

MYSQL

IN A NUTSHELL

Russell J.T. Dyer

O'REILLY'

Beijing • Cambridge • Farnham • Koln • Paris • Sebastopol • Taipei • Tokyo

Table of Contents

Preface.....	.xxi
1. Introduction to MySQL.....	1
The Value of MySQL	1
The MySQL Package	2
Licensing	3
Mailing Lists	3
Books and Other Publications	4
2. Installing MySQL.....	5
Choosing a Distribution	5
Unix Source Distributions	6
Unix Binary Distributions	8
Linux RPM Distributions	9
Macintosh OS X Distributions	10
Novell NetWare Distributions	11
Windows Distributions	12
Postinstallation	13
3. MySQL Basics.....	16
The mysql Client	16
Creating a Database and Tables	17
Show Me	19
Inserting Data	20
Selecting Data	21
Ordering, Limiting, and Grouping	22

Analyzing and Manipulating Data	23
Changing Data	25
Deleting Data	26
Searching Data	27
Importing Data in Bulk	28
Command-Line Interface	30
Conclusion	31
4. SQLStatements.	32
Statements Grouped by Type	32
Statements and Clauses in Alphabetical Order	33
ALTER DATABASE	34
ALTER TABLE	34
ALTER VIEW	38
ANALYZE TABLE	39
BACKUP TABLE	39
CACHE INDEX	40
CHANGE MASTER TO	40
CHECK TABLE	41
CHECKSUM TABLE	42
COMMIT	42
CREATE DATABASE	43
CREATE INDEX	43
CREATE TABLE	44
CREATE VIEW	49
DELETE	50
DESCRIBE	51
DO	52
DROP DATABASE	52
DROP INDEX	52
DROP TABLE	53
DROP USER	53
DROP VIEW	54
EXPLAIN	54
FLUSH	54
GRANT	55
HANDLER	57
INSERT	59
JOIN	62
KILL	64
LOAD DATA FROM MASTER	64

LOAD DATA INFILE	65
LOAD INDEX INTO CACHE	66
LOAD TABLE...FROM MASTER	66
LOCK TABLES	67
OPTIMIZE TABLE	67
PURGE MASTER LOGS	68
RENAME TABLE	68
REPAIR TABLE	69
REPLACE	70
RESET	71
RESET MASTER	71
RESET SLAVE	71
RESTORE TABLE	72
REVOKE	72
ROLLBACK	73
ROLLBACK TO SAVEPOINT	73
SAVEPOINT	73
SELECT	74
SET	80
SET PASSWORD	81
SET SQL_LOG_BIN	81
SET TRANSACTION	81
SHOW BINLOG EVENTS	82
SHOW CHARACTER SET	82
SHOW COLLATION	83
SHOW COLUMNS	83
SHOW CREATE DATABASE	84
SHOW CREATE TABLE	84
SHOW CREATE VIEW	85
SHOW DATABASES	85
SHOW ENGINES	85
SHOW ERRORS	85
SHOW GRANTS	86
SHOW INDEX	86
SHOW INNODB STATUS	87
SHOW LOGS	87
SHOW MASTER LOGS	87
SHOW MASTER STATUS	88
SHOW PRIVILEGES	88
SHOW PROCESSLIST	88
SHOW SLAVE HOSTS	89

SHOW SLAVE STATUS	89
SHOW STATUS	90
SHOW TABLE STATUS	90
SHOW TABLES	91
SHOW VARIABLES	91
SHOW WARNINGS	92
START SLAVE	92
START TRANSACTION	92
STOP SLAVE	93
TRUNCATE TABLE	93
UNION	93
UNLOCK TABLES	94
USE	94
5. String Functions.....	95
String Functions Grouped by Type	95
String Functions in Alphabetical Order	96
AES_DECRYPT()	96
AES_ENCRYPT()	96
ASCII()	97
BINQ	97
BINARY	97
BIT_LENGTH()	98
CHARO	98
CHAR_LENGTH()	98
CHARACTER_LENGTH()	99
COMPRESSO	99
CONCATO	99
CONCAT_WS()	100
CONV()	100
DECODEO	100
DES_DECRYPT()	101
DES_ENCRYPT()	101
ELT()	101
ENCODEO	102
ENCRYPTO	102
EXPORT_SET()	102
FIELDO	103
FIND_IN_SET()	103
HEX()	103
INET_ATON()	104

INET_NTOA()	104
INSERTO	104
INSTRO	105
LCASEO	105
LEFT()	105
LENGTHO	106
LOAD_FILE()	106
LOCATEO	106
LOWERO	107
LPADO	107
LTRIMO	107
MAKE_SET()	108
MATCH () AGAINST()	108
MD5()	108
MID()	109
OCT()	109
OCTET_LENGTH()	109
OLD_PASSWORD()	109
ORD()	110
PASSWORDO	110
POSITIONO	110
QUOTE()	111
REPEATO	111
REPLACEO	111
REVERSEO	111
RIGHTO	112
RPAD()	112
RTRIM()	112
SHA()	113
SHAK)	113
SOUNDEXO	113
SPACEO	113
STRCMPO	114
SUBSTRINGO	114
SUBSTRING_INDEX()	114
TRIM()	115
UCASE()	115
UNCOMPRESSO	116
UNCOMPRESSED_LENGTH()	116
UNHEXO	116
UPPERO	116

6. Date and Time Functions	117
Date and Time Functions Grouped by Type	118
Determining the Date and Time	118
Extracting and Formatting the Date and Time	118
Calculating and Modifying the Date and Time	118
Date and Time Functions in Alphabetical Order	118
ADDDATEO	118
ADDTIMEO	119
CONVERT_TZ()	119
CURDATE()	120
CURRENT_DATE()	120
CURRENT_TIME()	120
CURRENT_TIMESTAMP()	121
CURTIMEQ	121
DATE()	121
DATE_ADD()	122
DATE_FORMAT()	122
DATE_SUB()	124
DATEDIFFO	124
DAY()	124
DAYNAMEO	125
DAYOFMONTHO	125
DAYOFWEEKO	125
DAYOFYEARQ	126
EXTRACTO	126
FROM_DAYS()	126
FROM_UNIXTIME()	127
GET_FORMAT()	127
HOURO	128
LAST_DAY()	129
LOCALTIMEO	129
LOCALTIMESTAMPO	129
MAKEDATEO	130
MAKETIMEO	130
MICROSECOND()	130
MINUTEO	131
MONTH()	131
MONTHNAMEO	131
NOW()	132
PERIOD_ADD()	132
PERIOD_DIFF()	133

QUARTER!)	133
SEC_TO_TIME()	134
SECONDQ	135
STR_TO_DATE()	135
SUBDATEO	135
SUBTIMEO	136
SYSDATEO	136
TIME()	137
TIMEDIFFO	137
TIMESTAMPO	137
TIMESTAMPDIFFO	138
TIMESTAMPADDO	138
TIME_FORMAT()	138
TIME_TO_SEC()	139
TO_DAYS()	139
UNIX_TIMESTAMP()	139
UTC_DATE()	140
UTC_TIME()	140
UTC_TIMESTAMP()	140
WEEK()	141
WEEKDAYO	141
WEEKOFYEARO	142
YEAR()	142
YEARWEEKO	142
7. Mathematical and Aggregate Functions	143
Functions in Alphabetical Order	143
ABSO	143
ACOS()	144
ASINO	144
ATAN()	144
ATAN2()	144
AVG()	145
BIT_AND()	145
BIT_OR()	145
BIT_XOR()	145
CEIL()	145
CEILINGO	146
COS()	146
COT()	146
COUNTO	146

CRC32Q	147
DEGREESQ	147
EXP()	147
FLOORO	148
FORMATO	148
GREATESTQ	148
GROUP_CONCAT()	148
LEAST()	149
LN()	149
LOGO	150
LOG2()	150
LOG100	150
MAX()	150
MIN()	150
MOD()	151
PI()	151
POW()	151
POWER()	152
RADIANSO	152
RAND()	152
ROUNDQ	152
SIGN()	153
SIN()	153
SQRT()	153
STD()	154
STDDEVO	154
SUM()	154
TAN()	154
TRUNCATEQ	154
VARIANCEO	155
8. Flow Control Functions.	156
Functions in Alphabetical Order	156
CASE()	156
IF()	157
IFNULLO	158
NULLIFO	159
9. Miscellaneous Functions.	160
Functions in Alphabetical Order	160
ANALYSEO	160

BENCHMARKO	161
BIT_COUNT()	161
CASTO	162
CHARSETQ	162
COALESCEO	162
COERCIBILITYO	162
COLLATIONQ	163
CONNECTION_ID()	163
CONVERTO	163
CURRENT_USER()	163
DATABASEQ	164
FOUND_ROWS()	164
GET_LOCK()	164
INTERVALO	165
IS_FREE_LOCK()	165
IS_USED_LOCK()	165
ISNULLO	166
LAST_INSERT_ID()	166
MASTER_POS_WAIT()	166
RELEASE_LOCK()	167
SESSIONJJSERQ	167
SYSTEM_USER()	167
USER()	167
UUID()	168
VERSIONO	168
10. MySQL Server and Client	169
mysql	169
mysqld	171
mysqld_multi	177
mysqld_safe	178
11. Command-Line Utilities	180
comp_err	180
isamchk	181
make_binary_distribution	181
msql2mysql	181
my_print_defaults	181
myisamchk	182
myisamlog	185
myisampack	186

mysqlaccess	186
mysqladmin	189
mysqlbinlog	191
mysqlbug	192
mysqlcheck	193
mysqldump	194
mysqldumpslow	198
mysqlhotcopy	199
mysqlimport	200
mysqlshow	202
perror	203
12. Perl API.....	204
Using Perl DBI with MySQL	204
Perl DBI Method and Function Reference	208
available_drivers()	209
begin_work()	209
bind_col()	209
bind_columns()	209
bind_param()	210
bind_param_array()	210
bind_param_inout()	211
can()	211
clone()	211
column_info()	211
commitO	211
connectQ	211
connect_cached()	212
data_sour	ces
disconnect)	()
do()	212
dump_results	213
err()	213
errstr()	214
execute()	214
execute_array	214
execute_for_fetch ()	215
fetch()	215
fetchall_arrayref ()	215
fetchall_hashref()	215
fetchrow_array ()	216

fetchrow_arrayref ()	216
fetchrow_hashref ()	216
finishQ	217
foreign_key_info ()	217
func()	217
get_info()	217
installed_versions()	217
last_insert_id ()	218
looks_like_number()	218
neat()	218
neat_list()	218
parse_dsn()	219
parse_trace_flag()	219
parse_trace_flags ()	219
pingO	219
prepare()	219
prepare_cached()	220
primary_key()	220
primary_key_info()	220
quote	220
quote_identifier()	221
rollbackO	221
rows()	221
selectall_arrayref()	222
selectall_hashref ()	222
selectcol_arrayref ()	222
selectrow_array()	223
selectrow_arrayref ()	223
selectrow_hashref ()	224
set_err()	224
state()	224
table_info()	224
table_info_all()	225
tablesO	225
trace	225
trace_msg()	225
type_info()	225
type__info_all()	225
Attributes for Handles	226

13. PHP API	230
Using PHP with MySQL	230
PHP MySQL Functions in Alphabetical Order	232
mysql_affected_rows()	232
mysql_change_user()	233
mysql_client_encoding()	233
mysql_close()	233
mysql_connect()	234
mysql_create_db()	235
mysql_data_seek()	235
mysql_db_name()	236
mysql_db_query()	237
mysql_drop_db()	237
mysql_errno()	237
mysql_error()	238
mysql_escape_string()	238
mysql_fetch_array()	238
mysql_fetch_assoc()	239
mysql_fetch_field()	239
mysql_fetch_lengths()	240
mysql_fetch_object()	241
mysql_fetch_row()	241
mysql_field_flags()	242
mysql_field_len()	243
mysql_field_name()	243
mysql_field_seek()	244
mysql_field_table()	244
mysql_field_type()	245
mysql_free_result()	245
mysql_get_client_info()	245
mysql_get_host_info()	246
mysql_get_proto_info()	246
mysql_get_server_info()	246
mysql_info()	246
mysql_insert_id()	247
mysql_list_dbs()	247
mysql_list_fields()	247
mysql_list_processes()	248
mysql_list_tables()	248
mysql_num_fields()	249
mysql_num_rows()	249
mysql_pconnect()	249

mysql_ping()	250
mysql_query()	250
mysql_real_escape_string()	251
mysql_result()	251
mysql_select_db()	251
mysql_stat()	252
mysql_tablename()	252
mysql_thread_id()	252
mysql_unbuffered_query()	253
14. C API.....	254
Using C with MySQL	254
Functions in Alphabetical Order	257
mysql_affected_rows()	257
mysql_autocommit()	257
mysql_change_user()	258
mysql_character_set_name()	258
mysql_close()	258
mysql_commit()	259
mysql_connect()	259
mysql_create_db()	260
mysql_data_seek()	260
mysql_debug()	260
mysql_drop_db	261
mysql_dump_debug_info()	261
mysql_eof()	261
mysql_errno	261
mysql_error()	262
mysql_escape_string()	262
mysql_fetch_field()	263
mysql_fetch_field_direct()	263
mysql_fetch_fields()	264
mysql_fetch_lengths()	264
mysql_fetch_row()	265
mysql_field_count()	265
mysql_field_seek()	266
mysql_field_tell()	266
mysql_free_result()	267
mysql_get_client_info()	267
mysql_get_client_version()	267
mysql_get_host_info()	267
mysql_get_proto_info()	268

mysql_get_server_info()	268
mysql_get_server_version()	268
mysql_info()	269
mysql_init()	269
mysql_insert_id()	270
mysql_kill()	270
mysql_list_dbs()	270
mysql_list_fields()	271
mysql_list_processes()	271
mysql_list_tables()	272
mysql_more_results()	272
mysql_next_result()	272
mysql_num_fields()	273
mysql_num_rows()	273
mysql_options()	273
mysql_ping()	274
mysql_query()	275
mysql_real_connect()	275
mysql_real_escape_string()	277
mysql_real_query()	277
mysql_reload()	278
mysql_rollback()	278
mysql_row_seek()	278
mysql_row_tell()	279
mysql_select_db()	279
mysql_set_server_option()	280
mysql_shutdown()	280
mysql_sqlstate()	280
mysql_stat()	280
mysql_store_result()	281
mysql_thread_id()	281
mysql_thread_safe()	281
mysql_use_result()	282
mysql_warning_count()	282
C API Datatypes	283
A. Datatypes.....	285
B. Operators.....	290
C. Environment Variables.....	293
Index.....	295