Troubleshooting the SQL Adapter

> ⓘ This page explains the **SQL Adapter** in Bridge context. If you were looking for the same information regarding the PAS Designer, refer to SQL Adapter in the Designer guide.

Error	Database	Possible Reason	Solution
A stored procedure call returning a result set throws the following error in bridgeserver log: `[Error][External][SQLSM][6][Error Message: -1 "Bind variable/parameter 'result' not found". SQL Stored Procedure: ...`	**all**	The return parameter of the stored procedure definition in the UML model has no stereotype `<<SQLReturnResultSet>>`.	Check the stored procedure definition in the UML model and apply the needed stereotype. For more information see Handling Stored Procedures Returning a Result Set.
Inconsistent data in the database.	**all**	You may have run into the bug described on Bug: Session Commit on Exception: database changes have been committed although an exception occurred during service execution.	We recommend strongly updating to Runtime 2018.1. RUN-2328 has been an important fix.
Read of BLOB fails with error "`Can not convert output type (0) of database column '<name of the column>' to internal type 'Blob'`".	**DB2 with ODBC**	The xUML Runtime cannot convert the database type to the Bridge type.	Add the setting `LONGDATACOMPAT=1` to your your DB2 ODBC settings.
Query results have wrong encoding.	**MySQL**	Old versions of MySQL may not respect the codepage setting (e.g. UTF-8).	• Set option CharacterSet=<my codepage setting> on the SQL alias. • Update your MySQL database to a newer version.
Error in bridgeserver log: `[... 2006: MySQL server has gone away ...]`	**MySQL**	MySQL cannot work on data (`commit`, `execute`) because the data exceeds the maximum allowed package size (max_allowed_packet).	Increase `max_allowed_packet` (e.g. to 128 M) on your installation of MySQL.
CLOB is being cut off after 32767 chars when accessing it with the E2E Bridge.	**Oracle**	The xUML Runtime cannot convert the database type CLOB to the Bridge type.	• Set tagged value **nativeType= CLOB** on the parameter of the stored procedure. • Specify the database type for selects and inserts, e.g. `INSERT INTO TEST_CLOB (ID, CDATA) VALUES (IN::name, IN:{CLOB}:content )`
Error when using Oracle and trying to access a CLOB parameter returned by a stored procedure, e.g. "`ORA-24508: Buffer is not aligned correctly.`"	**Oracle**		

Error in bridgeserverlog when requesting database:
• `Read timed out (SocketTimeoutException [...]`
• `Level: Error`
`  Type: E2ERuntime`
`  Code: C02`
`  [...]`
`  Description: Service has a session with an adapter call which runs longer than 30 minutes.`
	Oracle	Faulty connection string: use of backslash instead of forward slash.	Check the Oracle connection string.

Performance problems: some SQL requests with a `WHERE` clause are slow.	**Oracle**	An existing index that corresponds to the `WHERE` clause is not used.	This may be a character encoding issue. Please find a more detailed explanation on Oracle: Performance Problems Due to Index Not Used.
When trying to call a stored procedure, you get an error like "`HY004 [Microsoft] [ODBC Driver Manager] SQL data type out of range`"	**Oracle Caché**	Database access encoding problem.	Try accessing the database in Unicode/non-Unicode mode (see SQL Deployment).
Encoding problems with special characters, e.g. the German umlauts, using Oracle on a Unix operating system.	**Oracle on Unix**	Different encoding on database client (Bridge) and database server is used.	Set NLS_LANG for your Bridge installation on Unix, see Installing and Configuring Database Access for Oracle.
Error when trying to insert a record containing a datetime field, e.g. "`22007 The fractional part of the provided time value overflows the scale of the corresponding SQL Server parameter or column. Increase bScale in DBPARAMBINDINFO or column scale to correct this error.`".	**SQL Server**	SQL Server datetime only supports zero to three digits, ranging from 0 to 999, that represent the fractional seconds.	Truncate the microseconds to three digits.

Error while fetching results: After a commit in a bulk fetch loop the cursor disappears, error `Abort was called, and object is in a zombie state` is thrown.	**SQL Server**	The default setting in MS SQL is "Set cursor close on commit on".	Create one database session for the bulk fetch and a second database session for the other SQL calls including the commit. Create two aliases, one for each database session.

The SQL handler throws the following error upon executing a database insert:
 	
`Bridge error: SQLSM/6`
`HY104 [Microsoft][ODBC Driver 17 for SQL Server]Invalid precision value`
	SQL Server	A `TEXT` or `[N]VARCHAR(MAX)` database field contains character data that is too long.
		This may occur when using SQLNCLI/ODBC API for SQL Adapter with MS SQL Server.
			Define the related fields to be of type **CLOB** (instead of **String**) in your service model.

SQL rollback does not work. Error message is something like `6401 "Cannot roll back [...]. No transaction or savepoint of that name was found."`	**SQL Server**	Improper database settings and rollback statement.	Change the following in your database setup: • SET XACT_ABORT OFF Add the following to your rollback statement: • IF @@TRANCOUNT > 0
Error when using SQL Adapter with SQLite: "`[SQLSM][6][Error Message: 5 "database is locked". SQL Statement: ...]`"	**SQLite**	This occurs, if multiple threads or processes want to read/write the SQLite database simultaneously. In case of concurrent writes, one write will fail. The xUML Runtime will retry to execute the write for 60 seconds. After the time-out, the message above is written to the bridgeserver log.	There are two possible approaches to solve this conflict (they may also be combined): • Add value `BusyTimeout=<time in milliseconds>` to the tag **options** of the <<SQLAlias>> . Default is 60000 milliseconds - increase this value (see SQLite Deployment Options). • Re-model the service to have short database transactions (including select) and add explicit commits to unlock the database frequently.