

Git is a version control system that allows tracking changes in the source code and managing them in a safe and efficient manner. With Git, multiple people can work on the same project concurrently in different branches, and then merge those changes securely.

To add a new file to a Git repository, it must first be placed in the project's working directory. Then, Git must be informed that we want to add the file to the repository using the "git add" command. Git stores information about file changes in the so-called index state, which allows precise determination of which changes will be included in the next commit.

To commit changes and add a file to the change history in the repository, the "git commit" command must be used. For example, to commit the addition of a file named "new_file.txt" and add a description of the changes, the command "git commit -m "First commit"" must be entered in the console. This command creates a new commit, which is a point in the change history that contains information about the changes made to the code. The commit command can also include a short description of the changes made to help understand them in the future.

Committing in Git allows to record changes to your code and create a snapshot of the project at a particular point in time. It enables you to work on different parts of your project independently and collaborate with others. It provides a safety net for your work, allowing you to roll back to a previous commit if needed. When committing, you should provide a clear and concise commit message that follows best practices. Each commit represents a new version of your project that you can revert to if necessary.

After completing the steps to add a file and commit changes, the file is added to the Git repository and can be further modified or removed in subsequent commits. The entire change history is stored in the Git repository, as previously mentioned, making it easy to manage the project and enabling a return to previous versions of the code when needed.