

Hacking RStudio

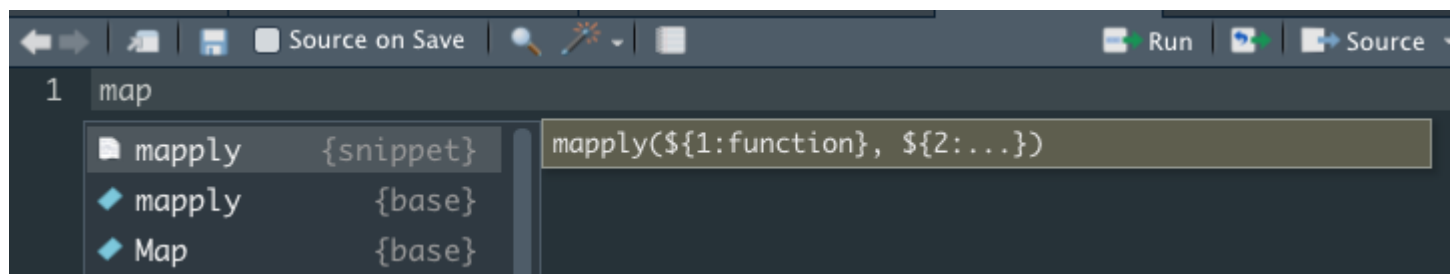
Part 2: themes & snippets

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Snippets

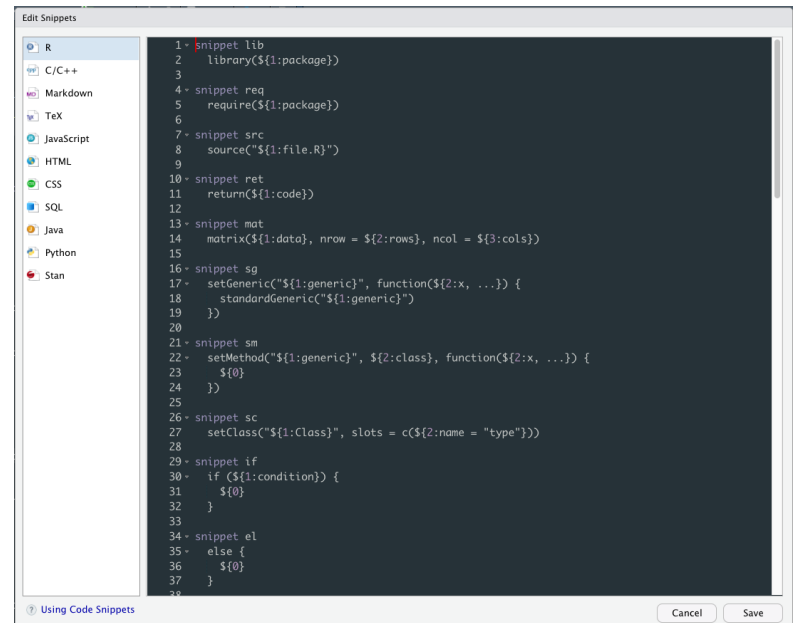
Snippets are text macros that can be used to quickly insert text into RStudio.

Can be written for R, C/C++, Java, Python, SQL, JavaScript, HTML and CSS.



Snippets

You can define them in Global Options >
Code > Edit Snippets



Snippets

```
snippet switch
  switch (${1:object},
    ${2:case} = ${3:action}
  )
```

- Elements in mustachs will be suggested for autocompletion in order
- Users can switch from one element to another with tab

Snippets

Snippets can execute code:

```
83   rapply(${1:list}, ${2:function})
84
85 ▾ snippet ts
86   `r paste("#", date(), "-----\n")`
87
88 ▾ snippet shinyapp
89   # Shiny app skeleton
```

Example

`{shinysnippets}` (<https://github.com/ThinkR-open/shinysnippets>)

```
snippet module
```

```
  ${1:name}ui <- function(id){  
    ns <- NS(id)  
    tagList(  
  
    )  
  }
```

```
  ${1:name} <- function(input, output, session){  
    ns <- session\${ns}  
  }
```

```
# Copy in UI
```

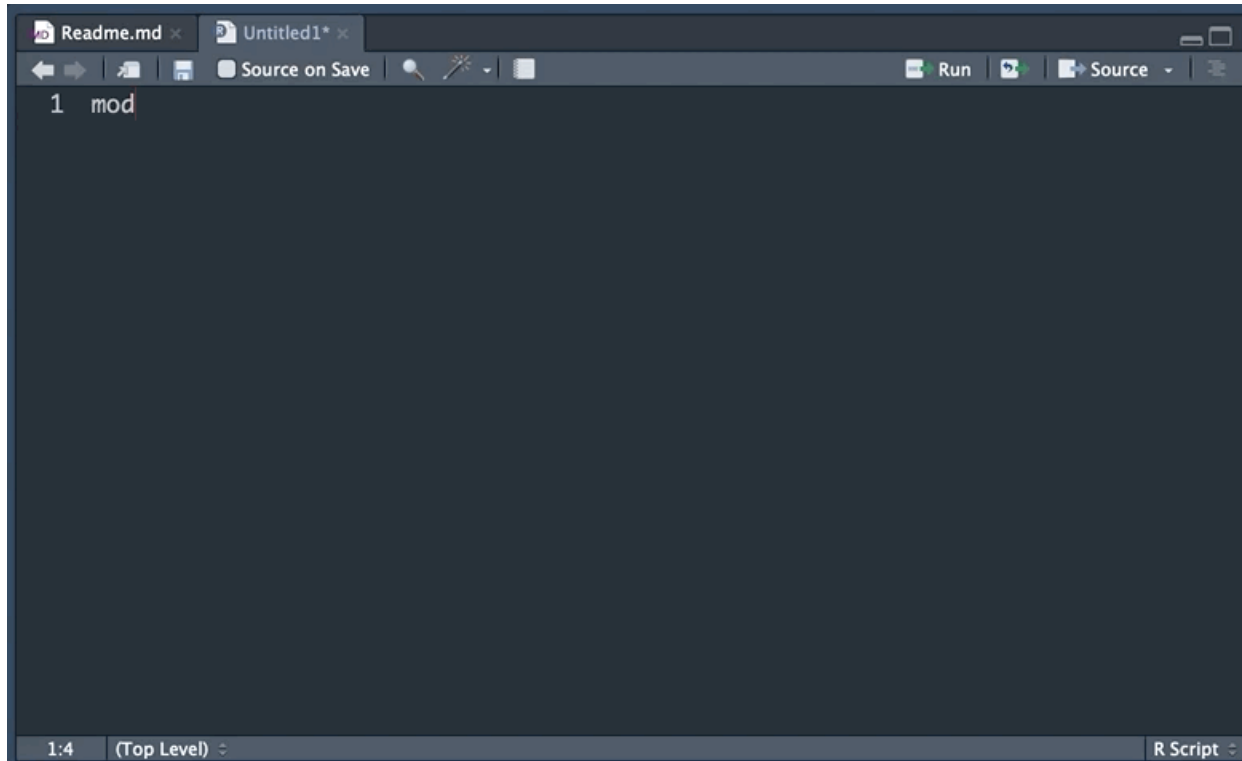
```
  ${1:name}ui("${1:name}ui")
```

```
# Copy in server
```

```
  callModule(${1:name}, "${1:name}ui")
```

Example

`{shinysnippets}` (<https://github.com/ThinkR-open/shinysnippets>)



Example

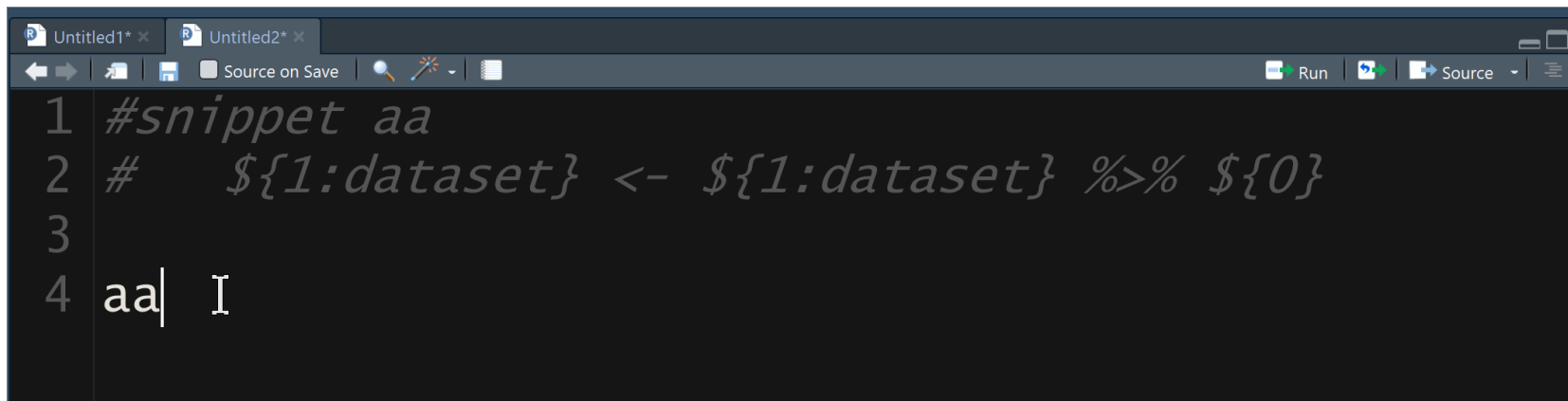
The screenshot shows the homepage of the rtask.thinkr.fr website. The header features the 'RTASK' logo with the tagline '(EN) THE R TASK FORCE R EXPERTS TEAM' and navigation links for HOME, R.BLOG, OPEN-SOURCE, CONSULTANTS - EXPERTS R, and CONTACT. The main content area displays a blog post titled 'The Best Rstudio Snippet Ever!' by Vincent GUYADER, dated 2018-05-26, with 5 comments. A code snippet is shown with a dropdown menu for 'fun' containing options like 'function', 'functionBody', and 'functionBody<-'. The snippet code is:

```
fun {name} <- function({2:var} {0}) { }
```

. The right sidebar includes a search bar, social media icons for Twitter, GitHub, and R, a 'RECENT POSTS' section with links to articles about module communication, Shiny app options, Rstudio & ThinkR roadshow, CRAN attachments, and building Shiny apps as packages, and a 'CATEGORIES' section.

<https://rtask.thinkr.fr/blog/the-best-rstudio-snippet-ever/>

Example

A screenshot of an RStudio editor window. The window has two tabs at the top: 'Untitled1*' and 'Untitled2*'. The 'Untitled2*' tab is active. The editor shows a snippet named 'aa' with the following content:

```
1 #snippet aa
2 #   ${1:dataset} <- ${1:dataset} %>% ${0}
3
4 aa| I
```

The snippet is displayed in a dark-themed editor with line numbers on the left. The cursor is at the end of line 4, after the text 'aa| I'. The toolbar at the top includes icons for navigation, search, and execution, along with buttons for 'Run' and 'Source'.

```
snippet aa
  ${1:dataset} <- ${1:dataset} %>% ${0}
```



Snippets: another scenario




Snippets don't have to be "templates", but can be code you use a lot.

```
snippet dbi
  library(DBI)
  con <- DBI::dbConnect(RMySQL::MySQL(),
    host = "mydb",
    user = "colin",
    password = rstudioapi::askForPassword("password")
  )
```

Inject code in snippets

(RStudio >= 0.99.706)

 **system.r.snippets** 184 Bytes 

   Edit Web IDE

```
1 # On Shift+Tab, executes the text inserted after $$ via system
2 # The result is then pasted at cursor
3 # Use with care!
4 snippet $$
5     `r eval(parse(text = "system('$$', intern = TRUE)))`
```

<https://jozef.io/r906-rstudio-snippets/>



RStudio themes

- Started with RStudio v1.2
- tmTheme or rstheme



tmTheme

- XML based
- introduced by the text editor TextMate
- Can be created with a tmTheme editor

rstheme

- CSS based
- Works specifically with RStudio

A web approach

=> On the web

- Find a theme at : <https://tmtheme-editor.herokuapp.com>
- Change the theme online
- Add the theme `rstudioapi::addTheme("Monokai.tmTheme")`

Do it all manually

```
file.create("mytheme.rstheme")  
rstudioapi::navigateToFile("mytheme.rstheme")  
rstudioapi::addTheme("mytheme.rstheme")
```

A pragmatic approach

=> On the web

- Find a theme at : <https://tmtheme-editor.herokuapp.com> and download it
- Add the theme & modify it manually:

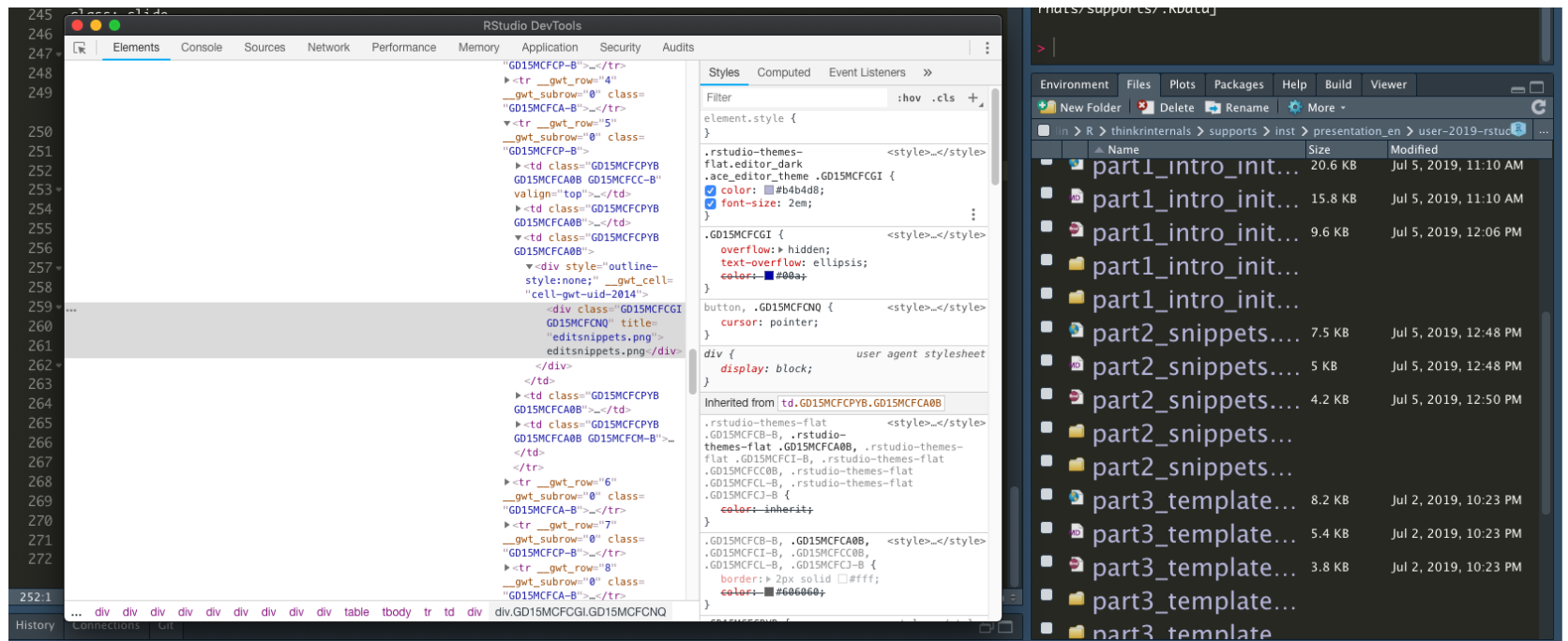
```
rstudioapi::addTheme("Monokai.tmTheme")
```

```
rstudioapi::navigateToFile("~/R/rstudio/themes/Monokai.rstheme")
```

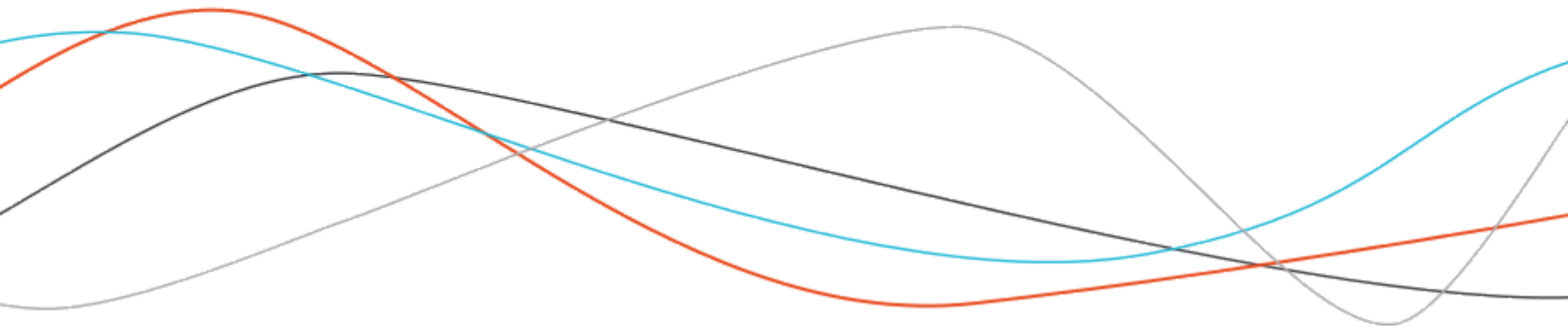

Some elements you can change

- `.ace_comment`, `.ace_constant`, `.ace_keyword`, `.ace_string`: color of the comment, constant, keyword, and string in the theme.
- `ace_content`: main frames of RStudio editors

And any other CSS tricks... because RStudio is a big webpage!



Let's practice !



Now it's your turn to create a snippet / theme

Pick an idea (or choose your own):

- Create a FALSE snippet that inserts TRUE and vice-versa
- Create a ggplot skeleton snippet
- Add a snippet that inserts a list of `library()`
- Create a snippet that add a random `{cowsay}` to your script
- Add a background image to RStudio
- Change some colors from RStudio