
unihan-db Documentation

Release 0.1.0

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unihan-db - database [SQLAlchemy](#) models for [UNIHAN](#). Part of the [cikai](#) project. Powered by [unihan-etl](#). See also: [libUnihan](#).

By default, *unihan-db* creates a SQLite database in an [XDG data directory](#). You can specify a custom database destination by passing a database url into `get_session`.

Example usage:

```
#!/usr/bin/env python
# -*- coding: utf8 - *-
from __future__ import unicode_literals

import pprint

from sqlalchemy.sql.expression import func

from unihan_db import bootstrap
from unihan_db.tables import Unhn

session = bootstrap.get_session()

bootstrap.bootstrap_unihan(session)

random_row = session.query(Unhn).order_by(
    func.random()
).limit(1).first()

pp = pprint.PrettyPrinter(indent=0)

pp.pprint(random_row.to_dict())
```

Run:

```
$ ./examples/01_bootstrap.py
```

Output:

```
{'char': '',
 'kCantonese': [{'char_id': '', 'definition': 'maa5', 'id': 24035}],
 'kDefinition': [],
 'kHanYu': [{'char_id': '',
               'id': 24014,
               'locations': [{'character': 5,
                              'generic_indice_id': 24014,
                              'generic_reading_id': None,
                              'id': 42170,
                              'page': 4237,
                              'virtual': 0,
                              'volume': 6}],
               'type': 'kHanYu'}],
 'kHanyuPinyin': [{'char_id': '',
                    'id': 18090,
                    'locations': [{'character': 5,
                                   'generic_indice_id': None,
                                   'generic_reading_id': 18090,
                                   'id': 42169,
                                   'page': 4237,
```

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```
        'virtual': 0,  
        'volume': 6}},  
    'readings': [{ 'generic_reading_id': 18090,  
                   'id': 26695,  
                   'reading': 'mǎ'}],  
    'type': 'kHanyuPinyin'}],  
'kMandarin': [{ 'char_id': '', 'hans': 'mǎ', 'hant': 'mǎ', 'id': 23486}],  
'ucn': 'U+93B7'}
```

`unihan_db.bootstrap.add_to_dict(b)`

Add `to_dict()` method to SQLAlchemy Base object.

Parameters `b` (`declarative_base()`) – SQLAlchemy Base class

`unihan_db.bootstrap.bootstrap_unihan(session, options={})`

Download, extract and import unihan to database.

`unihan_db.bootstrap.get_session(engine_url='sqlite:///user_data_dir/unihan_db.db')`

Return new SQLAlchemy session object from engine string.

`engine_url` accepts a string template variable for `{user_data_dir}`, which is replaced to the XDG data directory for the user running the script process. This variable is only useful for SQLite, where file paths are used for the `engine_url`.

Parameters `engine_url` (`str`) – SQLAlchemy engine string

`unihan_db.bootstrap.is_bootstrapped(metadata)`

Return True if cihai is correctly bootstrapped.

`unihan_db.bootstrap.setup_logger(logger=None, level='INFO')`

Setup logging for CLI use.

Parameters

- **logger** (`logging.Logger`) – instance of logger
- **level** (`str`) – logging level, e.g. 'INFO'

`unihan_db.bootstrap.to_dict(obj, found=None)`

Return dictionary of an SQLAlchemy Query result.

Supports recursive relationships.

Parameters

- **obj** (`sqlalchemy.orm.query.Query` result object) – SQLAlchemy Query result
- **found** (`set`) – recursive parameters

Returns dictionary representation of a SQLAlchemy query

Return type `dict`

1.1 unihan_db table design

Tables are split into general categories, similar to how UNIHAN db's files are:

- Unhn_DictionaryIndices
- Unhn_DictionaryLikeData
- Unhn_IRGSources
- Unhn_NumericValues
- Unhn_OtherMappings
- Unhn_RadicalStrokeCounts
- Unhn_Readings
- Unhn_Variants

Tables are prefixed Unhn_, with no vowels.

Those root tables include the base data for all 90 UNIHAN fields. Specialized values branched off into field-specialized tables through [polymorphic joins](#).

```
class unihan_db.tables.GenericIRG (**kwargs)
```

```
    char_id
    id
    location
    source
    type
```

```
class unihan_db.tables.GenericIndices (**kwargs)
```

```
    char_id
    id
    locations
    type
```

```
class unihan_db.tables.GenericRadicalStrokes (**kwargs)
```

```
    char_id
    id
    radical
    simplified
    strokes
    type
```

```
class unihan_db.tables.GenericReading (**kwargs)
```

```
    char_id
```

```
id
locations
readings
type
class unihan_db.tables.Unhn(**kwargs)

char
kCCCI
kCantones
kCheungBauer
kCheungBauerIndex
kCihaiT
kDaeJaweon
kDefinition
kFenn
kFennIndex
kGSR
kHDZRadBreak
kHanYu
kHanyuPinlu
kHanyuPinyin
kIICore
kIRGDaeJaweon
kIRGHanyuDaZidian
kIRGKangXi
kIRG_GSource
kIRG_HSource
kIRG_JSource
kIRG_KPSource
kIRG_KSource
kIRG_MSource
kIRG_TSource
kIRG_USource
kIRG_VSource
kMandarin
kRSAdobe_Japan1_6
```

```

kRSJapanese
kRSKanWa
kRSKangXi
kRSKorean
kRSUnicode
kSBGY
kTotalStrokes
kXHC1983
ucn

```

```
class unihan_db.tables.UnhnLocation(**kwargs)
```

```

character
generic_indice_id
generic_reading_id
id
page
virtual
volume

```

```
class unihan_db.tables.UnhnLocationkXHC1983(**kwargs)
```

```

character
entry
generic_indice_id
generic_reading_id
id
page
substituted

```

```
class unihan_db.tables.UnhnReading(**kwargs)
```

```

generic_reading_id
id
reading

```

```
class unihan_db.tables.kCCCI(**kwargs)
```

```

char_id
hex
id

```

```
class unihan_db.tables.kCantonese (**kwargs)

    char_id
    definition
    id

class unihan_db.tables.kCheungBauer (**kwargs)

    cangjie
    char_id
    id
    locations
    radical
    readings
    strokes
    type

class unihan_db.tables.kCheungBauerIndex (**kwargs)

    char_id
    id
    locations
    type

class unihan_db.tables.kCihaiT (**kwargs)

    char_id
    character
    id
    page
    row

class unihan_db.tables.kDaeJaweon (**kwargs)

    char_id
    id
    locations
    type

class unihan_db.tables.kDefinition (**kwargs)

    char_id
    definition
```

```
    id
class unihan_db.tables.kFenn(**kwargs)

    char_id
    frequency
    id
    phonetic
class unihan_db.tables.kFennIndex(**kwargs)

    char_id
    id
    locations
    type
class unihan_db.tables.kGSR(**kwargs)

    apostrophe
    char_id
    id
    letter
    set
class unihan_db.tables.kHDZRadBreak(**kwargs)

    char_id
    id
    locations
    radical
    type
    ucn
class unihan_db.tables.kHanYu(**kwargs)

    char_id
    id
    locations
    type
class unihan_db.tables.kHanyuPinlu(**kwargs)

    char_id
    frequency
```

```
    id
    phonetic
class unihan_db.tables.kHanyuPinyin(**kwargs)

    char_id
    id
    locations
    readings
    type
class unihan_db.tables.kIICore(**kwargs)

    char_id
    id
    priority
    sources
class unihan_db.tables.kIICoreSource(**kwargs)

    id
    source
    source_id
class unihan_db.tables.kIRGDaeJaweon(**kwargs)

    char_id
    id
    locations
    type
class unihan_db.tables.kIRGHanyuDaZidian(**kwargs)

    char_id
    id
    locations
    type
class unihan_db.tables.kIRGKangXi(**kwargs)

    char_id
    id
    locations
    type
```

```
class unihan_db.tables.kIRG_GSource (**kwargs)
```

```
    char_id
    id
    location
    source
    type
```

```
class unihan_db.tables.kIRG_HSource (**kwargs)
```

```
    char_id
    id
    location
    source
    type
```

```
class unihan_db.tables.kIRG_JSource (**kwargs)
```

```
    char_id
    id
    location
    source
    type
```

```
class unihan_db.tables.kIRG_KPSource (**kwargs)
```

```
    char_id
    id
    location
    source
    type
```

```
class unihan_db.tables.kIRG_KSource (**kwargs)
```

```
    char_id
    id
    location
    source
    type
```

```
class unihan_db.tables.kIRG_MSource (**kwargs)
```

```
    char_id
```

```
    id
    location
    source
    type
class unihan_db.tables.kIRG_TSource(**kwargs)

    char_id
    id
    location
    source
    type
class unihan_db.tables.kIRG_USource(**kwargs)

    char_id
    id
    location
    source
    type
class unihan_db.tables.kIRG_VSource(**kwargs)

    char_id
    id
    location
    source
    type
class unihan_db.tables.kMandarin(**kwargs)

    char_id
    hans
    hant
    id
class unihan_db.tables.kRSAdobe_Japan1_6(**kwargs)

    char_id
    cid
    id
    radical
    strokes
```

```
    strokes_residue
    type
class unihan_db.tables.kRSJapanese(**kwargs)

    char_id
    id
    radical
    simplified
    strokes
    type
class unihan_db.tables.kRSKanWa(**kwargs)

    char_id
    id
    radical
    simplified
    strokes
    type
class unihan_db.tables.kRSKangXi(**kwargs)

    char_id
    id
    radical
    simplified
    strokes
    type
class unihan_db.tables.kRSKorean(**kwargs)

    char_id
    id
    radical
    simplified
    strokes
    type
class unihan_db.tables.kRSUnicode(**kwargs)

    char_id
    id
```

```
    radical
    simplified
    strokes
    type
class unihan_db.tables.kSBGY(**kwargs)

    char_id
    id
    locations
    type
class unihan_db.tables.kTotalStrokes(**kwargs)

    char_id
    hans
    hant
    id
class unihan_db.tables.kXHC1983(**kwargs)

    char_id
    id
    locations
    readings
    type
```


HISTORY

- Move from Pipfile to Poetry (<https://github.com/cihai/unihan-db/pull/261>)
- Speed up importing initial data
- Support for more fields
- Support for appdirs (XDG directory specification)
- Zero-config sqlite default
- Bump unihan-etl to 0.9.5
- Add `project_urls` to `setup.py`
- Use `collections` import that's compatible with python 2 and 3
- Loosen version constraints

2.1 unihan-db 0.1.0 (2017-05-29)

- Initial commit

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