Package ‘DSMolgenisArmadillo’

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armadillo ........................................... 2
armadillo.get_token ............................... 3
dsAggregate,ArmadilloConnection-method ........... 3
dAssignExpr,ArmadilloConnection-method .......... 4
dAssignResource,ArmadilloConnection-method ...... 4
dAssignTable,ArmadilloConnection-method ......... 5
dConnect,ArmadilloDriver-method ................. 6
dDisconnect,ArmadilloConnection-method .......... 7
dFetch,ArmadilloResult-method ................. 7
dGetInfo,ArmadilloConnection-method .......... 8
dGetInfo,ArmadilloDriver-method ............... 8
dGetInfo,ArmadilloResult-method ............... 9
dHasResource,ArmadilloConnection-method ....... 9
dHasTable,ArmadilloConnection-method .......... 10
dIsAsync,ArmadilloConnection-method .......... 10
dIsCompleted,ArmadilloResult-method .......... 11
dKeepAlive,ArmadilloConnection-method .......... 11
dListMethods,ArmadilloConnection-method ....... 12
dListPackages,ArmadilloConnection-method ...... 12
dListResources,ArmadilloConnection-method ..... 13
dListSymbols,ArmadilloConnection-method ...... 13
dListTables,ArmadilloConnection-method ....... 14
dListWorkspaces,ArmadilloConnection-method .... 14
dRmSymbol,ArmadilloConnection-method ......... 15
dRmWorkspace,ArmadilloConnection-method ...... 15
dSaveWorkspace,ArmadilloConnection-method ...... 16

Index 17

armadillo  Create an Armadillo DataSHIELD Service driver

Description

Convenience function for creating a [ArmadilloDriver] object.

Usage

armadillo()
armadillo.get_token  

Get ID Token

Description
Get an ID token to log in on an Armadillo server

Usage
armadillo.get_token(server)

Arguments
server  
the URL of the Armadillo server

Value
The ID token string

dsAggregate,ArmadilloConnection-method

Aggregate data

Description
Aggregate some data from the DataSHIELD R session using a valid R expression. The aggregation expression must satisfy the data repository’s DataSHIELD configuration.

Usage
## S4 method for signature 'ArmadilloConnection'
dsAggregate(conn, expr, async = TRUE)

Arguments
conn  
ArmadilloConnection-class object.
expr  
Expression to evaluate.
async  
Whether the result of the call should be retrieved asynchronously. When TRUE (default) the calls are parallelized over the connections, when the connection supports that feature, with an extra overhead of requests.
dsAssignExpr, ArmadilloConnection-method

Assign the result of an expression

Description

Assign a result of the execution of an expression in the DataSHIELD R session.

Usage

```r
## S4 method for signature 'ArmadilloConnection'
dsAssignExpr(conn, symbol, expr, async = TRUE)
```

Arguments

- **conn**: ArmadilloConnection-class object.
- **symbol**: Name of the R symbol.
- **expr**: A R expression with allowed assign functions calls.
- **async**: Whether the result of the call should be retrieved asynchronously. When TRUE (default) the calls are parallelized over the connections, when the connection supports that feature, with an extra overhead of requests.

Value

A ArmadilloResult-class object.

dsAssignResource, ArmadilloConnection-method

Assign a resource

Description

Assign a resource in the DataSHIELD R session.

Usage

```r
## S4 method for signature 'ArmadilloConnection'
dsAssignResource(conn, symbol, resource, async = TRUE)
```

Arguments

- **conn**: An object that inherits from DSConnection-class.
- **symbol**: Name of the R symbol.
- **resource**: Fully qualified name of a resource reference in the data repository.
- **async**: Whether the result of the call should be retrieved asynchronously.
### Assignment

A `ArmadilloResult-class` object.

---

### Description

Assign a R-data.frame in the DataSHIELD R session.

### Usage

```r
## S4 method for signature 'ArmadilloConnection'
dsAssignTable(
  conn, symbol, table, variables = NULL, missings = FALSE, identifiers = NULL, id.name = NULL, async = TRUE
)
```

### Arguments

- `conn` : ArmadilloConnection-class object.
- `symbol` : Name of the R symbol.
- `table` : Fully qualified name of the table.
- `variables` : The variables to load.
- `missings` : Not supported
- `identifiers` : Not supported
- `id.name` : Not supported
- `async` : When set, do not wait for the result.

### Value

A `ArmadilloResult-class` object.
dsConnect, ArmadilloDriver-method

Connect to an Armadillo DataSHIELD service

Description

Connect to an Armadillo DataSHIELD service, with provided credentials.

Usage

```r
## S4 method for signature 'ArmadilloDriver'

dsConnect(
  drv,
  name,
  restore = NULL,
  username = "",
  password = "",
  token = "",
  url,
  opts = list(),
  ...
)
```

Arguments

- **drv**: ArmadilloDriver-class class object.
- **name**: Name of the connection, which must be unique among all the DataSHIELD connections.
- **restore**: Workspace name to be restored in the newly created DataSHIELD R session.
- **username**: The username to authenticate with.
- **password**: The password to authenticate with.
- **token**: The ID token to authenticate with.
- **url**: URL of the server.
- **opts**: Curl options as described by httr (call httr::httr_options() for details). Can be provided by "Armadillo.opts" option.
- **...**: Unused, needed for compatibility with generic.

Value

A ArmadilloConnection-class object.
**dsDisconnect, ArmadilloConnection-method**

*Disconnect from an Armadillo DataSHIELD Service*

**Description**

Disconnect from an Armadillo DataSHIELD Service and release all R resources. If a workspace ID is provided, the DataSHIELD R session will be saved before being destroyed.

**Usage**

```r
## S4 method for signature 'ArmadilloConnection'
dsDisconnect(conn, save = NULL)
```

**Arguments**

- `conn` *ArmadilloConnection-class* class object
- `save` Save the DataSHIELD R session with provided ID (must be a character string).

**See Also**

- `dsDisconnect`

---

**dsFetch, ArmadilloResult-method**

*Fetch the result*

**Description**

Fetch the DataSHIELD operation result.

**Usage**

```r
## S4 method for signature 'ArmadilloResult'
dsFetch(res)
```

**Arguments**

- `res` *ArmadilloResult-class* object.

**Value**

- TRUE if table exists.
Description
Get information about a connection.

Usage

```r
## S4 method for signature 'ArmadilloConnection'
dsGetInfo(dsObj, ...)
```

Arguments

dObj ArmadilloConnection-class class object
...

Value
The connection information. This should report the version of the data repository application
('repo.version') and its name ('repo.name'), the database name ('dbname'), username, ('username'),
host ('host'), port ('port'), etc. It MAY also include any other arguments related to the connection
(e.g., thread id, socket or TCP connection type). It MUST NOT include the password.

Description
Get information about a driver.

Usage

```r
## S4 method for signature 'ArmadilloDriver'
dsGetInfo(dsObj, ...)
```

Arguments

dObj ArmadilloDriver-class class object
...

Value
The connection information. This returns the version of the package ('driver.version'). There is no
underlying client library.
dsGetInfo, ArmadilloResult-method

Get result info

Description
Await completion and get the information about a command (if still available).

Usage
```r
## S4 method for signature 'ArmadilloResult'
dsGetInfo(dsObj, ...)
```

Arguments
- `dsObj` ArmadilloResult-class class object
- `...` Unused, needed for compatibility with generic.

Value
The result information. This should include the R expression being executed (`'expression'`) and if the query is complete (`' "status" = "COMPLETED" '`).

---

dsHasResource, ArmadilloConnection-method

Verify resource exists.

Description
Verify resource exists.

Usage
```r
## S4 method for signature 'ArmadilloConnection'
dsHasResource(conn, resource)
```

Arguments
- `conn` ArmadilloConnection-class class object.
- `resource` The identifier of the resource

Value
TRUE if resource exists.
dsHasTable, ArmadilloConnection-method

Verify table exist and can be accessible for performing DataSHIELD operations.

Description
Verify table exist and can be accessible for performing DataSHIELD operations.

Usage
## S4 method for signature 'ArmadilloConnection'
dsHasTable(conn, table)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>conn</td>
<td>ArmadilloConnection-class class object.</td>
</tr>
<tr>
<td>table</td>
<td>The identifier of the table</td>
</tr>
</tbody>
</table>

Value
TRUE if table exists.

dsIsAsync, ArmadilloConnection-method

Armadillo DataShield Service asynchronous support

Description
List of DataSHIELD operations on which Armadillo DataSHIELD Service supports asynchronicity.

Usage
## S4 method for signature 'ArmadilloConnection'
dsIsAsync(conn)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>conn</td>
<td>ArmadilloConnection-class class object</td>
</tr>
</tbody>
</table>

Details
When a DSResult-class object is returned on aggregation or assignment operation, the raw result can be accessed asynchronously, allowing parallelization of DataSHIELD calls over multiple servers. The returned named list of logicals will specify if asynchronicity is supported for: aggregation operation (‘aggregate’), table assignment operation (‘assignTable’), resource assignment operation (‘assignResource’) and expression assignment operation (‘assignExpr’).
Value

The named list of logicals detailing the asynchronicity support.

## S4 method for signature 'ArmadilloResult'

dsIsCompleted(res)

Arguments

res ArmadilloResult-class object.

Value

TRUE if operation is completed.

---

Description

Get whether the result from a previous assignment or aggregation operation was completed, either with a successful status or a failed one. This call must not wait for the completion, immediate response is expected. Once the result is identified as being completed, the raw result the operation can be got directly.

Usage

```r
## S4 method for signature 'ArmadilloResult'
dsIsCompleted(res)
```

Arguments

res ArmadilloResult-class object.

Value

TRUE if operation is completed.

---

Description

As the DataSHIELD sessions are working in parallel, this function helps at keeping idle connections alive while others are working. Any communication failure must be silently processed.

Usage

```r
## S4 method for signature 'ArmadilloConnection'
dsKeepAlive(conn)
```

Arguments

conn ArmadilloConnection-class class object

Value

NULL, invisibly
dsListMethods, ArmadilloConnection-method

List methods

Description
List methods defined in the DataSHIELD configuration.

Usage
```r
## S4 method for signature 'ArmadilloConnection'
dsListMethods(conn, type = "aggregate")
```

Arguments
- **conn**: ArmadilloConnection-class class object
- **type**: Type of the method: "aggregate" (default) or "assign".

Value
A data.frame with columns: name, type ('aggregate' or 'assign'), class ('function' or 'script'), value, package, version.

---

dsListPackages, ArmadilloConnection-method

List packages

Description
List packages with their versions defined in the DataSHIELD configuration.

Usage
```r
## S4 method for signature 'ArmadilloConnection'
dsListPackages(conn)
```

Arguments
- **conn**: ArmadilloConnection-class class object

Value
A data.frame with columns: name, version.
**dsListResources, ArmadilloConnection-method**

*List Armadillo DataSHIELD Service resources*

**Description**

List Armadillo DataSHIELD Service resources that may be accessible for performing DataSHIELD operations.

**Usage**

```r
## S4 method for signature 'ArmadilloConnection'
dsListResources(conn)
```

**Arguments**

- `conn` *ArmadilloConnection-class* class object

**Value**

The fully qualified names of the resources.

**See Also**

- `dsListResources`

---

**dsListSymbols, ArmadilloConnection-method**

*List R symbols*

**Description**

List symbols living in the DataSHIELD R session.

**Usage**

```r
## S4 method for signature 'ArmadilloConnection'
dsListSymbols(conn)
```

**Arguments**

- `conn` *ArmadilloConnection-class* class object

**Value**

A character vector.
**dsListTables, ArmadilloConnection-method**

*List Armadillo DataSHIELD Service tables*

**Description**

List Armadillo DataSHIELD Service tables that may be accessible for performing DataSHIELD operations.

**Usage**

```r
## S4 method for signature 'ArmadilloConnection'
dsListTables(conn)
```

**Arguments**

- `conn` *ArmadilloConnection-class* class object

**Value**

The fully qualified names of the tables.

**See Also**

- `dsListTables`

---

**dsListWorkspaces, ArmadilloConnection-method**

*List workspaces*

**Description**

List workspaces saved in the data repository.

**Usage**

```r
## S4 method for signature 'ArmadilloConnection'
dsListWorkspaces(conn)
```

**Arguments**

- `conn` *ArmadilloConnection-class* class object

**Value**

A data.frame with columns: name, lastAccessDate, size, user.
dsRmSymbol, ArmadilloConnection-method

Remove an R symbol

Description
Remove a symbol living in the DataSHIELD R session. After removal, the data identified by the symbol will not be accessible in the DataSHIELD R session on the server side.

Usage
```r
## S4 method for signature 'ArmadilloConnection'
dsRmSymbol(conn, symbol)
```

Arguments
- `conn` ArmadilloConnection-class class object
- `symbol` Name of the R symbol.

dsRmWorkspace, ArmadilloConnection-method

Remove a workspace

Description
Remove a workspace on the data repository.

Usage
```r
## S4 method for signature 'ArmadilloConnection'
dsRmWorkspace(conn, name)
```

Arguments
- `conn` ArmadilloConnection-class class object
- `name` Name of the workspace.
dsSaveWorkspace, ArmadilloConnection-method

Save workspace

Description
Save workspace on the data repository.

Usage
```r
## S4 method for signature 'ArmadilloConnection'
dsSaveWorkspace(conn, name)
```

Arguments
- **conn**: `ArmadilloConnection-class` class object
- **name**: Name of the workspace.
Index

armadillo, 2
armadillo.get_token, 3
dsAggregate, ArmadilloConnection-method, 3
dsAssignExpr, ArmadilloConnection-method, 4
dsAssignResource, ArmadilloConnection-method, 4
dsAssignTable, ArmadilloConnection-method, 5
dsConnect, ArmadilloDriver-method, 6
dsDisconnect, 7
dsDisconnect, ArmadilloConnection-method, 7
dsFetch, ArmadilloResult-method, 7
dsGetInfo, ArmadilloConnection-method, 8
dsGetInfo, ArmadilloDriver-method, 8
dsGetInfo, ArmadilloResult-method, 9
dsHasResource, ArmadilloConnection-method, 9
dsHasTable, ArmadilloConnection-method, 10
dsIsAsync, ArmadilloConnection-method, 10
dsIsCompleted, ArmadilloResult-method, 11
dsKeepAlive, ArmadilloConnection-method, 11
dsListMethods, ArmadilloConnection-method, 12
dsListPackages, ArmadilloConnection-method, 12
dsListResources, 13
dsListResources, ArmadilloConnection-method, 13
dsListSymbols, ArmadilloConnection-method, 13
dsListTables, 14
dsListTables, ArmadilloConnection-method, 14
dsListWorkspaces, ArmadilloConnection-method, 14
dsRmSymbol, ArmadilloConnection-method, 15
dsRmWorkspace, ArmadilloConnection-method, 15
dsSaveWorkspace, ArmadilloConnection-method, 16