

Installing and Configuring Database Access for Oracle



Failover Behavior

Oracle [Transparent Application Failover](#) (TAF) and [Fast Connection Failover](#) (FCF) are not supported. Instead, the BRIDGE uses an database independent replay mechanism for its Persistent State persistency. This mechanism works only if TAF and FCF are **switched off**.

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Installing the SQL Client Tools for Oracle

The BRIDGE supports Oracle since version 7.

Install the Oracle client tools and define the **tnsnames.ora** to open a successful connection to the database.

Linux:

1. Log-in as a root user.
2. Download the Oracle [Instant Client Package - Basic](#), e.g. version 10.2.0.3. Note that you need a **64bit** version when running a **64bit** xUML RUNTIME. For OpenSUSE download the rpm package and start the installer:

```
rpm -U oracle-instantclient-basic-10.2.0.3-1.i386.rpm
```

3. Create the following link on the host:

```
cd /usr/lib/oracle/10.2.0.3/client/lib
ln -s libclntsh.so.10.1 libclntsh.so
```

4. To avoid encoding problems, such as special characters being messed up (e.g. the German umlauts), configure the language settings (**NLS_LANG**) in the Oracle database preferences for a BRIDGE installation on Unix (see further below, [Defining the Oracle Database Preferences on the BRIDGE](#)). Furthermore, in the UML model, set the tag `charset="utf-8"` on the database alias in the component diagram.

Using that configuration the database client (BRIDGE) and the database server use the same encoding: strings in the xUML RUNTIME are Unicode, the database client uses Unicode (step 2) and Unicode is used between Oracle client and server (step 1). If native database storage is not Unicode, the Oracle server can convert the data.

Related Pages:

- [Defining the ODBC Database Parameters](#)
- [Troubleshooting Database Access](#)

Defining the Oracle Database Preferences on the BRIDGE

In a browser, open the Web-based user interface of the system, on which the Bridge is installed (see [Checking the Installation](#)). Enter a user id and password of a user with administration rights (the pre-defined user **admin**, for instance).

The welcome page is displayed.

In the Navigation, select the **xUML Services** item of the node instance you want to define the database preferences for and switch to tab **Preferences**.

The screenshot shows the 'xUML Services' web interface. On the left is a 'Domain' navigation tree with 'Node Instances' expanded, showing 'e2bridge.e2e.ch' and 'xUML Services'. The 'xUML Services' node is selected. The main area shows the 'Preferences' tab for the 'DB2 Adapter'. A dropdown menu is open, showing options: 'DB2 Adapter', 'Oracle Adapter', 'MySQL Adapter', 'MicrosoftServer Adapter', and 'Java Adapter'. The 'DB2 Adapter' is selected. Below the dropdown is a table with columns 'Key', 'Value', and 'Description'. The table contains two rows: 'DB2DIR' with an empty 'Value' field and 'File path to the IBM DB2 client library' as the 'Description'; and 'DB2INSTANT' with an empty 'Value' field and 'DB2 instance name' as the 'Description'. An 'Apply' button is at the bottom right of the table.

Key	Value	Description
DB2DIR		File path to the IBM DB2 client library
DB2INSTANT		DB2 instance name

Now, you can define the SQL adapter preferences for each database type. Select the **DB2**, **Oracle**, **MySQL**, or **MSSQLServer** Adapter in the drop down box and the parameters of the selected adapter are displayed.

Select the **Oracle adapter**, enter the following parameters and click **Apply**.

Key	Value	Example
ORACLE_HOME	Path to the Oracle client.	D:\Oracle\ora11g
NLS_LANG	Oracle language settings (Unix only)	AMERICAN_AMERICA. AL32UTF8
TNS_ADMIN	Path to the Oracle configuration sqlnet.ora (optional)	D:\Oracle\ora11g

If the path is already specified in the environment variables of your operating system, you do not have to set this parameter.

Overview on the Connection String Formats

Connection String	Description
Alias	DBString - the database name as it is specified in TNSNAMES.ORA file or looked up via Oracle LDAP.
Short Form	<server name>:<port>/<database or service name>
Long Form	The right hand side of tnsname.ora entries: <pre>(DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(Host = <server name>)(Port = <port>))) (CONNECT_DATA = (SID = <service id>)))</pre>

It is also possible to configure the Oracle client as to use LDAP to access the connection information.