

26 BE 9063: Computing with R: Shiny

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Lecture 2: Introduction to R Studio

Getting Started with R Studio

- install at <https://www.rstudio.com/>
- available in open source and commercial editions
- desktop (windows, mac, linux) or browser connected to R Studio Server
- requires existing installation of R

Advantages of Working with an IDE

- syntax highlighting
- code completion
- smart indenting
- execute code directly from source editor
- integrated help and documentations
- workspace browser and data viewer
- interactive debugging
- package development tools
- report/slide authoring with knitr and R Markdown
- support for git and SVN
- more than R: C/C++, Markdown, JavaScript, HTML, CSS, SQL, Java, Python, bash

R Studio Concepts

- R Project (.RProj)
 - .RData
 - .RHistory
- tab completion (global environment, local namespaces, function arguments)

R Studio Walkthrough

- Preferences
 - default working directory
 - restoring workspace, saving workspace
 - insert spaces for tab
 - code snippets
 - completions
 - pane layout
- Panes
 - editor
 - console

- environment
- history
- files
- plots
- packages
- help
- viewer
- Debugging

Useful shortcuts

- Compile Notebook
- `install.packages('foo')`
- find (and replace) (regex support)
- Cmd/Ctrl + ENTER to run current line/selection
- Restart Session / Clear workspace
- Toggle Breakpoint

R Markdown and Reports

- Reproducible research
- Formats (pdf, html, word)
- R Markdown language (<http://rmarkdown.rstudio.com/>)
- Knitr/Sweave packages

R Shiny References

- <http://shiny.rstudio.com/articles/>
- <http://shiny.rstudio.com/tutorial/>
- <http://shiny.rstudio.com/gallery/>

R and R Studio References

- <http://stackoverflow.com/questions/tagged/r>
- <https://www.rstudio.com/resources/cheatsheets/>
- <https://www.rstudio.com/resources/webinars/>
- <https://www.rstudio.com/resources/training/online-learning/>
- <https://www.rstudio.com/resources/faqs/>

Deploying Shiny App to a Server

- Allows user to access app from internet browser, no R required
 - eliminates software dependency and version problems
 - credential-based access
 - embed in presentations and reports
- Shiny Server
 - shinyapps.io (free and paid)
 - Amazon AMI server
 - custom host