
babelfish Documentation

Release 0.5.5-dev

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BabelFish is a Python library to work with countries and languages.

Script

Simple script representation from 4-letter code (ISO-15924):

```
>>> script = babelfish.Script('Hira')
>>> script
<Script [Hira]>
```

Country

Simple country representation from 2-letter code (ISO-3166):

```
>>> country = babelfish.Country('GB')
>>> country
<Country [GB]>
```

Built-in country converters (name):

```
>>> country.name
'UNITED KINGDOM'
```

Language

Simple language representation from 3-letter code (ISO-639-3):

```
>>> language = babelfish.Language('eng')
>>> language
<Language [en]>
```

Country specific language:

```
>>> language = babelfish.Language('por', 'BR')
>>> language
<Language [pt-BR]>
```

Language with specific script:

```
>>> language = babelfish.Language.fromalpha2('sr')
>>> language.script = babelfish.Script('Cyril')
>>> language
<Language [sr-Cyrl]>
```

Built-in language converters (alpha2, alpha3b, alpha3t, name, scope, type and opensubtitles):

```
>>> language = babelfish.Language('por', 'BR')
>>> language.alpha2
'pt'
>>> language.scope
'individual'
>>> language.type
'living'
>>> language.opensubtitles
'pob'
>>> babelfish.Language.fromalpha3b('fre')
<Language [fr]>
```

Custom Converters

Build your own Language/Country converter:

```
class MyCodeConverter(babelish.LanguageReverseConverter):
    def __init__(self):
        self.to_mycode = {'fra': 'mycode1', 'eng': 'mycode2'}
        self.from_mycode = {'mycode1': 'fra', 'mycode2': 'eng'}
    def convert(self, alpha3, country=None, script=None):
        if alpha3 not in self.to_mycode:
            raise babelish.LanguageConvertError(alpha3, country, script)
        return self.to_mycode[alpha3]
    def reverse(self, mycode):
        if mycode not in self.from_mycode:
            raise babelish.LanguageReverseError(mycode)
        return (self.from_mycode[mycode],)
```

You can also use the *LanguageEquivalenceConverter* utility class if your mapping is a simple one-to-one mapping:

```
class MyCodeConverter(babelish.LanguageEquivalenceConverter):
    SYMBOLS = {'fra': 'mycode1', 'eng': 'mycode2'}
```

Use it directly (no lazy loading):

```
>>> babelish.LANGUAGE_CONVERTERS['mycode'] = MyCodeConverter()
>>> babelish.Language.frommycode('mycode2')
<Language [en]>
>>> babelish.Language('fra').mycode
'mycode1'
```

Or make it available in your application by using the entry point (lazy loading):

```
setup([...],
      entry_points={'babelish.language_converters': ['mycode = mymodule.converter:MyCodeConverter']},
      [...])
```

Or if you don't want to use the entry point (lazy loading):

```
>>> babelish.language_converters.register('mycode = mymodule.converter:MyCodeConverter')
```

API Documentation

If you are looking for information on a specific function, class or method, this part of the documentation is for you.

5.1 Script

`babelfish.script.SCRIPTS`

Dictionary of script ISO-15924 codes to English names

class `babelfish.script.Script` (*script*)

A human writing system

A script is represented by a 4-letter code from the ISO-15924 standard

Parameters `script` (*string*) – 4-letter ISO-15924 script code

code = `None`

ISO-15924 4-letter script code

name

English name of the script

5.2 Country

`babelfish.country.COUNTRIES`

Country code to country name mapping

`babelfish.country.COUNTRY_MATRIX`

List of countries in the ISO-3166-1 as namedtuple of alpha2 and name

class `babelfish.country.CountryConverterManager`

ConverterManager for country converters

`babelfish.country.COUNTRY_CONVERTERS`

Instance of *CountryConverterManager*

class `babelfish.country.CountryMeta`

The *Country* metaclass

Dynamically redirect `Country.frommycode()` to `Country.fromcode()` with the *mycode converter*

class `babelfish.country.Country` (*country*)

A country on Earth

A country is represented by a 2-letter code from the ISO-3166 standard

Parameters `country` (*string*) – 2-letter ISO-3166 country code

alpha2 = None

ISO-3166 2-letter country code

classmethod `fromcode` (*code*, *converter*)

Create a *Country* by its *code* using *converter* to *reverse()* it

Parameters

- **code** (*string*) – the code to reverse
- **converter** (*string*) – name of the *CountryReverseConverter* to use

Returns the corresponding *Country* instance

Return type *Country*

5.3 Language

`babelfish.language.LANGUAGES`

Available language codes

`babelfish.language.LANGUAGE_MATRIX`

List of languages in the ISO-639-3 as namedtuple of alpha3, alpha3b, alpha3t, alpha2, scope, type, name and comment

class `babelfish.language.LanguageConverterManager`

ConverterManager for language converters

`babelfish.language.LANGUAGE_CONVERTERS`

Instance of *LanguageConverterManager*

class `babelfish.language.LanguageMeta`

The *Language* metaclass

Dynamically redirect `Language.frommycode()` to *Language.fromcode()* with the *mycode converter*

class `babelfish.language.Language` (*language*, *country=None*, *script=None*, *unknown=None*)

A human language

A human language is composed of a language part following the ISO-639 standard and can be country-specific when a *Country* is specified.

The *Language* is extensible with custom converters (see *Custom Converters*)

Parameters

- **language** (*string*) – the language as a 3-letter ISO-639-3 code
- **country** (string or *Country* or None) – the country (if any) as a 2-letter ISO-3166 code or *Country* instance
- **script** (string or *Script* or None) – the script (if any) as a 4-letter ISO-15924 code or *Script* instance
- **unknown** (*string or None*) – the unknown language as a three-letters ISO-639-3 code to use as fallback

Raise `ValueError` if the language could not be recognized and *unknown* is None

classmethod `fromcode (code, converter)`

Create a *Language* by its *code* using *converter* to *reverse()* it

Parameters

- **code** (*string*) – the code to reverse
- **converter** (*string*) – name of the *LanguageReverseConverter* to use

Returns the corresponding *Language* instance

Return type *Language*

classmethod `fromietf (ietf)`

Create a *Language* by from an IETF language code

Parameters **ietf** (*string*) – the ietf code

Returns the corresponding *Language* instance

Return type *Language*

5.4 Converter Bases

class `babelfish.converters.LanguageConverter`

A *LanguageConverter* supports converting an alpha3 language code with an alpha2 country code and a script code into a custom code

codes

Set of possible custom codes

convert (*alpha3*, *country=None*, *script=None*)

Convert an alpha3 language code with an alpha2 country code and a script code into a custom code

Parameters

- **alpha3** (*string*) – ISO-639-3 language code
- **country** (*string or None*) – ISO-3166 country code, if any
- **script** (*string or None*) – ISO-15924 script code, if any

Returns the corresponding custom code

Return type *string*

Raise *LanguageConvertError*

class `babelfish.converters.LanguageReverseConverter`

A *LanguageConverter* able to reverse a custom code into a alpha3 ISO-639-3 language code, alpha2 ISO-3166-1 country code and ISO-15924 script code

reverse (*code*)

Reverse a custom code into alpha3, country and script code

Parameters **code** (*string*) – custom code to reverse

Returns the corresponding alpha3 ISO-639-3 language code, alpha2 ISO-3166-1 country code and ISO-15924 script code

Return type *tuple*

Raise *LanguageReverseError*

class `babelfish.converters.LanguageEquivalenceConverter`

A *LanguageEquivalenceConverter* is a utility class that allows you to easily define a *LanguageReverseConverter* by only specifying the dict from alpha3 to their corresponding symbols.

You must specify the dict of equivalence as a class variable named `SYMBOLS`.

If you also set the class variable `CASE_SENSITIVE` to `True` then the reverse conversion function will be case-sensitive (it is case-insensitive by default).

Example:

```
class MyCodeConverter(babelfish.LanguageEquivalenceConverter):
    CASE_SENSITIVE = True
    SYMBOLS = {'fra': 'mycode1', 'eng': 'mycode2'}
```

class `babelfish.converters.CountryConverter`

A *CountryConverter* supports converting an alpha2 country code into a custom code

codes

Set of possible custom codes

convert (*alpha2*)

Convert an alpha2 country code into a custom code

Parameters **alpha2** (*string*) – ISO-3166-1 language code

Returns the corresponding custom code

Return type `string`

Raise *CountryConvertError*

class `babelfish.converters.CountryReverseConverter`

A *CountryConverter* able to reverse a custom code into a alpha2 ISO-3166-1 country code

reverse (*code*)

Reverse a custom code into alpha2 code

Parameters **code** (*string*) – custom code to reverse

Returns the corresponding alpha2 ISO-3166-1 country code

Return type `string`

Raise *CountryReverseError*

class `babelfish.converters.ConverterManager`

Manager for babelfish converters behaving like a dict with lazy loading

Loading is done in this order:

- Entry point converters
- Registered converters
- Internal converters

entry_point

The entry point where to look for converters

internal_converters

Internal converters with entry point syntax

registered_converters = None

Registered converters with entry point syntax

converters = None

Loaded converters

register (*entry_point*)

Register a converter

Parameters **entry_point** (*string*) – converter to register (entry point syntax)

Raise ValueError if already registered

unregister (*entry_point*)

Unregister a converter

Parameters **entry_point** (*string*) – converter to unregister (entry point syntax)

5.5 Exceptions

class babelfish.exceptions.**Error**

Base class for all exceptions in babelfish

class babelfish.exceptions.**LanguageConvertError** (*alpha3, country=None, script=None*)

Exception raised by converters when *convert()* fails

Parameters

- **alpha3** (*string*) – alpha3 code that failed conversion
- **country** (*string or None*) – country code that failed conversion, if any
- **script** (*string or None*) – script code that failed conversion, if any

class babelfish.exceptions.**LanguageReverseError** (*code*)

Exception raised by converters when *reverse()* fails

Parameters **code** (*string*) – code that failed reverse conversion

class babelfish.exceptions.**CountryConvertError** (*alpha2*)

Exception raised by converters when *convert()* fails

Parameters **alpha2** (*string*) – alpha2 code that failed conversion

class babelfish.exceptions.**CountryReverseError** (*code*)

Exception raised by converters when *reverse()* fails

Parameters **code** (*string*) – code that failed reverse conversion

Changelog

6.1 0.5.5

release date: 2015-10-31

- Fix hasattr on Country object when called with an invalid attribute

6.2 0.5.4

release date: 2015-01-24

- Fix setuptools deprecation warning

6.3 0.5.3

release date: 2014-06-22

- Better equality semantics for Language, Country, Script

6.4 0.5.2

release date: 2014-05-25

- Babelfish objects (Language, Country, Script) are now picklable
- Added support for Python 3.4

6.5 0.5.1

release date: 2014-01-26

- Add a register method to ConverterManager to register without loading

6.6 0.5.0

release date: 2014-01-25

WARNING: Backward incompatible changes

- Simplify converter management with ConverterManager class
- Make babelfish usable in place
- Add Python 2.6 / 3.2 compatibility

6.7 0.4.0

release date: 2013-11-21

WARNING: Backward incompatible changes

- Add converter support for Country
- Language/country reverse name detection is now case-insensitive
- Add alpha3t, scope and type converters
- Use lazy loading of converters

6.8 0.3.0

release date: 2013-11-09

- Add support for scripts
- Improve built-in converters
- Add support for ietf

6.9 0.2.1

release date: 2013-11-03

- Fix reading of data files

6.10 0.2.0

release date: 2013-10-31

- Add str method
- More explicit exceptions
- Change repr format to use ascii only

6.11 0.1.5

release date: 2013-10-21

- Add a fromcode method on Language class
- Add a codes attribute on converters

6.12 0.1.4

release date: 2013-10-20

- Fix converters not raising NoConversionError

6.13 0.1.3

release date: 2013-09-29

- Fix source distribution

6.14 0.1.2

release date: 2013-09-29

- Add missing files to source distribution

6.15 0.1.1

release date: 2013-09-28

- Fix python3 support

6.16 0.1

release date: 2013-09-28

- Initial version

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