

**Building R Web Applications with Shiny**

**Course Number:** RPROG-104
**Duration:** 2 days

**Overview**

Accelebrate's Building R Web Applications with Shiny course teaches attendees how to convert their R-based data analytics programs into responsive, interactive web applications.

**Prerequisites**

A basic knowledge of R is required, including an understanding of the role of objects in R, indexing, and calling and writing functions.

**Materials**

All attendees receive comprehensive courseware and a textbook.

**Software Needed on Each Student PC**

* A recent release of R 4.x
* IDE or text editor of your choice (RStudio recommended)

**Objectives**

* Quickly review R fundamentals
* Tour the directory structure of Shiny applications and learn how the components of a Shiny application interrelate
* Use Shiny widgets
* Layout their applications in a way that is responsive (i.e., viewable across multiple device types and resolutions)
* Work with Shiny extensions
* Deploy Shiny applications

**Outline**

* A Brief R Overview
	+ Working With Data
	+ Creating Numerical and Graphical Summaries
	+ Writing Functions in R
* What is Shiny?
	+ A Simple App that We Will Build on Day 1
	+ A Fancy App that We Will Build on Day 2
* The Shiny App Directory
	+ ui.R
	+ shiny.R
	+ global.R
	+ R and shinyServer
	+ The www Directory
	+ runApp
	+ Other Local Launching Methods
* Widgets and the Input List Elements They Create
	+ Examples
	+ verbatimTextOutput
* Input List Elements and Their Role in shinyServer
* Output List Elements and Their Role in shinyUI
* Application Development Exercises
* Application Layout
	+ sidebar
	+ The Bootstrap 12-Wide Grid System
	+ tabsets, navlist, and navbarPage
	+ Application Themes
* Showcase Mode and the DESCRIPTION File
* The Reactive Dependency Chain
* Application Development Exercises
* Shiny Extensions
	+ DataTables
	+ dygraphs
	+ shinyRGL
* Sharing Your App With Others
	+ Setting up an AWS Server and Launching Via Shiny Server
	+ Launching Via shinyapps.io
* Conclusion