

Standard Operating Procedure (SOP) for ONDRI ShinyApp Bugs

On behalf of the Neuroinformatics and Biostatistics (NIBS) platform

Updated as of April 09, 2021

Instructions for posting issues and bug prioritization for ONDRI applications.

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1 GitHub issue

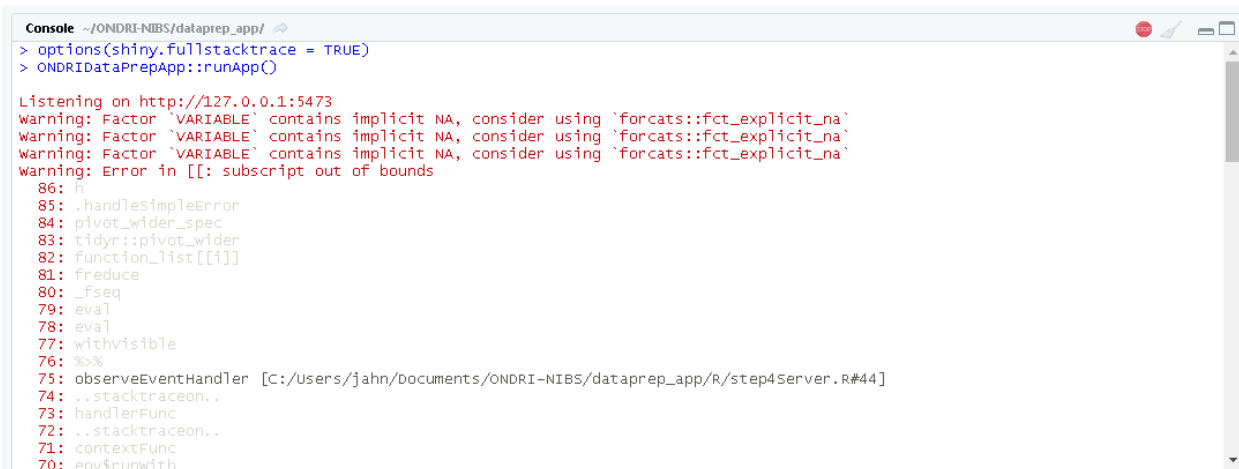
1.1 Preamble

If you discover a potential bug, please read the relevant reference guide here and ensure that the app is configured and running correctly before proceeding to the next step. Please note that the following instructions *also* apply for internal bug reporting as well. Public facing and release tools are found in **GitHub**. Each tool has its own repository under the **ondri-nibs** organization. Private, candidate, experimental, and other not publicly released software, scripts, packages, and applications exist in **GitLab**, which requires access to Brain-CODE.

1.2 Prerequisites

The following five pieces of information are required when posting an issue to GitHub.

1. The full data package name (e.g. OND01_VCI_01_GNMC_ONDRISEQ_2019NOV20_DATAPKG) that led to the error and/or crash.
2. The tab/step in the app causing the error and/or crash. If the app crashes on load up, please state so.
3. The error message in the RStudio console or the app user interface. Please ensure that you have the shiny stack trace enabled beforehand, which can be done through the following command:
`options(shiny.fullstacktrace = TRUE)`

A screenshot of an RStudio console window. The title bar reads "Console ~/ONDRI-NIBS/dataprep_app/". The prompt is ">". The first command entered is "options(shiny.fullstacktrace = TRUE)". The second command is "ONDRIDataPrepApp::runApp()". The output shows the app listening on http://127.0.0.1:5473. There are three warnings about implicit NA values for 'VARIABLE'. Then, a red error message appears: "Warning: Error in [[: subscript out of bounds". This is followed by a stack trace starting with "86: n", "85: .handlesimpleError", "84: pivot_wider_spec", "83: tidyr::pivot_wider", "82: function_list[[1]]", "81: freduce", "80: _fseq", "79: eval", "78: eval", "77: withVisible", "76: %>%", "75: observeEventHandler [C:/Users/jahn/documents/ONDRI-NIBS/dataprep_app/R/step4Server.R#44]", "74: ..stacktraceon..", "73: handlerFunc", "72: ..stacktraceon..", "71: contextFunc", and "70: env\$runwith".

```
Console ~/ONDRI-NIBS/dataprep_app/
> options(shiny.fullstacktrace = TRUE)
> ONDRIDataPrepApp::runApp()

Listening on http://127.0.0.1:5473
warning: Factor `VARIABLE` contains implicit NA, consider using `forcats::fct_explicit_na`
warning: Factor `VARIABLE` contains implicit NA, consider using `forcats::fct_explicit_na`
warning: Factor `VARIABLE` contains implicit NA, consider using `forcats::fct_explicit_na`
Warning: Error in [[: subscript out of bounds
86: n
85: .handlesimpleError
84: pivot_wider_spec
83: tidyr::pivot_wider
82: function_list[[1]]
81: freduce
80: _fseq
79: eval
78: eval
77: withVisible
76: %>%
75: observeEventHandler [C:/Users/jahn/documents/ONDRI-NIBS/dataprep_app/R/step4Server.R#44]
74: ..stacktraceon..
73: handlerFunc
72: ..stacktraceon..
71: contextFunc
70: env$runwith
```

Figure 1: For the outliers app, the error may show in the app user interface itself rather than in the console.

4. The **traceback()** which provides the function call stack.

```
Console ~/ONDRI-NIBS/dataprep_app/
> traceback()
16: execCallbacks(timeoutSecs, all, loop$id)
15: force(expr)
14: with_loop(loop, invisible(execCallbacks(timeoutSecs, all, loop$id)))
13: run_now(timeoutMs/1000, all = FALSE)
12: service(timeout)
11: serviceApp()
10: ..stacktracefloor..(serviceApp())
9: withCallingHandlers(expr, error = docaptureStack)
8: domain$wrapSync(expr)
7: promises::with_promise_domain(createStackTracePromiseDomain(),
  expr)
6: captureStackTraces({
  while (!globals$stopped) {
    ..stacktracefloor..(serviceApp())
  }
})
5: ..stacktraceoff..(captureStackTraces({
  while (!globals$stopped) {
    ..stacktracefloor..(serviceApp())
  }
}))
4: runApp(x, display.mode = "normal", launch.browser = TRUE)
3: do.call("runApp", args)
2: print.shiny.appobj(x)
1: (function (x, ...)
  useMethod("print"))(x)
> |
```

Figure 2: **traceback()** must be typed in the RStudio console AFTER running the app.

5. The **sessionInfo()** which provides information about the package versions utilized.

```
Console ~/ONDRI-NIBS/dataprep_app/
> sessionInfo()
R version 3.6.2 (2019-12-12)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: windows 7 x64 (build 7601) Service Pack 1

Matrix products: default

locale:
[1] LC_COLLATE=English_Canada.1252  LC_CTYPE=English_Canada.1252  LC_MONETARY=English_Canada.1252
[4] LC_NUMERIC=C                    LC_TIME=English_Canada.1252

attached base packages:
[1] stats      graphics  grDevices  utils      datasets  methods   base

other attached packages:
[1] shiny_1.4.0 ONDRIDataPrepApp_0.1.0.9002

loaded via a namespace (and not attached):
 [1] Rcpp_1.0.3      pillar_1.4.3    compiler_3.6.2  later_1.0.0     shinyjs_1.0
 [6] tools_3.6.2    digest_0.6.23   gttable_0.3.0   lifecycle_0.2.0 jsonlite_1.6
[11] tibble_2.1.3   pkgconfig_2.0.3 rlang_0.4.6     rstudioapi_0.10 crosstalk_1.0.0
[16] yaml_2.2.0     fastmap_1.0.1   dplyr_0.8.3     fs_1.3.1        htmlwidgets_1.5.1
[21] vctrs_0.3.0    shinyFiles_0.7.5 grid_3.6.2      shinydashboard_0.7.1 DT_0.11
[26] tidyselect_0.2.5 glue_1.3.1      R6_2.4.1        farver_2.0.1    ggplot2_3.2.1
[31] purrr_0.3.3    tidyr_1.0.0     magrittr_1.5     scales_1.1.0    shinycssloaders_0.3
[36] promises_1.1.0 htmltools_0.4.0 dashboardthemes_1.0.6 assertthat_0.2.1 colorspace_1.4-1
[41] mime_0.8       xtable_1.8-4    httpuv_1.5.2    lazyeval_0.2.2  munsell_0.5.0
[46] crayon_1.3.4
>
```

Figure 3: Likewise, **sessionInfo()** must also be typed in the RStudio console AFTER running the app.

1.3 Post

To post an issue, please go to the relevant GitHub repository here and then click on the Issues button as circled in green below. Before submission, please ensure that you assign to all relevant developers as outlined in the repository README and label it as a bug as squared in red.

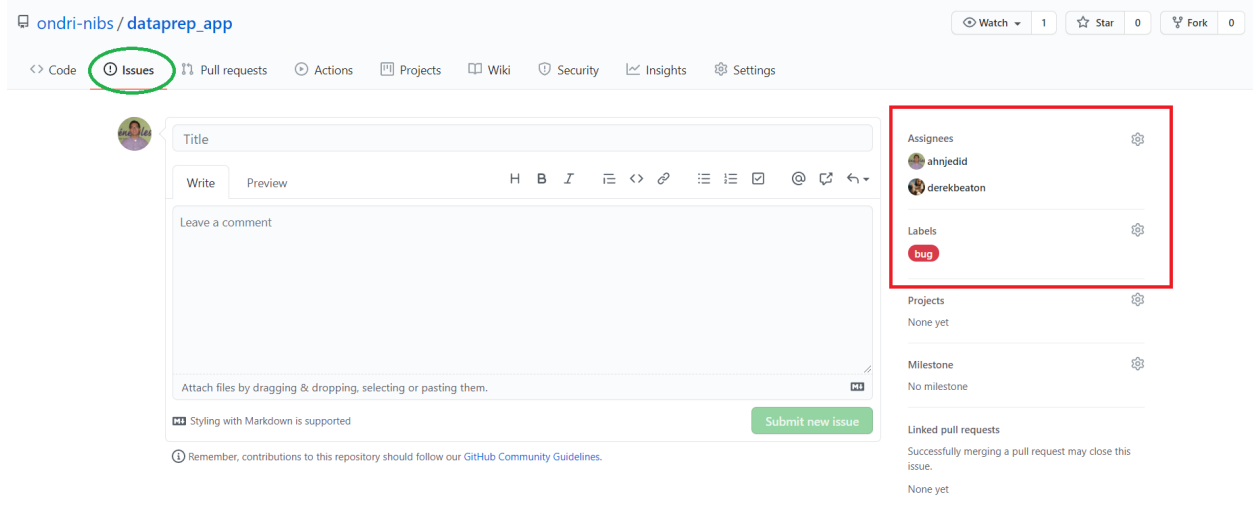


Figure 4: Some developer names in the README may not be available for selection in the list of assignees, as they are no longer with the ondri-nibs organization.

You will receive an email to the email address associated with your GitHub account when a developer replies to your issue. The bug will be handled according to its priority, as outlined in the next section.

IMPORTANT: PLEASE DO NOT ATTACH ANY FILES INCLUDING SENSITIVE DATA NOR UPLOAD ANY SCREENSHOTS TO YOUR POST. For prerequisite information, please copy and paste the error message, traceback() output, and sessionInfo() output instead.

2 Bug priority

A bug's priority will determine the time frame for resolution.

2.1 High priority

A bug is considered **high priority** when the following scenarios arise:

- When an app crashes and no workaround for the crash is available.
- When an app is stuck at a particular step and cannot move forward.

2.1.1 Examples

1. The data preparation app crashes when attempting to visualize missingness. There is no separate script to visualize missingness and I cannot move past this step in the application pipeline.
2. The outliers app is stuck at the MCD step and the report cannot be exported.

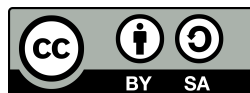
2.2 Low priority

A bug is considered **low priority** when the following scenarios arise:

- When an app crashes but a workaround exists that will suffice for the current task.
- When an app is providing false information but the correct information can be acquired through a separate script that is available.
- Anything unrelated to the core functionality of the apps. This includes spelling & grammar, positioning of elements, and aesthetics.

2.2.1 Examples

1. The date format check causes the standards app to crash when running with a participant ID file, but works without one.
2. The encapsulation check is malfunctioning in the standards app, but it is available as a separate function in the standards package.
3. The progress bar in the standards app is stuck at 0%.



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