
Git

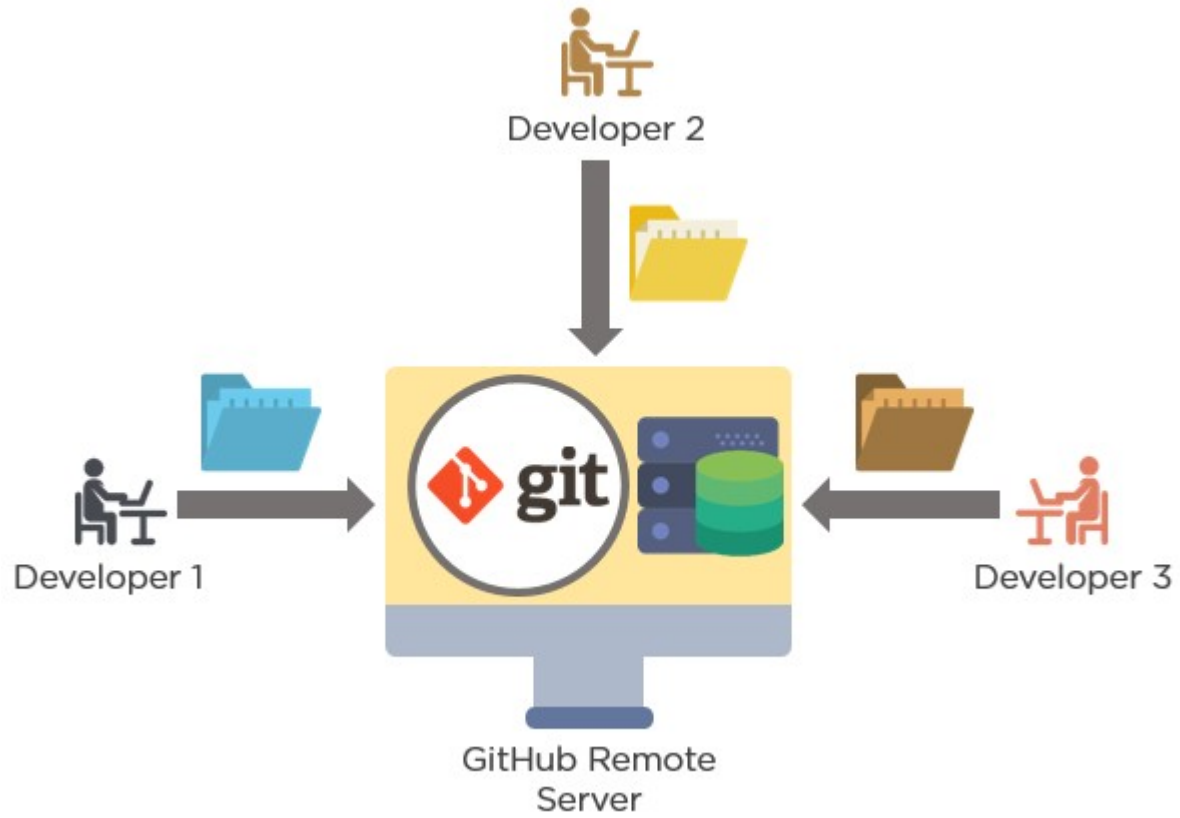
---

* **Git** is a **Distributed Version Control tool** that is used to store different versions of a file in a remote or local repository. It is used to **track changes in the source code**.

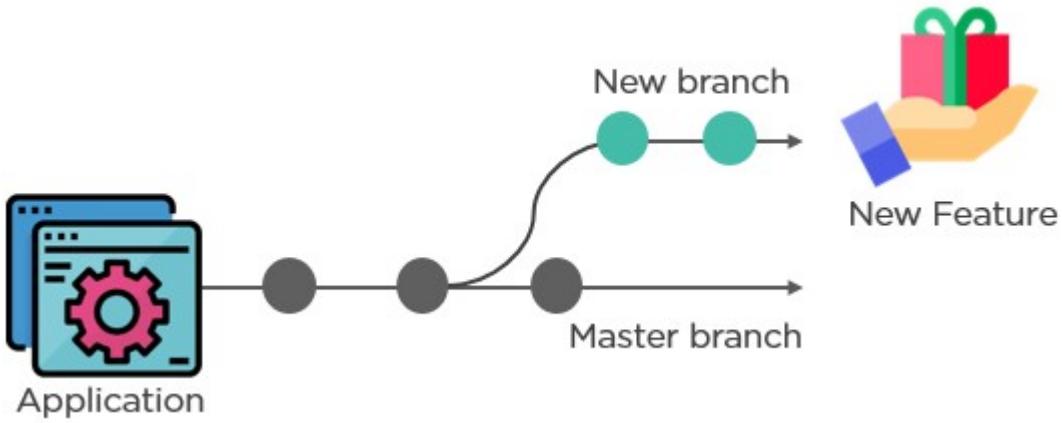
* In the world of developers, the most critical stage is to keep track of different versions of code and collaborate with others when they are working on a project. How do we make sure that if we make a change and that change doesn't work that we have an easy way to go back to older versions of our code and make sure that we have access to those as well? Nowadays, there is some number of different version control tools that developers are using on their projects, but one of the most popular is one of these tools called Git, which is a version control tool.

* Developers often use in industry in order to help maintain and manage different versions of their code in order to keep track of their projects and make sure that everything is organized and that they're able to effectively collaborate with other people along the way.

It allows multiple developers to work together.



Git supports **non-linear development** because you can create multiple parallel branches.



Git provides a **command line** to interact with the files and make changes. With the help of Git commands, you can **fork and clone** someone else's GitHub repository on to your local system. You can also collaborate with someone else on a project.

Repository in Git is often referred to as a folder or folder where git stores all the files. It can store the files on the web i.e. remote repository (GitHub) or on the local system.

Suppose you are working on a project.

And you wrote the source code. it was working fine , but you further changed the code as it was needed. After few minutes , you again changed the code , and ….again and….. again.

Now , you are messed up and frustrated as your current code is not fine and all you want is your initial code back. But , you can't as you have not saved the previous versions. Now, all you can do is *cry in corner*.

Wait … i have a solution.

First time , i saved my code as source_code.cpp

then , i saved new version as final_source_code.cpp

and then again as final_source_code1.cpp

and then final_source_code2.cpp

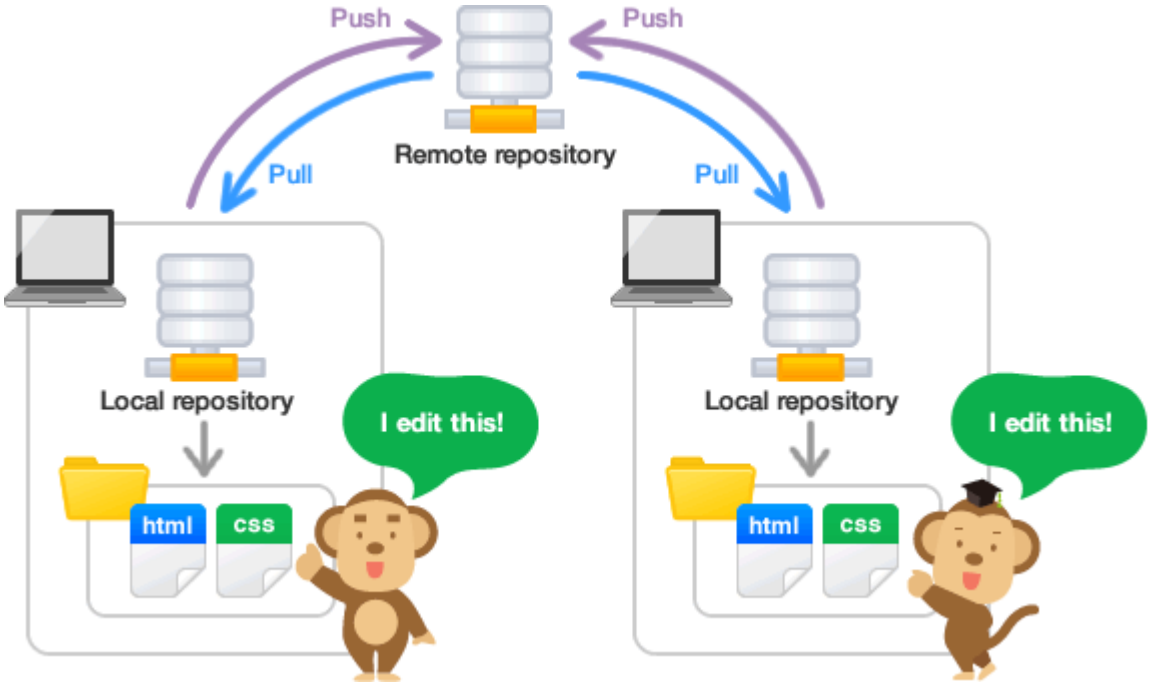
and then …….

……..final_source_code50.cpp

I have saved all versions of my code.but , you can see this solution is a new problem itself.

Now , suppose a different scenario. you are working a team project. and your team members are working from remote locations. How will you all work on same source code in real time ?

Big problem ? isn't ?



To solve all these problems , we use version control system (VCS). it basically manages the changes to code or files. it stores all the changes and the revisions can be compared , restored or merged.

Git is a popular, free and open source version control system.

Repository is a data structure used by VCS to store metadata for set of files and/or directories. it stores the set of file as well as history of changes made to those file.

you must have heard of 'GitHub' , it a web based version control system.

BY

GOBIKRISHNAN R