

# git

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# Today

- Introduction to git
- Group policies and expectations

# What is git? github?

git is a version control system.

"Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later." -[git docs](#)

A **git repository** (a.k.a repo) is basically a folder/directory that is under version control.

**github** is a public place for hosting git repositories

## Why use git?

You maintain a complete history of your code and project.

It's the best way to share code, review code, and merge changes easily.

# Some examples

git repos on github:

- <https://github.com/kbroman/qtl> - an R package
- <https://github.com/hadley/tidy-data> - a paper
- <https://github.com/rstudio/shiny> - an R package with a number of collaborators

# For ST599

You'll be using git to collaborate with your group on your project and share your project with us.

In a nutshell:

- you'll set up a group repository for each project hosted on github
- every member of the group has a local working copy:
  - you **pull** any new things other people have changed
  - you make changes, add files etc.
  - you **commit** your changes
  - you **push** your changes to share them with everyone else
  - you might need to **merge** any conflicts.

Demo

# To get started

You'll need to:

- install git <http://git-scm.com/downloads>
- get a github account <https://github.com/>
- if you don't use RStudio: set up ssh (your own your own here, check the resources I'll post)

Do before Monday!

# On Monday

One person:

- creates a new public git repository on github  
<https://help.github.com/articles/create-a-repo>
  - license, <http://choosealicense.com/>
  - add a readme
  - .gitignore, choose the "R" one to avoid versioning .Rhistory and .RData
- adds their group members as collaborators  
<https://help.github.com/articles/how-do-i-add-a-collaborator>

Everyone:

- Creates a new RStudio project using Version Control  
<http://www.rstudio.com/ide/docs/using/projects>



# pull, make changes, commit, push

If you open your project in Rstudio, there is a Git tab that lets you interact with the repo.

Remember if you haven't pushed a change, your group can't get it. And you can't push a change you haven't committed.