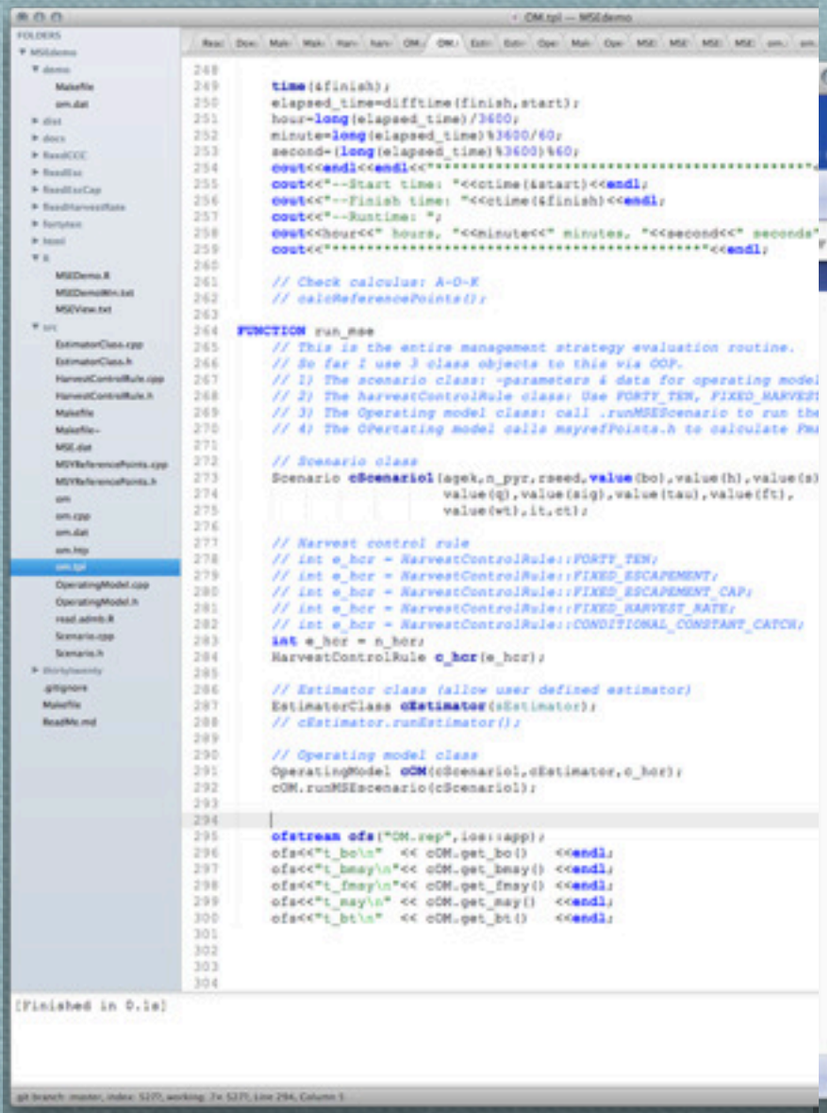
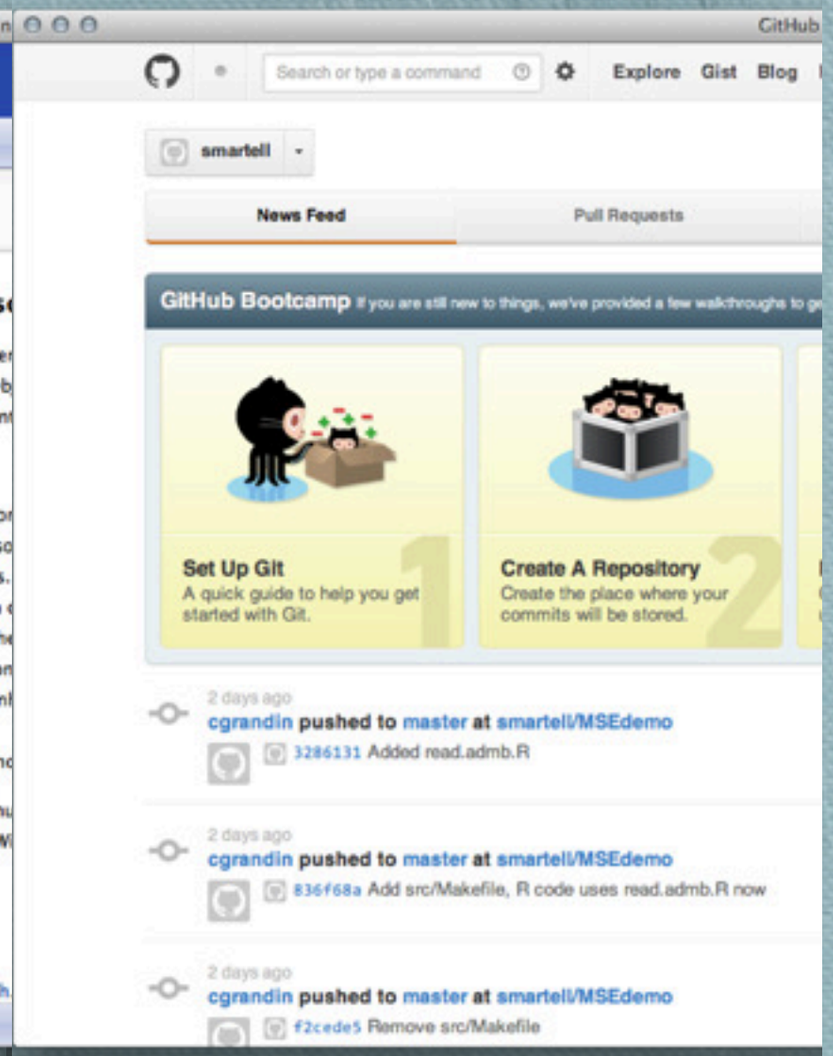




Using Doxygen & GitHub

Steve Martell

IPHC

Doxygen

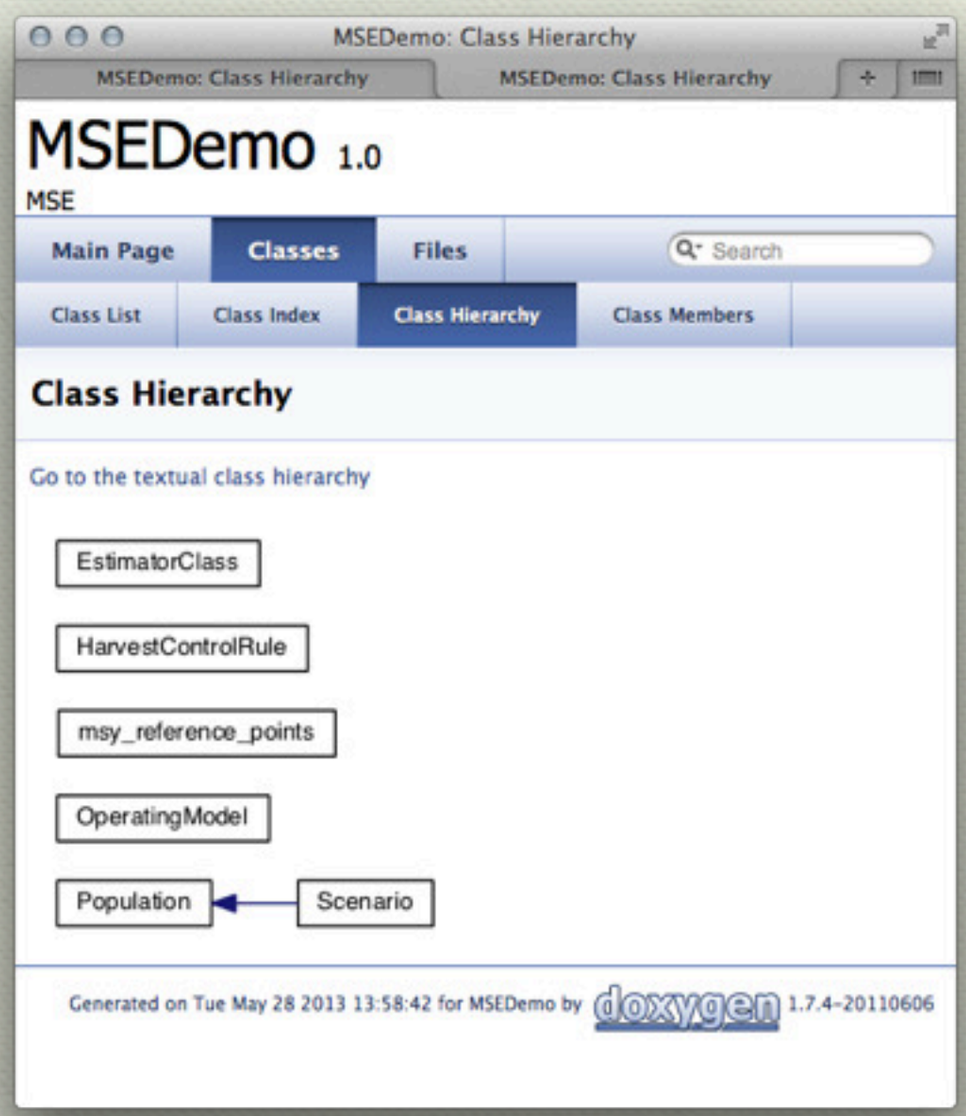
- Tool for generating documentation from annotated C++ code
- Widely used, including the ADMB-source code

GitHub.com

- Code repository
- FREE FOR OPEN SOURCE PROJECTS
- Based on Git (DVCS)

Hosting API on github

- Github allows you to create custom html pages.



- Doxygen produces html (and latex) output based on documentation in the code.

```
/**
\brief Function that runs the user defined estimator.
\author Steve Martell

*/
void EstimatorClass::runEstimator()
{
    adstring arg;
    arg = m_model+" -ind MSE.dat -nox -est > NUL";
    system(arg);
    // cout<<"Finished running the estimator"<<endl;
}
```

Member Function Documentation

void EstimatorClass::runEstimator ( )

Function that runs the user defined estimator.

Author:
Steve Martell

Definition at line 23 of file EstimatorClass.cpp.

```
{
        adstring arg;
        arg = m_model+" -ind MSE.dat -nox -est > NUL";
        system(arg);
        // cout<<"Finished running the estimator"<<endl;
}
```

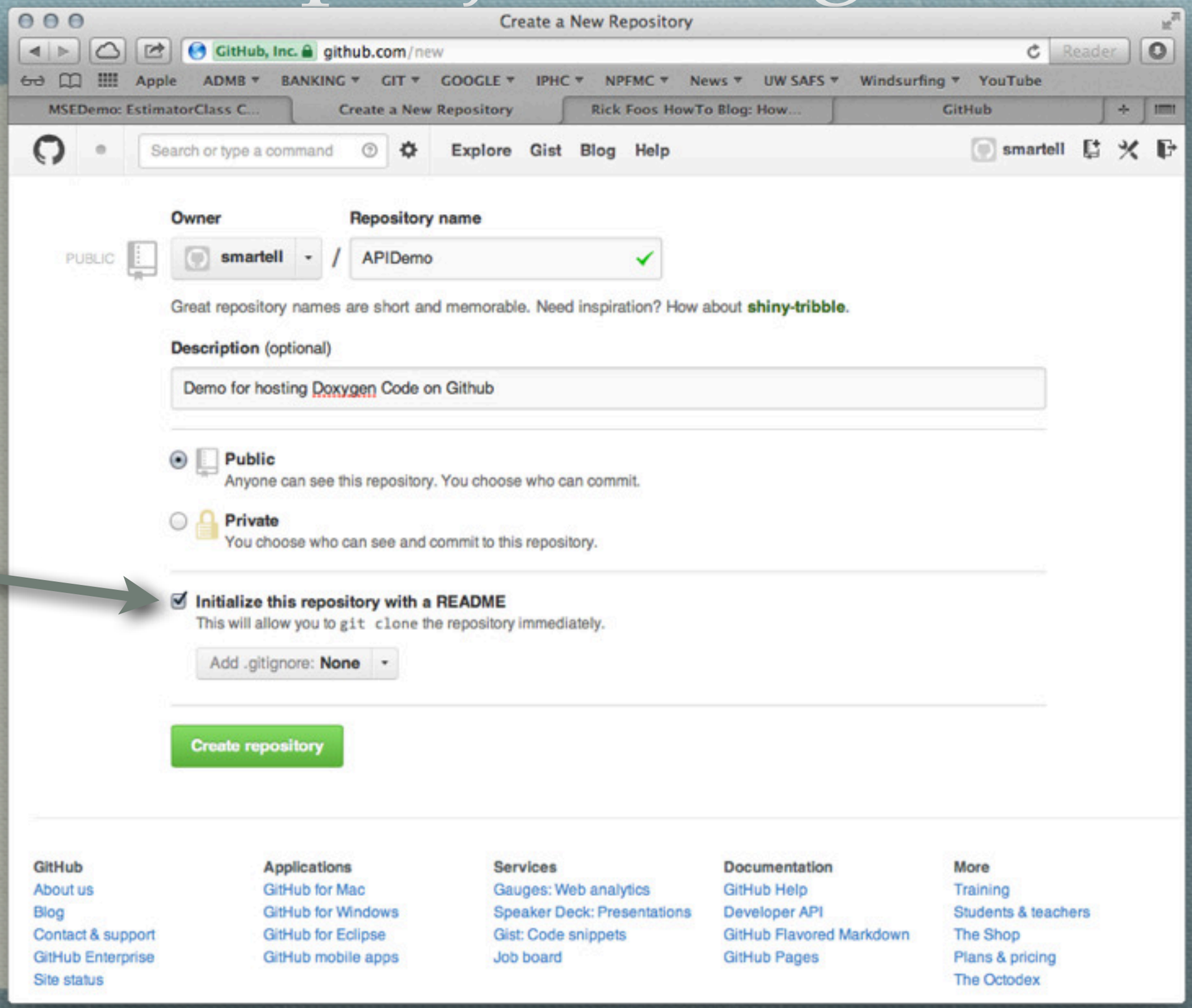
Here is the caller graph for this function:

How to use Doxygen with Github

- Install Doxygen on your local machine.
- Install git on your local machine.
- Create a github account (github.com).
- The follow the next 6 steps ...

Step 1: create project on github

Check this box



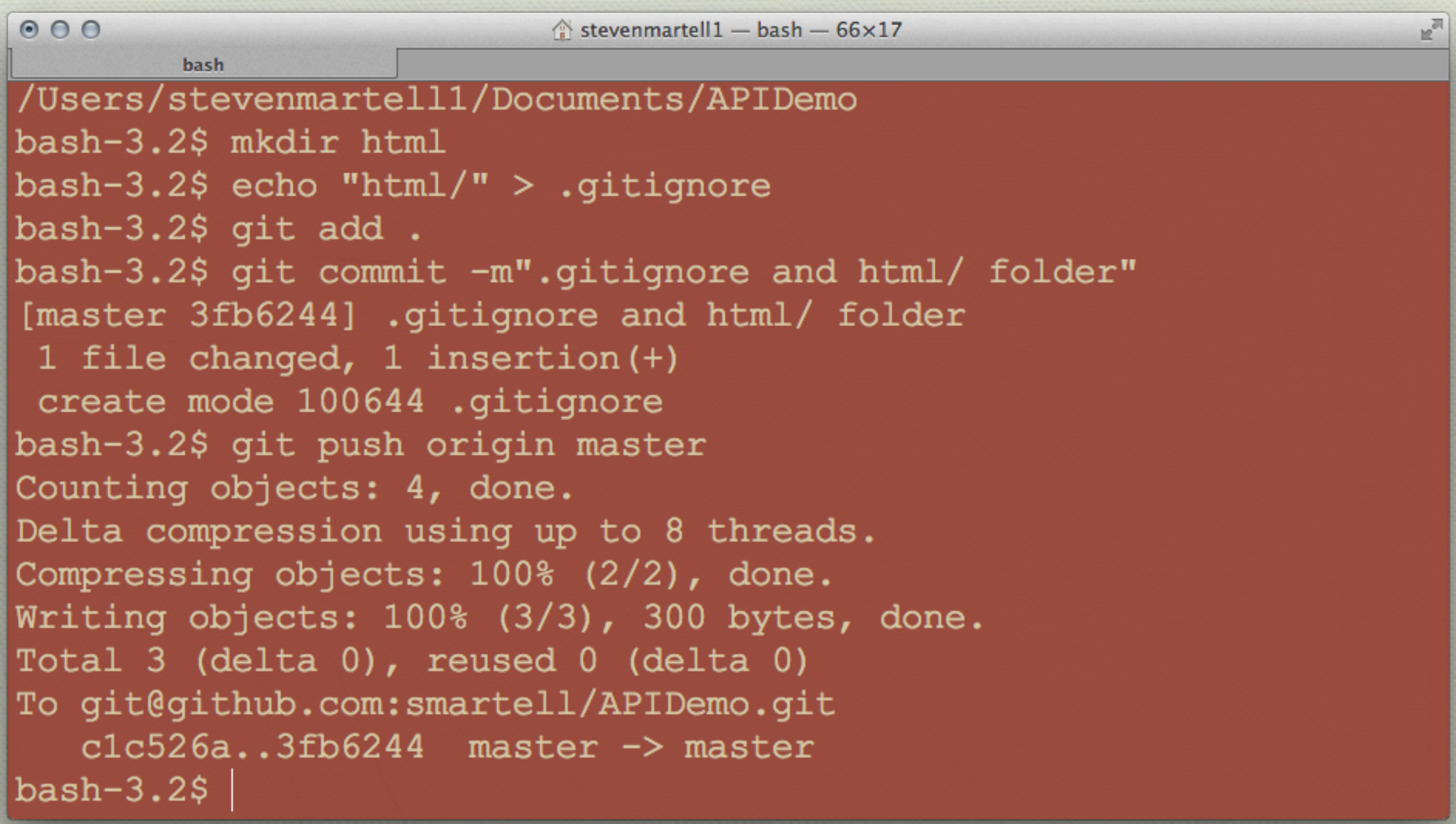
Step 2: Clone project

stevenmartell1 — bash — 66×17

bash

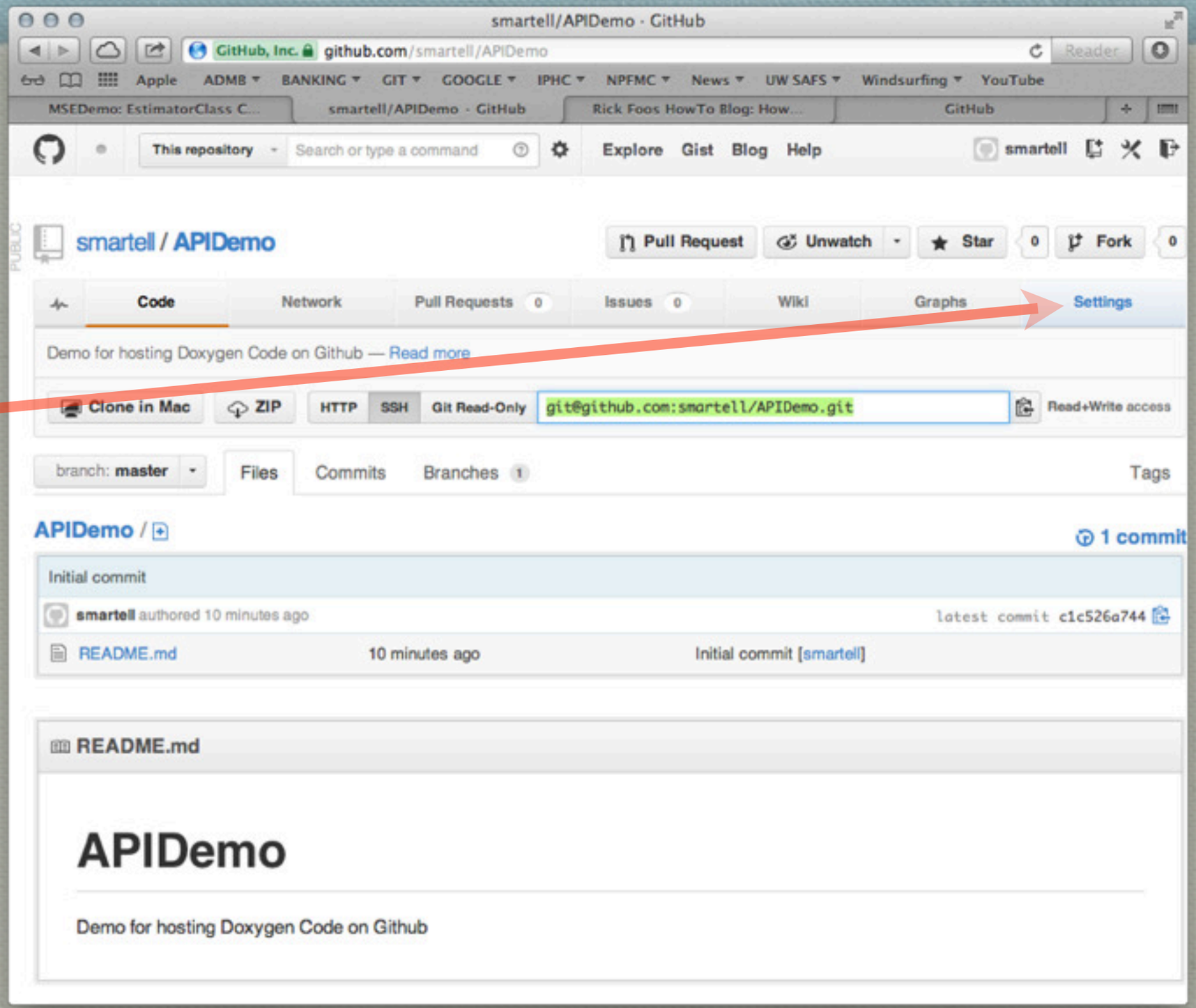
```
bash-3.2$ mkdir APIDemo
bash-3.2$ git clone git@github.com:smartell/APIDemo.git APIDemo/
Cloning into 'APIDemo'...
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0)
Receiving objects: 100% (3/3), done.
bash-3.2$ cd APIDemo/
bash-3.2$ ls
README.md
bash-3.2$
```

Step 3: create html directory



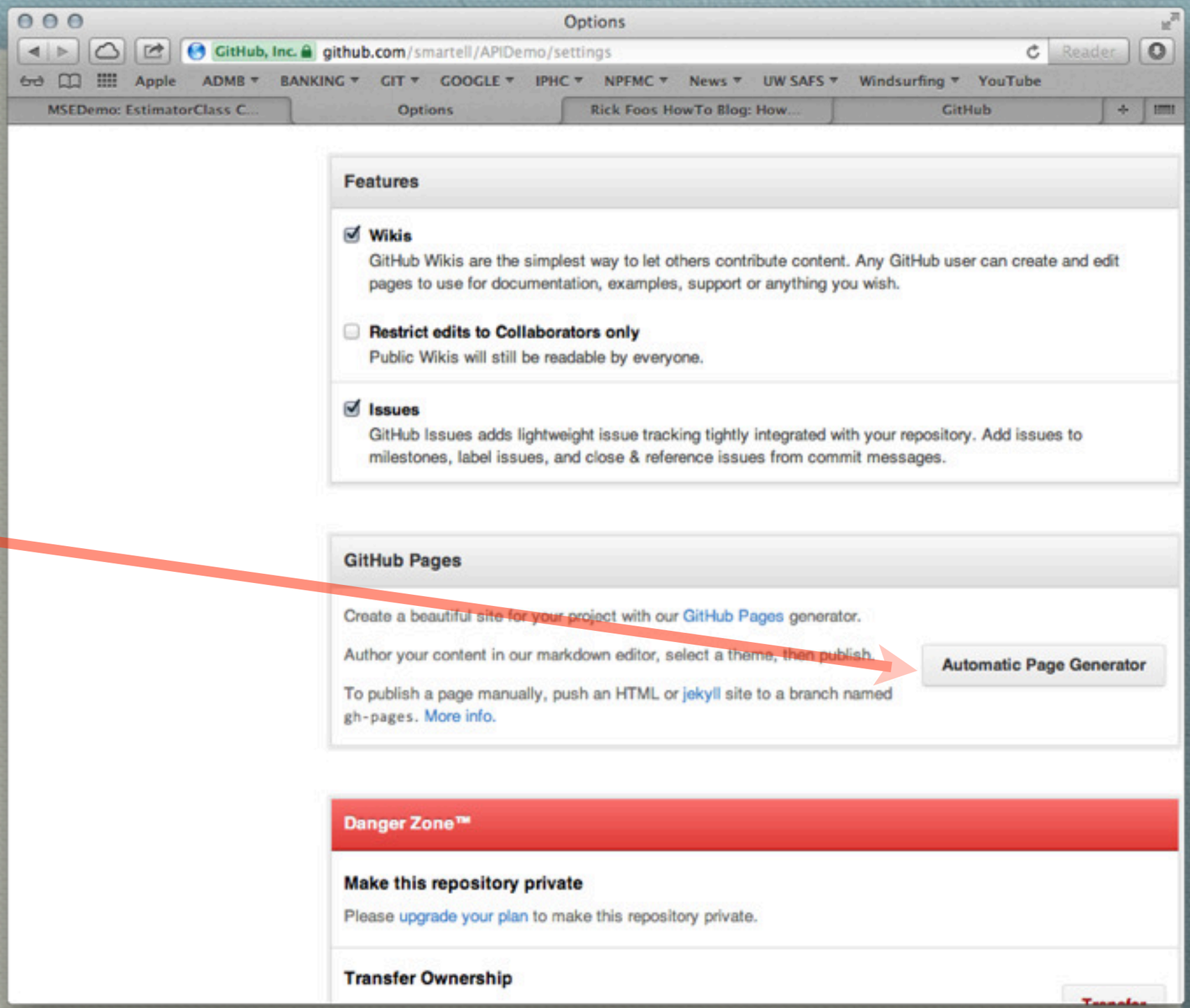
Step 4: create gh-pages

- Choose Settings



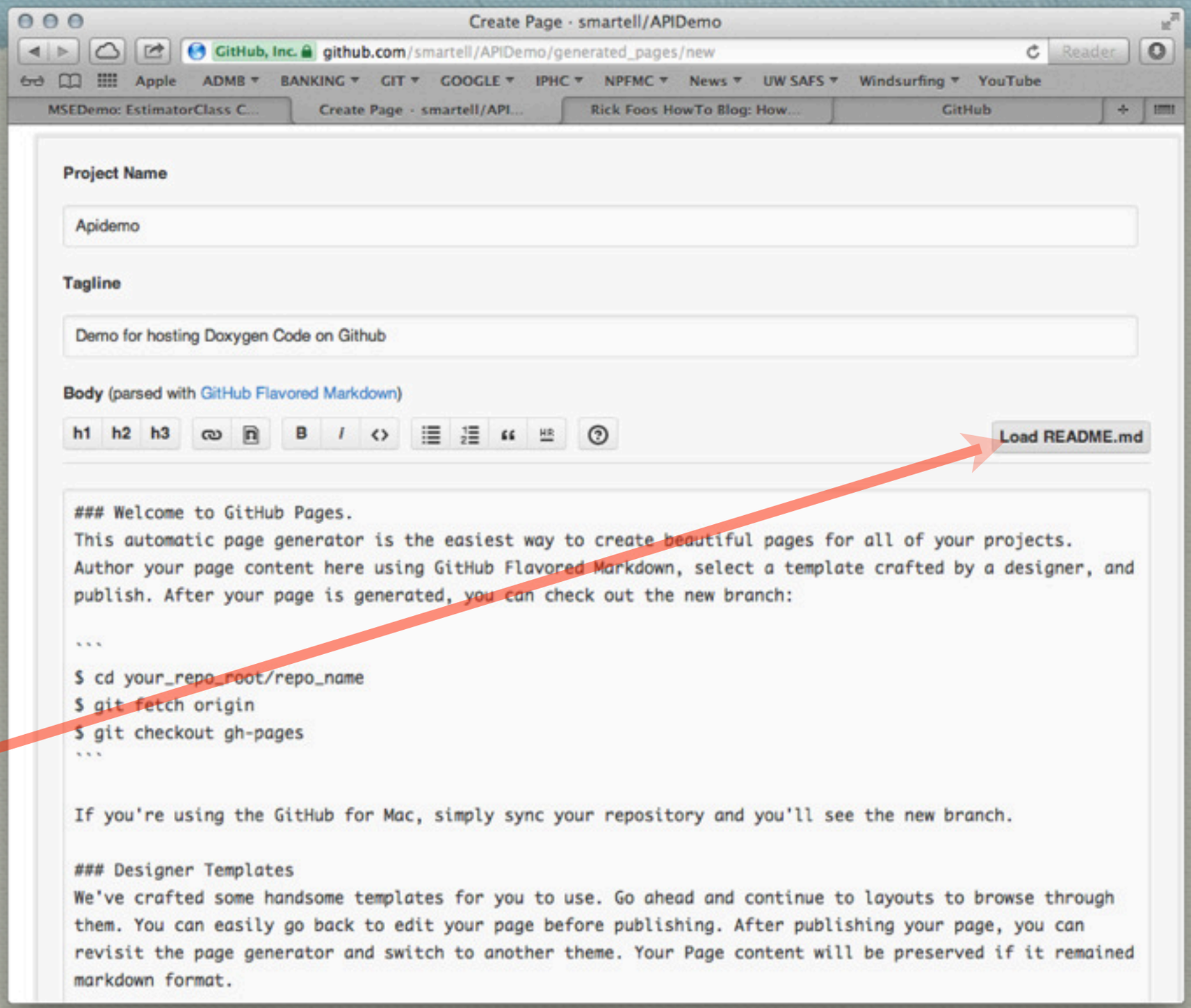
Step 4: create gh-pages

- Choose Settings
- Choose Automatic Page Genorator



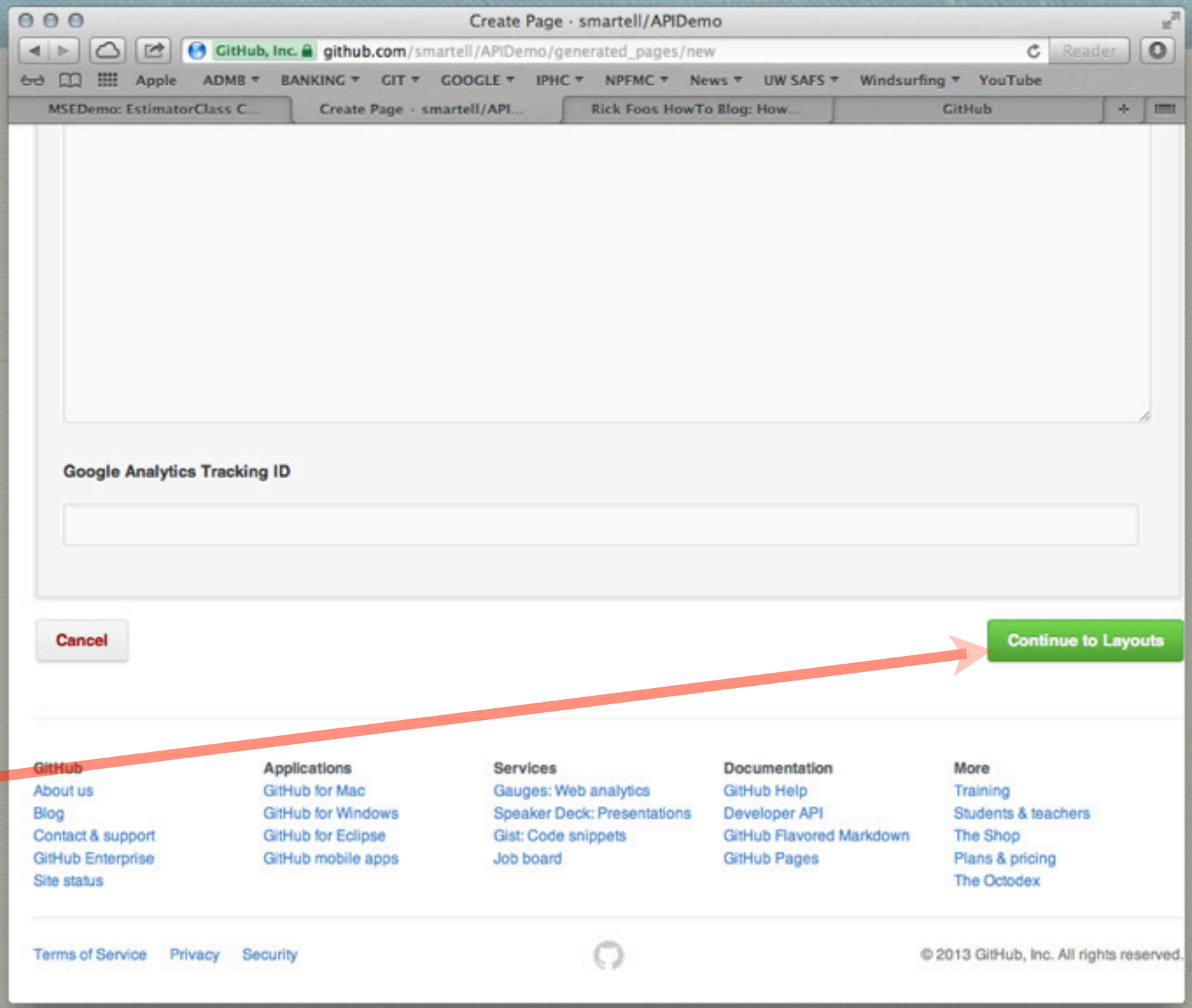
Step 4: create gh-pages

- Choose Settings
- Choose Automatic Page Generator
- Choose Load README.md



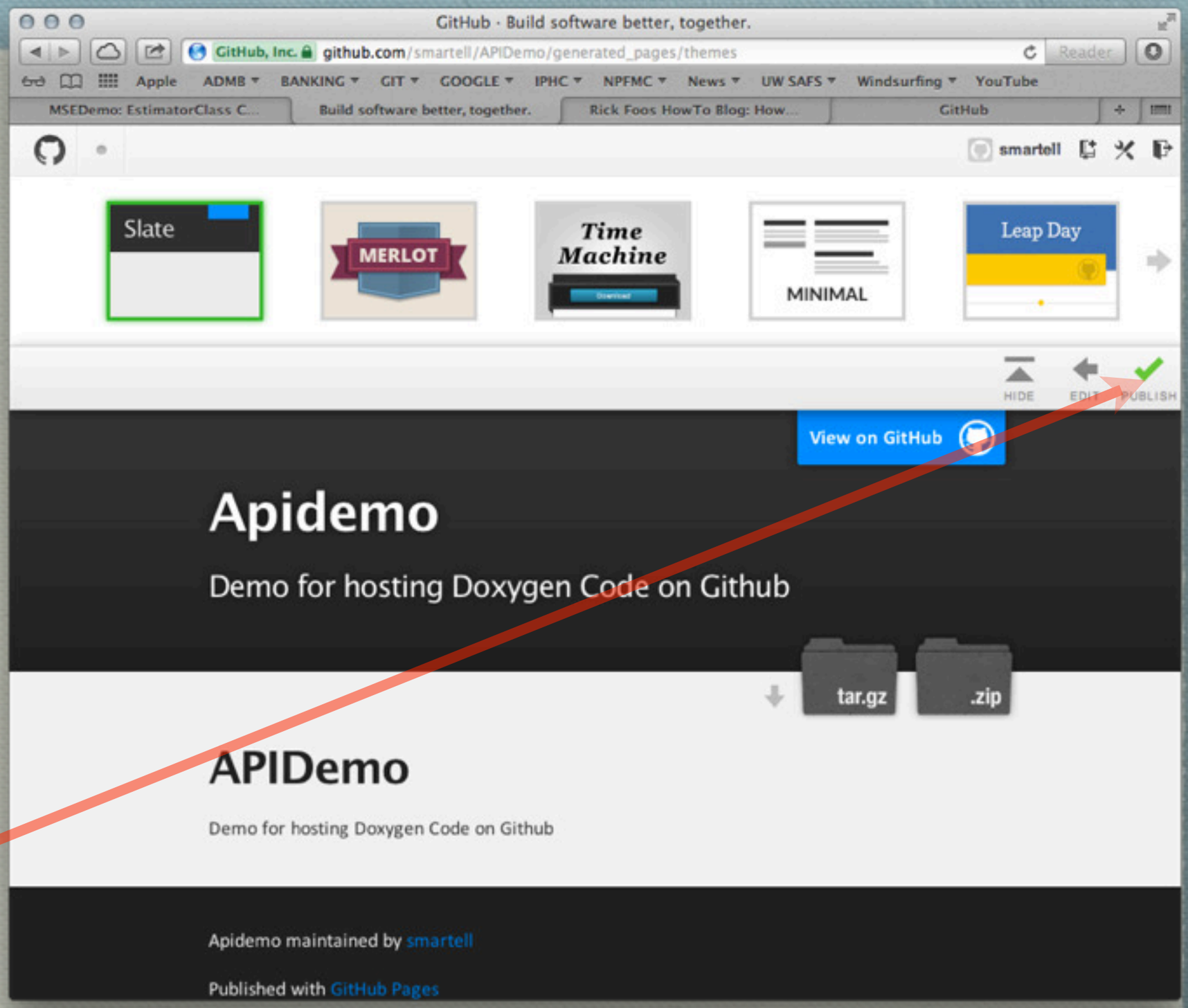
Step 4: create gh-pages

- Choose Settings
- Choose Automatic Page Generator
- Choose Load README.md
- Choose Continue to Layouts



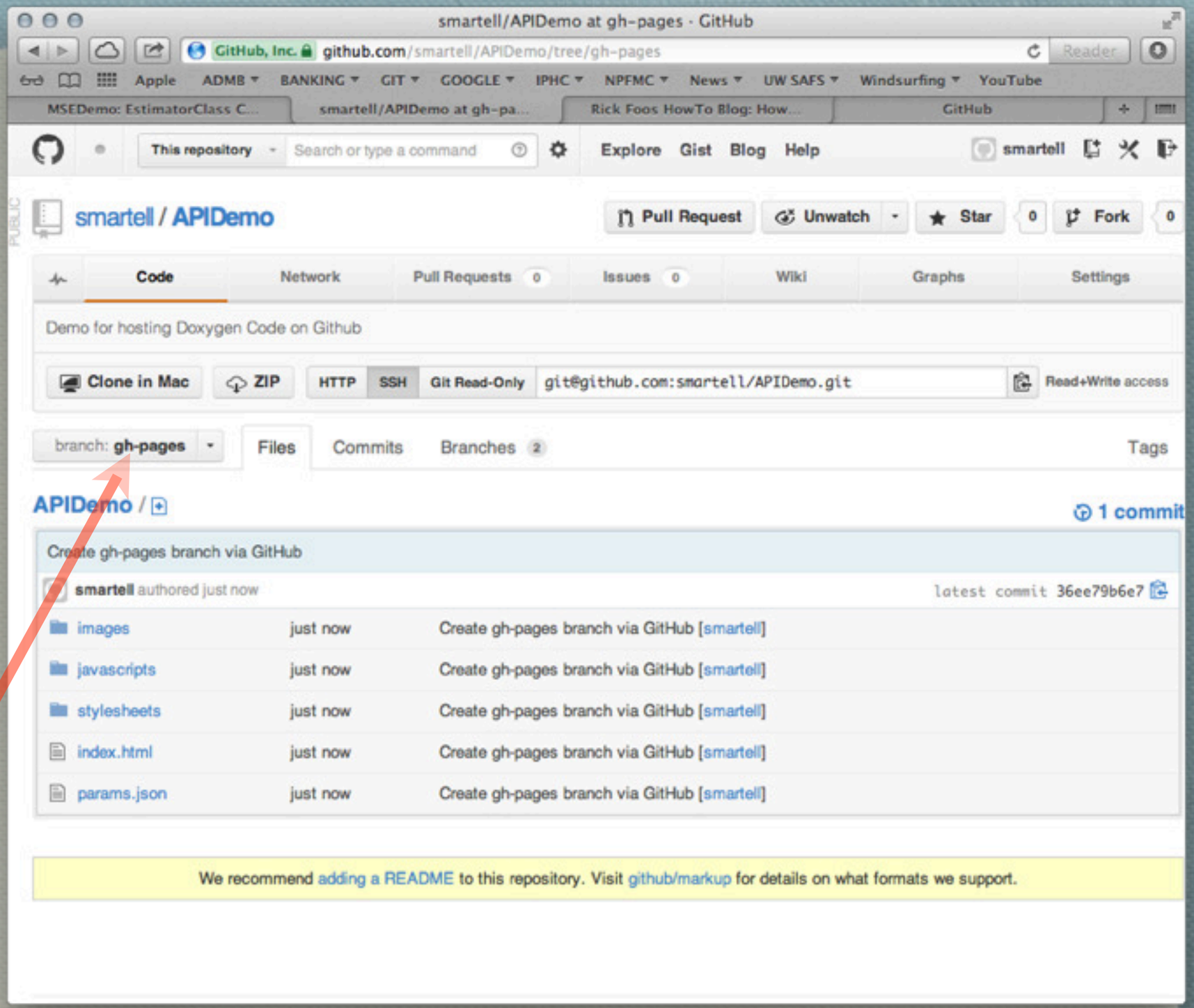
Step 4: create gh-pages

- Choose Settings
- Choose Automatic Page Generator
- Choose Load README.md
- Choose Continute to Layouts
- Publish



Step 4: create gh-pages

- Choose Settings
- Choose Automatic Page Generator
- Choose Load README.md
- Choose Continute to Layouts
- Publish
- View gh-pages branch



Step 5: Clone repo in html directory

stevenmartell1 — bash — 66×17

bash

```
bash-3.2$ cd html/
bash-3.2$ git clone git@github.com:smartell/APIDemo.git .
Cloning into '.'...
remote: Counting objects: 20, done.
remote: Compressing objects: 100% (16/16), done.
remote: Total 20 (delta 2), reused 3 (delta 0)
Receiving objects: 100% (20/20), 22.80 KiB, done.
Resolving deltas: 100% (2/2), done.
bash-3.2$ git checkout origin/gh-pages -b gh-pages
Branch gh-pages set up to track remote branch gh-pages from origin
.
Switched to a new branch 'gh-pages'
bash-3.2$
```

Step 5 (cont.): delete master branch & html files produced by github

stevenmartell1 — bash — 66×17

bash

```
bash-3.2$ git branch
* gh-pages
  master
bash-3.2$ git branch -d master
warning: deleting branch 'master' that has been merged to
         'refs/remotes/origin/master', but not yet merged to HEAD.
Deleted branch master (was 3fb6244).
bash-3.2$ pwd
/Users/stevenmartell1/Documents/APIDemo/html
bash-3.2$ ls
images          javascripts     stylesheets
index.html      params.json
bash-3.2$ rm -r *.*
bash-3.2$ ls
images          javascripts     stylesheets
bash-3.2$ rm -rf images/ javascripts/ stylesheets/
bash-3.2$
```

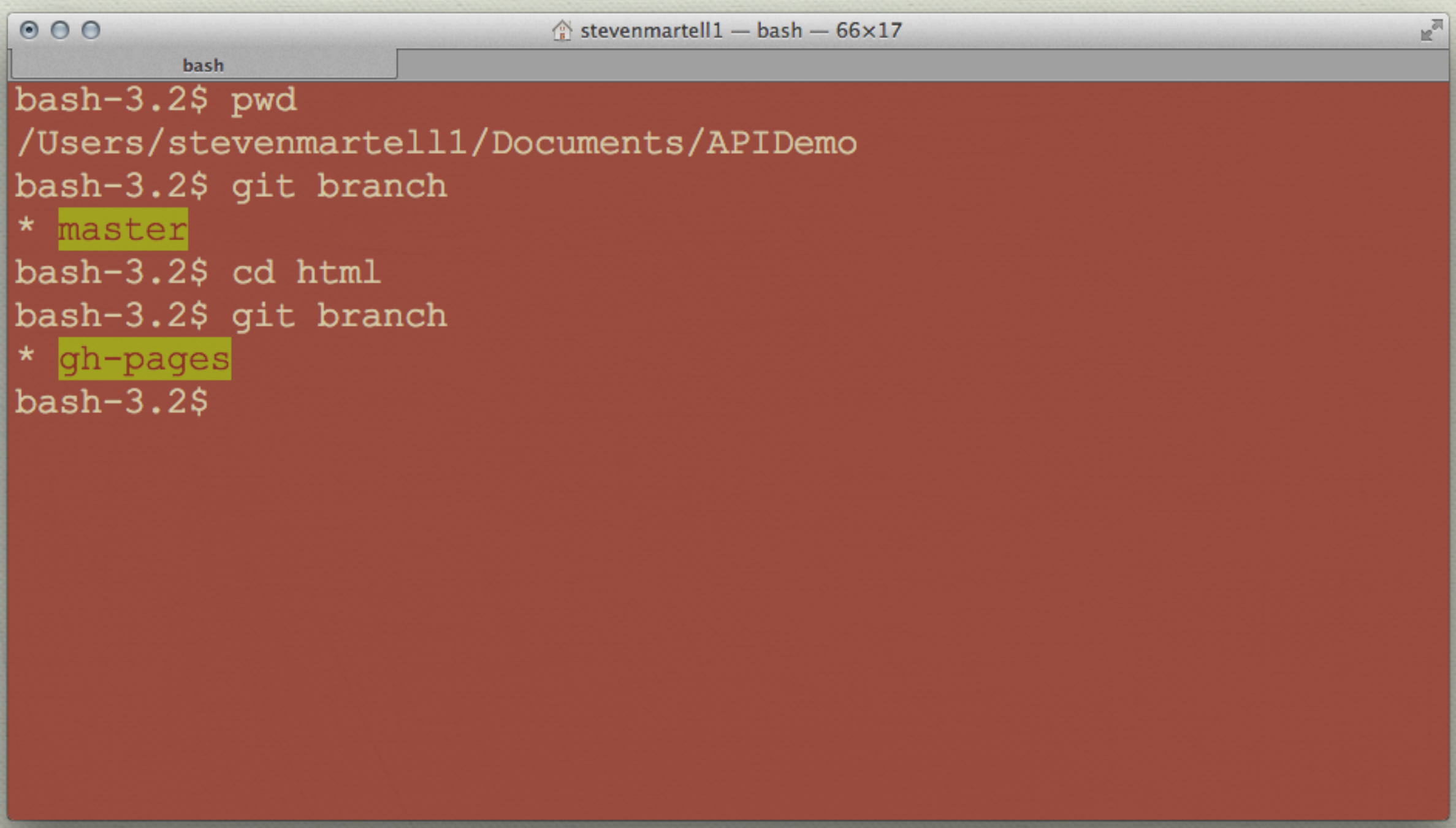
Step 5 (cont.): add README.md and push up to github gh-pages

stevenmartell1 — bash — 66×17

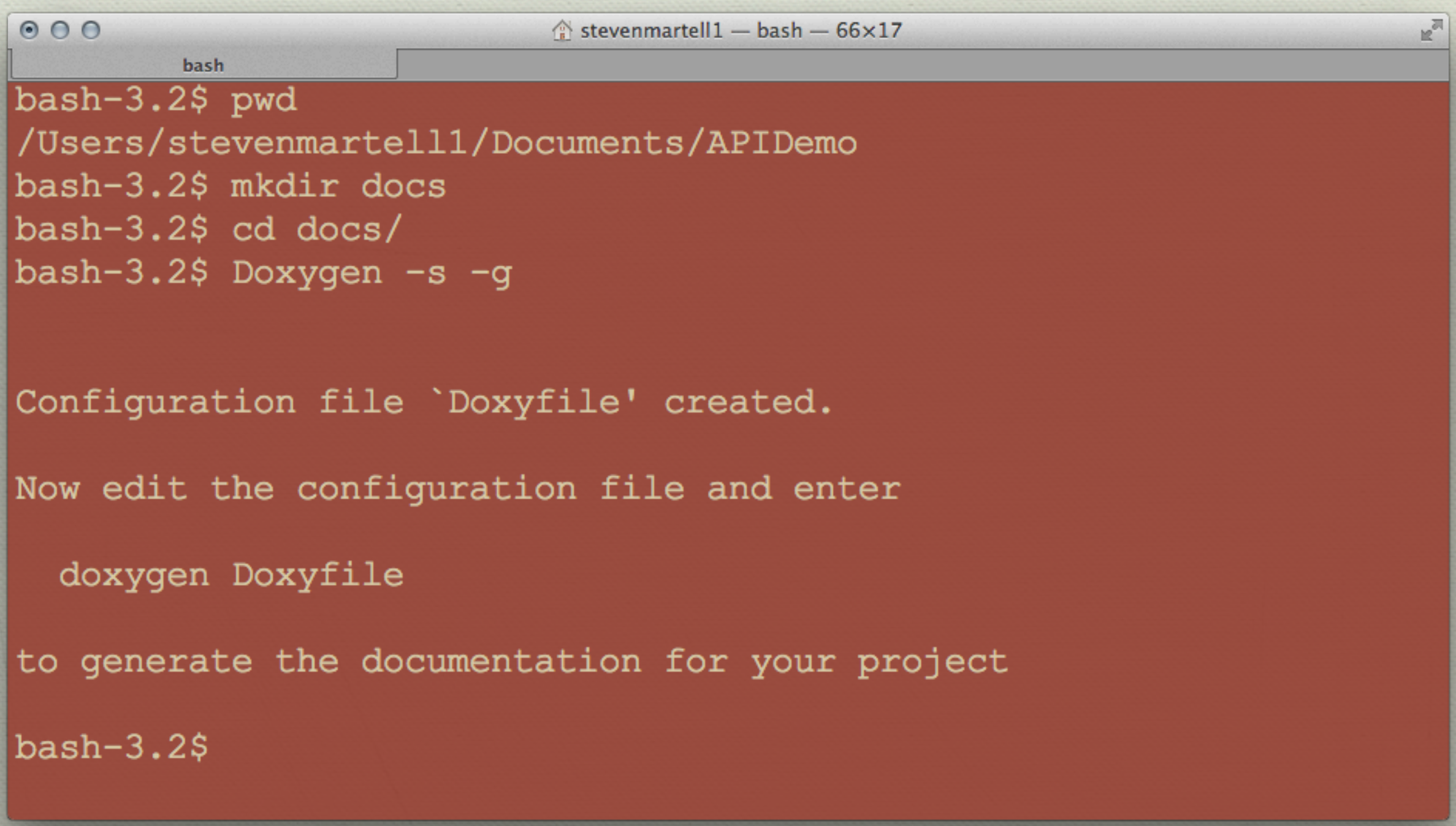
bash

```
bash-3.2$ echo "# html README file" > README.md
bash-3.2$ git add .
bash-3.2$ git commit -m "html ReadmE added"
[gh-pages 9358032] html ReadmE added
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
bash-3.2$ git push origin gh-pages
Counting objects: 4, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 301 bytes, done.
Total 3 (delta 1), reused 0 (delta 0)
To git@github.com:smartell/APIDemo.git
   36ee79b..9358032  gh-pages -> gh-pages
bash-3.2$ cd ..
bash-3.2$
```

At this stage you have a repo within a repo (that ignores the html folder).



Step 6: Run Doxygen. First create configuration file (Doxyfile)



Step 6: Run Doxygen.
Create mainpage.dox

stevenmartell1 — bash — 66×17

bash

```
bash-3.2$ cat <<EOF >mainpage.dox
> /**
> @brief Documentation file to be used in Doxygen main page.
> @author Steve Martell at IPHC
> @file
> */
> /**
> @mainpage Demo API
> This is a simple demonstration of using API in github
> */
> EOF
bash-3.2$
```

Step 6: Run Doxygen.
Edit the doxyfile (INPUT = mainpage.dox)

stevenmartell1 — nano — 66×17

nano

```
  GNU nano 2.0.6                File: Doxyfile

WARNINGS               = YES
WARN_IF_UNDOCUMENTED   = YES
WARN_IF_DOC_ERROR      = YES
WARN_NO_PARAMDOC       = NO
WARN_FORMAT            = "$file:$line: $text"
WARN_LOGFILE           =
#---------------------------------------------------------------------$
# configuration options related to the input files
#---------------------------------------------------------------------$
INPUT                  = ./docs/mainpage.dox
INPUT_ENCODING         = UTF-8
FILE_PATTERNS          =

^G Get Help^O WriteOut^R Read Fil^Y Prev Pag^K Cut Text^C Cur Pos
^X Exit      ^J Justify ^W Where Is^V Next Pag^U UnCut Te^T To Spell
```

Step 6: Run Doxygen.
Run Doxygen ./docs/Doxyfile

stevenmartell1 — bash — 66×17

bash

```
bash-3.2$ pwd
/Users/stevenmartell1/Documents/APIDemo
bash-3.2$ Doxygen ./docs/Doxyfile
```

stevenmartell1 — bash — 66×17

bash

```
Generating page documentation...
Generating group documentation...
Generating group index...
Generating class documentation...
Generating annotated compound index...
Generating alphabetical compound index...
Generating hierarchical class index...
Generating member index...
Generating namespace index...
Generating namespace member index...
Generating graph info page...
Generating file index...
Generating example index...
Generating file member index...
finalizing index lists...
finished...
bash-3.2$
```

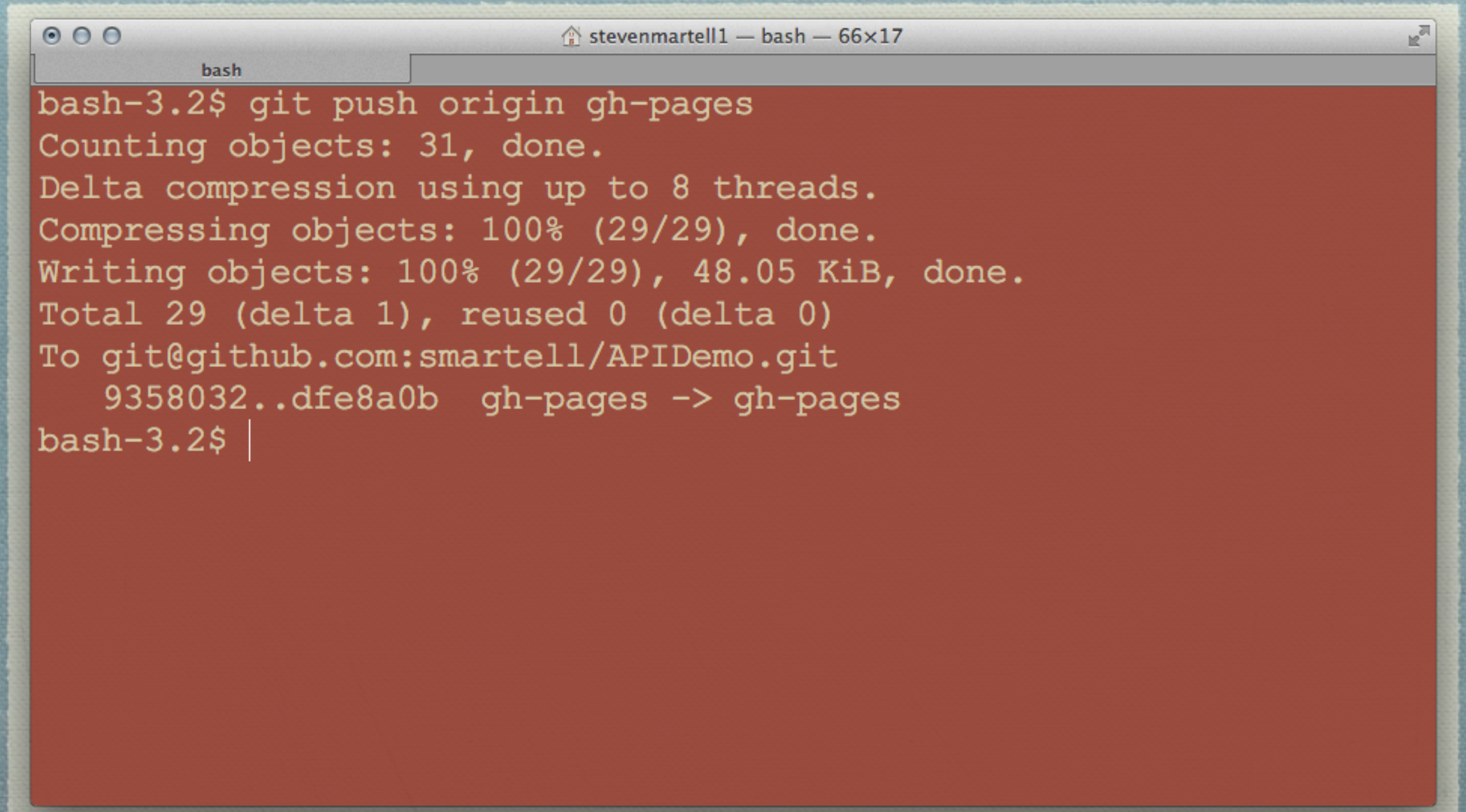
Step 6: Run Doxygen.
Add and commit html files

stevenmartell1 — bash — 66×17

bash

```
bash-3.2$ pwd
/Users/stevenmartell1/Documents/APIDemo
bash-3.2$ cd html/
bash-3.2$ git add .
bash-3.2$ git ci -m"Added Doxygen HTML output"
[gh-pages dfe8a0b] Added Doxygen HTML output
 24 files changed, 2096 insertions(+)
 create mode 100644 bc_s.png
 create mode 100644 closed.png
 create mode 100644 doxygen.css
 create mode 100644 doxygen.png
 create mode 100755 installdox
 create mode 100644 jquery.js
 create mode 100644 nav_f.png
 create mode 100644 nav_h.png
 create mode 100644 open.png
 create mode 100644 search/all_6d.html
```

Step 6: Run Doxygen.
Lastly push upto gitHub



Yer done, check out smartell.github.io/APIDemo/