Track-e Database/Python API

Overview

This document describes the functions used in the Track-e project to connect to the database and execute INSERT INTO commands.

Setup

Make sure that you edit the following constants in TrafficMonitor.py for successful database connection.

Environmental Variables and Constants

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| --- | --- | --- |
| Variable | Description | Supported Values |
| DB\_ADDRESS | Server address of database. | Any valid database URL |
| DB\_NAME | Name of database. | Any string |
| TABLE\_NAME | Name of Table. | Any string |
| USERNAME | Username for database. | Any string |
| PASSWORD | Password for database. | Any string |

Function: *generateQuery(data, inputTime = None)*

This function takes a data value, typically the one passed to *dataHandler(),* and a *time.struct\_time()* object and uses the values to generate a SQL INSERT INTO query, directed at the table and database specified by *DB\_NAME* and *TABLE\_NAME.*

data: is an integer. While its range is not explicitly limited, an error will be thrown and handled during the execution of the query if the value is outside the acceptable range for the column.

inputTime: is a time.struct\_time object. Properly formatted timestamp and weekday abbreviation is generated from this object. If not specified, localtime() is used for the query.

Function: *dbSetup()*

Initiates database connection using values specified in DB\_ADDRESS, DB\_NAME, USERNAME, and PASSWORD. Instance of connection is set to global *connection* and the global *cursor* represents the current database navigation path.