Introduction to R

**Estimated Duration:** 40 minutes

**In this Session**

* Introduction to R
* Installing R and RStudio
* Quick Start

**Introduction to R**

* The R programming language
* Why learn R?
* More about R – environment, community, license, GUI/IDE, packages

**R Data Exploration Workflow**

A picture containing screenshot

Description automatically generated

Source: R for Data Science <https://r4ds.had.co.nz/explore-intro.html>

**Installing R and RStudio**

**Installing R**

* Go to https://cran.r-project.org/mirrors.html
* Follow download instructions

**Installing RStudio**

There are many R programming IDEs (Integrated Development Environment) and editors. Select one or more that best meet your requirements – for example, the type of license best suited for your environment and budget, platform, R-specific or multi-language, feature strength and integration with other programs.

• RStudio • R Tools for Visual Studio • ESS • Microsoft R Open • Architect • Eclipse StatET

• R AnalyticalFlow • Rattle • R-Brain

Throughout this tutorial, we will use RStudio.

* Go to <https://rstudio.com/products/rstudio/download/>
* Select RStudio Desktop (open source license)
* Download file according to your OS and follow instructions

If you already have RStudio installed previously, you can go to *Help > Check for Updates* to install the latest version. Re-installation is required but you do not need to uninstall the old version.

**Quick Start**

**The RStudio IDE**

* Help Menu – About, Updates and Resources
* Code pane
* Console pane
* Environment pane – Environment, History, Connections, Build, Tutorial
* Files pane – Files, Plots, Packages, Help, Viewer

**Entering Codes**

* Simple calculation examples
* Create a variable and calculate its values
* The Base R Package
* Help (?base, ?sum, etc.)

**Resources**

1. R Website https://www.r-project.org/
2. RStudio Support <https://support.rstudio.com/hc/en-us/sections/200130627-Package-Development>