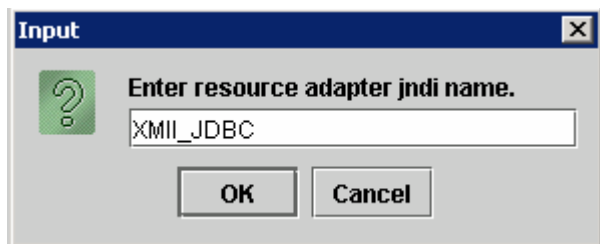
When it prompts "Do you want to select other files?" press **No**:



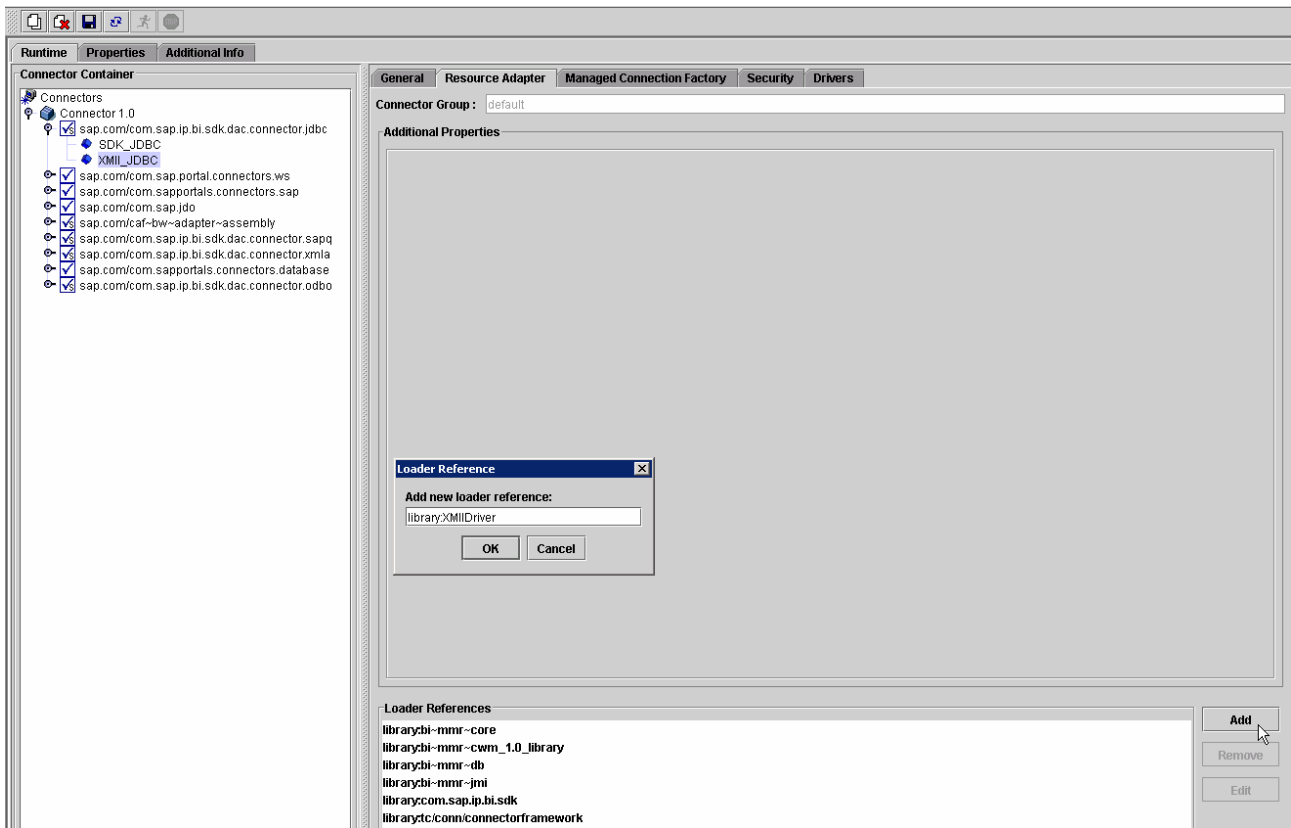
Next navigate to Server0 -> Services -> Connector Container and expand the sap.com/com.sap.ip.bi.sdk.dac.connector.jdbc and select **SDK_JDBC** and press the **Copy** button:



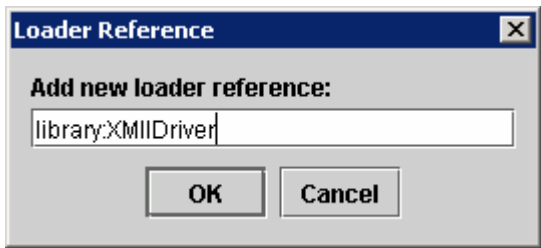
Then type **XMII_JDBC**:



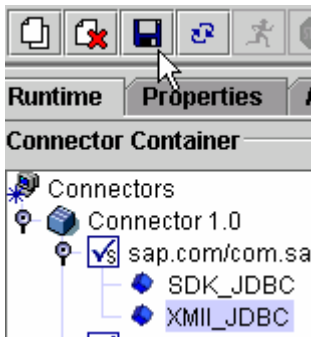
Select the newly created resource and click on the **Resource Adapter** tab, then press the **Add** button:



In the Loader Reference window type **library:XMIIDriver** :



Then press the **Save** button:



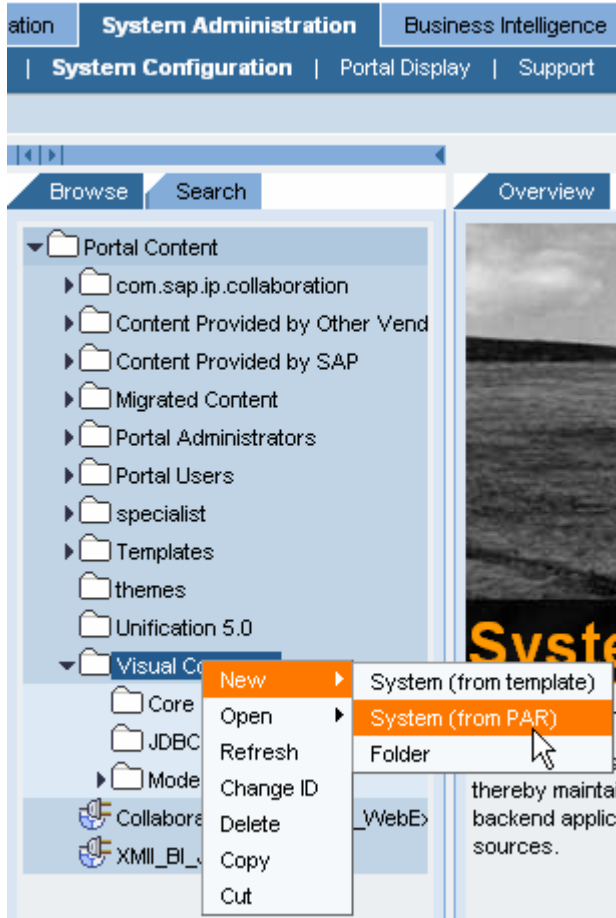
Now that the driver is loaded into NetWeaver restart your instance before you continue, this applies for both a newly loaded driver and replacing an existing one.

Setting up the NetWeaver JDBC Connection Instance

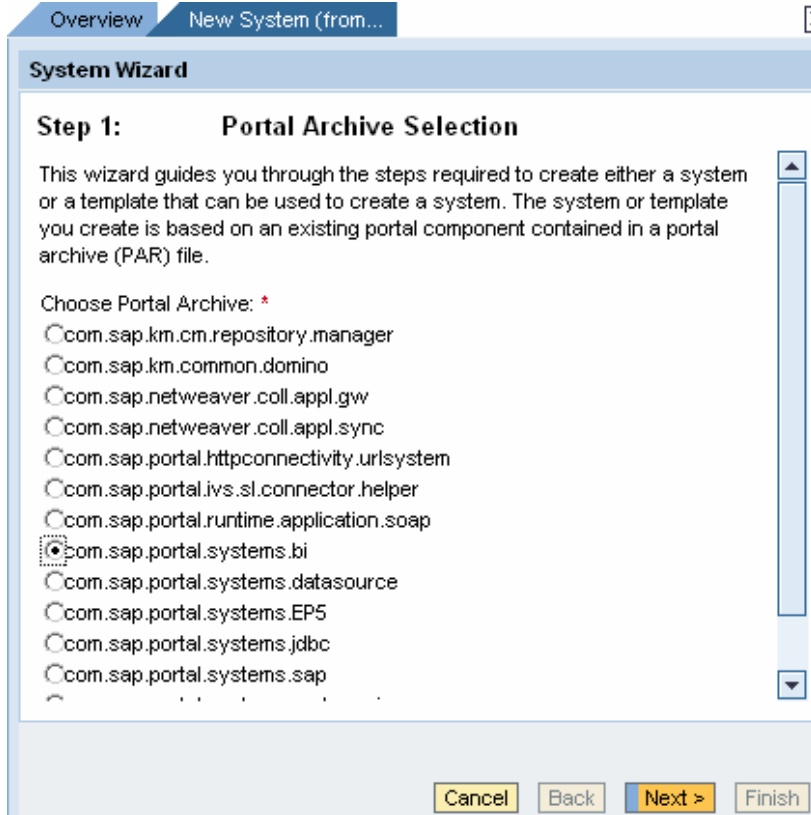
Once the instance finishes starting up...

Navigate to and login to the Netweaver Portal and click on System Administration -> System Configuration.

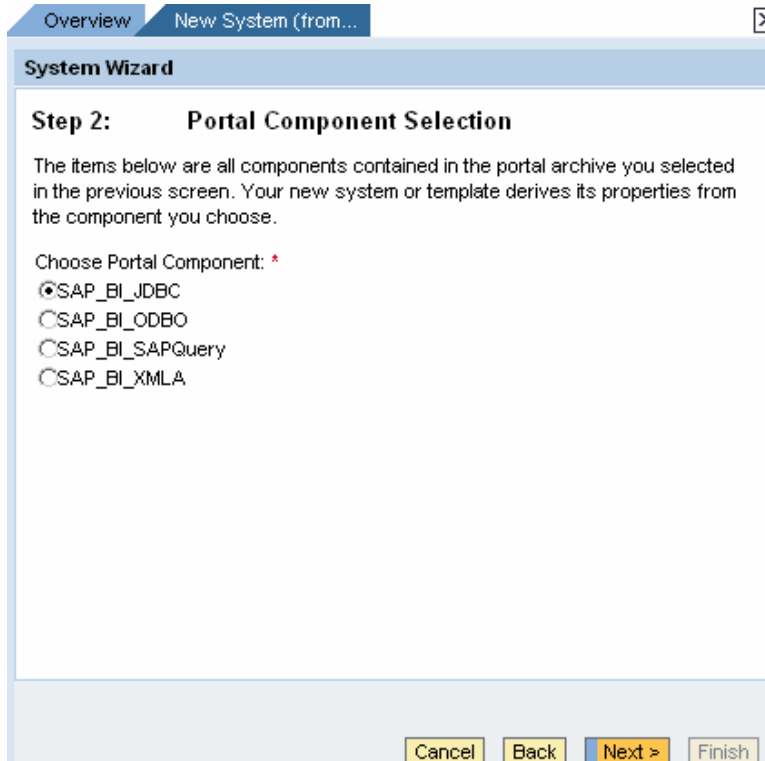
Right-click on the Visual Composer folder and Select **New -> System (from PAR)**:



Select **com.sap.portal.systems.bi** and click **Next**:



Select **SAP_BI_JDBC** and click **Next**:



For System Name and ID enter **XMII_JDBC** then click **Next** and **Finish**:

Step 3: General Properties

System Name: *

System ID: *

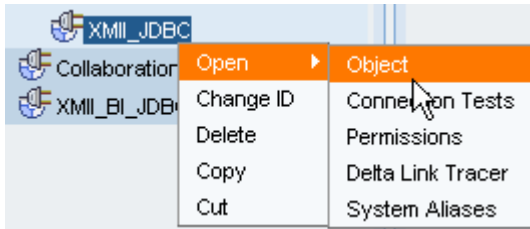
System ID Prefix (Example: com.companyname):

Master Language: *

Description:

Cancel Back **Next >** Finish

Right-Click on the newly created object and select **Open -> Object**:



Select **Show All** from the Property Category Drop-Down and enter the following values:

com.sap.portal.reserved.system.ConnectionFactoryClass -> XMII_JDBC






Connection URL -> jdbc:sapxMII://<xMII_SERVER_NAME>:<PORT>/<PROJECT_NAME>?version=12&trace=true

- You can optionally set trace to false
- <PROJECT_NAME> can also be set to the keyword **ALL_TEMPLATES** which will cause the driver to browse for all Query Templates from the system but only for v12.x

Driver Class Name -> com.sap.xml.custom.integration.jdbc.SAPxMIIJDBCdriver

User Mapping Type -> admin,user

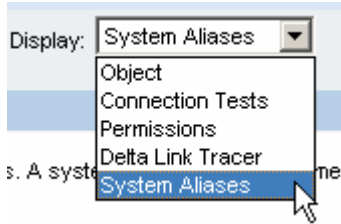
Here's an example v12 configuration:

Property Category: Show All	
▶ BI directory provider	<input type="radio"/> Yes <input checked="" type="radio"/> No
▶ Changed By	Administrator
▶ CodeLink	com.sap.portal.systems.bi.SAP_BI_JDBC
▶ com.sap.portal.reserved.system.ConnectionFactoryClass	XMI_JDBC
▶ ComponentType	com.sapportals.portal.system
▶ Connection URL	jdbc:sapxmi://Nvpal077.pal.sap.corp:53000/ALL_TEMPLATES?version=12&trace=true
▶ Created At	9/5/2007 
▶ Created By	Administrator
▶ Description	<input type="text"/> 
▶ Domain	<input type="text"/>
▶ Driver Class Name	com.sap.xmi.custom.integration.jdbc.SAPxMIJDBCdriver
▶ Fixed Catalog	<input type="text"/>
▶ Fixed Schema	<input type="text"/>
▶ Is a Template	<input type="radio"/> Yes <input checked="" type="radio"/> No
▶ Last Modified Date	12/11/2007 
▶ Master Language	en
▶ Object Type	com.sapportals.portal.system
▶ PCD Location	pcd:portal_content/com.sap.gm.cnt/XMI_JDBC
▶ System Name *	XMI_JDBC 
▶ SystemType	SAP_BI_JDBC
▶ User Mapping Type	admin,user 

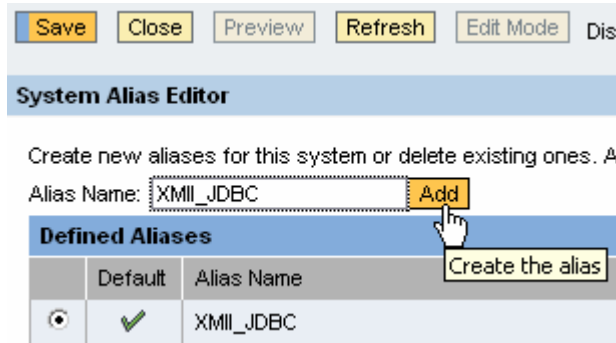
Here's an example v11.5 configuration:

Property Category: Show All	
▶ BI directory provider	<input type="radio"/> Yes <input checked="" type="radio"/> No
▶ Changed By	Administrator
▶ CodeLink	com.sap.portal.systems.bi.SAP_BI_JDBC
▶ com.sap.portal.reserved.system.ConnectionFactoryClass	XMII_JDBC
▶ ComponentType	com.sapportals.portal.system
▶ Connection URL	jdbc:sapxMII://nvpal076.pal.sap.corp:1080/SAP/ModuleLibraries?version=11&trace=true
▶ Created At	8/14/2007
▶ Created By	Administrator
▶ Description	<input type="text"/>
▶ Domain	<input type="text"/>
▶ Driver Class Name	com.sap.xmii.custom.integration.jdbc.SAPxMIJDBCdriver
▶ Fixed Catalog	<input type="text"/>
▶ Fixed Schema	<input type="text"/>
▶ Is a Template	<input type="radio"/> Yes <input checked="" type="radio"/> No
▶ Last Modified Date	12/11/2007
▶ Master Language	en
▶ Object Type	com.sapportals.portal.system
▶ PCD Location	pcd:portal_content/com.sap.portal.XMII_BI_JDBC
▶ System Name *	XMII_BI_JDBC
▶ SystemType	SAP_BI_JDBC
▶ User Mapping Type	admin,user

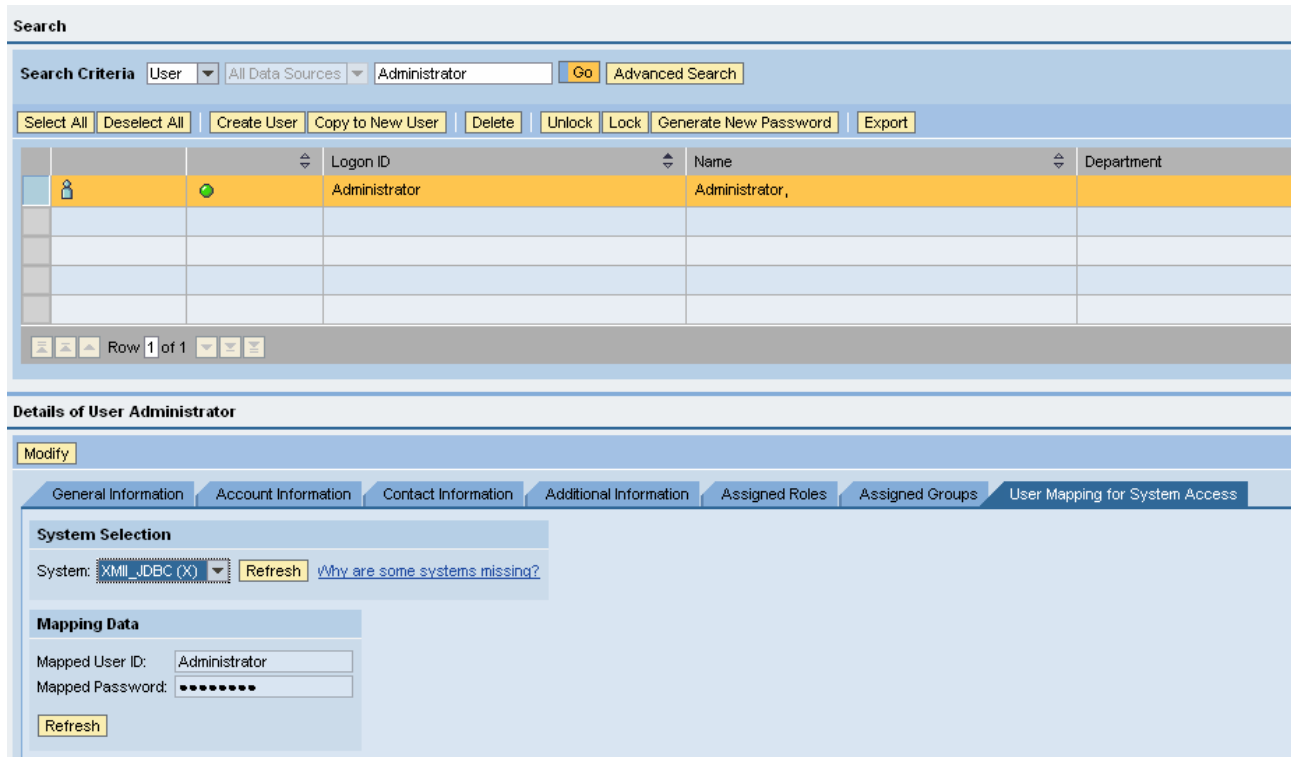
From the display drop down list select **System Aliases**:



Type in **XMII_JDBC** and press **Add** and then **Save**:

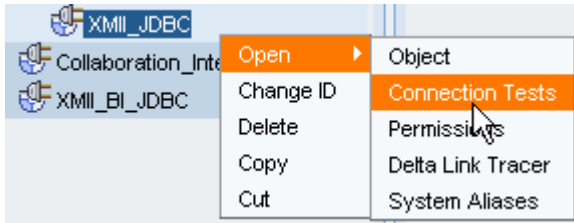


Next within the portal navigate to **User Administration -> Identity Management**, find the user you wish to give access to the newly created system alias. Select **User Mapping for System Access** and select the System **XMII_JDBC** from the dropdown list:



Under Mapping Data for User ID and Password enter your **xMII Username and Password**, this may be the same as the user you selected depending on your UME configuration. If this is not entered then the connection test coming up will fail. Don't forget to **save** the changes to your user.

In the portal navigate back to **System Administration -> System Configuration** Right-Click on the **xMII_JDBC** Object and select **Open -> Connection Tests**:



Check the box next to **Connection Test for Connectors** and click the **Test** button:

System Connection Tests			
	Test Name	Description	Status
<input type="checkbox"/>	Connection Test for Connectors	Tests the connection to a backend system using an associated connector	✓

Line 1 / 1

Test Clear Results

Results

✓ **Test Connection with Connector**

Test Details:
The test consists of the following steps:
1. Retrieve the default alias of the system
2. Check the connection to the backend application using the connector defined in this system object

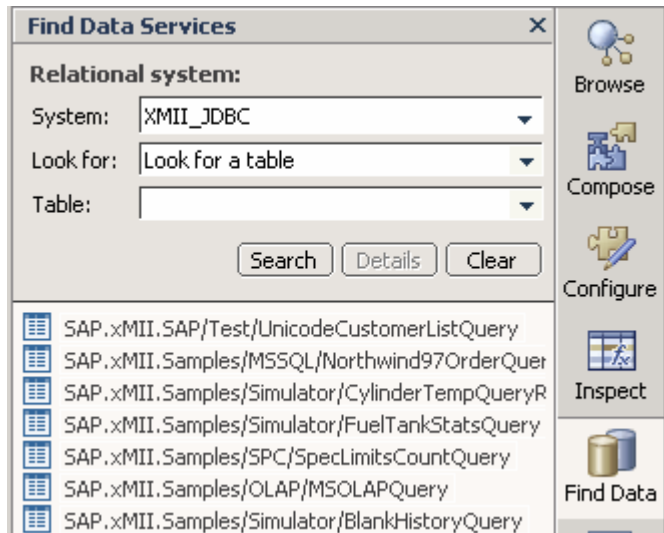
Results
Retrieval of default alias successful
Connection successful

If you see a red X instead of a green check then consult the NetWeaver logs for the reason why. Be sure that after going through the **Visual Administration** configuration steps you restarted your instance and than the credentials used in the **User Mapping** step are valid for xMII.

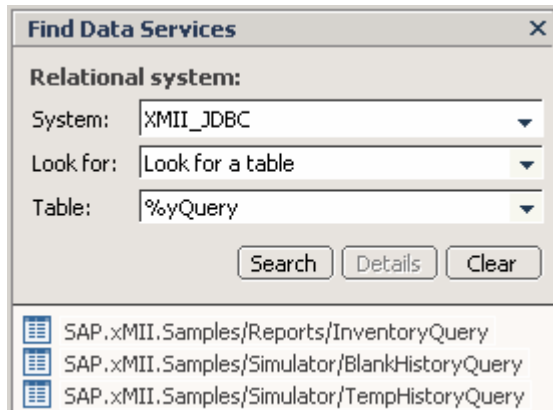
Using the JDBC Driver in Visual Composer

Log into Visual Composer -> Create a new model -> Add an iView to the model.

Select **Find Data** on the right and select the xMII object name from the drop down list, and press Search:

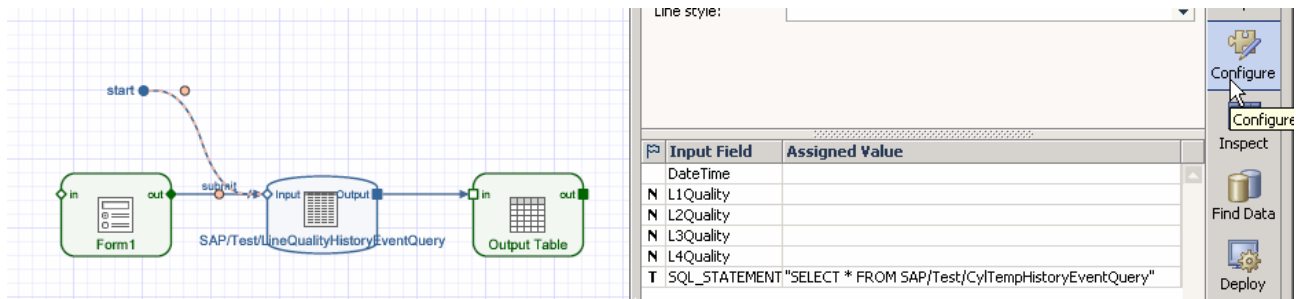


If you would like to filter the table names use the following %<TableName>



*It is important to note that because the ALL_TEMPLATES keyword was set and this is v12 of xMII all Query Templates from all projects appear in the list.

Drag a Query Template into the Composer environment, then Click on the Input node drag it out and select **Start Point**.



Configure the starting point SQL_STATEMENT value to the following “SELECT * FROM <QueryTemplate>”
 You can test your SQL Syntax using the BI -> SQL Editor; see the appendix for how to enable this feature in Visual Composer.

Next **Deploy** your Model and run the **iView** to test its operation.

Appendix

SQL Query Reference

Some other valid SQL Query statements that can be used here are:

```
Select col1, col2 From TemplatePath/TemplateName Where Param.1 = 'value' and TagName.1 = tagname
```

```
Select col1, col2 From TemplatePath/TemplateName Where Param.1 = 'value' and RowCount = 10
```

```
select * from TemplatePath/TemplateName
```

SQL Exec Reference

Valid Execute statements (It is important to note that when using EXEC no values will be returned)

```
EXEC TemplatePath/TemplateName(Param.1='test', Param.2=32.1, RowCount=100)
```

```
exec TemplatePath/TemplateName
```

Enabling the Visual Composer SQL Editor

Login to the Visual Administrator -> select Server0 -> Services -> Visual Composer and set
vc.bi.sqlEditorEnabled = true

Key:	vc.bi.sqlEditorEnabled
Value:	true

*Don't forget to save your changes

Driver Class Path

```
com.sap.xmii.custom.integration.jdbc.SAPxMIJDBCdriver
```

Example JDBC Connection URL:

xMII Version 11.5

```
jdbc:sapxMII://<xMII Server><:Port>/SAP/ModuleLibraries?version=11&trace=true
```

xMII Version 12

```
jdbc:sapxMII://<xMII Server><:Port>/ALL_TEMPLATES?version=12&trace=true
```


Related Content

Here are some links to xMII Related Content:

- [xMII v11.5 JDBC Reference](#)
- [xMII Best Practices Guide](#)
- [xMII Forums](#)
- [xMII Wiki](#)

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