Installing and running an R shiny app from a Git repository.

Introduction

What is an R shiny app?

R is a programming language for statistical computing and visualization. Shiny is a library that enables the development of web applications (shiny apps) which generally can be deployed easily with a shiny server. Software and documentation for setting up a shiny server is available for free at [www.rstudio.com](http://www.rstudio.com), where it is also possible to publicly deploy moderately sized shiny apps for free on their server. Once deployed, applications can be accessed remotely with a modern web browser. That’s pretty cool, because a wide range of folks have access to modern web browsers these days, often literally at the tips of their fingers or in the palms of their hands.

The SC DNR has a shiny server set up and operational at [www.dnr.shinyapps](http://www.dnr.shinyapps). The applications (if any) on this server are fully accessible to the public. Additional information for DNR employees to access the DNR shiny server is available in a pdf guide.

Who is this manual for?

The basic steps outlined in this manual should be accessible for anyone familiar with common digital spreadsheet software and navigating a graphical user interface. Familiarity with shapefiles and/or an interest in manipulating the shiny app source code will further enable the reader.

Why this manual?

If shiny apps can easily be deployed and then accessed remotely using a modern web browser, why would anyone want to install and run an R shiny app from a Git repository?

Several reasons:

1. The data or computation power required by the shiny server to run the shiny app may not be available for free to the public.
2. The DNR shiny server has not been configured to run the app. This could be because:
   1. **The app was developed outside of DNR.** *Many shiny apps have been published online, and many of the authors share the source code in Git repositories. I haven’t yet come across any that I would like to run locally, but it could happen.*
   2. **Administrative privileges are needed.** *For certain kinds of functionality, a shiny app might require the installation of additional software dependencies. Installing some kinds of software on the shiny server will require an admin password. If done incorrectly, this could potentially destabilize the server. It is also possible that an unwary admin could accidentally install malicious software.*
   3. **The app contains sensitive information**. *As noted above, the DNR shiny server is accessible to the public. Private or otherwise sensitive information should not be saved on the DNR shiny server. Open source software is now available to set up a shiny server which allows for user authentication (link), and there are options at rstudio.com starting at $\_\_\_\_\_ /month.*

Summary

In the pages ahead, we will walk through steps required to install and run a shiny app from a Git repository.

Step 1: Install git.

What is Git?

Install github desktop: <https://desktop.github.com/>

Step 2: Install R: <https://cran.rstudio.com/>

Step 3: Install RStudio: <https://www.rstudio.com/products/rstudio/download/>

Step 4: Check out the shared repository (github link)

Download input datasets (another github or bitbucket link)

Step 5: Install required packages, extensions, dependencies

Install package dependencies. For the Drought Status Monitor, this includes a javascript library called PhantomJS, available for free here: <http://phantomjs.org/download.html>

Download it in to the “dukeScrape” folder, and install.

The app will attempt to download and install any R packages that aren’t available on the host computer the first time the app is run. Deployment of the Drought Status Monitor onto a server is beyond the scope of this document.

Step 6: Running the app

Open the global.R, server.R, or ui.R file in RStudio, then click ‘Run App’ (circled in red on the screenshot below):

