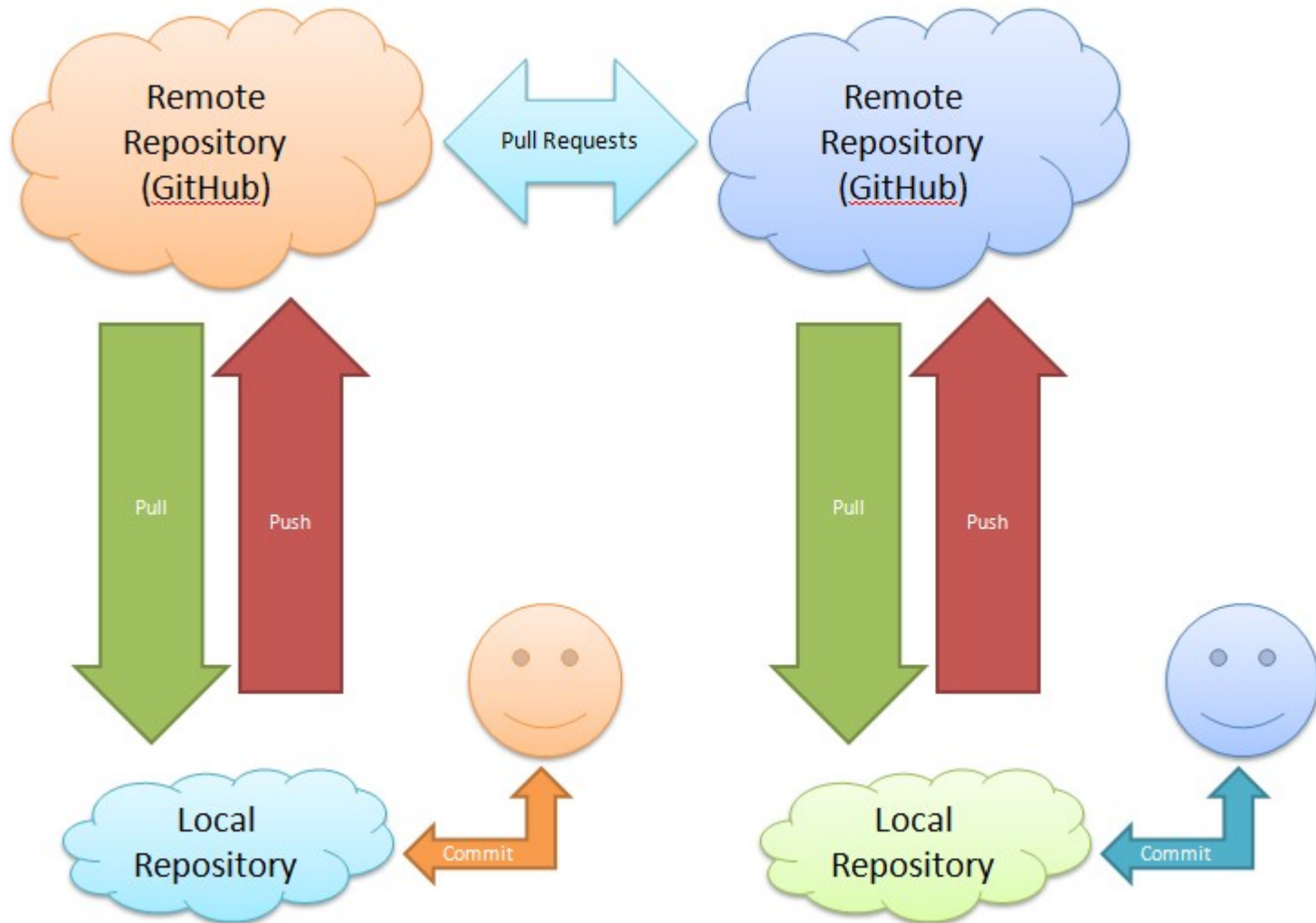




Why use Github?

- Backup / version control
- Sharing

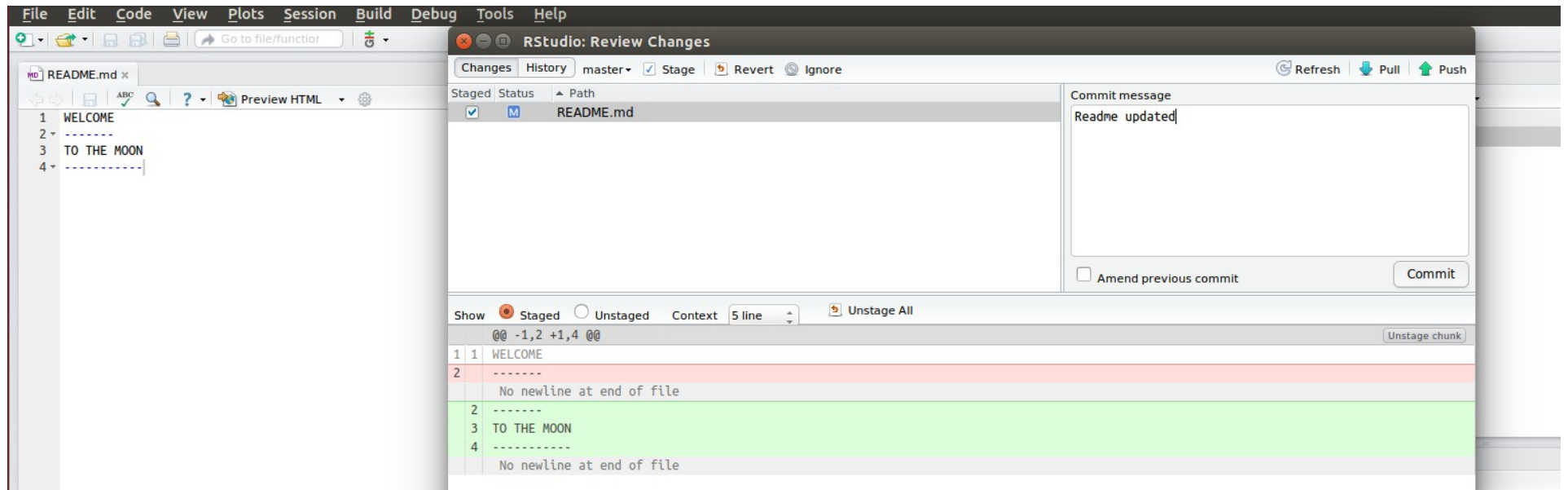
How does it work?



Getting started

- Install Github
 - https://stat545-ubc.github.io/git01_git-install.html
- Use a client if you can / want
 - http://stat545-ubc.github.io/git02_git-clients.html
 - Otherwise, use a terminal

Rstudio as a Git client



<http://www.rstudio.com/>

A free Git & Mercurial client for Windows or Mac.

Download SourceTree Free

Microsoft Windows 7+

Download SourceTree for Mac OS X 10.7+

The screenshot displays the SourceTree application window. The top menu bar includes File, Edit, View, Repository, Actions, Tools, and Help. Below the menu is a toolbar with icons for Clone/New, Commit, Checkout, Discard, Stash, Add, Remove, Add/Remove, Fetch, Pull, Push, Branch, Merge, Tag, and Terminal. The main workspace is divided into several panes:

- Left Pane:** Contains 'File Status' (Working Copy), 'Branches' (master), 'Tags', 'Remotes' (origin), and 'Stashes'.
- Top Center Pane:** Shows the 'Current Branch' (origin/master) and a 'Graph' view of the commit history.
- Center Pane:** A table of commit history with columns: Description, Date, Author, and Commit. The most recent commit is 'Merge pull request #259 from Dharun/patch-1' by Andrew Young.
- Bottom Left Pane:** Shows commit details for the selected commit, including the commit hash, parents, author, date, and labels.
- Bottom Right Pane:** A diff view showing changes in the file 'RestSharp\Deserializers\XmlAttributeDeserializer.cs'. It highlights a modification where a new line was added.

The bottom status bar shows 'Clean' and 'master' branch, along with the Atlassian logo.



We bring the awesome
Git SCM to Windows

[Download](#)[Contribute](#)

Tools & Features

Git for Windows focuses on offering a lightweight, native set of tools that bring the full feature set of the [Git SCM](#) to Windows while providing appropriate user interfaces for experienced Git users and novices alike.

Git BASH

Git for Windows provides a BASH emulation used to run Git from the command line. *NIX users should feel right at home, as the BASH emulation behaves just like the "git" command in LINUX and UNIX

```
MSYS2 - /git
Welcome to Git (version 1.8.3-preview20130601)

Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

$ git clone https://github.com/msysgit/git.git
Cloning into 'git'...
remote: Counting objects: 177468, done.
remote: Compressing objects: 100% (32057/32057), done.
remote: Total 177468 (delta 133396), reused 166093 (delta 123576)
Receiving objects: 100% (177468/177468), 42.16 MiB | 1.84 MiB/s, done.
Resolving deltas: 100% (133396/133396), done.
Checking out files: 100% (2576/2576), done.

$ cd git
$ git status
# On branch master
nothing to commit, working directory clean

$
```

An oversimplified introduction for people
who must learn to use the terminal

How to start a project

- Create repository
- Clone repository to your machine



The screenshot shows the GitHub interface for creating a new repository. At the top, the repository name "wduernoUBC / stat540-2013-durno-william" is displayed. Below this, there are three main sections for setting up the repository:

- Quick setup — if you've done this kind of thing before**: This section offers two options: "HTTPS" and "SSH". The "HTTPS" option is selected, and the URL "https://github.com/wduernoUBC/stat540-2013-durno-william.git" is shown in a text box. Below this, a note states: "We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#)."
- ...or create a new repository on the command line**: This section provides a list of terminal commands to create a new repository and push it to GitHub. The commands are:

```
touch README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/wduernoUBC/stat540-2013-durno-william.git
git push -u origin master
```
- ...or push an existing repository from the command line**: This section provides the commands to push an existing local repository to GitHub. The commands are:

```
git remote add origin https://github.com/wduernoUBC/stat540-2013-durno-william.git
git push -u origin master
```
- ...or import code from another repository**: This section includes a note: "You can initialize this repository with code from a Subversion, Mercurial, or TFS project." and an "Import code" button.

How to get the latest version of a project

- git pull

```
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$ ls
cudaFloatSum  cudaForest  cudaForestClassify  data  figures  nbody  nbodyCUDA  nbodyMpiFloat  nbodyMPIvsCUDA  porfolioOverview.odp  README.md  speedGage
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$ git pull
Already up-to-date.
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$
```

How to upload code

- `git add -A`
- `git commit -m "I fixed something"`
- `git push`

```
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$ vim README.md
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$ git add -A
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$ git commit -m "updated readme"
[master f821e47] updated readme
 1 file changed, 1 insertion(+), 1 deletion(-)
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$ git push
Username for 'https://github.com': wdurnoUBC
Password for 'https://wdurnoUBC@github.com':
Counting objects: 8, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 779 bytes | 0 bytes/s, done.
Total 6 (delta 3), reused 0 (delta 0)
To https://github.com/wdurnoUBC/parallelProgramming.git
   d0ddeb..f821e47  master -> master
evan@quadra:~/Documents/parallelProgramming/parrallelProgramming$
```

Tasks for you today:

- 1: Create a Github account
- 2: Explore a small gene expression dataset
 - See: <http://stat540-ubc.github.io/seminars.html>
- 3: Understand the content of seminar00 perfectly!