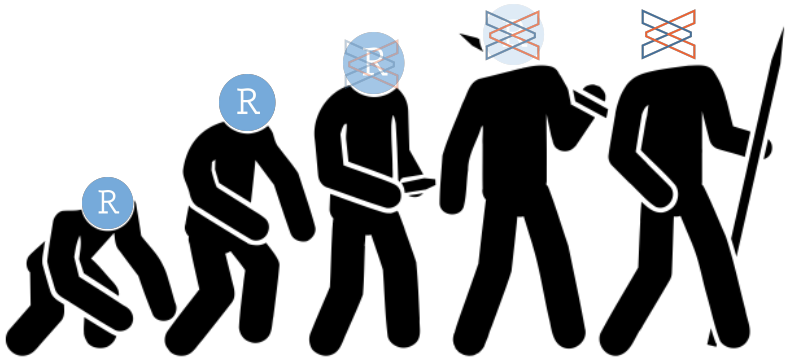
RStudio® / posit™

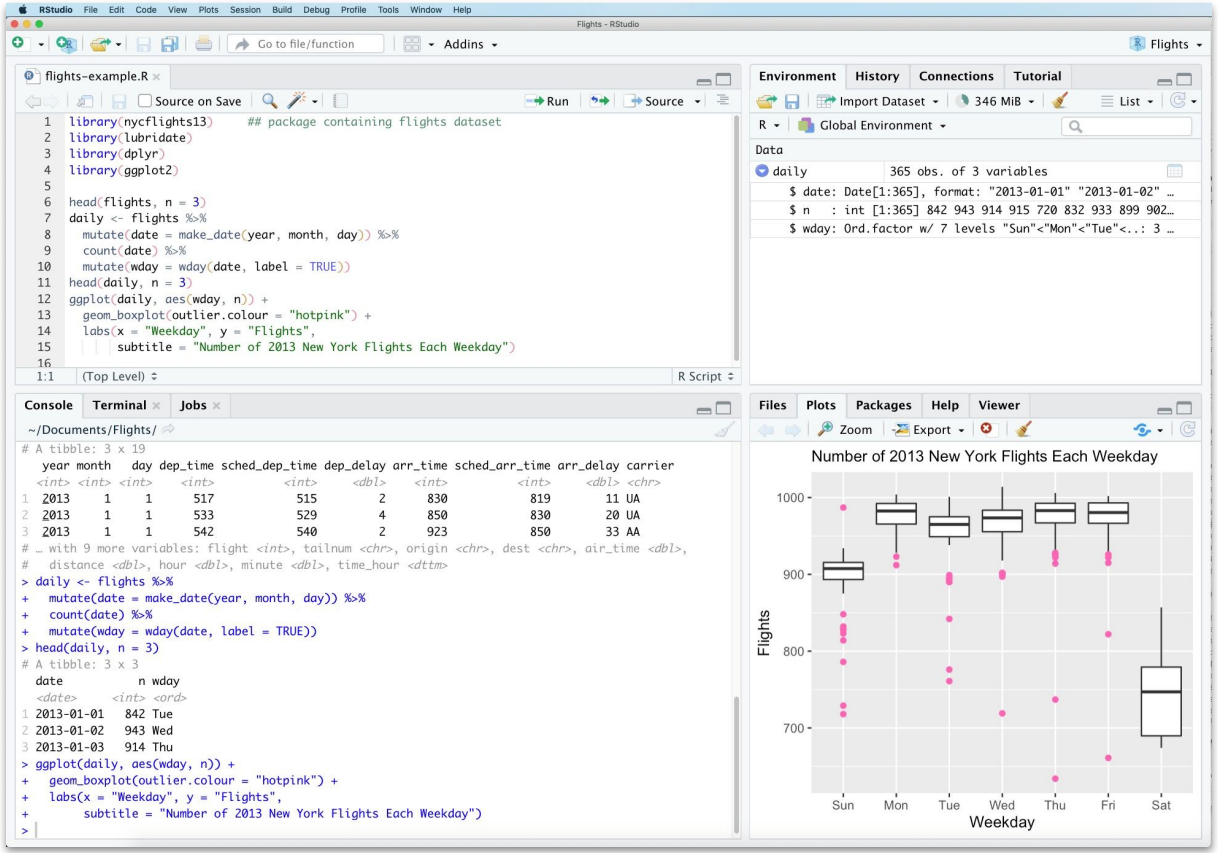
Product Updates



Ryan Johnson
Customer Success Manager

Image modified from “Evolution” by Jakob Vogel from the Noun Project

RStudio


RStudio File Edit Code View Plots Session Build Debug Profile Tools Window Help
Flights - RStudio
Go to file/function
Addins
Flights
flights-example.R
Source on Save
Run
Source
1 library(nycflights13) ## package containing flights dataset
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13 geom_boxplot(outlier.colour = "hotpink") +
14 labs(x = "Weekday", y = "Flights",
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1:1 (Top Level) R Script
Environment History Connections Tutorial
Import Dataset 346 MiB List
R Global Environment
Data
daily 365 obs. of 3 variables
$ date: Date[1:365], format: "2013-01-01" "2013-01-02" …
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Console Terminal Jobs
~/Documents/Flights/
A tibble: 3 x 19
year month day dep_time sched_dep_time dep_delay arr_time sched_arr_time arr_delay carrier
<int> <int> <int> <int> <int> <dbl> <int> <int> <dbl> <chr>
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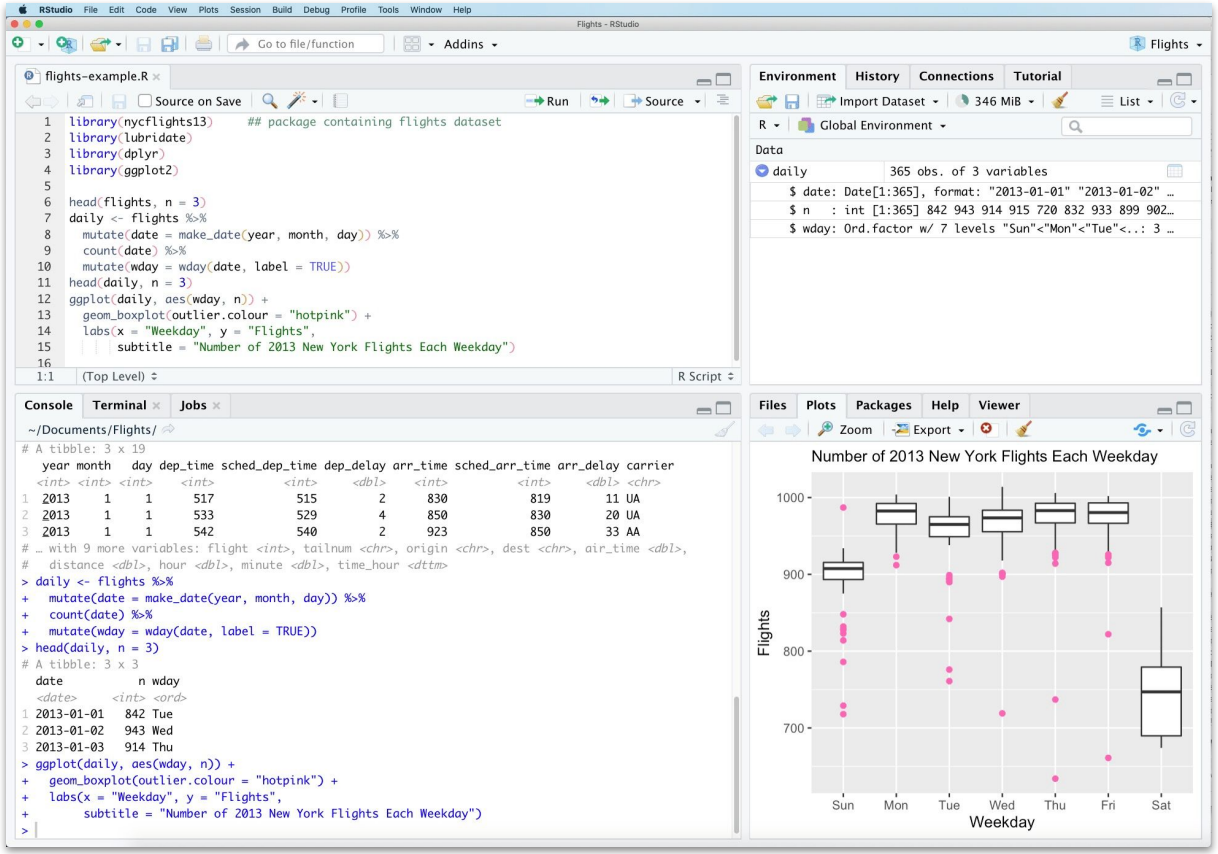
Files Plots Packages Help Viewer
Zoom Export
Number of 2013 New York Flights Each Weekday
1000
900
800
700
Flights
Sun Mon Tue Wed Thu Fri Sat
Weekday

RStudio®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Zoom Export
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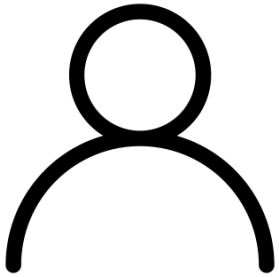
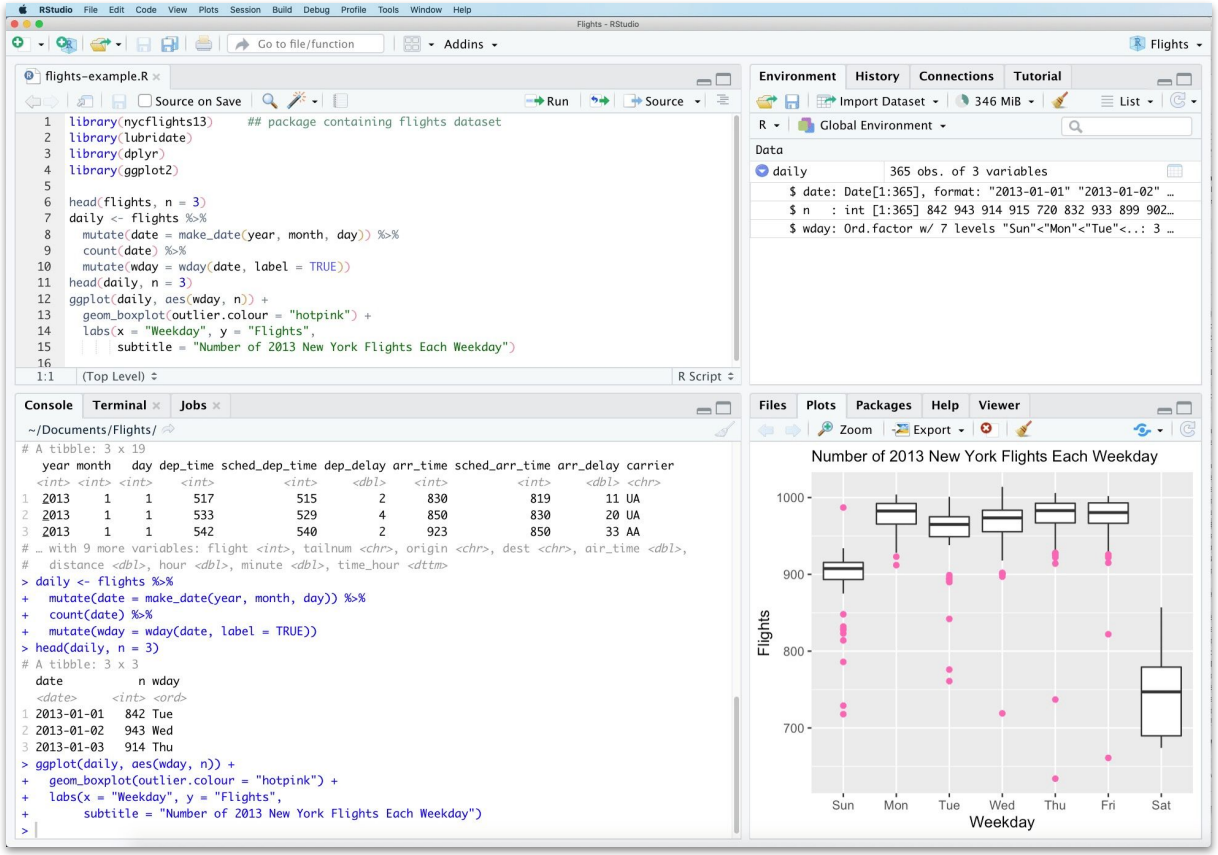


RStudio®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Files
Plots
Packages
Help
Viewer
Number of 2013 New York Flights Each Weekday
1000
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Flights
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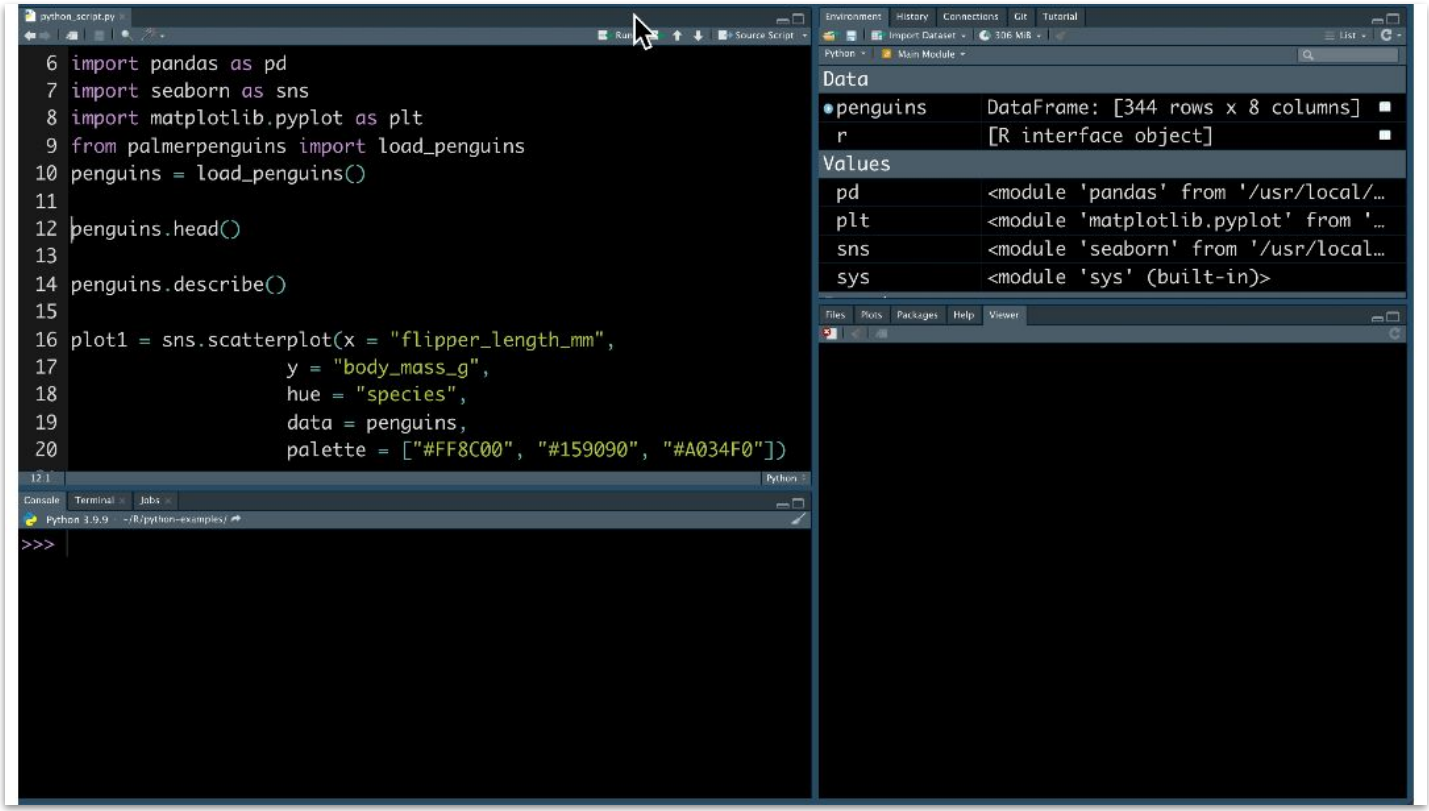
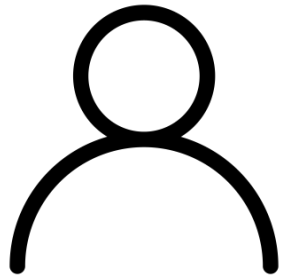
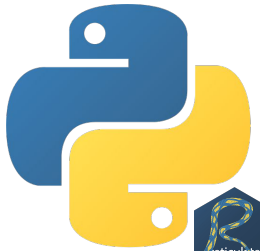
Weekday

RStudio®

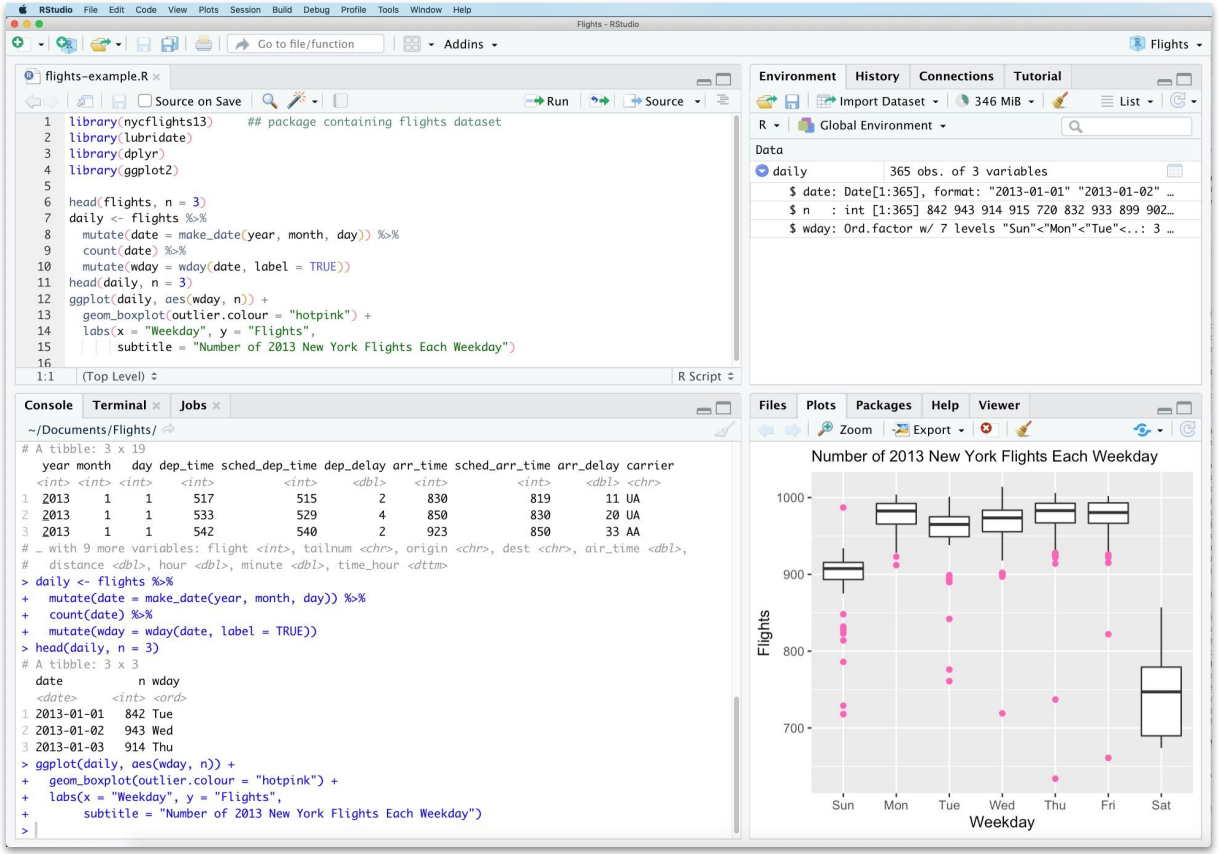

python_script.py
Run
Source Script
6 import pandas as pd
7 import seaborn as sns
8 import matplotlib.pyplot as plt
9 from palmerpenguins import load_penguins
10 penguins = load_penguins()
11
12 penguins.head()
13
14 penguins.describe()
15
16 plot1 = sns.scatterplot(x = "flipper_length_mm",
17 y = "body_mass_g",
18 hue = "species",
19 data = penguins,
20 palette = ["#FF8C00", "#159090", "#A034F0"])
Console
Terminal
Jobs
Python 3.9.9 ~/R/python-examples/
>>>
Environment
History
Connections
Git
Tutorial
Import Dataset
306 MiB
List
Python
Main Module
Data
penguins DataFrame: [344 rows x 8 columns]
r [R interface object]
Values
pd <module 'pandas' from '/usr/local/…
plt <module 'matplotlib.pyplot' from '…
sns <module 'seaborn' from '/usr/local…
sys <module 'sys' (built-in)>
Files
Plots
Packages
Help
Viewer





reticulate

RStudio®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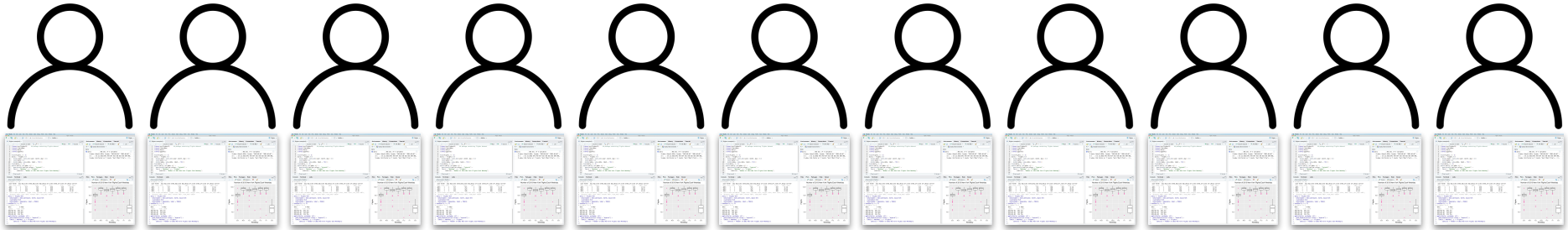
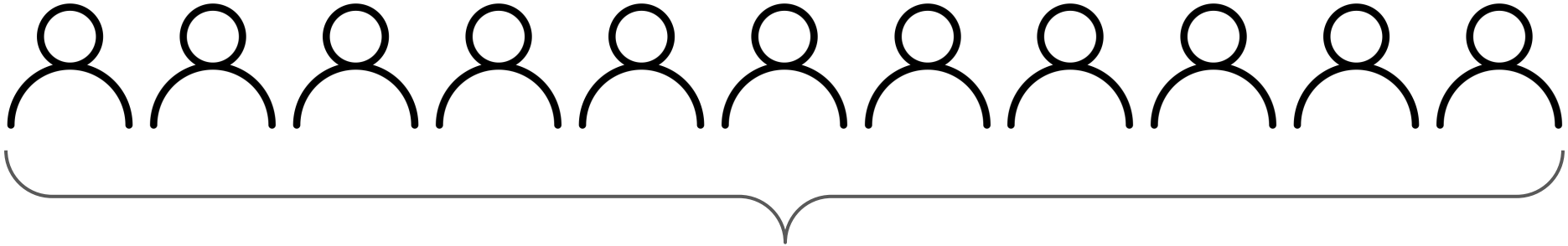
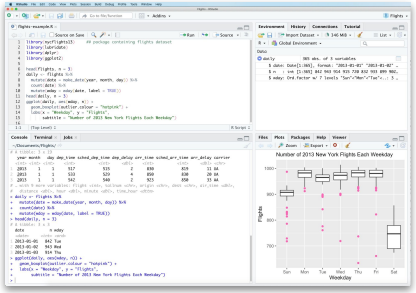
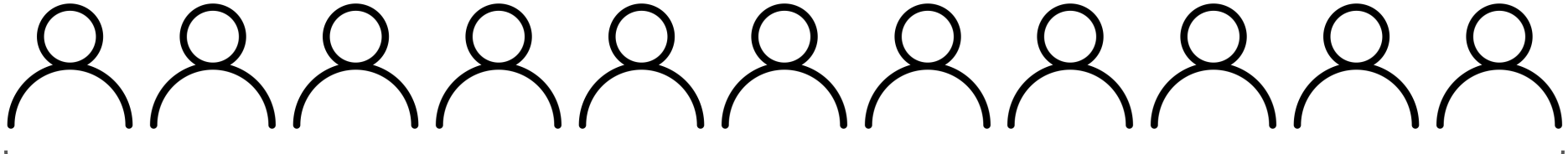
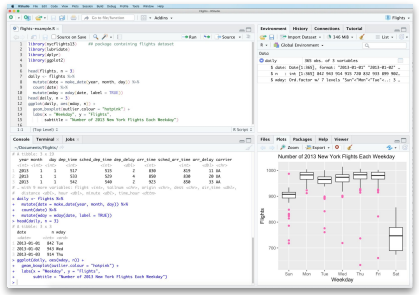






posit™ Workbench





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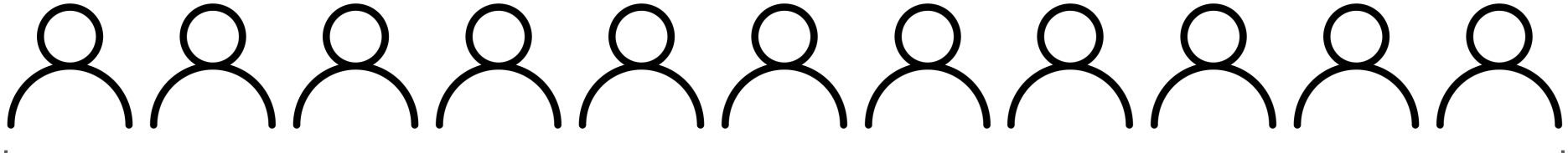
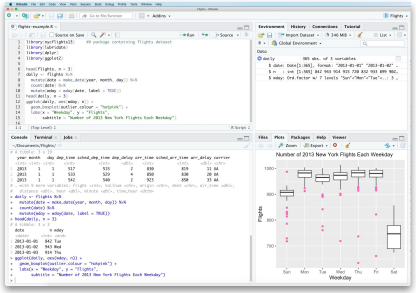


jupyter



posit™ Workbench

On-Prem

AWS/GCP/Azure

Amazon SageMaker

Azure Machine Learning

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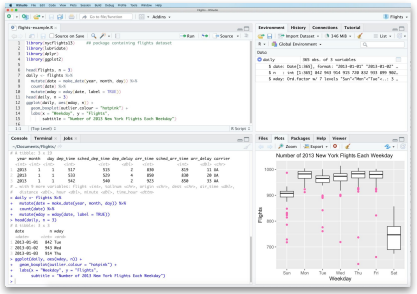

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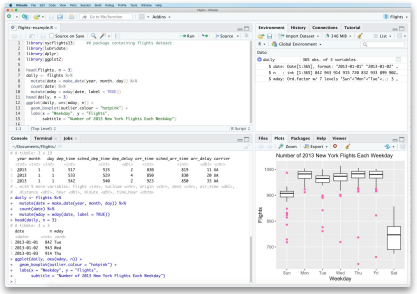


Static Content

quarto®

rmarkdown

pins

jupyter

Welcome to Quarto

Quarto® is an open-source scientific and technical publishing system built on Pandoc

- Create dynamic content with Python, R, Julia, and Observable.
- Author documents as plain text markdown or Jupyter notebooks.
- Publish high-quality articles, reports, presentations, websites, blogs, and books in HTML, PDF, MS Word, ePub, and more.
- Author with scientific markdown, including equations, citations, crossrefs, figure panels, callouts, advanced layout, and more.

Get Started | Guide

Hello, Quarto

Python | R | Julia | Observable

Weave together narrative text and code to produce elegantly formatted output. Quarto documents are fully reproducible. Use markdown with code cells executed via Jupyter (shown below) or render existing Jupyter notebooks.

```
---
title: "matplotlib demo"
format:
  html:
    code-fold: true
jupyter: python3
---

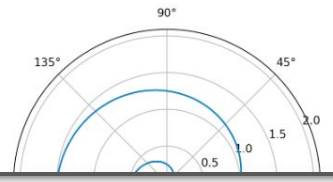
For a demonstration of a line plot on a polar axis,
see @fig-polar.

```{python}
#| label: fig-polar
#| fig-cap: "A line plot on a polar axis"
```

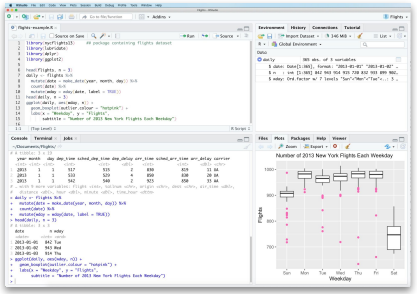
matplotlib demo

For a demonstration of a line plot on a polar axis, see Figure 1.

▶ Code


```

posit™ Workbench



Static Content

quarto

rmarkdown

pins

jupyter

Applications

Shiny

Streamlit

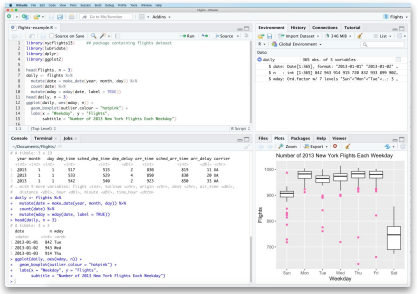
bokeh

Dash

Flask

jupyter

posit™ Workbench



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Applications

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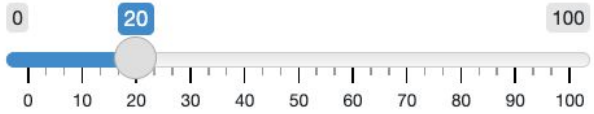
for

app.py

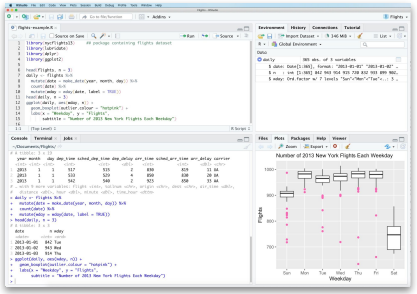
```python
from shiny import App, render, ui

app_ui = ui.page_fluid(
    ui.input_slider("n", "N", 0, 100, 20),
    ui.output_text_verbatim("txt"),
)


def server(input, output, session):
    @output
    @render.text
    def txt():
        return f"n*2 is {input.n() * 2}"


app = App(app_ui, server)

```

N




```
n*2 is 40
```

posit Workbench



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Dash

Flask

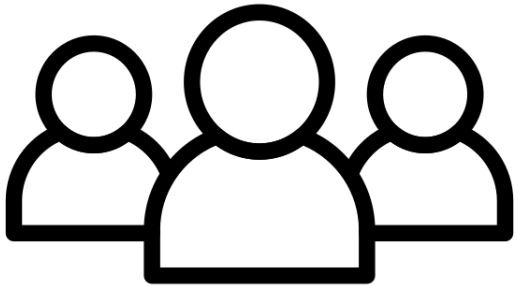
APIs

plumber

Flask

FastAPI

Data Scientists



bokeh

Streamlit

jupyter

quarto

Dash

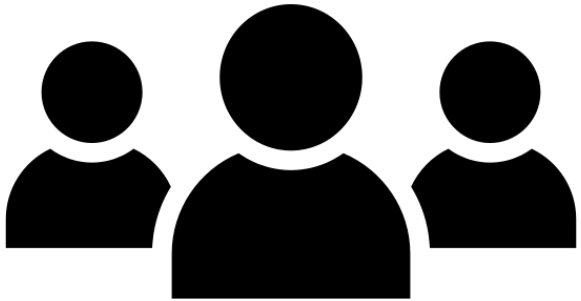
Flask

Flask

FastAPI

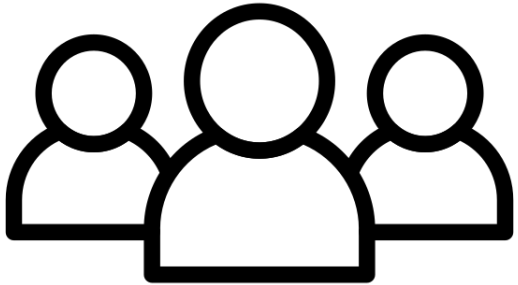
?

End Users

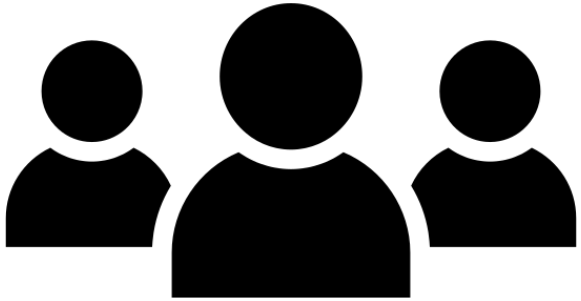


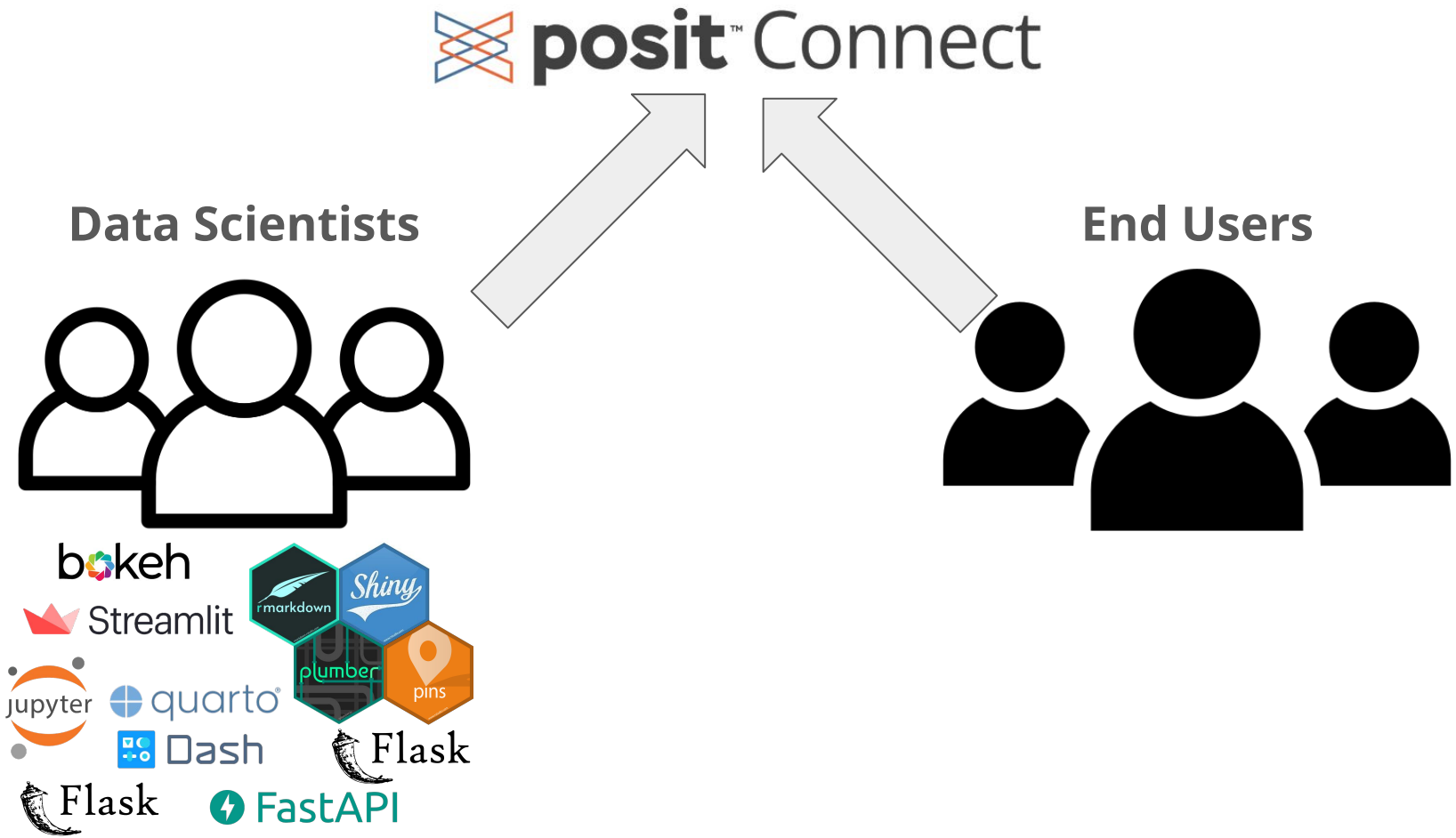
posit™ Connect

Data Scientists



End Users




posit Connect
Data Scientists
End Users
bokeh
Streamlit
jupyter
quarto
Dash
Flask
Flask
FastAPI
rmarkdown
Shiny
plumber
pins

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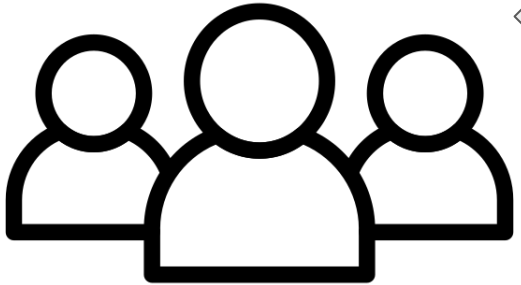

bokeh
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FastAPI

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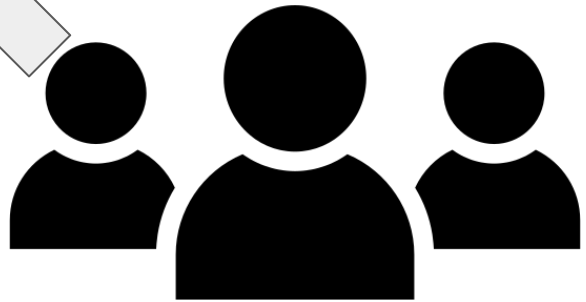
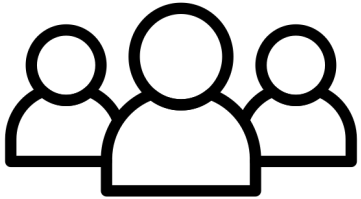


- Colleagues
- Business Leaders
- Customers
- General Public

Data Scientists



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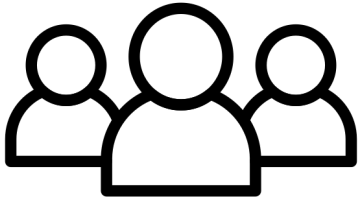
Packages!

Data Scientists



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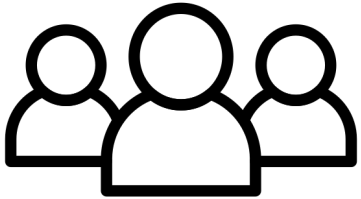
NumPy

matplotlib

seaborn

Data Scientists



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CRAN

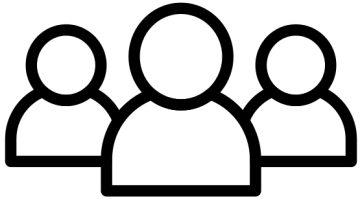
The Comprehensive R Archive Network

Bioconductor

OPEN SOURCE SOFTWARE FOR BIOINFORMATICS

python™ Package Index

Data Scientists



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Data Science?

posit™ Academy

posit™ Cloud

posit™ Academy

Lessons
Learn the fundamentals for the project with interactive lessons.

Project milestones
Each week, recreate a progressive piece of the project and expand on it.

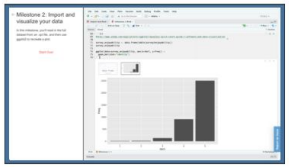
Group sessions
Share your work and ideas with your group at weekly sessions.

Mentor meetings
Meet regularly with a mentor to get personalized guidance.

Daily practice
Build long-lasting habits with spaced-repetition drills.

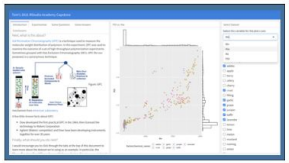
Tailored curriculum

Traditional data science learning is generic and broken. With Academy, content is immersive and tailored to fit your team's exact needs. Learn R & Python with specific use cases, data, and best practices, while completing projects relevant to your organization's daily work.



Practice-based learning

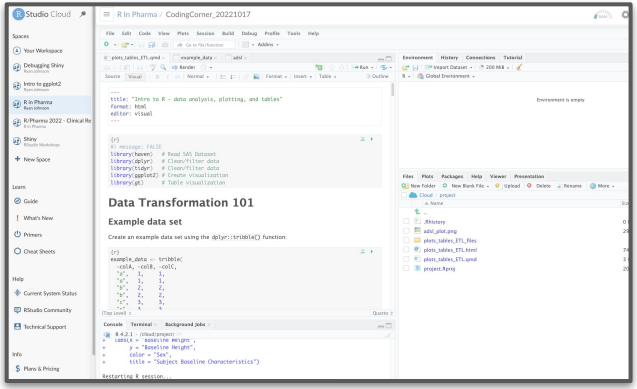
Academy focuses on adaptive practice-based learning and spaced repetition so that the individual learner can master the relevant skills. Learners work on collaborative projects and apply facts to solve real-world problems from the very start.

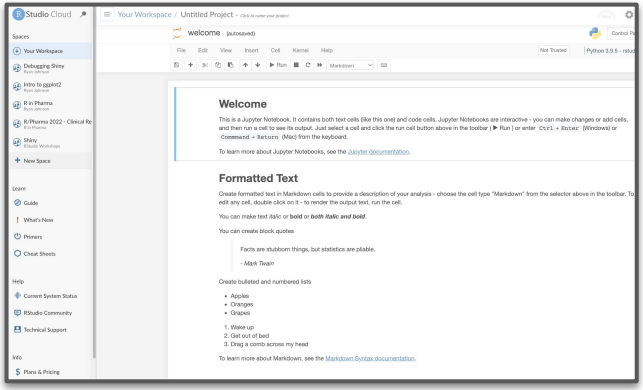


Familiar Tools

Academy leverages the same tools that so many enterprises are already familiar with for scaling open source data science, all hosted and managed on the platform. Learners will have the confidence to deliver immediate insights with those tools after the Academy experience.

posit™ Cloud





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Data science without the hardware hassles!

- Lightweight, cloud-based solution that allows anyone to **do, share, teach and learn data science online!**
- Nothing to configure
- No dedicated hardware
- No installation
- No annual purchase contract required

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