

# SQL\_PREPARE

## SQL\_PREPARE action

Function	The action prepares the execution of the SQL command <b>SELECT</b> .																			
Declaration	<pre>SQL_PREPARE handleIdent_Int, retCodeIdent_Int, selectStringExpr BIND _locVar1, _locVar2, ...  SQL_PREPARE handleIdent_Int, retCodeIdent_Int, selectStringExpr BIND _locVarRowIdent  SQL_PREPARE handleIdent_Int, retCodeIdent_Int, selectStringExpr BIND _locVarRecordIdent  SQL_PREPARE handleIdent_Int, retCodeIdent_Int, selectStringExpr BINDOUT _locVar1, _locVar2, ...  SQL_PREPARE handleIdent_Int, retCodeIdent_Int, selectStringExpr BINDOUT _locVarRowIdent  SQL_PREPARE handleIdent_Int, retCodeIdent_Int, selectStringExpr BINDOUT _locVarRecordIdent</pre>																			
Parameters	<table><tr><td>handleIdent_Int</td><td>in</td><td><a href="#">Identifier</a> - the unique number (handle) of a connection.</td></tr><tr><td>retCodeIdent_Int</td><td>out</td><td>Return code <a href="#">identifier</a>.</td></tr><tr><td>selectStringExpr</td><td>in</td><td>Expression of the Text type.</td></tr><tr><td>_locVar1, _locVar2, ...</td><td>in</td><td>List of local variables.</td></tr><tr><td>_locVarRowIdent</td><td>in</td><td><a href="#">Reference to a row</a> of <a href="#">local variable</a> of the <i>Record</i> type.</td></tr><tr><td>_locVarRecordIdent</td><td>in</td><td><a href="#">Identifier</a> of <a href="#">local variable</a> of the <i>Record</i> type.</td></tr></table>		handleIdent_Int	in	<a href="#">Identifier</a> - the unique number (handle) of a connection.	retCodeIdent_Int	out	Return code <a href="#">identifier</a> .	selectStringExpr	in	Expression of the Text type.	_locVar1, _locVar2, ...	in	List of local variables.	_locVarRowIdent	in	<a href="#">Reference to a row</a> of <a href="#">local variable</a> of the <i>Record</i> type.	_locVarRecordIdent	in	<a href="#">Identifier</a> of <a href="#">local variable</a> of the <i>Record</i> type.
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_locVarRecordIdent	in	<a href="#">Identifier</a> of <a href="#">local variable</a> of the <i>Record</i> type.																		
Return code	The value of the parameter <i>transHandle_Int</i> . See the table of <a href="#">error codes</a> . It is possible to get <a href="#">extended error information</a> .																			
Description	<p>Reading a database by the command SELECT is implemented in two or three phases. The first (preparatory) phase is executed by the action <b>SQL_PREPARE</b>. The command SELECT, defined by a value of the expression <i>selectStringExpr</i>, is prepared (and if the keyword <b>BINDOUT</b> is not used, then also executed) in the database (specified by a value of the identifier <i>handleIdent_Int</i>). Success of the action is indicated by a value of <i>retCodeIdent_Int</i>.</p> <p>The second phase is required if the keyword <b>BINDOUT</b> was used. This keyword means that the expression <i>selectStringExpr</i> used <a href="#">parametrization</a> and it is necessary to use the command <a href="#">SQL_BINDIN</a> to specify the input parameters of the expression <i>selectStringExpr</i> before actual execution of the SQL statement.</p> <p>The last phase is the sequential reading of the rows, prepared by the command SELECT, using the action <a href="#">SQL_FETCH</a>.</p> <p>Values read are saved into local variables listed after the keyword <b>BIND</b> or <b>BINDOUT</b> of the action <b>SQL_PREPARE</b>. There are three possible <b>variants</b>:</p> <ol style="list-style-type: none"><li><b>List of non-structured local variables.</b> Reading is executed row by row into local variables, which are listed after the keyword <b>BIND</b> or <b>BINDOUT</b>.</li><li><b>Reference to one row of local variable of the <i>Record</i> type.</b> Reading is executed one row into one row of the local variable. The structure of data that are read must be the same as the structure of the local variable.</li><li><b>Reference to local variable of the the <i>Record</i> type.</b> Reading is executed either one or more rows of the local variable. Its size may be changed as</li></ol>																			

necessary before the result. The structure of data that are read must be the same as the structure of the local variable.

One reading (gained by the action `SQL_CONNECT`) may be active just for one handle. The action `SQL_PREPARE` will cancel the validity of the previous action. The action `SQL_FREE` allows to finish a reading.

**Note:** by using [parameterization](#) it is possible to make the work of SQL database easier, because the preparation (compilation) of parameterized SQL query will be performed only once (by the action `SQL_PREPARE`). Consequently, the values of parameters must be specified by the action `SQL_BINDIN` (which will also execute the SQL command) and then the action `SQL_FETCH` may be called once or more times to obtain the results. Then it is possible to set new values of the parameters and re-execute the SQL command by repeating the action `SQL_BINDIN` and obtain the new results by one or more calls of the action `SQL_FETCH`.

By proper setting of the database parameters (e.g. Oracle: `session_cached_cursors`) it is possible to ensure recycling of cursors (compiled statements) between the calls of `SQL_PREPARE`.

## Example

[Work with a database \(actions SQL\\_ ...\)](#)

```
BOOL _useBinding = @TRUE ; use parameterized SQL command
INT  _handle      ; handle to database
INT  _retCode     ; return code
TEXT _name        ; product name
TEXT _type        ; product type

                        ; parameterized SQL command
TEXT _sqlPar = "SELECT Name, Type FROM Products WHERE ID>= #PAR# AND
ID<= #PAR#"

                        ; non-parameterized SQL command
TEXT _sqlNpar = "SELECT Name, Type FROM Products WHERE ID>= 1 AND ID<=
100"

SQL_CONNECT MyDatabase, _handle, _retCode

IF _useBinding THEN ; parameterized alternative
    SQL_PREPARE _handle, _retCode, _sqlPar BINDOUT _name, _type
    SQL_BINDIN  _handle, _retCode, 1, 100 ; read all products between 1 and
100
ELSE ; non-parametrized alternative
    SQL_PREPARE _handle, _retCode, _sqlNpar BIND _name, _type
ENDIF

DO_LOOP
    SQL_FETCH _handle, _retCode
    EXIT_LOOP _retCode # _ERR_NO_ERROR
    ; data processing goes here
END_LOOP

SQL_FREE _handle
SQL_DISCONNECT _handle
```

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[DB\\_TRANS\\_ROLLBACK](#)  
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[SQL\\_EXEC\\_PROC](#)

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