

# 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>Identifier - 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 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>Reference to a row of local variable of Record type.</td></tr><tr><td>_locVarRecordIdent</td><td>in</td><td>Identifier of local variable of Record type.</td></tr></table>		handleIdent_Int	in	Identifier - the unique number (handle) of a connection.	retCodeIdent_Int	out	Return code <a href="#">identifier</a> .	selectStringExpr	in	Expression of Text type.	_locVar1, _locVar2, ...	in	List of local variables.	_locVarRowIdent	in	Reference to a row of local variable of Record type.	_locVarRecordIdent	in	Identifier of local variable of Record type.
handleIdent_Int	in	Identifier - the unique number (handle) of a connection.																		
retCodeIdent_Int	out	Return code <a href="#">identifier</a> .																		
selectStringExpr	in	Expression of Text type.																		
_locVar1, _locVar2, ...	in	List of local variables.																		
_locVarRowIdent	in	Reference to a row of local variable of Record type.																		
_locVarRecordIdent	in	Identifier of local variable of Record 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 <b>SQL_BINDIN</b> 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 key word <b>BIND</b> or <b>BINDOUT</b>.</li><li><b>Reference to one row of local variable of Record 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></ol>																			

### 3. Reference to local variable of *Record* type.

Reading is executed either one or more rows of the local variable. Its size may be changed as 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
```

## Related topics

[DB\\_TRANS\\_OPEN](#)  
[DB\\_TRANS\\_COMMIT](#)  
[DB\\_TRANS\\_ROLLBACK](#)  
[DB\\_TRANS\\_CLOSE](#)

[SQL\\_CONNECT](#)  
[SQL\\_DISCONNECT](#)  
[SQL\\_EXEC\\_DIRECT](#)  
[SQL\\_EXEC\\_PROC](#)

[SQL\\_BINDIN](#)  
[SQL\\_FETCH](#)  
[SQL\\_FREE](#)

SQL\_SELECT

All database related actions.

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