Intro to git

Dr. Justin F. Brunelle
jbrunelle@cs.odu.edu
http://www.cs.odu.edu/~jbrunelle/cs518
So you want to git...

- Go to github
- Create a repo
- You get some good text...
Quick setup — if you’ve done this kind of thing before

or

HTTPS  SSH  https://github.com/jbrunelle/ODUCS418F17.git

We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

echo "# ODUCS418F17" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/jbrunelle/ODUCS418F17.git

git push -u origin master

...or push an existing repository from the command line

git remote add origin https://github.com/jbrunelle/ODUCS418F17.git

git push -u origin master

...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code
Sure you could drag and drop...

- But we're **real** computer scientists!
- Use the command line instructions
- It really is that easy!
$ git init
Initialized empty Git repository in .../ODUCS418F17-master/.git/

$ git add *
$ git commit -m "initializing class repo"
[master (root-commit) 56ce01f] adding examples
  78 files changed, 3105 insertions(+)
  create mode 100644 DockerThings/000-default.conf
  create mode 100644 DockerThings/Dockerfile
  create mode 100644 DockerThings/README.md
  create mode 100644 DockerThings/apache_default
  create mode 100644 DockerThings/create_mysql_admin_user.sh
  create mode 100644 DockerThings/import_sql.sh
  create mode 100644 DockerThings/import_sql.she
  create mode 100644 DockerThings/index.txt
  create mode 100644 DockerThings/my.cnf

On branch master
Untracked files:
  .gitignore

$ git remote add origin https://github.com/jbrunelle/ODUCS418F17.git
$ git push -u origin master
Username for 'https://github.com': jbrunelle
Password for 'https://jbrunelle@github.com':
Counting objects: 86, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (77/77), done.
Writing objects: 100% (86/86), 70.63 KiB | 0 bytes/s, done.
Total 86 (delta 10), reused 0 (delta 0)
remote: Resolving deltas: 100% (10/10), done.
To https://github.com/jbrunelle/ODUCS418F17.git
  * [new branch] master -> master
Branch master set up to track remote branch master from origin.
Why you care

• You'll be managing a large codebase
• You'll probably screw it up at some point
  – Roll backs
  – Branches for assignments
• You may be working in a team
  – Merges
  – Branches
  – Concurrent development
Team Development: Branches

- **Purpose:** work on a new feature without impacting the stable code
- **Command:**
  
  $ git checkout -b [BranchID]

- **Merge:**
  
  $ git checkout master
  Switched to branch 'master'
  $ git merge [BranchID]
Team Development: Merges

- $ git merge [BranchID]
  Auto-merging index.php
  CONFLICT (content): Merge conflict in index.php
  Automatic merge failed; fix conflicts and then commit the result.

- $ git status
  ...
  <<<<<<<<<< HEAD:index.php
  echo “Justin Rocks”
  ========
  echo “Justin is terrible”
  >>>>>>>>> [BranchID]:index.php
Team Development: Merges

- Check out “git mergetool”
- What we haven't covered:
  - Branch switching
  - Multiple merges
Some resources I won't copy...

- https://try.github.io/levels/1/challenges/1