Package ‘rcom’

April 19, 2009

Version 2.1-3
Date 2009-04-07
Title R COM Client Interface and internal COM Server
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Description R functions to interface with COM objects, R exposed to COM Clients
License GPL-2
Depends R (>= 2.8.0), rscproxy, utils
LinkingTo rscproxy
SystemRequirements Windows, statconnDCOM (>= 3.1-B0)
OS_type windows
Repository CRAN
Date/Publication 2009-04-15 08:34:01

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**comCreateObject**

**Create COM Objects**

**Description**

Creates a new COM object specified by its program identifier.

The object will be released automatically when the last reference to the object is removed. To speed up this process, assign some NULL value as soon as you don’t need the object any more.

**Usage**

```r
comCreateObject(progid)
```

**Arguments**

- **progid**
  
  ProgId of COM object to create, e.g. "Excel.Application"

**Value**

`comCreateObject` returns an object of class "COMObject".

**Author(s)**

Thomas Baier

**Examples**

```r
# start up excel
## Not run: x<-comCreateObject("Excel.Application")

# and make it visible
## Not run: comSetProperty(x,"Visible",TRUE)

# do something now...
```
comGetObject

Get Access to Existing COM Objects

Description

Tries to find a running instance of the specified progid and returns this object.

Use this function to use services provided by an already running application, e.g. the currently visible instance of Microsoft Excel.

The object will be released automatically when the last reference to the object is removed. To speed up this process, assign some NULL value as soon as you don’t need the object any more.

Usage

comGetObject(progid)

Arguments

progid  ProgId of COM object to get access to, e.g. "Excel.Application"

Value

comGetObject returns an object of class "COMObject".

Author(s)

Thomas Baier

Examples

# get access to excel
## Not run: x<-comGetObject("Excel.Application")

# and make it visible
## Not run: comSetProperty(x,"Visible",TRUE);

# do something now...
comGetObjectInfo  Get Information about a COM Object

Description
This function will return information about the COM object passed as parameter.
Use this function to find out what rcom thinks about the object.
Use this function for debugging purposes to find out why rcom fails.
Not yet implemented!

Usage
comGetObjectInfo(handle)

Arguments
handle  COM object (class "COMObject") as returned by e.g. comCreateObject

Value
comGetObject will return a list of all functions and their descriptions

Author(s)
Thomas Baier

comGetPicture  Get the clipboard contents as IPictureDisp Object

Description
This function checks the contents of the (local) clipboard for an enhanced metafile object. If found, a COM object implementing the standard COM interface IPictureDisp is created from the clipboard contents.
Enhanced metafiles in the clipboard are created using R’s graphics functions if the device win.metafile with an empty filename is used.
You have to close the device before retrieving the picture object.
Does not work at the moment due to problems in Microsoft’s IPictureDisp.

Usage
comGetPicture()
comGetProperty

Value

    comGetObject returns an object of class "COMObject".

Author(s)

    Thomas Baier

Examples

    ## Not run: win.metafile()
    ## Not run: plot(sin(1:100))
    ## Not run: dev.off()
    ## Not run: pic<-.comGetPicture()

comGetProperty (Read One of a COM Object’s Properties)

Description

    Reads one of the COM object’s properties.

Usage

    comGetProperty(handle, property, ...)

Arguments

    handle COM object (class "COMObject") as returned by e.g. comCreateObject
    property name of property to get as a character string
    ... optional additional arguments for property specification (e.g. index for an array)

Value

    The return value depends on the (data) type of the property to read.

Author(s)

    Thomas Baier

See Also

    comInvoke, comSetProperty
Examples

# start up excel
## Not run: x<-comCreateObject("Excel.Application")

# retrieve the "Visible" property
## Not run: v <- comGetProperty(x,"Visible")

# add a new workbook to Excel and gain access to the first worksheet
## Not run: newwb <- comInvoke(comGetProperty(x,"Workbooks"),"Add")
## Not run: ws <- comInvoke(newwb,"Worksheets",1)

# get a specific range
## Not run: r <- comGetProperty(ws,"Range","A1","B4")

# do something now...

comGetVersion  Get rcom version information

Description

This function returns the version of the currently installed rcom package as a floating point number.

Use this function to find out which version you are using. The version must be specified when reporting problems.

Usage

comGetVersion()

Value

comGetVersion returns the version number in format major.minor.

Author(s)

Thomas Baier
comInvoke

Invoke a function (method) on a COM Object

Description

Invokes a function (method) on a COM object.

Usage

comInvoke(handle, method, ...)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>handle</td>
<td>COM object (class “COMObject”) as returned by e.g. comCreateObject</td>
</tr>
<tr>
<td>method</td>
<td>name of method to call as a character string</td>
</tr>
<tr>
<td>...</td>
<td>parameters passed when calling the method</td>
</tr>
</tbody>
</table>

Value

The return value of comInvoke depends on the function (method) called.

Author(s)

Thomas Baier

See Also

comSetProperty, comGetProperty

comIsValidHandle

Check if the COM object is valid

Description

Check if the passed object is a valid COM object

Usage

comIsValidHandle(handle)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>handle</td>
<td>COM object (class “COMObject”) as returned by e.g. comCreateObject</td>
</tr>
</tbody>
</table>
Value

`com.isvalid` returns `TRUE` if the object is valid, `FALSE` otherwise.

Author(s)

Thomas Baier

See Also

`comCreateObject`, `comGetObject`

---

**comRegisterRegistry**

*Register the COM server in the registry*

Description

This function will register the COM server and its associated type library with the system (registry). Technically, this will register the type library and add local-server entries for the prog and class ids.

This function has to be called when installing the package. Otherwise, neither the type library will be available (automation clients cannot use the server) nor a mapping from version independent and version-dependant prog-id will be available.

Usage

`comRegisterRegistry()`

Author(s)

Thomas Baier

See Also

`comUnregisterRegistry`
**comRegisterServer**  
*Initialize the COM server*

**Description**

This function registers the COM server at runtime. It is called automatically when the package `rcom` is loaded.

Technically, this will register the class factory in the system, so calls to `CoCreateInstance()` from client applications will succeed.

*Remark:* The type library will be loaded on demand later on `comUnregisterServer()` is used to unregister the class object (class factory) again.

**Usage**

```r
comRegisterServer()
```

**Author(s)**

Thomas Baier

**See Also**

- `comUnregisterServer`
- `comRegisterRegistry`

---

**comSetProperty**  
*Set One of the COM Object’s Properties*

**Description**

Set one of the COM object’s properties.

In case the property is an indexed property, pass the index value before the property value.

**Usage**

```r
comSetProperty(handle, property, ...)
```

**Arguments**

- `handle`  
  COM object (class “COMObject”) as returned by e.g. `comCreateObject`
- `property`  
  name of property to get as a character string
- `...`  
  the value the property should be set to

**Author(s)**

Thomas Baier
comThis

See Also
comInvoke, comGetProperty

Examples

# start up excel
## Not run: x<-comCreateObject("Excel.Application")

# and make it visible
## Not run: comsetProperty(x,"Visible",TRUE);

# set the value of index 3 of the indexed property ArrayProperty
## Not run: comsetProperty(x,"ArrayProperty",3,TRUE);

# do something now...

comThis

Return the COM Object for this R Instance

Description

Returns the COM object for this R Instance.
Use this function to e.g. pass a handle to the running R COM server to another COM object.
The object will be released automatically when the last reference to the object is removed. To speed up this process, assign some NULL value as soon as you don’t need the object any more.

Usage

comThis()

Value

comThis returns an object of class "COMObject" representing the IStatConnector/IDispatch of the current R.

Author(s)

Thomas Baier

Examples

# get access to R
## Not run: x<-comThis();

# do something with R
## Not run: comInvoke(x,"SetSymbol","abc",1);
**comTrace**

*Trace information about SEXP*

**Description**

This function will trace all passed parameters (variables, constants etc) to the R console.

Use this function to find out what `rcom` thinks about the parameters (e.g. which data types are recognized).

Use this function for debugging purposes to find out why `rcom` fails.

**Usage**

```r
comTrace(x)
```

**Arguments**

- `x` expression (variable, constant) to trace

**Author(s)**

Thomas Baier

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**comTraceObject**

*Trace information about the passed object*

**Description**

This function will trace information about the COM object passed as parameter.

Use this function to find out what `rcom` thinks about the object.

Use this function for debugging purposes to find out why `rcom` fails.

**Usage**

```r
comTraceObject(handle)
```

**Arguments**

- `handle` COM object (class "COMObject") as returned by e.g. `comCreateObject`

**Author(s)**

Thomas Baier
comUnregisterRegistry

Deregister the COM server from the registry

Description
This function will deregister the COM server and its associated type library from the registry/system. Call this function before uninstalling the package to clean-up the registry.

Usage
comUnregisterRegistry()

Author(s)
Thomas Baier

See Also
comRegisterRegistry

comUnregisterServer

Terminate the COM server

Description
This function will deregister the COM server at runtime. Technically, this will unregister the class factory in the system, so future calls to CoCreateInstance() from client applications will fail.

Usage
comUnregisterServer()

Author(s)
Thomas Baier

See Also
comRegisterServer, comUnregisterRegistry
installstatconnDCOM

install statconnDCOM

Description

Installs RExcel, an Excel add-in connecting R and Excel on Windows, by running a Windows installer program creating its own uninstaller.

Usage

installstatconnDCOM()

Details

rcom requires an installation of statconnDCOM to work. installstatconnDCOM() downloads a binary installer statconnDCOM.latest.exe from its web site, http://rcom.univie.ac.at/.

It is possible to install (or update) statconnDCOM on a machine without Internet access. To accomplish this, download the current version from http://rcom.univie.ac.at/, transfer it to the machine without Internet access and run in on this machine. Administrator privileges are needed to run this installer.

[[.COMObject Read One of a COM Object’s Properties

Description

Reads one of the COM object’s properties.

Usage

### S3 method for class 'COMObject':
handle[[property,...]]

Arguments

handle COM object (class "COMObject") as returned by e.g. comCreateObject
property name of property to get as a character string
...
optional additional arguments for property specification (e.g. index for an array)

Value

When reading a property, the return value depends on the (data) type of the property to read.
Author(s)
Gabor Grothendieck

See Also
comGetProperty, $.COMObject

Examples
# start up excel
## Not run: x<-comCreateObject("Excel.Application")

# retrieve the "Visible" property
## Not run: v <- x["Visible"]

[[<-.COMObject

Write One of a COM Object’s Properties

Description
Writes one of the COM object’s properties.

Usage
## S3 replacement method for class 'COMObject':
handle[[property,...]]<-value

Arguments
handle COM object (class "COMObject") as returned by e.g. comCreateObject
property name of property to get as a character string
... optional additional arguments for property specification (e.g. index for an array)
value the value the property should be set to

Value
The return value is the object handle.

Author(s)
Gabor Grothendieck

See Also
comSetProperty, $.COMObject
$.COMObject

Examples

# start up excel
## Not run: x<-comCreateObject("Excel.Application")

# and make it visible
## Not run: x["Visible"] <- TRUE;

$.COMObject

Invoke a function (method) on a COM Object

Description

Invokes a function (method) on a COM object.

Usage

## S3 method for class 'COMObject':
handle$method, ...

Arguments

handle COM object (class "COMObject") as returned by e.g. comCreateObject
method name of method to call as a character string
... parameters passed when calling the method

Value

The return value of $.COMObject depends on the function (method) called.

Author(s)

Gabor Grothendieck

See Also

comInvoke, [.COMObject, [<-.COMObject
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