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# **BibtexParser Documentation**

*Release 1.1.0*

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BibtexParser is a python library to parse bibtex files. The code relies on [pyparsing](#) and is tested with unittests.

If you use BibtexParser for your project, feel free to send me an email. I would be happy to hear that and to mention your project in the documentation.

Contents:



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## How to install and test?

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### 1.1 How to install?

#### 1.1.1 Requirements

- python 2.7 or python 3.3 or newer
- pyparsing 2.0.3 or newer

#### 1.1.2 Package manager (recommended for those OS users)

- Archlinux
- Debian

#### 1.1.3 pip (recommended to other users)

To install with pip:

```
pip install bibtexparser
```

#### 1.1.4 Manual installation (recommended for packagers)

Download the archive on [Pypi](#).

```
python setup.py install
```

## 1.2 How to run the test suite?

This paragraph briefly describes how to run the test suite. This is useful for contributors, for packagers but also for users who wants to check their environment.

### 1.2.1 Virtualenv

You can make a virtualenv. I like `pew` for that because the API is easier.

The first time, you need to make a virtualenv

```
pew mkproject bibtexparser
pip install -r requirements.txt
python setup.py install
nose-test
```

If you already have a virtualenv, you can use `workon`

```
pew workon bibtexparser
```

### 1.2.2 Tox

The advantage of `Tox` is that you can build and test the code against several versions of python. Of course, you need `tox` to be installed on your system. The configuration file is `tox.ini`, in the root of the project. There, you can change the python versions.

```
tox # and nothing more :)
```



## 2.1 Step 0: Vocabulary

- An **entry** designates for example `@book{...}`, `@article{...}`, etc.
- A **comment** is written as `@comment{...}`.
- A **preamble** is a `@preamble{...}` block.
- A **string** is `@string{...}`.

In an entry, you can find

- an **entry type** like *article*, *book*, etc.
- **entry keys** or **keys** such as *author*, *title*, *year*...
- and also **records**, which designates the values of those keys.

## 2.2 Step 1: Prepare a BibTeX file

First, we prepare a BibTeX sample file. This is just for the purpose of illustration:

```
bibtex = ""@ARTICLE{Cesar2013,
  author = {Jean César},
  title = {An amazing title},
  year = {2013},
  volume = {12},
  pages = {12--23},
  journal = {Nice Journal},
  abstract = {This is an abstract. This line should be long enough to test
    multilines...},
  comments = {A comment},
  keywords = {keyword1, keyword2}
```

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```
}  
"""  
  
with open('bibtex.bib', 'w') as bibfile:  
    bibfile.write(bibtex)
```

## 2.3 Step 2: Parse it!

### 2.3.1 Simplest call

OK. Everything is in place. Let's parse the BibTeX file.

```
import bibtexparser  
  
with open('bibtex.bib') as bibtex_file:  
    bib_database = bibtexparser.load(bibtex_file)  
  
print(bib_database.entries)
```

It prints a list of dictionaries for reference entries, for example books, articles:

```
[{'journal': 'Nice Journal',  
  'comments': 'A comment',  
  'pages': '12--23',  
  'abstract': 'This is an abstract. This line should be long enough to_  
↳test\nmultilines...',  
  'title': 'An amazing title',  
  'year': '2013',  
  'volume': '12',  
  'ID': 'Cesar2013',  
  'author': 'Jean César',  
  'keyword': 'keyword1, keyword2',  
  'ENTRYTYPE': 'article'}]
```

Note that, by convention, uppercase keys (ID, ENTRYTYPE) are data generated by the parser, while lowercase keys come from the original bibtex file.

You can also print comments, preambles and string:

```
print(bib_database.comments)  
print(bib_database.preambles)  
print(bib_database.strings)
```

---

**Note:** If your bibtex contains months defined as strings such as `month = jan`, you will need to parse it with the `common_strings` option: `bib_database = bibtexparser.bparser.BibTexParser(common_strings=True).parse_file(bibtex_file)`. (More in *Using bibtex strings*.)

---

### 2.3.2 Parse a string

If for some reason, you prefer to parse a string, that's also possible:

```
import bibtexparser

with open('bibtex.bib') as bibtex_file:
    bibtex_str = bibtex_file.read()

bib_database = bibtexparser.loads(bibtex_str)
```

### 2.3.3 Tune parser's options

In the previous snippet, several default options are used. You can tweak them as you wish.

```
import bibtexparser
from bibtexparser.bparser import BibTexParser

parser = BibTexParser(common_strings=False)
parser.ignore_nonstandard_types = False
parser.homogenise_fields = False

bib_database = bibtexparser.loads(bibtex_str, parser)
```

**Note:** The `common_strings` option needs to be set when the parser object is created and has no effect if changed afterwards.

## 2.4 Step 3: Export

Once you worked on your parsed database, you may want to export the result. This library provides some functions to help on that. However, you can write your own functions if you have specific requirements.

### 2.4.1 Create a BibTeX file or string

The bibliographic data can be converted back into a string :

```
import bibtexparser

bibtex_str = bibtexparser.dumps(bib_database)
```

or a BibTeX file like this:

```
import bibtexparser

with open('bibtex.bib', 'w') as bibtex_file:
    bibtexparser.dump(bibtex_database, bibtex_file)
```

### 2.4.2 Call the writer

In the first section we prepared a BibTeX sample file, we can prepare the same file using pure python and the `BibTexWriter` class.

```

from bibtexparser.bwriter import BibTexWriter
from bibtexparser.bibdatabase import BibDatabase

db = BibDatabase()
db.entries = [
    {'journal': 'Nice Journal',
     'comments': 'A comment',
     'pages': '12--23',
     'month': 'jan',
     'abstract': 'This is an abstract. This line should be long enough to
↳test\nmultilines...'},
    {'title': 'An amazing title',
     'year': '2013',
     'volume': '12',
     'ID': 'Cesar2013',
     'author': 'Jean César',
     'keyword': 'keyword1, keyword2',
     'ENTRYTYPE': 'article'}}]

writer = BibTexWriter()
with open('bibtex.bib', 'w') as bibfile:
    bibfile.write(writer.write(db))

```

This code generates the following file:

```

@article{Cesar2013,
  abstract = {This is an abstract. This line should be long enough to test
multilines...},
  author = {Jean César},
  comments = {A comment},
  journal = {Nice Journal},
  keyword = {keyword1, keyword2},
  month = {jan},
  pages = {12--23},
  title = {An amazing title},
  volume = {12},
  year = {2013}
}

```

The writer also has several flags that can be enabled to customize the output file. For example we can use `indent` and `comma_first` to customize the previous entry, first the code:

```

from bibtexparser.bwriter import BibTexWriter
from bibtexparser.bibdatabase import BibDatabase

db = BibDatabase()
db.entries = [
    {'journal': 'Nice Journal',
     'comments': 'A comment',
     'pages': '12--23',
     'month': 'jan',
     'abstract': 'This is an abstract. This line should be long enough to
↳test\nmultilines...'},
    {'title': 'An amazing title',
     'year': '2013',
     'volume': '12',
     'ID': 'Cesar2013',

```

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```

    'author': 'Jean César',
    'keyword': 'keyword1, keyword2',
    'ENTRYTYPE': 'article'}}

writer = BibTexWriter()
writer.indent = '    ' # indent entries with 4 spaces instead of one
writer.comma_first = True # place the comma at the beginning of the line
with open('bibtex.bib', 'w') as bibfile:
    bibfile.write(writer.write(db))

```

This code results in the following, customized, file:

```

@article{Cesar2013
,   abstract = {This is an abstract. This line should be long enough to test
multilines...}
,   author = {Jean César}
,   comments = {A comment}
,   journal = {Nice Journal}
,   keyword = {keyword1, keyword2}
,   month = {jan}
,   pages = {12--23}
,   title = {An amazing title}
,   volume = {12}
,   year = {2013}
}

```

Flags to the writer object can modify not only how an entry is printed but how several BibTeX entries are sorted and separated. See the *API* for the full list of flags.

## 2.5 Step 4: Add salt and pepper

In this section, we discuss about some customizations and details.

### 2.5.1 Customizations

By default, the parser does not alter the content of each field and keeps it as a simple string. There are many cases where this is not desired. For example, instead of a string with a multiple of authors, it could be parsed as a list.

To modify field values during parsing, a callback function can be supplied to the parser which can be used to modify BibTeX entries. The library includes several functions which may be used. Alternatively, you can read them to create your own functions.

```

import bibtexparser
from bibtexparser.bparser import BibTexParser
from bibtexparser.customization import *

# Let's define a function to customize our entries.
# It takes a record and return this record.
def customizations(record):
    """Use some functions delivered by the library

    :param record: a record
    :returns: -- customized record

```

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```

"""
record = type(record)
record = author(record)
record = editor(record)
record = journal(record)
record = keyword(record)
record = link(record)
record = page_double_hyphen(record)
record = doi(record)
return record

with open('bibtex.bib') as bibtex_file:
    parser = BibTexParser()
    parser.customization = customizations
    bib_database = bibtexparser.load(bibtex_file, parser=parser)
    print(bib_database.entries)

```

If you think that you have a customization which could be useful to others, please share with us!

## 2.5.2 Accents and weird characters

Your bibtex may contain accents and specific characters. They are sometimes coded like this `\'e` but this is not the correct way, `{\'e}` is preferred. Moreover, you may want to manipulate `é`. There is different situations:

- Case 1: you plan to use this library to work with latex and you assume that the original bibtex is clean. You have nothing to do.
- Case 2: you plan to use this library to work with latex but your bibtex is not really clean.

```

import bibtexparser
from bibtexparser.bparser import BibTexParser
from bibtexparser.customization import homogenize_latex_encoding

with open('bibtex.bib') as bibtex_file:
    parser = BibTexParser()
    parser.customization = homogenize_latex_encoding
    bib_database = bibtexparser.load(bibtex_file, parser=parser)
    print(bib_database.entries)

```

- Case 3: you plan to use this library to work with something different and your bibtex is not really clean. Then, you probably want to use unicode.

```

import bibtexparser
from bibtexparser.bparser import BibTexParser
from bibtexparser.customization import convert_to_unicode

with open('bibtex.bib') as bibtex_file:
    parser = BibTexParser()
    parser.customization = convert_to_unicode
    bib_database = bibtexparser.load(bibtex_file, parser=parser)
    print(bib_database.entries)

```

---

**Note:** If you want to mix different customization functions, you can write your own function.

---

### 2.5.3 Using bibtex strings

**Warning:** support for bibtex strings representation is still an experimental feature; the way strings are represented is likely to change in future releases.

Bibtex strings and string expressions are expanded by default into the value they represent. This behavior is controlled by the `interpolate_string` argument of the `BibTexParser`. It defaults to `True` but can be set to `False`, in which case bibtex strings and string expressions from input files are represented with the `bibdatabase`. `BibDataString` and `bibdatabase.BibDataStringExpression` from the `bibdatabase` module. Both classes retain the intrinsic structure of the string or expression so that they can be written to a new file, the same way. Each instance provides a `get_value()` method to interpolate the string or expression and the module also provide an `bibdatabase.as_text()` helper to expand a string or an expression when needed.

Using the code would yield the following output.

```
from bibtexparser.bparser import BibTexParser
from bibtexparser.bibdatabase import as_text

bibtex = """@STRING{ jean = "Jean"}

@ARTICLE{Cesar2013,
  author = jean # { César},
  title = {An amazing title},
  year = {2013},
  month = jan,
  volume = {12},
  pages = {12--23},
  journal = {Nice Journal},
}
"""

bp = BibTexParser(interpolate_strings=False)
bib_database = bp.parse(bibtex)
bib_database.entries[0]
as_text(bd.entries[0]['author'])
```

```
{'ENTRYTYPE': 'article',
 'ID': 'Cesar2013',
 'author': BibDataStringExpression([BibDataString('jean'), ' César']),
 'journal': 'Nice Journal',
 'month': BibDataStringExpression([BibDataString('jan')]),
 'pages': '12--23',
 'title': 'An amazing title',
}
'Jean César'
```

#### Contents

- *bibtexparser: API*
  - *bibtexparser — Parsing and writing BibTeX files*
  - *bibtexparser.bibdatabase — The bibliographic database object*

- `bibtexparser.bparser` — *Tune the default parser*
- `bibtexparser.customization` — *Functions to customize records*
  - \* *Exception classes*
- `bibtexparser.bwriter` — *Tune the default writer*
- `bibtexparser.bibtexexpression` — *Parser's core relying on pyparsing*



### 3.1 bibtexparser — Parsing and writing BibTeX files

BibTeX is a bibliographic data file format.

The `bibtexparser` module can parse BibTeX files and write them. The API is similar to the `json` module. The parsed data is returned as a simple `BibDatabase` object with the main attribute being `entries` representing bibliographic sources such as books and journal articles.

The following functions provide a quick and basic way to manipulate a BibTeX file. More advanced features are also available in this module.

Parsing a file is as simple as:

```
import bibtexparser
with open('bibtex.bib') as bibtex_file:
    bibtex_database = bibtexparser.load(bibtex_file)
```

And writing:

```
import bibtexparser
with open('bibtex.bib', 'w') as bibtex_file:
    bibtexparser.dump(bibtex_database, bibtex_file)
```

`bibtexparser.load(bibtex_file, parser=None)`

Load `BibDatabase` object from a file

**Parameters**

- **bibtex\_file** (*file*) – input file to be parsed
- **parser** (`BibTexParser`) – custom parser to use (optional)

**Returns** bibliographic database object

**Return type** `BibDatabase`

Example:

```
import bibtexparser
with open('bibtex.bib') as bibtex_file:
    bibtex_database = bibtexparser.load(bibtex_file)
```

`bibtexparser.load`(*bibtex\_str*, *parser=None*)

Load BibDatabase object from a string

**Parameters**

- **bibtex\_str** (*str* or *unicode*) – input BibTeX string to be parsed
- **parser** (*BibTexParser*) – custom parser to use (optional)

**Returns** bibliographic database object

**Return type** *BibDatabase*

`bibtexparser.dumps`(*bib\_database*, *writer=None*)

Dump BibDatabase object to a BibTeX string

**Parameters**

- **bib\_database** (*BibDatabase*) – bibliographic database object
- **writer** (*BibTexWriter*) – custom writer to use (optional) (not yet implemented)

**Returns** BibTeX string

**Return type** *unicode*

`bibtexparser.dump`(*bib\_database*, *bibtex\_file*, *writer=None*)

Dump BibDatabase object as a BibTeX text file

**Parameters**

- **bib\_database** (*BibDatabase*) – bibliographic database object
- **bibtex\_file** (*file*) – file to write to
- **writer** (*BibTexWriter*) – custom writer to use (optional) (not yet implemented)

Example:

```
import bibtexparser
with open('bibtex.bib', 'w') as bibtex_file:
    bibtexparser.dump(bibtex_database, bibtex_file)
```

## 3.2 `bibtexparser.bibdatabase` — The bibliographic database object

**class** `bibtexparser.bibdatabase.BibDatabase`

Bibliographic database object that follows the data structure of a BibTeX file.

**comments** = *None*

List of BibTeX comment (*@comment{...}*) blocks.

**entries** = *None*

List of BibTeX entries, for example *@book{...}*, *@article{...}*, etc. Each entry is a simple dict with BibTeX field-value pairs, for example *'author': 'Bird, R.B. and Armstrong, R.C. and Hassager, O.'* Each entry will always have the following dict keys (in addition to other BibTeX fields):

- *ID* (BibTeX key)
- *ENTRYTYPE* (entry type in lowercase, e.g. *book*, *article* etc.)

**entries\_dict**

Return a dictionary of BibTeX entries. The dict key is the BibTeX entry key

**preambles = None**

List of BibTeX preamble (*@preamble{...}*) blocks.

**strings = None**

OrderedDict of BibTeX string definitions (*@string{...}*). In order of definition.

### 3.3 bibtexparser.bparser — Tune the default parser

```
class bibtexparser.bparser.BibTexParser (data=None, customization=None, ignore_nonstandard_types=True, homogenize_fields=False, interpolate_strings=True, common_strings=False, add_missing_from_crossref=False)
```

A parser for reading BibTeX bibliographic data files.

Example:

```
from bibtexparser.bparser import BibTexParser

bibtex_str = ...

parser = BibTexParser()
parser.ignore_nonstandard_types = False
parser.homogenize_fields = False
parser.common_strings = False
bib_database = bibtexparser.loads(bibtex_str, parser)
```

#### Parameters

- **customization** – function or None (default) Customization to apply to parsed entries.
- **ignore\_nonstandard\_types** – bool (default True) If True ignores non-standard bibtex entry types.
- **homogenize\_fields** – bool (default False) Common field name replacements (as set in *alt\_dict* attribute).
- **interpolate\_strings** – bool (default True) If True, replace bibtex string by their value, else uses *BibDataString* objects.
- **common\_strings** – bool (default False) Include common string definitions (e.g. month abbreviations) to the bibtex file.
- **add\_missing\_from\_crossref** – bool (default False) Resolve BibTeX references set in the *crossref* field for BibTeX entries and add the fields from the referenced entry to the referencing entry.

**common\_strings = None**

Load common strings such as months abbreviation Default: *False*.

**customization = None**

Callback function to process BibTeX entries after parsing, for example to create a list from a string with multiple values. By default all BibTeX values are treated as simple strings. Default: *None*.

**homogenize\_fields = None**

Sanitize BibTeX field names, for example change *url* to *link* etc. Field names are always converted to lowercase names. Default: *False*.

**ignore\_nonstandard\_types = None**

Ignore non-standard BibTeX types (*book*, *article*, etc). Default: *True*.

**interpolate\_strings = None**

Interpolate BibTeX Strings or keep the structure

**parse** (*bibtex\_str*, *partial=False*)

Parse a BibTeX string into an object

**Parameters**

- **bibtex\_str** – BibTeX string
- **partial** – If True, print errors only on parsing failures. If False, an exception is raised.

**Type** str or unicode

**Type** boolean

**Returns** bibliographic database

**Return type** *BibDatabase*

**parse\_file** (*file*, *partial=False*)

Parse a BibTeX file into an object

**Parameters**

- **file** – BibTeX file or file-like object
- **partial** – If True, print errors only on parsing failures. If False, an exception is raised.

**Type** file

**Type** boolean

**Returns** bibliographic database

**Return type** *BibDatabase*

## 3.4 bibtexparser.customization — Functions to customize records

A set of functions useful for customizing bibtex fields. You can find inspiration from these functions to design yours. Each of them takes a record and return the modified record.

**bibtexparser.customization.splitname** (*name*, *strict\_mode=True*)

Break a name into its constituent parts: First, von, Last, and Jr.

**Parameters**

- **name** (*string*) – a string containing a single name
- **strict\_mode** (*Boolean*) – whether to use strict mode

**Returns** dictionary of constituent parts

Raises `customization.InvalidName` – If an invalid name is given and `strict_mode = True`.

In BibTeX, a name can be represented in any of three forms:

- First von Last
- von Last, First
- von Last, Jr, First

This function attempts to split a given name into its four parts. The returned dictionary has keys of `first`, `last`, `von` and `jr`. Each value is a list of the words making up that part; this may be an empty list. If the input has no non-whitespace characters, a blank dictionary is returned.

It is capable of detecting some errors with the input name. If the `strict_mode` parameter is `True`, which is the default, this results in a `customization.InvalidName` exception being raised. If it is `False`, the function continues, working around the error as best it can. The errors that can be detected are listed below along with the handling for non-strict mode:

- Name finishes with a trailing comma: delete the comma
- Too many parts (e.g., von Last, Jr, First, Error): merge extra parts into First
- Unterminated opening brace: add closing brace to end of input
- Unmatched closing brace: add opening brace at start of word

`bibtexparser.customization.getnames` (*names*)

Convert people names as surname, firstnames or surname, initials.

**Parameters** `names` (*list*) – a list of names

**Returns** `list` – Correctly formatted names

---

**Note:** This function is known to be too simple to handle properly the complex rules. We would like to enhance this in forthcoming releases.

---

`bibtexparser.customization.author` (*record*)

Split author field into a list of “Name, Surname”.

**Parameters** `record` (*dict*) – the record.

**Returns** `dict` – the modified record.

`bibtexparser.customization.editor` (*record*)

Turn the editor field into a dict composed of the original editor name and a editor id (without coma or blank).

**Parameters** `record` (*dict*) – the record.

**Returns** `dict` – the modified record.

`bibtexparser.customization.journal` (*record*)

Turn the journal field into a dict composed of the original journal name and a journal id (without coma or blank).

**Parameters** `record` (*dict*) – the record.

**Returns** `dict` – the modified record.

`bibtexparser.customization.keyword` (*record*, *sep='|'*)

Split keyword field into a list.

**Parameters**

- **record**(*string*, *optional*) – the record.
- **sep** – pattern used for the splitting regexp.

**Returns** dict – the modified record.

`bibtexparser.customization.link(record)`

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

`bibtexparser.customization.page_double_hyphen(record)`

Separate pages by a double hyphen (-).

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

`bibtexparser.customization.doi(record)`

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

`bibtexparser.customization.type(record)`

Put the type into lower case.

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

`bibtexparser.customization.convert_to_unicode(record)`

Convert accent from latex to unicode style.

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

`bibtexparser.customization.homogenize_latex_encoding(record)`

Homogenize the latex encoding style for bibtex

This function is experimental.

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

`bibtexparser.customization.add_plaintext_fields(record)`

For each field in the record, add a *plain\_* field containing the plaintext, stripped from braces and similar. See <https://github.com/sciunto-org/python-bibtexparser/issues/116>.

**Parameters** **record**(*dict*) – the record.

**Returns** dict – the modified record.

### 3.4.1 Exception classes

**class** `bibtexparser.customization.InvalidName`

Exception raised by `customization.splitname()` when an invalid name is input.

### 3.5 bibtexparser.bwriter — Tune the default writer

**class** bibtexparser.bwriter.**BibTexWriter** (*write\_common\_strings=False*)  
 Writer to convert a BibDatabase object to a string or file formatted as a BibTeX file.

Example:

```
from bibtexparser.bwriter import BibTexWriter

bib_database = ...

writer = BibTexWriter()
writer.contents = ['comments', 'entries']
writer.indent = ' '
writer.order_entries_by = ('ENTRYTYPE', 'author', 'year')
bibtex_str = bibtexparser.dumps(bib_database, writer)
```

**add\_trailing\_comma = None**

BibTeX syntax allows the comma to be optional at the end of the last field in an entry. Use this to enable writing this last comma in the bwriter output. Defaults: False.

**comma\_first = None**

BibTeX syntax allows comma first syntax (common in functional languages), use this to enable comma first syntax as the bwriter output

**common\_strings = None**

Whether common strings are written

**contents = None**

List of BibTeX elements to write, valid values are *entries*, *comments*, *preambles*, *strings*.

**display\_order = None**

Tuple of fields for display order in a single BibTeX entry. Fields not listed here will be displayed alphabetically at the end. Set to '[]' for alphabetical order. Default: '[]'

**entry\_separator = None**

Character(s) for separating BibTeX entries. Default: new line.

**indent = None**

Character(s) for indenting BibTeX field-value pairs. Default: single space.

**order\_entries\_by = None**

Tuple of fields for ordering BibTeX entries. Set to *None* to disable sorting. Default: BibTeX key ('ID', ).

**write** (*bib\_database*)

Converts a bibliographic database to a BibTeX-formatted string.

**Parameters** **bib\_database** (*BibDatabase*) – bibliographic database to be converted to a BibTeX string

**Returns** BibTeX-formatted string

**Return type** str or unicode

## 3.6 `bibtexparser.bibtexexpression` — Parser's core relying on `pyarsing`

**class** `bibtexparser.bibtexexpression.BibtexExpression`

Gives access to `pyarsing` expressions.

Attributes are `pyarsing` expressions for the following elements:

- `main_expression`: the bibtex file
- `string_def`: a string definition
- `preamble_decl`: a preamble declaration
- `explicit_comment`: an explicit comment
- `entry`: an entry definition
- `implicit_comment`: an implicit comment

**exception** `ParseException` (*pstr, loc=0, msg=None, elem=None*)

Exception thrown when parse expressions don't match class; supported attributes by name are: - `lineno` - returns the line number of the exception text - `col` - returns the column number of the exception text - `line` - returns the line containing the exception text

Example:

```
try:
    Word(nums).setName("integer").parseString("ABC")
except ParseException as pe:
    print(pe)
    print("column: {}".format(pe.col))
```

prints:

```
Expected integer (at char 0), (line:1, col:1)
column: 1
```

**static** `explain` (*exc, depth=16*)

Method to take an exception and translate the Python internal traceback into a list of the `pyarsing` expressions that caused the exception to be raised.

Parameters:

- `exc` - exception raised during parsing (need not be a `ParseException`, in support of Python exceptions that might be raised in a parse action)
- `depth` (default=16) - number of levels back in the stack trace to list expression and function names; if `None`, the full stack trace names will be listed; if 0, only the failing input line, marker, and exception string will be shown

Returns a multi-line string listing the `ParserElements` and/or function names in the exception's stack trace.

Note: the diagnostic output will include string representations of the expressions that failed to parse. These representations will be more helpful if you use `setName` to give identifiable names to your expressions. Otherwise they will use the default string forms, which may be cryptic to read.

`explain()` is only supported under Python 3.

**add\_log\_function** (*log\_fun*)

Add notice to logger on entry, comment, preamble, string definitions.

Parameters `log_fun` – logger function



**set\_string\_expression\_parse\_action** (*fun*)  
Set the parseAction for string\_expression expression.

---

**Note:** See set\_string\_name\_parse\_action.

---

**set\_string\_name\_parse\_action** (*fun*)  
Set the parseAction for string name expression.

---

**Note:** For some reason pyarsing duplicates the string\_name expression so setting its parseAction a posteriori has no effect in the context of a string expression. This is why this function should be used instead.

---

`bibtexparser.bibtexexpression.add_logger_parse_action` (*expr, log\_func*)  
Register a callback on expression parsing with the adequate message.

`bibtexparser.bibtexexpression.field_to_pair` (*string\_, location, token*)  
Looks for parsed element named 'Field'.

**Returns** (name, value).

`bibtexparser.bibtexexpression.in_braces_or_pars` (*exp*)  
`exp -> (exp){exp}`

`bibtexparser.bibtexexpression.strip_after_new_lines` (*s*)  
Removes leading and trailing whitespaces in all but first line.

**Parameters** *s* – string or BibDataStringExpression



---

## How to report a bug?

---

Bugs can be reported on github or via private communications.

### 4.1 Steps

1. Make a minimal code, which reproduces the problem.
2. Provide the code, the bibtex (if necessary), the output.
3. For a parsing error, provide the expected output.
4. For a crash, set the logger to the debug level (see below).

If you want to provide a patch (that's wonderful! thank you), please, take few minutes to write a unit test that fails without your contribution.

### 4.2 Logging module to understand failures

Syntax of bibtex files is simple but there are many possible variations. This library probably fails for some of them.

Bibtexparser includes a large quantity of debug messages which helps to understand why and where the parser fails. The example below can be used to print these messages in the console.

```
import logging
import logging.config

logger = logging.getLogger(__name__)

logging.config.dictConfig({
    'version': 1,
    'disable_existing_loggers': False,
    'formatters': {
        'standard': {
```

(continues on next page)

(continued from previous page)

```
        'format': '%(asctime)s [%(levelname)s] %(name)s %(funcName)s:%(lineno)d:
↳%(message)s'
    },
},
'handlers': {
    'default': {
        'level': 'DEBUG',
        'formatter': 'standard',
        'class': 'logging.StreamHandler',
    },
},
'loggers': {
    '': {
        'handlers': ['default'],
        'level': 'DEBUG',
        'formatter': 'standard',
        'propagate': True
    }
}
})

if __name__ == '__main__':
    bibtex = """@ARTICLE{Cesar2013,
    author = {Jean César},
    title = {An amazing title},
    year = {2013},
    month = jan,
    volume = {12},
    pages = {12--23},
    journal = {Nice Journal},
    abstract = {This is an abstract. This line should be long enough to test
        multilines...},
    comments = {A comment},
    keywords = {keyword1, keyword2},
    }
    """

    with open('/tmp/bibtex.bib', 'w') as bibfile:
        bibfile.write(bibtex)

    from bibtexparser.bparser import BibTexParser

    with open('/tmp/bibtex.bib', 'r') as bibfile:
        bp = BibTexParser(bibfile.read())
        print(bp.get_entry_list())
```

I recommend you to use this output if you would like to report a bug.

---

## Bibtex tips, conventions and unrelated projects

---

This page presents various resources about bibtex in general.

### 5.1 Format

[http://maverick.inria.fr/~Xavier.Decoret/resources/xdkbibtex/bibtex\\_summary.html](http://maverick.inria.fr/~Xavier.Decoret/resources/xdkbibtex/bibtex_summary.html)

- Comments
- Variable
- @preamble
- Name convention

#### 5.1.1 Upper case letters in titles

Put the letter/word in curly braces like {this}.

#### 5.1.2 General references

- [http://tug.ctan.org/tex-archive/info/bibtex/tamethebeast/ttb\\_en.pdf](http://tug.ctan.org/tex-archive/info/bibtex/tamethebeast/ttb_en.pdf)
- <http://ctan.mirrors.hoobly.com/macros/latex/contrib/biblatex/doc/biblatex.pdf>

#### 5.1.3 IEEE citation reference

- <https://origin.www.ieee.org/documents/ieeecitationref.pdf>

### **5.1.4 Common Errors in Bibliographies John Owens**

- <http://www.ece.ucdavis.edu/~jowens/biberrors.html>

### **5.1.5 Common abbreviations for journals**

- Jabref list <http://jabref.sourceforge.net/resources.php#downloadlists>

## **5.2 Projects**

Here are some interesting projects using bibtex but not necessarily this parser.

### **5.2.1 Display your bibliography in html pages**

- <http://www.monperrus.net/martin/bibtexbrowser/>

---

### Who uses BibtexParser?

---

If your project uses BibtexParser, you can ask for the addition of a link in this list.

- <http://timotheepoisot.fr/2013/11/10/shared-bibtex-file-markdown/>
- <https://github.com/Phyks/BMC>
- <http://aurelien.naldi.info/research/publications.html>
- <http://robot.kut.ac.kr/publications>
- <https://git.atelo.org/etlapale/bibgen>
- <https://onmenwhostareongraphs.wordpress.com/2015/06/09/graph-display-software-for-author-relationships-with-bibtex-files/>
- <https://github.com/vitorfs/parsifal>





## CHAPTER 7

---

### Other projects

---

- <http://pybtex.sourceforge.net/>
- <http://pybliographer.org/>
- <https://github.com/matthew-brett/babybib>



## CHAPTER 8

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### Indices and tables

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