
PyStratum MySQL MariaDB Documentation

P.R. Water

Jul 08, 2022

Contents:

1	Licence	3
2	API	5
2.1	pystratum_mysql package	5
	Python Module Index	21
	Index	23

A stored procedure and function loader and wrapper generator for MySQL and MariaDB Python.

CHAPTER 1

Licence

This project is licensed under the terms of the [MIT-licence](#).

2.1 pystratum_mysql package

2.1.1 Subpackages

pystratum_mysql.backend package

Submodules

pystratum_mysql.backend.MySqlBackend module

class pystratum_mysql.backend.MySqlBackend.**MySqlBackend**

Bases: pystratum_backend.Backend.Backend

PyStratum Backend for MySQL & MariaDB.

create_constant_worker (*config*: configparser.ConfigParser, *io*: pystratum_backend.StratumStyle.StratumStyle) → Optional[pystratum_backend.ConstantWorker.ConstantWorker]

Creates the object that does the actual execution of the constant command for the backend.

Parameters

- **config** (*ConfigParser*) – The settings from the PyStratum configuration file.
- **io** (*StratumStyle*) – The output object.

Return type ConstantWorker|None

create_routine_loader_worker (*config*: configparser.ConfigParser, *io*: pystratum_backend.StratumStyle.StratumStyle) → Optional[pystratum_backend.RoutineLoaderWorker.RoutineLoaderWorker]

Creates the object that does the actual execution of the routine loader command for the backend.

Parameters

- **config** (*ConfigParser*) – The settings from the PyStratum configuration file.
- **io** (*StratumStyle*) – The output object.

Return type RoutineLoaderWorker|None

create_routine_wrapper_generator_worker (*config: configparser.ConfigParser, io: pystratum_backend.StratumStyle.StratumStyle*) →

Optional[pystratum_backend.RoutineWrapperGeneratorWorker.Rout

Creates the object that does the actual execution of the routine wrapper generator command for the backend.

Parameters

- **config** (*ConfigParser*) – The settings from the PyStratum configuration file.
- **io** (*StratumStyle*) – The output object.

Return type RoutineWrapperGeneratorWorker|None

pystratum_mysql.backend.MySqlConstantWorker module

class pystratum_mysql.backend.MySqlConstantWorker.**MySqlConstantWorker** (*io: pystratum_backend.StratumStyle.StratumStyle, config: configparser.ConfigParser*)

Bases: *pystratum_mysql.backend.MySqlWorker.MySqlWorker*, *pystratum_common.backend.CommonConstantWorker.CommonConstantWorker*

Class for creating constants based on column widths, and auto increment columns and labels for MySQL databases.

static derive_field_length (*column: Dict[str, Any]*) → Optional[int]
Returns the width of a field based on column.

Parameters **column** (*dict*) – The column of which the field is based.

Return type int|None

pystratum_mysql.backend.MySqlRoutineLoaderWorker module

class pystratum_mysql.backend.MySqlRoutineLoaderWorker.**MySqlRoutineLoaderWorker** (*io: pystratum_backend.StratumStyle.StratumStyle, config: configparser.ConfigParser*)

Bases: *pystratum_mysql.backend.MySqlWorker.MySqlWorker*, *pystratum_common.backend.CommonRoutineLoaderWorker.CommonRoutineLoaderWorker*

Class for loading stored routines into a MySQL instance from (pseudo) SQL files.

MAX_LENGTH_BINARY = 255

Maximum length of a varbinary.

MAX_LENGTH_CHAR = 255

Maximum length of a varchar.

MAX_LENGTH_VARBINARY = 4096

Maximum length of a varbinary.

MAX_LENGTH_VARCHAR = 4096

Maximum length of a varchar.

create_routine_loader_helper (*routine_name*: *str*, *pystratum_old_metadata*:
Optional[Dict[KT, VT]], *rdbms_old_metadata*:
Optional[Dict[KT, VT]]) → *pystratum_mysql.helper.MySqlRoutineLoaderHelper.MySqlRoutineLoaderHelper*

Creates a Routine Loader Helper object.

Parameters

- **routine_name** (*str*) – The name of the routine.
- **pystratum_old_metadata** (*dict*) – The old metadata of the stored routine from PyStratum.
- **rdbms_old_metadata** (*dict*) – The old metadata of the stored routine from MySQL.

Return type *MySqlRoutineLoaderHelper*

pystratum_mysql.backend.MySqlRoutineWrapperGeneratorWorker module

class *pystratum_mysql.backend.MySqlRoutineWrapperGeneratorWorker*.**MySqlRoutineWrapperGenerat**

Bases: *pystratum_mysql.backend.MySqlWorker.MySqlWorker*,
pystratum_common.backend.CommonRoutineWrapperGeneratorWorker,
CommonRoutineWrapperGeneratorWorker

Class for generating a class with wrapper methods for calling stored routines in a MySQL database.

pystratum_mysql.backend.MySqlWorker module

class *pystratum_mysql.backend.MySqlWorker*.**MySqlWorker** (*io*: *pystratum_backend.StratumStyle.StratumStyle*,
config: *configparser.ConfigParser*)

Bases: *object*

connect () → None

Connects to the database.

disconnect () → None
Disconnects from the database.

Module contents

pystratum_mysql.helper package

Submodules

pystratum_mysql.helper.MySqlDataTypeHelper module

class pystratum_mysql.helper.MySqlDataTypeHelper.**MySqlDataTypeHelper**
Bases: pystratum_common.helper.DataTypeHelper.DataTypeHelper

Utility class for deriving information based on a MySQL data type.

column_type_to_python_type (*data_type_info: Dict[str, Any]*) → str
Returns the corresponding Python data type of a MySQL data type.

Parameters *data_type_info* (*dict*) – The MySQL data type metadata.

Return type str

column_type_to_python_type_hint (*data_type_info: Dict[str, Any]*) → str
Returns the corresponding Python data type hinting of a MySQL data type.

Parameters *data_type_info* (*dict*) – The MySQL data type metadata.

Return type str

pystratum_mysql.helper.MySqlRoutineLoaderHelper module

```
class pystratum_mysql.helper.MySqlRoutineLoaderHelper.MySqlRoutineLoaderHelper (io:
    py-
    s-
    tra-
    tum_backend.Stru-
    dl:
    py-
    s-
    tra-
    tum_mysql.MySql-
    rou-
    tine_filename:
    str,
    rou-
    tine_file_encoding:
    str,
    py-
    s-
    tra-
    tum_old_metadata:
    Op-
    tional[Dict[KT,
    VT]],
    re-
    place_pairs:
    Dict[str,
    Any],
    rdbms_old_metadata:
    Op-
    tional[Dict[KT,
    VT]],
    sql_mode:
    str,
    char-
    ac-
    ter_set:
    str,
    col-
    late:
    str)
```

Bases: `pystratum_common.helper.RoutineLoaderHelper.RoutineLoaderHelper`

Class for loading a single stored routine into a MySQL instance from a (pseudo) SQL file.

Module contents

pystratum_mysql.wrapper package

Submodules

pystratum_mysql.wrapper.MySqlBulkWrapper module

class pystratum_mysql.wrapper.MySqlBulkWrapper.**MySqlBulkWrapper** (*routine:*
Dict[str, Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.BulkWrapper.BulkWrapper`

Wrapper method generator for stored procedures with large result sets.

pystratum_mysql.wrapper.MySqlFunctionsWrapper module

class pystratum_mysql.wrapper.MySqlFunctionsWrapper.**MySqlFunctionsWrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.FunctionsWrapper.FunctionsWrapper`

Wrapper method generator for stored functions.

pystratum_mysql.wrapper.MySqlLogWrapper module

class pystratum_mysql.wrapper.MySqlLogWrapper.**MySqlLogWrapper** (*routine:*
Dict[str, Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.LogWrapper.LogWrapper`

Wrapper method generator for stored procedures with designation type log.

pystratum_mysql.wrapper.MySqlMultiWrapper module

class pystratum_mysql.wrapper.MySqlMultiWrapper.**MySqlMultiWrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.MultiWrapper.MultiWrapper`

Wrapper method generator for stored procedures with designation type multi.

pystratum_mysql.wrapper.MySqlNoneWrapper module

class pystratum_mysql.wrapper.MySqlNoneWrapper.**MySqlNoneWrapper** (*routine:*
Dict[str, Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.NoneWrapper.NoneWrapper`

`wrapper.NoneWrapper.NoneWrapper`

Wrapper method generator for stored procedures without any result set.

pystratum_mysql.wrapper.MySqlRow0Wrapper module

class `pystratum_mysql.wrapper.MySqlRow0Wrapper`.**MySqlRow0Wrapper** (*routine:*
Dict[str, Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.Row0Wrapper.Row0Wrapper`

Wrapper method generator for stored procedures that are selecting 0 or 1 row.

pystratum_mysql.wrapper.MySqlRow1Wrapper module

class `pystratum_mysql.wrapper.MySqlRow1Wrapper`.**MySqlRow1Wrapper** (*routine:*
Dict[str, Any],
lob_as_string_flag:
bool)

Bases: `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`, `pystratum_common.wrapper.Row1Wrapper.Row1Wrapper`

Wrapper method generator for stored procedures that are selecting 1 row.

pystratum_mysql.wrapper.MySqlRowsWithIndexWrapper module

class `pystratum_mysql.wrapper.MySqlRowsWithIndexWrapper`.**MySqlRowsWithIndexWrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: `pystratum_common.wrapper.RowsWithIndexWrapper.RowsWithIndexWrapper`,
`pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`

Wrapper method generator for stored procedures whose result set must be returned using tree structure using a combination of non-unique columns.

pystratum_mysql.wrapper.MySqlRowsWithKeyWrapper module

class `pystratum_mysql.wrapper.MySqlRowsWithKeyWrapper`.**MySqlRowsWithKeyWrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: `pystratum_common.wrapper.RowsWithKeyWrapper.RowsWithKeyWrapper`,
`pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`

Wrapper method generator for stored procedures whose result set must be returned using tree structure using a combination of unique columns.

pystratum_mysql.wrapper.MySqlRowsWrapper module

class pystratum_mysql.wrapper.MySqlRowsWrapper.**MySqlRowsWrapper** (*routine:*
Dict[str, Any],
lob_as_string_flag:
bool)

Bases: *pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper*, *pystratum_common.wrapper.RowsWrapper.RowsWrapper*

Wrapper method generator for stored procedures that are selecting 0, 1, or more rows.

pystratum_mysql.wrapper.MySqlSingleton0Wrapper module

class pystratum_mysql.wrapper.MySqlSingleton0Wrapper.**MySqlSingleton0Wrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: *pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper*, *pystratum_common.wrapper.Singleton0Wrapper.Singleton0Wrapper*

Wrapper method generator for stored procedures that are selecting 0 or 1 row with one column only.

pystratum_mysql.wrapper.MySqlSingleton1Wrapper module

class pystratum_mysql.wrapper.MySqlSingleton1Wrapper.**MySqlSingleton1Wrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: *pystratum_common.wrapper.Singleton1Wrapper.Singleton1Wrapper*, *pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper*

Wrapper method generator for stored procedures that are selecting 1 row with one column only.

pystratum_mysql.wrapper.MySqlTableWrapper module

class pystratum_mysql.wrapper.MySqlTableWrapper.**MySqlTableWrapper** (*routine:*
Dict[str,
Any],
lob_as_string_flag:
bool)

Bases: *pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper*, *pystratum_common.wrapper.TableWrapper.TableWrapper*

Wrapper method generator for printing the result set of stored procedures in a table format.

pystratum_mysql.wrapper.MySqlWrapper module

class pystratum_mysql.wrapper.MySqlWrapper.**MySqlWrapper** (*routine:* *Dict[str, Any],*
lob_as_string_flag: bool)

Bases: *pystratum_common.wrapper.Wrapper.Wrapper*, *abc.ABC*

Parent class for wrapper method generators for stored procedures and functions.

is_lob_parameter (*parameters: List[Dict[str, Any]]*) → bool
Returns True if one of the parameters is a BLOB or CLOB. Otherwise, returns False.

Parameters *parameters* – The parameters of a stored routine.

Return type bool:

Module contents

`pystratum_mysql.wrapper.create_routine_wrapper` (*routine: Dict[str, Any], lob_as_string_flag: bool*) → `pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper`

A factory for creating the appropriate object for generating a wrapper method for a stored routine.

Parameters

- **routine** (*dict[str, str]*) – The metadata of the stored routine.
- **lob_as_string_flag** (*bool*) – If True BLOBs and CLOBs must be treated as strings.

Return type *MySqlWrapper*

2.1.2 Submodules

2.1.3 pystratum_mysql.MySqlConnector module

class `pystratum_mysql.MySqlConnector.MySqlConnector`

Bases: `object`

Interface for classes for connecting to a MySQL instances.

connect () → `mysql.connector.connection.MySQLConnection`
Connects to the MySQL instance.

disconnect () → None
Disconnects from the MySQL instance.

is_alive () → bool
Returns whether Python is (still) connected to a MySQL or MariaDB instance.

Return type bool

2.1.4 pystratum_mysql.MySqlDataLayer module

class `pystratum_mysql.MySqlDataLayer.MySqlDataLayer` (*connector: pystratum_mysql.MySqlConnector.MySqlConnector*)

Bases: `object`

Class for connecting to a MySQL instance and executing SQL statements. Also, a parent class for classes with static wrapper methods for executing stored procedures and functions.

commit () → None
Commits the current transaction. See <https://dev.mysql.com/doc/connector-python/en/connector-python-api-mysqlconnection-commit.html>

connect () → None
Connects to a MySQL instance. See <https://dev.mysql.com/doc/connector-python/en/connector-python-connectargs.html> for a complete overview of all possible keys in config.

connect_if_not_alive () → None

Connects or reconnects to the MySQL or MariaDB instance when Python is not (longer) connected to a MySQL or MariaDB instance. See <https://dev.mysql.com/doc/connector-python/en/connector-python-connectargs.html> for a complete overview of all possible keys in config.

disconnect () → None

Disconnects from the MySQL instance. See <https://dev.mysql.com/doc/connector-python/en/connector-python-api-mysqlconnection-disconnect.html>.

execute_multi (sql: str) → None

Executes a multi query that does not select any rows.

Parameters **sql** (str) – The SQL statements.

execute_none (sql: str, *params) → int

Executes a query that does not select any rows. Returns the number of affected rows.

Parameters

- **sql** (str) – The SQL statement.
- **params** (iterable) – The values for the statement.

Return type int

execute_rows (sql: str, *params) → List[Dict[str, Any]]

Executes a query that selects 0 or more rows. Returns the selected rows (an empty list if no rows are selected).

Parameters

- **sql** (str) – The SQL statement.
- **params** (iterable) – The arguments for the statement.

Return type list[dict[str,*]]

execute_singleton1 (sql: str, *params) → Any

Executes SQL statement that selects 1 row with 1 column. Returns the value of the selected column.

Parameters

- **sql** (str) – The SQL calling the stored procedure.
- **params** (iterable) – The arguments for the stored procedure.

Return type *:

execute_sp_bulk (bulk_handler: pystratum_middle.BulkHandler.BulkHandler, sql: str, *params) → int

Executes a stored routine with designation type “bulk”. Returns the number of rows processed.

Parameters

- **bulk_handler** (BulkHandler) – The bulk handler for processing the selected rows.
- **sql** (str) – The SQL statement for calling the stored routine.
- **params** (iterable) – The arguments for calling the stored routine.

Return type int

execute_sp_log (sql: str, *params) → int

Executes a stored routine with designation type “log”. Returns the number of log messages.

Parameters

- **sql** (str) – The SQL statement for calling the stored routine.

- **params** (*iterable*) – The arguments for calling the stored routine.

Return type `int`

execute_sp_multi (*sql: str, *params*) → List[List[Dict[str, Any]]]

Executes a stored routine with designation type “multi”. Returns a list of the result sets.

Parameters

- **sql** (*str*) – The SQL statement for calling the stored routine.
- **params** (*iterable*) – The arguments for calling the stored routine.

Return type `list[list[dict[str,*]]]`

execute_sp_none (*sql: str, *params*) → int

Executes a stored routine that does not select any rows. Returns the number of affected rows.

Parameters

- **sql** (*str*) – The SQL calling the stored procedure.
- **params** (*iterable*) – The arguments for the stored procedure.

Return type `int`

execute_sp_row0 (*sql: str, *params*) → Optional[Dict[str, Any]]

Executes a stored procedure that selects 0 or 1 row. Returns the selected row or None.

Parameters

- **sql** (*str*) – The SQL call the the stored procedure.
- **params** (*iterable*) – The arguments for the stored procedure.

Return type `Noneldict[str,*]`

execute_sp_row1 (*sql: str, *params*) → Dict[str, Any]

Executes a stored procedure that selects 1 row. Returns the selected row.

Parameters

- **sql** (*str*) – The SQL calling the the stored procedure.
- **params** (*iterable*) – The arguments for the stored procedure.

Return type `dict[str,*]`

execute_sp_rows (*sql: str, *params*) → List[Dict[str, Any]]

Executes a stored procedure that selects 0 or more rows. Returns the selected rows (an empty list if no rows are selected).

Parameters

- **sql** (*str*) – The SQL statement.
- **params** (*iterable*) – The arguments for the statement.

Return type `list[dict[str,*]]`

execute_sp_singleton0 (*sql: str, *params*) → Any

Executes a stored procedure that selects 0 or 1 row with 1 column. Returns the value of selected column or None.

Parameters

- **sql** (*str*) – The SQL calling the stored procedure.
- **params** (*iterable*) – The arguments for the stored procedure.

Return type

-

execute_sp_singleton (*sql: str, *params*) → Any

Executes a stored routine with designation type “table”, i.e a stored routine that is expected to select 1 row with 1 column.

Parameters

- **sql** (*str*) – The SQL calling the the stored procedure.
- **params** (*iterable*) – The arguments for the stored procedure.

Return type

- The value of the selected column.

is_alive () → bool

Returns whether Python is (still) connected to a MySQL or MariaDB instance.

Return type bool

last_sql () → str

Returns the last execute SQL statement.

line_buffered = None

If True log messages from stored procedures with designation type ‘log’ are line buffered (Note: In python sys.stdout is buffered by default).

rollback () → None

Rolls back the current transaction. See <https://dev.mysql.com/doc/connector-python/en/connector-python-api-mysqlconnection-rollback.html>

start_transaction (*consistent_snapshot: bool = False, isolation_level: str = 'READ-COMMITTED', readonly: Optional[bool] = None*) → None

Starts a transaction. See <https://dev.mysql.com/doc/connector-python/en/connector-python-api-mysqlconnection-start-transaction.html>

Parameters

- **consistent_snapshot** (*bool*) –
- **isolation_level** (*str*) –
- **readonly** (*bool*) –

2.1.5 pystratum_mysql.MySqlDefaultConnector module

class pystratum_mysql.MySqlDefaultConnector.**MySqlDefaultConnector** (*params: Dict[str, Union[str, int]]*)

Bases: *pystratum_mysql.MySqlConnector.MySqlConnector*

Connects to a MySQL instance using username and password.

connect () → mysql.connector.connection.MySQLConnection

Connects to the MySQL instance.

disconnect () → None

Disconnects from the MySQL instance.

is_alive() → bool

Returns whether Python is (still) connected to a MySQL or MariaDB instance.

Return type bool

2.1.6 pystratum_mysql.MySqlMetadataDataLayer module

class pystratum_mysql.MySqlMetadataDataLayer.**MySqlMetadataDataLayer** (io:

pystratum_backend.StratumStyle.StratumStyle
connector:
pystratum_mysql.MySqlConnector.MySqlConnector

Bases: pystratum_common.MetadataDataLayer.MetadataDataLayer

Data layer for retrieving metadata and loading stored routines.

call_stored_routine (routine_name: str) → int

Class a stored procedure without arguments.

Parameters routine_name (str) – The name of the procedure.

Return type int

check_table_exists (table_name: str) → int

Checks if a table exists in the current schema.

Parameters table_name (str) – The name of the table.

Return type int

connect () → None

Connects to a MySQL instance.

describe_table (table_name: str) → List[Dict[str, Any]]

Describes a table.

Parameters table_name (str) – The name of the table.

Return type list[dict[str,*]]

disconnect () → None

Disconnects from the MySQL instance.

drop_stored_routine (routine_type: str, routine_name: str) → None

Drops a stored routine if it exists.

Parameters

- **routine_type** (str) – The type of the routine (i.e. PROCEDURE or FUNCTION).
- **routine_name** (str) – The name of the routine.

drop_temporary_table (table_name: str) → None

Drops a temporary table.

Parameters table_name (str) – The name of the table.

execute_none (query: str) → int

Executes a query that does not select any rows.

Parameters query (str) – The query.

Return type `int`

execute_rows (*query: str*) → List[Dict[str, Any]]

Executes a query that selects 0 or more rows. Returns the selected rows (an empty list if no rows are selected).

Parameters **query** (*str*) – The query.

Return type `list[dict[str,*]]`

execute_singleton1 (*query: str*) → Any

Executes SQL statement that selects 1 row with 1 column. Returns the value of the selected column.

Parameters **query** (*str*) – The query.

Return type

•

get_all_table_columns () → List[Dict[str, Union[str, int, None]]]

Selects metadata of all columns of all tables.

Return type `list[dict[str,*]]`

get_correct_sql_mode (*sql_mode: str*) → str

Selects the SQL mode in the order as preferred by MySQL.

Parameters **sql_mode** (*str*) – The SQL mode.

Return type `str`

get_label_tables (*regex: str*) → List[Dict[str, Any]]

Selects metadata of tables with a label column.

Parameters **regex** (*str*) – The regular expression for columns which we want to use.

Return type `list[dict[str,*]]`

get_labels_from_table (*table_name: str, id_column_name: str, label_column_name: str*) → List[Dict[str, Any]]

Selects all labels from a table with labels.

Parameters

- **table_name** (*str*) – The name of the table.
- **id_column_name** (*str*) – The name of the auto increment column.
- **label_column_name** (*str*) – The name of the column with labels.

Return type `list[dict[str,*]]`

get_routine_parameters (*routine_name: str*) → List[Dict[str, Any]]

Selects metadata of the parameters of a stored routine.

Parameters **routine_name** (*str*) – The name of the routine.

Return type `list[dict[str,*]]`

get_routines () → List[Dict[str, Any]]

Selects metadata of all routines in the current schema.

Return type `list[dict[str,*]]`

last_sql () → str

The last executed SQL statement.

Return type `str`

set_character_set (*character_set: str, collate: str*) → None

Sets the default character set and collate.

Parameters

- **character_set** (*str*) – The name of the character set.
- **collate** (*str*) – The name of the collate

set_sql_mode (*sql_mode: str*) → None

Sets the SQL mode.

Parameters **sql_mode** (*str*) – The SQL mode.

2.1.7 Module contents

Python Module Index

p

pystratum_mysql, 19

pystratum_mysql.backend, 8

pystratum_mysql.backend.MySqlBackend, 5

pystratum_mysql.backend.MySqlConstantWorker, 6

pystratum_mysql.backend.MySqlRoutineLoaderWorker, 6

pystratum_mysql.backend.MySqlRoutineWrapperGeneratorWorker, 7

pystratum_mysql.backend.MySqlWorker, 7

pystratum_mysql.helper, 9

pystratum_mysql.helper.MySqlDataTypeHelper, 8

pystratum_mysql.helper.MySqlRoutineLoaderHelper, 9

pystratum_mysql.MySqlConnector, 13

pystratum_mysql.MySqlDataLayer, 13

pystratum_mysql.MySqlDefaultConnector, 16

pystratum_mysql.MySqlMetadataDataLayer, 17

pystratum_mysql.wrapper, 13

pystratum_mysql.wrapper.MySqlBulkWrapper, 10

pystratum_mysql.wrapper.MySqlFunctionsWrapper, 10

pystratum_mysql.wrapper.MySqlLogWrapper, 10

pystratum_mysql.wrapper.MySqlMultiWrapper, 10

pystratum_mysql.wrapper.MySqlNoneWrapper, 10

pystratum_mysql.wrapper.MySqlRow0Wrapper, 11

pystratum_mysql.wrapper.MySqlRow1Wrapper, 11

pystratum_mysql.wrapper.MySqlRowsWithIndexWrapper, 11

pystratum_mysql.wrapper.MySqlRowsWithKeyWrapper, 11

pystratum_mysql.wrapper.MySqlRowsWrapper, 12

pystratum_mysql.wrapper.MySqlSingleton0Wrapper, 12

pystratum_mysql.wrapper.MySqlSingleton1Wrapper, 12

pystratum_mysql.wrapper.MySqlTableWrapper, 12

pystratum_mysql.wrapper.MySqlWrapper, 12

C

`call_stored_routine()` (pystratum_mysql.backend.MySqlBackend.MySqlBackend method), 6

`create_routine_wrapper_generator_worker()`

D

`check_table_exists()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17

`column_type_to_python_type()` (pystratum_mysql.helper.MySqlDataTypeHelper.MySqlDataTypeHelper method), 8

`column_type_to_python_type_hint()` (pystratum_mysql.helper.MySqlDataTypeHelper.MySqlDataTypeHelper method), 8

`commit()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 13

`connect()` (pystratum_mysql.backend.MySqlWorker.MySqlWorker method), 7

`connect()` (pystratum_mysql.MySqlConnector.MySqlConnector method), 13

`connect()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 13

`connect()` (pystratum_mysql.MySqlDefaultConnector.MySqlDefaultConnector method), 16

`connect()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17

`connect_if_not_alive()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 13

`create_constant_worker()` (pystratum_mysql.backend.MySqlBackend.MySqlBackend method), 5

`create_routine_loader_helper()` (pystratum_mysql.backend.MySqlRoutineLoaderWorker.MySqlRoutineLoaderWorker method), 7

`create_routine_loader_worker()` (pystratum_mysql.backend.MySqlBackend.MySqlBackend method), 5

`create_routine_wrapper()` (in module pystratum_mysql.wrapper), 13

`derive_field_length()` (pystratum_mysql.backend.MySqlConstantWorker.MySqlConstantWorker static method), 6

`describe_table()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17

`disconnect()` (pystratum_mysql.backend.MySqlWorker.MySqlWorker method), 8

`disconnect()` (pystratum_mysql.MySqlConnector.MySqlConnector method), 13

`disconnect()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14

`disconnect()` (pystratum_mysql.MySqlDefaultConnector.MySqlDefaultConnector method), 16

`disconnect()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17

`drop_stored_routine()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17

`drop_temporary_table()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17

`execute_multi()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14

`execute_none()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14

`execute_none()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 17
`execute_rows()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14
`execute_rows()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18
`execute_singleton()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14
`execute_singleton()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18
`execute_sp_bulk()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14
`execute_sp_log()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 14
`execute_sp_multi()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 15
`execute_sp_none()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 15
`execute_sp_row0()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 15
`execute_sp_row1()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 15
`execute_sp_rows()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 15
`execute_sp_singleton0()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 15
`execute_sp_singleton1()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 16

G

`get_all_table_columns()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18
`get_correct_sql_mode()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18
`get_label_tables()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18
`get_labels_from_table()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18

`get_routine_parameters()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18
`get_routines()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18

I

`is_alive()` (pystratum_mysql.MySqlConnector.MySqlConnector method), 13
`is_alive()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 16
`is_alive()` (pystratum_mysql.MySqlDefaultConnector.MySqlDefaultConnector method), 16
`is_lob_parameter()` (pystratum_mysql.wrapper.MySqlWrapper.MySqlWrapper method), 12

L

`last_sql()` (pystratum_mysql.MySqlDataLayer.MySqlDataLayer method), 16
`last_sql()` (pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer method), 18

M

`MAX_LENGTH_BINARY` (pystratum_mysql.backend.MySqlRoutineLoaderWorker.MySqlRoutineLoaderWorker attribute), 7
`MAX_LENGTH_CHAR` (pystratum_mysql.backend.MySqlRoutineLoaderWorker.MySqlRoutineLoaderWorker attribute), 7
`MAX_LENGTH_VARBINARY` (pystratum_mysql.backend.MySqlRoutineLoaderWorker.MySqlRoutineLoaderWorker attribute), 7
`MAX_LENGTH_VARCHAR` (pystratum_mysql.backend.MySqlRoutineLoaderWorker.MySqlRoutineLoaderWorker attribute), 7

`MySQLBackend` (class in pystratum_mysql.backend), 5
`MySQLBulkWrapper` (class in pystratum_mysql.wrapper.MySqlBulkWrapper), 12
`MySQLConnector` (class in pystratum_mysql.MySqlConnector), 13

[MySQLConstantWorker \(class in pystratum_mysql.backend.MySqlConstantWorker\), 6](#)
[MySQLDataLayer \(class in pystratum_mysql.MySqlDataLayer\), 13](#)
[MySQLDataTypeHelper \(class in pystratum_mysql.helper.MySqlDataTypeHelper\), 8](#)
[MySQLDefaultConnector \(class in pystratum_mysql.MySqlDefaultConnector\), 16](#)
[MySQLFunctionsWrapper \(class in pystratum_mysql.wrapper.MySqlFunctionsWrapper\), 10](#)
[MySQLLogWrapper \(class in pystratum_mysql.wrapper.MySqlLogWrapper\), 10](#)
[MySQLMetadataDataLayer \(class in pystratum_mysql.MySqlMetadataDataLayer\), 17](#)
[MySQLMultiWrapper \(class in pystratum_mysql.wrapper.MySqlMultiWrapper\), 10](#)
[MySQLNoneWrapper \(class in pystratum_mysql.wrapper.MySqlNoneWrapper\), 10](#)
[MySQLRoutineLoaderHelper \(class in pystratum_mysql.helper.MySqlRoutineLoaderHelper\), 9](#)
[MySQLRoutineLoaderWorker \(class in pystratum_mysql.backend.MySqlRoutineLoaderWorker\), 6](#)
[MySQLRoutineWrapperGeneratorWorker \(class in pystratum_mysql.backend.MySqlRoutineWrapperGeneratorWorker\), 7](#)
[MySQLRow0Wrapper \(class in pystratum_mysql.wrapper.MySqlRow0Wrapper\), 11](#)
[MySQLRow1Wrapper \(class in pystratum_mysql.wrapper.MySqlRow1Wrapper\), 11](#)
[MySQLRowsWithIndexWrapper \(class in pystratum_mysql.wrapper.MySqlRowsWithIndexWrapper\), 11](#)
[MySQLRowsWithKeyWrapper \(class in pystratum_mysql.wrapper.MySqlRowsWithKeyWrapper\), 11](#)
[MySQLRowsWrapper \(class in pystratum_mysql.wrapper.MySqlRowsWrapper\), 12](#)
[MySQLSingleton0Wrapper \(class in pystratum_mysql.wrapper.MySqlSingleton0Wrapper\), 12](#)
[MySQLSingleton1Wrapper \(class in pystratum_mysql.wrapper.MySqlSingleton1Wrapper\), 12](#)
[MySQLTableWrapper \(class in pystratum_mysql.wrapper.MySqlTableWrapper\), 12](#)
[MySQLWorker \(class in pystratum_mysql.backend.MySqlWorker\), 7](#)
[MySQLWrapper \(class in pystratum_mysql.wrapper.MySqlWrapper\), 12](#)

P

[pystratum_mysql \(module\), 19](#)
[pystratum_mysql.backend \(module\), 8](#)
[pystratum_mysql.backend.MySqlBackend \(module\), 5](#)
[pystratum_mysql.backend.MySqlConstantWorker \(module\), 6](#)
[pystratum_mysql.backend.MySqlRoutineLoaderWorker \(module\), 6](#)
[pystratum_mysql.backend.MySqlRoutineWrapperGeneratorWorker \(module\), 7](#)
[pystratum_mysql.backend.MySqlWorker \(module\), 7](#)
[pystratum_mysql.helper \(module\), 9](#)
[pystratum_mysql.helper.MySqlDataTypeHelper \(module\), 8](#)
[pystratum_mysql.helper.MySqlRoutineLoaderHelper \(module\), 9](#)
[pystratum_mysql.MySqlConnector \(module\), 13](#)
[pystratum_mysql.MySqlDataLayer \(module\), 13](#)
[pystratum_mysql.MySqlDefaultConnector \(module\), 16](#)
[pystratum_mysql.MySqlMetadataDataLayer \(module\), 17](#)
[pystratum_mysql.wrapper \(module\), 13](#)
[pystratum_mysql.wrapper.MySqlBulkWrapper \(module\), 10](#)
[pystratum_mysql.wrapper.MySqlFunctionsWrapper \(module\), 10](#)
[pystratum_mysql.wrapper.MySqlLogWrapper \(module\), 10](#)
[pystratum_mysql.wrapper.MySqlMultiWrapper \(module\), 10](#)
[pystratum_mysql.wrapper.MySqlNoneWrapper \(module\), 10](#)
[pystratum_mysql.wrapper.MySqlRow0Wrapper \(module\), 11](#)
[pystratum_mysql.wrapper.MySqlRow1Wrapper \(module\), 11](#)
[pystratum_mysql.wrapper.MySqlRowsWithIndexWrapper \(module\), 11](#)
[pystratum_mysql.wrapper.MySqlRowsWithKeyWrapper \(module\), 11](#)

`pystratum_mysql.wrapper.MySqlRowsWrapper`
(*module*), 12

`pystratum_mysql.wrapper.MySqlSingleton0Wrapper`
(*module*), 12

`pystratum_mysql.wrapper.MySqlSingleton1Wrapper`
(*module*), 12

`pystratum_mysql.wrapper.MySqlTableWrapper`
(*module*), 12

`pystratum_mysql.wrapper.MySqlWrapper`
(*module*), 12

R

`rollback()` (*pystratum_mysql.MySqlDataLayer.MySqlDataLayer*
method), 16

S

`set_character_set()` (*pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer*
method), 18

`set_sql_mode()` (*pystratum_mysql.MySqlMetadataDataLayer.MySqlMetadataDataLayer*
method), 19

`start_transaction()` (*pystratum_mysql.MySqlDataLayer.MySqlDataLayer*
method), 16