

# Package ‘DQAgui’

February 7, 2025

**Title** Graphical User Interface for Data Quality Assessment

**Version** 0.2.6

**Date** 2025-02-07

**Description** A graphical user interface (GUI) to the functions implemented in the R package 'DQAstats'. Publication: Mang et al. (2021)  [<doi:10.1186/s12911-022-01961-z>](https://doi.org/10.1186/s12911-022-01961-z).

**License** GPL-3

**URL** <https://github.com/miracum/dqa-dqagui>

**BugReports** <https://github.com/miracum/dqa-dqagui/issues>

**Imports** data.table, daterangepicker, DIZtools (>= 1.0.1), DIZutils (>= 0.1.3), DQAstats (>= 0.3.7), DT, jsonlite, knitr, lubridate, magrittr, parsedate, shiny, shinyalert, shinydashboard, shinyFiles, shinyjs, shinyWidgets, utils, waiter

**Suggests** lintr, testthat (>= 3.0.0)

**Config/testthat/edition** 3

**Config/testthat/parallel** false

**Encoding** UTF-8

**RoxygenNote** 7.3.2

**NeedsCompilation** no

**Author** Lorenz A. Kapsner [cre, aut] ( [<https://orcid.org/0000-0003-1866-860X>](https://orcid.org/0000-0003-1866-860X)),  
Jonathan M. Mang [aut] ( [<https://orcid.org/0000-0003-0518-4710>](https://orcid.org/0000-0003-0518-4710)),  
Helene Köster [ctb],  
MIRACUM - Medical Informatics in Research and Care in University  
Medicine [fnd],  
Universitätsklinikum Erlangen [cph]

**Maintainer** Lorenz A. Kapsner <lorenz.kapsner@gmail.com>

**Repository** CRAN

**Date/Publication** 2025-02-07 19:40:05 UTC

## Contents

button_send_datamap . . . . .	2
check_load_data_button . . . . .	3
feedback_txt . . . . .	3
get_db_settings . . . . .	4
launch_app . . . . .	5
module_atemp_pl_server . . . . .	6
module_atemp_pl_ui . . . . .	7
module_completeness_server . . . . .	7
module_completeness_ui . . . . .	8
module_config_server . . . . .	9
module_config_ui . . . . .	10
module_dashboard_server . . . . .	11
module_dashboard_ui . . . . .	12
module_descriptive_server . . . . .	12
module_descriptive_ui . . . . .	13
module_differences_server . . . . .	14
module_differences_ui . . . . .	15
module_log_server . . . . .	16
module_log_ui . . . . .	17
module_mdr_server . . . . .	17
module_mdr_ui . . . . .	18
module_report_server . . . . .	19
module_report_ui . . . . .	20
module_uniq_plaus_server . . . . .	21
module_uniq_plaus_ui . . . . .	22
set_target_equal_to_source . . . . .	22
show_failure_alert . . . . .	23
test_connection_button_clicked . . . . .	23
validate_inputs . . . . .	24
<b>Index</b>	<b>25</b>

---

button\_send\_datamap    *button\_send\_datamap*

---

### Description

This function is an exported wrapper around the actual function to send the datamap. This actual function can be customized by the user.

### Usage

```
button_send_datamap(rv)
```

### Arguments

rv                    The global rv object. rv\$datamap needs to be valid.

**Value**

This functions is used to trigger logic when clicking the "Send Datamap" button on the dashboard (default: triggers the composing of an email by making use of the java-script command `window.open('mailto: ...')`). When customizing DQAgui, the function `button_send_datamap` can be overwritten in the namespace to trigger any other logic, wanted by the user.

**Examples**

```
if (interactive()) {
  button_send_datamap(rv=rv)
}
```

---

`check_load_data_button`

*Evaluates whether the load-data button needs to be shown or not.*

---

**Description**

If there is a valid source system and a valid target system (this is also the case if the user set `target == source`), the result of this function will be `TRUE` and the button will be displayed via shinyjs. Otherwise the result is `FALSE` and the button will be hidden. This function also displays (or hides) the variables which can be assessed.

**Usage**

```
check_load_data_button(rv, session)
```

**Arguments**

<code>rv</code>	The global 'reactiveValues()' object, defined in server.R
<code>session</code>	Shiny session object

---

`feedback_txt`

*This function is used in the config-tab and displays the selected system to the user.*

---

**Description**

This function is used in the config-tab and displays the selected system to the user.

**Usage**

```
feedback_txt(system, type)
```

**Arguments**

system (String) e.g. "i2b2", "OMOP" or "CSV"  
 type (String) "source" or "target"

**Value**

String containing the input params in a proper manner

---

`get_db_settings`      *get\_db\_settings*

---

**Description**

`get_db_settings`

**Usage**

```
get_db_settings(input, target = TRUE, db_type, displayname_gui, rv)
```

**Arguments**

input            Shiny server input object.  
 target          A boolean (default: TRUE).  
 db\_type        (String) "postgres" or "oracle".  
 displayname\_gui  
                  (String) "i2b2 (Prod)"  
 rv              The global 'reactiveValues()' object, defined in server.R

**Value**

This functions returns a data table of key-value pairs for the database settings, which are parsed from the respective config tab from the shiny application.

**Examples**

```
if (interactive()) {
  get_db_settings(
    input = input,
    target = TRUE,
    db_type = "postgres"
  )
}
```

---

launch_app	<i>Launch the DQA graphical user interface (GUI)</i>
------------	--

---

## Description

Launch the DQA graphical user interface (GUI)

## Usage

```
launch_app(  
  port = 3838,  
  utils_path = system.file("demo_data/utilities", package = "DQAstats"),  
  mdr_filename = "mdr_example_data.csv",  
  logfile_dir = tempdir(),  
  demo_usage = FALSE  
)
```

## Arguments

port	The port, the MIRACUM DQA Tool is running on (default: 3838)
utils_path	The path to the utilities-folder, containing the metadata repository files (mdr.csv inside the folder MDR), JSON files with SQL statements (inside the folder SQL), config files for the database connection (settings_default.yml) and the email address used for the data map (email.yml), a JSON file containing site names (inside the folder MISC) and a markdown template to create the PDF report (DQA_report.Rmd inside the folder RMD).
mdr_filename	The filename of the mdr (e.g. "mdr_example_data.csv").
logfile_dir	Is the absolute path to the directory where the logfile will be stored. If not path is provided the tempdir() will be used.
demo_usage	A boolean. If TRUE, a box is shown on the dashboard with further instructions on how to use / configure the tool.

## Value

Executing this function returns a DQAgui shiny application.

## Examples

```
if (interactive()) {  
  launch_app()  
}
```

---

```
module_atemp_pl_server  
  module_atemp_pl_server
```

---

**Description**

module\_atemp\_pl\_server

**Usage**

```
module_atemp_pl_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_atemp_pl_server,  
    "moduleAtemporalPlausibilities",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module\_atemp\_pl\_ui      *module\_atemp\_pl\_ui*

---

**Description**

module\_atemp\_pl\_ui

**Usage**

```
module_atemp_pl_ui(id)
```

**Arguments**

id                      A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "atemp_plausi",
      module_atemp_pl_ui(
        "moduleAtemporalPlausibilities"
      )
    )
  )
}
```

---

module\_completeness\_server  
*module\_completeness\_server*

---

**Description**

module\_completeness\_server

**Usage**

```
module_completeness_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_completeness_server,  
    "moduleCompleteness",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module\_completeness\_ui

*module\_completeness\_ui*

---

**Description**

module\_completeness\_ui

**Usage**

```
module_completeness_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.



**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "completeness",
      module_completeness_ui(
        "moduleCompleteness"
      )
    )
  )
}
```

---

module\_config\_server    *module\_config\_server*

---

**Description**

module\_config\_server

**Usage**

```
module_config_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_config_server,  
    "moduleConfig",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module_config_ui	<i>module_config_ui</i>
------------------	-------------------------

---

**Description**

module\_config\_ui

**Usage**

```
module_config_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "config",  
      module_config_ui(  
        "moduleConfig"  
      )  
    )  
  )  
}
```

---

module\_dashboard\_server  
*module\_dashboard\_server*

---

## Description

module\_dashboard\_server

## Usage

```
module_dashboard_server(input, output, session, rv, input_re)
```

## Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

## Value

The function returns a shiny server module.

## See Also

<https://shiny.rstudio.com/articles/modules.html>

## Examples

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_dashboard_server,  
    "moduleDashboard",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

module\_dashboard\_ui    *module\_dashboard\_ui*

---

**Description**

module\_dashboard\_ui

**Usage**

```
module_dashboard_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "dashboard",  
      module_dashboard_ui(  
        "moduleDashboard"  
      )  
    )  
  )  
}
```

---

module\_descriptive\_server  
                          *module\_descriptive\_server*

---

**Description**

module\_descriptive\_server

**Usage**

```
module_descriptive_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_descriptive_server,  
    "moduleDescriptive",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module\_descriptive\_ui *module\_descriptive\_ui*

---

**Description**

module\_descriptive\_ui

**Usage**

```
module_descriptive_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "descriptive",  
      module_descriptive_ui(  
        "moduleDescriptive"  
      )  
    )  
  )  
}
```

---

module\_differences\_server  
*module\_differences\_server*

---

**Description**

module\_differences\_server

**Usage**

```
module_differences_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_differences_server,  
    "moduleDifferences",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module\_differences\_ui *module\_differences\_ui*

---

**Description**

module\_differences\_ui

**Usage**

```
module_differences_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "differences",  
      module_differences_ui(  
        "moduleDifferences"  
      )  
    )  
  )  
}
```

---

module\_log\_server      *module\_log\_server*

---

### Description

module\_log\_server

### Usage

```
module_log_server(input, output, session, rv, input_re)
```

### Arguments

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

### Value

The function returns a shiny server module.

### See Also

<https://shiny.rstudio.com/articles/modules.html>

### Examples

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_log_server,  
    "moduleLogging",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```



---

module_log_ui	<i>module_log_ui</i>
---------------	----------------------

---

**Description**

module\_log\_ui

**Usage**

```
module_log_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "logging",
      module_log_ui(
        "moduleLogging"
      )
    )
  )
}
```

---

module_mdr_server	<i>module_mdr_server</i>
-------------------	--------------------------

---

**Description**

module\_mdr\_server

**Usage**

```
module_mdr_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: <code>input_re = reactive({input})</code>

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {
  rv <- list()
  shiny::callModule(
    module_mdr_server,
    "moduleMDR",
    rv = rv,
    input_re = reactive(input)
  )
}
```

---

module\_mdr\_ui

*module\_mdr\_ui*

---

**Description**

module\_mdr\_ui

**Usage**

```
module_mdr_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "mdr",
      module_mdr_ui(
        "moduleMDR"
      )
    )
  )
}
```

---

module\_report\_server    *module\_report\_server*

---

**Description**

module\_report\_server

**Usage**

```
module_report_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_report_server,  
    "moduleReport",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module_report_ui	<i>module_report_ui</i>
------------------	-------------------------

---

**Description**

module\_report\_ui

**Usage**

```
module_report_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  shinydashboard::tabItems(  
    shinydashboard::tabItem(  
      tabName = "report",  
      module_report_ui(  
        "moduleReport"  
      )  
    )  
  )  
}
```

---

```
module_uniq_plaus_server  
  module_uniq_plaus_server
```

---

**Description**

module\_uniq\_plaus\_server

**Usage**

```
module_uniq_plaus_server(input, output, session, rv, input_re)
```

**Arguments**

input	Shiny server input object
output	Shiny server output object
session	Shiny session object
rv	The global 'reactiveValues()' object, defined in server.R
input_re	The Shiny server input object, wrapped into a reactive expression: input_re = reactive({input})

**Value**

The function returns a shiny server module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {  
  rv <- list()  
  shiny::callModule(  
    module_uniq_plaus_server,  
    "moduleUniquenessPlausibilities",  
    rv = rv,  
    input_re = reactive(input)  
  )  
}
```

---

module\_uniq\_plaus\_ui    *module\_uniq\_plaus\_ui*

---

**Description**

module\_uniq\_plaus\_ui

**Usage**

```
module_uniq_plaus_ui(id)
```

**Arguments**

id                    A character. The identifier of the shiny object

**Value**

The function returns a shiny ui module.

**See Also**

<https://shiny.rstudio.com/articles/modules.html>

**Examples**

```
if (interactive()) {
  shinydashboard::tabItems(
    shinydashboard::tabItem(
      tabName = "uniq_plausis",
      module_uniq_plaus_ui(
        "moduleUniquenessPlausibilities"
      )
    )
  )
}
```

---

set\_target\_equal\_to\_source

*This function is called when the user clicks on the button*

---

**Description**

"Set target == source". It sets target settings = source settings.

**Usage**

```
set_target_equal_to_source(rv)
```

**Arguments**

rv                    The global 'reactiveValues()' object, defined in server.R

---

show\_failure\_alert     *Shows an error alert modal with the hint to look into the logfile.*

---

**Description**

See title.

**Usage**

```
show_failure_alert(what_failed)
```

**Arguments**

what\_failed        Short description of what failed. Like: "Getting the data failed." '

**Value**

Nothing - Just shows the alert modal.

---

test\_connection\_button\_clicked  
*Checks if an connection can be established to the system.*

---

**Description**

After the button "Check connection" is pressed in the GUI, this function will be called and tries to connect to this system and feedbacks the result to the user. If the connection is successfully established, the button will be disabled and this connection will be stored as valid for the given source/target system.

**Usage**

```
test_connection_button_clicked(  
  rv,  
  source_target,  
  db_type,  
  input,  
  output,  
  session  
)
```

**Arguments**

rv	The global 'reactiveValues()' object, defined in server.R
source_target	(String) "source" or "target"
db_type	(String) "postgres" or "oracle"
input	Shiny server input object
output	Shiny server output object
session	Shiny session object

**Value**

true if the connection could be established and false otherwise (also if an error occurred)

---

validate_inputs	<i>This function checks if all necessary input parameters for source and target exist and are valid.</i>
-----------------	--

---

**Description**

This function checks if all necessary input parameters for source and target exist and are valid.

**Usage**

```
validate_inputs(rv, input, output, session)
```

**Arguments**

rv	The global 'reactiveValues()' object, defined in server.R
input	Shiny server input object
output	Shiny server output object
session	Shiny session object



# Index

[button\\_send\\_datamap](#), 2

[check\\_load\\_data\\_button](#), 3

[feedback\\_txt](#), 3

[get\\_db\\_settings](#), 4

[launch\\_app](#), 5

[module\\_atemp\\_pl\\_server](#), 6

[module\\_atemp\\_pl\\_ui](#), 7

[module\\_completeness\\_server](#), 7

[module\\_completeness\\_ui](#), 8

[module\\_config\\_server](#), 9

[module\\_config\\_ui](#), 10

[module\\_dashboard\\_server](#), 11

[module\\_dashboard\\_ui](#), 12

[module\\_descriptive\\_server](#), 12

[module\\_descriptive\\_ui](#), 13

[module\\_differences\\_server](#), 14

[module\\_differences\\_ui](#), 15

[module\\_log\\_server](#), 16

[module\\_log\\_ui](#), 17

[module\\_mdr\\_server](#), 17

[module\\_mdr\\_ui](#), 18

[module\\_report\\_server](#), 19

[module\\_report\\_ui](#), 20

[module\\_uniq\\_plaus\\_server](#), 21

[module\\_uniq\\_plaus\\_ui](#), 22

[set\\_target\\_equal\\_to\\_source](#), 22

[show\\_failure\\_alert](#), 23

[test\\_connection\\_button\\_clicked](#), 23

[validate\\_inputs](#), 24