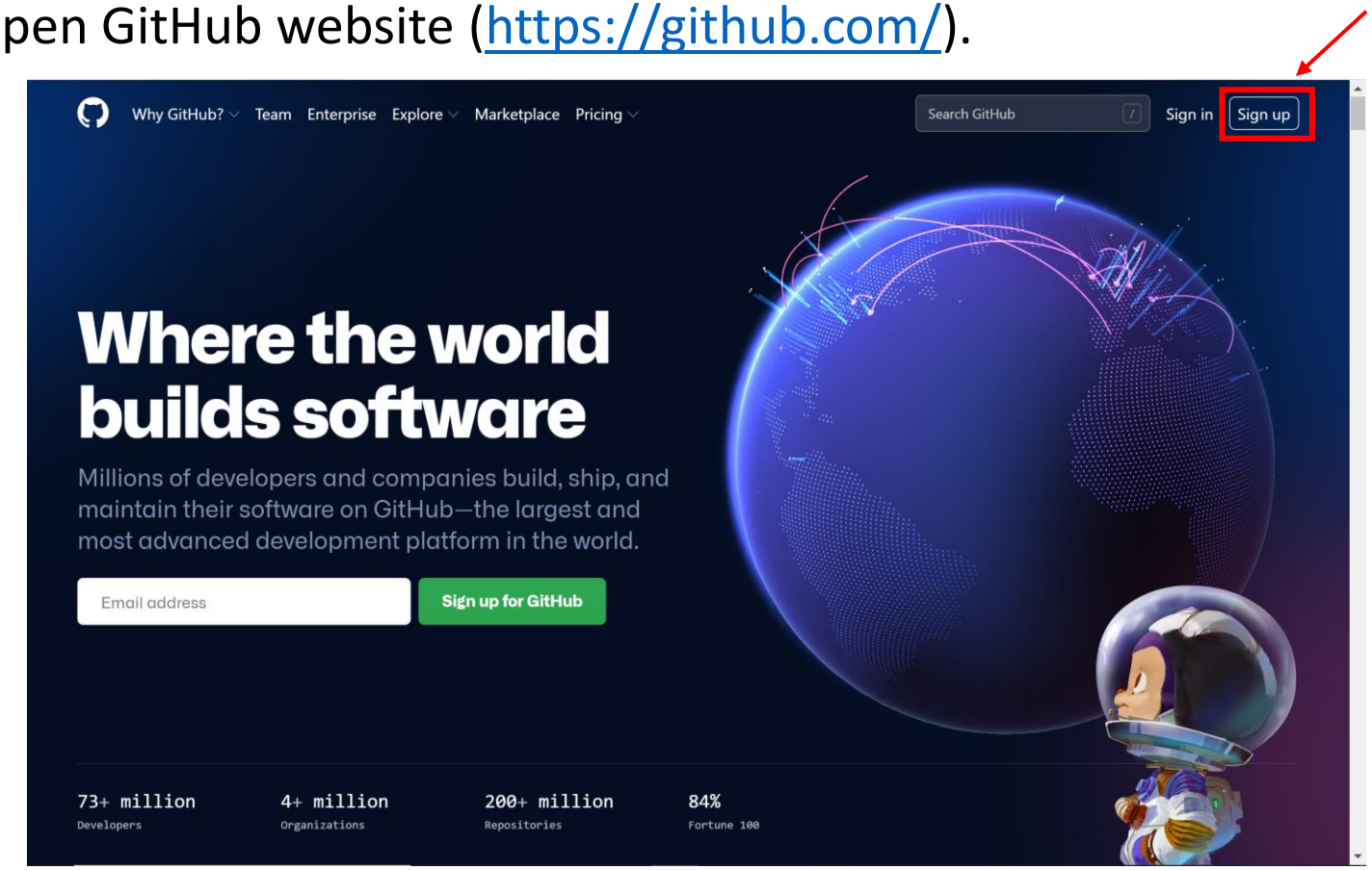
GitHub and Unity Collab

GitHub

- Git is a **specific open-source version control system** created by Linus Torvalds in 2005.
- Specifically, Git is a **distributed version control system**, which means that the entire codebase and history is available on every developer's computer, which allows for easy branching and merging.
- According to a **Stack Overflow developer survey**, over 87% of developers use Git.

1) Create an account on GitHub

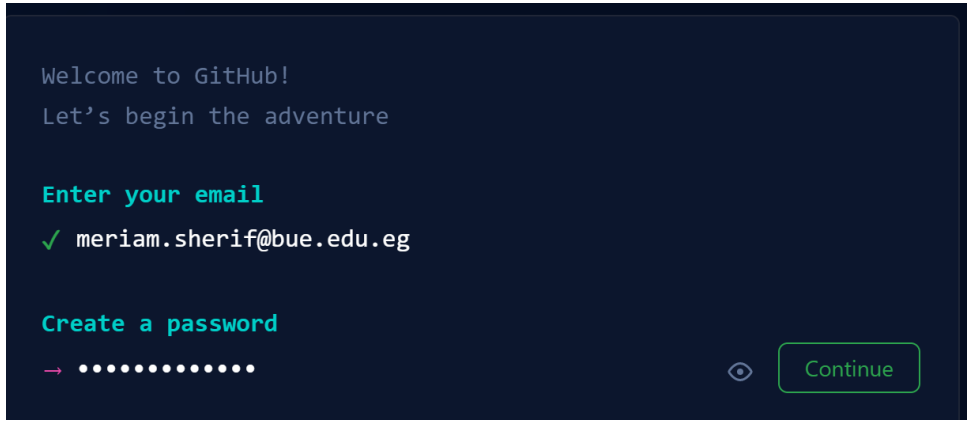
- First of all, open GitHub website (https://github.com/).



- Click on **Sign up** if you don't have an account. If you have press on **Sign in**.

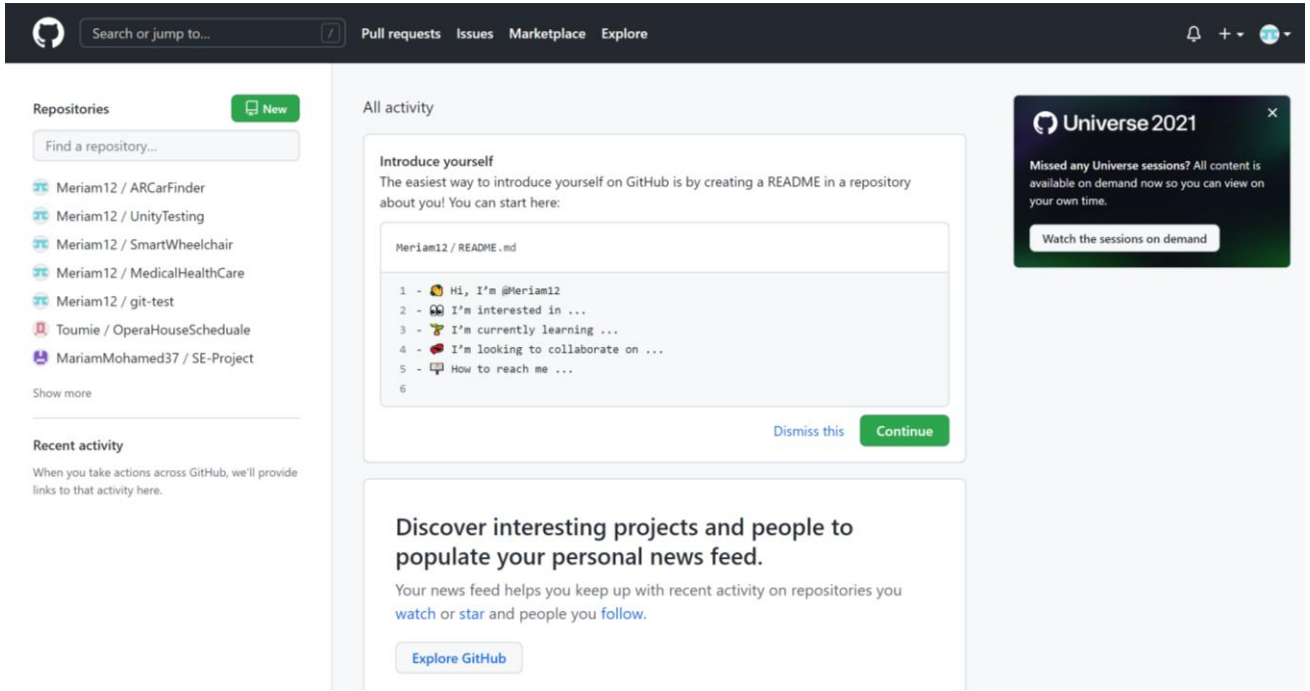
1) Create an account on GitHub

- Write your **email**, then click on continue and then write a **password**, then click on **continue** .
- Write a **username** that is available then press on **continue**.
- Continue the steps until you successfully make an account.



2) Sign in and make a repository

- After make an account, sign in by using your using your **username and password**.
- After that will open a page like this image.

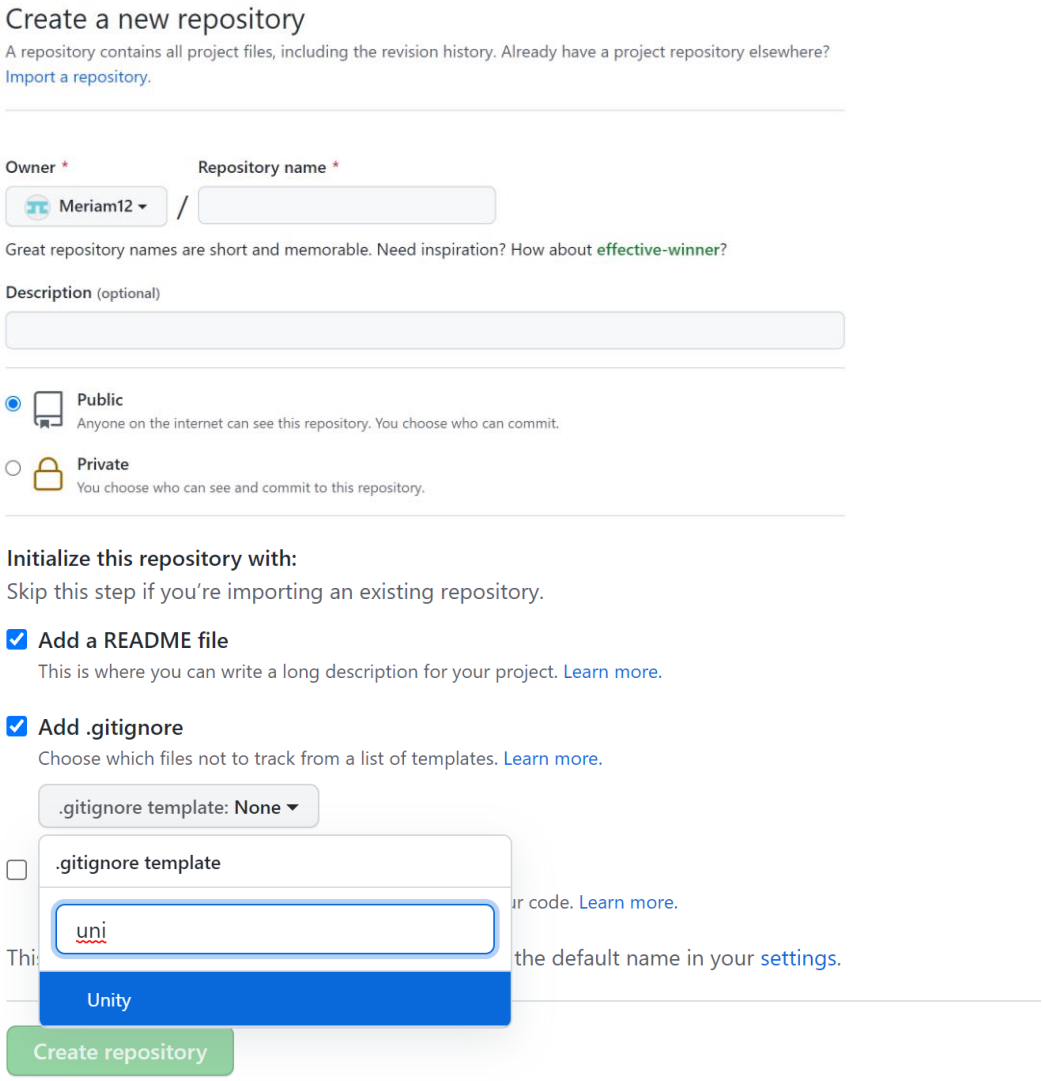


2) Sign in and make a repository

- A Git repository is the .git/ folder inside a project.
- This repository tracks all changes made to files in your project, building a history over time.
- Meaning, if you delete the .git/ folder, then you delete your project's history.
- Create a new repository by clicking on this button in the image. 

3) Creating a Repository

- First of all, write a **repository name** (for example you can name it by your game's name.)
- Then the **description**, it is optional. You can either write it or not.
- Leave the project **public**.
- You can initialize a **README** file to the repository as to put in it any instructions that you want anyone to read to understand your project.
- Also, add **.gitignore** and choose from the list **Unity**.
- Finally, click on **"Create repository"**.

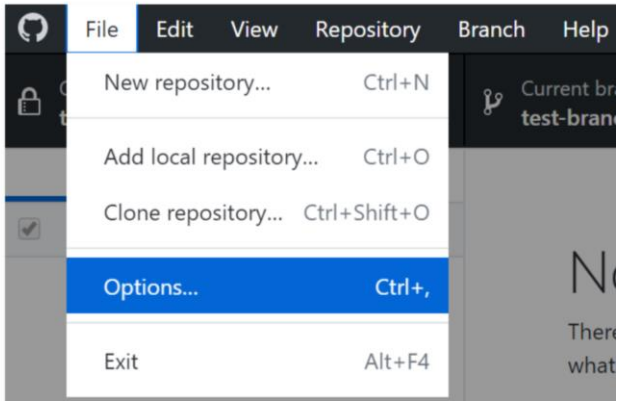


4) Download GitHub Desktop

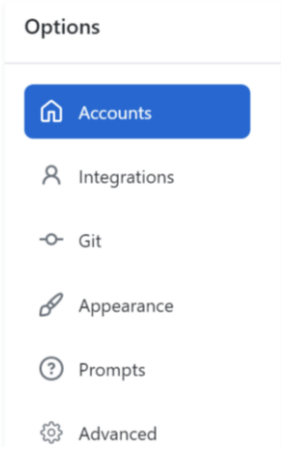
- Download GitHub desktop on your laptop as to be easily used.
- https://desktop.github.com/
- This is the link for downloading if the OS if mac or windows.

5) Sign in on GitHub desktop

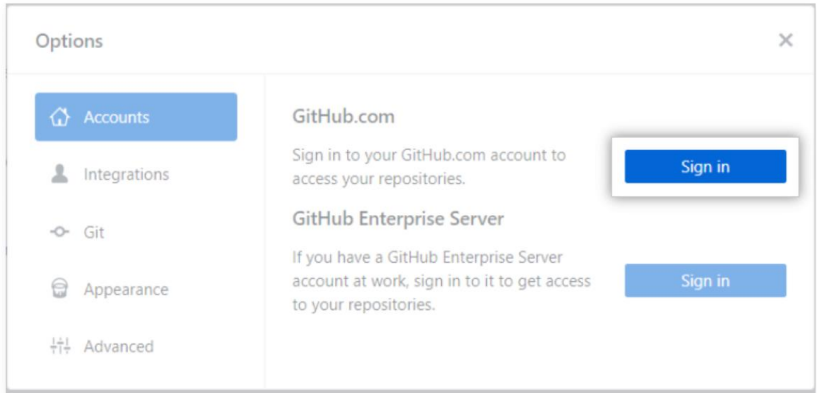
1. Use the **File** menu, then click **Options**.



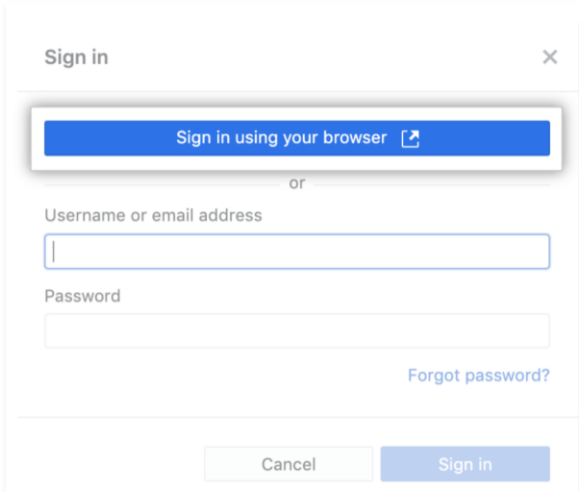
2. In the Options window, select **Accounts**.



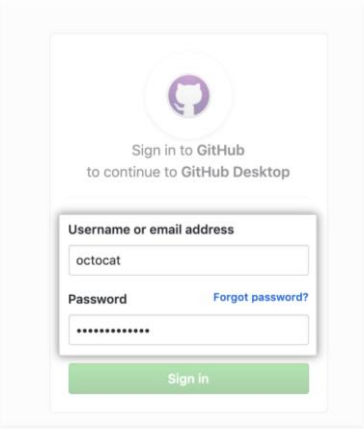
3. To the right of "GitHub.com," click **Sign in**.



4. In the Sign in pane, click **Sign in using your browser**.



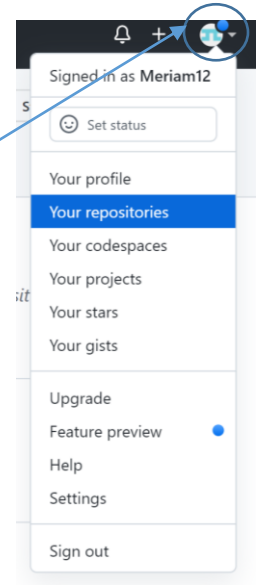
5. To authenticate to GitHub, type your GitHub.com credentials and click **Sign in**.

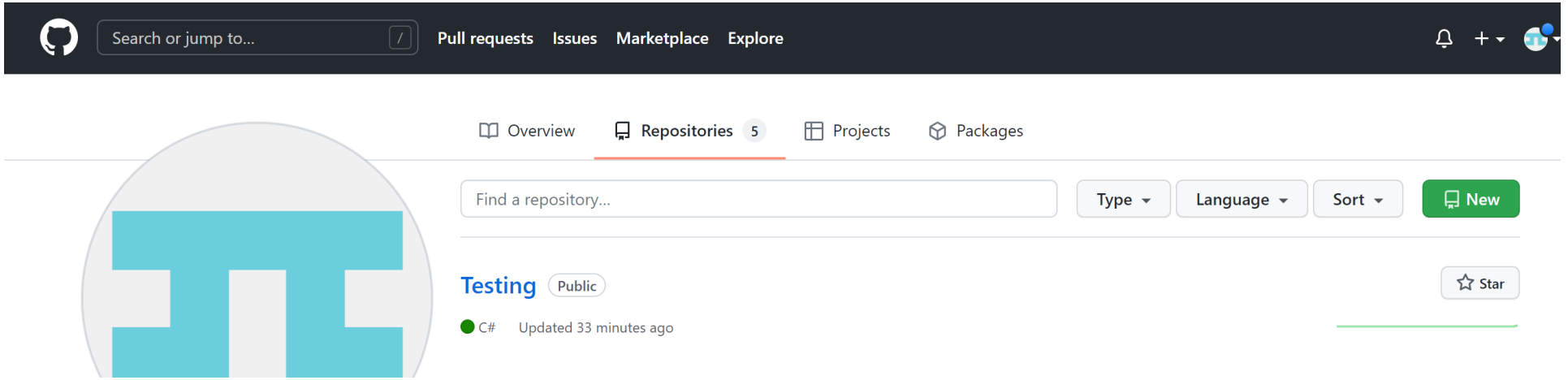


Alternatively, if you were already signed in to GitHub, follow the prompts to return to GitHub Desktop to finish authenticating.

6) Connect the repository we made to GitHub desktop

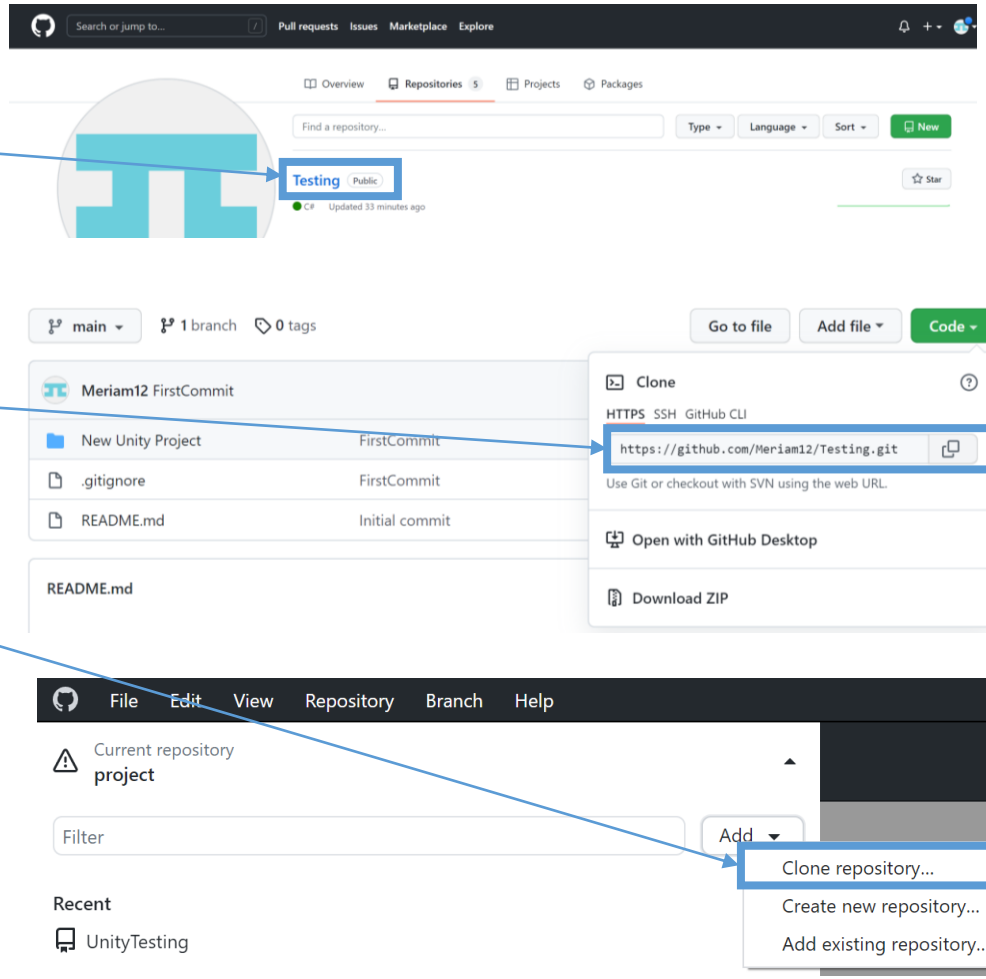
- Now I have created a repository on GitHub browser called **“Testing”**, I want to connect on the GitHub desktop application.
- First, I will click on the icon of **my profile** and click on **“Your repositories”**.
- It will get all your repositories which you have made, choose the one you have made it now. Assume that it is called **“Testing”**.





6) Connect the repository we made to GitHub desktop

- Click on **“Testing” repository**.
- Click on **Code** and then copy the **URL**.
- Then go back to the **GitHub desktop application** and click on **Current repository** and then click on **add** and then click on **clone repository**.

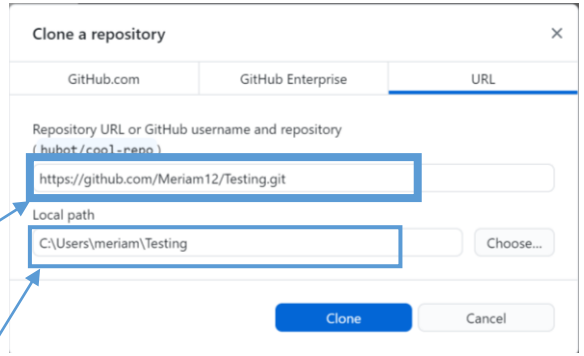


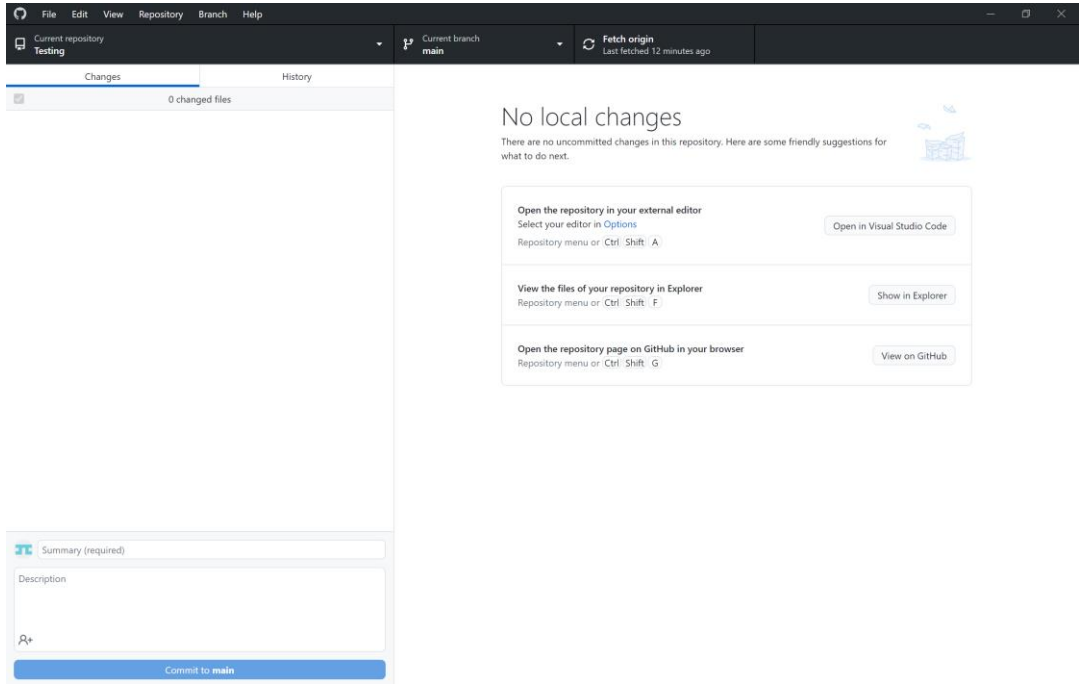
6) Connect the repository we made to GitHub desktop

- Click on **URL** and then paste the URL which you have took from the GitHub browser which is slide 11 and paste it under **Repository URL** then click **clone**.

- Also, choose the **local path** you want the project to be in.

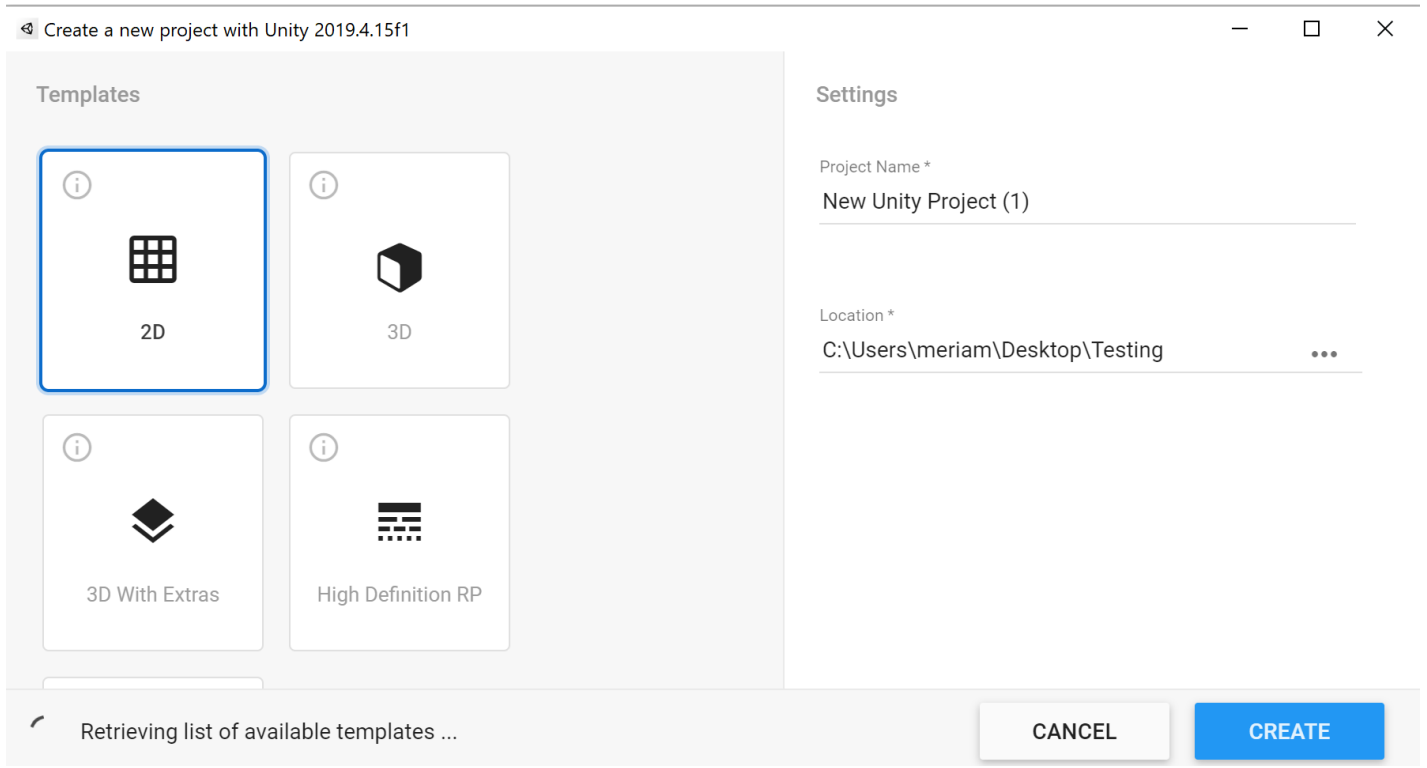
- Now, you have successfully cloned the repository.





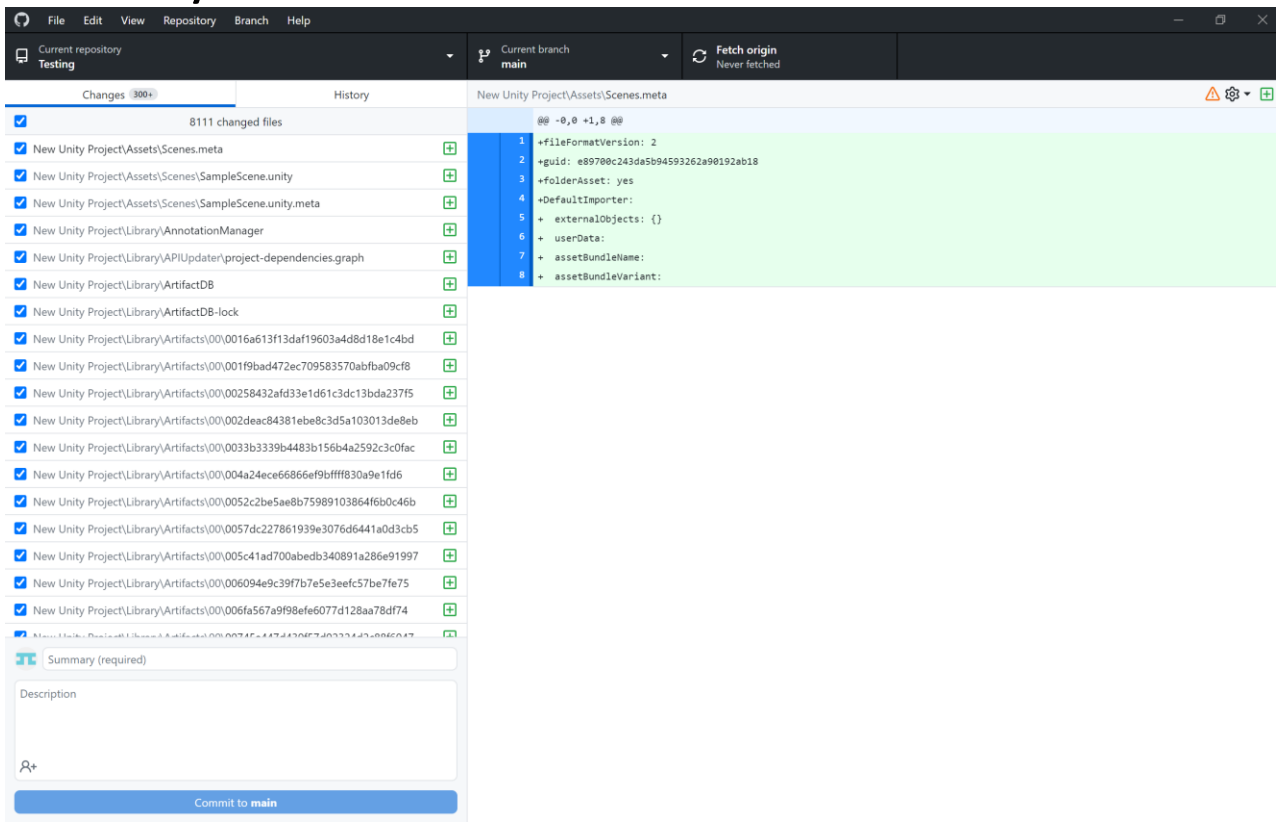
7) Put your project on GitHub

- Make a new project on **Unity**, then save the project on the **folder which you have made for GitHub**. For example: if you have made the folder on desktop and **named testing**, then while you are saving the project of Unity save it **inside testing folder**.



8) Commit changes to Main

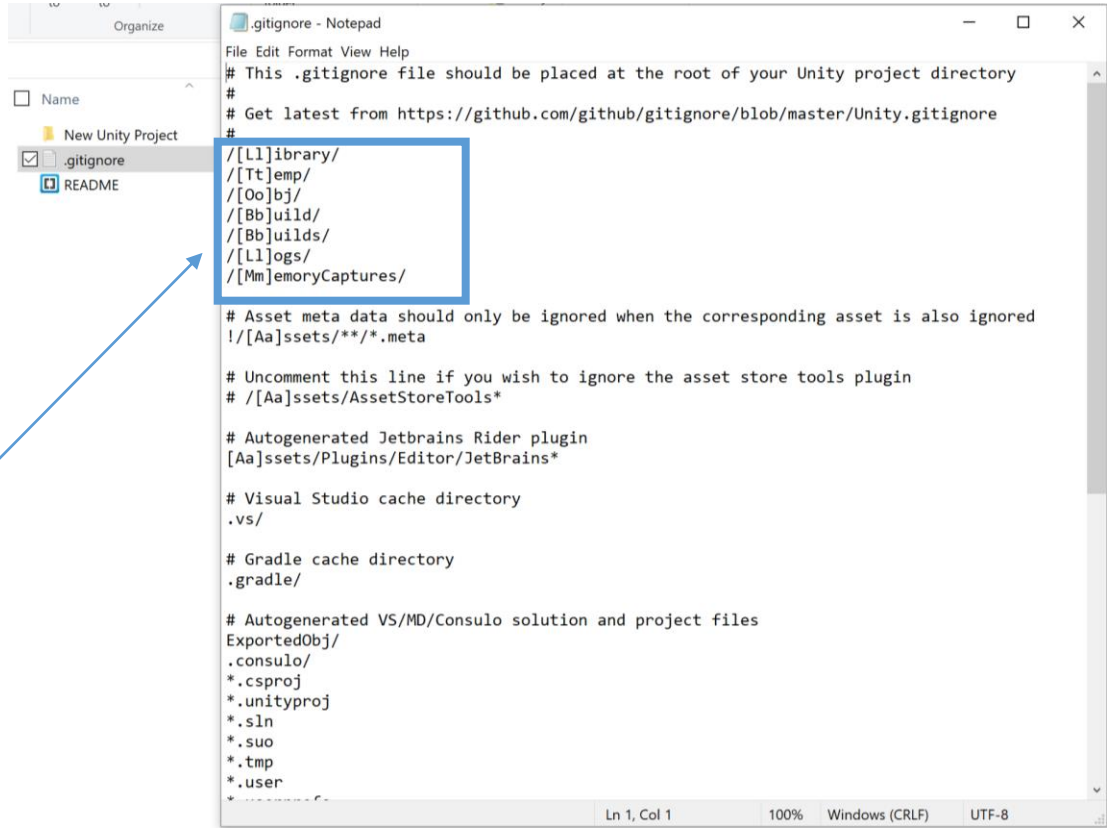
- After, you have made the project, open the **GitHub desktop application** and you will find it like what in the image. It is all the changes you have made which is the Unity project which you have made. You will commit it to GitHub browser.



8) Commit changes to Main

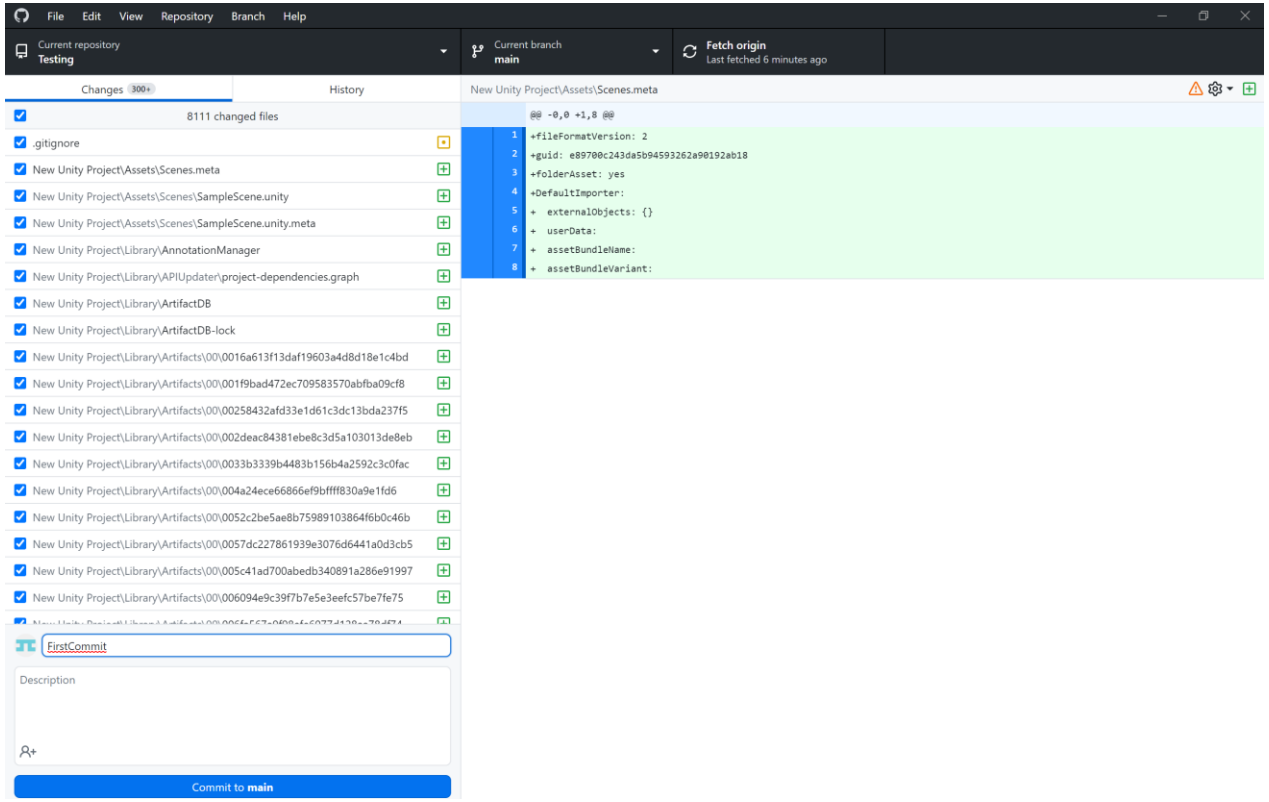
- Before you commit, **open the GitHub project** you have made and open **.gitignore file.**

- You will change **(/[Ll]ibrary/) to be ([Ll]ibrary/),** which that you will remove **/**.
- Same goes to **(/[Tt]emp/), (/[Oo]bj/) , (/[Bb]uild/), (/[Bb]uilds/), (/[Ll]ogs/), (/[Mm]emoryCaptures/)**remove the **/** before them.
- Finally, **save the file (Ctrl + S).**



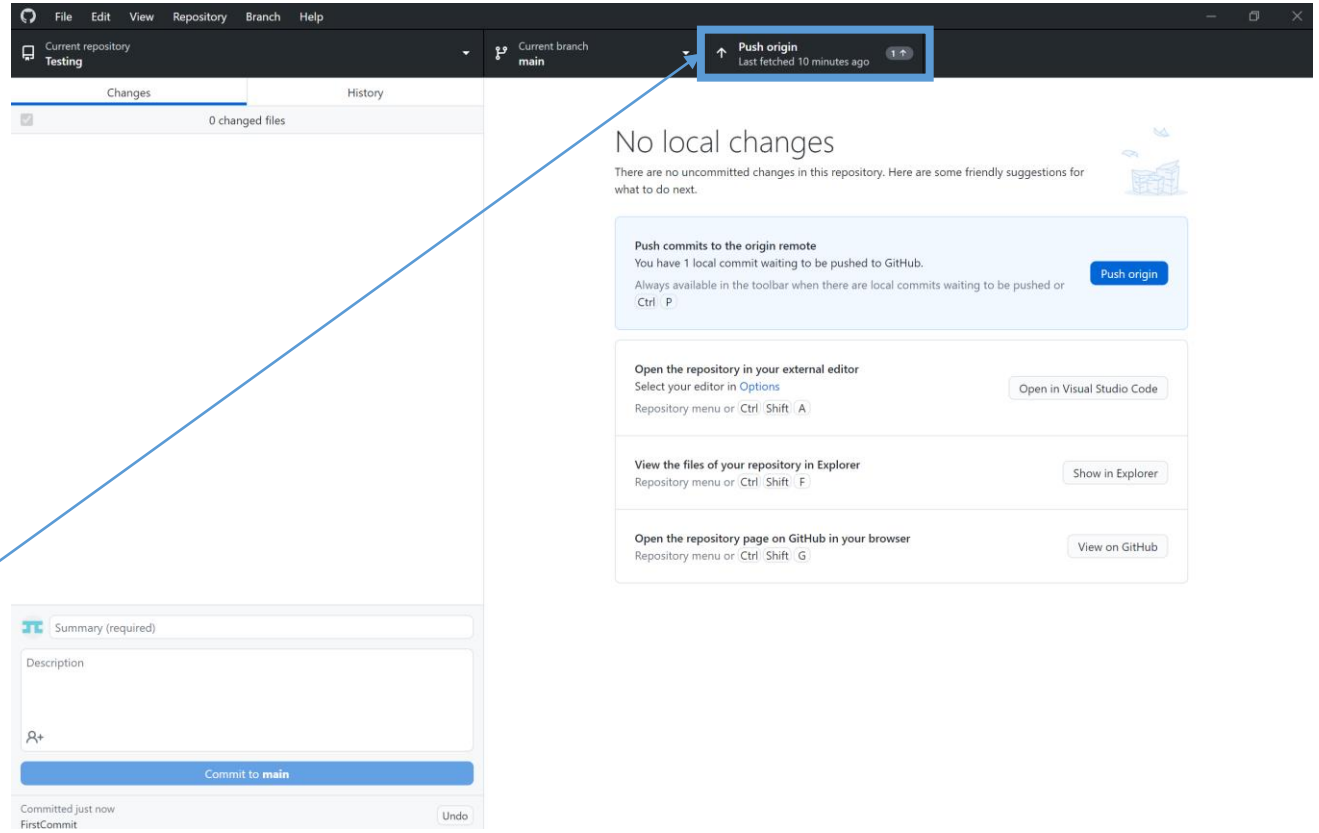
8) Commit changes to Main

- Now, you will **commit** all the changes to the main.
- Write a **summary**. The summary can be something descriptive as to know what you have done. For example: FirstCommit or write the change you have done. The **description** is something **optional** for you if you want to write.
- At last, press on **Commit to main**.



8) Commit changes to Main

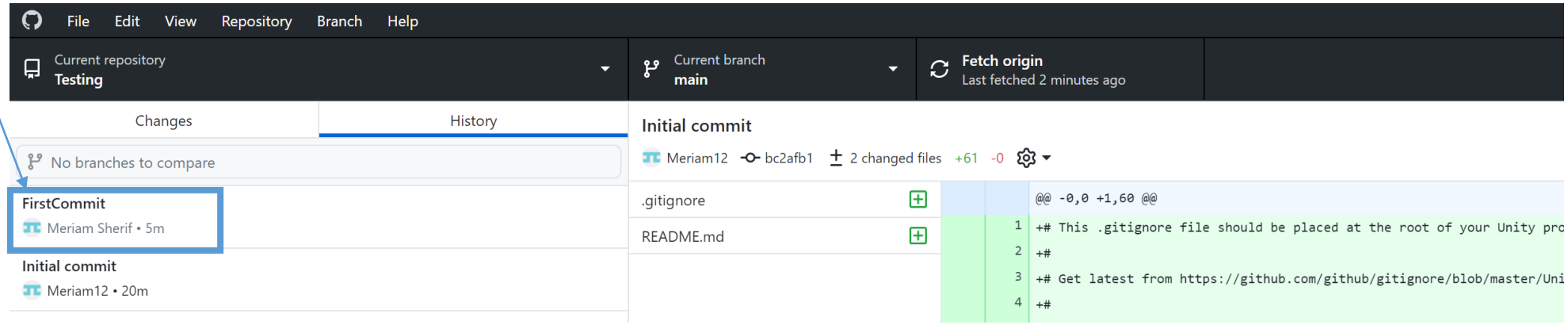
- Now, you have committed successfully.
- You want to **push** this commit to the main and to be on the GitHub browser.
- You will press on **Push origin**.



8) Commit changes to Main

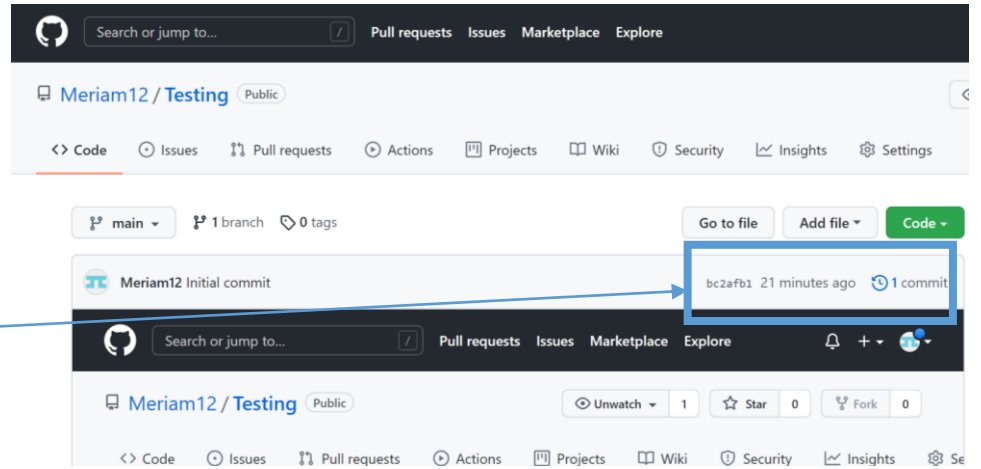
- How to know that you have successfully pushed the data, by seeing the fetch origin is wrote under it **lasted fetched just now**.

- Also, to make sure open the **history** and check that you committed to main.

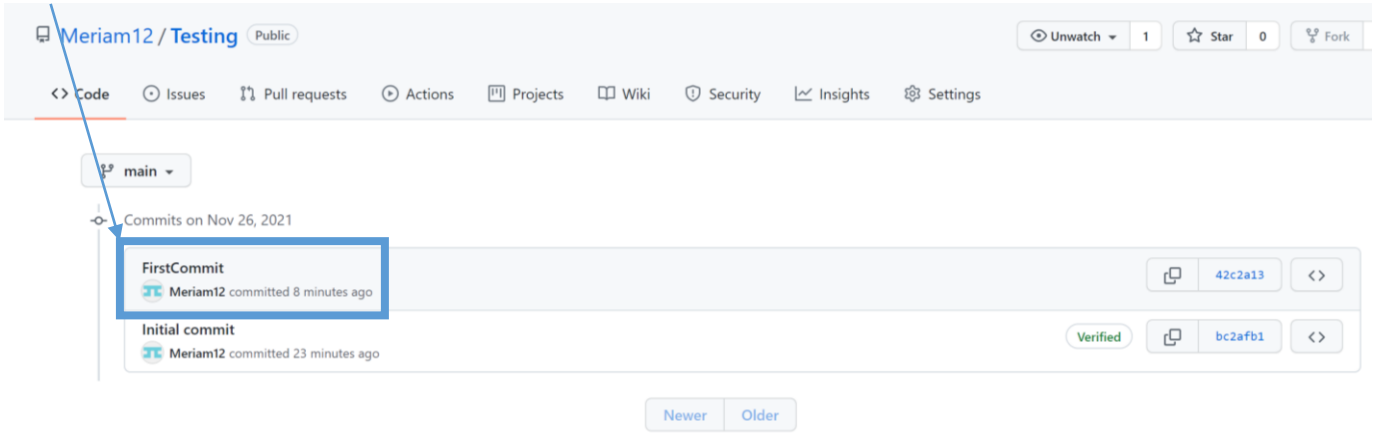


8) Commit changes to Main

- To make sure that you project is committed on the GitHub browser.
- Open **GitHub browser**, click on your **repository** and then click on **commit**.



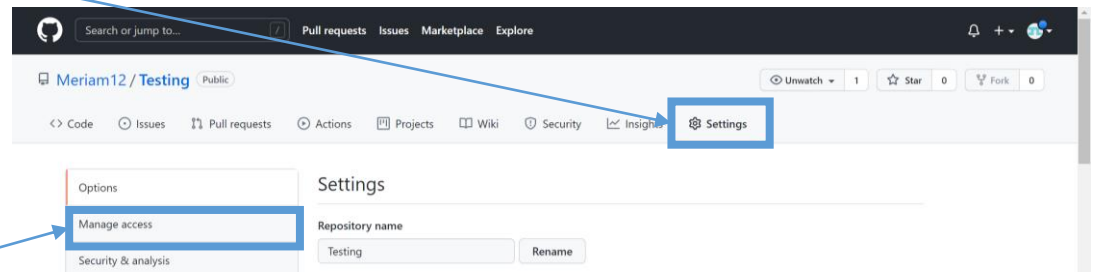
- If you found **your commit** so it is successfully made.



9) How to make you group members change in the same project and put all your things together ?

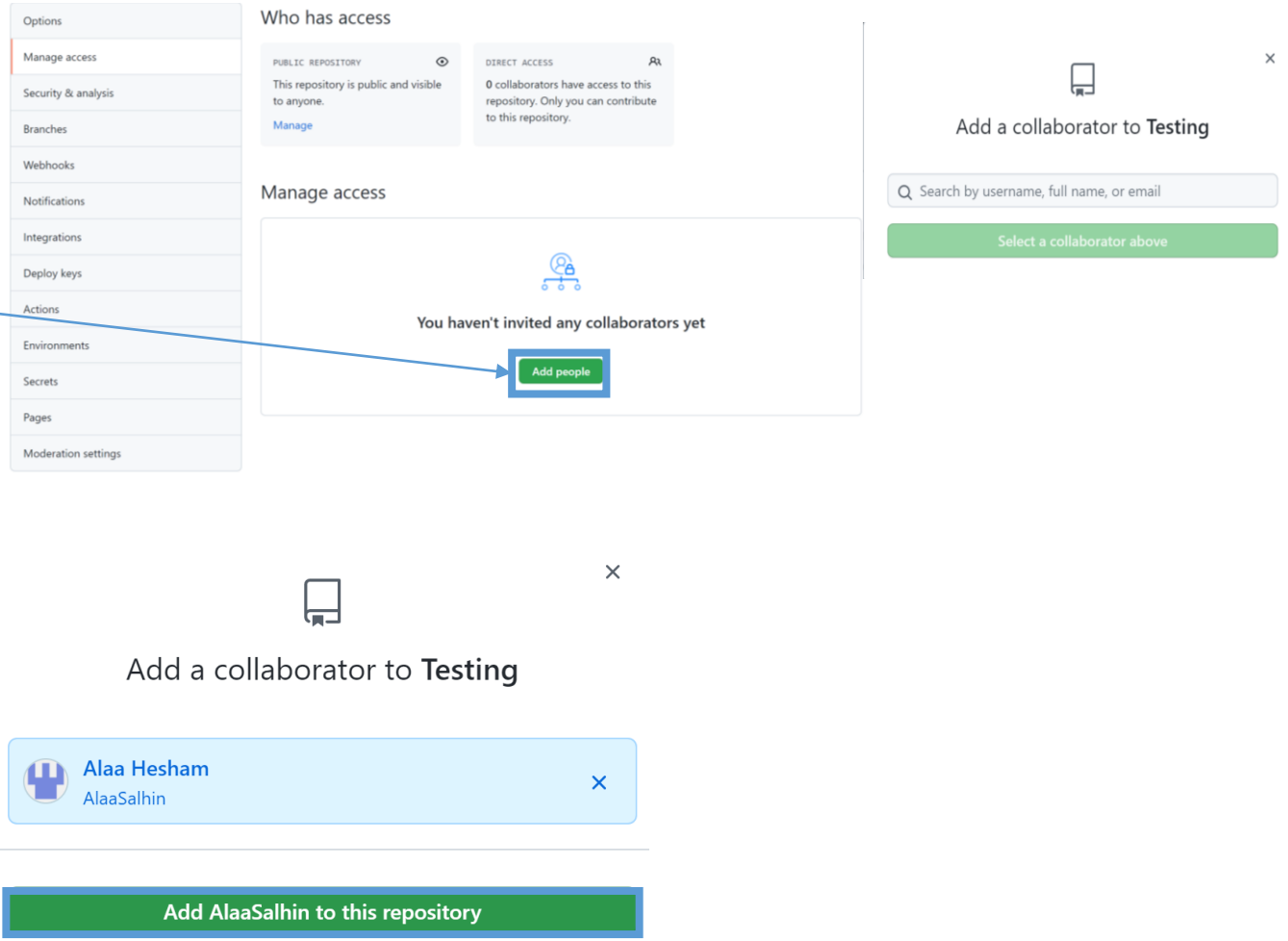
- To make your group project members have the ability to add on the project or to edit or to change, you must have to give them access.

- Open GitHub browser and choose **your repository** and then click on **settings** then click on **Manage access**



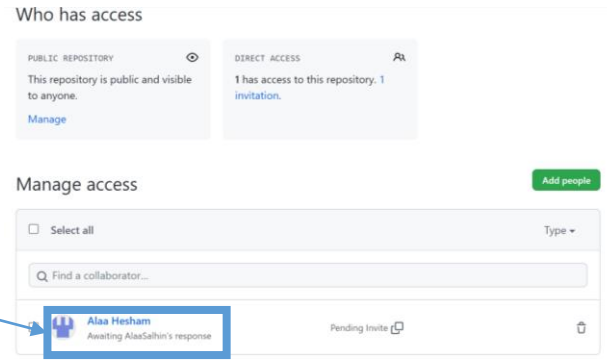
9) How to make you group members change in the same project and put all your things together ?

- Press on **Add people**.
- You will search for the names of your group project members.
- Choose the name, then click on **Add to this repository**.



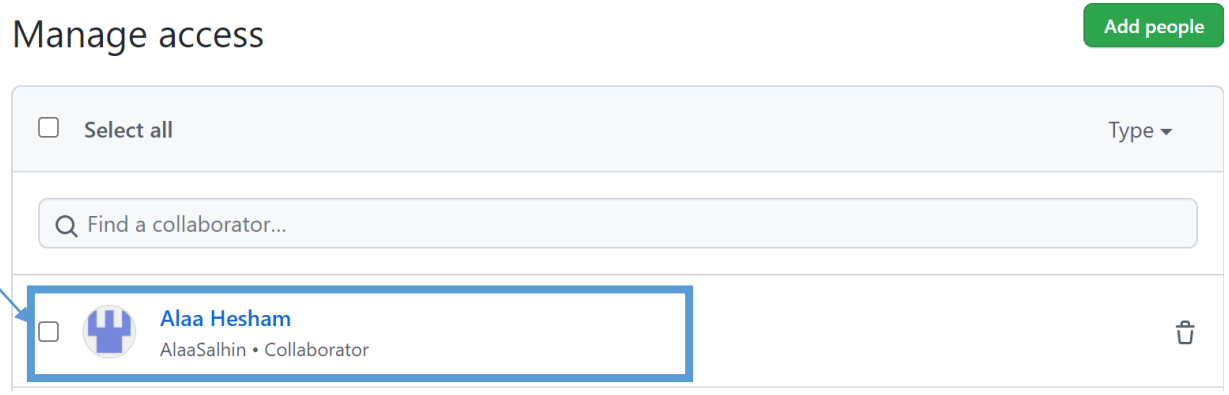
9) How to make you group members change in the same project and put all your things together ?

- After adding a member then it will be pending like what in the image until the member accept the invitation. An email is sent to him and he should accept it as to have an access to the project.



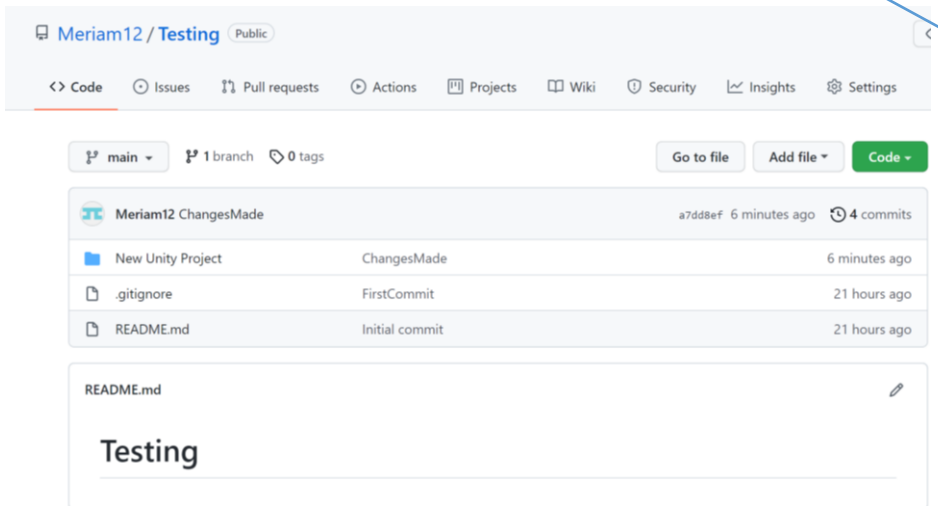
- After the member accept the invitation, it will be like what in this image. **Collaborator** means that he now have access on the project.

- If you want to add more members click on **add people** and repeat again the steps.



10) How the collaborator download the project and can edit or change in it

- Open **GitHub browser** and then open **the repository** and then **download zip** from it.



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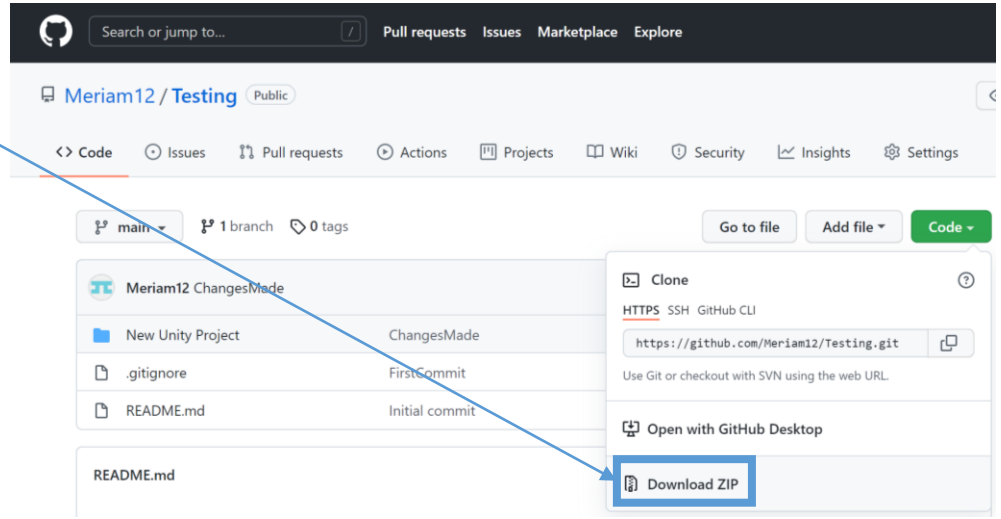

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10) How the collaborator download the project and can edit or change in it

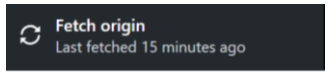
- Open **GitHub desktop applicati**on and **clone the repository**. Return to slides 11 and 12.

- After finishing these steps, you now can edit in your project and your members can see your changes.

Important Notes

- 1) All the group members must have the same Unity version.

- 2) When more than one in the team wants to change in the same file, don’t do it together. Someone must edit then the other can edit after you fetched the changed data. As when two change in the same file, it overrides the other and can cause a crash and the changes for the someone which didn’t push and fetch can be deleted.

- 3) Before working in the project, each one in the team must make fetch to make sure that you all are working on the same version of the project. 

- 4) After any change anyone of the team members made, you must check that you have pushed these data and the others fetch to get it and continue working on it.

Useful References

- **How to upload a unity project on GitHub. URL retrieved from:** https://www.youtube.com/watch?v=qpXxcvS-g3g

- **How to connect GitHub desktop . URL retrieved from:** https://docs.github.com/en/desktop/installing-and-configuring-github-desktop/installing-and-authenticating-to-github-desktop/authenticating-to-github

- **How to use Collab in Unity. URL retrieved from:** https://docs.unity3d.com/560/Documentation/Manual/UnityCollaborate.html