

How-to Guide
SAP NetWeaver '04



How To... Use the BI Java SDK in a Web Dynpro Application

Version 1.00 – December 2004

Applicable Releases:
SAP NetWeaver '04

© Copyright 2004-2005 SAP AG. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, OS/2, Parallel Sysplex, MVS/ESA, AIX, S/390, AS/400, OS/390, OS/400, iSeries, pSeries, xSeries, zSeries, z/OS, AFP, Intelligent Miner, WebSphere, Netfinity, Tivoli, and Informix are trademarks or registered trademarks of IBM Corporation in the United States and/or other countries.

Oracle is a registered trademark of Oracle Corporation.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.

HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Java is a registered trademark of Sun Microsystems, Inc.

JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

MaxDB is a trademark of MySQL AB, Sweden.

contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

These materials are provided "as is" without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. SAP shall not be liable for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials. SAP does not warrant the accuracy or completeness of the information, text, graphics, links or other items contained within these materials. SAP has no control over the information that you may access through the use of hot links contained in these materials and does not endorse your use of third party web pages nor provide any warranty whatsoever relating to third party web pages. SAP NetWeaver "How-to" Guides are intended to simplify the product implementation. While specific product features and procedures typically are explained in a practical business context, it is not implied that those features and procedures are the only approach in solving a specific business problem using SAP NetWeaver. Should you wish to receive additional information, clarification or support, please refer to SAP Consulting. Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended better explain and visualize the

SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other product and service names mentioned are the trademarks of their respective companies.
Data

syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, except if such damages were caused by SAP intentionally or grossly negligent.

1 Scenario

You want to build a Java application that performs analytics on data in an XMLA provider and displays this data in a Web Dynpro application. You use the BI Java SDK to custom build this application and you establish the connection with the BI XMLA Connector. All you need for this scenario is included in SAP NetWeaver '04.

2 Introduction

This document provides detailed instructions on how to use the BI Java SDK and its BI Java Connectors in a Web Dynpro Application. It contains step-by-step instructions for adding the required library references required to use the BI Java SDK, and for establishing a connection using one of the BI Java Connectors in the Web Dynpro and J2EE environment.

After you establish this connection, refer to the tutorials and documentation for the BI Java SDK and Web Dynpro to expand upon your scenarios.

3 The Step By Step Solution

In the first section below you prepare your system, and in the second step you create your Web Dynpro application.

3.1 Prepare the System

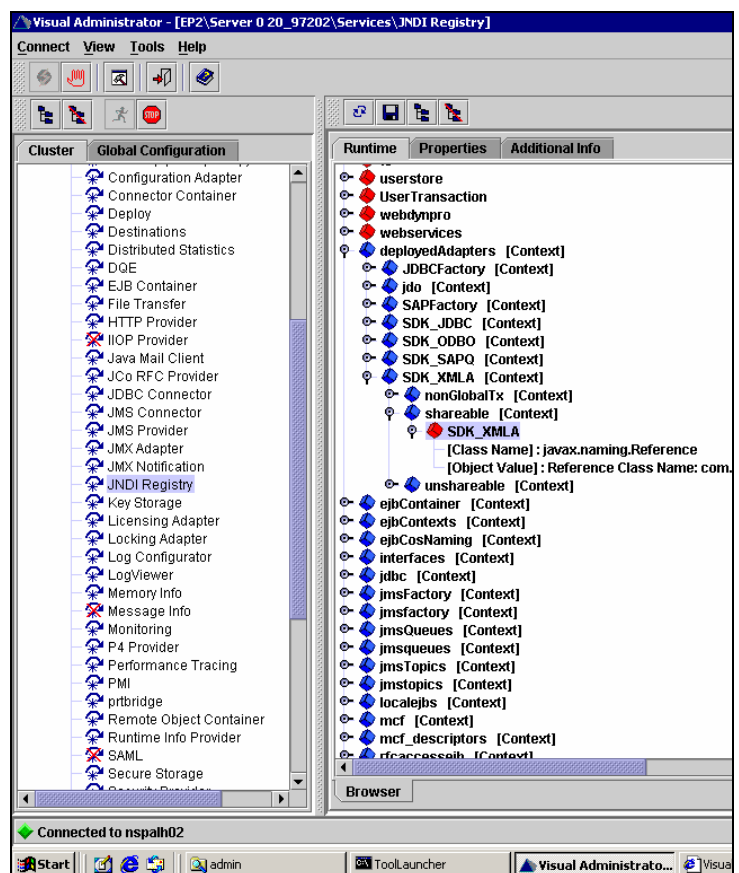
To prepare the system, you first look up the JNDI name of your connector in the J2EE Visual Administrator, and then configure the connection properties.

In this example, we use the BI XMLA Connector to connect to an SAP BW system and retrieve a list of schemas.

Use the J2EE Visual Administrator to determine the JNDI name of the BI XMLA Connector:

1. Select <server node> → *Services* → *JNDI Registry*. On the *Runtime* tab, in the registry list, locate *deployedAdapters* → *SDK_XMLA* → *shareable* → *SDK_XMLA*. This path, from the root to the SDK_XMLA leaf node, indicates the fully-qualified JNDI name of the BI XMLA Connector, which is:

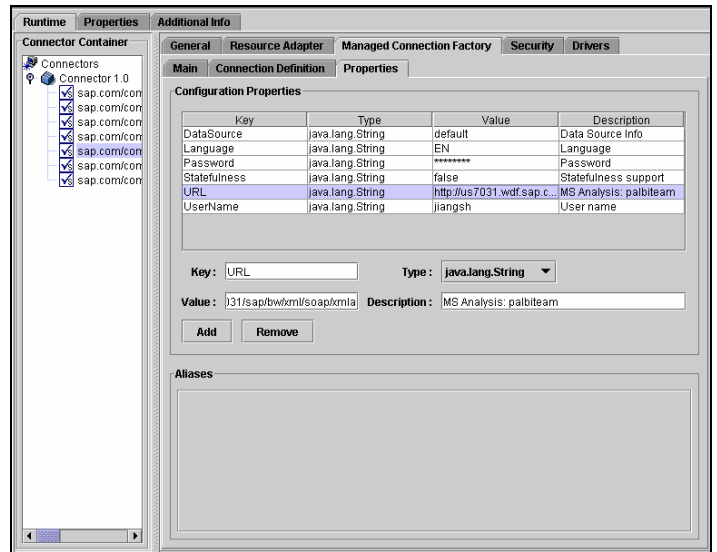
*deployedAdapters/SDK_XMLA/s
hareable/SDK_XMLA*



Configure the connection properties using the J2EE Visual Administrator:

2. Select the server node, and choose **<server node>** → **Services** → **Connector Container**.
3. Locate and double-click the entry for the BI XMLA Connector, `sap.com/com.sap.ip.bi.sdk.dac.connector.xmla.BI_SDK_XMLA`, to open the connector definition.
4. Select **Managed Connection Factory** → **Properties**, and set the required connection properties as shown to the right.

Refer to the documentation for the BI XMLA Connector in its `howto.html` file or in the BW Installation Guide for more information on the properties.

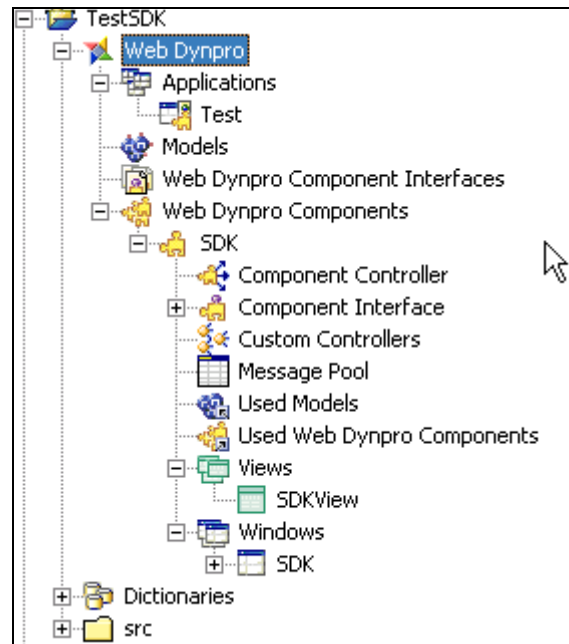


Property	Setting
DataSource	default
Statefulness	false
Language	EN
Password	(password)
UserName	(username)
URL	http://server:port/sap/bw/xml/soap/xmla

5. Save the settings.

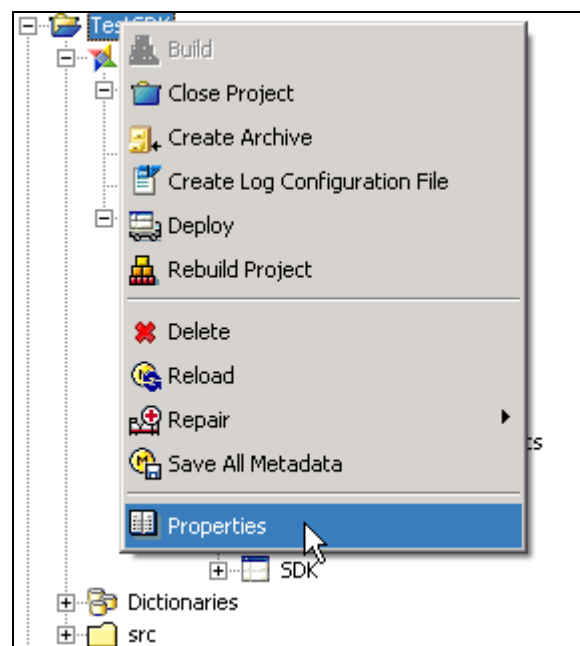
3.2 Create the Sample Web Dynpro Application

6. In the SAP NetWeaver Developer Studio, use the *New Project* wizard to create a Web Dynpro project.



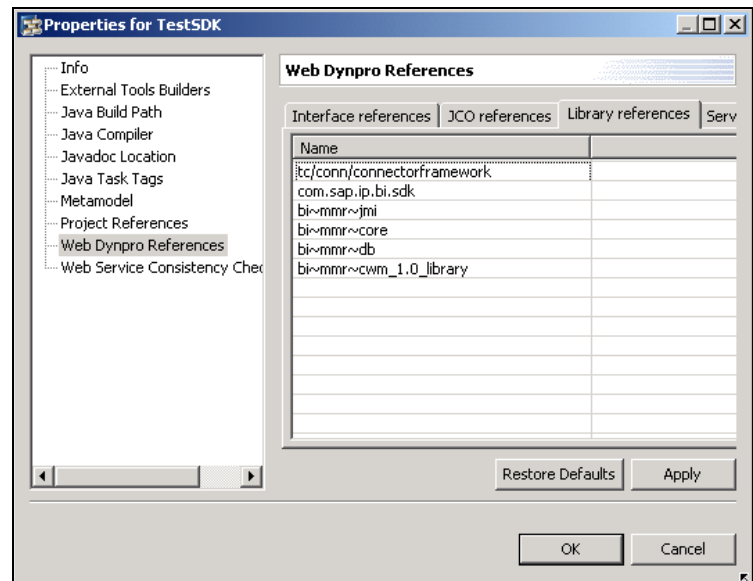
To use the BI Java SDK to create a Web Dynpro application, you need to add library references and a sharing reference:

7. In the *Web Dynpro Explorer*, select your Web Dynpro project, right-click, and choose *Properties* from the context menu.



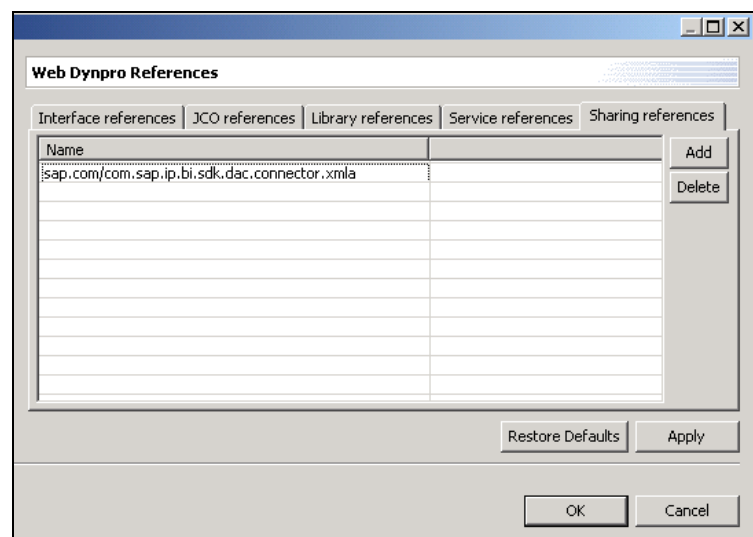
8. To add the library references, select *Web Dynpro References*, and select the *Library references* tab. Add the libraries listed below:

```
tc/conn/connectorframework
com.sap.ip.bi.sdk
bi~mmr~jmi
bi~mmr~core
bi~mmr~db
bi~mmr~cwm_1.0_library
```



9. To add the sharing reference to the BI XMLA Connector, select the *Sharing references* tab, and add the reference listed below:

```
sap.com/com.sap.ip.bi.sdk.dac.connector.xml
.connector.xml
```



10. Use the code below to get the connection and retrieve schemas, using the JNDI name retrieved in Step 1, above.

Note: The BI Java SDK libraries are required to compile this scenario, and can be found in *<your NetWeaver Developer Studio installation folder>\eclipse\tools\bi_sdk\bi_sdk.zip*, or can be downloaded from the SAP Developer Network at <http://www.sdn.sap.com/>.

```
ConnectionFactory connectionFactory = null;
IConnectionSpec connectionSpec = null;
IBIConnection connection = null;
try {
    Context initctx = new InitialContext();
    // perform JNDI lookup to obtain connection factory
    connectionFactory =
```



```

        (IConnectionFactory) initctx.lookup(
            "deployedAdapters/SDK_XMLA/shareable/SDK_XMLA");

connectionSpec = connectionFactory.getConnectionSpec();

// establish connection using default connection properties
connection =
    (IBIConnection) connectionFactory.getConnectionEx(null);

IBIOlap olap = ((IBIConnection) connection).getOlap();

List schemas = olap.getSchema();
Schema schema = null;

for (int i = 0; i < schemas.size(); i++) {
    schema = (Schema) schemas.get(i);
    message += schema.getName();
}
} catch (Exception e) {
    message += e.getMessage();
    e.printStackTrace();
}
}

```

11. Deploy and test your Web Dynpro application. When you run it, you should retrieve a list of schemas in your system.

www.sap.com/netweaver

THE BEST-RUN BUSINESSES RUN SAP

