
s4u.sqlalchemy Documentation

Release 1.0

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This packages provides some database-agnostic versions of GUID, INET, Array and JSON column types, as well as some convenience routines.

Functions

s4u.sqlalchemy implements several SQL functions that are not available in SQLAlchemy itself.

Column types

Upgrades

`s4u.sqlalchemy` supports using `s4u.upgrade` to manage migrations. It provides a `sql` upgrade context which configures the SQLAlchemy context. It also supports use of `alembic` to make modifications in the database.

The upgrade context exposes two keys in the upgrade environment:

sql-engine The SQLAlchemy engine object.

alembic An alembic `Operations` object.

A default upgrade step which creates all missing tables and indices is registered. If you need to modify existing tables you can create a new upgrade step which introspects the current database and makes any necessary changes.

```
@upgrade_step(requires=['sql'])
def add_auth_source_column(environment):
    engine = environment['sql-engine']
    inspector = Inspector.from_engine(engine)
    if 'auth_source' in get_columns(User.__table__.name):
        return
    log.info('Adding auth_source column to user table.')
    alembic = environment['alembic']
    alembic.add_column(User.__table__, User.__table__.c['auth_source'])
```

Changelog

4.1 4.1 - Unreleased

- ...

4.2 4.0 - August 29, 2014

- Remove all SQLAlchemy-pyramid integration logic in favour of using `pyramid_sqlalchemy`.

4.3 3.5 - February 27, 2014

- Add a JSON column type which uses database-native json types where possible (ie JSON for PostgreSQL).

4.4 3.4 - January 20, 2014

- Add an Array column type which uses database-native array types where possible (ie ARRAY for PostgreSQL).

4.5 3.3 - December 19, 2013

- Add support for Python 3.3 and later.
- Modify UUID type to always use the native string type of the current Python version for its values.

4.6 3.2 - November 26, 2013

- Make Session object easier to use: instead of creating it on initialisation create it immediately, and only configure it during initialisation. This makes it possible to import the Session directly.

4.7 3.1.2 - May 6, 2013

- Modify GUID type to always use a bytestring for uuids. This works around problems with SQLAlchemy's identity map when new UUID instances are created for the same uuid value.

4.8 3.1.1 - May 6, 2013

- Make sure event-handlers are registered on every package use.
- Remove stray debug print.

4.9 3.1 - May 6, 2013

- Add a magic s4u.sqlalchemy.model module with all instrumented classes.
- Remove s4u.upgrade support; we are migrating to alembic and are phasing s4u.upgrade support out.

4.10 3.0 - May 6, 2013

- Add a Mapping column type which uses database-native mapping types where possible (ie HSTORE for PostgreSQL).

4.11 2.7 - April 18, 2013

- Update DatabaseTestCase to call setUp and tearDown of its super classes.

4.12 2.6 - January 8, 2013

- First public release.

4.13 2.5 - December 10, 2012

- Modify upgrade content provider to always mark the transaction as changed so DDL is flushed in a commit. Again - this change got lost somewhere.

4.14 2.4 - December 10, 2012

- Do not create multiple engines when our upgrade context provider is used multiple times.

4.15 2.3 - February 28, 2012

- Modify upgrade content provider to always mark the transaction as changed so DDL is flushed in a commit. [wichert]
- Make database URL used in DatabaseTestCase configurable via a new `db_uri` class variable. [wichert]
- Abort transaction earlier during test breakdown so we do not try to drop tables while another connection is open within a transaction. [wichert]

4.16 2.2 - January 31, 2012

- Update alembic 0.2.0 release which changed its API especially for us. [wichert]

4.17 2.1 - January 4, 2011

- Update DatabaseTestCase to abort any open transaction. This clears out all open SQL connections. [wichert]

4.18 2.0 - January 3, 2011

- Setup an `alembic` context as part of the upgrade context. [wichert]

4.19 1.8 - December 28, 2011

- Make creation of database tables optional in DatabaseTestCase.

4.20 1.7 - December 28, 2011

- Remove bad docstring from DatabaseTestCase class.
- Expose SQLAlchemy engine in test class as `engine` attribute, and fully dispose of the engine on test teardown.

4.21 1.6 - November 9, 2011

- Move dummy test class inside of test class so it does not pollute metadata of real applications.
- Add an INET type to handle IPv4 and IPv6 networks and addresses. On the Python side these are handled as `IPy.IP` instances.

4.22 1.5 - September 19, 2011

- Add `day_difference` SQL function.

4.23 1.4 - September 14, 2011

- Include (very minimal) GUID documentation.
- Add `least` and `least` SQL functions.

4.24 1.3 - August 31, 2011

- Add basic `s4u.upgrade` integration.

4.25 1.2 - August 4, 2011

- Fix Pyramid `includeme` support.

4.26 1.1 - August 4, 2011

- Loosen SQLAlchemy dependency to `> 0.6`.
- Add a `uuid` column type.

4.27 1.0 - August 2, 2011

- First version.

Indices and tables

- *genindex*
- *modindex*
- *search*