Module 3: Cloud

INITIAL NOTE

The digital environment is a very dynamic and agile environment where updates and changes occur on a constant basis. In this program, we will use web resources and external software to carry out the practical activities and provide a real vision of the tools available in the market.

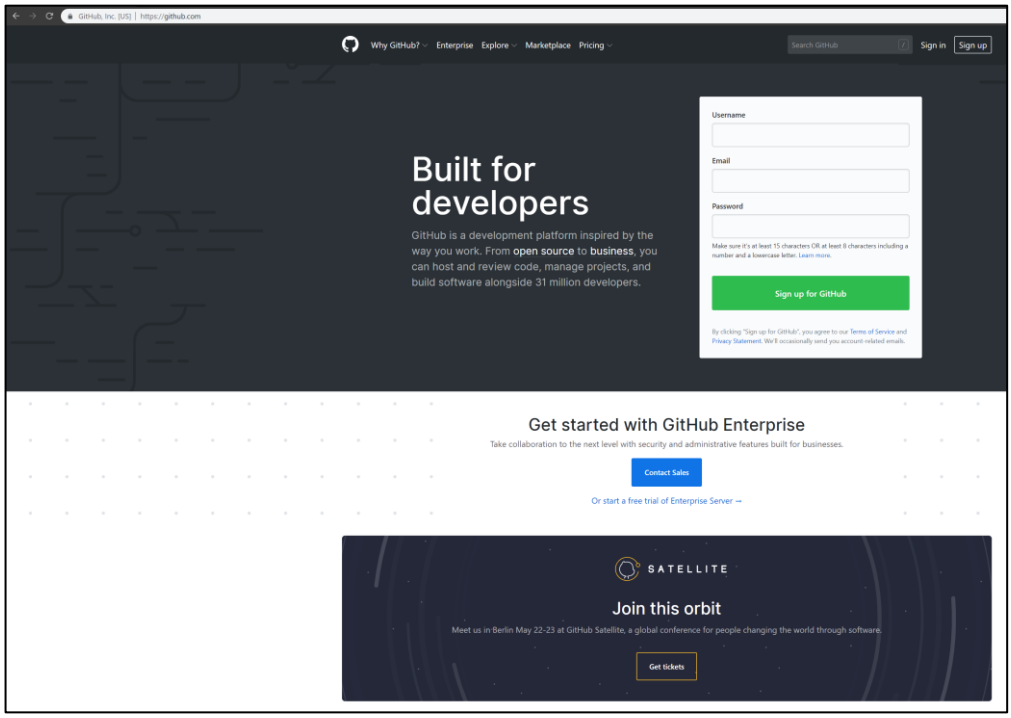
This means that, although we make every effort to keep the guides updated, sometimes some of the environments we will be showing you in the activities may suffer some small differences from the images reflected in these guides. Normally it is possible to follow the development of the activity by easily interpreting the differences between the guide and the real environment, if any. In case this is not possible, please let your facilitator know by sending a message through the program´s platform inbox.

Activity: Introduction to GitHub

Main steps:

1. *Accessing the GitHub Web Site*

In your browser, go to https://github.com.
GitHub is a very popular tool in modern *software* development. However, GitHub can be used for many purposes and not only for pure code development. In essence, GitHub is a document management and storage system that allows you to use and store documents and their different versions in one place. This way, you can back up your documents, share them and work collaboratively. In addition, previous versions of the documents can be retrieved if necessary.



We will need to login, if we already have an account, or register for a free account.

2. *Open an account*

On the home page, click on the "Sign Up" link at the top right. You will then need to create a username (which you can change later) and register using the form shown in Figure 1. We will be using all the free features of GitHub, so you can register with a free account for this activity.

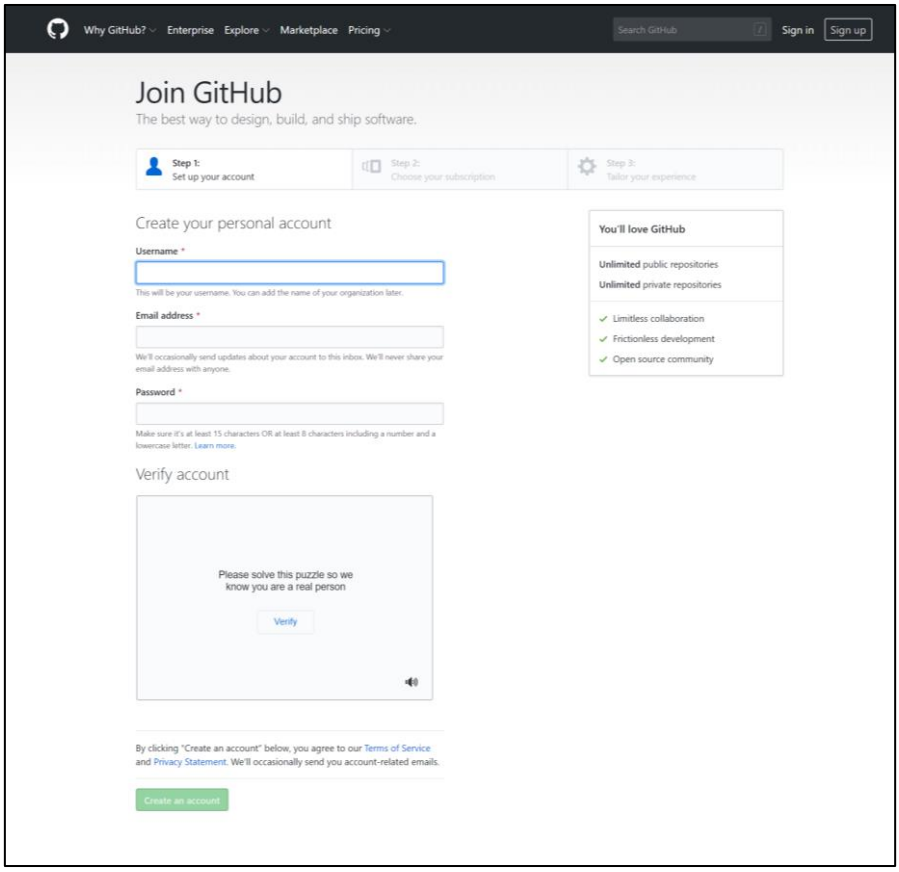


Figure 1

Once the registration has been completed, and if you have registered for the first time, you will see a screen similar to the one shown in Figure 2.

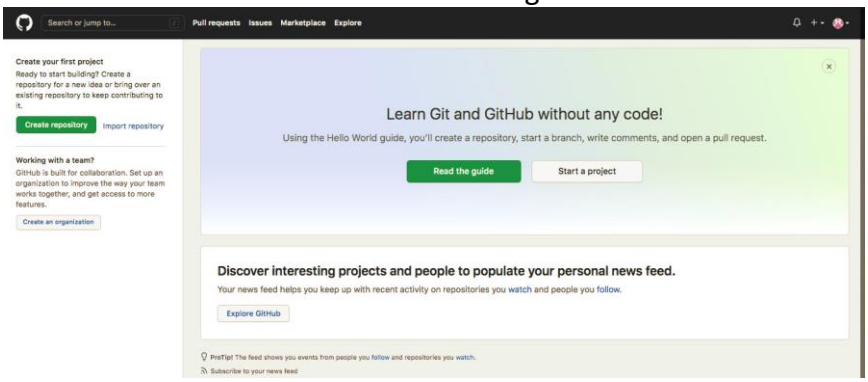


Figure 2

If you were already registered on GitHub and have a profile created, the screen you will see will be similar to the one shown in Figure 3 when you have the "Repositories" section selected (although you may have more or less repositories).

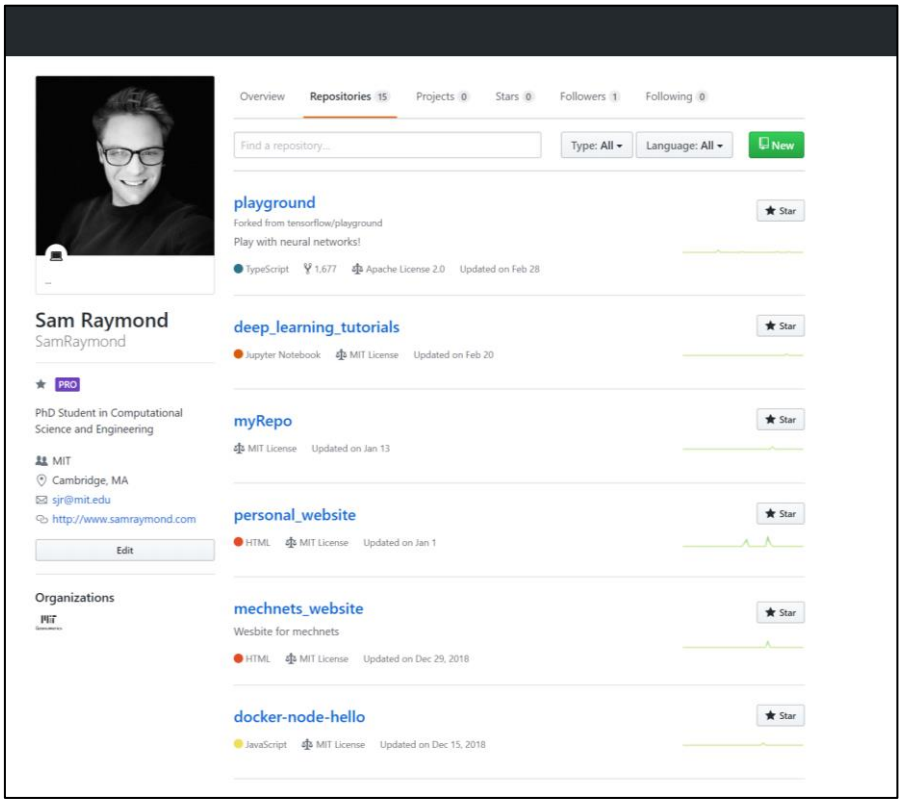


Figure 3

In any case, you can customize your GitHub profile by clicking on the icon in the upper right corner and then selecting the "Your profile" option as shown in Figure 4.

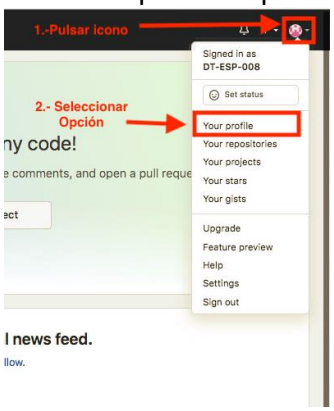


Figure 4

It may be interesting to update your profile on GitHub as many people use GitHub frequently to search for profiles based on the programming skills and experience that is shown in the profiles.

3. *Create the first repository*

Since, for most of you, this will be the first time that you log in to GitHub, you won't have any repositories, so we're going to create the first one. A repository is just a specific folder that contains all the data and code for a particular project.
If you have registered on GitHub, on the home screen select the option "Create repository" in the left column as shown in Figure 5

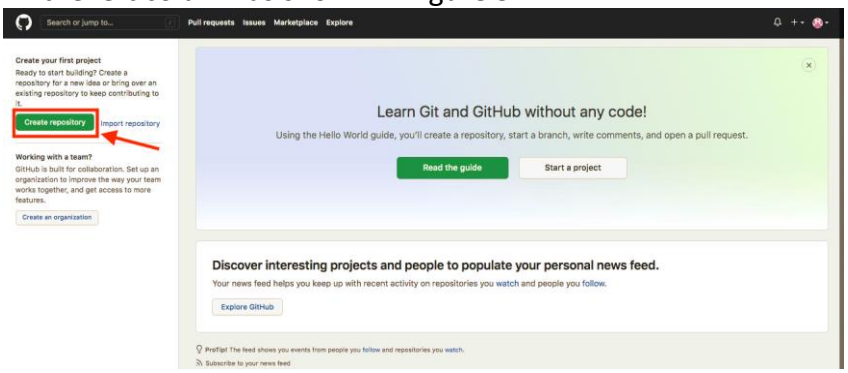


Figure 5

If you are in the edit section of your profile shown in Figure 3, you will see a green button with the word "New" at the top right. Click there and to create your first repository.
In any of the options you have followed to create the repository, you will see a screen like the one shown in Figure 6.

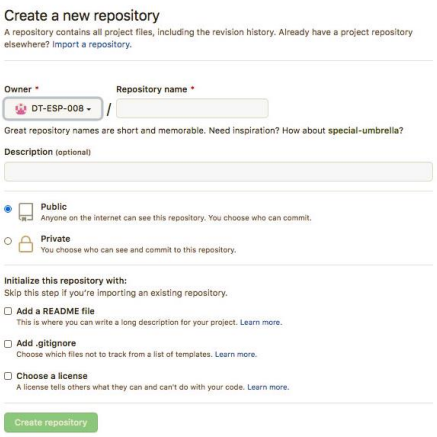


Figure 6

First, we have to give a name to the "repo" (repository). You can call it whatever you want. A good practice would be to give it a description (but this is optional).
Finally, we'll keep it public, which means that anyone in GitHub could find the code if they knew how to find us. Also, we're not going to use the "gitignore" or "readme" files or use the license option. These are metadata files that can help us maintain our code. For more information, see the documentation and discussion boards in GitHub.
Once everything is completed, click on the "create repository" button at the bottom left of Figure 7.

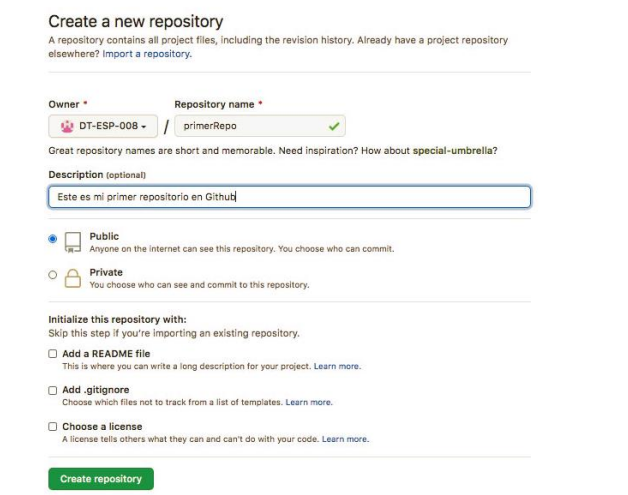

Create a new repository
A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.
Owner *
Repository name *
DT-ESP-008
primerRepo
Great repository names are short and memorable. Need inspiration? How about special-umbrella?
Description (optional)
Este es mi primer repositorio en Github
Public
Anyone on the internet can see this repository. You choose who can commit.
Private
You choose who can see and commit to this repository.
Initialize this repository with:
Skip this step if you're importing an existing repository.
Add a README file
This is where you can write a long description for your project. Learn more.
Add .gitignore
Choose which files not to track from a list of templates. Learn more.
Choose a license
A license tells others what they can and can't do with your code. Learn more.
Create repository

Figure 7

4. *Adding a new file to the repository*

Now that we have a new empty repository, we can start adding files to it. There are several ways to add files to a repository in GitHub, most of the time this is done from the command line from a computer desktop. However, we'll choose the simplest way to add a file, from the repository's own website. To add files in other ways with GitHub, you can explore the documentation and *online* help.

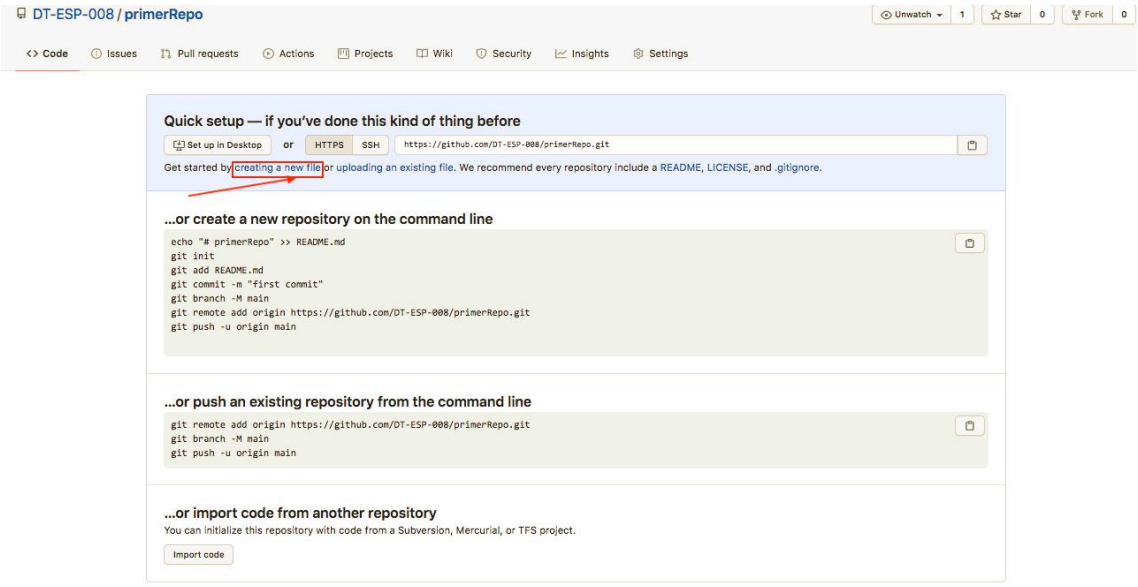


Figure 8

In the screen shown in Figure 8 you can see several options on how to start with this repository. Click on the "create new file" link shown in Figure 8. This will take you to the GitHub web editor shown in Figure 9, where you can add your own files containing text.

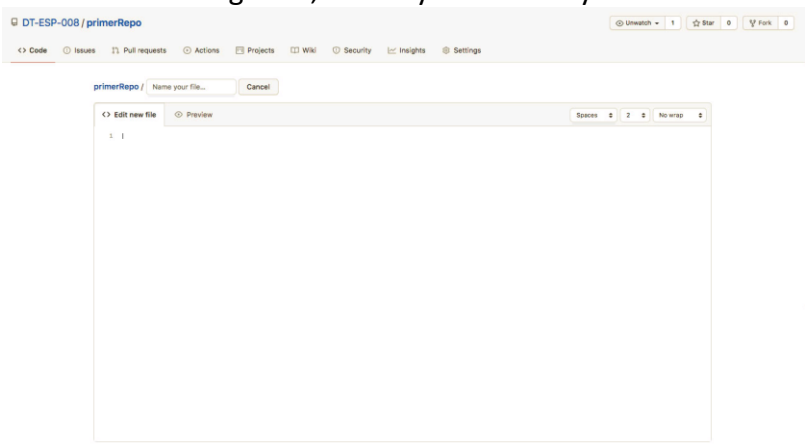


Figure 9

These files can be simple text documents, as well as HTML pages and source code in any programming language. We will make a simple HTML page that we will use in a moment to host a web page.

We will make a new file with the name "index.html". This indicates that it will be an HTML (or web) page and the name "index" - remember to write this name as you see it here, with all the letters in lowercase – it is important, since it is the convention used in the majority of workflows to host a web page. You can call it something different if you don't want to host a website, but any other name will not lead to the creation of a web page. Let's also add some formatted text:

<html>
<h1> This is my first page with GitHub Pages </h1>
* Thanks GitHub! *
</html>

If you have worked with HTML you will recognize what is happening here. If not, all we are doing is creating a simple HTML page (this is done with the pair of <html> </html> tags). Within this page, lets add a header (with the <h1> </h1> tags) and some text as shown in Figure 10.

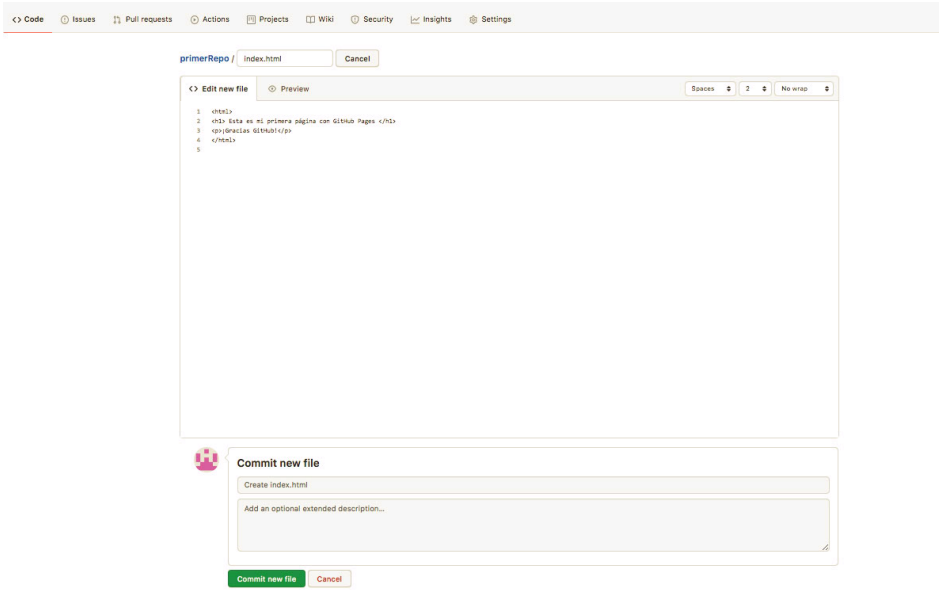


Figure 10

At the bottom of the editor, we need to add a comment to the “commit” (to add the file to the repository, you need to have a comment for each time you make a *commit* to a repository). Once you add a comment, you can click on the "Commit new file" button as shown in Figure 11.

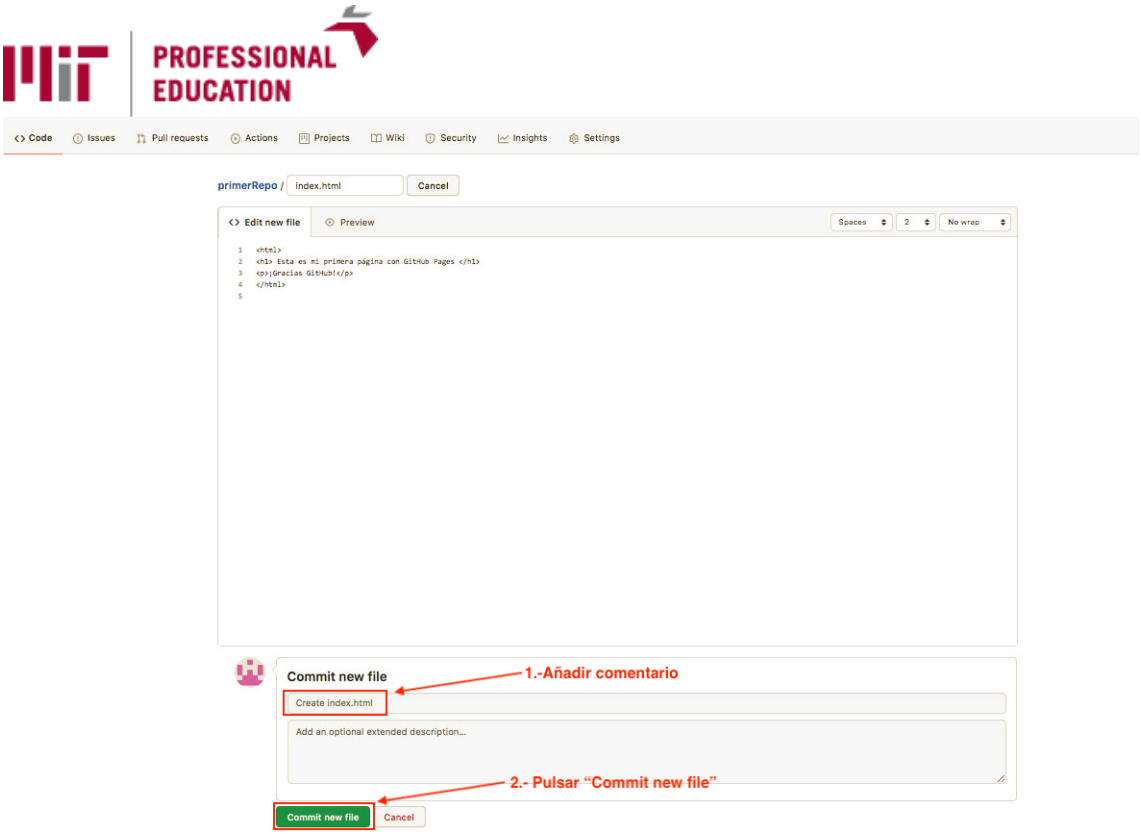


Figure 11

Then we can see the new file that was made and some of its statistics such as when it was created and who the creator is. If you look at other repositories in GitHub, you can see more details of this type.

Once the file has been committed, the screen shown in the figure will be displayed

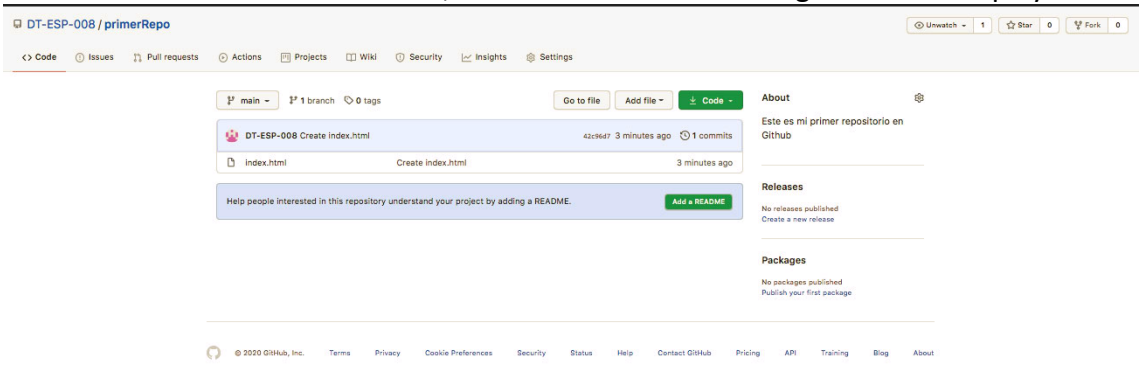


Figure 12

5. *Using GitHub to Host a Website*

As an additional feature and for free, GitHub allows us to host a website from our own repository. We can use the file we created earlier to host a website on the internet. On the home page of your repository, click the "Settings" tab at the top right as shown in Figure 13.

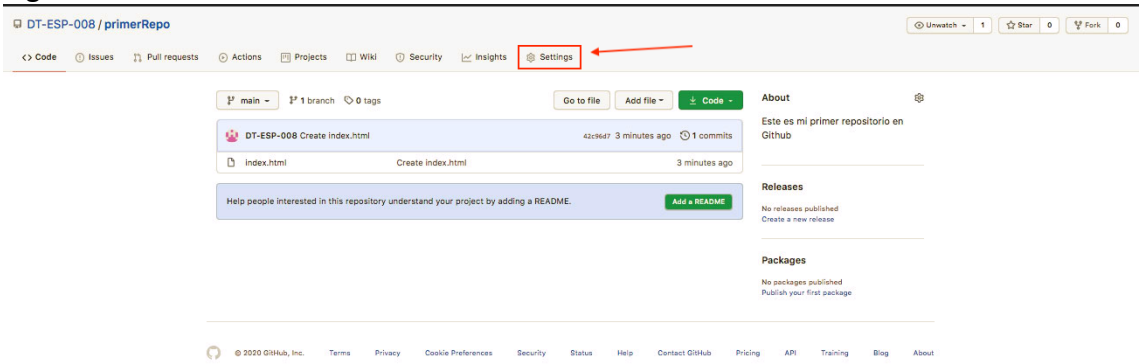


Figure 13

The screen in Figure 14 will then be displayed.

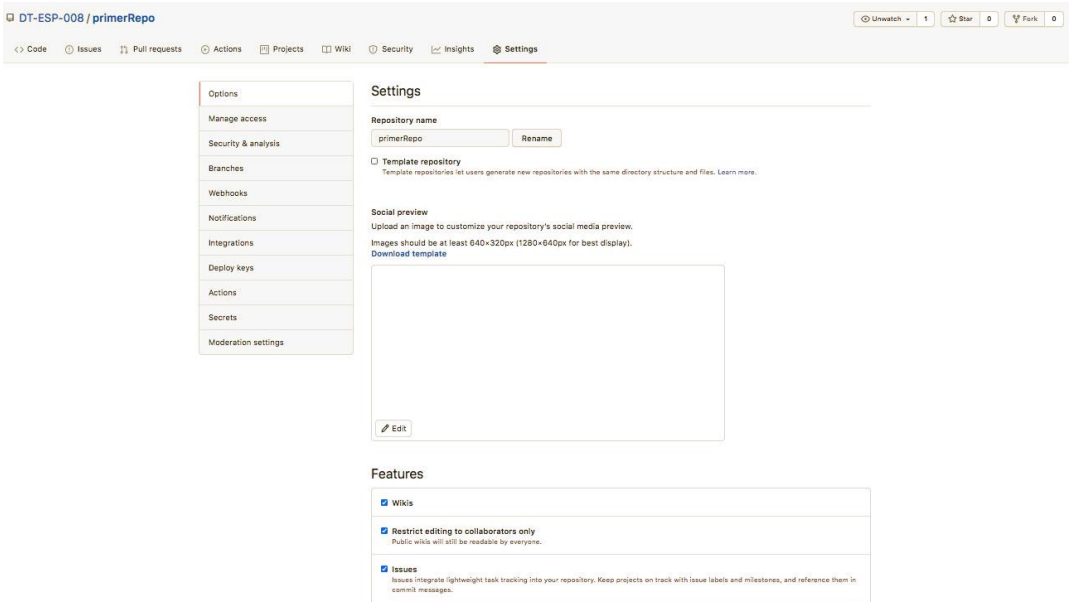


Figure 14

There are a number of options that can be configured from the settings page. Scroll down to the "GitHub Pages" section, in the drop-down menu, and select "main branch" as shown in Figure 15. This will point to the web server that is going to use the files you've included in your repository as a web page.

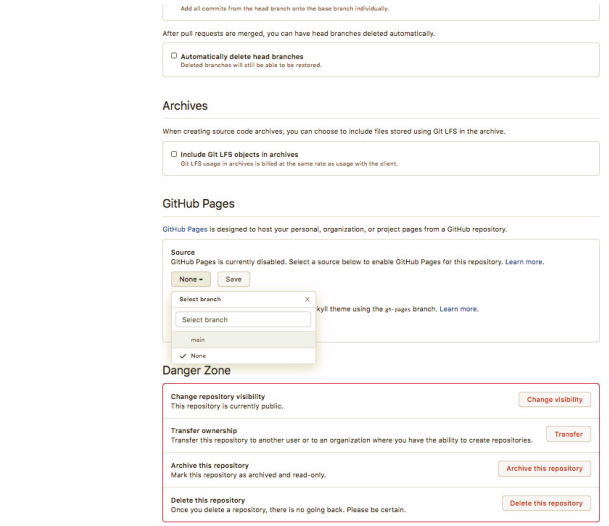


Figure 15

The page will reload, and if you scroll down to the same section, you should see a link to the form's web page, as shown in Figure 16: "https://[YOURUSERNAME].github.io / [NAME OF REPOSITORY]. Clicking on this link will open the file "index.html" that we made before and we will see it represented accurately in the web page.

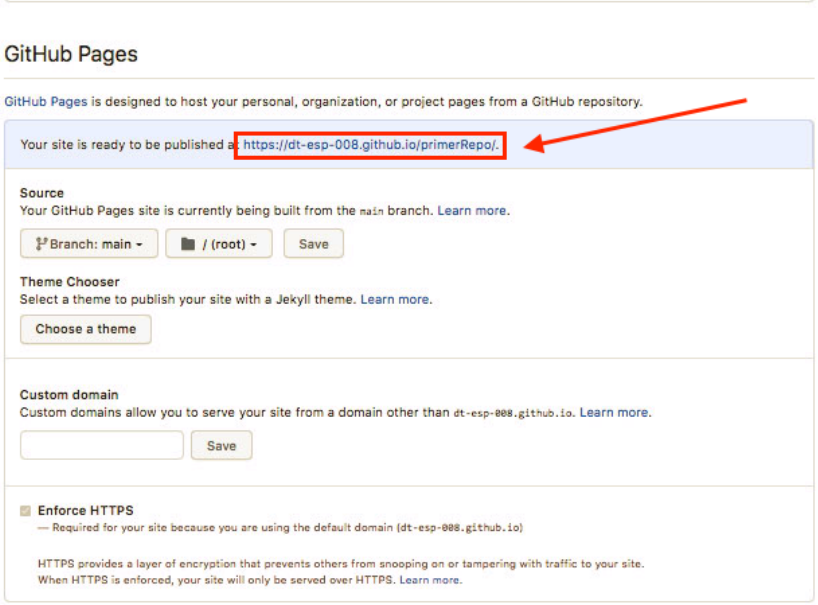


Figure 16

You can verify access to this website by entering the above address in any browser window, and the page will appear in a manner similar to that shown in Figure 17.

Figure 17

With this, you can create any type of web page, using the repository as a storage site for your web page. Ideally, GitHub websites are designed to be lightweight and not contain too much data. There are other solutions like Amazon AWS for websites with more data or processing volume.

ADDITIONAL INFORMATION.

If you are interested in learning more about GitHub, you can check out the information online at:

- https://docs.github.com/es

You can also access a practical guide to using the Git version control system and its use in GitHub at the following link:

- https://github.com/progit/progit2-es#pro-git-segunda-edici%C3%B3n-espa%C3%B1ol