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# **Pyzotero Documentation**

***Release 0.9.4***

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A Python wrapper for the [Zotero API](#). You'll require a user ID and access key, which can be set up [here](#).



# INDICES AND TABLES

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





# INSTALLATION

Using pip: `pip install pyzotero`

From a local clone, if you wish to install Pyzotero from a specific branch:

```
git clone git://github.com/urschrei/pyzotero.git
cd pyzotero
git checkout dev
pip install .
```

Alternatively, download the latest version from <https://github.com/urschrei/pyzotero/tags>, and point pip at the zip file.  
Example: `pip install ~/Downloads/urschrei-pyzotero-v0.3-0-g04ff544.zip`

I assume that running `setup.py` will also work using `easy_install`, but I haven't tested it.

The `feedparser` (`>= 0.5.1`) and `pytz` modules are required. They will be automatically installed when installing Pyzotero using pip.

## 2.1 Testing

Run `tests.py` in the `pyzotero` directory, or, using `Nose`, `nosetests` from this directory. If you wish to see coverage statistics, run `nosetests --with-coverage --cover-package=pyzotero`.



# USAGE

## 3.1 Hello World

```
# retrieve the last five top-level items you added to your library
from pyzotero import zotero
zot = zotero.Zotero(user_id, user_key)
zot.add_parameters(limit = 5)
items = zot.top()
# print each item's item type and ID
for item in items:
    print 'Item Type: %s | Key: %s' % (item['itemType'], item['key'])
```

## 3.2 General Usage

First, create a new Zotero instance:

```
class pyzotero.zotero.Zotero(userID, userKey)
```

### Parameters

- **userID** (*str*) – a valid Zotero API user ID
- **userKey** (*str*) – a valid Zotero API user key

Example:

```
zot = zotero.Zotero(123, ABC1234XYZ)
```



# READ API METHODS

## 4.1 Retrieving Items

- `Zotero.items()`  
Returns Zotero library items  
**Return type** list of dicts
- `Zotero.top()`  
Returns top-level Zotero library items  
**Return type** list of dicts
- `Zotero.trash()`  
Returns library items from the user's trash  
**Return type** list of dicts
- `Zotero.item(itemID)`  
Returns a specific item  
**Parameters** `itemID` (*str*) – a Zotero item ID  
**Return type** list of dicts
- `Zotero.children(itemID)`  
Returns the child items of a specific item  
**Parameters** `itemID` (*str*) – a Zotero item ID  
**Return type** list of dicts
- `Zotero.tag_items(itemID)`  
Returns items for a specific tag  
**Parameters** `itemID` (*str*) – a Zotero item ID  
**Return type** list of dicts
- `Zotero.group_items(groupID)`  
Returns items from a specific group  
**Parameters** `groupID` (*str*) – a Zotero group ID  
**Return type** list of dicts
- `Zotero.group_trash(groupID)`  
Returns items from a specific group's trash  
**Parameters** `groupID` (*str*) – a Zotero group ID

**Return type** list of dicts

`Zotero.group_top(groupID)`

Returns top-level items from a specific group

**Parameters** `groupID (str)` – a Zotero group ID

**Return type** list of dicts

`Zotero.group_item(groupID, itemID)`

Returns a specific item from a specific group

**Parameters**

- `groupID (str)` – a Zotero group ID
- `itemID (str)` – a Zotero item ID

**Return type** list of dicts

`Zotero.group_item_children(groupID, itemID)`

Returns the child items of a specific item from a specific group

**Parameters**

- `groupID (str)` – a Zotero group ID
- `itemID (str)` – a Zotero item ID

**Return type** list of dicts

`Zotero.group_items_tag(groupID, tag)`

Returns a specific group's items for a specific tag

**Parameters**

- `groupID (str)` – a Zotero group ID
- `tag (str)` – a tag whose items you wish to return

**Return type** list of dicts

`Zotero.group_collection_items(groupID, collectionID)`

Returns a specific collection's items from a specific group

**Parameters**

- `groupID (str)` – a Zotero group ID
- `collectionID (str)` – a Zotero collection ID

**Return type** list of dicts

`Zotero.group_collection_item(groupID, collectionID, itemID)`

Returns a specific collection's item from a specific group

**Parameters**

- `groupID (str)` – a Zotero group ID
- `collectionID (str)` – a Zotero collection ID
- `itemID (str)` – a Zotero item ID

**Return type** list of dicts

`Zotero.group_collection_top(groupID, collectionID)`

Returns a specific collection's top-level items from a specific group

**Parameters**

- **groupID** (*str*) – a Zotero group ID
- **groupID** – a Zotero collection ID

**Return type** list of dicts**Zotero.collection\_items** (*collectionID*)

Returns items from the specified collection

**Parameters** **collectionID** (*str*) – a Zotero collection ID**Return type** list of dicts**Zotero.get\_subset** (*itemIDs*)

Retrieve an arbitrary set of non-adjacent items. Limited to 50 items per call.

**Parameters** **itemIDs** (*list*) – a list of Zotero Item IDs**Return type** list of dicts

Example of returned data:

```
[{'DOI': '',
  'ISSN': '1747-1532',
  'abstractNote': '',
  'accessDate': '',
  'archive': '',
  'archiveLocation': '',
  'callNumber': '',
  'creators': [{'creatorType': 'author',
                  'firstName': 'T. J.',
                  'lastName': 'McIntyre'}],
  'date': '2007',
  'extra': '',
  'issue': '',
  'itemType': 'journalArticle',
  'journalAbbreviation': '',
  'language': '',
  'libraryCatalog': 'Google Scholar',
  'pages': '',
  'publicationTitle': 'Journal of Intellectual Property Law & Practice',
  'rights': '',
  'series': '',
  'seriesText': '',
  'seriesTitle': '',
  'shortTitle': 'Copyright in custom code',
  'tags': [],
  'title': 'Copyright in custom code: Who owns commissioned software?',
  'updated': 'Mon, 14 Mar 2011 22:30:17 GMT',
  'url': '',
  'volume': ''} ... ]
```

See *'Hello World'* example, above

## 4.2 Retrieving Collections

**Zotero.collections** ()

Returns a user's collections

**Return type** list of dicts

`Zotero.collections_sub(collectionID)`

Returns a sub-collection from a specific collection

**Parameters** `collectionID` (*str*) – a Zotero library collection ID

**Return type** list of dicts

`Zotero.group_collections(groupID)`

Returns collections for a specific group

**Parameters** `groupID` (*str*) – a Zotero group ID

**Return type** list of dicts

`Zotero.group_collection(groupID, collectionID)`

Returns a specific collection from a specific group

**Parameters**

- `groupID` (*str*) – a Zotero group ID
- `collectionID` (*str*) – a Zotero collection ID

**Return type** list of dicts

Example of returned data:

```
[{'key': 'PRMD6BGB', 'name': "A Midsummer Night's Dream"} ... ]
```

## 4.3 Retrieving groups

`Zotero.groups()`

Retrieve the Zotero group data to which the current user key has access

**Return type** list of dicts

Example of returned data:

```
[{'description': u'%3Cp%3EBGerman+Cinema+and+related+literature.%3C%2Fp%3E',
  'fileEditing': u'none',
  'group_id': u'153',
  'hasImage': 1,
  'libraryEditing': u'admins',
  'libraryEnabled': 1,
  'libraryReading': u'all',
  'members': {u'0': 436,
               u'1': 6972,
               u'15': 499956,
               u'16': 521307,
               u'17': 619180},
  'name': u'German Cinema',
  'owner': 10421,
  'type': u'PublicOpen',
  'url': u''} ... ]
```



## 4.4 Retrieving Tags

`Zotero.tags()`

Returns a user's tags

**Return type** list of strings

`Zotero.item_tags(itemID)`

Returns tags from a specific item

**Parameters** `itemID` (*str*) – a valid Zotero library Item ID

**Return type** list of strings

`Zotero.group_tags(groupID)`

Returns tags from a specific group

**Parameters** `groupID` (*str*) – a valid Zotero library group ID

**Return type** list of strings

`Zotero.group_item_tags(groupID, itemID)`

Returns tags from a specific item from a specific group

**Parameters**

- `groupID` (*str*) – a valid Zotero library group ID
- `itemID` (*str*) – a valid Zotero library Item ID

**Return type** list of strings

Example of returned data:

```
['Authority in literature', 'Errata', ... ]
```

## 4.5 The `follow()` method

This method (currently experimental) aims to make Pyzotero a little more RESTful. Following any Read API call, calling `follow()` will repeat that call, but for the next *x* number of items, where *x* is either a number set by the user for the original call, or 50 by default. Each subsequent call to `follow()` will extend the offset.

Example:

```
from pyzotero import zotero
zot = zotero.Zotero(user_id, user_key)
# only retrieve a single item
zot.add_parameters(limit = 1)
# this will retrieve the most recently added/modified top-level item
first_item = zot.top()
# now we can start retrieving subsequent items
next_item = zot.follow()
third_item = zot.follow()
```

## 4.6 The `everything()` method

This method (currently experimental) will retrieve **all** library items specified by its argument: a valid Read API call.

Example:

```
from pyzotero import zotero
zot = zotero.Zotero(user_id, user_key)
# retrieve all top-level items
toplevel = zot.everything(zot.top())
```

The `everything()` method should work with all Pyzotero Read API calls, but has not yet been extensively tested. Feedback is welcomed.

## 4.7 Retrieving item counts

If you wish to retrieve item counts for subsets of a library, you can use the following methods:

```
Zotero.num_items()
    Returns the count of top-level items in the library

    Return type int

Zotero.num_collectionitems(collectionID)
    Returns the count of items in the specified collection

    Return type int

Zotero.num_tagitems(tag)
    Returns the count of items for the specified tag

    Return type int

Zotero.num_groupitems(groupID)
    Returns the count of items in the specified group

    Return type int
```

## 4.8 Additional Parameters for Read API calls

Additional parameters may be set on Read API methods using the following method. All parameters are optional. **You may also set a search term here, using the ‘itemType’, ‘q’, or ‘tag’ parameters.** This area of the API is under heavy development as of late 2011, and may change frequently. See [the API documentation](#) for the most up-to-date details of search syntax usage:

```
Zotero.add_parameters([limit=None, start=None, order=None, sort=None[, content=None[, style=None]]])
```

### Parameters

- **itemType** (*str*) – item type search
- **q** (*str*) – a search term, which currently matches titles and individual creator fields
- **tag** (*str*) – tag search
- **limit** (*int*) – 1 – 99 or None
- **start** (*int*) – 1 – total number of items in your library or None
- **order** (*str*) – any one of the following: “dateAdded”, “dateModified”, “title”, “creator”, “type”, “date”, “publisher”, “publication”, “journalAbbreviation”, “language”, “accessDate”, “libraryCatalog”, “callNumber”, “rights”, “addedBy”, “numItems”

- **sort** (*str*) – ‘asc’ or ‘desc’
- **content** (*str*) – ‘html’ or ‘bib’, default: ‘html’. If ‘bib’ is passed, you may also pass:
- **style** (*str*) – Any valid CSL style in the Zotero style repository

**Return type** list of HTML strings or None

Example:

```
zot.add_parameters(limit=7, start=3)
```

---

**Note:** Any parameters you set will be valid **for the next call only**

---

The special parameters `content` and `style`:

Example:

```
zot.add_parameters(content='bib', format='mla')
```

If these are set, the return value is a **list** of UTF-8 formatted HTML `div` elements, each containing an item:

```
['<div class="csl-entry">(content)</div>', ... ].
```

You may also set `content='citation'` if you wish to retrieve citations. Similar to `bib`, the result will be a list of one or more HTML `span` elements.



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# WRITE API METHODS

## 5.1 Item Methods

`Zotero.item_types()`

Returns a dict containing all available item types

**Return type** dict

`Zotero.item_fields()`

Returns a dict of all available item fields

**Return type** dict

`Zotero.item_creator_types(itemtype)`

Returns a dict of all valid creator types for the specified item type

**Parameters** `itemtype` (*str*) – a valid Zotero item type. A list of available item types can be obtained by the use of `item_types()`

**Return type** dict

`Zotero.creator_fields()`

Returns a dict containing all localised creator fields

**Return type** dict

`Zotero.item_type_fields(itemtype)`

Returns all valid fields for the specified item type

**Parameters** `itemtype` (*str*) – a valid Zotero item type. A list of available item types can be obtained by the use of `item_types()`

**Return type** list of dicts

`Zotero.item_template(itemtype)`

Returns an item creation template for the specified item type

**Parameters** `itemtype` (*str*) – a valid Zotero item type. A list of available item types can be obtained by the use of `item_types()`

**Return type** dict

`Zotero.check_items(items)`

Check whether items to be created on the server contain only valid keys. This method first creates a set of valid keys by calling `item_fields()`, then compares the user-created dicts to it. If any keys in the user-created dicts are unknown, a `KeyError` exception is raised.

**Parameters** `items` (*list*) – one or more dicts containing item data

**Return type** Boolean

`Zotero.create_items(items)`  
Create Zotero library items

**Parameters** `items` (*list*) – one or more dicts containing item data

**Return type** list of dicts

Returns a copy of the created item(s), if successful. The use of `item_template()` is recommended in order to first obtain a dict with a structure which the API will accept. Example:

```
template = zot.item_template('book')
template['creators'][0]['firstName'] = 'Monty'
template['creators'][0]['lastName'] = 'Cantsin'
template['title'] = 'Maris Kundzins: A Life'
resp = zot.create_items([template])
```

If successful, `resp` will have the same structure as items retrieved with an `items()` call, e.g. a list of one or more dicts (see *Item Data*, above).

`Zotero.update_item(item)`  
Update an item in your library

**Parameters** `item` (*dict*) – a dict containing item data

**Return type** Boolean

Example:

```
i = zot.items()
# see above for example of returned item structure
# modify the latest item which was added to your library
i[0]['title'] = 'The Sheltering Sky'
i[0]['creators'][0]['firstName'] = 'Paul'
i[0]['creators'][0]['lastName'] = 'Bowles'
zot.update_item(i[0])
```

`Zotero.delete_item(item)`  
Delete an item from your library

**Parameters** `item` (*dict*) – a dict containing item data. As in the previous example, you must first retrieve the item(s) you wish to delete, and pass it/them to the method one by one. Deletion of multiple items is most easily accomplished using e.g. a `for` loop.

**Return type** Boolean

Example:

```
i = zot.items()
# only delete the last five items we added
to_delete = i[:5]
for d in to_delete:
    zot.delete_item(d)
```

## 5.2 Collection Methods

`Zotero.create_collection(name)`  
Create a new collection in the Zotero library

**Parameters** **name** (*dict*) – dict containing the key `name` and the value of the new collection name you wish to create. May optionally contain a `parent` key, the value of which is the ID of an existing collection. If this is set, the collection will be created as a child of that collection.

**Return type** Boolean

`Zotero.addto_collection(collection, items)`

Add the specified item(s) to the specified collection

**Parameters**

- **collection** (*str*) – a collection key
- **items** (*list*) – list of one or more item dicts

**Return type** Boolean

Collection keys can be obtained by a call to `collections()` (see details above).

`Zotero.deletefrom_collection(collection, item)`

Remove the specified item from the specified collection

**Parameters**

- **collection** (*str*) – a collection key
- **item** (*dict*) – dict containing item data

**Return type** Boolean

See the `delete_item()` example for multiple-item removal.

`Zotero.update_collection(collection)`

Update an existing collection name

**Parameters** **collection** (*dict*) – a dict containing collection data, previously retrieved using one of the Collections calls (e.g. `collections()`)

**Return type** Boolean

Example:

```
# get existing collections, which will return a list of dicts
c = zot.collections()
# rename the last collection created in the library
c[0]['name'] = 'Whither Digital Humanities?'
# update collection name on the server
zot.update_collection(c[0])
```

`Zotero.delete_collection(collection)`

Delete a collection from the Zotero library

**Parameters** **collection** (*dict*) – a dict containing collection data, previously retrieved using one of the Collections calls (e.g. `collections()`)

**Return type** Boolean

See the `delete_item()` example for ways to delete multiple collections.





# NOTES

All Read API methods return **lists** of **dicts** or, in the case of tag methods, **lists** of **strings**. Most Write API methods return either `True` if successful, or raise an error. See `zotero_errors.py` for a full listing of these.

**Warning:** URL parameters will supersede API calls which should return e.g. a single item: `https://api.zotero.org/users/436/items/ABC?start=50&limit=10` will return 10 items beginning at position 50, even though ABC does not exist. Be aware of this, and don't pass URL parameters which do not apply to a given API method. This is a limitation/foible of the Zotero API, and there's nothing I can do about it.



# LICENSE

Pyzotero is licensed under the [GNU GPL Version 3](#) license, in line with Zotero's own license. Details can be found in the file `license.txt`.



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