

Package ‘BigDataPE’

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Title Secure and Intuitive Access to 'BigDataPE' 'API' Datasets

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Description Designed to simplify the process of retrieving datasets from the 'BigDataPE' platform using secure token-based authentication. It provides functions for securely storing, retrieving, and managing tokens associated with specific datasets, as well as fetching and processing data using the 'httr2' package. The integration with 'keyring' ensures that tokens are stored securely within the system's credential manager.

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Imports dplyr, tibble, httr2, keyring

URL <<https://github.com/StrategicProjects/bigdatape>>

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bdpe_fetch_chunks *Fetch data from the BigDataPE API in chunks*

Description

This function retrieves data from the BigDataPE API iteratively in chunks. It uses `bdpe_fetch_data` as the base function and supports limits for the total number of records to fetch and the size of each chunk.

Usage

```
bdpe_fetch_chunks(
  base_name,
  total_limit = Inf,
  chunk_size = 50000,
  query = list(),
  verbosity = 0,
  endpoint = "https://www.bigdata.pe.gov.br/api/buscar"
)
```

Arguments

<code>base_name</code>	A string specifying the name of the dataset associated with the token.
<code>total_limit</code>	An integer specifying the maximum number of records to fetch. Default is <code>Inf</code> (all available data).
<code>chunk_size</code>	An integer specifying the number of records to fetch per chunk. Default is 50000
<code>query</code>	A named list of additional query parameters to filter the API results. Default is an empty list.
<code>verbosity</code>	An integer specifying the verbosity level for the API requests. Values are: - 0: No verbosity (default). - 1: Minimal verbosity, showing request status. - 2: Detailed verbosity, including request and response details.
<code>endpoint</code>	A string specifying the API endpoint URL. Default is "https://www.bigdata.pe.gov.br/api/buscar".

Value

A tibble containing all the data retrieved from the API.

Examples

```
## Not run:
# Store a token for the dataset
bdpe_store_token("education_dataset", "your-token-here")

# Fetch up to 500 records in chunks of 100
data <- bdpe_fetch_chunks("education_dataset", total_limit = 500, chunk_size = 100)
```

```
# Fetch all available data in chunks of 200
data <- bdpe_fetch_chunks("education_dataset", chunk_size = 200)

## End(Not run)
```

bdpe_fetch_data	<i>Fetch data from the BigDataPE API</i>
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Description

This function retrieves data from the BigDataPE API using securely stored tokens associated with datasets. Users can specify pagination parameters (`limit` and `offset`) and additional query filters to customize the data retrieval.

Usage

```
bdpe_fetch_data(  
  base_name,  
  limit = Inf,  
  offset = 0,  
  query = list(),  
  verbosity = 0,  
  endpoint = "https://www.bigdata.pe.gov.br/api/buscar"  
)
```

Arguments

<code>base_name</code>	A string specifying the name of the dataset associated with the token.
<code>limit</code>	An integer specifying the maximum number of records to retrieve per request. Default is <code>Inf</code> (all records). If set to a non-positive value or <code>Inf</code> , no limit will be applied.
<code>offset</code>	An integer specifying the starting record for the query. Default is 0. If set to a non-positive value or <code>Inf</code> , no offset will be applied.
<code>query</code>	A named list of additional query parameters to filter the API results. Default is an empty list.
<code>verbosity</code>	An integer specifying the verbosity level for the API requests. Values are: - 0: No verbosity (default). - 1: Minimal verbosity, showing request status. - 2: Detailed verbosity, including request and response details.
<code>endpoint</code>	A string specifying the API endpoint URL. Default is "https://www.bigdata.pe.gov.br/api/buscar".

Value

A tibble containing the data returned by the API.

Examples

```
## Not run:
# Store a token for the dataset
bdpe_store_token("education_dataset", "your-token-here")

# Fetch 50 records from the beginning
data <- bdpe_fetch_data("education_dataset", limit = 50)

# Fetch records with additional query parameters
data <- bdpe_fetch_data("education_dataset", query = list(field = "value"))

# Fetch all data without limits
data <- bdpe_fetch_data("education_dataset", limit = Inf)

## End(Not run)
```

bdpe_get_token	<i>Retrieve the token associated with a specific dataset</i>
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Description

This function retrieves the authentication token securely stored for a specific dataset. If the token is not found, it returns NULL and prints a message instead of throwing an error.

Usage

```
bdpe_get_token(base_name)
```

Arguments

base_name	The name of the dataset.
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Value

A string containing the authentication token, or NULL if the token is not found.

Examples

```
token <- bdpe_get_token("education_dataset")
```

bdpe_list_tokens	<i>List all datasets with stored tokens</i>
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Description

This function returns a list of datasets that have stored tokens in the keyring. If the keyring cannot be accessed (e.g., in a virtual machine or unsupported environment), it returns an empty vector and prints a message.

Usage

```
bdpe_list_tokens()
```

Value

A character vector of dataset names with stored tokens. If the keyring cannot be accessed, an empty vector is returned with a message.

Examples

```
bdpe_list_tokens()
```

bdpe_remove_token	<i>Remove the token associated with a specific dataset</i>
-------------------	--

Description

This function removes the securely stored authentication token for a specific dataset. If the token is not found, it prints a message and does not throw an error.

Usage

```
bdpe_remove_token(base_name)
```

Arguments

base_name	The name of the dataset.
-----------	--------------------------

Value

No return value. If the token is found, it is removed. If not, a message is displayed.

Examples

```
bdpe_remove_token("education_dataset")
```

bdpe_store_token	<i>Store a token securely for a specific dataset</i>
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Description

This function securely stores an authentication token for a specific dataset using the keyring package. If the keyring is not accessible (e.g., in a virtual machine or unsupported environment), it prints a message and does not attempt to store the token.

Usage

```
bdpe_store_token(base_name, token)
```

Arguments

base_name	The name of the dataset.
token	The authentication token for the dataset.

Value

No return value. If the keyring is available, the token is securely stored. Otherwise, a message is displayed.

Examples

```
bdpe_store_token("education_dataset", "your-token-here")
```

parse_queries	<i>Constructs a URL with query parameters</i>
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Description

This function appends a list of query parameters to a base URL.

Usage

```
parse_queries(url, query_list)
```

Arguments

url	The base URL to which query parameters will be added.
query_list	A list of query parameters to be added to the URL.

Value

The complete URL with the query parameters appended.

Examples

```
parse_queries("https://www.example.com", list(param1 = "value1", param2 = "value2"))
```

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