Quarto Macchiato

Layering R, Python (+ Javascript)
like a Pro

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The Health Foundation

featuring RCAFE

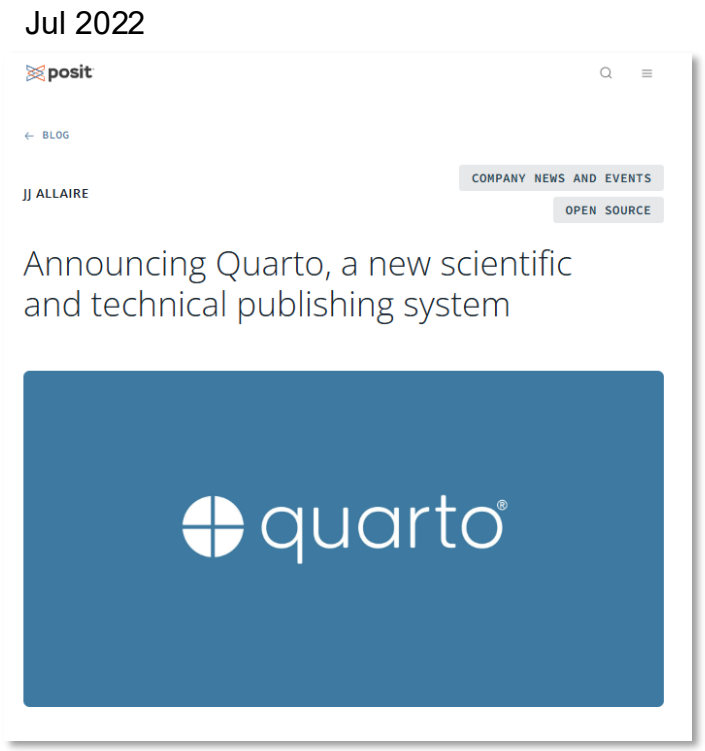
Why Quarto?

What is Quarto?

An open-source scientific and technical publishing system to create

- Dynamic documents
- Reports
- Presentations
- Websites

using R, Python, and more.



Isn’t it just like R Markdown?

Same

- Builds on R Markdown & Pandoc
- Almost exactly the same functionality (outputs, syntax, ..)

= can render R Markdown files without any changes

... but different

- **Has multiple engines** (Knitr, Jupyter, Javascript) to support R, Python, Javascript, Julia, etc.
- Code in the **IDE of your choice** (R Studio, VS Code, Jupyter notebook)
- Exists outside the R ecosystem

Should I switch from R Markdown?

It depends

🆚 If you like working in other code editors

If you work in python and want to publish a static website easily

➕ If you want to combine multiple languages in the same environment

😎 If you want to learn a cool new tool

Setup aka the boring bit ....

What you need to install

Publishing system

quarto®

Install from Quarto.org

Languages

Install via Company Portal
(see user guide)

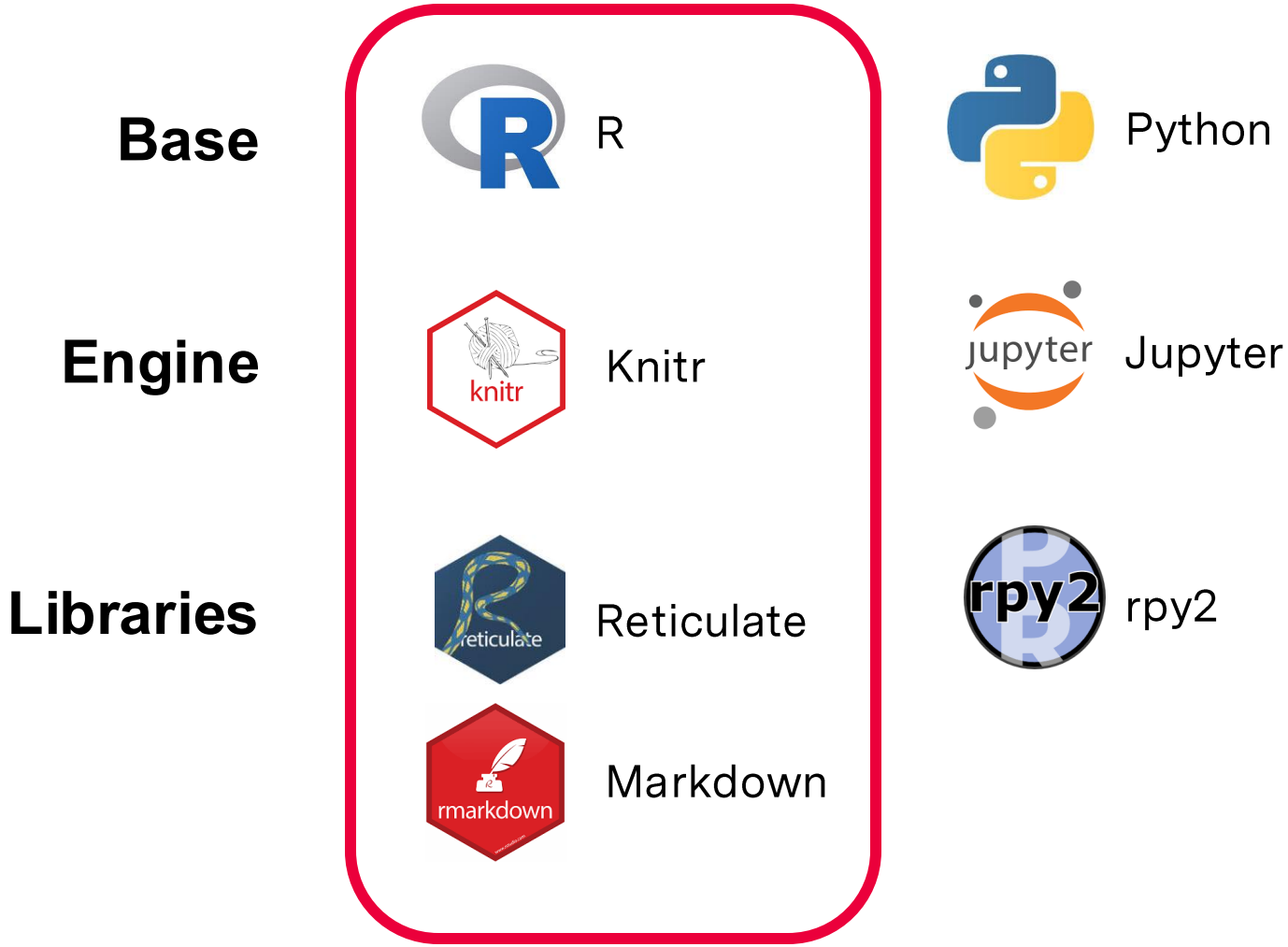
IDE

or

Install via Company Portal
(see user guide)

+

Two ways to combine R + Python in Quarto



Demo time

Demo script

Full script on Github

https://github.com/HFAnalyticsLab/data-viz-tools/tree/main/presentations/Quarto-demo

```
---
title: "R and Python love story in Quarto"
format:
  html:
    code-fold: true
    self-contained: true
execute:
  eval: true
  warning: false
engine: knitr
---

Combining R and Python code. Here via R using Knitr engine + reticulate library.

## Setup

```{r}
#library(reticulate)
#reticulate::conda_list() #to print conda environments
#use_condaenv("310_data_viz")
```

Load data in R and convert to pandas dataframe

```{r}
#R code
#library(readr)
#penguins <- read_csv("penguins_short.csv")

#convert to dataframe for python
#py_penguins <- r_to_py(penguins)
```

Add column in python

```{python}
#Python code
#import pandas as pd

#print dataframe
#r.py_penguins
```
```

Links + resources

Further resources

Official Quarto documentation
https://quarto.org/

Quarto tricks
https://www.productive-r-workflow.com/quarto-tricks

Combining R and Python with Reticulate and Quarto
https://nrennie.rbind.io/blog/combining-r-and-python-with-reticulate-and-quarto/

What is the best practice for combining Python and R in Quarto
https://github.com/quarto-dev/quarto-cli/discussions/3408

Collection of resources, tutorials and guides for Quarto
https://github.com/mcanouil/awesome-quarto#official-documentation--quickstarts