

# Package ‘bedbaser’

July 23, 2025

**Title** A BEDbase client

**Version** 1.1.2

**Description** A client for BEDbase. bedbaser provides access to the API at [api.bedbase.org](https://api.bedbase.org). It also includes convenience functions to import BED files into GRanges objects and BEDsets into GRangesLists.

**URL** <https://github.com/waldronlab/bedbaser>

**BugReports** <https://github.com/waldronlab/bedbaser/issues>

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**License** Artistic License 2.0

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|                  |                                   |
|------------------|-----------------------------------|
| bedbaser-package | <i>bedbaser: A BEDbase client</i> |
|------------------|-----------------------------------|

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## Description

A client for BEDbase. bedbaser provides access to the API at [api.bedbase.org](https://api.bedbase.org). It also includes convenience functions to import BED files into GRanges objects and BEDsets into GRangesLists.

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## See Also

Useful links:

- <https://github.com/waldronlab/bedbaser>
- Report bugs at <https://github.com/waldronlab/bedbaser/issues>

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|                   |                                        |
|-------------------|----------------------------------------|
| bb_beds_in_bedset | <i>Get BEDs associated with BEDset</i> |
|-------------------|----------------------------------------|

---

**Description**

Return a tibble of BED files in BEDset given its id.

**Usage**

```
bb_beds_in_bedset(bedbase, bedset_id)
```

**Arguments**

|           |                                     |
|-----------|-------------------------------------|
| bedbase   | BEDbase() object                    |
| bedset_id | integer(1) BEDset record identifier |

**Value**

tibble of BED files in BEDset

**Examples**

```
bedbase <- BEDbase()
ex_bedset <- bb_example(bedbase, "bedset")
bb_beds_in_bedset(bedbase, ex_bedset$id)
```

---

|                    |                                 |
|--------------------|---------------------------------|
| bb_bed_text_search | <i>Search BED files by text</i> |
|--------------------|---------------------------------|

---

**Description**

Return all available BED files ranked by relevance to the keywords. Uses the [bedhost API](#) default of 10 records and an initial offset of 0.

**Usage**

```
bb_bed_text_search(bedbase, query, limit = 10, offset = 0)
```

**Arguments**

|         |                                                   |
|---------|---------------------------------------------------|
| bedbase | BEDbase() object                                  |
| query   | character() keywords to search                    |
| limit   | integer(1) (default 10) maximum number of results |
| offset  | integer(1) (default 0) page offset of results     |

**Value**

tibble of results

**Examples**

```
bedbase <- BEDbase()
bb_bed_text_search(bedbase, "hg38")
```

---

|            |                                                         |
|------------|---------------------------------------------------------|
| bb_example | <i>Get the example BED file or BEDset with metadata</i> |
|------------|---------------------------------------------------------|

---

**Description**

Get the example BED file or BEDset available through [bedhost](#). Useful for an initial exploration of bedbaser with an example BED file and BEDset in BEDbase.

**Usage**

```
bb_example(bedbase, rec_type = c("bed", "bedset"))
```

**Arguments**

|          |                            |
|----------|----------------------------|
| bedbase  | BEDbase() object           |
| rec_type | character(1) bed or bedset |

**Value**

list() bed files or bedsets

**Examples**

```
bedbase <- BEDbase()
ex_bed <- bb_example(bedbase, "bed")
str(ex_bed)
ex_bedset <- bb_example(bedbase, "bedset")
str(ex_bedset)
```

---

|              |                  |
|--------------|------------------|
| bb_list_beds | <i>List BEDs</i> |
|--------------|------------------|

---

**Description**

List BED files available through [bedhost](#). By default uses the bedhost default of 1000 records and an initial offset of 0.

**Usage**

```
bb_list_beds(
  bedbase,
  genome = NULL,
  bed_compliance = NULL,
  limit = 1000,
  offset = 0
)
```

**Arguments**

|                |                                                            |
|----------------|------------------------------------------------------------|
| bedbase        | BEDbase() object                                           |
| genome         | character(1) (default NULL) genome keyword                 |
| bed_compliance | character(1) (default NULL) bed compliance, e.g., 'bed6+4' |
| limit          | integer(1) (default 1000) maximum records                  |
| offset         | integer(1) (default 0) page token of records               |

**Value**

[tibble](#) of BED records

**Examples**

```
bedbase <- BEDbase()
bb_list_beds(bedbase)
```

---

|                 |                     |
|-----------------|---------------------|
| bb_list_bedsets | <i>List BEDsets</i> |
|-----------------|---------------------|

---

**Description**

List BEDsets available through [bedhost](#). By default uses the bedhost default of 1000 records and an initial offset of 0.

**Usage**

```
bb_list_bedsets(bedbase, query = "", limit = 1000, offset = 0)
```

**Arguments**

|         |                                              |
|---------|----------------------------------------------|
| bedbase | BEDbase() object                             |
| query   | character() (default "") keyword             |
| limit   | integer(1) (default 1000) maximum records    |
| offset  | integer(1) (default 0) page token of records |

**Value**

[tibble](#) of BEDset records

**Examples**

```
bedbase <- BEDbase()
bb_list_bedsets(bedbase)
```

---

|             |                                              |
|-------------|----------------------------------------------|
| bb_metadata | <i>Get metadata for a BED file or BEDset</i> |
|-------------|----------------------------------------------|

---

### Description

Get metadata for a BED file or BEDset given its id. Abort if not found or id is not not 32 characters.

### Usage

```
bb_metadata(bedbase, id, full = FALSE)
```

### Arguments

|         |                                                                                |
|---------|--------------------------------------------------------------------------------|
| bedbase | BEDbase() object                                                               |
| id      | integer(1) record or object identifier                                         |
| full    | logical(1) (default FALSE) include full record with stats, files, and metadata |

### Value

list() metadata

### Examples

```
bedbase <- BEDbase()

ex_bed <- bb_example(bedbase, "bed")
bb_metadata(bedbase, ex_bed$id)

ex_bedset <- bb_example(bedbase, "bedset")
bb_metadata(bedbase, ex_bedset$id)
```

---

|         |                                                        |
|---------|--------------------------------------------------------|
| bb_save | <i>Save a BED file or BEDset to a path given an id</i> |
|---------|--------------------------------------------------------|

---

### Description

Save a BED file or a BEDset to a local path. If the path does not exist, bb\_save() will abort.

### Usage

```
bb_save(bedbase, bed_or_bedset_id, path, quietly = TRUE)
```

### Arguments

|                  |                                            |
|------------------|--------------------------------------------|
| bedbase          | BEDbase() object                           |
| bed_or_bedset_id | integer(1) BED or BEDset record identifier |
| path             | character(1) directory to save file        |
| quietly          | logical(1) (default TRUE) display messages |

**Value**

An invisible NULL

**Examples**

```
bedbase <- BEDbase()
ex_bed <- bb_example(bedbase, "bed")
bb_save(bedbase, ex_bed$id, tempdir())
```

---

bb\_stats

*Get BEDbase statistics*


---

**Description**

Get statistics on available BED files, BEDsets, and genomes.

**Usage**

```
bb_stats(bedbase, detailed = FALSE)
```

**Arguments**

|          |                                                 |
|----------|-------------------------------------------------|
| bedbase  | BEDbase() object                                |
| detailed | logical(1) if TRUE display detailed information |

**Value**

An invisible NULL

**Examples**

```
bedbase <- BEDbase()
bb_stats(bedbase)
```

---

bb\_to\_granges

*Create a GRanges object given a BED id*


---

**Description**

Create a GRanges object given a BED id. Columns and types are generated for broad and narrow peak files. Known columns and types can be passed as a named vector through extra\_cols. Otherwise, bb\_to\_granges() attempts to determine the column type and substitute dummy column names.

**Usage**

```
bb_to_granges(bedbase, bed_id, extra_cols = NULL, quietly = TRUE)
```

**Arguments**

|            |                                                                            |
|------------|----------------------------------------------------------------------------|
| bedbase    | BEDbase() object                                                           |
| bed_id     | integer(1) BED record identifier                                           |
| extra_cols | character() (default NULL) extra column names to construct GRanges objects |
| quietly    | logical(1) (default TRUE) display messages                                 |

**Value**

[GRanges](#)

**Examples**

```
bedbase <- BEDbase()
ex_bed <- bb_example(bedbase, "bed")
bb_to_granges(bedbase, ex_bed$id)
```

---

|                   |                                               |
|-------------------|-----------------------------------------------|
| bb_to_grangeslist | Create a GRangesList object given a BEDset id |
|-------------------|-----------------------------------------------|

---

**Description**

Create a GRangesList object given a BEDset id

**Usage**

```
bb_to_grangeslist(bedbase, bedset_id, quietly = TRUE)
```

**Arguments**

|           |                                            |
|-----------|--------------------------------------------|
| bedbase   | BEDbase() object                           |
| bedset_id | integer(1) BEDset record identifier        |
| quietly   | logical(1) (default TRUE) display messages |

**Value**

[GRangesList](#)

**Examples**

```
bedbase <- BEDbase()
bedset_id <- "lola_hg38_ucsc_features"
bb_to_grangeslist(bedbase, bedset_id)
```

**Description**

bedbaser exposes the **bedhost API** and includes convenience functions for common tasks, such as to import a BED file by id into a GRanges object and a BEDset by its id into a GRangesList.

**Usage**

```
BEDbase(cache_path, quietly = FALSE)

getCache(x, cache_type = c("bedfiles", "bedsets"))

setCache(x, cache_path, quietly = TRUE)
```

**Arguments**

|            |                                            |
|------------|--------------------------------------------|
| cache_path | character(1)                               |
| quietly    | logical(1) (default TRUE) display messages |
| x          | BEDbase() object                           |
| cache_type | character(1) bedfiles or bedsets           |

**Details**

BEDbase() creates a cache similar to that of the **Geniml BBClient's cache**.

The convenience functions are as follows

- `bedbaser::BEDbase()`: API service constructor
- `bedbaser::getCache()`: Retrieve cache
- `bedbaser::setCache()`: Set path to cache
- `bedbaser::bb_stats()`: Retrieve BEDbase statistics
- `bedbaser::bb_example()`: Retrieve an example BED file or BEDset
- `bedbaser::bb_metadata()`: Retrieve metadata for a BED file or BEDset
- `bedbaser::bb_list_beds()`: List all BED files
- `bedbaser::bb_list_bedsets()`: List all BEDsets
- `bedbaser::bb_beds_in_bedset()`: List BED files in BEDset
- `bedbaser::bb_bed_text_search()`: Search BED files by text
- `bedbaser::bb_to_granges()`: Create a GRanges object from a BED id
- `bedbaser::bb_to_grangeslist()`: Create a GRangesList from a BEDset id
- `bedbaser::bb_save()`: Save a BED file to a path.

**Value**

BEDbase object

Examples

```
bedbase <- BEDbase(cache_path = tempdir())
ex_bed <- bb_example(bedbase, "bed")
bb_metadata(bedbase, ex_bed$id)
```

---

|               |                      |
|---------------|----------------------|
| BEDbase-class | <i>BEDbase class</i> |
|---------------|----------------------|

---

Description

BEDbase class

Value

BEDbase class instance

---

|                         |                          |
|-------------------------|--------------------------|
| getCache,BEDbase-method | <i>Return cache path</i> |
|-------------------------|--------------------------|

---

Description

Return cache path

Usage

```
## S4 method for signature 'BEDbase'
getCache(x, cache_type = c("bedfiles", "bedsets"))
```

Arguments

|            |                                  |
|------------|----------------------------------|
| x          | BEDbase() object                 |
| cache_type | character(1) bedfiles or bedsets |

Value

BiocFileCache() object of BED files

Examples

```
bedbase <- BEDbase(tempdir())
getCache(bedbase, "bedfiles")
```

---

operations,BEDbase-method  
*Display API functions*

---

### Description

Display functions defined through the **bedhost API** and their corresponding parameters.

### Usage

```
## S4 method for signature 'BEDbase'
operations(x, ..., .deprecated = FALSE)
```

### Arguments

|             |                               |
|-------------|-------------------------------|
| x           | BEDbase() object              |
| ...         | other options                 |
| .deprecated | (default FALSE) if deprecated |

### Value

list() API endpoints

### Examples

```
bedbase <- BEDbase()
operations(bedbase)
```

---

schemas,BEDbase-method  
*Display bedhost API schemas*

---

### Description

Display bedhost API schemas

### Usage

```
## S4 method for signature 'BEDbase'
schemas(x)
```

### Arguments

|   |                  |
|---|------------------|
| x | BEDbase() object |
|---|------------------|

### Value

list() API endpoints

**Examples**

```
bedbase <- BEDbase()
schemas(bedbase)
```

---

setCache, BEDbase-method

*Set cache along path*

---

**Description**

Create a cache for BED files and BEDsets like [Geniml BBClient's cache](#).

**Usage**

```
## S4 method for signature 'BEDbase'
setCache(x, cache_path, quietly = TRUE)
```

**Arguments**

|            |                                            |
|------------|--------------------------------------------|
| x          | BEDbase() object                           |
| cache_path | character(1)                               |
| quietly    | logical(1) (default TRUE) display messages |

**Value**

[BiocFileCache\(\)](#) object of BED files

**Examples**

```
bedbase <- BEDbase(tempdir())
bedbase <- setCache(bedbase, "/tmp")
```

---

tags, BEDbase-method

*Display functions for a tag*

---

**Description**

Display functions available through the API associated with a tag keyword in [bedhost](#).

**Usage**

```
## S4 method for signature 'BEDbase'
tags(x, .tags, .deprecated = FALSE)
```

**Arguments**

|                          |                                           |
|--------------------------|-------------------------------------------|
| <code>x</code>           | BEDbase() object                          |
| <code>.tags</code>       | character() tags for filtering operations |
| <code>.deprecated</code> | (default FALSE) if deprecated             |

**Value**

list() API endpoints

**Examples**

```
bedbase <- BEDbase()
unique(tags(bedbase)$tag)
tags(bedbase, "bedset")
```

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