

Package ‘NGSToolKit’

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Type Package

Title RNA-Seq Analysis and Genome Visualization 'Shiny' Platform

Version 0.1.4

Author Sona Charles [aut, cre],
Febin T Nabeel [aut],
T E Sheeja [aut]

Maintainer Sona Charles <sona.charlesicar@gmail.com>

Description Interactive 'Shiny' web application for comprehensive RNA-Seq data analysis, quality control, differential expression analysis with 'DESeq2', dimensionality reduction (PCA, t-SNE, UMAP), clustering, and integrated 'JBrowse 2' genome visualization. For differential expression analysis methods, see Love (2014) <[doi:10.1186/s13059-014-0550-8](https://doi.org/10.1186/s13059-014-0550-8)>.

License GPL-3

Encoding UTF-8

Depends R (>= 4.0.0)

Imports shiny (>= 1.7.0), shinydashboard (>= 0.7.0), shinyjs (>= 2.1.0), shinycssloaders (>= 1.0.0), DT (>= 0.20), ggplot2 (>= 3.3.0), DESeq2, SummarizedExperiment, uwot, Rtsne, pheatmap, reshape2, Rsamtools, tools, jsonlite, utils, stats, graphics, grDevices

Suggests testthat (>= 3.0.0)

URL <https://github.com/bigfacilityiisr/NGS-Tool-Kit>

BugReports <https://github.com/bigfacilityiisr/NGS-Tool-Kit/issues>

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NeedsCompilation no

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Repository CRAN

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run_app	<i>Run the NGS Tool Kit Application (Alias)</i>
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Description

Run the NGS Tool Kit Application (Alias)

Usage

run_app(launch.browser = TRUE, port = NULL, host = "127.0.0.1")

Arguments

- launch.browser Logical, whether to open the application in a web browser. Default is TRUE.
- port Optional port number for running the Shiny server. Default is NULL.
- host Optional host IP address. Default is "127.0.0.1".

Value

Launches the Shiny application.

Examples

```
if (interactive()) {  
  run_app()  
}
```

run_ngs_toolkit	<i>Run the NGS Tool Kit Shiny Application</i>
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Description

Launches the interactive Shiny web application for RNA-Seq data analysis, differential expression, clustering, and genome visualization.

Usage

run_ngs_toolkit(launch.browser = TRUE, port = NULL, host = "127.0.0.1")

Arguments

`launch.browser` Logical, whether to open the application in a web browser. Default is TRUE.
`port` Optional port number for running the Shiny server. Default is NULL.
`host` Optional host IP address. Default is "127.0.0.1".

Value

Launches the Shiny application.

Examples

```
if (interactive()) {  
  run_ngs_toolkit()  
}
```

setup_jbrowse	<i>Setup and verify JBrowse assets</i>
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Description

Initializes the local user data directory for JBrowse sessions in a CRAN-compliant manner.

Usage

```
setup_jbrowse(target_dir = NULL)
```

Arguments

`target_dir` Path to store JBrowse user data. Defaults to user data directory.

Value

Logical indicating success.

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