

Doxygen

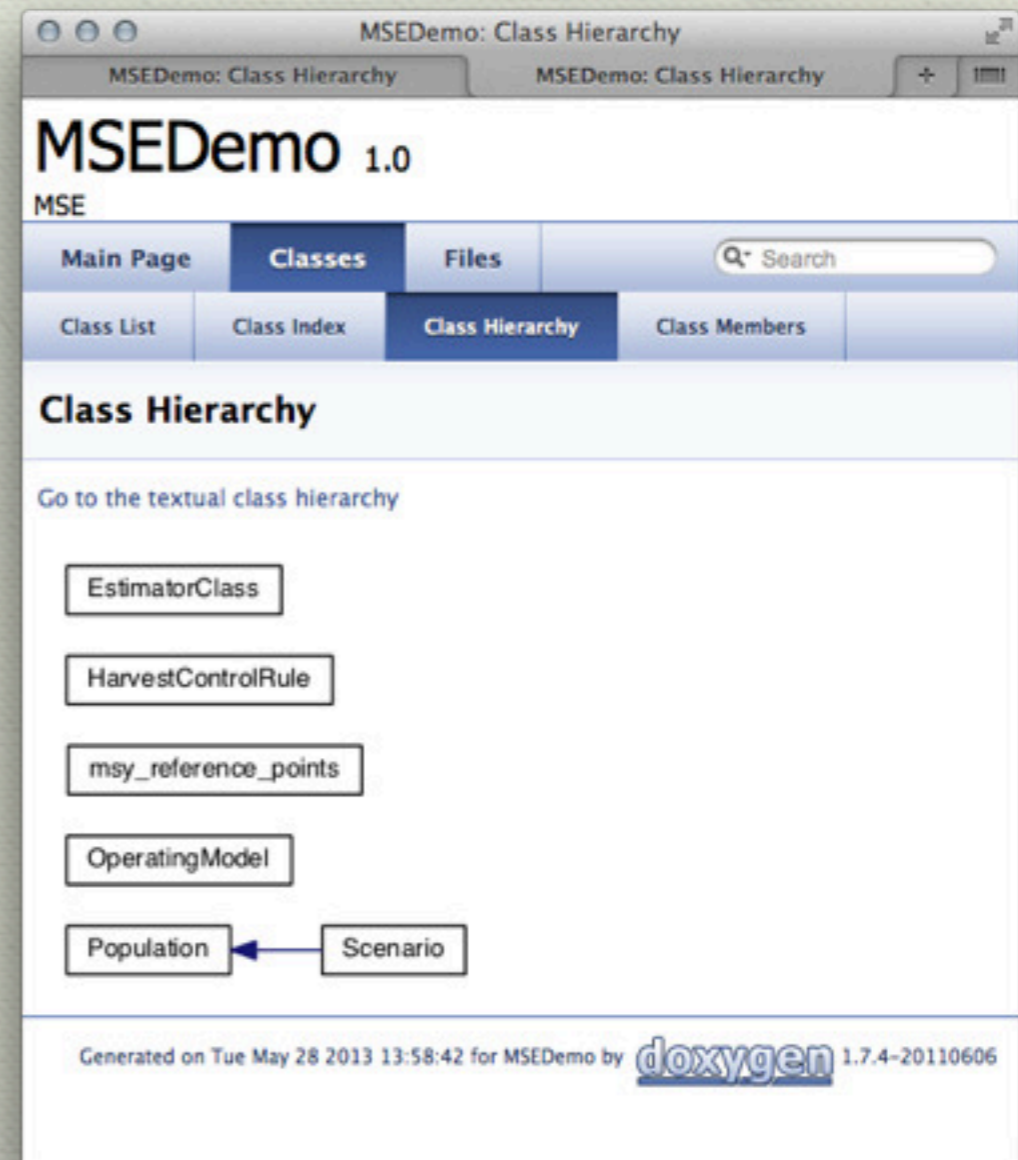
- ◆ Tool for generating documentation from annotated C++ code
- ◆ Widely used, including the ADMB-source code

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

Create a New Repository

GitHub, Inc. github.com/new

Apple ADBM BANKING GIT GOOGLE IPHC NPFMC News UW SAFS Windsurfing YouTube

MSEDemo: EstimatorClass C... Create a New Repository Rick Foos HowTo Blog: How... GitHub

Search or type a command Explore Gist Blog Help smartell

Owner Repository name

PUBLIC smartell / APIDemo ✓

Great repository names are short and memorable. Need inspiration? How about **shiny-tribble**.

Description (optional)

Demo for hosting Doxygen Code on Github

Public
Anyone can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with a README
This will allow you to `git clone` the repository immediately.

Add .gitignore: **None**

Create repository

GitHub
About us
Blog
Contact & support
GitHub Enterprise
Site status

Applications
GitHub for Mac
GitHub for Windows
GitHub for Eclipse
GitHub mobile apps

Services
Gauges: Web analytics
Speaker Deck: Presentations
Gist: Code snippets
Job board

Documentation
GitHub Help
Developer API
GitHub Flavored Markdown
GitHub Pages

More
Training
Students & teachers
The Shop
Plans & pricing
The Octodex

Check this box

Step 2: Clone project

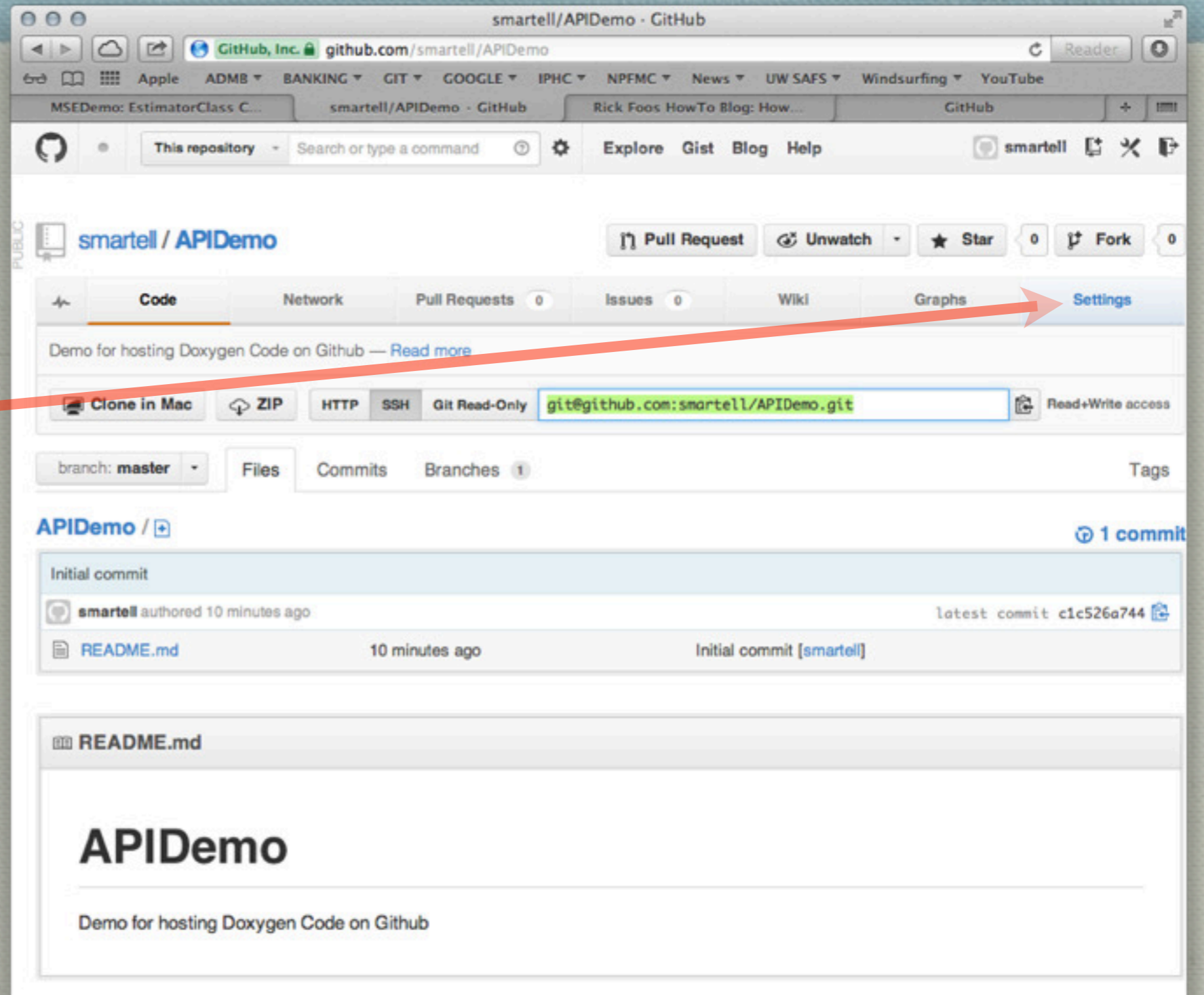
```
bash-3.2$ mkdir APIDemo
bash-3.2$ git clone git@github.com:smartell/APIDemo.git APIDemo/
Cloning into 'APIDemo'...
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0)
Receiving objects: 100% (3/3), done.
bash-3.2$ cd APIDemo/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


Step 3: create html directory

```
stevenmartell1 — bash — 66x17
bash
/Users/stevenmartell1/Documents/APIDemo
bash-3.2$ mkdir html
bash-3.2$ echo "html/" > .gitignore
bash-3.2$ git add .
bash-3.2$ git commit -m".gitignore and html/ folder"
[master 3fb6244] .gitignore and html/ folder
 1 file changed, 1 insertion(+)
 create mode 100644 .gitignore
bash-3.2$ git push origin master
Counting objects: 4, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 300 bytes, done.
Total 3 (delta 0), reused 0 (delta 0)
To git@github.com:smartell/APIDemo.git
 c1c526a..3fb6244  master -> master
bash-3.2$ |
```


Step 4: create gh-pages

Choose
Settings



The screenshot shows a web browser window displaying the GitHub repository page for 'smartell/APIDemo'. The browser's address bar shows 'github.com/smartell/APIDemo'. The repository page includes navigation tabs for 'Code', 'Network', 'Pull Requests', 'Issues', 'Wiki', 'Graphs', and 'Settings'. An orange arrow points from the 'Settings' tab to the text 'Choose Settings' on the left. Below the tabs, there are options to 'Clone in Mac', 'ZIP', 'HTTP', 'SSH', and 'Git Read-Only', with the SSH URL 'git@github.com:smartell/APIDemo.git' highlighted. The page also shows a commit history for 'APIDemo' with an initial commit by 'smartell' and a file named 'README.md'.

Step 4: create gh-pages

- ◆ Choose Settings
- ◆ Choose Automatic Page Generator

The screenshot shows the GitHub repository settings page for 'smartell/APIDemo'. The browser address bar shows 'github.com/smartell/APIDemo/settings'. The page is titled 'Options' and has several tabs: 'MSEDemo: EstimatorClass C...', 'Options', 'Rick Foos HowTo Blog: How...', and 'GitHub'. The 'Features' section is expanded, showing 'Wikis' and 'Issues' checked. The 'GitHub Pages' section is also expanded, showing instructions on how to create a site using the 'Automatic Page Generator' button. An orange arrow points from this button to the 'Choose Automatic Page Generator' text in the list on the left. Below the 'GitHub Pages' section is a 'Danger Zone' section with a red header, containing 'Make this repository private' and 'Transfer Ownership' options.

Step 4: create gh-pages

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

Create Page · smartell/APIDemo

github.com/smartell/APIDemo/generated_pages/new

Project Name

Apidemo

Tagline

Demo for hosting Doxygen Code on Github

Body (parsed with GitHub Flavored Markdown)

h1 h2 h3 [link] [image] [bold] [italic] [code] [list] [table] [quote] [hr] [help]

Load README.md

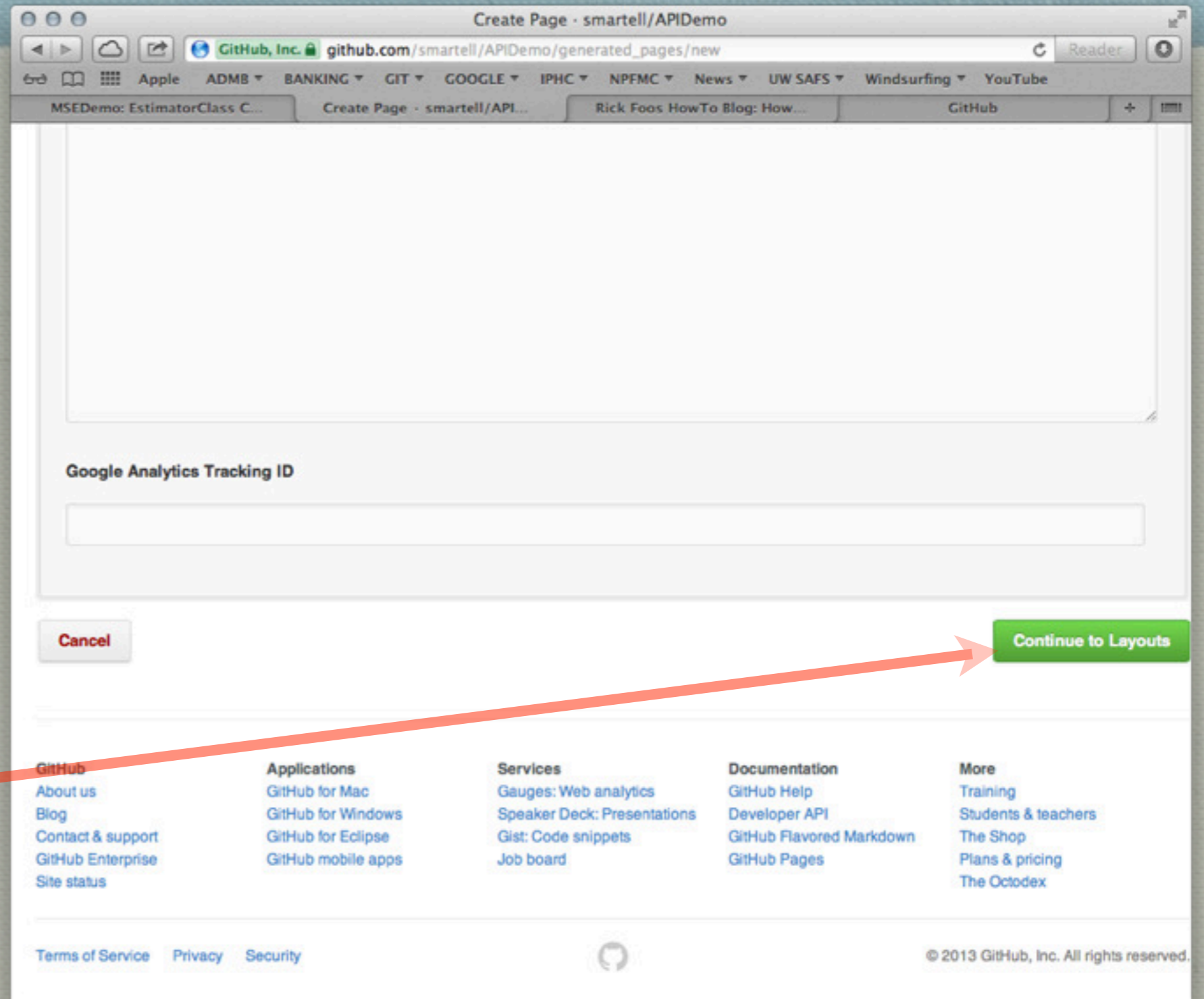
```
### Welcome to GitHub Pages.
This automatic page generator is the easiest way to create beautiful pages for all of your projects.
Author your page content here using GitHub Flavored Markdown, select a template crafted by a designer, and
publish. After your page is generated, you can check out the new branch:
...
$ cd your_repo_root/repo_name
$ git fetch origin
$ git checkout gh-pages
...

If you're using the GitHub for Mac, simply sync your repository and you'll see the new branch.

### Designer Templates
We've crafted some handsome templates for you to use. Go ahead and continue to layouts to browse through
them. You can easily go back to edit your page before publishing. After publishing your page, you can
revisit the page generator and switch to another theme. Your Page content will be preserved if it remained
markdown format.
```

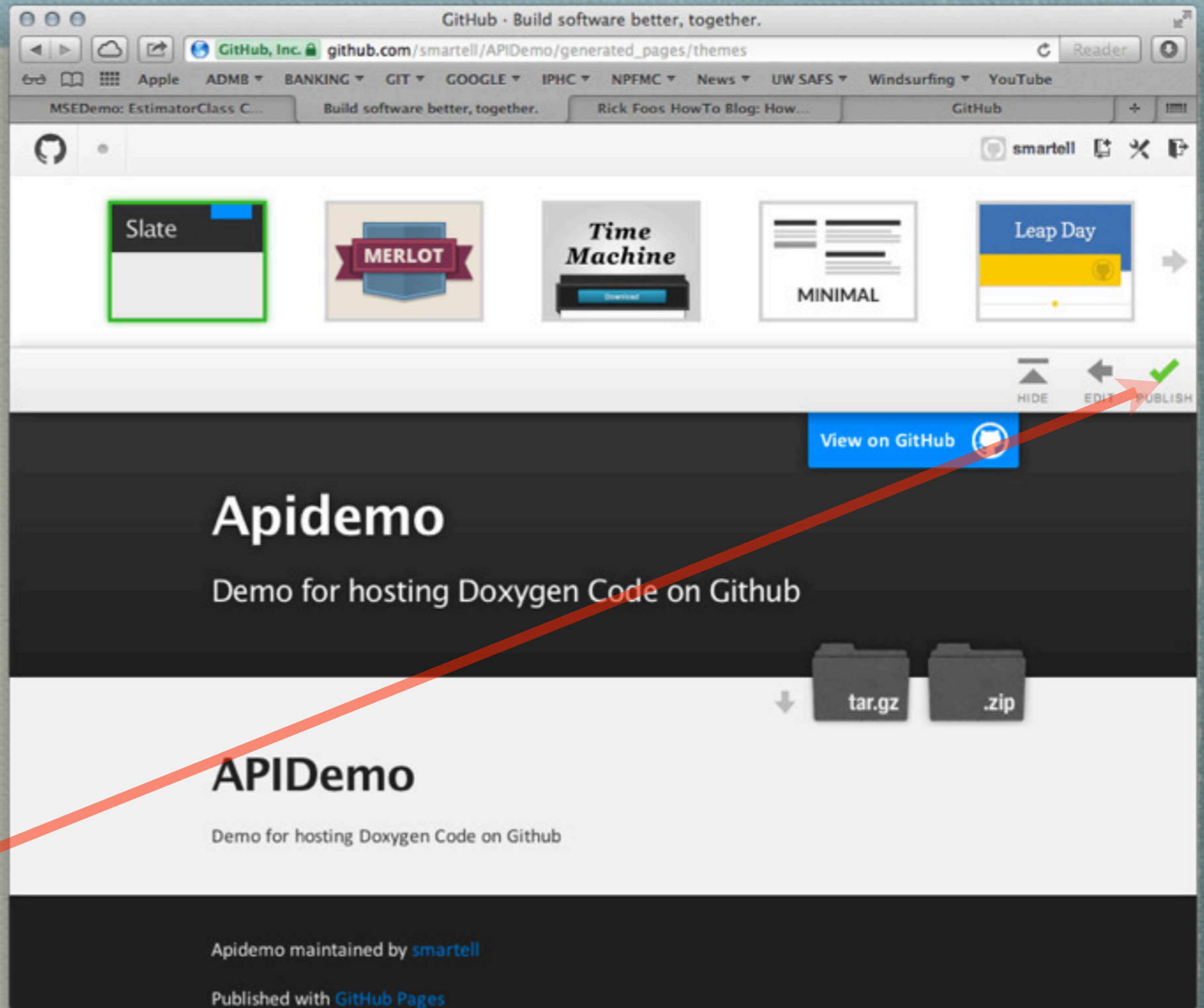

Step 4: create gh-pages

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



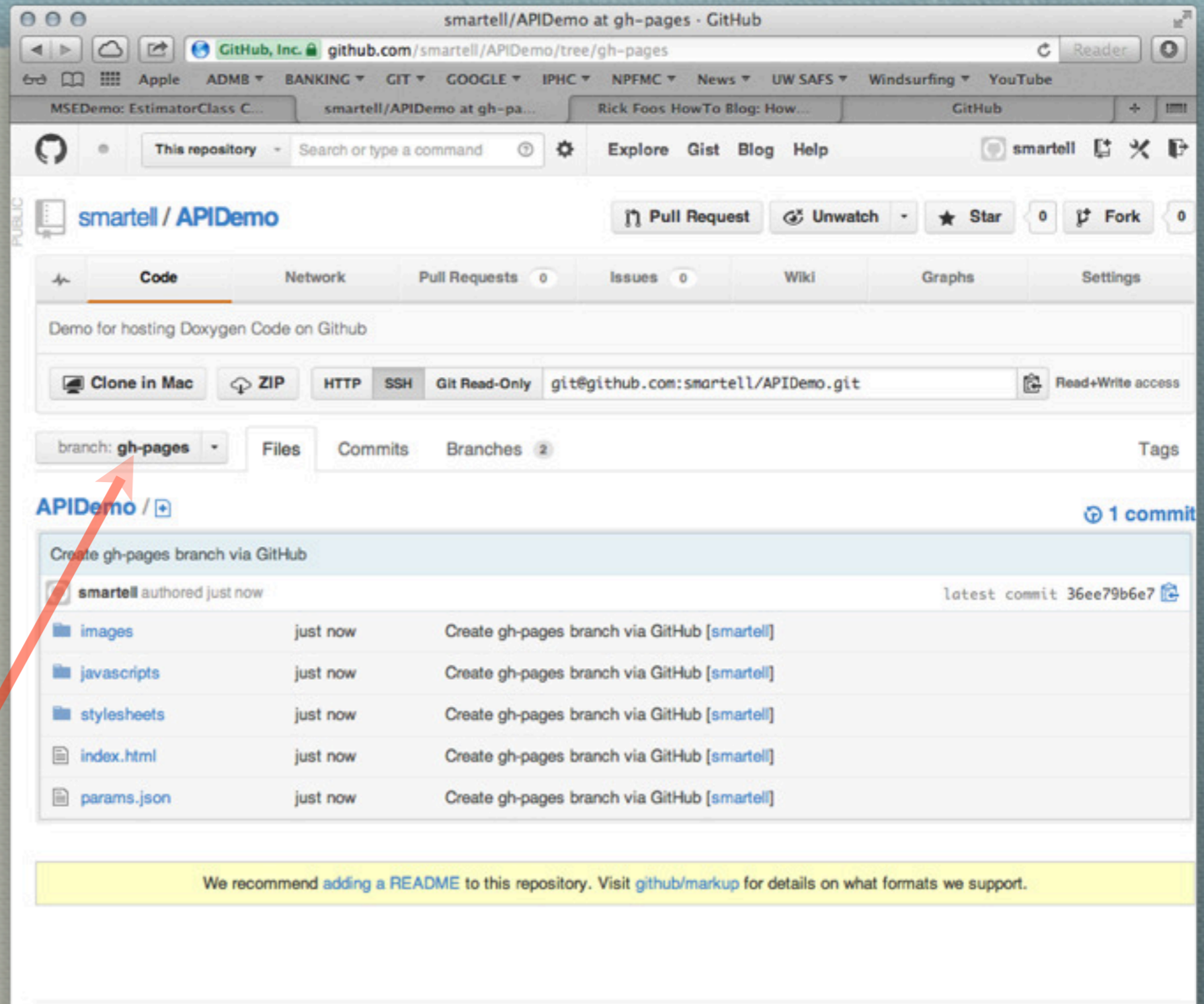
Step 4: create gh-pages

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



Step 4: create gh-pages

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



Step 5: Clone repo in html directory

```
stevenmartell1 — bash — 66x17
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 — 66x17
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

```
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).

```
stevenmartell1 — bash — 66x17
bash
bash-3.2$ pwd
/Users/stevenmartell1/Documents/APIDemo
bash-3.2$ git branch
* master
bash-3.2$ cd html
bash-3.2$ git branch
* gh-pages
bash-3.2$
```


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

stevenmartell1 — bash — 66x17

bash

```
bash-3.2$ pwd
/Users/stevenmartell1/Documents/APIDemo
bash-3.2$ mkdir docs
bash-3.2$ cd docs/
bash-3.2$ Doxygen -s -g
```

Configuration file `Doxyfile' created.

Now edit the configuration file and enter

```
doxygen Doxyfile
```

to generate the documentation for your project

```
bash-3.2$
```


Step 6: Run Doxygen. Create mainpage.dox

```
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)

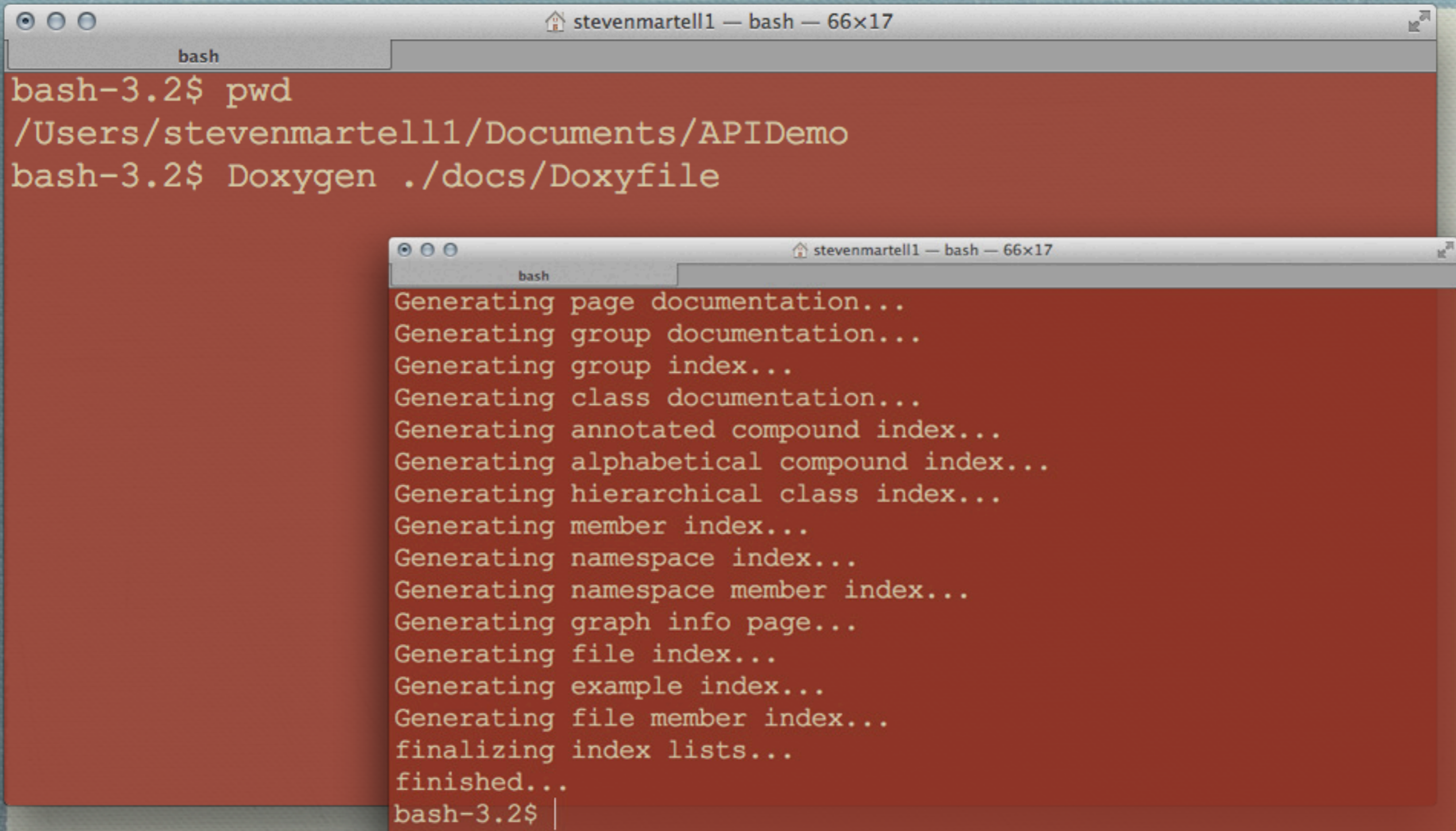
```
stevenmartell1 — nano — 66x17
nano
GNU nano 2.0.6 File: Doxyfile

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



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

```
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

```
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

```
bash-3.2$ git push origin gh-pages
Counting objects: 31, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (29/29), done.
Writing objects: 100% (29/29), 48.05 KiB, done.
Total 29 (delta 1), reused 0 (delta 0)
To git@github.com:smartell/APIDemo.git
    9358032..dfe8a0b  gh-pages -> gh-pages
bash-3.2$ |
```


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

