**How to use Github/Git/RStudio**

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**To get GitHub, Git, and RStudio setup (needs to be done just once, when you first start using Git/GitHub)**

1. Download and install the latest versions of R and R Studio.
2. Download and install Git (https://git-scm.com/downloads)
3. Create a github account online at https://github.com.
   1. Verify your email address (you should receive an email, click on the link inside)
   2. Email Haldre your username/email.
4. In R Studio
   1. Go to RStudio🡪Preferences 🡪 Git/SVN or Go to *Tools -> Global Options* 🡪 Git//SVN
      * 1. Make sure "Enable version control" is checked.
        2. Make sure Git executable says /usr/bin/git, or navigate to the 'gin' executable in the 'bin' folder.
        3. (optional) Make sure SVN executable says /usr/bin/svn
        4. Link Git to your version of R Studio by doing the following
           1. Hit "Create RSA Key". This creates the key in a popup window. Press Close.
           2. Click "View Public key" (only apparent after you create a key) and copy the output
5. In GitHub
   1. Go to settings. SSH and GPG keys. Paste the copied public SSH key here. This should link your version of Git and R Studio to your GitHub account.
   2. Accept invitation to EEB598. (email Haldre@iastate.edu if you don't have an invitation)
6. In the Terminal/Shell (to get there, go to RStudio, and select Tools-> Shell; this will open up the terminal)
   1. Tell Git your name and email address. These are used to label each commit so that when you start collaborating with others, it’s clear who made each change. In the shell, type:
      1. *git config --global user.email "youremailaddress"* (replace "youremailaddress" with your email that you used for GitHub)
      2. *git config --global user.name "yourgitname"* (replace "yourgitname" with your GitHub username)

**For this class**

1. **Cloning**: If you just want to follow along with the R scripts from class, and make changes on your local computer, but not suggest changes to the master file, you should do fine with a clone of the repository.
   1. In Github,
      * 1. Click on the repository you want to clone/download.
        2. Click on "Clone/Download".
        3. Copy the URL.
   2. In RStudio,
      1. Click "New Project"
      2. Choose "version control"
      3. Choose "Git"
      4. In "Repository URL", enter URL copied above
      5. Name the directory whatever you want
      6. Now you can open the R file and play around with it, saving it locally on your computer.
2. **Forking**: If you want to save your own versions of the class scripts in your personal GitHub account, so you can play around with them, and possibly contribute to the master Rscript via a "pull request" if you have better/alternative approaches, then you should fork rather than clone.
   1. In Github,
      1. Click on the repository you want to clone/download.
      2. Click on "Fork" in upper right side of page.
      3. Follow directions - it will ask you where you want to fork this repository to- pick somewhere in your GitHub account that is not part of the EEB590 Organization.
      4. Once you've forked it, go to that location, and follow directions for cloning/downloading above.
   2. In RStudio,
      1. Click "New Project"
      2. Choose "version control"
      3. Choose "Git"
      4. In "Repository URL", enter URL copied from GitHub "Clone/Download" button above.
      5. Name the directory whatever you want
      6. Now you can open the .R file and play around with it,
      7. Save it locally on your computer.
      8. You can also push changes back to your GitHub account. Let's practice this.
         1. Make some edits to R script.
         2. Save.
         3. Click on "Git" tab on bottom right panel.
         4. Check box next to the .R file.
         5. Click "commit". This will bring up a new window.
         6. Write a note in the commit box. Press commit.
         7. Then press "push" to push your commits to the online repository.
         8. Go onto GitHub, and check to see if those changes are present. Voila!