Henson-Database Documentation

Release 0.5.0

iHeartRadio

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Provides SQLAlchemy support to Henson Applications.

CHAPTER 1

Installation

You can install Henson-Database using Pip:

```
$ python -m pip install henson-database
```

You can also install it from source:

```
$ python setup.py install
```

CHAPTER 2

Quickstart

```
from henson import Application
from henson_database import Database

app = Henson(__name__)
db = Database(app)

with db.session() as session:
    session.execute('SELECT 1;')
```

CHAPTER 3

Configuration

The following settings are used by Henson-Database. See Engine Configuration for full information on SQLAlchemy database URIs.

`DATABASE_URI`	The URI to use to connect to the database.

Contents:

3.1 API

Here's the public API for Henson-Database.

3.1.1 Database

class `henson_database.`**`Database`**(*app=None*)

An interface to interact with a relational database.

Parameters **app** (*Optional[henson.base.Application]*) – An application instance that has an attribute named settings that contains a mapping of settings to interact with a database.

Changed in version 0.4.0: Alembic migrations are supported.

`Model`

Return a base class for creating models.

Returns

The base class to use for creating new models.

Return type sqlalchemy.ext.declarative.declarative_base

`engine`

Return the engine.

Returns The engine.

Return type sqlalchemy.engine.Engine

init_app(*app*)

Initialize an application for use with the database.

If database settings are provided by app as a dict rather than individual keys and values, expands them to the format expected by the extension's internal create_engine call.

Parameters **app** (*henson.base.Application*) – Application instance that has an attribute named settings that contains a mapping of settings needed to interact with the database.

metadata

Return the metadata associated with `db.Model`.

Returns The metadata.

Return type sqlalchemy.MetaData

register_cli()

Register the command line interface.

New in version 0.4.0.

session()

Yield a context manager for a SQLAlchemy session.

Yields *sqlalchemy.orm.session.Session* – A new session instance.

sessionmaker

Return a function to get a new session.

Returns A function that can be used to get a new session.

Return type callable

3.2 Migrations

Henson-Database offers support for Alembic migrations. To enable them, install Henson-Database with the migrations extra:

```
$ python -m pip install Henson-Database[migrations]
```

This enables the following commands through the `db` namespace:

```
$ henson --app APP_PATH db --help
```

3.2.1 henson –app APP_PATH db

```
usage: henson --app APP_PATH db [-h]
                                {branches,current,downgrade,edit,generate,heads,
↪history,init,merge,revision,show,stamp,upgrade}
                                ...
```

-h, --help

show this help message and exit

henson –app APP_PATH db branches

Show current branch points.

```
usage: henson --app APP_PATH db branches [-h] [--verbose]
```

-h, --help
show this help message and exit

--verbose, -v
verbose mode

henson –app APP_PATH db current

Display the current revision for a database.

```
usage: henson --app APP_PATH db current [-h] [--verbose]
```

-h, --help
show this help message and exit

--verbose, -v
verbose mode

henson –app APP_PATH db downgrade

Revert to a previous version.

```
usage: henson --app APP_PATH db downgrade [-h] [-s] [-t TAG] [revision]
```

revision
revision identifier

-h, --help
show this help message and exit

-s, --sql
don't emit SQL to database - dump to standard output/file instead

-t <tag>**, --tag** <tag>
arbitrary 'tag' name - can be used by custom env.py scripts

henson –app APP_PATH db edit

Edit revision script(s) using $EDITOR.

```
usage: henson --app APP_PATH db edit [-h] rev
```

rev
None

-h, --help
show this help message and exit

henson –app APP_PATH db generate

Generate a revision (alias for 'revision –autogenerate').

```
usage: henson --app APP_PATH db generate [-h] [-m MESSAGE] [--sql]
                                          [--head HEAD] [--splice]
                                          [-b BRANCH_LABEL] [-v VERSION_PATH]
                                          [-r REV_ID] [-d DEPENDS_ON]
```

-h, --help
show this help message and exit

-m <message>, **--message** <message>
message string to use with 'revision'

--sql
don't emit SQL to database - dump to standard output/file instead

--head <head>
specify head revision or <branchname>@head to base new revision on

--splice
allow a non-head revision as the 'head' to splice onto

-b <branch_label>, **--branch-label** <branch_label>
specify a branch label to apply to the new revision

-v <version_path>, **--version-path** <version_path>
specify specific path from config for version file

-r <rev_id>, **--rev-id** <rev_id>
specify a hardcoded revision id instead of generating one

-d <depends_on>, **--depends-on** <depends_on>
specify one or more revision identifiers which this revision should depend on

henson –app APP_PATH db heads

Show current available heads in the script directory.

```
usage: henson --app APP_PATH db heads [-h] [-r] [--verbose]
```

-h, --help
show this help message and exit

-r, --resolve-dependencies
treat dependency versions as down revisions

--verbose, -v
verbose mode

henson –app APP_PATH db history

List changeset scripts in chronological order.

```
usage: henson --app APP_PATH db history [-h] [-r REV_RANGE] [--verbose]
```

-h, --help
show this help message and exit

-r <rev_range>, **--rev-range** <rev_range>
specify a revision range; format is [start]:[end]

--verbose, -v
verbose mode

henson –app APP_PATH db init

Initialize a new scripts directory.

```
usage: henson --app APP_PATH db init [-h] [directory]
```

directory
location of scripts directory

-h, --help
show this help message and exit

henson –app APP_PATH db merge

Merge two revisions together. Creates a new migration file.

```
usage: henson --app APP_PATH db merge [-h] [-m MESSAGE] [-b BRANCH_LABEL]
                                      [-r REV_ID]
                                      revisions
```

revisions
one or more revisions, or 'heads' for all heads

-h, --help
show this help message and exit

-m <message>, **--message** <message>
message string to use with 'revision'

-b <branch_label>, **--branch-label** <branch_label>
specify a branch apply to the new revision

-r <rev_id>, **--rev-id** <rev_id>
specify a hardcoded revision id instead of generating one

henson –app APP_PATH db revision

Create a new revision file.

```
usage: henson --app APP_PATH db revision [-h] [-m MESSAGE] [-a] [--sql]
                                         [--head HEAD] [--splice]
                                         [-b BRANCH_LABEL] [-v VERSION_PATH]
                                         [-r REV_ID] [-d DEPENDS_ON]
```

-h, --help
show this help message and exit

-m <message>, **--message** <message>
message string to use with 'revision'

-a, --autogenerate
populate revision script with candidate migration operations, based on comparison of database to model

--sql
don't emit SQL to database - dump to standard output/file instead

--head <head>
specify head revision or <branchname>@head to base new revision on

--splice
allow a non-head revision as the 'head' to splice onto

-b <branch_label>, **--branch-label** <branch_label>
specify a branch label to apply to the new revision

-v <version_path>, **--version-path** <version_path>
specify specific path from config for version file

-r <rev_id>, **--rev-id** <rev_id>
specify a hardcoded revision id instead of generating one

-d <depends_on>, **--depends-on** <depends_on>
specify one or more revision identifiers which this revision should depend on

henson –app APP_PATH db show

Show the revision(s) denoted by the given symbol.

```
usage: henson --app APP_PATH db show [-h] rev
```

rev
None

-h, --help
show this help message and exit

henson –app APP_PATH db stamp

'stamp' the revision table with the given revision; don't run any migrations.

```
usage: henson --app APP_PATH db stamp [-h] [-s] [-t TAG] revision
```

revision
revision identifier

-h, --help
show this help message and exit

-s, --sql
don't emit SQL to database - dump to standard output/file instead

-t <tag>, **--tag** <tag>
arbitrary 'tag' name - can be used by custom env.py scripts

henson –app APP_PATH db upgrade

Upgrade to a later version.

```
usage: henson --app APP_PATH db upgrade [-h] [-s] [-t TAG] [revision]
```

revision
revision identifier

-h, --help
show this help message and exit

-s, --sql
don't emit SQL to database - dump to standard output/file instead

-t <tag>**, --tag** <tag>
arbitrary 'tag' name - can be used by custom env.py scripts

3.3 Changelog

3.3.1 Version 0.5.0

Release TBD

3.3.2 Version 0.4.0

Released 2017-02-21

- Support migrations through the Henson CLI

3.3.3 Version 0.3.0

Released 2016-03-02

- Switch from individual connection settings to `DATABASE_URI` (*Backwards incompatible*)

3.3.4 Version 0.2.0

Released 2015-08-03

- Upgrade to requirement of Henson 0.2
- Remove get_app and the usage of current_application from Henson

3.3.5 Version 0.1.0

Released 2015-06-08

- Initial release

CHAPTER 4

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