



ET01: The {teal} Adoption Playbook: Strategies, Tools, and Learning Paths for Open Source

Phuse Connect APAC 2026

Vedha Viyash

What is teal?

 is an  package for building interactive  applications designed specifically for the exploration, analysis, and reporting of clinical trial data, including but not limited to  data.



is part of the

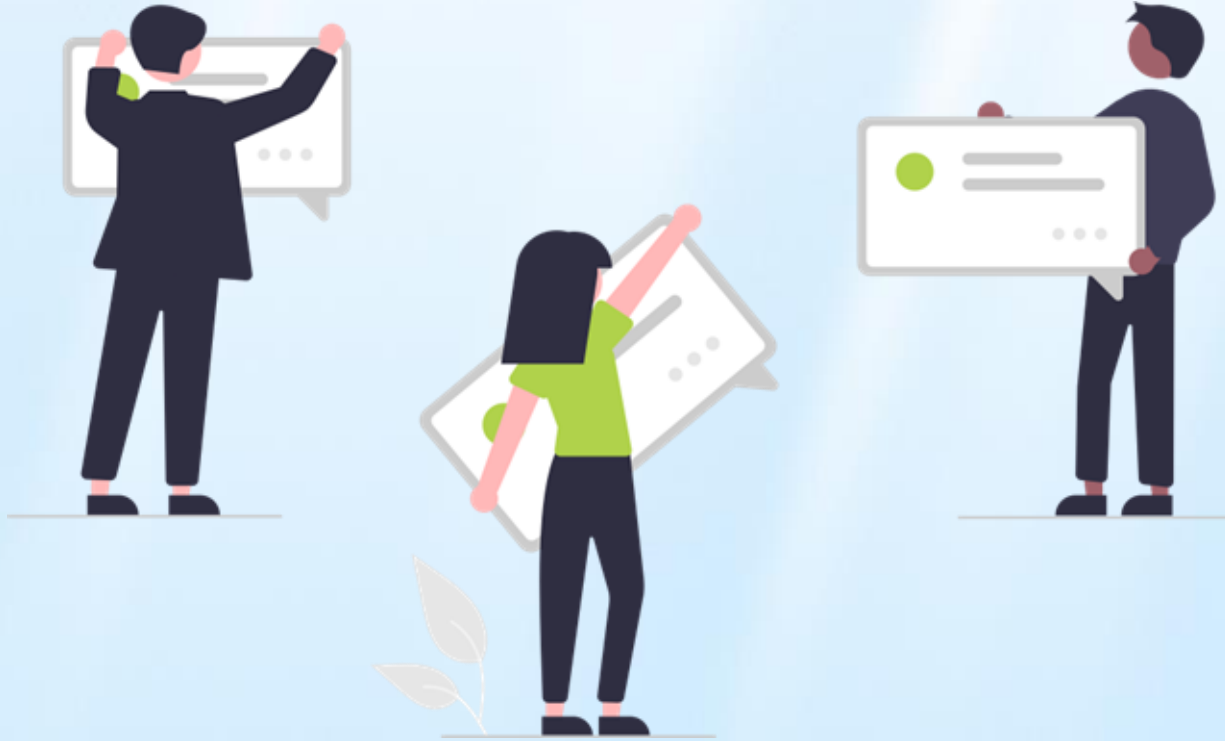


Who am I?



“I’m a teal framework developer”

Why do we need teal?



Why do we need teal?



Why do we need teal?



✅ Let's compete on molecules



❌ Not software tools

What problem does teal solve?



How does teal solve this problem?



Data



Who interact with teal?

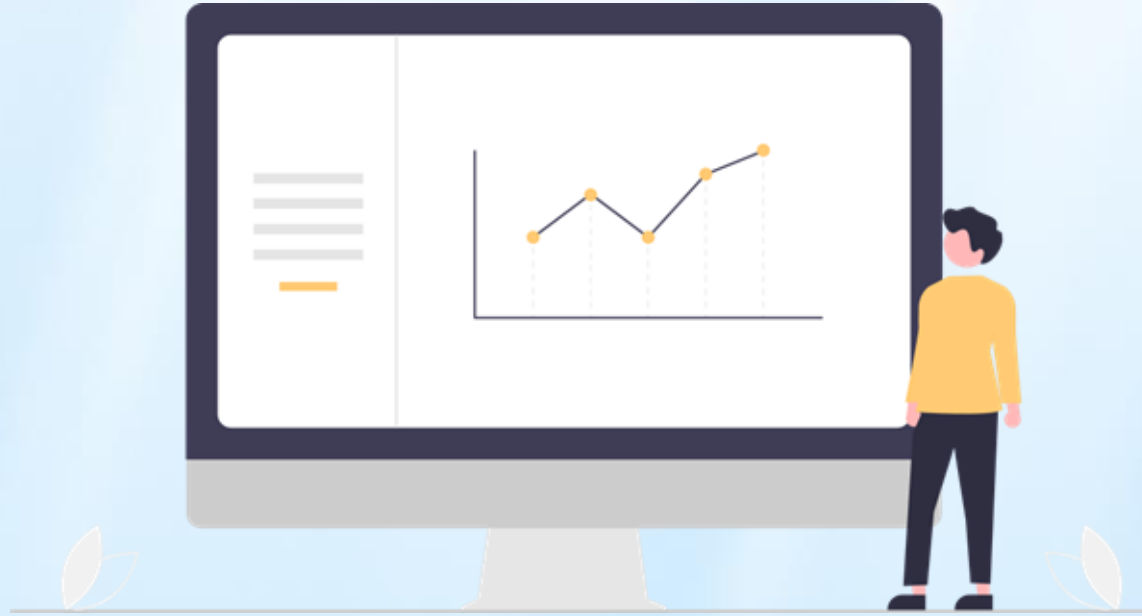
Teal app user

Teal app developer

Teal module developer

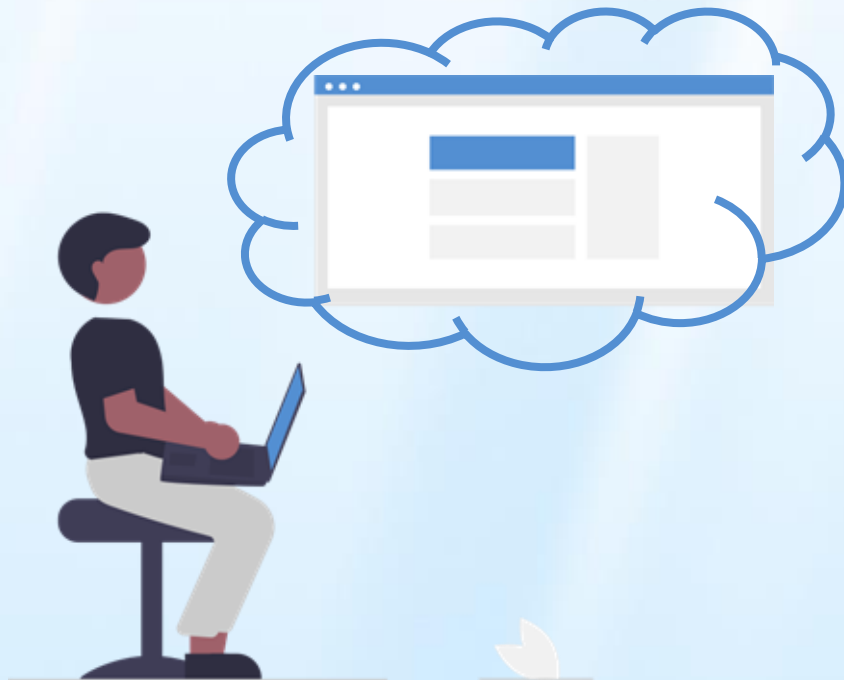
Teal framework developer

Who interact with teal?



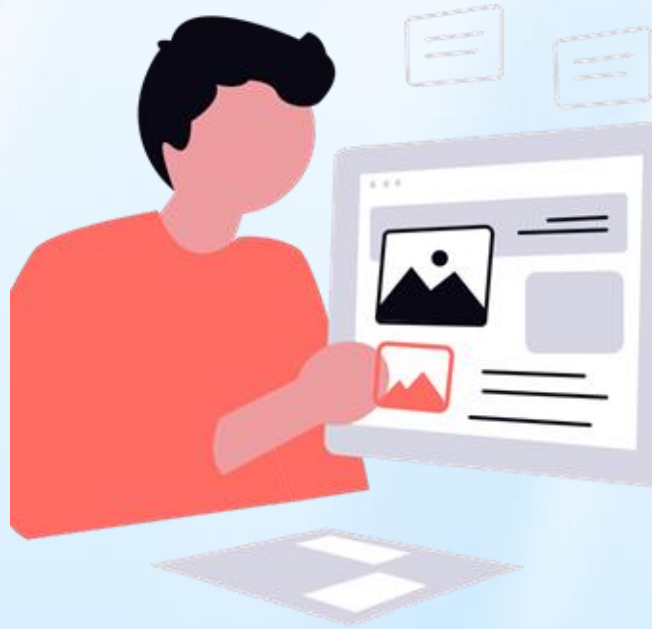
Teal app user consumes the deployed app

Who interact with teal?



Teal app developer creates and deploys the app

Who interact with teal?



Teal module developer creates custom modules to expand analytical capabilities for the app

Who interact with teal?



Teal framework developer extends the teal features

Who does your team need to successfully adopt teal?

Teal app user

Teal app developer

Teal module developer

Teal framework developer

Who does your team need to successfully adopt teal?

Teal app user 

Teal app developer

Teal module developer

Teal framework developer

Who does your team need to successfully adopt teal?

Teal app user 

Teal app developer 

Teal module developer?

Teal framework developer?

Who does your team need to successfully adopt teal?

Teal app user   depends on their needs
+
depends on current infra

Teal app developer 

Teal module developer?

Teal framework developer?

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**

- Ability to explore certain graphs and listings in teal.
- Be able to filter the data and customize the outputs.
- Be able to reproduce the outputs in validated SCEs.
- Be able to generate a report of their output generations.

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**



Ability to explore certain graphs and listings in teal.



Be able to filter the data and customize the outputs.



Be able to reproduce the outputs in validated SCEs.



Be able to generate a report of their output generations.

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**



Ability to explore certain graphs and listings in teal.

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**



Ability to explore certain graphs and listings in teal.

Teal app developer builds the teal app with teal modules.

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**



Ability to explore certain graphs and listings in teal.

Teal app developer builds the teal app with teal modules.

Does a teal module exists to support their need?

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**



Ability to explore certain graphs and listings in teal.

Teal app developer builds the teal app with teal modules.

Does a teal module exists to support their need?

Teal module developer builds custom module for app devs.

Who does your team need to successfully adopt teal?

What are the needs of a **Teal app user**



Ability to explore certain graphs and listings in teal.

Teal app developer builds the teal app with teal modules.

Does a teal module exists to support their need?

Teal module developer builds custom module for app devs.

Teal framework developer builds support tools.

What are the technical skills of these developers?

Teal app developer

- Ability to install and use R packages
- Data wrangling with R
- Basic knowledge of Shiny (optional)
- Ability to work with ADaM datasets
- Understand teal_data/teal_data_module

Teal framework developer

- R package development skills
- General software development skills
- Deeper understanding of the teal framework

Teal module developer

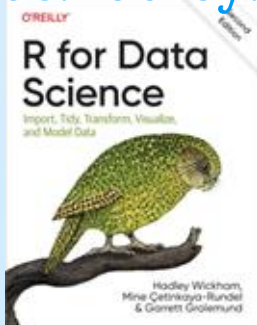
- R package development skills
- Data wrangling with R
- Data visualization with R
- Advanced knowledge of Shiny
- Deep understanding of teal_data

Learning path for Teal app developer

General skills



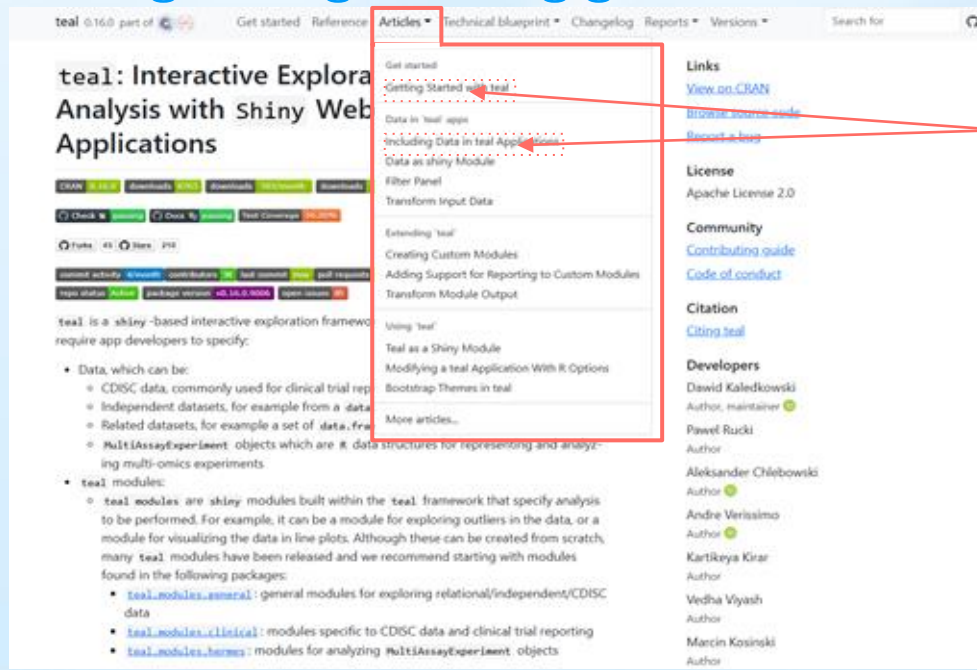
r4ds.hadley.nz



Teal specific skills

Data input

insightsengineering.github.io/teal



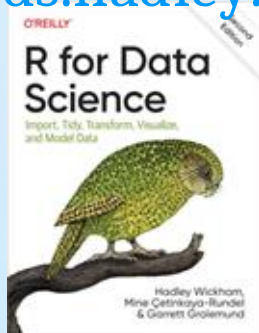
Very important

Learning path for Teal app developer

General skills



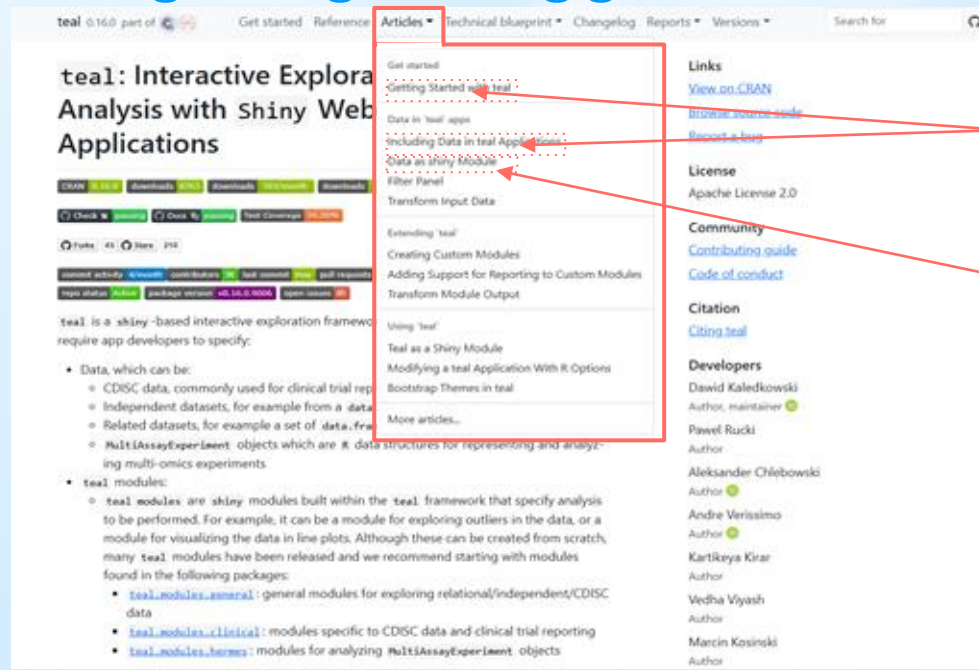
r4ds.hadley.nz



Teal specific skills

Data input

insightsengineering.github.io/teal



Very important

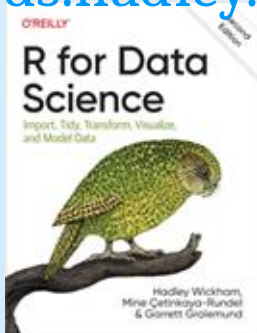
Next step

Learning path for Teal app developer

General skills



r4ds.hadley.nz



Teal specific skills

Using modules

insightsengineering.github.io/teal.modules.general

15 modules

General data

insightsengineering.github.io/teal.modules.clinical

44 modules

CDISC ADaM data

insightsengineering.github.io/teal.modules.hermes

8 modules

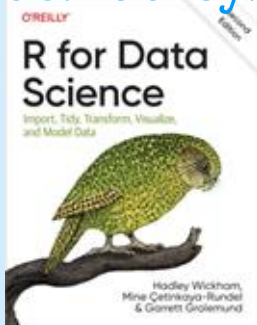
MultiAssayExperiment data

Learning path for Teal app developer

General skills

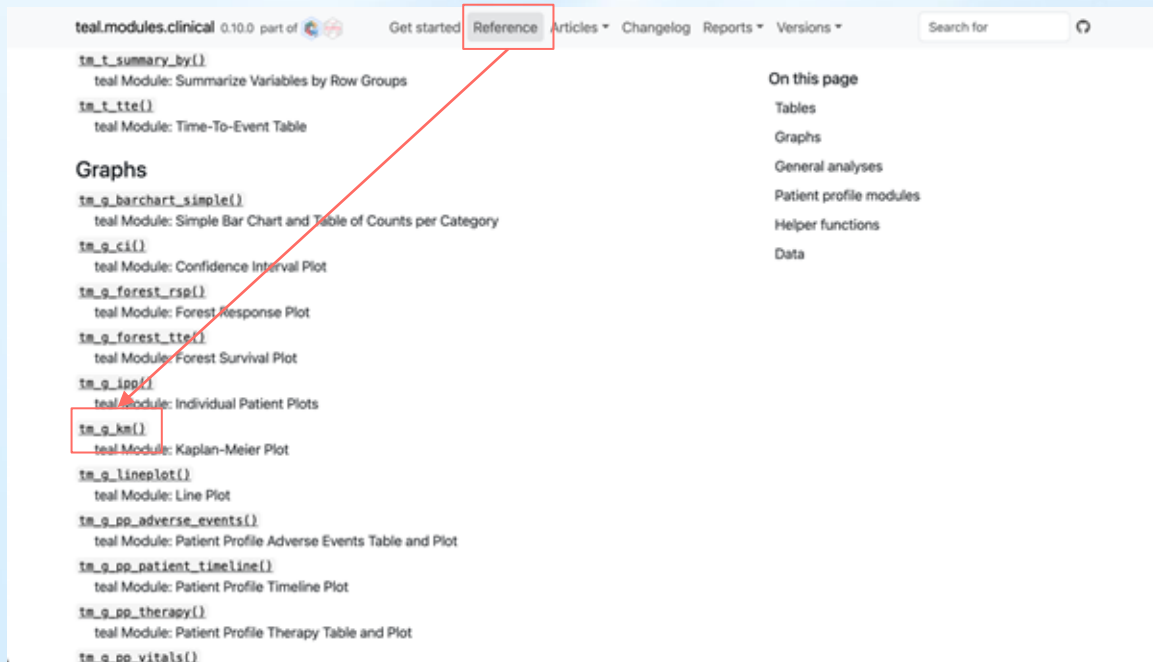


r4ds.hadley.nz



Teal specific skills

Using modules

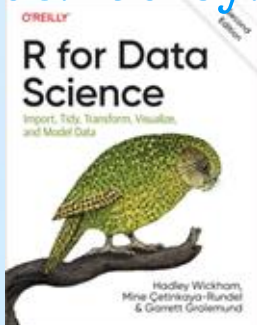


Learning path for Teal app developer

General skills

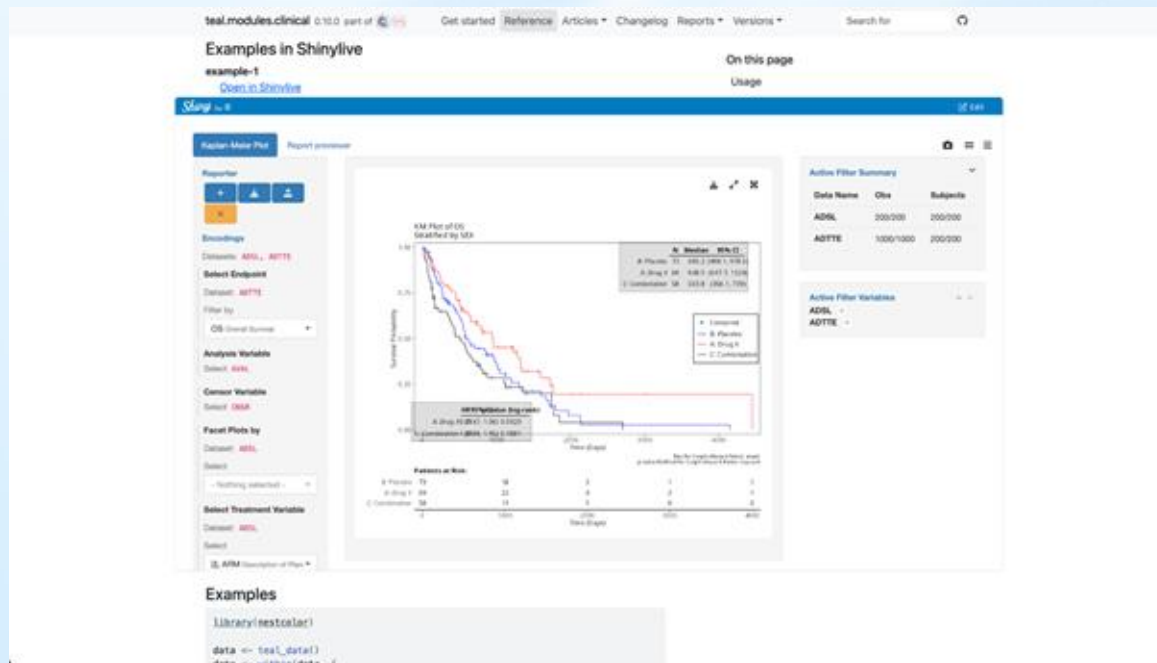


r4ds.hadley.nz



Teal specific skills

Using modules

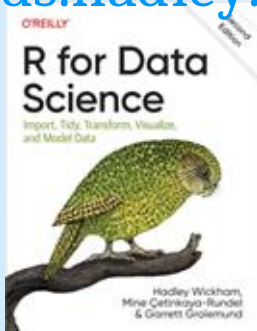


Learning path for Teal app developer

General skills



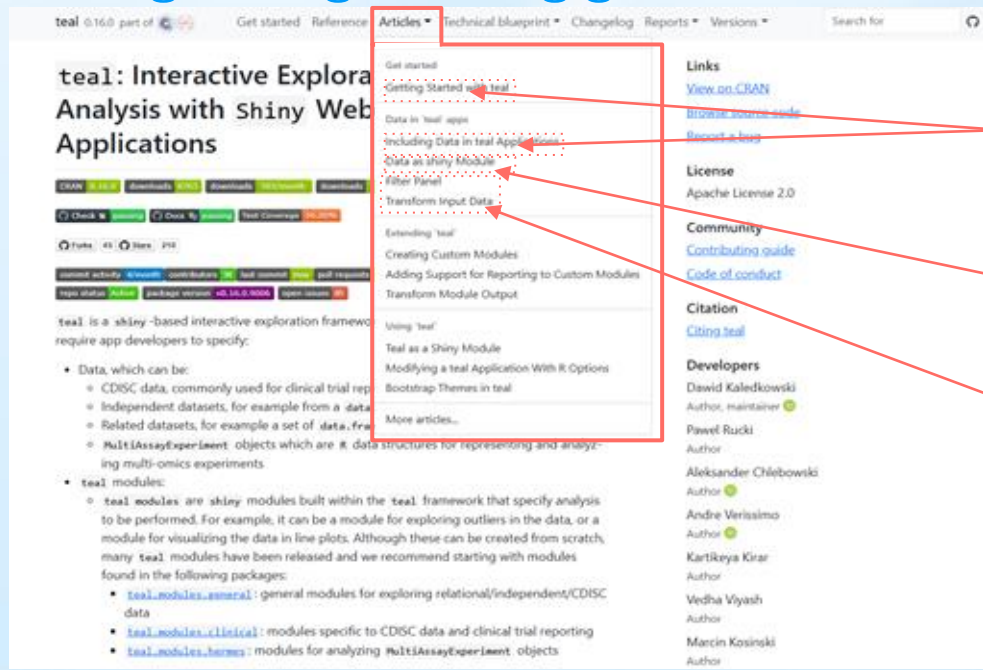
r4ds.hadley.nz



Teal specific skills

Transform data

insightsengineering.github.io/teal



Very important

Next step

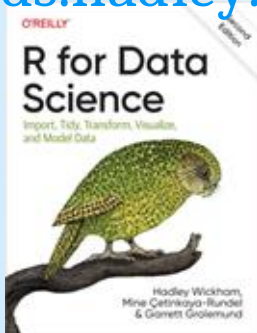
Final step

Learning path for Teal app developer

General skills



r4ds.hadley.nz



Teal specific skills

Decorate output

insightsengineering.github.io/teal.modules.clinical

teal.modules.clinical 0.10.0 part of Get started Reference **Articles** Changelog Reports Versions Search for

Decorate Module Output

NEST CoreDev
Source: [vignettes/decorate-module-output.Rmd](#)

Introduction

The outputs produced by teal modules, like graphs or tables, are created by the module developer and look a certain way. It is hard to design an output that will satisfy every possible user, so the form of the output should be considered a default value that can be customized. Here we describe the concept of decoration, enabling the app developer to tailor outputs to their specific requirements without rewriting the original module code.

The decoration process is build upon transformation procedures, introduced in teal. While transformers are meant to edit module's input, decorators are meant to adjust the module's output. To distinguish the difference, modules in teal.modules.clinical have 2 separate parameters: transformers and decorators.

To get a complete understanding refer the following vignettes:

- Transforming the input data in [this vignette](#).
- Transforming module output in [this vignette](#).

Outputs that can be decorated

It is important to note which output objects from a given module can be decorated. The module function documentation's Decorating Module section has this information.

You can also refer the table shown below to know which module outputs can be decorated.

On this page

- Introduction
- Outputs that can be decorated
- Decorating listing_df, ElementaryTable, TableTree
- Decorating ggplot
- Decorating datatables

One step further

Learning path for Teal module developer

General skills

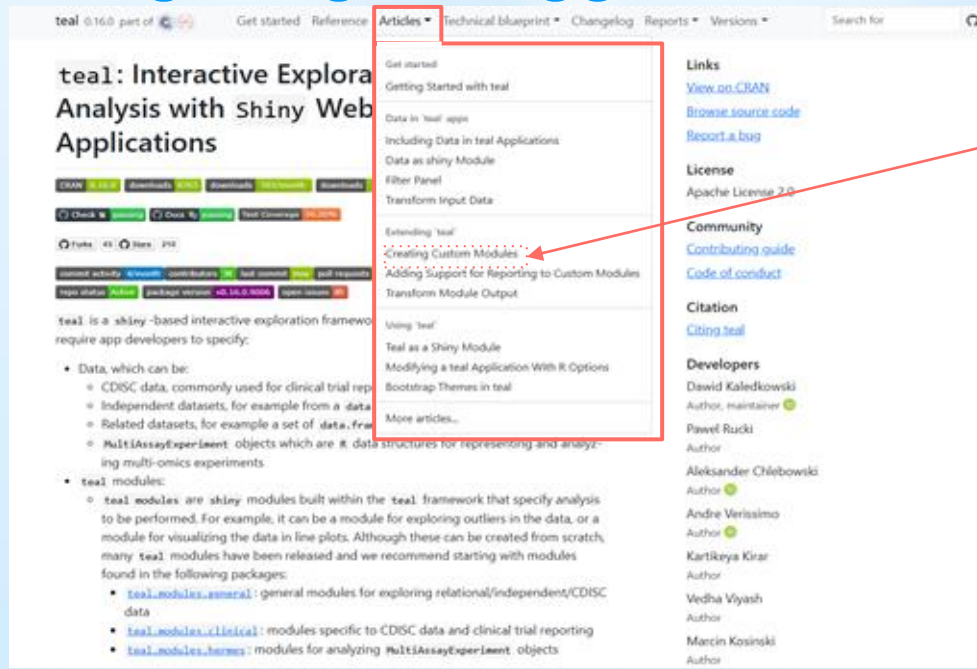


mastering-shiny.org



Teal specific skills

insightengineering.github.io/teal



Very important

Learning path for Teal module developer

General skills

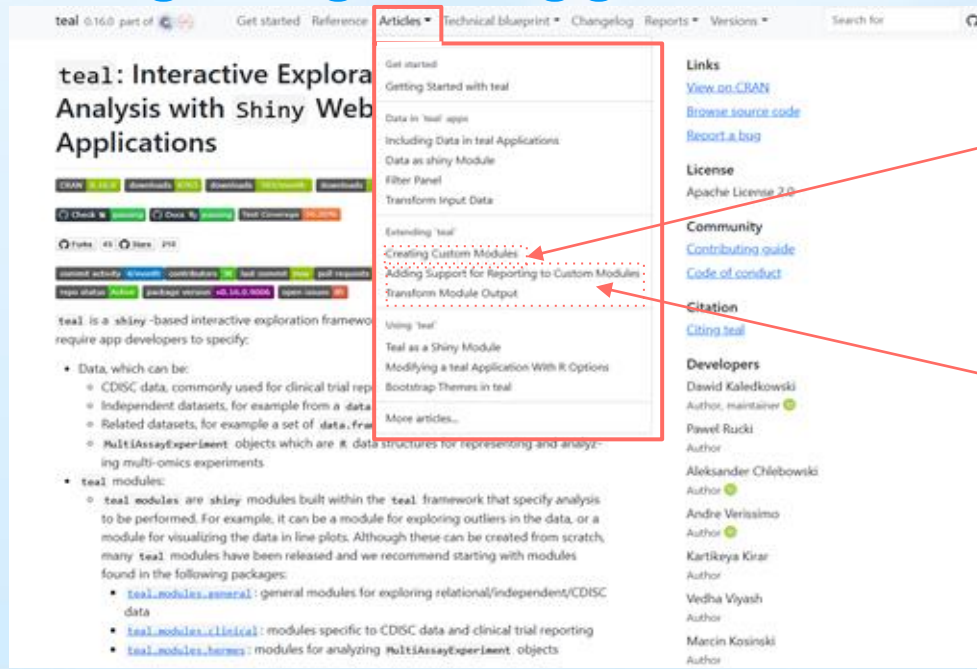


mastering-shiny.org



Teal specific skills

insightsengineering.github.io/teal



Add features

Very important

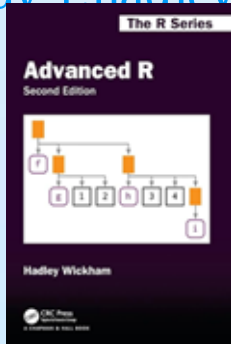
Extending module

Learning path for **Teal framework developer**

General skills



adv-r.hadley.nz



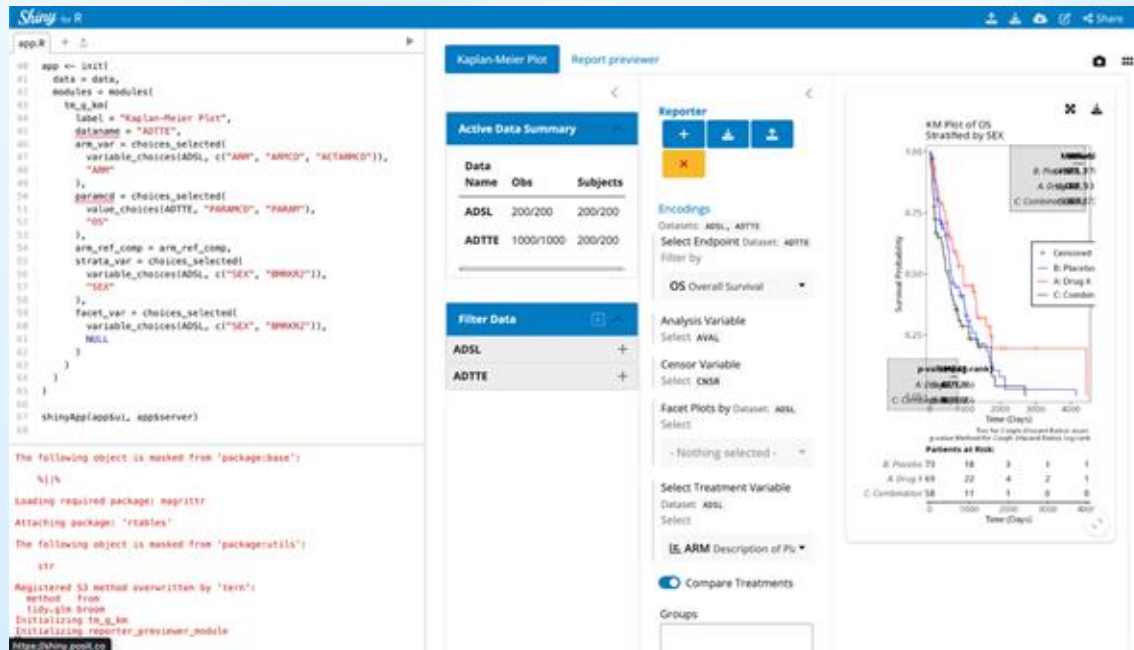
Teal specific skills

Understand and use/extend core objects of teal framework

- teal: [ui_teal](#), [srv_teal](#), [teal_data_module](#), [teal_transform_module](#)
- teal.data: [teal_data](#)
- teal.slice: [FilterPanelAPI](#)

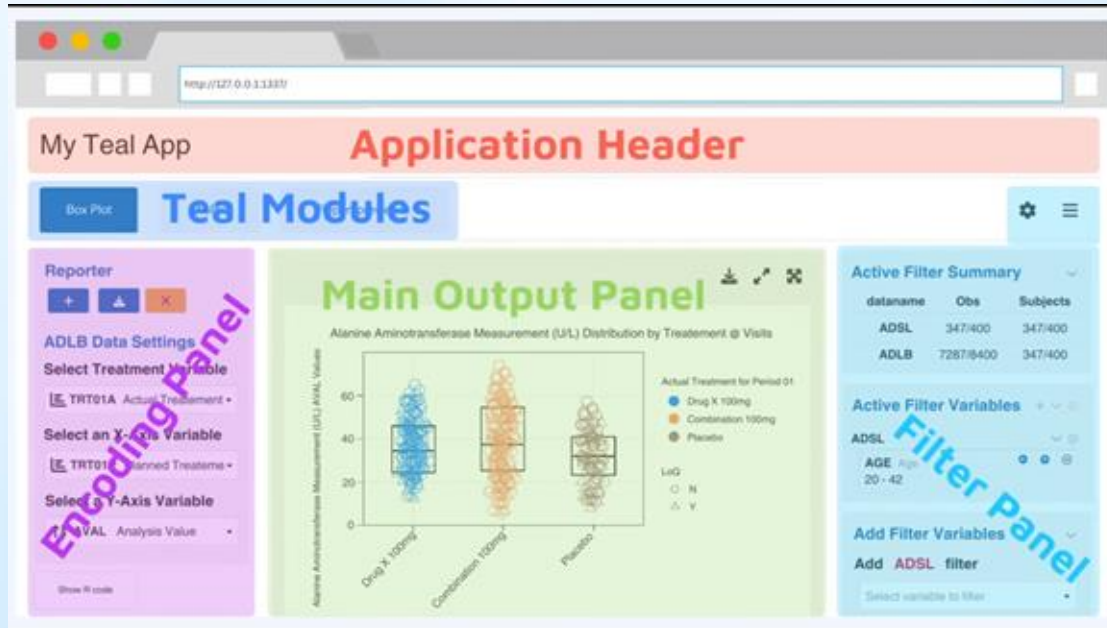
Should have gone through all the teal vignettes to understand how the framework works.

Run the teal app using webR



go.appsiilon.com/teal-webR

A Complete Guide to Getting Started with teal



<https://go.appsilon.com/teal-video>

Thank you for your attention!



Get the slides 



go.appsilon.com/teal

Contact me

Name: Vedha Viyash

Organization: Appsilon

E-mail: vedha@appsilon.com

LinkedIn: [linkedin.com/in/vedhav](https://www.linkedin.com/in/vedhav)

