Working with Git… the fun bits! (V0.1)

Working with the lessons repo throughout the day:

Every day we will be doing exercises and labs for which the starting code lives in the DSI_LDN_1_LESSON_NOTES repo.
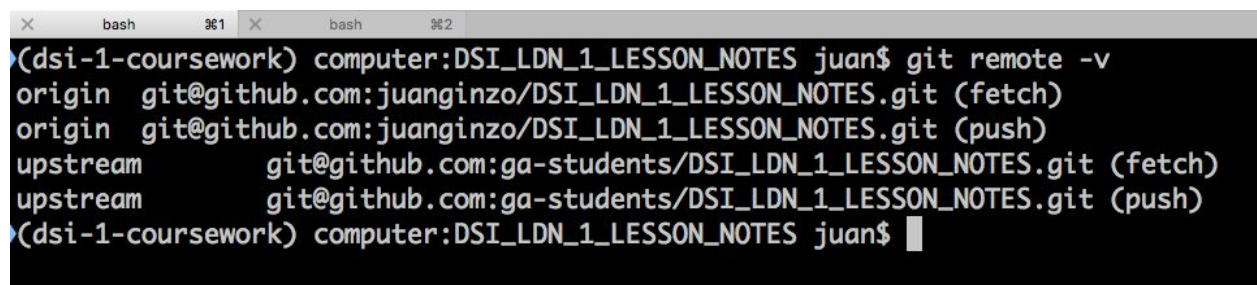
You have two options for working with this files:

1. In the "Lessons repo", from a clean master (uptodate with the upstream), create a daily branch, and then work and save the notebooks in that branch.
2. Copy the starting code from the Lessons repo into the classwork repo and work there.

In this guide we will assume that you are going with option 1.

Instructions:

-Check that you have set **origin** and **upstream** in your local repo.

Origin points to your fork and upstream points to the original repo under *ga-students*.

```
(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$ git remote -v
origin  git@github.com:juanginzo/DSI_LDN_1_LESSON_NOTES.git (fetch)
origin  git@github.com:juanginzo/DSI_LDN_1_LESSON_NOTES.git (push)
upstream        git@github.com:ga-students/DSI_LDN_1_LESSON_NOTES.git (fetch)
upstream        git@github.com:ga-students/DSI_LDN_1_LESSON_NOTES.git (push)
(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$
```

-Do a "git status".

This is so we can check two things, first, that we are on the master branch, second, that there are no untracked or uncommitted files.

```
 ×     bash     ⌘1  ×     bash     ⌘2
▶(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
nothing to commit, working directory clean
▶(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$ ▊
```

-If you get back a result like the above (on master, clean repo) then you can continue by pulling from the upstream (to get the new notes for the day) and then creating a branch to work throughout the day.

NOTE: If you have changes or untracked files in your local master repo, see notes below ("How to clean local master")

```
 ×     bash     ⌘1  ×     bash     ⌘2  ×     bash     ⌘3
▶(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$ git fetch upstream
remote: Counting objects: 16, done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 16 (delta 5), reused 15 (delta 4), pack-reused 0
Unpacking objects: 100% (16/16), done.
From github.com:ga-students/DSI_LDN_1_LESSON_NOTES
   0d133e5..cb8ec03  master      -> upstream/master
 * [new branch]      solutions_day_3 -> upstream/solutions_day_3
```

(we fetch and get the upstream master, and all the other branches)

```
(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$ git merge upstream/master
Updating 0d133e5..cb8ec03
Fast-forward
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-1-solution.ipynb | 140 +++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-4-solution.ipynb | 143 ++++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-5-solution.ipynb | 162 +++++++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-6-solution.ipynb | 154 ++++++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-7-solution.ipynb | 143 ++++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-8-solution.ipynb | 163 +++++++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-9-solution.ipynb | 139 +++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.3-review-problem-2-solution.ipynb | 203 +++++++++++++++++++++++++++++++++++++
 week1/day3/3.1-lesson/solution-code/w1-3.3-review-problem-3-solution.ipynb | 157 ++++++++++++++++++++++++++++
 9 files changed, 1404 insertions(+)
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-1-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-4-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-5-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-6-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-7-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-8-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.1-review-problem-9-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.3-review-problem-2-solution.ipynb
 create mode 100644 week1/day3/3.1-lesson/solution-code/w1-3.3-review-problem-3-solution.ipynb
(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$
```

(we merge the upstream/master with our own local master)

-After merging we create a new branch called "week#day#" (replacing the # with the appropriate number).

 We will be working "week#day#" on this branch, so we can keep the master branch clean.


```
(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$ git checkout -b week1day4
Switched to a new branch 'week1day4'
(dsi-1-coursework) computer:DSI_LDN_1_LESSON_NOTES juan$
```

Note: Inside the week1day4 branch you can work with the lessons jupyter notebooks and then add/commit them freely. This way you will have a clean master branch from which you pull daily and a branch for each day with your additions to the notebooks.

<u>Bonus: "How to clean the master branch from lessons":</u>
If you find when doing a git status on the master branch in the Lesson repo
that you have new and/or modified files, you need to clean them.

```
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)

        example_new_file

no changes added to commit (use "git add" and/or "git commit -a")
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ █
```

-The way to do this is with the **_git reset --hard upstream/master_**
command.
- Then delete the new files.

```
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ git reset --hard upstream/master
HEAD is now at cb8ec03 Merge pull request #15 from ga-students/solutions_day_3
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
Untracked files:
  (use "git add <file>..." to include in what will be committed)

        example_new_file

nothing added to commit but untracked files present (use "git add" to track)
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ rm example_new_file
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
nothing to commit, working directory clean
▶(dsi1) computer:DSI_LDN_1_LESSON_NOTES juan$ █
```

Getting, working on, and pushing the Homework.

Every day you will have to work on a homework to be delivered by way of a Pull Request against the ga-students/DSI_LDN_1_HOMEWORK repo.

First get your lesson notes repo updated (see the first set of instructions above)

The starting material for the homework will be in the DSI_LDN_1_LESSON_NOTES repo, under the week/day folder.

```
(dsi-1-coursework) computer:day2 juan$ pwd
/Users/juan/project/DSI_LDN_1_LESSON_NOTES/week1/day2
(dsi-1-coursework) computer:day2 juan$ ls
2.1-lesson                              extra_exercise_time_dependent.ipynb
2.3-lesson                              w1-2.2-starter.ipynb
Homework w01d02_questions.ipynb         w1-2.4-starter.ipynb
(dsi-1-coursework) computer:day2 juan$
```

-From your DSI_LDN_1_HOMEWORK repo, first pull from the upstream in master.

```
computer:DSI_LDN_1_HOMEWORK juan$
computer:DSI_LDN_1_HOMEWORK juan$ git pull upstream master
remote: Counting objects: 16, done.
remote: Compressing objects: 100% (11/11), done.
remote: Total 16 (delta 7), reused 14 (delta 5), pack-reused 0
Unpacking objects: 100% (16/16), done.
From github.com:ga-students/DSI_LDN_1_HOMEWORK
 * branch            master      -> FETCH_HEAD
 * [new branch]      master      -> upstream/master
Updating d68d049..a44619d
Fast-forward
 YuliaGoryachev/week1/Homework_exercise.ipynb | 160 +++++++++++++++++++++++++++++++++++++++++++++++
 juanginzo/week1/w01d01_homework               |   0
 juanginzo/week1/w01d02_homework               |   0
 juanginzo/week1/w01d03_homework               |   0
 wallygauze/week1/Homework_exercise.ipynb      | 144 +++++++++++++++++++++++++++++++++++++++++
 5 files changed, 304 insertions(+)
 create mode 100644 YuliaGoryachev/week1/Homework_exercise.ipynb
 create mode 100644 juanginzo/week1/w01d01_homework
 create mode 100644 juanginzo/week1/w01d02_homework
 create mode 100644 juanginzo/week1/w01d03_homework
 create mode 100644 wallygauze/week1/Homework_exercise.ipynb
computer:DSI_LDN_1_HOMEWORK juan$
```

-Checkout a new branch to work on the homework.,

```
computer:DSI_LDN_1_HOMEWORK juan$ git checkout -b w01d05
Switched to a new branch 'w01d05'
computer:DSI_LDN_1_HOMEWORK juan$
```

-Create a new folder for the homework.

```
computer:week1 juan$ pwd
/Users/juan/project/DSI_LDN_1_HOMEWORK/juanginzo/week1
computer:week1 juan$ mkdir w01d05
computer:week1 juan$ cd w01d05
computer:w01d05 juan$
```

-Copy the homework starting code from the Lesson Notes repo into the folder you just created.

```
computer:w01d05 juan$ cp ../../../../DSI_LDN_1_LESSON_NOTES/week1/day3/Homework_exercise.ipynb .
computer:w01d05 juan$
```

Note: The dot at the end indicates that you want to copy the file into your current directory (which should be the folder you just created for the homework.

-Now you can start working on the homework from the Homework repo, by running the jupyter notebook on the Homework file.

```
(dsi1) computer:w01d05 juan$ jupyter notebook Homework_exercise.ipynb
```

-Once you are finished do an add/commit and push to your new branch.

Now the homework is on your origin/homework_branch.

The next step is to create a pull request in Github, from your origin/homework_branch into the upstream/master.

-Select your homework_branch from the **Branch:** dropdown (this will reload the page) and then press the **New pull request** button.

Now it will redirect to a new page, where you will be able to revise the changes and check that you are creating a pull request from your origin/homework_branch into the upstream/master.

-If everything is ok, press the **Create pull request** button.

You will get redirected to a new page, where you can comment (for ex: if you weren't able to solve the homework, etc) and where we will create comments and marking the homework.

Note: DO NOT MERGE THE PULL REQUEST.