R Workflow Essentials

Introduction to R

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About R

R is a language and environment for statistical computing and graphics which provides a comprehensive platform for data analysis, statistical modeling, and visualization.

RStudio is an integrated development environment or **IDE** for **R**, providing a user-friendly interface that makes working with **R** much easier and more efficient.

*Simply put, **R** is the software, and **RStudio** is the interface used to navigate and interact with the software.*

Posit Software, more commonly known as **Posit**, is the company behind the development of **RStudio IDE**.

Posit also developed **Posit Cloud**, a cloud-based platform that allows users to run **R** and **RStudio** directly in their web browsers.

Posit Cloud is an online version of **RStudio** that allows performing data analysis directly from a web browser.

Typically, using **RStudio** requires installing the software on a laptop or desktop computer.

Posit Cloud offers the convenience of using **RStudio** online, eliminating the need for local installation.

This is particularly useful when switching between multiple devices like tablets or even using public devices like someone else's laptop.

R for Data Analysis

> Free and easily accessible

> Wide range of functionalities

- Statistical analysis
- Machine learning
- Website development

> Extensive library of packages

> Covers basic to advanced statistical methods

Installing **R** and **RStudio**

1: Install R

RStudio requires R 3.6.0+. Choose a version of R that matches your computer's operating system.

R is not a Posit product. By clicking on the link below to download and install R, you are leaving the Posit website. Posit disclaims any obligations and all liability with respect to R and the R website.

DOWNLOAD AND INSTALL R

2: Install RStudio

DOWNLOAD RSTUDIO DESKTOP FOR WINDOWS

Size: 262.79 MB | SHA-256: 09E1E38A | Version: 2024.04.2+764 | Released: 2024-06-10

1

This link will direct you to the CRAN website where you can download and install R.

2

Install RStudio after R is successfully installed on your laptop or desktop computer.

The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- Download R for Linux (Debian, Fedora/Redhat, Ubuntu)
- Download R for macOS
- Download R for Windows

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (2024-06-14, Race for Your Life) R-4.4.1.tar.gz, read what's new in the latest version.
- Sources of R alpha and beta releases (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are available here. Please read about new features and bug fixes before filing corresponding feature requests or bug reports.
- Source code of older versions of R is available here.
- Contributed extension packages

Questions About R

- If you have questions about R like how to download and install the software, or what the license terms are, please read our answers to frequently asked questions before you send an email.

Supporting CRAN

- CRAN operations, most importantly hosting, checking, distributing, and archiving of R add-on packages for various platforms, crucially rely on technical, emotional, and financial support by the R community.
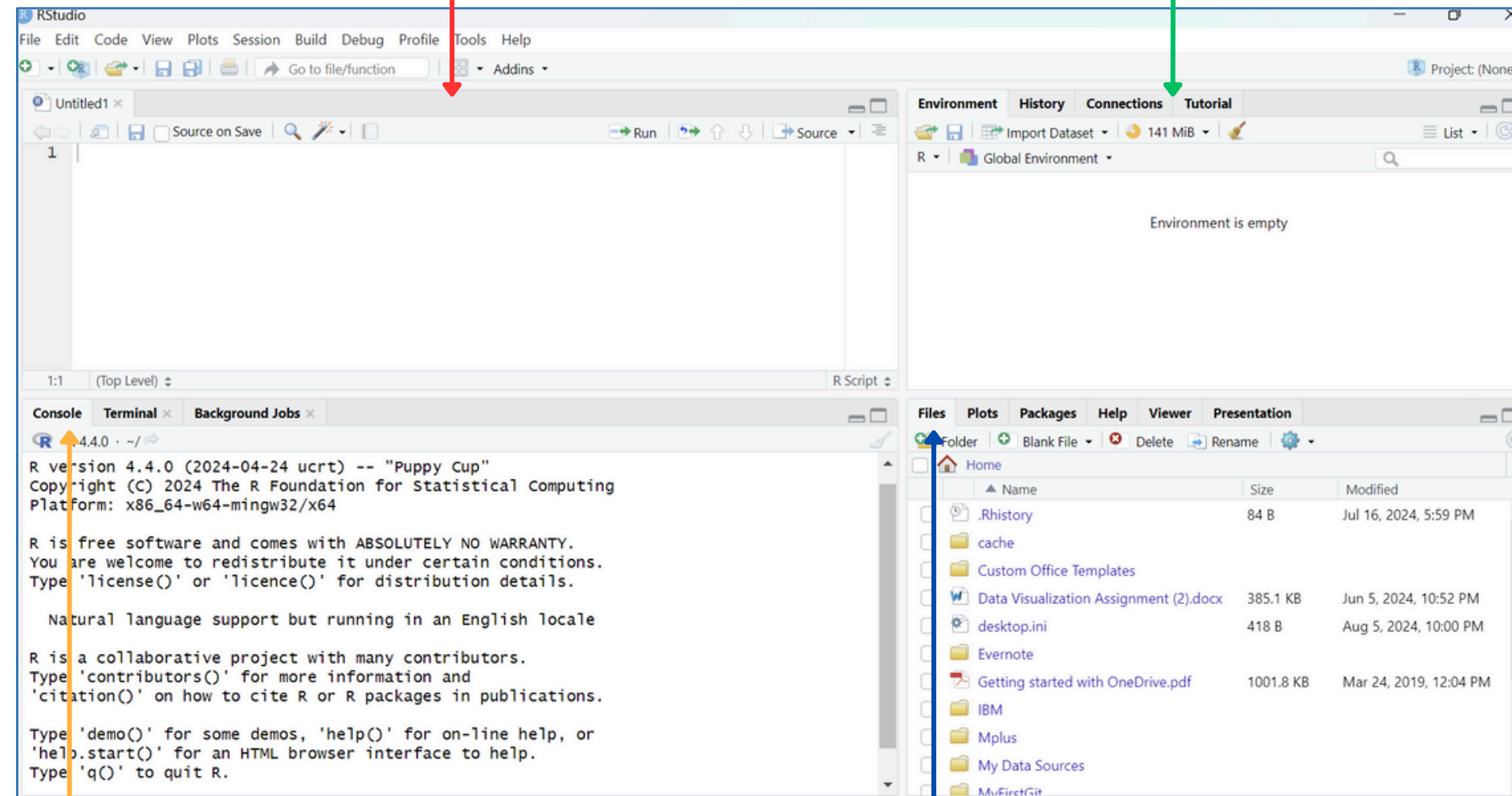
  Please consider making financial contributions to the R Foundation for Statistical Computing.

*Choose the **R** version that is appropriate for your operating system.*
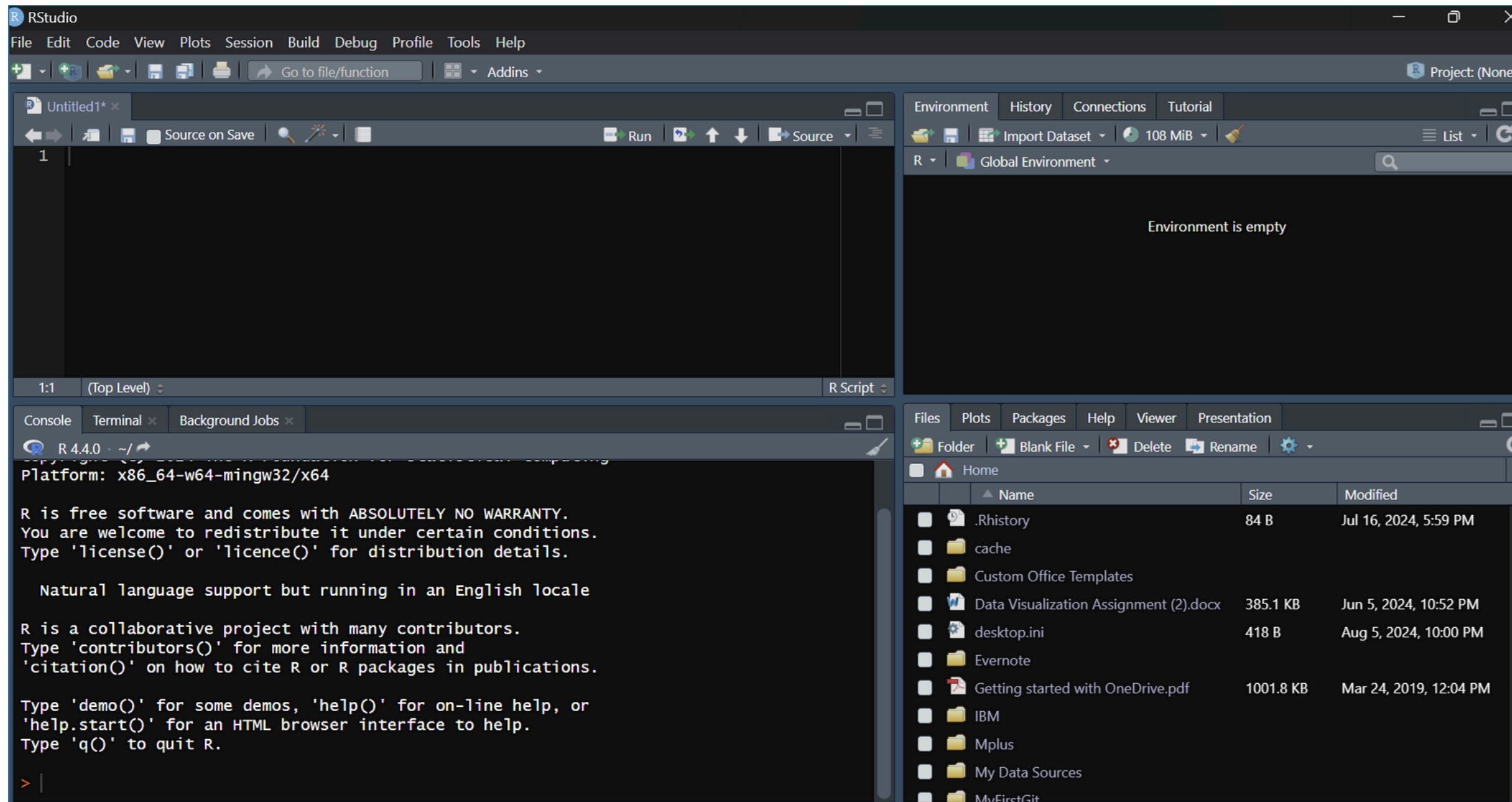
RStudio Interface

The Source Pane allows you to create R files and write R code.

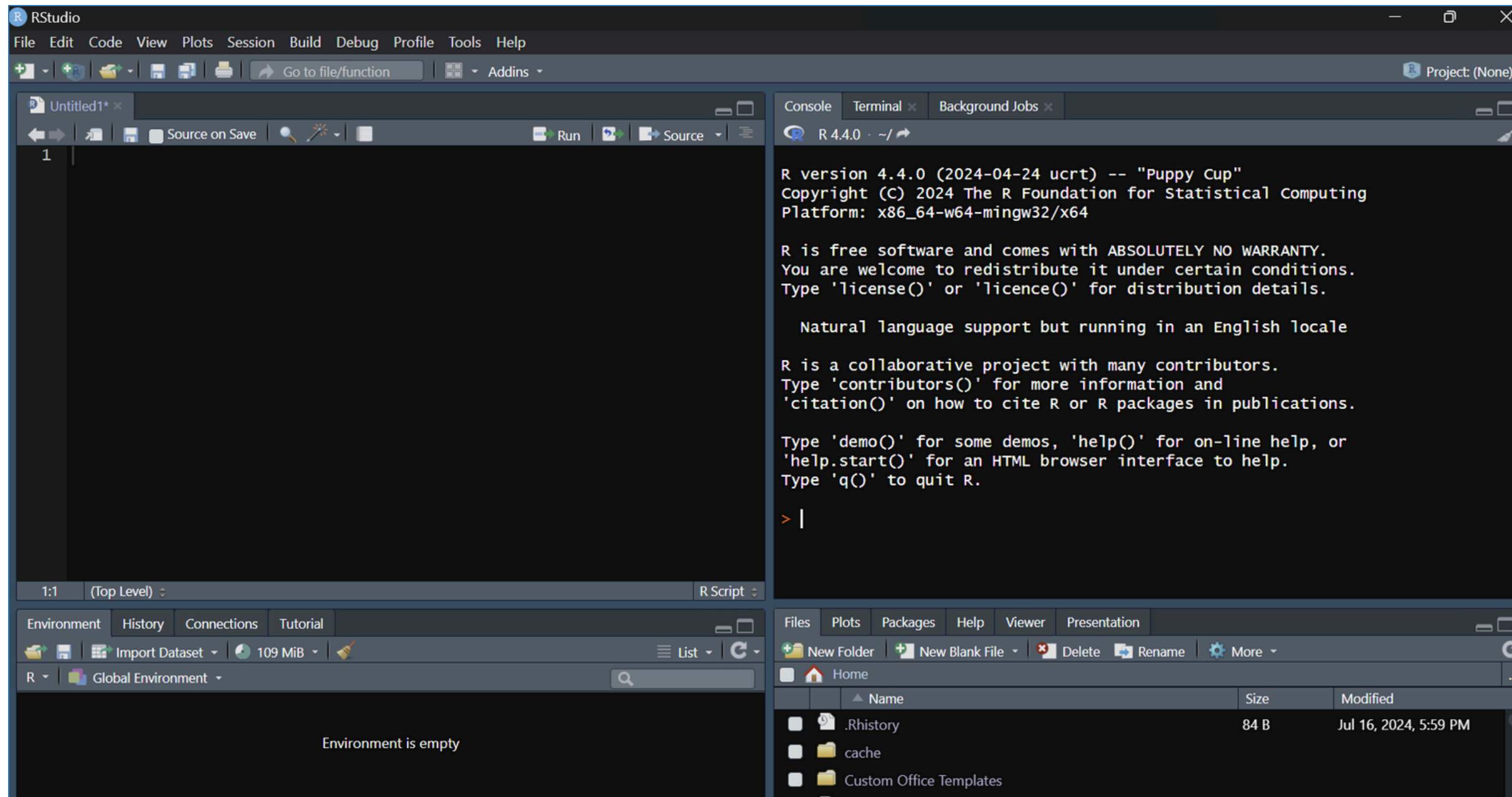This pane includes Environment, History, Connections, and Terminal tabs.

The Console Pane includes Console, Terminal, and Background Jobs. Most of the results generated in RStudio are shown in the Console tab.

This pane includes Files, Plots, Packages, Help, Viewer, and Presentation tabs. Under the Files tab, you will see R files and datasets.

You can change the appearance of the **RStudio** interface. For example, the **RStudio** interface below uses the `**Vibrant Ink**` theme.

Tools → Global Options → Appearance

You can also rearrange the position of the panes as you prefer.

Tools → Global Options → Pane Layout

Thank You