

# Package ‘IRkernel’

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**Title** Native R Kernel for the 'Jupyter Notebook'

**Description** The R kernel for the 'Jupyter' environment executes R code which the front-end ('Jupyter Notebook' or other front-ends) submits to the kernel via the network.

**Version** 0.8.15

**Depends** R (>= 3.2.0)

**Suggests** testthat, roxygen2

**SystemRequirements** jupyter, jupyter\_kernel\_test (Python package for testing)

**License** MIT + file LICENSE

**LazyData** true

**Encoding** UTF-8

**Imports** repr (>= 0.4.99), methods, evaluate (>= 0.10), IRdisplay (>= 0.3.0.9999), pbdZMQ (>= 0.2-1), crayon, jsonlite (>= 0.9.6), uuid, digest

**Collate** 'class\_unions.r' 'logging.r' 'comm\_manager.r' 'compat.r' 'environment\_runtime.r' 'environment\_shadow.r' 'options.r' 'execution.r' 'handlers.r' 'help.r' 'installspec.r' 'utils.r' 'kernel.r' 'main.r' 'onload.r'

**RoxygenNote** 6.1.1

**NeedsCompilation** no

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Comm-class	<i>The Comm</i>
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**Description**

Has methods able to register and handle message callbacks

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CommManager-class	<i>The CommManager</i>
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**Description**

Has methods able to register comms/targets and process comm messages

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comm_manager	<i>Get global CommManager instance</i>
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**Description**

Get global CommManager instance

**Usage**

```
comm_manager()
```

**Value**

[CommManager](#) instance if a kernel is running, else NULL

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installspec	<i>Install the kernelspec to tell Jupyter about IRkernel.</i>
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### Description

This can be called multiple times for different R interpreter, but you have to give a different name (and displayname to see a difference in the notebook UI). If the same name is give, it will overwrite older versions of the kernel spec with that name!

### Usage

```
installspec(user = NULL, name = "ir", displayname = "R",
            rprofile = NULL, prefix = NULL)
```

### Arguments

user	Install into user directory ( <code>\$XDG_DATA_HOME/jupyter/kernels</code> ) or globally? (default: NULL but treated as TRUE if "prefix" is not specified)
name	The name of the kernel (default "ir")
displayname	The name which is displayed in the notebook (default: "R")
rprofile	(optional) Path to kernel-specific Rprofile (defaults to system-level settings)
prefix	(optional) Path to alternate directory to install kernelspec into (default: NULL)

### Value

Exit code of the jupyter kernelspec install call.

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IRkernel	<i>An R kernel for Jupyter.</i>
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### Description

Jupyter speaks a JSON+ZMQ protocol to a 'kernel' which is responsible for executing code. This package is a kernel for the R language.

### Usage

```
jupyter_option_defaults
```

### Format

An object of class list of length 6.

**Options**

The following can be set/read via `options(opt.name = ...) / getOption('opt.name')`

`jupyter.log_level` 1L (errors), 2L (warnings), or 3L (debug). 1L is the default.

`jupyter.pager_classes` Classes to use the pager for instead of displaying them inline. Default: help pages

`jupyter.in_kernel` TRUE if this code is executed in a running kernel. Set to pretend being/not being in a kernel

`jupyter.rich_display` Use more than just text display

`jupyter.display_mimetypes` The formats emitted when any return value is to be displayed (default: all mimetypes listed [here](#))

`jupyter.plot_mimetypes` The plot formats emitted to the frontend when a plot is displayed. (default: image/png, application/pdf, and image/svg+xml)

**See Also**

[installspec](#)

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log_*	<i>Kernel logging functions</i>
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**Description**

A set of exported logging utilities that have the capability to be used in upstream projects. Log level and log file can be set via R package options e.g. `options(jupyter.log_level = 2L)` or from the environment variables `JUPYTER_LOG_LEVEL` and `JUPYTER_LOGFILE`.

**Usage**

`log_debug(...)`

`log_info(...)`

`log_error(...)`

**Arguments**

...                    message to log

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main	<i>Initialise and run the kernel</i>
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**Description**

Initialise and run the kernel

**Usage**

```
main(connection_file = "")
```

**Arguments**

connection\_file  
The path to the Jupyter connection file, written by the frontend

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