
**Information technology — Database
languages SQL —**

**Part 10:
Object language bindings (SQL/OLB)**

*Technologies de l'information — Langages de base de données
SQL —*

Partie 10: Liaisons de langage objet (SQL/OLB)

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Contents

Page

Foreword.....	xviii
Introduction.....	xx
1 Scope.....	1
2 Normative references.....	2
3 Terms and definitions.....	3
4 Concepts.....	6
4.1 Notations and conventions.....	6
4.1.1 Notations.....	6
4.1.2 First term usage.....	6
4.1.3 Java-related conventions.....	6
4.1.4 Specification of translator-generated classes.....	7
4.2 Character strings.....	8
4.2.1 Unicode support.....	8
4.3 Embedded syntax.....	8
4.4 Introduction to SQLJ.....	8
4.4.1 Overview.....	8
4.4.2 SQL constructs.....	9
4.4.3 SQLJ clauses.....	9
4.4.4 Binary portability.....	10
4.4.4.1 Binary portability requirements.....	10
4.4.4.2 Components of binary portable applications.....	11
4.4.5 Profile overview.....	11
4.4.5.1 Introduction to profiles.....	11
4.4.5.2 EntryInfo overview.....	12
4.4.5.3 TypeInfo overview.....	14
4.4.5.4 SQLJ datatype properties.....	16
4.4.6 Host variables.....	18
4.4.7 Host expressions.....	18
4.4.8 Connection contexts.....	18
4.4.9 Default connection context.....	18
4.4.10 Schema checking using exemplar schemas.....	19
4.4.11 Using multiple SQLJ contexts and connections.....	19
4.4.12 Dynamic SQL and JDBC/SQLJ Connection interoperability.....	20
4.4.12.1 Introduction to connection interoperability.....	20
4.4.12.2 Creating an SQLJ ConnectionContext from a java.sql.Connection object.....	20
4.4.12.3 Obtaining a java.sql.Connection object from an SQLJ ConnectionContext.....	20
4.4.12.4 Connection sharing.....	20
4.4.12.5 Connection resource management.....	20

4.4.13	SQL execution control and status.	21
4.4.14	Iterators.	21
4.4.15	Input and output assignability.	22
4.4.16	Multiple java.sql.ResultSet objects from SQL-invoked procedure calls.	36
4.4.16.1	Introduction to multiple result sets.	36
4.4.16.2	Resource management with multiple results.	36
4.4.17	JDBC/SQLJ ResultSet interoperability.	36
4.4.17.1	Introduction to interoperability.	36
4.4.17.2	Creating an SQLJ iterator from a java.sql.ResultSet object.	36
4.4.17.3	Obtaining a java.sql.ResultSet object from an SQLJ iterator object.	37
4.4.17.4	Obtaining a java.sql.ResultSet object from an untyped iterator object.	37
4.4.17.5	Iterator and java.sql.ResultSet object resource management.	37
4.4.18	Multi-threading considerations.	38
4.4.19	User-defined data types.	38
4.4.20	Batch updates.	39
4.4.20.1	Introduction to batch updates.	39
4.4.20.2	Batchable statements and batch compatibility.	39
4.4.20.3	Statement batching API.	39
4.4.20.4	Execution status and update counts.	40
4.4.20.5	Program semantics and exceptions.	40
4.4.20.6	Batch cancellation and disabling.	41
4.4.20.7	Specification of a batching limit.	41
4.4.21	SQLJ language elements.	42
4.4.21.1	Introduction to SQLJ language elements.	42
4.4.21.2	<cursor name>.	42
4.4.21.3	SQL-schema, SQL-data, and SQL-transaction statements.	43
4.4.21.4	<SQL dynamic statement>.	43
4.4.21.5	<SQL connection statement>.	43
4.4.21.6	<host variable definition>.	43
4.4.21.7	<embedded exception declaration>.	43
4.4.21.8	<SQL diagnostics statement>.	44
4.4.21.9	Cursor declaration.	44
4.4.21.10	Input parameters to SQL-statements.	44
4.4.21.11	Extracting column values from SQLJ iterators.	44
4.4.21.12	<open statement> and cursors.	44
4.4.22	SQLJ, JDBC, and SQLExceptions and SQLWarnings.	45
4.4.23	Profile generation and naming.	45
4.4.24	SQLJ application packaging.	46
4.4.25	Profile customizer interface.	46
4.4.26	Customization interface.	47
4.4.26.1	Introduction to customization interfaces.	47
4.4.26.2	Customization usage.	47
4.4.26.3	Customization registration.	48
5	Lexical elements.	50
5.1	<SQL terminal character>.	50
5.2	<token> and <separator>.	51
6	Scalar expressions.	52

6.1	<value specification> and <target specification>.....	52
7	Additional common rules.....	53
7.1	Invoking an SQL-invoked routine.....	53
8	Data manipulation.....	54
8.1	<fetch statement>.....	54
8.2	<select statement: single row>.....	57
8.3	<delete statement: positioned>.....	61
8.4	<update statement: positioned>.....	63
9	Control statements.....	65
9.1	<call statement>.....	65
9.2	<compound statement>.....	67
9.3	<assignment statement>.....	69
10	Transaction management.....	71
10.1	<set transaction statement>.....	71
10.2	<savepoint statement>.....	72
10.3	<release savepoint statement>.....	73
10.4	<commit statement>.....	74
10.5	<rollback statement>.....	75
11	Embedded SQL.....	76
11.1	<embedded SQL host program>.....	76
11.2	<embedded SQL Java program>.....	78
12	SQLJ reserved names.....	79
12.1	Introduction to reserved names.....	79
12.2	Naming runtime library components.....	79
12.3	Temporary variable names.....	79
12.4	Class and resource file names.....	79
12.4.1	Introduction.....	79
12.4.2	Generated classes.....	79
12.4.3	Resource files and profiles.....	80
13	Common subelements.....	81
13.1	<modifiers>.....	81
13.2	<java class name>.....	82
13.3	<java id>.....	83
13.4	<java datatype>.....	84
13.5	<java constant expression>.....	85
13.6	<embedded Java expression>.....	86
13.7	<implements clause>.....	89
13.8	<declaration with clause>.....	90
14	<SQLJ specific clause> and contents.....	93
14.1	<SQLJ specific clause>.....	93
14.2	<connection declaration clause>.....	94
14.3	Generated connection class.....	95
14.4	<iterator declaration clause>.....	100
14.5	<positioned iterator>.....	102
14.6	Generated positioned iterator class.....	103

14.7	<named iterator>.....	105
14.8	Generated named iterator class.....	106
14.9	<executable clause>.....	108
14.10	<context clause>.....	114
14.11	<statement clause>.....	115
14.12	<assignment clause>.....	116
14.13	<query clause>.....	118
14.14	<function clause>.....	122
14.15	<iterator conversion clause>.....	124
15	Package sqlj.runtime.....	127
15.1	Overview.....	127
15.2	SQLJ runtime interfaces.....	127
15.2.1	sqlj.runtime.ConnectionContext.....	127
15.2.1.1	Interface overview.....	127
15.2.1.2	Variables.....	128
15.2.1.2.1	CLOSE_CONNECTION.....	128
15.2.1.2.2	KEEP_CONNECTION.....	128
15.2.1.3	Methods.....	128
15.2.1.3.1	close ()......	128
15.2.1.3.2	close (boolean).....	129
15.2.1.3.3	getConnectedProfile (Object).....	129
15.2.1.3.4	getConnection ()......	130
15.2.1.3.5	getExecutionContext ()......	130
15.2.1.3.6	getTypeMap ()......	130
15.2.1.3.7	isClosed ()......	131
15.2.2	sqlj.runtime.ForUpdate.....	131
15.2.2.1	Interface overview.....	131
15.2.2.2	Methods.....	131
15.2.2.2.1	getCursorName ()......	131
15.2.3	sqlj.runtime.NamedIterator.....	131
15.2.4	sqlj.runtime.PositionedIterator.....	132
15.2.4.1	Interface overview.....	132
15.2.4.2	Methods.....	132
15.2.4.2.1	endFetch ()......	132
15.2.5	sqlj.runtime.ResultSetIterator.....	133
15.2.5.1	Interface overview.....	133
15.2.5.2	Variables.....	133
15.2.5.2.1	ASENSITIVE.....	133
15.2.5.2.2	FETCH_FORWARD.....	133
15.2.5.2.3	FETCH_REVERSE.....	133
15.2.5.2.4	FETCH_UNKNOWN.....	133
15.2.5.2.5	INSENSITIVE.....	133
15.2.5.2.6	SENSITIVE.....	134
15.2.5.3	Methods.....	134
15.2.5.3.1	Note about methods.....	134
15.2.5.3.2	clearWarnings ()......	134
15.2.5.3.3	close ()......	134

15.2.5.3.4	getFetchSize ()	134
15.2.5.3.5	getResultSet ()	135
15.2.5.3.6	getRow ()	135
15.2.5.3.7	getSensitivity ()	135
15.2.5.3.8	getWarnings ()	136
15.2.5.3.9	isClosed ()	136
15.2.5.3.10	next ()	137
15.2.5.3.11	setFetchSize (int)	137
15.2.6	sqlj.runtime.Scrollable	138
15.2.6.1	Interface overview	138
15.2.6.2	Variables	138
15.2.6.3	Methods	138
15.2.6.3.1	absolute (int)	138
15.2.6.3.2	afterLast ()	138
15.2.6.3.3	beforeFirst ()	138
15.2.6.3.4	first ()	139
15.2.6.3.5	getFetchDirection ()	139
15.2.6.3.6	isAfterLast ()	139
15.2.6.3.7	isBeforeFirst ()	140
15.2.6.3.8	isFirst ()	140
15.2.6.3.9	isLast ()	140
15.2.6.3.10	last ()	140
15.2.6.3.11	previous ()	141
15.2.6.3.12	relative (int)	141
15.2.6.3.13	setFetchDirection (int)	141
15.3	SQLJ runtime classes	143
15.3.1	sqlj.runtime.AsciiStream	143
15.3.1.1	Class overview	143
15.3.1.2	Constructors	143
15.3.1.2.1	AsciiStream (InputStream)	143
15.3.1.2.2	AsciiStream (InputStream, int)	143
15.3.2	sqlj.runtime.BinaryStream	144
15.3.2.1	Class overview	144
15.3.2.2	Constructors	144
15.3.2.2.1	BinaryStream (InputStream)	144
15.3.2.2.2	BinaryStream (InputStream, int)	144
15.3.3	sqlj.runtime.DefaultRuntime	145
15.3.3.1	Class overview	145
15.3.3.2	Constructors	145
15.3.3.2.1	DefaultRuntime ()	145
15.3.3.3	Methods	145
15.3.3.3.1	getDefaultConnection ()	145
15.3.3.3.2	getLoaderForClass (Class)	145
15.3.4	sqlj.runtime.ExecutionContext	146
15.3.4.1	Class overview	146
15.3.4.2	Variables	147
15.3.4.2.1	ADD_BATCH_COUNT	147

15.3.4.2.2	AUTO_BATCH.	147
15.3.4.2.3	EXEC_BATCH_COUNT.	147
15.3.4.2.4	EXCEPTION_COUNT.	147
15.3.4.2.5	NEW_BATCH_COUNT.	147
15.3.4.2.6	QUERY_COUNT.	148
15.3.4.2.7	UNLIMITED_BATCH.	148
15.3.4.3	Constructors.	148
15.3.4.3.1	ExecutionContext ()	148
15.3.4.4	Methods.	148
15.3.4.4.1	cancel ()	148
15.3.4.4.2	execute ()	149
15.3.4.4.3	executeBatch ()	150
15.3.4.4.4	executeQuery ()	151
15.3.4.4.5	executeUpdate ()	151
15.3.4.4.6	getBatchLimit ()	152
15.3.4.4.7	getBatchUpdateCounts ()	152
15.3.4.4.8	getFetchDirection ()	153
15.3.4.4.9	getFetchSize ()	153
15.3.4.4.10	getMaxFieldSize ()	153
15.3.4.4.11	getMaxRows ()	154
15.3.4.4.12	getNextResultSet ()	154
15.3.4.4.13	getNextResultSet (int).	154
15.3.4.4.14	getQueryTimeout ()	155
15.3.4.4.15	getUpdateCount ()	156
15.3.4.4.16	getWarnings ()	156
15.3.4.4.17	isBatching ()	156
15.3.4.4.18	registerStatement (ConnectionContext, Object, int).	157
15.3.4.4.19	releaseStatement ()	158
15.3.4.4.20	setBatching (boolean).	158
15.3.4.4.21	setBatchLimit (int).	159
15.3.4.4.22	setFetchDirection (int).	159
15.3.4.4.23	setFetchSize (int).	160
15.3.4.4.24	setMaxFieldSize (int).	160
15.3.4.4.25	setMaxRows (int).	160
15.3.4.4.26	setQueryTimeout (int).	161
15.3.5	sqlj.runtime.RuntimeContext.	161
15.3.5.1	Class overview.	161
15.3.5.2	Variables.	161
15.3.5.2.1	DEFAULT_DATA_SOURCE.	161
15.3.5.2.2	DEFAULT_RUNTIME.	161
15.3.5.2.3	PROPERTY_KEY.	162
15.3.5.3	Constructors.	162
15.3.5.3.1	RuntimeContext ()	162
15.3.5.4	Methods.	162
15.3.5.4.1	getDefaultConnection ()	162
15.3.5.4.2	getLoaderForClass (Class).	162
15.3.5.4.3	getRuntime ()	163

15.3.6	sqlj.runtime.StreamWrapper	163
15.3.6.1	Class overview	163
15.3.6.2	Constructors	164
15.3.6.2.1	StreamWrapper (InputStream)	164
15.3.6.2.2	StreamWrapper (InputStream, int)	164
15.3.6.3	Methods	164
15.3.6.3.1	getInputStream ()	164
15.3.6.3.2	getLength ()	164
15.3.6.3.3	setLength (int)	165
15.3.7	sqlj.runtime.UnicodeStream	165
15.3.7.1	Class overview	165
15.3.7.2	Constructors	165
15.3.7.2.1	UnicodeStream (InputStream)	165
15.3.7.2.2	UnicodeStream (InputStream, int)	166
15.3.8	sqlj.runtime.CharacterStream	166
15.3.8.1	Class overview	166
15.3.8.2	Constructors	166
15.3.8.2.1	CharacterStream (Reader)	166
15.3.8.2.2	CharacterStream (Reader, int)	166
15.3.8.3	Methods	167
15.3.8.3.1	getReader ()	167
15.3.8.3.2	getLength ()	167
15.3.8.3.3	setLength (int)	167
15.3.9	sqlj.runtime.SQLNullException	167
15.3.9.1	Class overview	167
15.3.9.2	Constructors	168
15.3.9.2.1	SQLException ()	168
16	Package sqlj.runtime.profile	169
16.1	Overview	169
16.2	SQLJ sqlj.runtime.profile interfaces	169
16.2.1	sqlj.runtime.profile.BatchContext	169
16.2.1.1	Interface overview	169
16.2.1.2	Methods	169
16.2.1.2.1	clearBatch ()	169
16.2.1.2.2	executeBatch ()	169
16.2.1.2.3	setBatchLimit (int)	170
16.2.2	sqlj.runtime.profile.ConnectedProfile	170
16.2.2.1	Interface overview	170
16.2.2.2	Methods	171
16.2.2.2.1	close ()	171
16.2.2.2.2	getConnection ()	171
16.2.2.2.3	getProfileData ()	172
16.2.2.2.4	getStatement (int, Map)	172
16.2.2.2.5	getStatement (int, BatchContext, Map)	173
16.2.3	sqlj.runtime.profile.Customization	173
16.2.3.1	Interface overview	173
16.2.3.2	Methods	174

16.2.3.2.1	acceptsConnection (Connection).....	174
16.2.3.2.2	getProfile (Connection, Profile).....	174
16.2.4	sqlj.runtime.profile.Loader.....	175
16.2.4.1	Interface overview.....	175
16.2.4.2	Methods.....	175
16.2.4.2.1	getResourceAsStream (String).....	175
16.2.4.2.2	loadClass (String).....	175
16.2.5	sqlj.runtime.profile.RTResultSet.....	176
16.2.5.1	Interface overview.....	176
16.2.5.2	Methods.....	179
16.2.5.2.1	clearWarnings ()......	179
16.2.5.2.2	close ()......	179
16.2.5.2.3	findColumn (String).....	179
16.2.5.2.4	getArray (int).....	180
16.2.5.2.5	getAsciiStreamWrapper (int).....	180
16.2.5.2.6	getBigDecimal (int).....	181
16.2.5.2.7	getBinaryStreamWrapper (int).....	182
16.2.5.2.8	getBlob (int).....	183
16.2.5.2.9	getBooleanNotNull (int).....	183
16.2.5.2.10	getBooleanWrapper (int).....	184
16.2.5.2.11	getByteNotNull (int).....	185
16.2.5.2.12	getBytes (int).....	185
16.2.5.2.13	getByteWrapper (int).....	186
16.2.5.2.14	getCharacterStreamWrapper (int).....	187
16.2.5.2.15	getClob (int).....	188
16.2.5.2.16	getColumnCount ()......	188
16.2.5.2.17	getCursorName ()......	189
16.2.5.2.18	getDate (int).....	189
16.2.5.2.19	getDoubleNotNull (int).....	190
16.2.5.2.20	getDoubleWrapper (int).....	191
16.2.5.2.21	getFloatNotNull (int).....	191
16.2.5.2.22	getFloatWrapper (int).....	192
16.2.5.2.23	getIntNotNull (int).....	193
16.2.5.2.24	getIntWrapper (int).....	193
16.2.5.2.25	getJDBCResultSet ()......	194
16.2.5.2.26	getLongNotNull (int).....	194
16.2.5.2.27	getLongWrapper (int).....	195
16.2.5.2.28	getObject (int, Class).....	196
16.2.5.2.29	getRef (int).....	197
16.2.5.2.30	getShortNotNull (int).....	197
16.2.5.2.31	getShortWrapper (int).....	198
16.2.5.2.32	getString (int).....	199
16.2.5.2.33	getSQLXML(int).....	199
16.2.5.2.34	getTime (int).....	200
16.2.5.2.35	getTimestamp (int).....	201
16.2.5.2.36	getUnicodeStreamWrapper (int).....	201
16.2.5.2.37	getURL (int).....	202

16.2.5.2.38	getWarnings ()	203
16.2.5.2.39	isClosed ()	203
16.2.5.2.40	isValidRow ()	203
16.2.5.2.41	next ()	204
16.2.6	sqlj.runtime.profile.RTStatement	204
16.2.6.1	Interface overview	204
16.2.6.2	Methods	209
16.2.6.2.1	cancel ()	209
16.2.6.2.2	clearWarnings ()	209
16.2.6.2.3	execute ()	210
16.2.6.2.4	executeComplete ()	210
16.2.6.2.5	executeRTQuery ()	210
16.2.6.2.6	executeUpdate ()	211
16.2.6.2.7	getArray (int)	211
16.2.6.2.8	getBatchContext ()	212
16.2.6.2.9	getBigDecimal (int)	213
16.2.6.2.10	getBlob (int)	213
16.2.6.2.11	getBooleanNotNull (int)	214
16.2.6.2.12	getBooleanWrapper (int)	215
16.2.6.2.13	getByteNotNull (int)	215
16.2.6.2.14	getBytes (int)	216
16.2.6.2.15	getByteWrapper (int)	217
16.2.6.2.16	getClob (int)	217
16.2.6.2.17	getDate (int)	218
16.2.6.2.18	getDoubleNotNull (int)	219
16.2.6.2.19	getDoubleWrapper (int)	219
16.2.6.2.20	getFloatNotNull (int)	220
16.2.6.2.21	getFloatWrapper (int)	221
16.2.6.2.22	getIntNotNull (int)	221
16.2.6.2.23	getIntWrapper (int)	222
16.2.6.2.24	getJDBCCallableStatement ()	223
16.2.6.2.25	getJDBCPreparedStatement ()	223
16.2.6.2.26	getLongNotNull (int)	223
16.2.6.2.27	getLongWrapper (int)	224
16.2.6.2.28	getMaxFieldSize ()	225
16.2.6.2.29	getMaxRows ()	225
16.2.6.2.30	getMoreResults (int)	225
16.2.6.2.31	getObject (int, Class)	226
16.2.6.2.32	getQueryTimeout ()	227
16.2.6.2.33	getRef (int)	228
16.2.6.2.34	getResultSet ()	228
16.2.6.2.35	getShortNotNull (int)	229
16.2.6.2.36	getShortWrapper (int)	229
16.2.6.2.37	getString (int)	230
16.2.6.2.38	getSQLXML (int)	231
16.2.6.2.39	getTime (int)	231
16.2.6.2.40	getTimestamp (int)	232

16.2.6.2.41	getUpdateCount ()	233
16.2.6.2.42	getURL ()	233
16.2.6.2.43	getWarnings ()	234
16.2.6.2.44	isBatchable ()	234
16.2.6.2.45	isBatchCompatible ()	235
16.2.6.2.46	setArray (int, Array)	236
16.2.6.2.47	setAsciiStreamWrapper (int, AsciiStream)	236
16.2.6.2.48	setBigDecimal (int, BigDecimal)	237
16.2.6.2.49	setBinaryStreamWrapper (int, BinaryStream)	238
16.2.6.2.50	setBlob (int, Blob)	238
16.2.6.2.51	setBoolean (int, boolean)	239
16.2.6.2.52	setBooleanWrapper (int, Boolean)	239
16.2.6.2.53	setByte (int, byte)	240
16.2.6.2.54	setBytes (int, byte)	241
16.2.6.2.55	setByteWrapper (int, Byte)	241
16.2.6.2.56	setCharacterStreamWrapper (int, CharacterStream)	242
16.2.6.2.57	setClob (int, Clob)	242
16.2.6.2.58	setDate (int, Date)	243
16.2.6.2.59	setDouble (int, double)	244
16.2.6.2.60	setDoubleWrapper (int, Double)	244
16.2.6.2.61	setFloat (int, float)	245
16.2.6.2.62	setFloatWrapper (int, Float)	245
16.2.6.2.63	setInt (int, int)	246
16.2.6.2.64	setIntWrapper (int, Integer)	247
16.2.6.2.65	setLong (int, long)	247
16.2.6.2.66	setLongWrapper (int, Long)	248
16.2.6.2.67	setMaxFieldSize (int)	248
16.2.6.2.68	setMaxRows (int)	249
16.2.6.2.69	setObject ()	249
16.2.6.2.70	setQueryTimeout (int)	250
16.2.6.2.71	setRef (int, Ref)	250
16.2.6.2.72	setShort (int, short)	251
16.2.6.2.73	setShortWrapper (int, Short)	251
16.2.6.2.74	setString (int, String)	252
16.2.6.2.75	setSQLXML (int, SQLXML)	253
16.2.6.2.76	setTime (int, Time)	253
16.2.6.2.77	setTimestamp (int, Timestamp)	254
16.2.6.2.78	setUnicodeStreamWrapper (int, UnicodeStream)	254
16.2.6.2.79	setURL (int, URL)	255
16.2.7	sqlj.runtime.profile.SerializedProfile	256
16.2.7.1	Interface overview	256
16.2.7.2	Methods	256
16.2.7.2.1	getProfileAsStream ()	256
16.3	SQLJ sqlj.runtime.profile classes	257
16.3.1	sqlj.runtime.profile.DefaultLoader	257
16.3.1.1	Class overview	257
16.3.1.2	Constructors	257

16.3.1.2.1	DefaultLoader (ClassLoader).....	257
16.3.1.3	Methods.....	257
16.3.1.3.1	getResourceAsStream (String).....	257
16.3.1.3.2	loadClass (String).....	258
16.3.2	sqlj.runtime.profile.EntryInfo.....	258
16.3.2.1	Class overview.....	258
16.3.2.2	Variables.....	258
16.3.2.2.1	BLOCK.....	258
16.3.2.2.2	CALL.....	259
16.3.2.2.3	CALLABLE_STATEMENT.....	259
16.3.2.2.4	COMMIT.....	259
16.3.2.2.5	EXECUTE.....	259
16.3.2.2.6	EXECUTE_QUERY.....	260
16.3.2.2.7	EXECUTE_UPDATE.....	260
16.3.2.2.8	ITERATOR_CONVERSION.....	260
16.3.2.2.9	NAMED_RESULT.....	260
16.3.2.2.10	NO_RESULT.....	261
16.3.2.2.11	OTHER.....	261
16.3.2.2.12	POSITIONED.....	261
16.3.2.2.13	POSITIONED_RESULT.....	261
16.3.2.2.14	PREPARED_STATEMENT.....	262
16.3.2.2.15	QUERY.....	262
16.3.2.2.16	QUERY_FOR_UPDATE.....	262
16.3.2.2.17	RELEASE_SAVEPOINT.....	262
16.3.2.2.18	ROLLBACK.....	263
16.3.2.2.19	SAVEPOINT.....	263
16.3.2.2.20	SET_TRANSACTION.....	263
16.3.2.2.21	SINGLE_ROW_QUERY.....	263
16.3.2.2.22	STATEMENT.....	264
16.3.2.2.23	UNTYPED_SELECT.....	264
16.3.2.2.24	VALUES.....	264
16.3.2.3	Constructors.....	264
16.3.2.3.1	EntryInfo ()......	264
16.3.2.4	Methods.....	264
16.3.2.4.1	executeTypeToString (int).....	264
16.3.2.4.2	getDescriptor ()......	265
16.3.2.4.3	getExecuteType ()......	265
16.3.2.4.4	getLineNumber ()......	266
16.3.2.4.5	getParamCount ()......	266
16.3.2.4.6	getParamInfo (int).....	266
16.3.2.4.7	getResultSetCount ()......	266
16.3.2.4.8	getResultSetInfo (int).....	267
16.3.2.4.9	getResultSetName ()......	267
16.3.2.4.10	getResultSetType ()......	268
16.3.2.4.11	getRole ()......	268
16.3.2.4.12	getSQLString ()......	269
16.3.2.4.13	getStatementType ()......	269

16.3.2.4.14	getTransactionDescriptor ()	270
16.3.2.4.15	isDefinedRole (int)	270
16.3.2.4.16	isValidDescriptor (Object, int)	270
16.3.2.4.17	isValidExecuteType (int)	271
16.3.2.4.18	isValidResultSetType (int)	271
16.3.2.4.19	isValidRole (int)	271
16.3.2.4.20	isValidStatementType (int)	272
16.3.2.4.21	resultSetTypeToString (int)	272
16.3.2.4.22	roleToString (int)	273
16.3.2.4.23	statementTypeToString (int)	273
16.3.2.4.24	validateObject ()	274
16.3.3	sqlj.runtime.profile.Profile	274
16.3.3.1	Class overview	274
16.3.3.2	Constructors	274
16.3.3.2.1	Profile (Loader)	274
16.3.3.3	Methods	275
16.3.3.3.1	deregisterCustomization (Customization)	275
16.3.3.3.2	getConnectedProfile (Connection)	275
16.3.3.3.3	getContextName ()	276
16.3.3.3.4	getCustomizations ()	276
16.3.3.3.5	getJavaType (String)	276
16.3.3.3.6	getJavaType (TypeInfo)	277
16.3.3.3.7	getLoader ()	277
16.3.3.3.8	getProfileData ()	277
16.3.3.3.9	getProfileName ()	277
16.3.3.3.10	getTimestamp ()	278
16.3.3.3.11	instantiate (Loader, InputStream)	278
16.3.3.3.12	instantiate (Loader, String)	279
16.3.3.3.13	registerCustomization (Customization)	280
16.3.3.3.14	registerCustomization (Customization, Customization)	280
16.3.3.3.15	replaceCustomization (Customization, Customization)	281
16.3.4	sqlj.runtime.profile.ProfileData	281
16.3.4.1	Class overview	281
16.3.4.2	Constructors	281
16.3.4.2.1	ProfileData ()	281
16.3.4.3	Methods	282
16.3.4.3.1	getEntryInfo (int)	282
16.3.4.3.2	getProfile ()	282
16.3.4.3.3	getSourceFile ()	282
16.3.4.3.4	size ()	282
16.3.5	sqlj.runtime.profile.SetTransactionDescriptor	283
16.3.5.1	Class overview	283
16.3.5.2	Variables	283
16.3.5.2.1	READ_NONE	283
16.3.5.2.2	READ_ONLY	283
16.3.5.2.3	READ_WRITE	283
16.3.5.3	Constructors	284

16.3.5.3.1	SetTransactionDescriptor (int, int).....	284
16.3.5.4	Methods.....	284
16.3.5.4.1	getAccessMode ()......	284
16.3.5.4.2	getIsolationLevel ()......	284
16.3.6	sqlj.runtime.profile.TypeInfo.....	285
16.3.6.1	Class overview.....	285
16.3.6.2	Variables.....	285
16.3.6.2.1	IN.....	285
16.3.6.2.2	INOUT.....	285
16.3.6.2.3	OUT.....	285
16.3.6.3	Constructors.....	286
16.3.6.3.1	TypeInfo ()......	286
16.3.6.4	Methods.....	286
16.3.6.4.1	getJavaTypeName ()......	286
16.3.6.4.2	getMarkerIndex ()......	286
16.3.6.4.3	getMode ()......	287
16.3.6.4.4	getName ()......	287
16.3.6.4.5	getSQLType ()......	287
16.3.6.4.6	getSQLTypeName ()......	288
16.3.6.4.7	isValidMode (int).....	288
16.3.6.4.8	isValidSQLType (int).....	289
16.3.6.4.9	modeToString (int).....	289
16.3.6.4.10	SQLTypeToString (int).....	290
16.3.6.4.11	validateObject ()......	290
17	sqlj.runtime.profile.util.ProfileCustomizer.....	291
17.1	Interface overview.....	291
17.2	Methods.....	293
17.2.1	acceptsConnection (Connection).....	293
17.2.2	customize (Profile, Connection, ErrorLog).....	293
18	Status codes.....	295
18.1	SQLSTATE.....	295
19	Conformance.....	296
19.1	Claims of conformance to SQL/OLB.....	296
19.2	Additional conformance requirements for SQL/OLB.....	296
19.3	Implied feature relationships of SQL/OLB.....	296
Annex A	(informative) SQL conformance summary.....	297
Annex B	(informative) Implementation-defined elements.....	300
Annex C	(informative) Implementation-dependent elements.....	304
Annex D	(informative) SQL optional feature taxonomy.....	308
Annex E	(informative) Deprecated features.....	310
Annex F	(informative) Incompatibilities with ISO/IEC 9075:2016.....	311
Annex G	(informative) Defect Reports not addressed in this edition of this document.....	312
Bibliography		313

Index..... 314

This document is a preview generated by EVS

Tables

Table	Page
1 Association of roles with SQLJ <executable clause>s.	13
2 SQLJ type properties.	16
3 SQLJ output assignability (data type group 1).	23
4 SQLJ output assignability (data type group 2).	25
5 SQLJ output assignability (data type group 3).	26
6 SQLJ output assignability (data type group 4).	28
7 SQLJ input assignability (data type group 1).	30
8 SQLJ input assignability (data type group 2).	31
9 SQLJ input assignability (data type group 3).	33
10 SQLJ input assignability (data type group 4).	34
11 Methods retained from java.sql.ResultSet.	177
12 Methods not retained from java.sql.ResultSet.	177
13 Additional methods unique to ResultSet.	179
14 Methods retained from java.sql.Statement.	205
15 Methods not retained from java.sql.Statement.	206
16 Methods retained from java.sql.PreparedStatement.	206
17 Methods not retained from java.sql.PreparedStatement.	207
18 Methods retained from java.sql.CallableStatement.	208
19 Methods not retained from java.sql.CallableStatement.	208
20 Additional methods unique to PreparedStatement.	209
21 Customize Result Interpretation.	292
22 SQLSTATE class and subclass codes.	295
23 Implied feature relationships of SQL/OLB.	296
A.1 Feature definitions outside of Conformance Rules.	297
D.1 Feature taxonomy for optional features.	308

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

ISO and IEC draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO and IEC take no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO and IEC have not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents and <https://patents.iec.ch>. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

This fifth edition cancels and replaces the fourth edition (ISO/IEC 9075-10:2016), which has been technically revised. It also incorporates the Technical Corrigendum ISO/IEC 9075-10:2016/Cor.1:2022.

The main changes are as follows:

- improve the presentation and accuracy of the summaries of implementation-defined and implementation-dependent aspects of this document;
- introduction of several digital artifacts;
- alignment with updated ISO house style and other guidelines for creating standards.

This fifth edition of ISO/IEC 9075-10 is designed to be used in conjunction with the following editions of other parts of the ISO/IEC 9075 series, all published in 2023:

- ISO/IEC 9075-1, sixth edition;
- ISO/IEC 9075-2, sixth edition;
- ISO/IEC 9075-3, sixth edition;

- ISO/IEC 9075-4, seventh edition;
- ISO/IEC 9075-9, fifth edition;
- ISO/IEC 9075-11, fifth edition;
- ISO/IEC 9075-13, fifth edition;
- ISO/IEC 9075-14, sixth edition;
- ISO/IEC 9075-15, second edition;
- ISO/IEC 9075-16, first edition.

A list of all parts in the ISO/IEC 9075 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

The organization of this document is as follows:

- 1) **Clause 1, "Scope"**, specifies the scope of this document.
- 2) **Clause 2, "Normative references"**, identifies additional standards and publicly-available specifications that, through reference in this document, constitute provisions of this document.
- 3) **Clause 3, "Terms and definitions"**, defines the terms and definitions used in this document.
- 4) **Clause 4, "Concepts"**, presents concepts used in the definition of the Object Language Bindings.
- 5) **Clause 5, "Lexical elements"**, defines the lexical elements of the language.
- 6) **Clause 6, "Scalar expressions"**, defines the elements of the language that produce scalar values.
- 7) **Clause 7, "Additional common rules"**, specifies the rules for assignments that retrieve data from or store data into SQL-data, and formation rules for set operations.
- 8) **Clause 8, "Data manipulation"**, defines the data manipulation statements.
- 9) **Clause 9, "Control statements"**, defines the SQL-control statements.
- 10) **Clause 10, "Transaction management"**, defines the SQL-transaction management statements.
- 11) **Clause 11, "Embedded SQL"**, defines the host language embeddings.
- 12) **Clause 12, "SQLJ reserved names"**, defines the reserved names for SQLJ.
- 13) **Clause 13, "Common subelements"**, defines the commonly used subelements for SQLJ.
- 14) **Clause 14, "<SQLJ specific clause> and contents"**, defines the syntax and rules for SQLJ constructs.
- 15) **Clause 15, "Package sqlj.runtime"**, specifies the SQLJ runtime package.
- 16) **Clause 16, "Package sqlj.runtime.profile"**, specifies the SQLJ runtime profile package.
- 17) **Clause 17, "sqlj.runtime.profile.util.ProfileCustomizer"**, specifies the SQLJ profile customizer class.
- 18) **Clause 18, "Status codes"**, defines SQLSTATE values related to Object Language Bindings.
- 19) **Clause 19, "Conformance"**, defines the criteria for conformance to this document.
- 20) **Annex A, "SQL conformance summary"**, is an informative Annex. It summarizes the conformance requirements of the SQL language.
- 21) **Annex B, "Implementation-defined elements"**, is an informative Annex. It lists those features for which the body of this document states that the syntax, the meaning, the returned results, the effect on SQL-data and/or schemas, or other aspect is partly or wholly implementation-defined.
- 22) **Annex C, "Implementation-dependent elements"**, is an informative Annex. It lists those features for which the body of this document states that the syntax, the meaning, the returned results, the effect on SQL-data and/or schemas, or other aspect is partly or wholly implementation-dependent.
- 23) **Annex D, "SQL optional feature taxonomy"**, is an informative Annex. It identifies the optional features of the SQL language specified in this document by an identifier and a short descriptive name. This taxonomy is used to specify conformance.
- 24) **Annex E, "Deprecated features"**, is an informative Annex. It lists features that the responsible Technical Committee intends not to include in a future edition of this document.

- 25) [Annex F, “Incompatibilities with ISO/IEC 9075:2016”](#), is an informative Annex. It lists incompatibilities with the previous edition of this document.
- 26) [Annex G, “Defect Reports not addressed in this edition of this document”](#), is an informative Annex. It describes the Defect Reports that were known at the time of publication of this document. Each of these problems is a problem carried forward from the previous edition of the ISO/IEC 9075 series. No new problems have been created in the drafting of this edition of this document.

In the text of this document, Clauses and Annexes begin new odd-numbered pages. Any resulting blank space is not significant.

All Clauses of this document are normative.

Information technology — Database language SQL —

Part 10:

Object Language Bindings (SQL/OLB)

1 Scope

ISO/IEC 9075-2 specifies embedded SQL for the programming languages: Ada, C, COBOL, Fortran, MUMPS, Pascal, and PL/I. This document defines similar features of Database language SQL that support embedding of SQL-statements into programs written in the Java¹ programming language. The embedding of SQL into Java is commonly known as “SQLJ”. This document specifies the syntax and semantics of SQLJ, as well as mechanisms to ensure binary portability of resulting SQLJ applications. In addition, it specifies a number of Java packages and their contained classes (including methods).

Throughout this document, the terms “SQLJ” and “SQL/OLB” are used synonymously.

¹ Java™ is a registered trademark of Oracle Corporation and/or its affiliates.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 9075-1, *Information technology — Database languages — SQL — Part 1: Framework (SQL/Framework)*

ISO/IEC 9075-2, *Information technology — Database languages — SQL — Part 2: Foundation (SQL/Foundation)*

ISO/IEC 9075-4, *Information technology — Database languages — SQL — Part 4: Persistent Stored Modules (SQL/PSM)*

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