ISO/IEC 9075-11:2011-12 (E)

Information technology - Database languages - SQL - Part 11: Information and Definition Schemas (SQL/Schemata)

Contents

Page

Foreword ix

Introduction x

1 Scope 1

2 Normative references 3
2.1 ISO and IEC standards 3

3 Definitions, notations, and conventions 5
3.1 Conventions 5

4 Concepts 7
4.1 Introduction to the Definition Schema 7
4.2 Introduction to the Information Schema 8

5 Information Schema 9
5.1 INFORMATION_SCHEMA Schema 9
5.2 INFORMATION_SCHEMA_CATALOG_NAME base table 10
5.3 CARDINAL_NUMBER domain 11
5.4 CHARACTER_DATA domain 12
5.5 SQL_IDENTIFIER domain 13
5.6 TIME_STAMP domain 14
5.7 YES_OR_NO domain 15
5.8 ADMINISTRABLE_ROLE_AUTHORIZATIONS view 16
5.9 APPLICABLE_ROLES view 17
5.10 ASSERTIONS view 18
5.11 ATTRIBUTES view 19
5.12 CHARACTER_SETS view 21
5.13 CHECK_CONSTRAINT_ROUTINE_USAGE view 22
5.14 CHECK_CONSTRAINTS view 23
5.15 COLLATIONS view 24
5.16 COLLATION_CHARACTER_SET_APPLICABILITY view 25
5.17 COLUMN_COLUMN_USAGE view 26
5.18 COLUMN_DOMAIN_USAGE view 27
5.19 COLUMN_PRIVILEGES view 28
5.20 COLUMN_UDT_USAGE view 29
5.21 COLUMNS view 30
5.22 CONSTRAINT_COLUMN_USAGE view 33
5.23 CONSTAINT_PERIOD_USAGE view 35
5.24 CONSTRAINT_TABLE_USAGE view 37
5.25 DATA_TYPE_PRIVILEGES view 39
5.26 DIRECT_SUPERTABLES view 41
5.27 DIRECT_SUPERTYPES view 42
5.28 DOMAIN_CONSTRAINTS view 43
5.29 DOMAINS view 44
5.30 ELEMENT_TYPES view 46
5.31 ENABLED_ROLES view 48
5.32 FIELDS view 49
5.33 KEY_COLUMN_USAGE view 51
5.34 KEY_PERIOD_USAGE view 53
5.35 METHOD_SPECIFICATION_PARAMETERS view 54

5.36 METHOD_SPECIFICATIONS view ... 56
5.37 PARAMETERS view ... 59
5.38 PERIODS view ... 61
5.39 REFERENCED_TYPES view ... 63
5.40 REFERENTIAL_CONSTRAINTS view ... 64
5.41 ROLE_COLUMN_GRANTS view ... 65
5.42 ROLE_ROUTINE_GRANTS view ... 66
5.43 ROLE_TABLE_GRANTS view ... 67
5.44 ROLE_TABLE_METHOD_GRANTS view ... 68
5.45 ROLE_USAGE_GRANTS view ... 69
5.46 ROLE_UDT_GRANTS view ... 70
5.47 ROUTINE_COLUMN_USAGE view ... 71
5.48 ROUTINE_PERIOD_USAGE view ... 72
5.49 ROUTINE_PRIVILEGES view ... 73
5.50 ROUTINE_ROUTINE_USAGE view ... 74
5.51 ROUTINE_SEQUENCE_USAGE view ... 75
5.52 ROUTINE_TABLE_USAGE view ... 76
5.53 ROUTINES view ... 77
5.54 SCHEMATA view ... 80
5.55 SEQUENCES view ... 81
5.56 SQL_FEATURES view ... 82
5.57 SQL_IMPLEMENTATION_INFO view ... 83
5.58 SQL_PARTS view ... 84
5.59 SQL_SIZING view ... 85
5.60 TABLE_CONSTRAINTS view ... 86
5.61 TABLE_METHOD_PRIVILEGES view ... 87
5.62 TABLE_PRIVILEGES view ... 88
5.63 TABLES view ... 89
5.64 TRANSFORMS view ... 90
5.65 TRANSLATIONS view ... 91
5.66 TRIGGERED_UPDATE_COLUMNS view ... 92
5.67 TRIGGER_COLUMN_USAGE view ... 93
5.68 TRIGGER_PERIOD_USAGE view ... 94
5.69 TRIGGER_ROUTINE_USAGE view ... 95
5.70 TRIGGER_SEQUENCE_USAGE view ... 96
5.71 TRIGGER_TABLE_USAGE view ... 97
5.72 TRIGGERS view ... 98
5.73 UDT_PRIVILEGES view ... 100
5.74 USAGE_PRIVILEGES view ... 101
5.75 USER_DEFINED_TYPES view ... 102
5.76 VIEW_COLUMN_USAGE view ... 104
5.77 VIEW_PERIOD_USAGE view ... 105
5.78 VIEW_ROUTINE_USAGE view ... 106
5.79 VIEW_TABLE_USAGE view ... 107
5.80 VIEWS view ... 108
5.81 Short name views ... 109

6 Definition Schema ... 129
6.1 DEFINITION_SCHEMA Schema ... 129
6.2 EQUAL_KEY_DEGREES assertion ... 130
6.3 KEY_DEGREE_GREATER_THAN_OR_EQUAL_TO_1 assertion ... 131
6.4 UNIQUE_CONSTRAINT_NAME assertion ... 132
6.5 ASSERTIONS base table ... 133
6.6 ATTRIBUTES base table ... 135
6.7 AUTHORIZATIONS base table ... 137
6.8 CATALOG_NAME base table ... 138
6.9 CHARACTER_ENCODING_FORMS base table ... 139
6.10 CHARACTER_REPERTOIRES base table ... 140
6.11 CHARACTER_SETS base table ... 141
6.12 CHECK_COLUMN_USAGE base table ... 143
6.13 CHECK_CONSTRAINT_ROUTINE_USAGE base table ... 144
6.14 CHECK_CONSTRAINTS base table ... 145

6.15 CHECK_PERIOD_USAGE base table 146
6.16 CHECK_TABLE_USAGE base table 147
6.17 COLLATIONS base table 148
6.18 COLLATION_CHARACTER_SET_APPLICABILITY base table 149
6.19 COLUMN_COLUMN_USAGE base table 150
6.20 COLUMN_PRIVILEGES base table 151
6.21 COLUMNS base table 153
6.22 DATA_TYPE_DESCRIPTOR base table 158
6.23 DIRECT_SUPERTABLES base table 168
6.24 DIRECT_SUPERTYPES base table 170
6.25 DOMAIN_CONSTRAINTS base table 172
6.26 DOMAINS base table 174
6.27 ELEMENT_TYPES base table 175
6.28 FIELDS base table 177
6.29 KEY_COLUMN_USAGE base table 179
6.30 KEY_PERIOD_USAGE base table 181
6.31 METHOD_SPECIFICATION_PARAMETERS base table 183
6.32 METHOD_SPECIFICATIONS base table 185
6.33 PARAMETERS base table 190
6.34 PERIODS base table 193
6.35 REFERENCED_TYPES base table 194
6.36 REFERENTIAL_CONSTRAINTS base table 196
6.37 ROLE_AUTHORIZATION_DESCRIPTORS base table 199
6.38 ROUTINE_COLUMN_USAGE base table 201
6.39 ROUTINE_PERIOD_USAGE base table 202
6.40 ROUTINE_PRIVILEGES base table 203
6.41 ROUTINE_ROUTINE_USAGE base table 205
6.42 ROUTINE_SEQUENCE_USAGE base table 206
6.43 ROUTINE_TABLE_USAGE base table 207
6.44 ROUTINES base table 208
6.45 SCHEMATA base table 215
6.46 SEQUENCES base table 217
6.47 SQL_CONFORMANCE base table 219
6.48 SQL_IMPLEMENTATION_INFO base table 221
6.49 SQL_SIZING base table 222
6.50 TABLE_CONSTRAINTS base table 223
6.51 TABLE_METHOD_PRIVILEGES base table 226
6.52 TABLE_PRIVILEGES base table 228
6.53 TABLES base table 231
6.54 TRANSFORMS base table 235
6.55 TRANSLATIONS base table 237
6.56 TRIGGERED_UPDATE_COLUMNS base table 239
6.57 TRIGGER_COLUMN_USAGE base table 240
6.58 TRIGGER_PERIOD_USAGE base table 241
6.59 TRIGGER_ROUTINE_USAGE base table 242
6.60 TRIGGER_SEQUENCE_USAGE base table 243
6.61 TRIGGER_TABLE_USAGE base table 244
6.62 TRIGGERS base table 245
6.63 USAGE_PRIVILEGES base table 248
6.64 USER_DEFINED_TYPE_PRIVILEGES base table 250
6.65 USER_DEFINED_TYPES base table 252
6.66 VIEW_COLUMN_USAGE base table 256
6.67 VIEW_PERIOD_USAGE base table 257
6.68 VIEW_ROUTINE_USAGE base table 258
6.69 VIEW_TABLE_USAGE base table 259
6.70 VIEWS base table 260

7 Conformance 263
7.1 Claims of conformance to SQL/Schemata 263
7.2 Additional conformance requirements for SQL/Schemata 263
7.3 Implied feature relationships of SQL/Schemata 263

Annex A (informative) SQL Conformance Summary **265**

Annex B (informative) Implementation-defined elements **287**

Annex C (informative) Implementation-dependent elements **289**

Annex D (informative) Deprecated features **291**

Annex F (informative) SQL feature taxonomy **295**

Index **301**

Tables

Table

Page

1 Implied feature relationships of SQL/Schemata. 263
2 Feature taxonomy and definition for mandatory features. 296
3 Feature taxonomy for optional features. 297