

Some Git Basics

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Git Structure

The screenshot shows the GitHub interface for the repository 'truggles / SEM-1.2', which is a fork of 'ClabEnergyProject/SEM-1.2'. The repository description is 'Version of Simple Energy Model with cvxpy 1.x and python3.7'. It has 163 commits, 7 branches, 0 releases, and 8 contributors. A dropdown menu for 'Switch branches/tags' is open, showing a list of branches: 'Dan_demand_data_EIA_v1', 'carbon_price', 'fuels' (highlighted), 'master' (checked), 'reliability', and 'specified_capacity'. The URL at the bottom of the dropdown is 'https://github.com/truggles/SEM-1.2/tree/fuels'. The main content area shows a commit history table with columns for commit details and time ago.

Commit Message	Time Ago
Project:master.	
t#5 from truggles/master	Latest commit 0db9199 6 days ago
ing header info to Lei's solar and wind	7 days ago
minated unused technologies from summary csv file	2 months ago
nged index on dual for price; eliminated storage analysis	23 days ago
development	3 months ago
al commit of SEM-1 v. 20180830 18:16 PM PT	last year
development	3 months ago
ed SYSTEM_RELIABILTY keyword and functionality	2 months ago

Git Structure

remote = an individual person or organizations repository of code
my remote; main CLab remote

The screenshot shows the GitHub interface for the repository 'truggles / SEM-1.2', which is forked from 'ClabEnergyProject/SEM-1.2'. The repository has 163 commits, 7 branches, 0 releases, and 8 contributors. A dropdown menu for switching branches is open, showing a list of branches: 'Dan_demand_data_EIA_v1', 'carbon_price', 'fuels' (highlighted), 'master' (checked), 'reliability', and 'specified_capacity'. The 'fuels' branch is the current active branch. The repository description is 'Version of Simple Energy Model with cvxpy 1.x and python3.7'. The interface includes navigation links for Code, Pull requests, Projects, Wiki, Security, Insights, and Settings. A search bar and navigation links for Pull requests, Issues, Marketplace, and Explore are at the top. The bottom of the page shows the URL 'https://github.com/truggles/SEM-1.2/tree/fuels'.

Git Structure

remote = an individual person or organizations repository of code
my remote; main CLab remote

The screenshot shows the GitHub interface for the repository 'truggles / SEM-1.2', which is a fork of 'ClabEnergyProject/SEM-1.2'. Red arrows point from the text boxes to the 'Fork' button and the repository name. A yellow box explains the concept of a fork. The 'Switch branches/tags' dropdown is open, showing the 'fuels' branch selected. The commit history table is visible below.

fork = a copy of the central remote usually for individuals to store their work before merging into the central remote. My "truggles" remote is a "fork" of the main CLab remote

Commit	Author	Date
Latest commit 0db9199	6 days ago	
7 days ago		
2 months ago		
23 days ago		
3 months ago		
last year		
3 months ago		
2 months ago		

Git Structure

remote = an individual person or organizations repository of code
my remote; main CLab remote

The screenshot shows the GitHub interface for the repository 'truggles / SEM-1.2', which is a fork of 'ClabEnergyProject/SEM-1.2'. The repository has 163 commits and is currently on the 'master' branch. A sidebar on the left shows a list of branches, with 'fuels' selected. A 'Pull request' button is visible. The main content area shows the commit history, with the latest commit 't#5 from truggles/master' dated 6 days ago. The URL at the bottom is 'https://github.com/truggles/SEM-1.2/tree/fuels'.

fork = a copy of the central remote usually for individuals to store their work before merging into the central remote. My "truggles" remote is a "fork" of the main CLab remote

branch = a specific copy of the code you work with. Most of our updating of MEM happens in the "master" branch. I have a branch in truggles dedicated to incorporating fuels into the code and is not ready or suitable for merging into the master branch of the central remote.



Git actions

- commit = after making changes to the code, saving and recording that work locally
- push = send the commits you have made to a certain remote and branch in the cloud
- pull = take updates from a specific remote and branch in the cloud and apply them to you local code
- checkout = this can do multiple things
 - Switch which branch is currently active in your code
 - Load a new branch locally from code in the cloud
 - Undo all changes you have made to a file before you commit the changes

Example workflow

- Tyler joins CLab and is planning to contribute to the central code.
- He starts by forking the central repository using the web interface (slide 3)
- Then here are some sample commands from the command line to check out the main CLab code as well as Tyler's remote.

```
$ mkdir ~/my_new_MEM  
$ cd ~/my_new_MEM  
$ git clone git@github.com:ClabEnergyProject/SEM-1.2.git # set up a new  
local repository of MEM-1.2 based on the code in the central repository  
$ cd SEM-1.2  
$ git remote add ruggles_remote git@github.com:truggles/SEM-1.2.git #  
add the truggles remote and locally name it ruggles_remote. Now he can  
push his updates there
```

Making new branches and collaborating

Beware of the quotes “ in this text, it likely won't work if you copy and paste them to the terminal

```
$ git branch # this lists the active branch and the other locally available ones
$ git checkout -b my_test_branch # create a new local branch for updates
$ git branch # see that you created and switch to a new branch marked with *
$ echo "my awesome update and bug fix" >> Core_Model.py # append this string
to the end of the file (silly example of editing code)
$ git diff # shows you all changes you have made
$ git commit Core_Model.py -m "My great bug fix" # commits the new work with
the indicated message
$ git push ruggles_remote my_test_branch # this pushes the local commit to the
truggles remote in the cloud and will create a new branch if one does not exist
already called my_test_branch
```


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$ git branch # see that you created and switch to a new branch marked with *
$ echo "my awesome update and bug fix" >> Core_Model.py # append this string
to the end of the file (silly example of editing code)
$ git diff # show the differences between the current branch and the last commit
$ git commit -m "my awesome update and bug fix" # commit the changes to the
the indicated branch
Now we want to merge this great work into the main CLab master branch
$ git push ruggles_remote my_test_branch # this pushes the local commit to the
truggles remote in the cloud and will create a new branch if one does not exist
already called my_test_branch
```

Pull Requests

Search or jump to... Pull requests Issues Marketplace Explore

truggles / SEM-1.2
forked from ClabEnergyProject/SEM-1.2

Watch 0 Star 0 Fork 3

Code Pull requests 0 Projects 0 Wiki Security Insights Settings

Version of Simple Energy Model with cvxpy 1.x and python3.7 Edit

Manage topics

163 commits 8 contributors

Branch: master New pull request Create new file Upload files Find File Clone or download

Switch branches/tags

Find or create a branch...

Branches Tags

- Dan_demand_data_EIA_v1
- carbon_price
- fuels**
- ✓ master
- reliability
- specified capacity

Project:master.

t#5 from truggles/master	Latest commit 0db9199 6 days ago
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<https://github.com/truggles/SEM-1.2/tree/fuels>

Pull Requests

The screenshot shows the GitHub interface for the repository **truggles / SEM-1.2**, which is forked from **ClabEnergyProject/SEM-1.2**. The repository has 175 commits, 0 releases, and 8 contributors. The current branch is **fuels**. A yellow box with the text **Click Pull request (PR)** and a red arrow points to the **Pull request** link in the commit comparison section.

Version of Simple Energy Model with cvxpy 1.x and python3.7

Manage topics

175 commits 0 releases 8 contributors

Branch: fuels New pull request Create new file Upload files Find File Clone or download

This branch is 27 commits ahead, 22 commits behind ClabEnergyProject:master. [Pull request](#) [Compare](#)

truggles Handle situations where techs are not included in MEM build, better c... Latest commit 4c83931 22 days ago

File	Commit Message	Time
Input_Data	removed print statement	2 months ago
Output_Data/test_190726_reference	eliminated unused technologies from summary csv file	2 months ago
.gitignore	Add .gitignore	28 days ago
Core_Model.py	Plotting updates and allow any capacity for fuels	23 days ago
Cost_Model.py	csp development	3 months ago
Fuels_case_input_test_190827.xlsx	New note on estimated base-case cost for fuel \$/GGE	28 days ago
Funct_Graphics.py	initial commit of SEM-1 v. 20180830 18:16 PM PT	last year

<https://github.com/truggles/SEM-1.2/pull/new/fuels>

Pull Request

Make sure you have the correct remote and branches listed. The branch to be updated is on the left and the one sending their new commits is on the right (indicated by arrow)

Search or jump to... Pull

ClabEnergyProject / SEM-1.2

Code Issues 0 Pull requests 0 Projects 0 Wiki Security Insights

Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

base repository: ClabEnergyProject/SEM-1.2 base: master head repository: truggles/SEM-1.2 compare: fuels

✓ Able to merge. These branches can be automatically merged.

Fuels

Write Preview

- * Creating fuel from excess electricity
- * User can specific an annual fuel demand which must be satisfied

Attach files by dragging & dropping, selecting or pasting them.

Reviewers

Suggestions

KenCaldeira Request

d-farnham Request

Assignees

No one—assign yourself

Labels

None yet

Projects

Pull Request

Give some thoughtful title to the PR and write some notes for everyone to review on what the PR will achieve / fix / improve.

ClabEnergyProject / SEM-1.2

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Projects

Pull Request

Request d-farnham as the reviewer ;-)
[this does nothing official for us. I'm sure at Google people could get in trouble for ignoring requests...].

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None yet

Projects

Pull Request

Click “Create Pull Request” and we will all get an email notice if we are signed up to “watch” the main CLab repository.

People can comment on PRs if they think something could possibly harm their code or other stuff.

Open a pull request
Create a new pull request by comparing

base repository: ClabEnergyProject

✓ Able to merge. These branches

Fuels

Write Preview

* Creating fuel from excess electricity
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Attach files by dragging & dropping, selecting or pasting them.

☒ Allow edits from maintainers. [Learn more](#)

Create pull request

Reviewers

Suggestions

KenCaldeira [Request](#)
d-farnham [Request](#)

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Incorporating other people changes into your code

- When others make changes to the CLab master branch, you should consider if you want those changes in your code and:

`$ git checkout master` # this will switch your active local branch to the master branch

`$ git pull` # this will fetch (git term from grab) the code from the cloud and download it, then it will merge those downloaded updates into your active working area

Incorporating updates into other branches

- If Tyler wanted to incorporate changes to CLab master to his “fuels” branch he would:

```
$ git checkout fuels # switch to his fuels branch
```

```
$ git pull origin master # “origin” is the name of the first remote which creates the repository, because we used “git clone git@github.com:ClabEnergyProject/SEM-1.2.git” “origin” points to ClabEnergyProject
```