

# Package ‘rexcelbridge’

September 16, 2025

**Type** Package

**Title** Bridge Excel Add-in Formulas and RTD Feeds into R (Windows)

**Version** 0.0.0.9000

**Author** Francis Tsiboe [aut, cre] (<<https://orcid.org/0000-0001-5984-1072>>)

**Maintainer** Francis Tsiboe <[ftsiboe@hotmail.com](mailto:ftsiboe@hotmail.com)>

**Creator** Francis Tsiboe

**Description** Vendor-neutral helpers to evaluate Excel formulas (including RTD-based add-ins like DTN ProphetX and Bloomberg) from R via COM automation. Supports single-cell results with a pluggable readiness predicate to handle transient ``Wait" tokens from providers.

**License** GPL-3 + file LICENSE

**URL** <https://github.com/you/rexcelbridge>

**BugReports** <https://github.com/you/rexcelbridge/issues>

**Encoding** UTF-8

**Roxygen** list(markdown = TRUE)

**RoxygenNote** 7.3.2

**VignetteBuilder** knitr

**Depends** R (>= 4.1.0)

**Imports** RDCOMClient

**Remotes** github::omegahat/RDCOMClient

**Suggests** mockery, knitr, rmarkdown, testthat (>= 3.0.0)

**LazyData** true

**OS\_type** windows

## Contents

bloomberg_bds_formula . . . . .	2
dtm_prophetX_formula . . . . .	2
rb_ensure_addin . . . . .	3
rb_eval_single . . . . .	3
rb_excel_quote . . . . .	4
rb_kill_excel . . . . .	4
rb_ready_predicate . . . . .	5
rb_start_excel . . . . .	5

**Index****6**


---

bloomberg\_bds\_formula *Build a Bloomberg BDS Excel formula (bulk/descriptor data)*


---

**Description**

Constructs a Bloomberg BDS formula string for bulk fields (returns a spilled table). Use with [rb\\_eval\\_single](#) to read the result.

**Usage**

```
bloomberg_bds_formula(security, field, overrides = NULL)
```

**Arguments**

security	Character scalar, e.g., "IBM US Equity" or an index/ticker.
field	Character scalar bulk field (e.g., "INDX_MEMBERS").
overrides	Optional named vector/list of overrides.

**Value**

A character string like:

```
=BDS("SPX Index", "INDX_MEMBERS")
```

---

dtn\_prophetX\_formula *Build a DTN ProphetX AIHIST RTD formula*


---

**Description**

Constructs a single-cell Excel formula string for the DTN ProphetX AIHIST RTD function. This can be passed to [rb\\_eval\\_single\(\)](#) to evaluate historical data directly from Excel via COM automation.

**Usage**

```
dtn_prophetX_formula(symbol, scale, date, field)
```

**Arguments**

symbol	Character. ProphetX instrument symbol (e.g., "BEANS.20254.B").
scale	Character. Time scale such as "Daily", "Weekly", or "Monthly".
date	Date or string convertible to Date. The Excel serial number is computed relative to 1899-12-30.
field	Character. Field(s) to request, such as "Open", "High", "Low", "Close", or "Description".

**Details**

- The returned string is not evaluated in R; it must be written into an Excel cell using `rb_eval_single()`.
- The date argument is converted to an Excel serial (days since 1899-12-30).
- Wrapping with `IFERROR(..., 0)` ensures Excel returns 0 if the RTD call fails.

**Value**

A character string containing a valid Excel formula of the form:

```
=IFERROR(RTD("prophetx.rtdserver", "", "AIHIST", symbol, scale, "1", date, "", field, "XD"), 0)
```

---

rb_ensure_addin	<i>Ensure an Excel add-in is loaded (best effort)</i>
-----------------	---

---

**Description**

Tries to locate and enable an add-in by name pattern (case-insensitive). Useful before evaluating formulas that depend on a vendor add-in.

**Usage**

```
rb_ensure_addin(xl, pattern)
```

**Arguments**

xl	Excel Application COM handle from <code>rb_start_excel()</code> .
pattern	Character regex used to match the add-in name (e.g., "ProphetX", "Bloomberg").

**Value**

Invisibly TRUE (no error if not found).

---

rb_eval_single	<i>Evaluate one or more single-cell Excel formulas</i>
----------------	--

---

**Description**

Writes each formula into successive rows of column A in a new workbook, polls until values are "ready" per a predicate, and returns the results.

**Usage**

```
rb_eval_single(
  formulas,
  timeout_sec = 120,
  visible = FALSE,
  ready_fn = rb_ready_predicate()
)
```

**Arguments**

formulas	Character vector of Excel formulas (e.g., "=SUM(1,2)", "=RTD("prophetx.rtdserver","", "AIHIST",...) '=BDP("IBM US Equity", "PX_LAST")').
timeout_sec	Max seconds to wait. Default 120.
visible	Show the Excel window. Default FALSE.
ready_fn	A readiness predicate built by rb_ready_predicate(). Default uses c("Wait", "Loading...", "N/A") as transient tokens.

**Value**

Data frame with columns: row, formula, result, ready.

---

rb_excel_quote	<i>Quote a value for use in an Excel formula</i>
----------------	--

---

**Description**

Escapes embedded quotes and wraps non-numeric values in double quotes.

**Usage**

```
rb_excel_quote(x)
```

**Arguments**

x	Scalar to embed in an Excel formula.
---	--------------------------------------

**Value**

Character scalar safe to paste into a formula.

---

rb_kill_excel	<i>Force close all Excel processes (Windows only)</i>
---------------	---

---

**Description**

Utility to terminate every running Excel instance on the system. This is useful if RTD sessions or hidden COM objects are left running after errors or crashes. Use with caution: unsaved work in Excel will be lost.

**Usage**

```
rb_kill_excel(force = TRUE, verbose = FALSE)
```

**Arguments**

force	Logical; if TRUE, forcibly terminates without prompts (default).
verbose	Logical; print output from taskkill. Default FALSE.

**Value**

Invisibly returns the exit status code from taskkill (0 = success).

---

rb_ready_predicate	<i>Build a readiness predicate</i>
--------------------	------------------------------------

---

**Description**

Returns a function(value) that decides whether a cell is "ready". By default, treats blanks, Excel errors, and vendor "wait" tokens as NOT ready.

**Usage**

```
rb_ready_predicate(  
  wait_tokens = c("Wait", "Loading...", "N/A"),  
  treat_errors_as_ready = FALSE  
)
```

**Arguments**

wait_tokens	Character vector of tokens to be treated as "not ready" (e.g., c("Wait", "Loading...")). Case-insensitive.
treat_errors_as_ready	Logical; if TRUE, Excel errors stop the wait.

**Value**

A function f(x) -> TRUE if ready, FALSE otherwise.

---

rb_start_excel	<i>Start an Excel COM session (Windows)</i>
----------------	---

---

**Description**

Launch a hidden (by default) Excel Application via COM and configure display alerts and calculation mode (Automatic).

**Usage**

```
rb_start_excel(visible = FALSE)
```

**Arguments**

visible	Logical; show the Excel window. Default FALSE.
---------	--

**Value**

A COM handle to the Excel Application object.

# Index

bloomberg\_bds\_formula, [2](#)

dtn\_prophetX\_formula, [2](#)

rb\_ensure\_addin, [3](#)

rb\_eval\_single, [2](#), [3](#)

rb\_excel\_quote, [4](#)

rb\_kill\_excel, [4](#)

rb\_ready\_predicate, [5](#)

rb\_start\_excel, [5](#)