Package ‘DSMolgenisArmadillo’

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**armadillo**

Create an Armadillo DataSHIELD Service driver

**Description**

Convenience function for creating a [ArmadilloDriver] object.

**Usage**

armadillo()
armadillo.get_token

### armadillo.get_token

**Get ID Token**

**Description**

Get an ID token to log in on an Armadillo server

**Usage**

```r
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**

```r
## 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.
dsAssignTable, ArmadilloConnection-method

Assign a table

Description

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

Usage

## 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.
**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,
  profile = "default",
  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.
- `profile` the profile to select, default "default"
- `opts` Curl options as described by `http` (call `httr::httr_options()` for details). Can be provided by "Armadillo.opts" option.
- `...` Unused, needed for compatibility with generic.

**Value**
An *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.
dsGetInfo, ArmadilloConnection-method

Get connection info

Description
Get information about a connection.

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

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

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.

dsGetInfo, ArmadilloDriver-method

Get driver info

Description
Get information about a driver.

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

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

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
## S4 method for signature 'ArmadilloResult'

nsGetInfo(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
## 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**

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

**Arguments**

- `conn` *ArmadilloConnection-class* class object.
- `table` The identifier of the 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**

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

**Arguments**

- `conn` *ArmadilloConnection-class* class object

**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').
dsIsCompleted, ArmadilloResult-method

Value

The named list of logicals detailing the asynchronicity support.

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

## S4 method for signature 'ArmadilloResult'

dsIsCompleted(res)

Arguments

res  ArmadilloResult-class object.

Value

TRUE if operation is completed.

dsKeepAlive, ArmadilloConnection-method

Description

Keep a connection alive

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

## 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
## 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
## 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
## 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
## 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.
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