

Introduction to Git and Github – A Hands-on Course

Class 3: GitHub Hands-On, Part 1

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This Week's Agenda

11/14 Intro to Version Control and Code Collaboration

11/15 Basic Git Concepts

11/16 GitHub Hands-On, Part 1

11/17 GitHub Hands-On, Part 2

11/18 Local Clients and Other Hosts

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11/16 **GitHub Hands-On, Part 1**

11/17 GitHub Hands-On, Part 2

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Taking Git to the Masses

- Yesterday, we looked at Git and a local installation along with a local GUI interface
- But what about sharing? We need a hosted Git implementation that all of our team members can access – and perhaps other developers worldwide
- That is where GitHub comes in.

GitHub

- Online repository launched in April 2008 by Tom Preston-Werner, Chris Wanstrath, and PJ Hyett
- Offers free public and for-fee private repositories
- One must be a member to contribute, but anyone can browse and download forks
- 14+ million users and 35+ million repositories

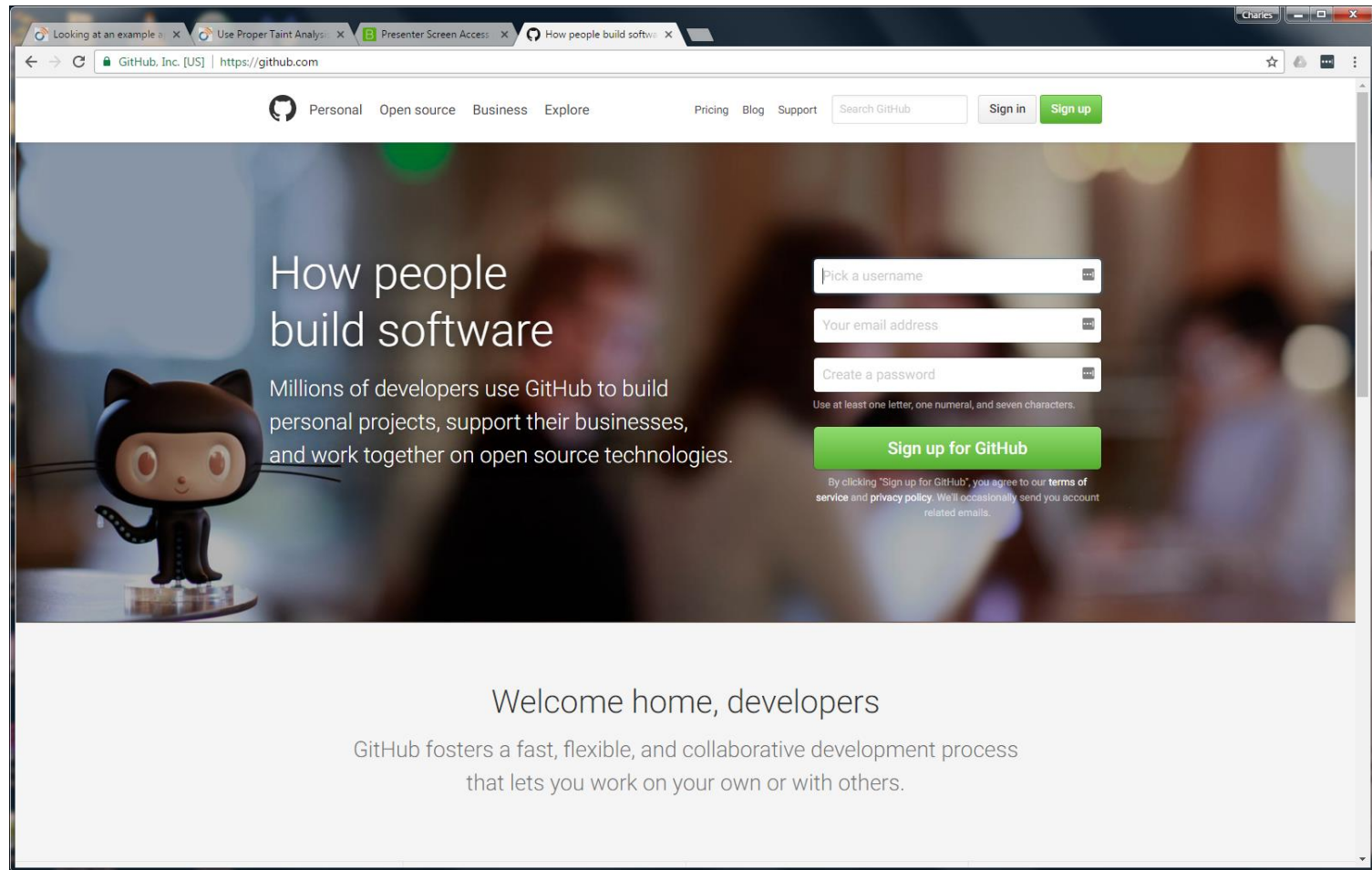
More Than Just Git

- GitHub includes discussion areas and a wiki for each project
- Also has bug tracking, feature requests, and task / project management for every project
- As we saw before, a critical element of Git is the license file(s) for each project. As much of what is found in the public areas is SOUP (Source Of Unknown Pedigree), it is important to check any software you wish to use.

Other Interesting Features

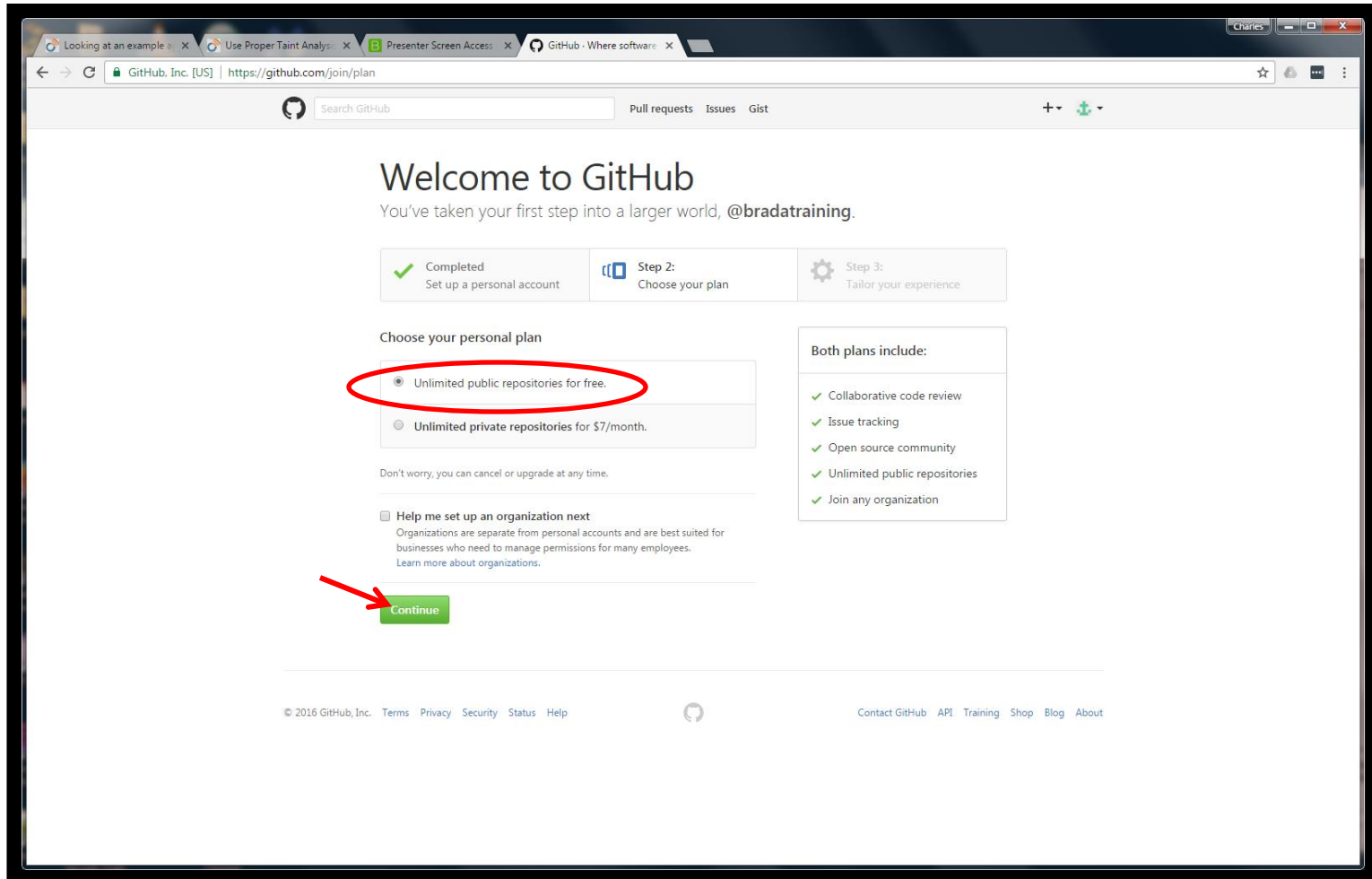
- One can subscribe to a project in order to be notified of future modifications or discussion on that project
- Can even create web pages for each project and for the user or organization page
e.g. <https://cjlord.github.io/>
- So Let's Git Started!

Go to github.com, Sign up!



Presented by:

Choose free account



This is optional

Looking at an example x Use Proper Taint Analysis x Presenter Screen Access x GitHub - Where software x

GitHub, Inc. [US] | <https://github.com/join/customize>

Search GitHub Pull requests Issues Gist

Welcome to GitHub

You'll find endless opportunities to learn, code, and create, @bradattraining.

✓ Completed
Set up a personal account

Step 2:
Choose your plan

Step 3:
Tailor your experience

How would you describe your level of programming experience?

☐ Totally new to programming ☐ Somewhat experienced ☒ Very experienced

What do you plan to use GitHub for? (check all that apply)

☐ Research ☐ School projects ☒ Development
☒ Project Management ☐ Design ☐ Other (please specify)

Which is closest to how you would describe yourself?

☒ I'm a professional ☐ I'm a hobbyist ☐ I'm a student
☐ Other (please specify)

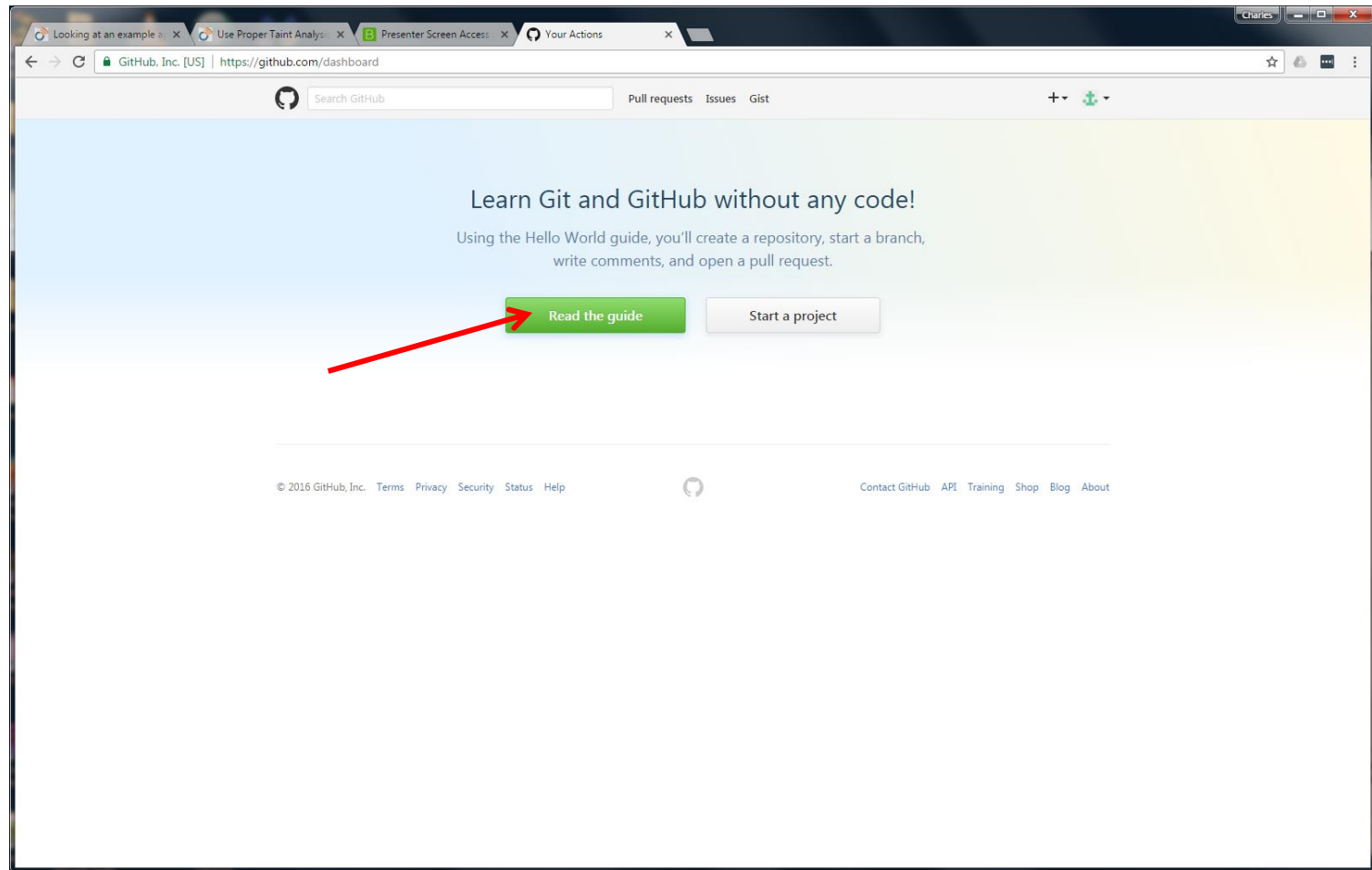
What are you interested in?

networking

e.g. tutorials, android, ruby, web-development, machine-learning, open-source

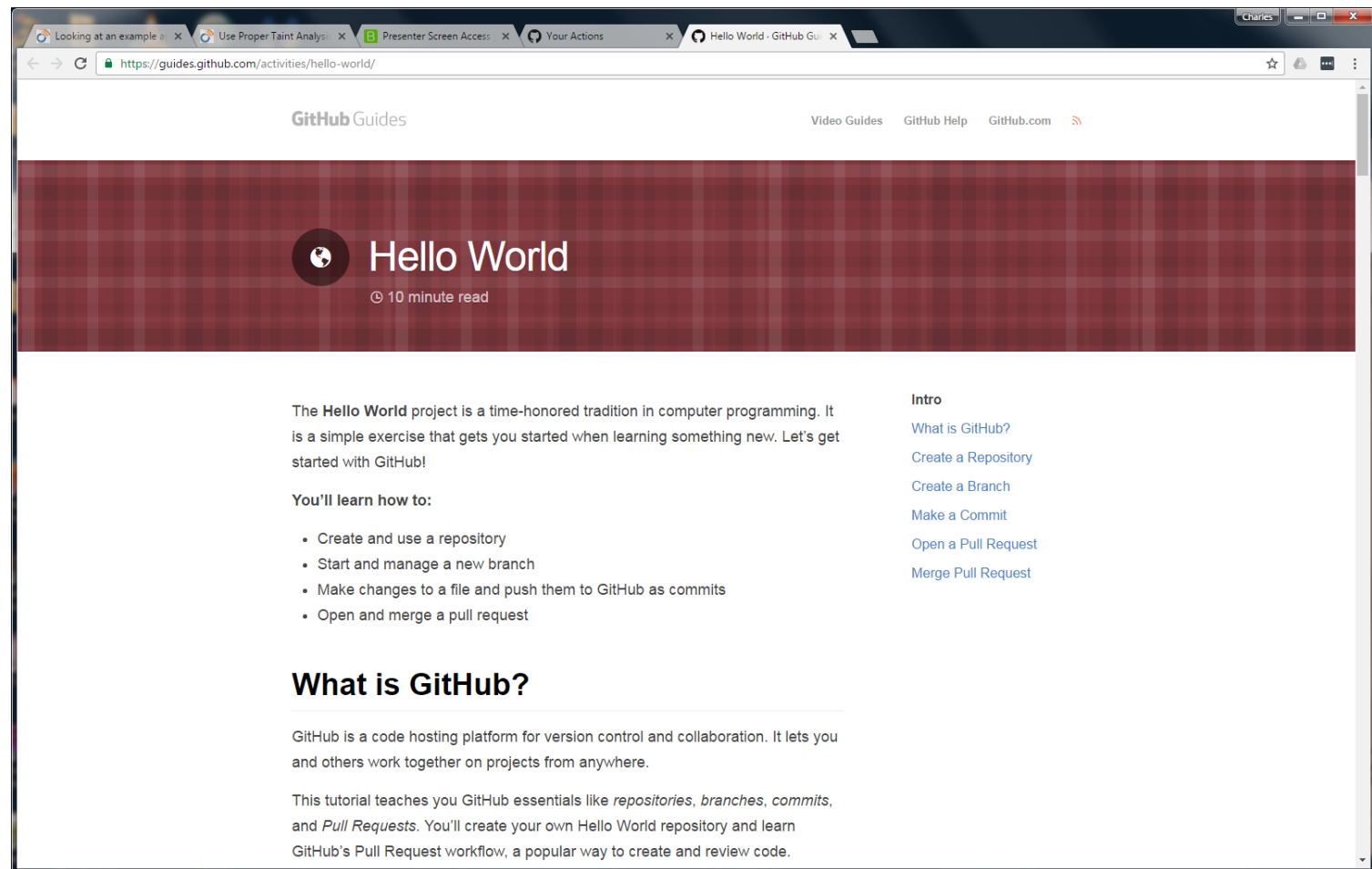
Submit skip this step

We have a blank account!



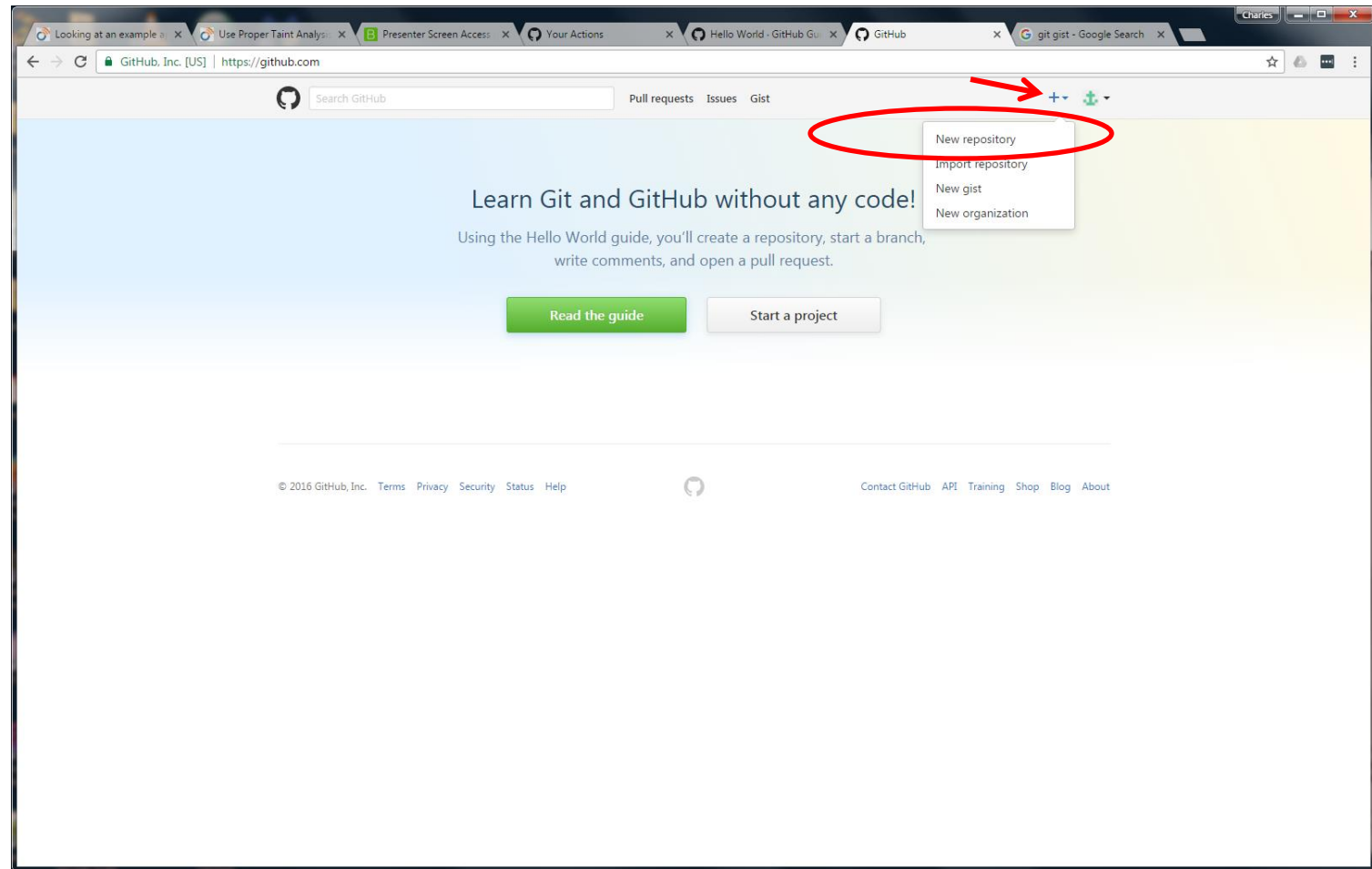
Presented by:

This is a good start



Presented by:

Let's create a new repository



Presented by:

Naming it Hello_world

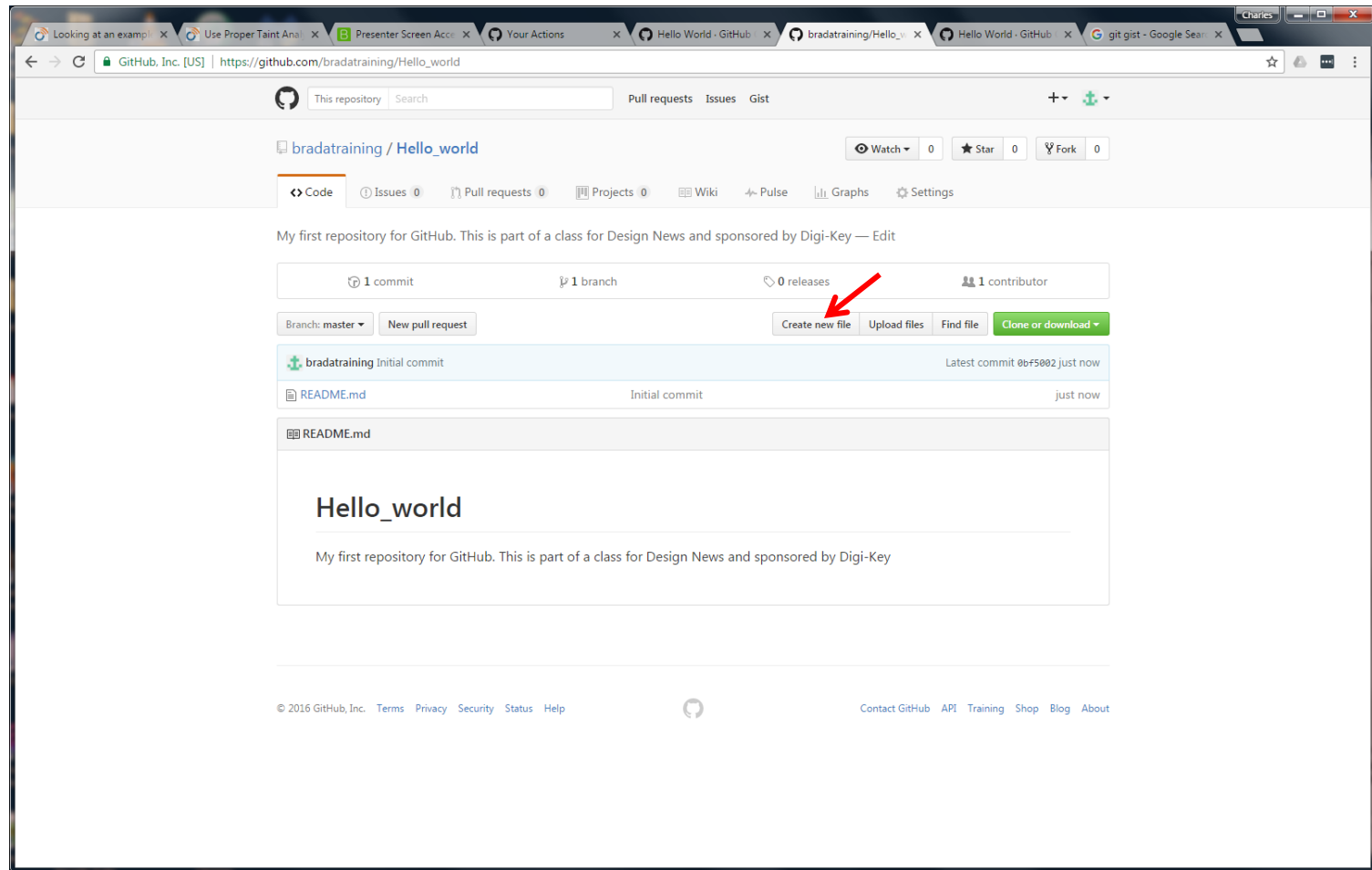
The screenshot shows the GitHub 'Create a new repository' page. Red annotations highlight the following elements:

- A red arrow points to the 'Repository name' field, which contains 'Hello_world' and has a green checkmark.
- A red arrow points to the 'Description (optional)' text box, which contains the text: 'My first repository for GitHub. This is part of a class for Design News and sponsored by Digi-Key'.
- A red circle highlights the 'Public' radio button, which is selected.
- A red circle highlights the 'Initialize this repository with a README' checkbox, which is checked.
- A red arrow points to the green 'Create repository' button at the bottom.

The page also shows the 'Owner' as 'bradattraining' and the 'Add .gitignore' and 'Add a license' dropdowns set to 'None'.

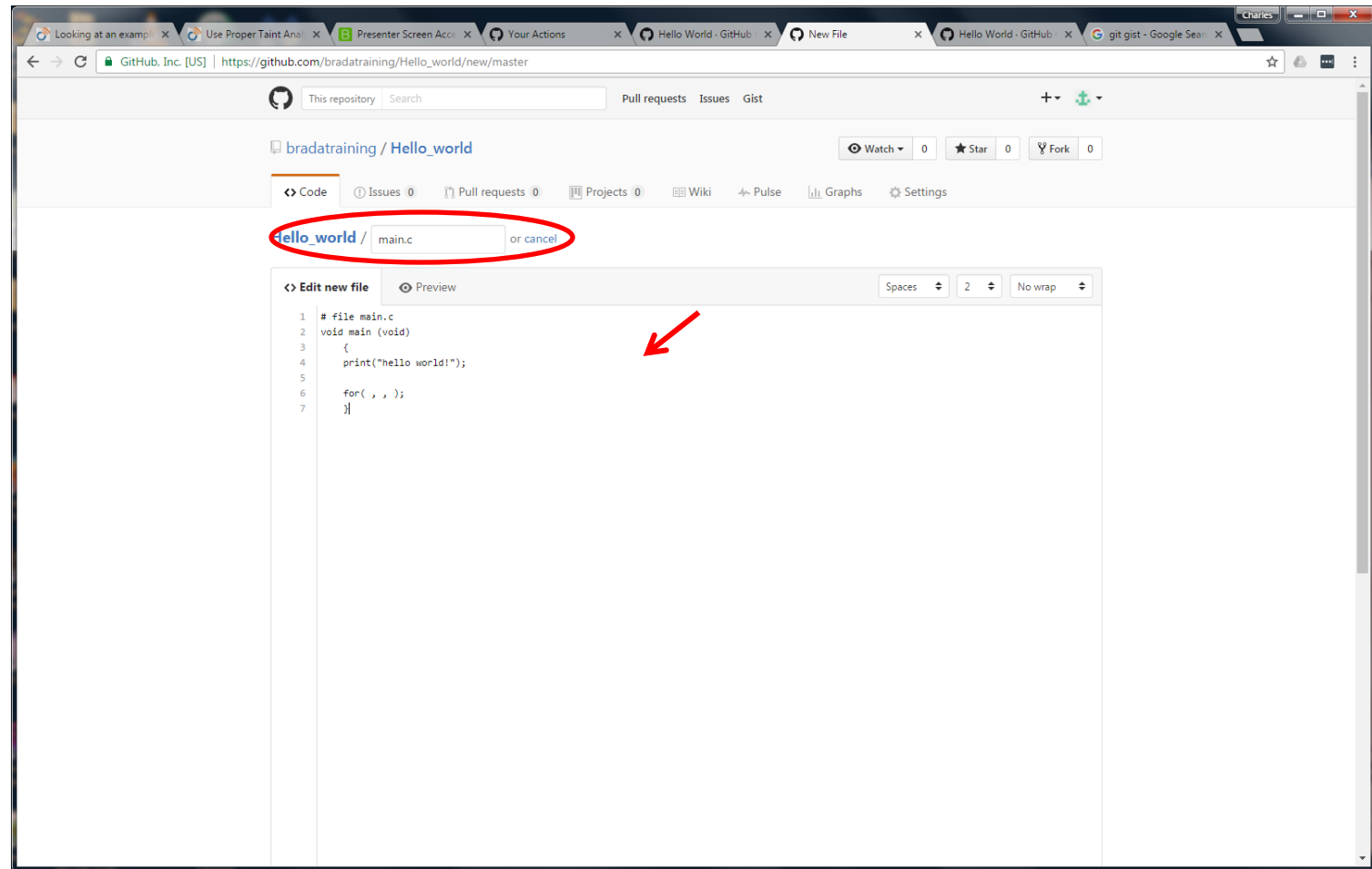
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Let's Add a File!



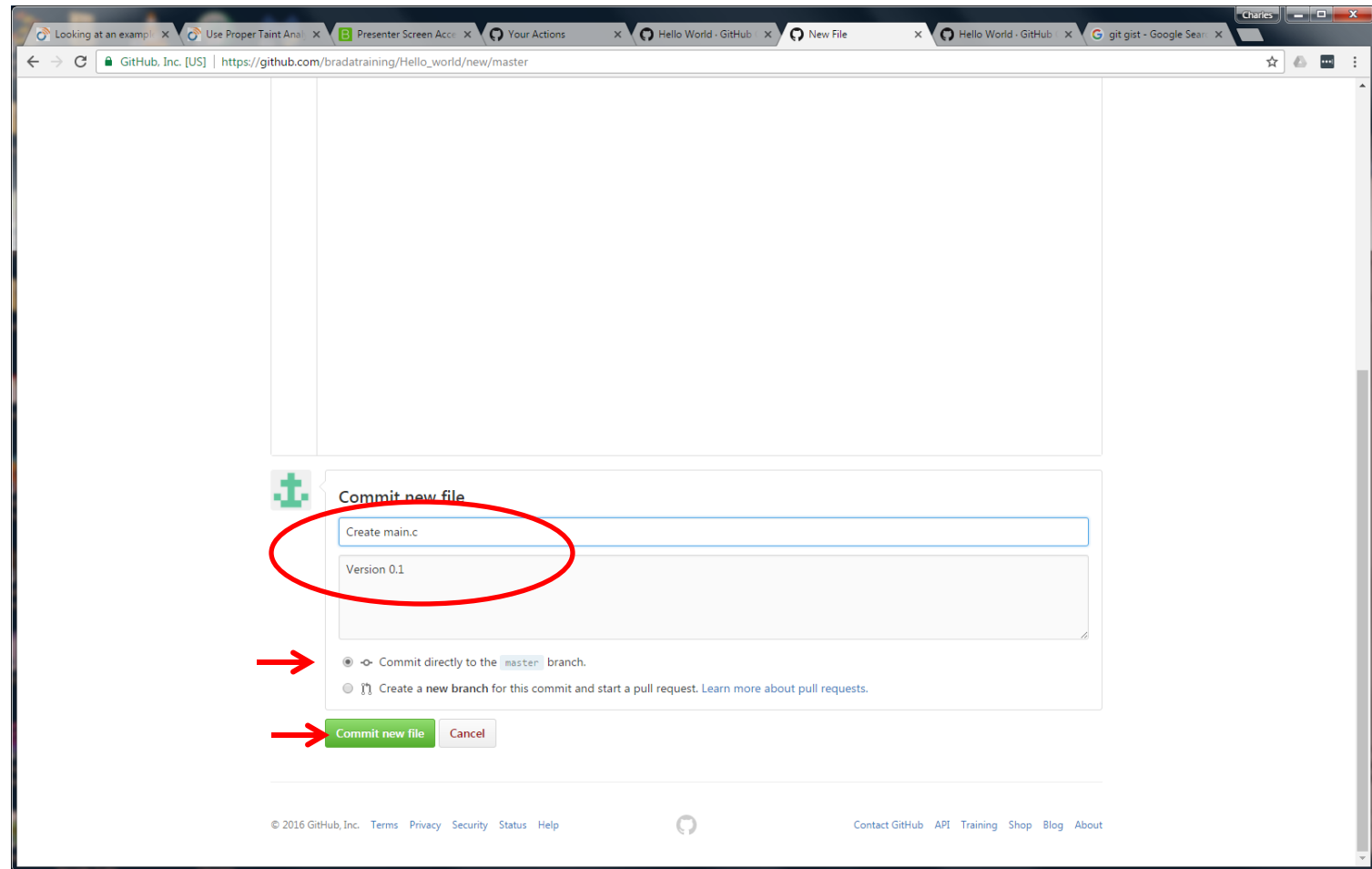
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We don't normally do this but we can!



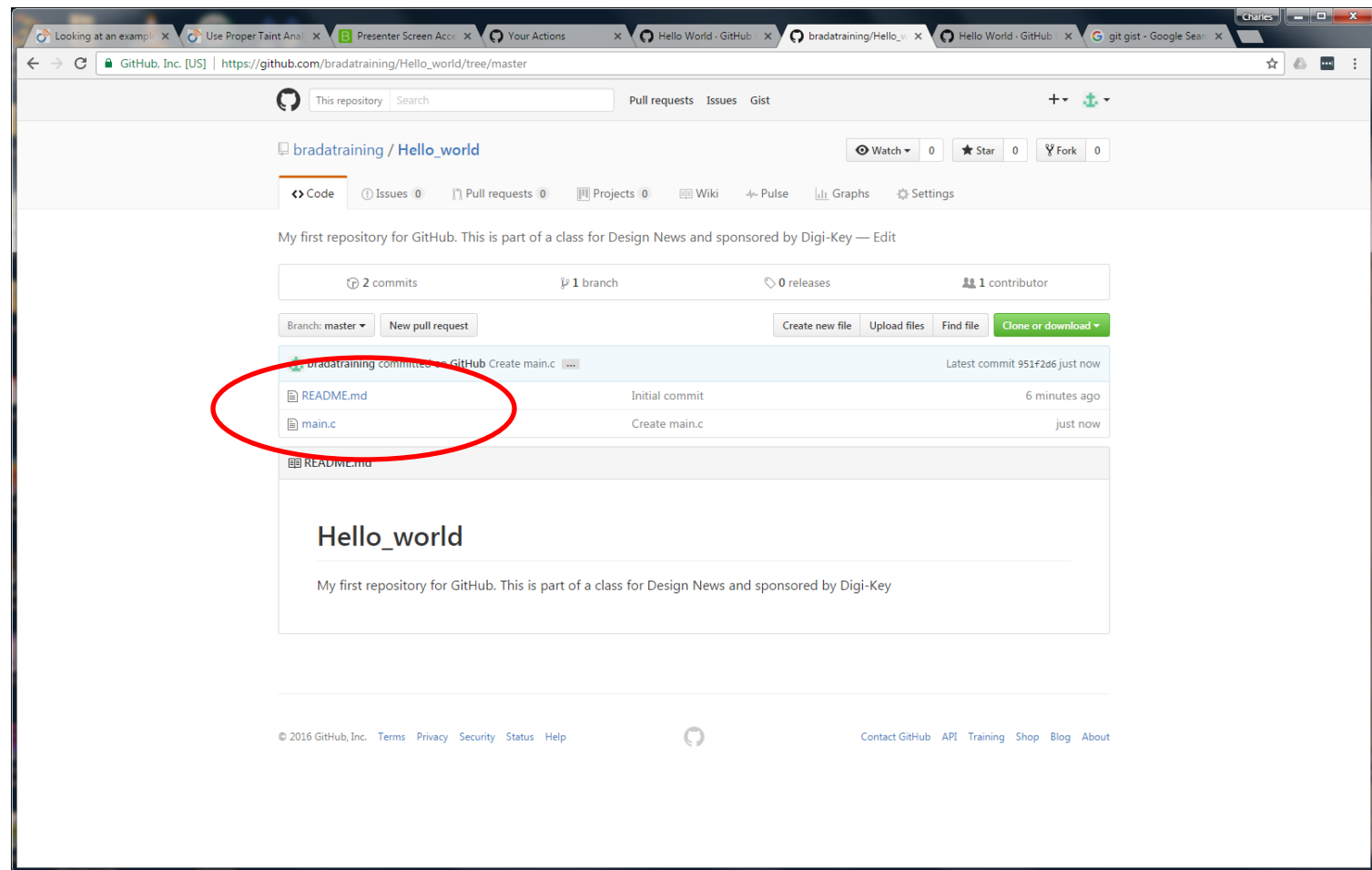
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Scroll down, let's commit to Master



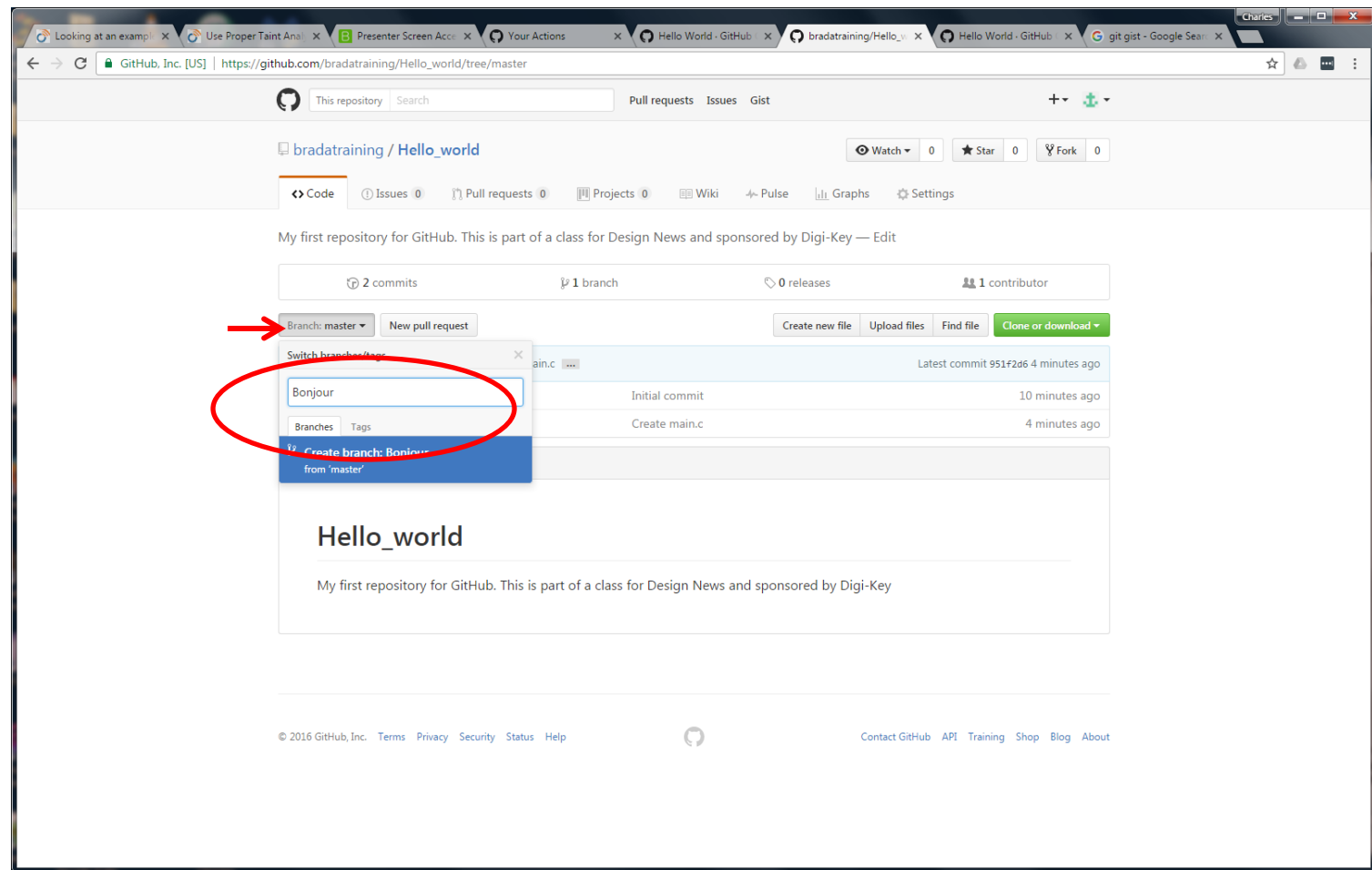
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We now have a tiny bit of code



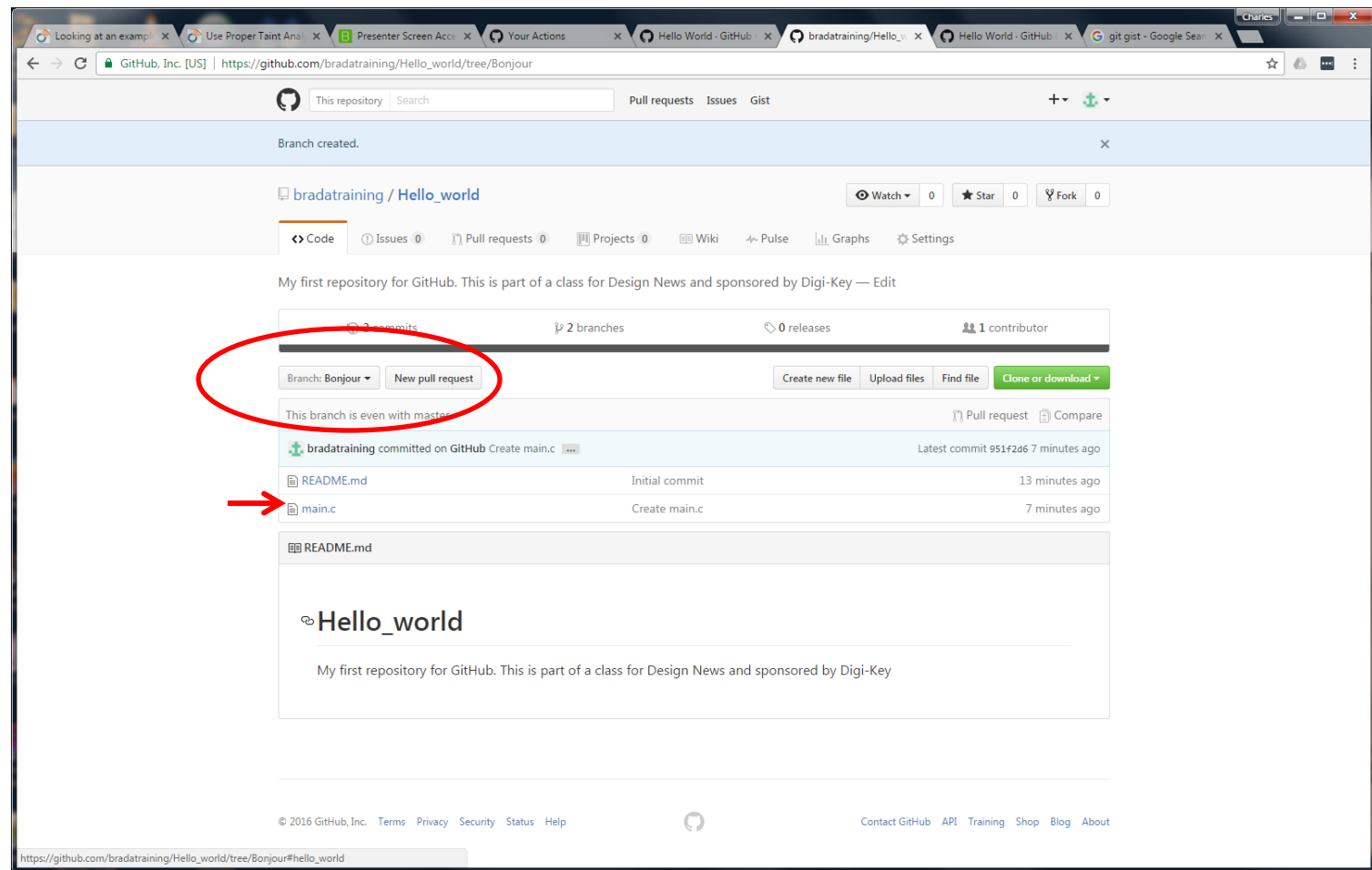
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Click to create a new branch



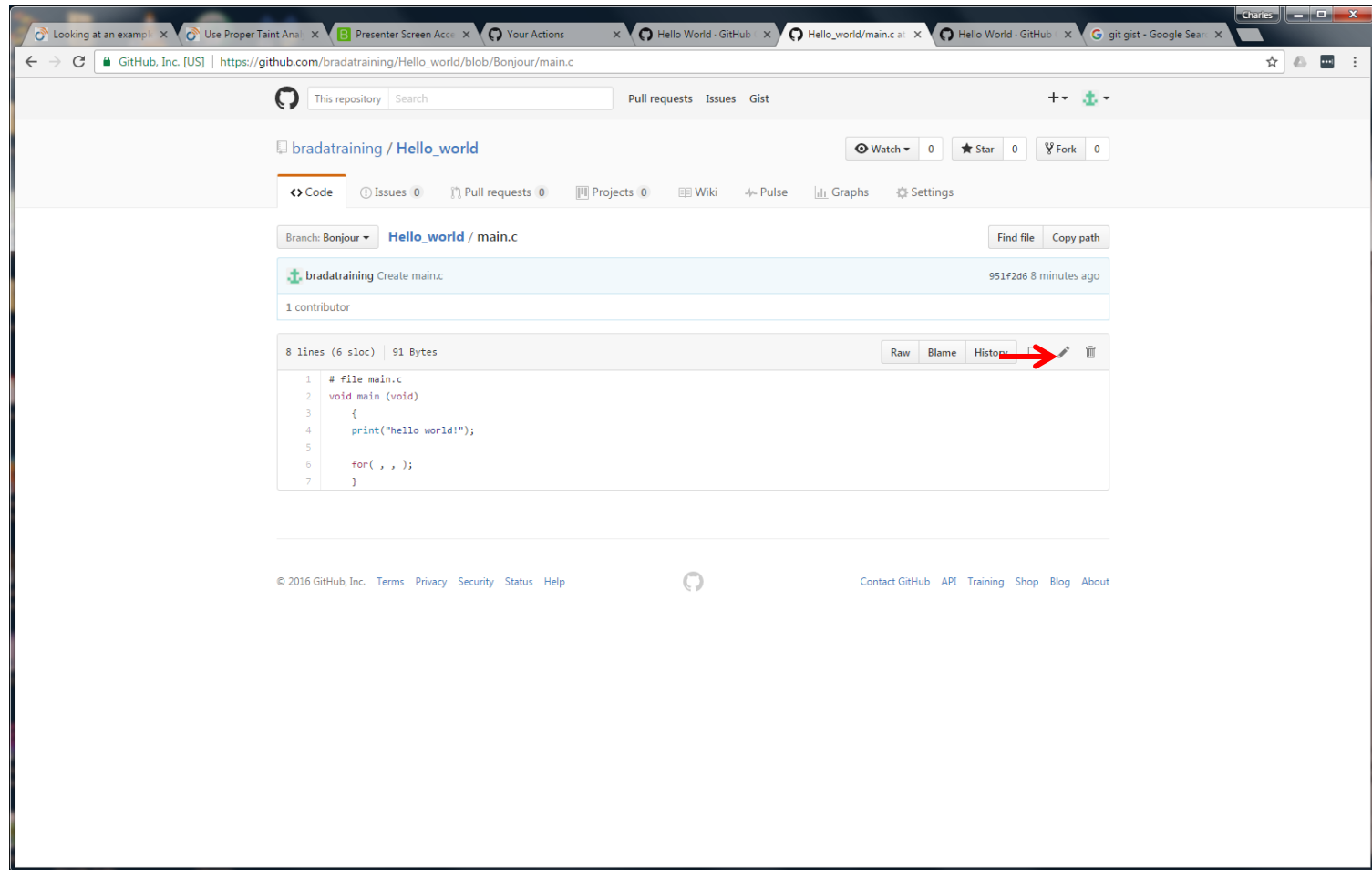
Presented by:

Click on main.c



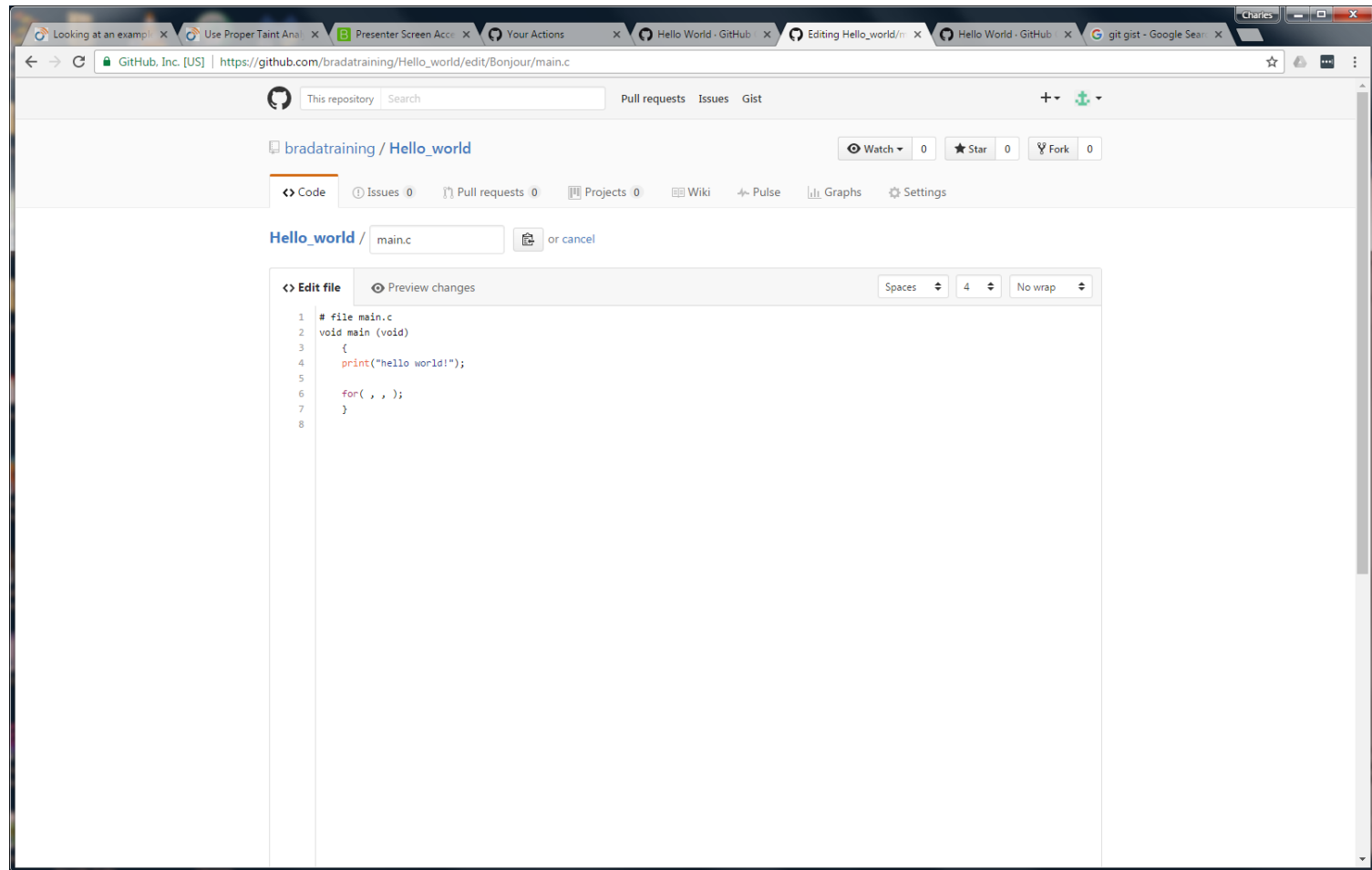
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Click on the pencil



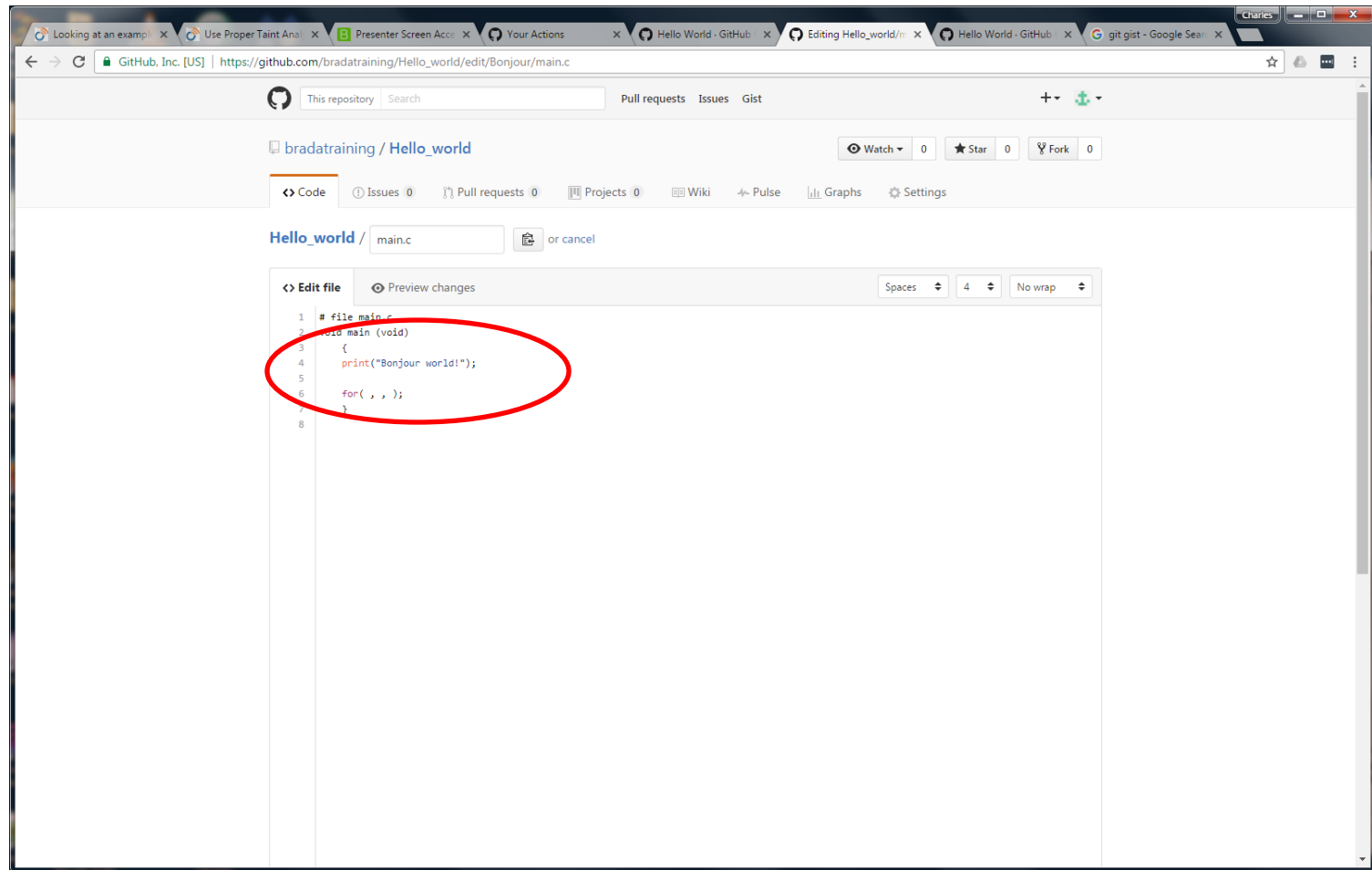
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Now We Can Edit



Presented by:

Modify “Hello” to “Bonjour”



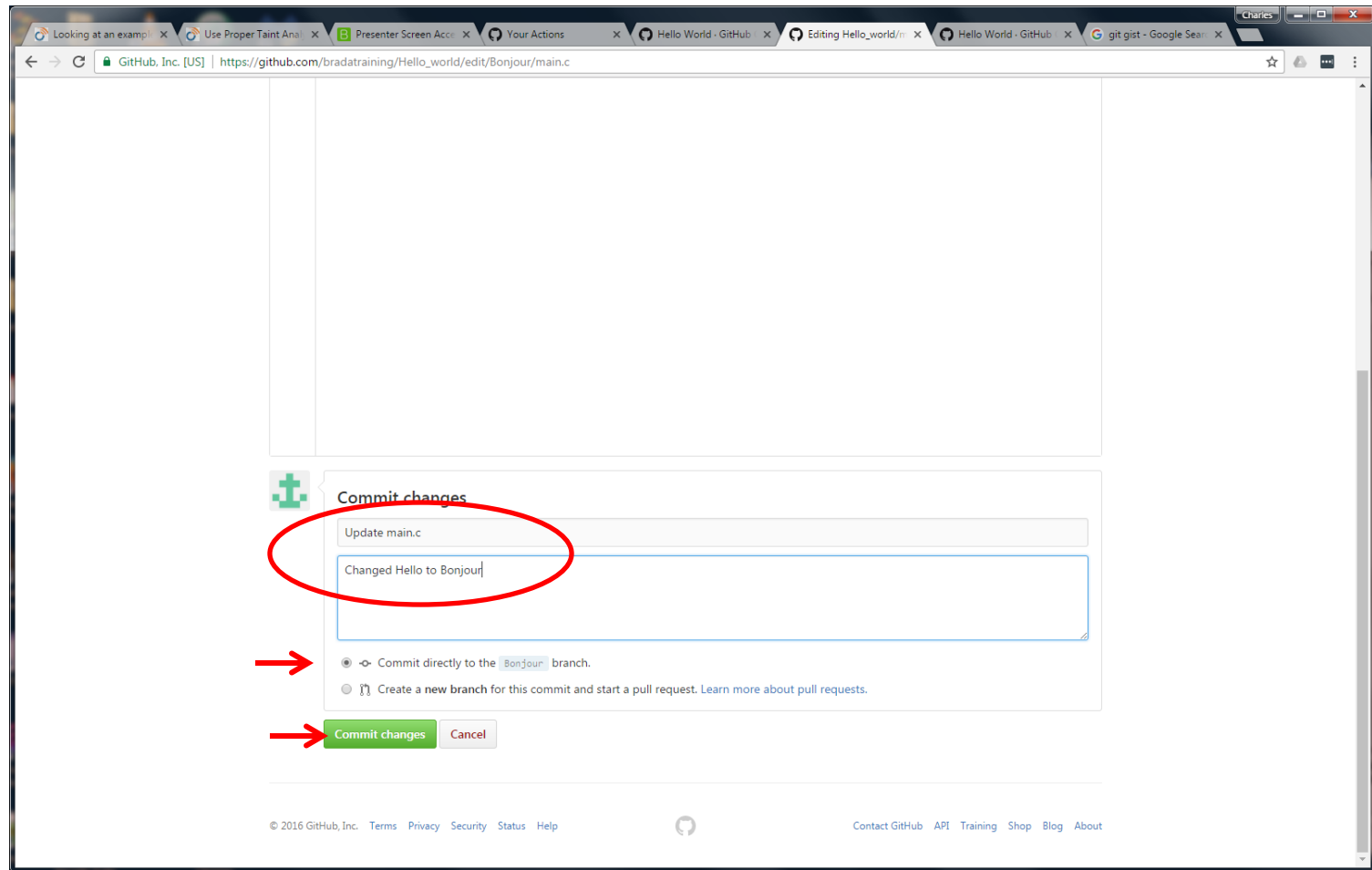
The screenshot shows a web browser window displaying a GitHub repository named 'Hello_world' by user 'bradattraining'. The file 'main.c' is open in the editor. The code is as follows:

```
1 # file main.c
2 void main (void)
3 {
4     print("Bonjour world!");
5 }
6 for( , , );
7 }
8 }
```

A red oval highlights the line `print("Bonjour world!");`, indicating the modification from 'Hello' to 'Bonjour'. The browser's address bar shows the URL `https://github.com/bradattraining/Hello_world/edit/Bonjour/main.c`. The repository page includes navigation links for Code, Issues, Pull requests, Projects, Wiki, Pulse, Graphs, and Settings. The repository statistics show 0 Watch, 0 Star, and 0 Fork.

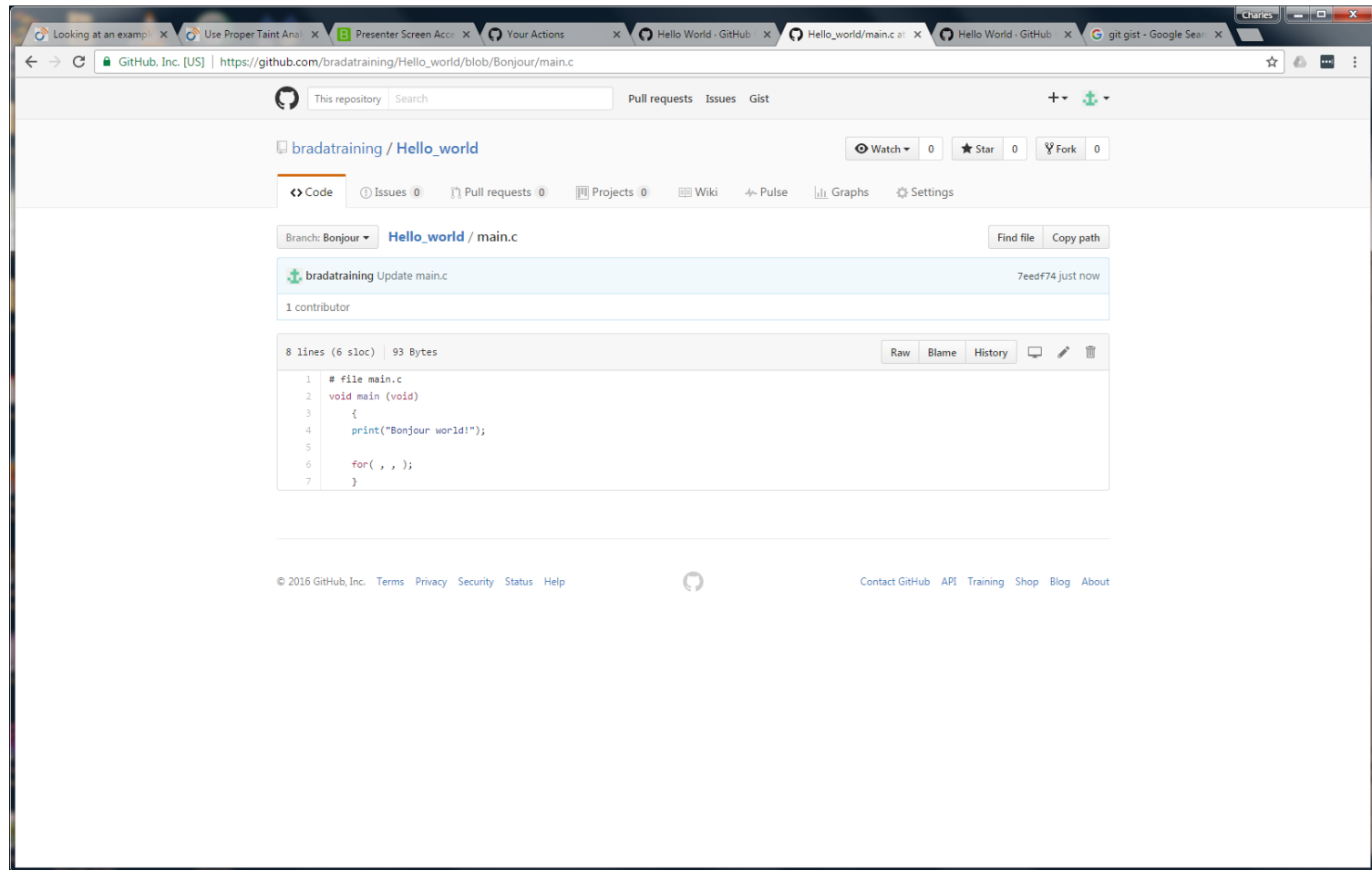
Presented by:

Scroll down and commit



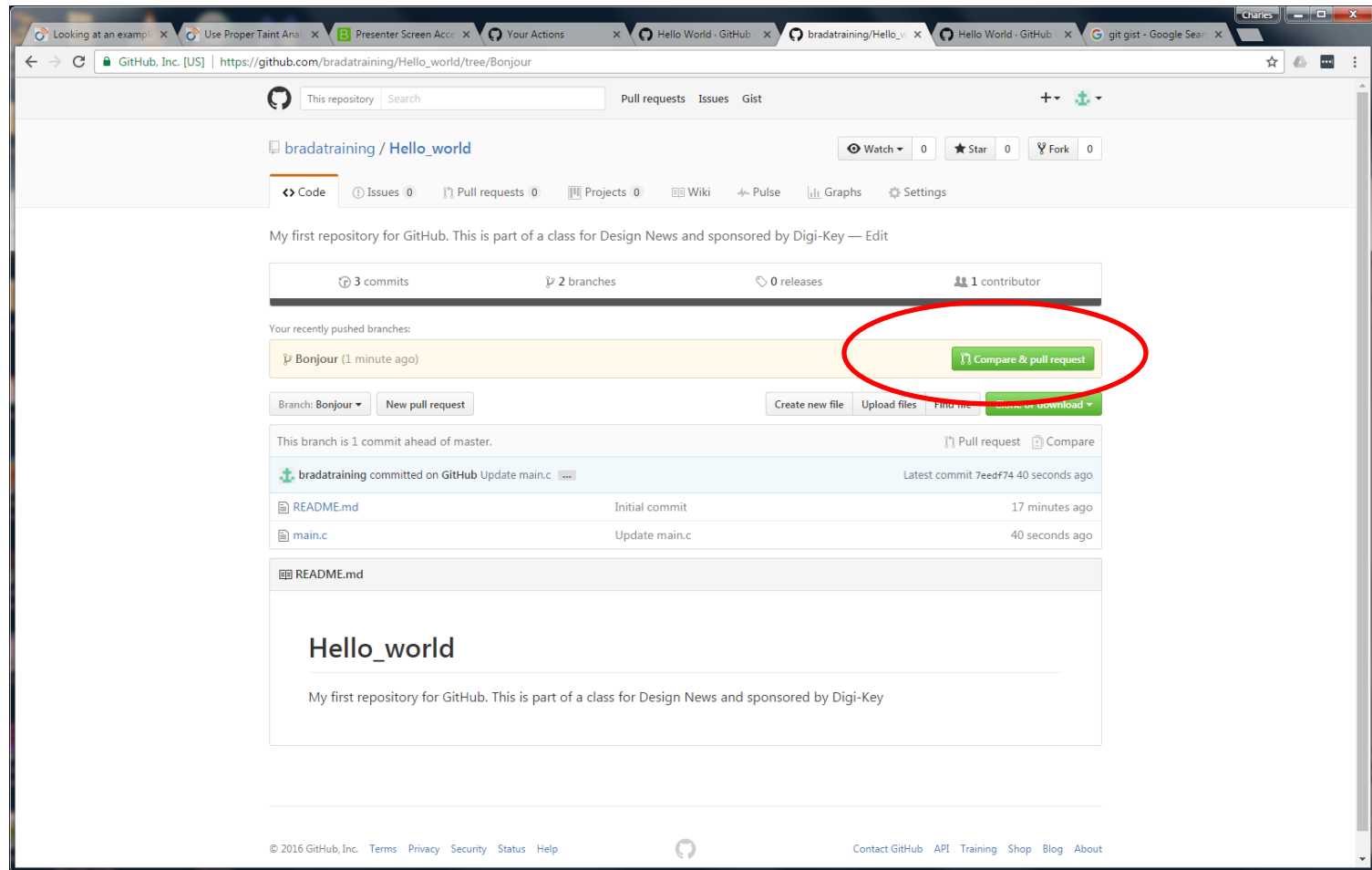
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Our Branch is Complete



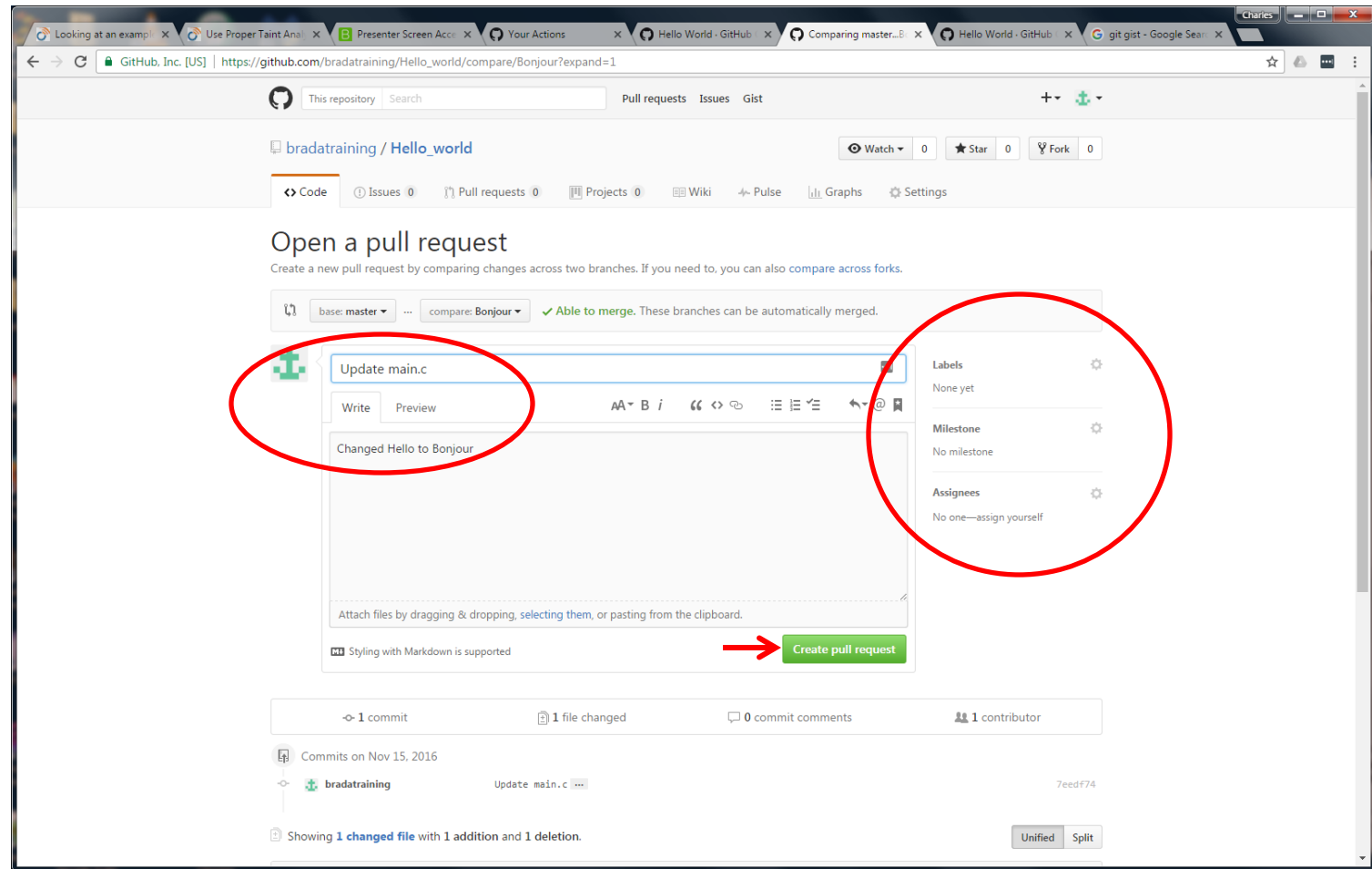
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Click on Pull Request



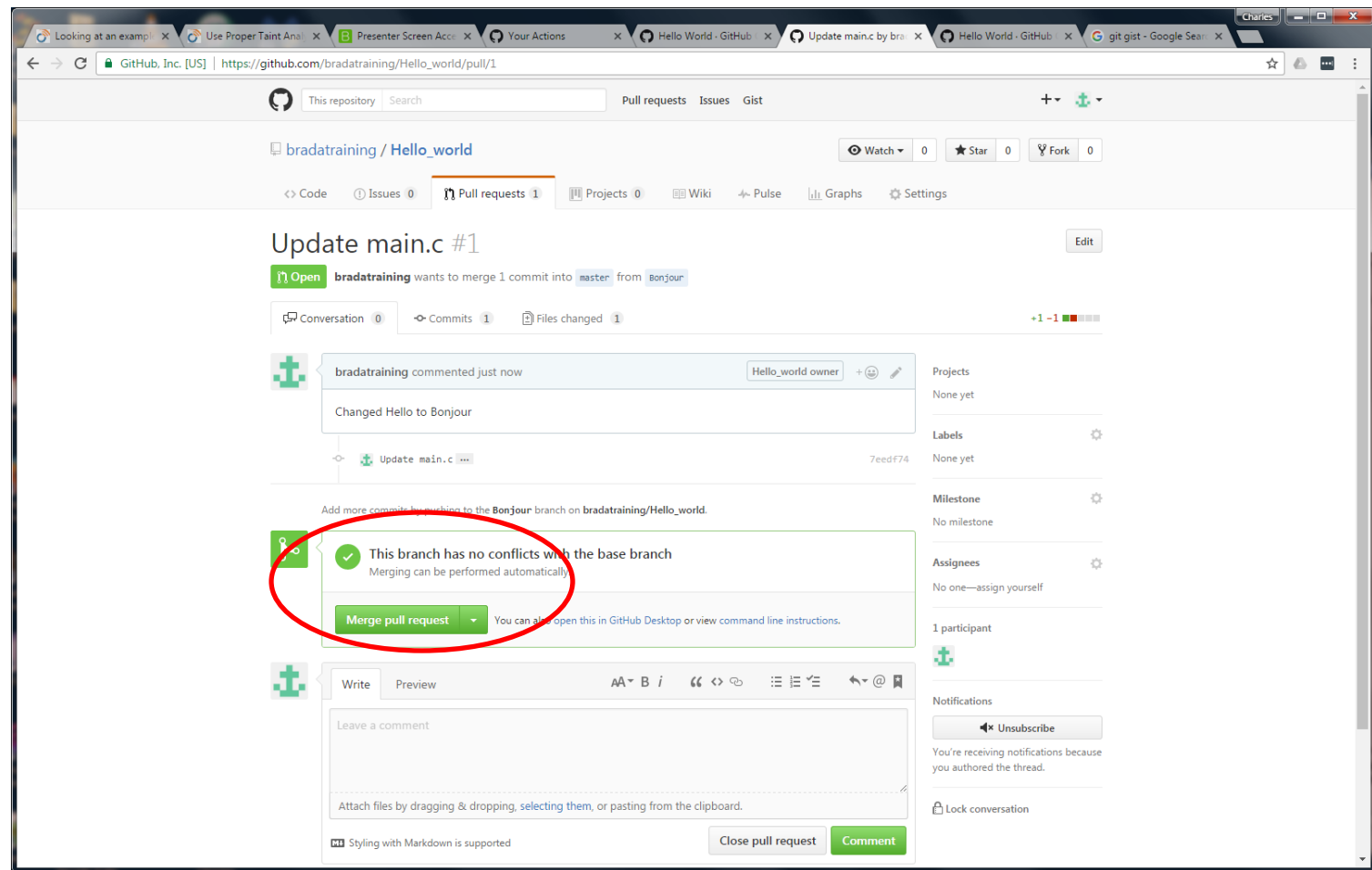
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We can comment and even assign



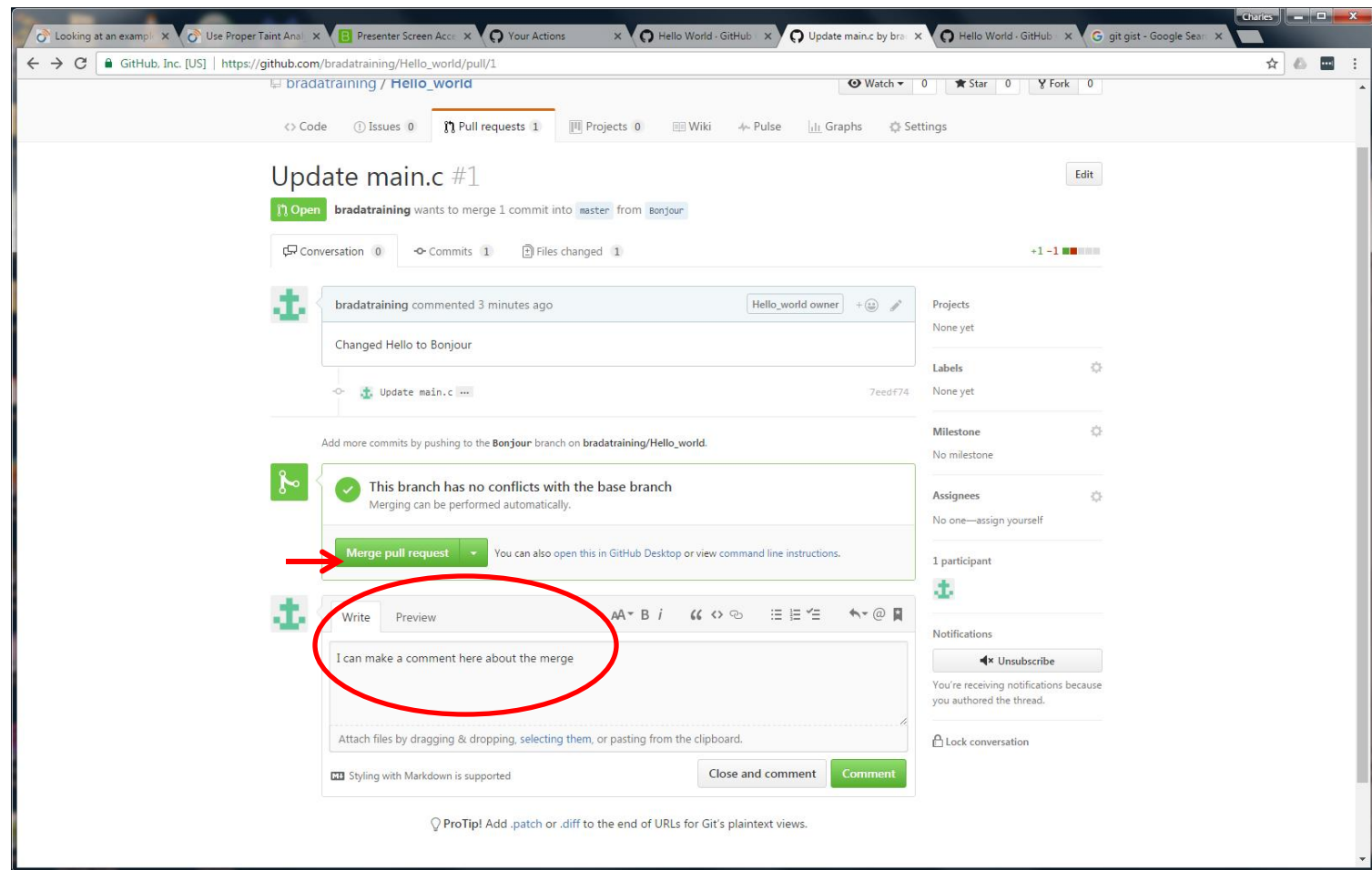
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Now we receive our own pull request – and can accept



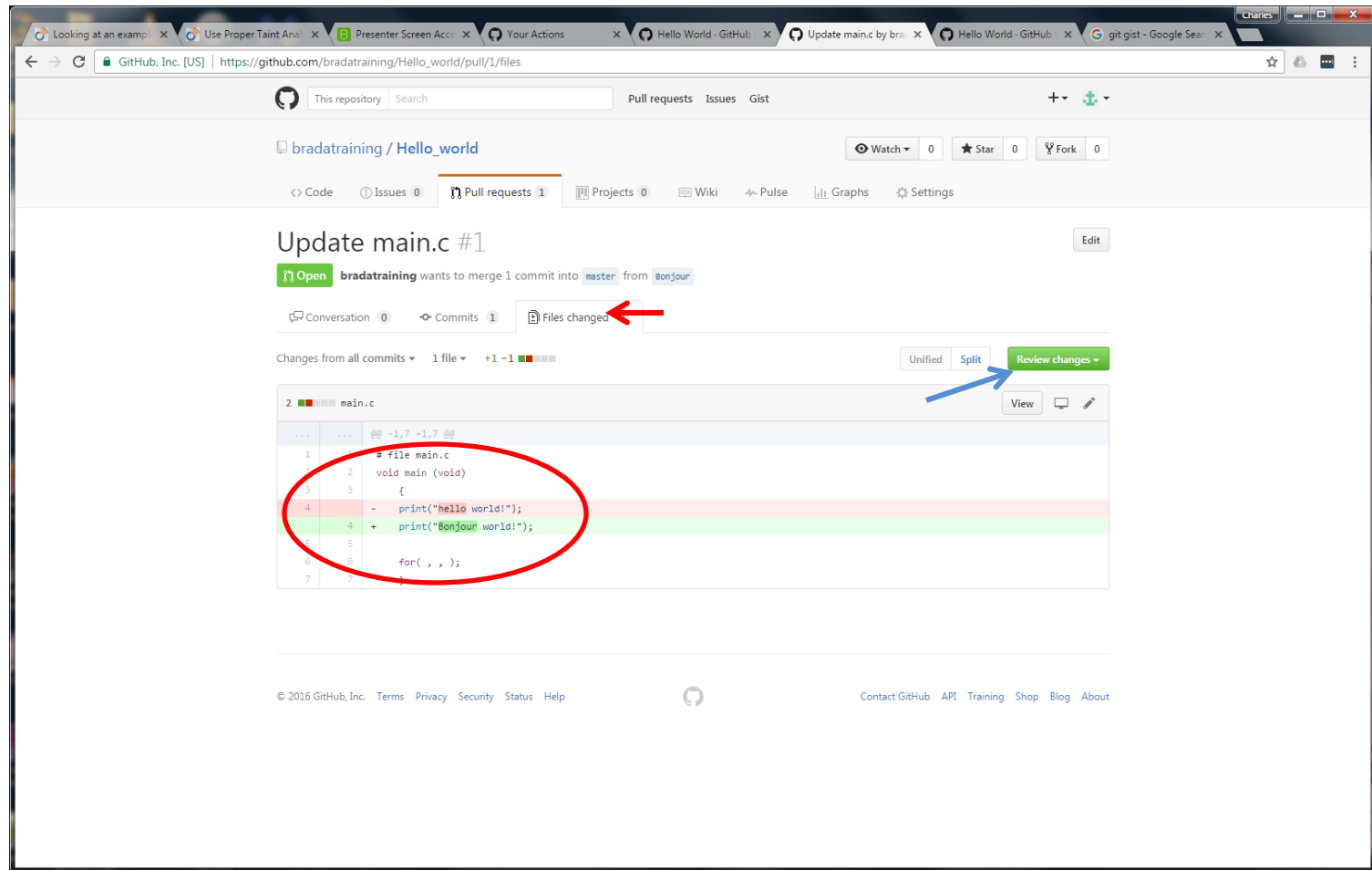
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Agree to Merge



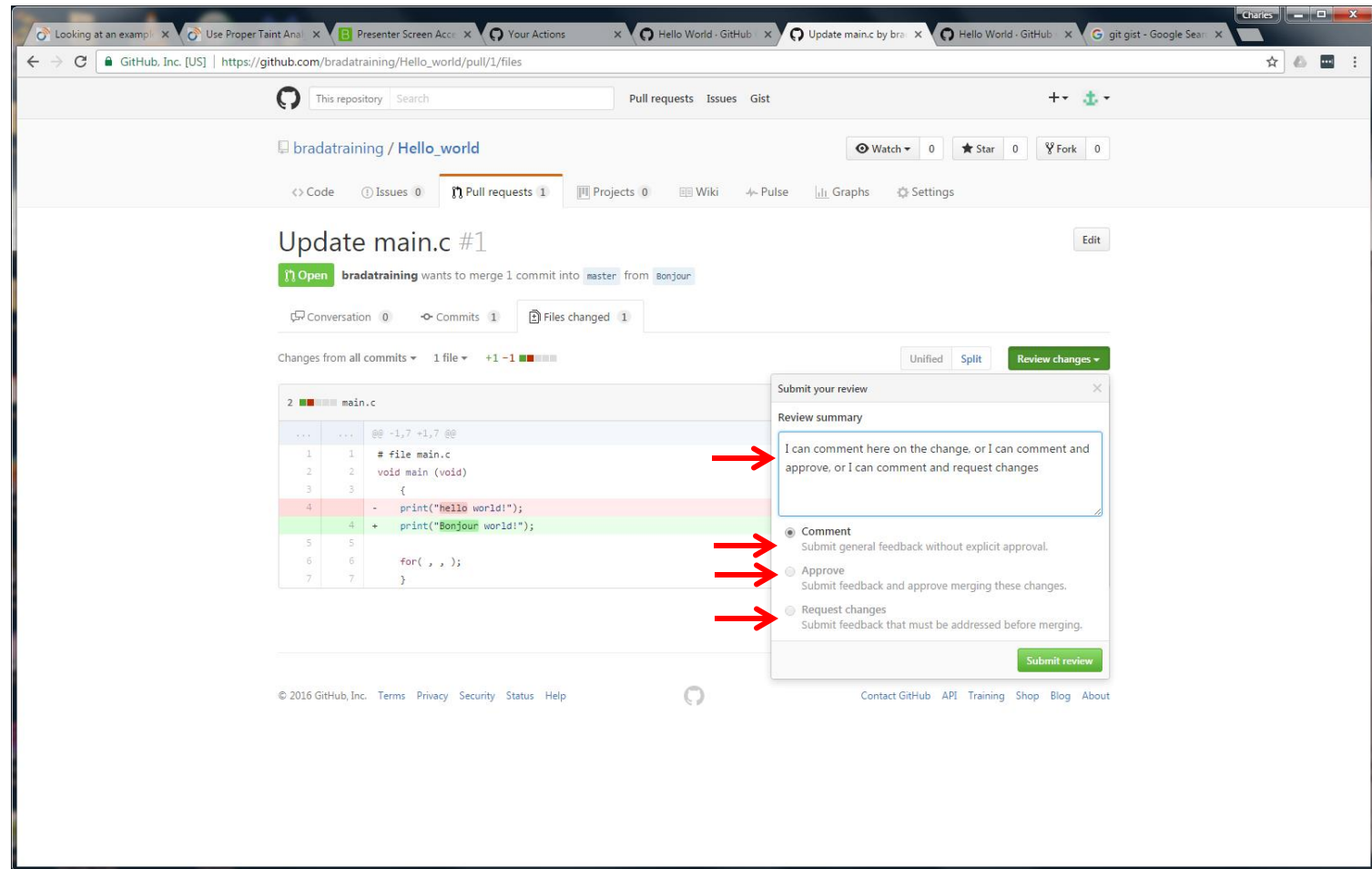
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Click on Files Changed



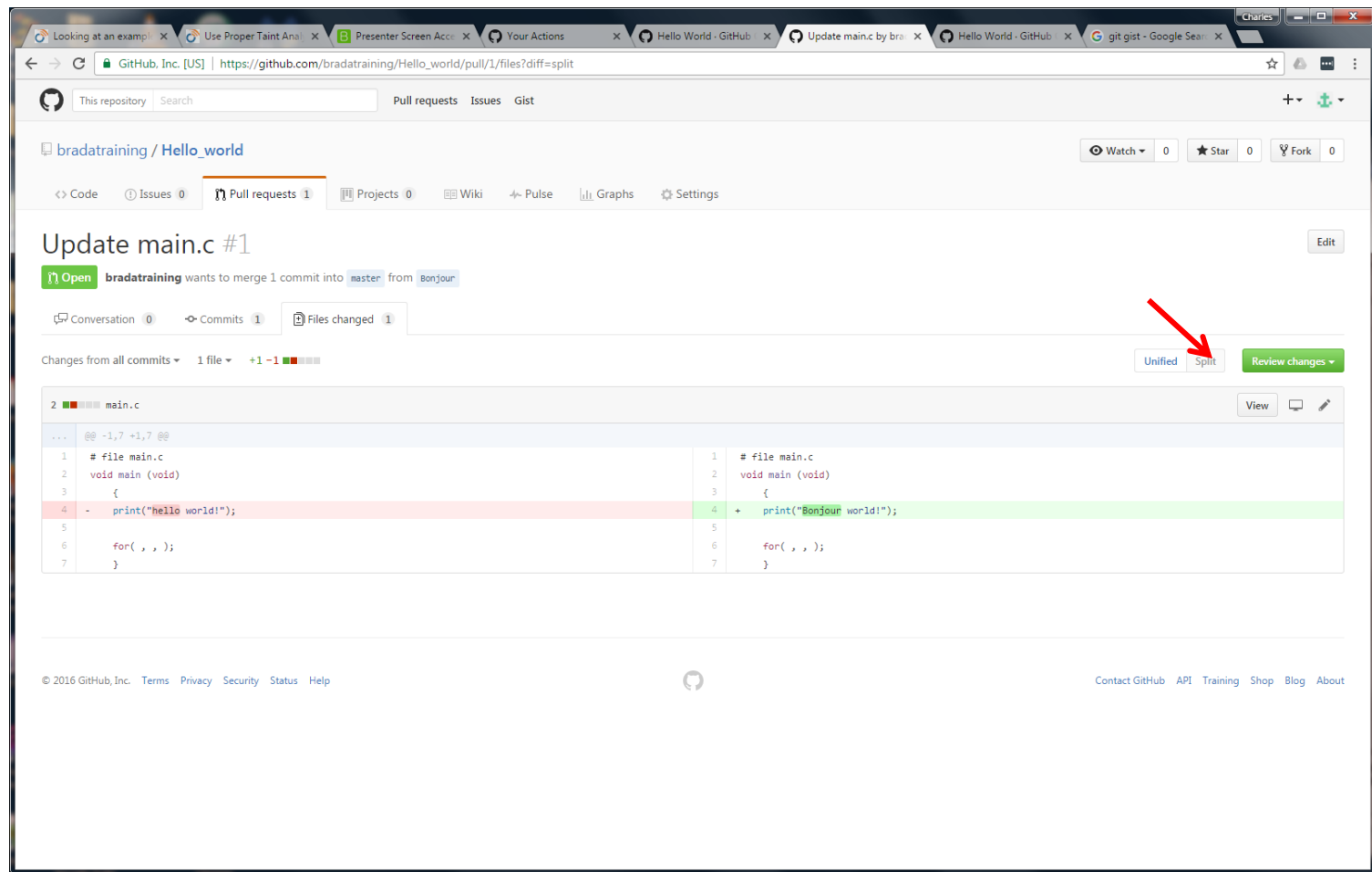
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Here we can comment, approve, or send back



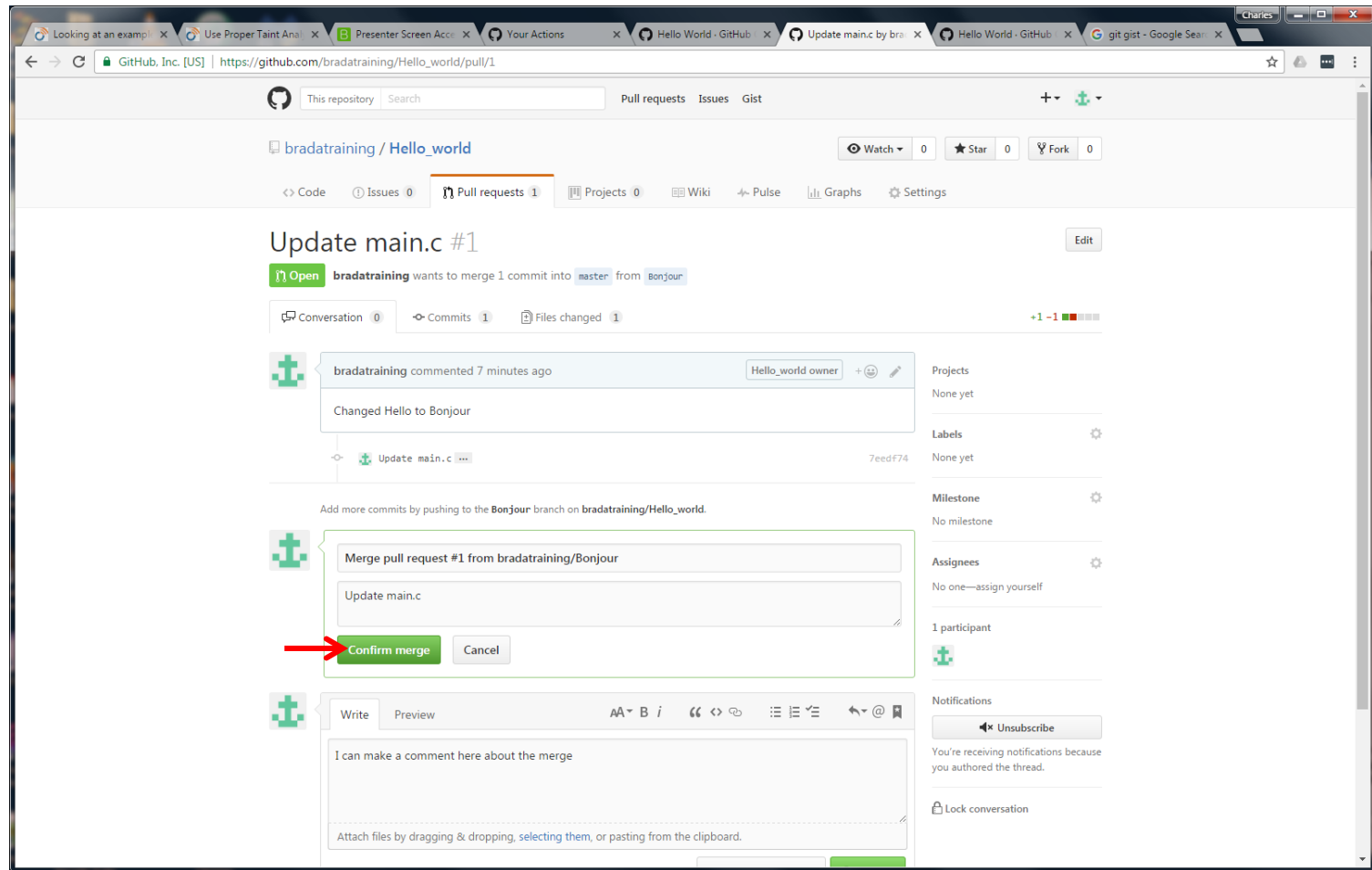
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There is also a split view



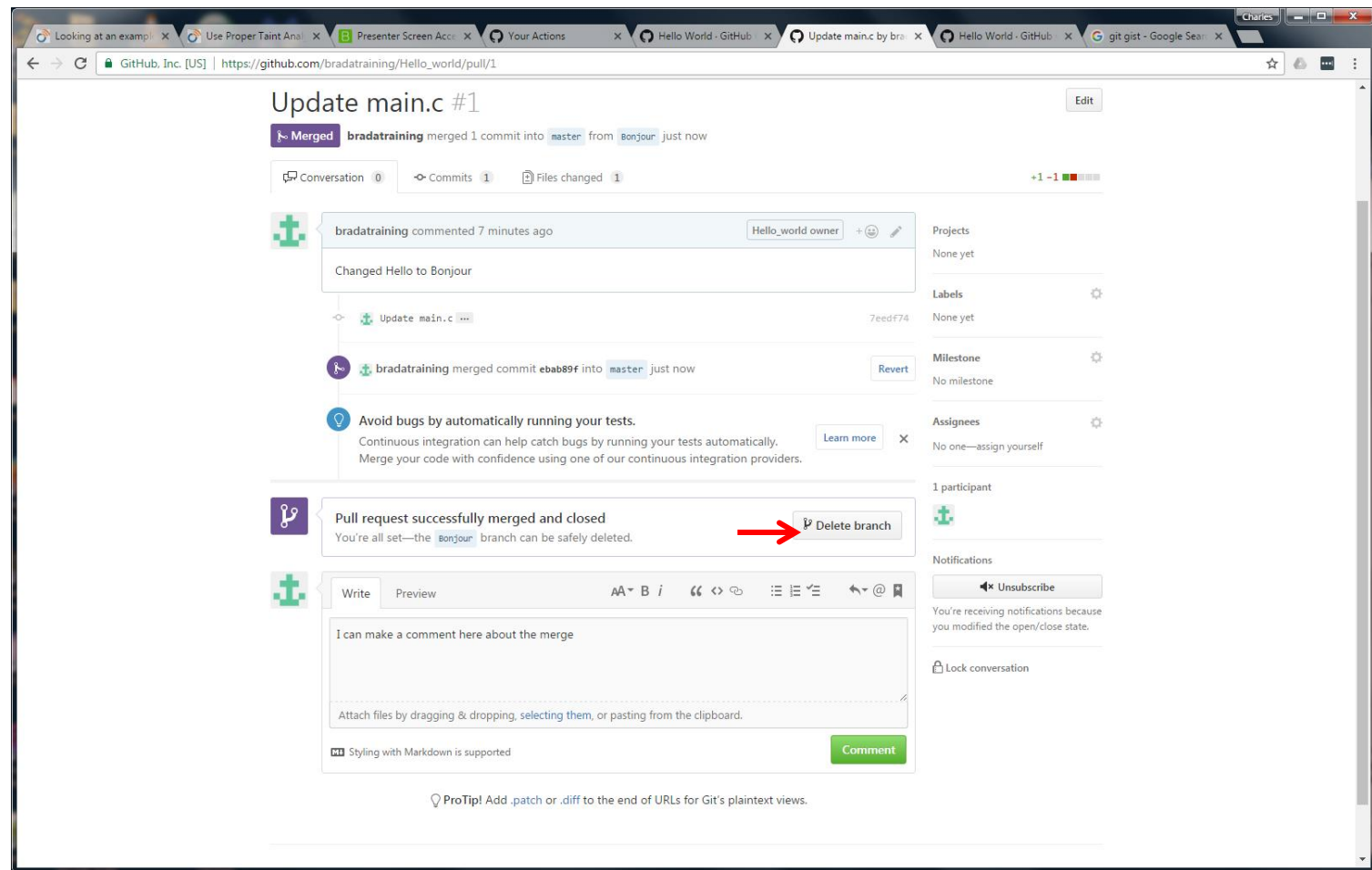
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Confirm and close



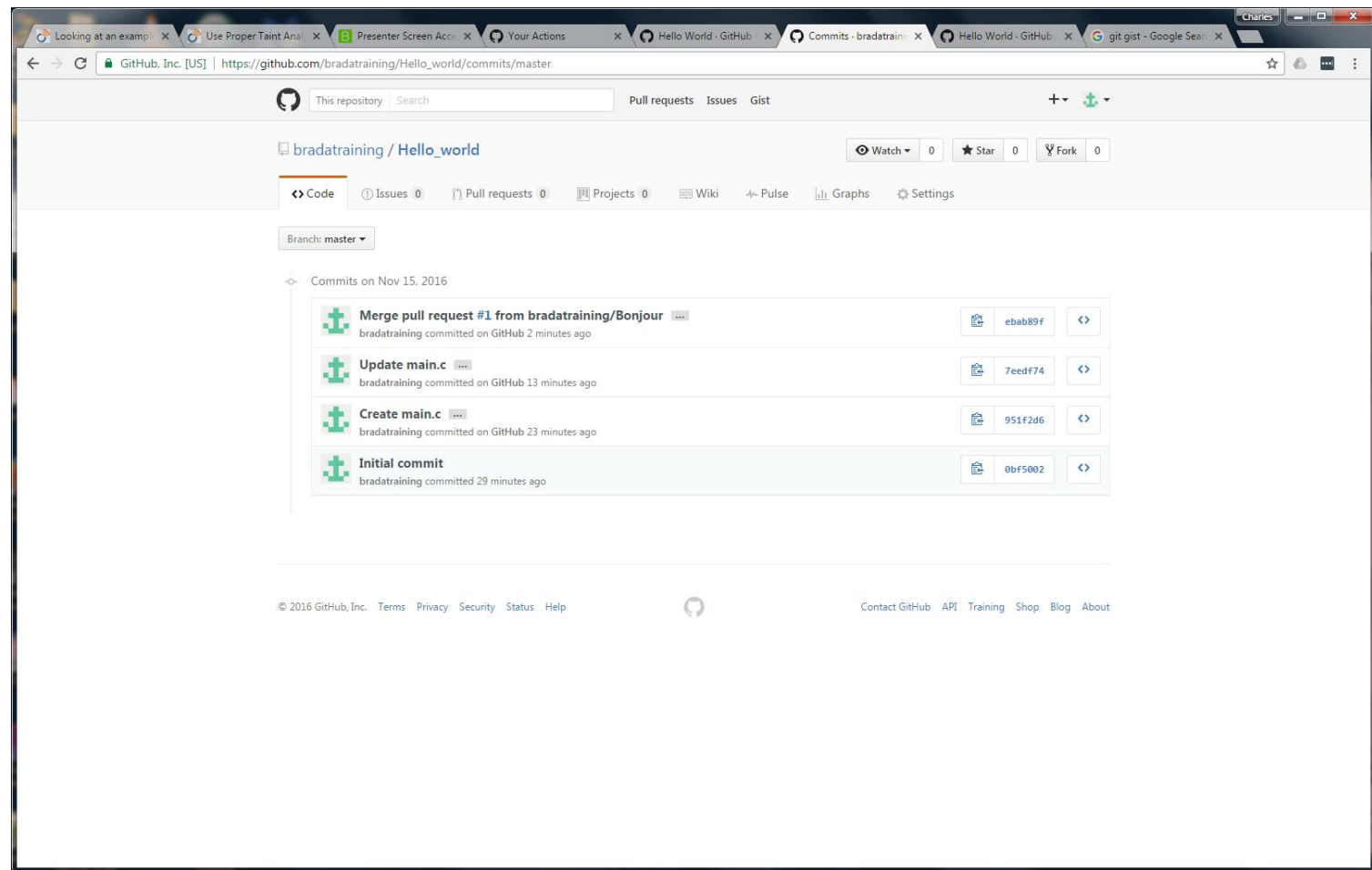
Presented by:

Now we can delete the branch



Presented by:

Our log of changes



Presented by:

That's the basics

- We have now created and modified a repository, created a branch, committed it back, and created a pull request. We approved the pull request and have gone through the manual update of code.
- Tomorrow we look at what else we can do with GitHub – which is a LOT.

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Please stick around as I answer your questions!

- Please give me a moment to scroll back through the chat window to find your questions
- I will stay on chat as long as it takes to answer!
- I am available to answer simple questions or to consult (or offer in-house training for your company)

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